LAUMAS®

*Innovation in Weighing*

# PRODUCTS CATALOG

## B1/2/3 WEIGHT TRANSMITTERS, WEIGHT INDICATORS, MULTICHANNEL, WiFi MODULES, WEIGHBRIDGES, SOFTWARE, REMOTE CONTROL

## B4 ADPE

## B5 REMOTE DISPLAYS, CONVERTERS AND PRINTERS

MODBUS RTU · MODBUS/TCP · ETHERNET POWERLINK certified product · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · EtherCAT · CANopen · CC-Link · CC-Link IE · PROFIBUS · PROFINET · PROFIBUS · PROFINET · SERCOS interface · IO-Link

## “Made in Italy” Electronic Instruments for weighing and batching

LAUMAS produces Weight Indicators and Transmitters for PC/PLC connection to the most important international brands (Siemens, Rockwell Automation, Allen-Bradley, B&R Automation, Omron, Beckhoff, Schneider, Panasonic, Mitsubishi, Bosch Rexroth, Vipa, ABB, etc.) through the main fieldbuses on the market (Modbus RTU, Modbus TCP, PROFIBUS DP, PROFINET IO, Ethernet/IP, Ethernet TCP/IP, EtherCAT, POWERLINK, DeviceNet, CANopen, CC-Link, CC-Link IE, IO-Link, SERCOS III, etc.).

The wide range of products and components for industrial weighing systems is designed to be in compliance with the most relevant industry standards and is certified by the most established national and international bodies.

# CERTIFICATIONS

**European Conformity Mark (CE)**

**UKCA CERTIFICATION (UK Conformity Assessed) for the United Kingdom**

**MODULE D AND EU TYPE EXAMINATION CERTIFICATE FOR Non-Automatic Weighing Instruments (NAWI)**

**OIML APPROVAL**

**EAC CERTIFICATION**

**“UL RECOGNIZED COMPONENT” CERTIFICATION**

**NTEP CERTIFICATION**

**ATEX CERTIFICATION**
**IECEx CERTIFICATION**

**EAC Ex CERTIFICATION**

**PAC CERTIFICATION**
**(Pattern Approval Certificate)**

**CPA CERTIFICATION**
**(Chinese Pattern Approval)**

**NMI CERTIFICATION for Australia**

**“New Zealand Certificate of Approval” CERTIFICATION**

**EU TYPE EXAMINATION CERTIFICATE FOR UK Non-Automatic Weighing Instruments (NAWI)**

**“Measurement Canada” CERTIFICATION**

**3-A SANITARY STANDARDS**

**Testing, Calibration, Quality Control**

Calibration service through our **accredited laboratory (LAT)** for the calibration of load cells and load cells + weight indicator.

Issue of the relative certificates for force values between 2 and 100 kN (according to UNI EN ISO 376 and ASTM E 74 standards) or the linearity and repeatability test for force values between 0.5 and 5000 kN (compression) and between 0.5 and 600 kN (traction).

# CONTENTS

## PRODUCTS CATALOG

LAUMAS®


| | | PAGE |
|---|---|---|
| **B1** | **WEIGHT TRANSMITTERS** | |
| B1.1 | LOAD CELLS DIGITIZERS | 4 |
| B1.2 | MULTICHANNEL | 4 |
| B1.3 | SINGLE CHANNEL | 4 |
| B1.4 | WiFi | 5 |
| B1.5 | WEB SERVER MASTER | 5 |
| B1.6 | TRANSMITTERS BOXES | 5 |
| **B2** | **INTELLIGENT JUNCTION BOXES** | |
| B2.1 | MULTICHANNEL | 49 |
| **B3** | **WEIGHT INDICATORS** | |
| B3.1 | WEIGHT INDICATORS | 55 |
| B3.2 | WEIGHT INDICATORS (WEIGHING AND BATCHING) | 55 |
| B3.3 | BATCHING SYSTEMS WITH SEVERAL SCALES | 57 |
| B3.4 | WEIGHBRIDGES | 57 |
| B3.5 | SUPERVISORY SOFTWARE | 57 |
| **B4** | **ADPE** | |
| B4.1 | WEIGHT INDICATORS IN EXPLOSION PROOF BOX | 203 |
| B4.2 | FAIL-SAFE ZENER BARRIERS | 203 |
| **B5** | **REMOTE DISPLAYS, CONVERTERS AND PRINTERS** | |
| B5.1 | CONVERTERS / WiFi-SERIAL TRANSCEIVERS | 213 |
| B5.2 | REMOTE DISPLAYS | 213 |
| B5.3 | THERMAL PRINTERS | 213 |

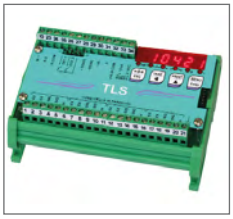
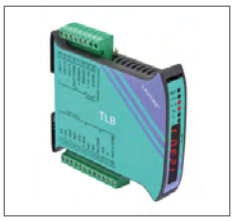
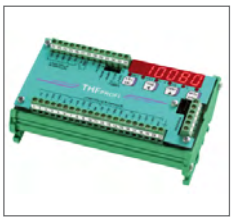
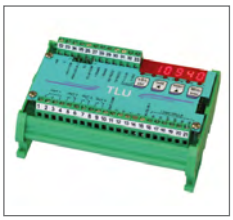
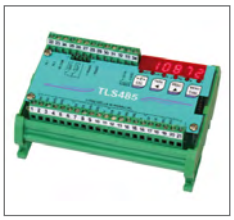
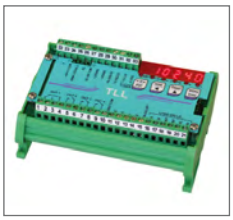
## B1.1 LOAD CELLS DIGITIZERS


| | | | | | |
|---|---|---|---|---|---|
|  | LCB | 7 |  | LCB 3A | 10 |


## B1.2 MULTICHANNEL


| | | | | | |
|---|---|---|---|---|---|
|  | TLB4 | 13 |  | CASTLM8I | 22 |
|  | TLM8 | 17 |  | CASTLM8I 3A | 24 |


## B1.3 SINGLE CHANNEL


| | | | | | |
|---|---|---|---|---|---|
|  | TLK | 25 |  | TLS | 35 |
|  | TLB | 27 |  | THFPROFI | 37 |
|  | TLE | 31 |  | TLU | 39 |
|  | TLS485 | 33 |  | TLL | 41 |

## B1.3 SINGLE CHANNEL

| | |
|---|---|
| LCD3<br>LCD3PL | 43 |

## B1.4 WiFi

| | |
|---|---|
| TLKWF | 45 |

## B1.5 WEB SERVER MASTER

| | |
|---|---|
| WEBLAU | 47 |

## B1.6 TRANSMITTERS BOXES

| | |
|---|---|
| CASTLATEX | 48 |

| | |
|---|---|
| CASTLTASTATEX | 48 |

# Notes

## PRODUCTS CATALOG

# LCB

## UNIVERSAL LOAD CELLS DIGITIZER

RS485 · ANALOG OUTPUT · IP67 · Instrument Manager

COMING SOON


### DESCRIPTION

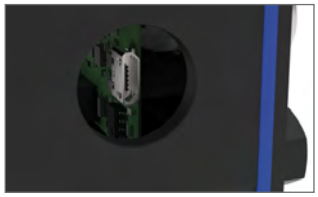
- LCB transforms an analog load cell (mV/V output) into a digital one; it can also be used on existing load cells to digitize the weighing system.
- Conceived for IoT applications (Internet of Things).
- PC configuration software via micro USB port.
- Status LED of the communication interface.
- Mounting: wired or integral to the load cell body via standard ¼ GAS fitting (specific adapters for different threads are supplied on request).
- IP67 box in AISI 304 stainless steel or PA66 nylon reinforced with glass fiber (dimensions: 90x40x107 mm including flying connectors).
- Suitable for wall mounting (supports included: 2 fixing holes Ø 6 mm; centre distance: 68 mm).
- 3x IP67 M12 flying connectors included in the supply.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

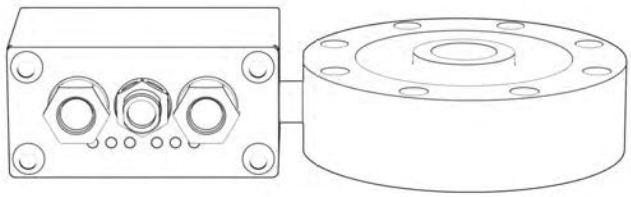
### INPUTS/OUTPUTS AND COMMUNICATION

- 1 micro USB port.
- 3 relay outputs controlled by the setpoint values or via protocols.
- 2 digital inputs: status reading via serial communication protocols.
- 1 load cell input.

SUPPORTS FOR WALL MOUNTING

MICRO USB FOR PC CONFIGURATION





EXAMPLE OF APPLICATION WITH LOAD CELL

### CERTIFICATIONS

EAC Complies with the Eurasian Customs Union standards

UKCA Equivalent of the CE marking for the United Kingdom

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · ETHERNET TCP/IP · ETHERNET POWERLINK · EtherCAT · EtherNet/IP · PROFIBUS · PROFINET · CC-Link · CC-Link IE Field Basic · IO-Link · CANopen · SERCOS interface



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ISO 9001
ISO 14001

## INTERFACES AND FIELDBUSES

**RS485**.
Male M12 circular connector, A-coded, 5-pin.
Female M12 circular connector, A-coded, 5-pin.
Baud rate: 2400, 4800, 9600, 19200, 38400, 115200 (bit/s).

*coming soon*

**RS485 + analog output.**
Current: 0÷20 mA; 4÷20 mA (up to 400 Ω).
Voltage: 0÷10 V; 0÷5 V (min 2 kΩ).
Male M12 circular connector, A-coded, 5-pin.
Female M12 circular connector, A-coded, 5-pin.

**IO-Link.**
**2x** male M12 circular connector, A-coded, 4-pin.
The instrument works as *device* in a IO-Link network.

**CANopen.**
Male M12 circular connector, A-coded, 5-pin.
Female M12 circular connector, A-coded, 5-pin.
The instrument works as *slave* in a CANopen synchronous network.

**CC-Link IE Field Basic.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a CC-Link IE Field Basic network.

**CC-Link.**
Male M12 circular connector, A-coded, 4-pin.
Female M12 circular connector, A-coded, 5-pin.
The instrument works as *Remote Device Station* in a CC-Link network and occupies 3 stations.

*coming soon*

**Profibus DP.**
Male M12 circular connector, B-coded, 5-pin.
Female M12 circular connector, B-coded, 5-pin.
The instrument works as *slave* in a Profibus DP network.

*coming soon*

**Modbus/TCP.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a Modbus/TCP network.

**Ethernet TCP/IP.**
Female M12 circular connector, D-coded, 4-pin.
The instrument works in an Ethernet TCP/IP network and it is accessible via web browser.

*coming soon*

**Ethernet/IP.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *adapter* in an Ethernet/IP network.

**Profinet IO.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *device* in a Profinet IO network.

**EtherCAT.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in an EtherCAT network.

**POWERLINK.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a Powerlink network.

**SERCOS III.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a Sercos III network.



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# LCB
## UNIVERSAL LOAD CELLS DIGITIZER

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output or fieldbuses;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - up to 4 load cells in parallel by junction box.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP version for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via PC software) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Calibration via characterization values of the load cell.
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Configuration backup and restore via PC software.

**BASE PROGRAM**

- Hysteresis and setpoint value setting.

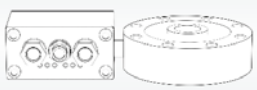
**SINGLE PRODUCT LOADING PROGRAM**

- 99 settable formulas.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Batching start via external contact or fieldbus.

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 4 (350 Ω) - 4/6 wires • 3.3 VDC/40 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 6.6 nV/d |
| Measurement range | ±26 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 500/s |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 3 filter types • 5÷500 Hz |
| Relay outputs | 3 - max 115 VAC/150 mA - 24 VDC/200 mA |
| Digital inputs | 2 - 5÷24 VDC |
| Micro USB port | B type - USB 2.0 (full-speed) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +50 °C |

### OPTIONS ON REQUEST

| | DESCRIPTION |
|---|---|
|  | Load cell + instrument wiring. |

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# LCB3A

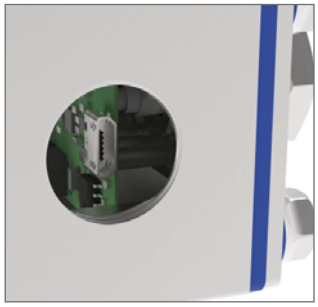
## HYGIENIC UNIVERSAL DIGITIZER FOR LOAD CELLS

LAUMAS®

RS485 · ANALOG OUTPUT · IP67 · Instrument Manager

COMING SOON


MICRO USB FOR PC CONFIGURATION



### DESCRIPTION

- LCB3A transforms an analog load cell (mV/V output) into a digital one; it can also be used on existing load cells to digitize the weighing system.
- Hygienic device RPSCQC authorized by 3-A SSI.
- Conceived for IoT applications (Internet of Things).
- PC configuration software via micro USB port.
- Status LED of the communication interface.
- Mounting: wired or integral to the load cell body via standard ¼ GAS fitting (specific adapters for different threads are supplied on request).
- IP67 AISI 304 stainless steel box (dimensions: 90x40x107 mm including flying connectors).
- 3 M12 hygienic connectors with solder terminals included in the supply.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- 1 micro USB port.
- 3 relay outputs controlled by the setpoint values or via protocols.
- 2 digital inputs: status reading via serial communication protocols.
- 1 load cell input.

### CERTIFICATIONS

EAC Complies with the Eurasian Custom Union standards

UKCA Equivalent of the CE marking for the United Kingdom

3-A American standard that regulates the design, production and use of hygienic equipment

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · ETHERNET TCP/IP · ETHERNET POWERLINK · EtherCAT · EtherNet/IP

PROFIBUS · PROFINET · CC-Link · CC-Link IE Field Basic · IO-Link · CANopen · SERCOS interface



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ISO 9001
ISO 14001

# LCB3A

## HYGIENIC UNIVERSAL DIGITIZER FOR LOAD CELLS

LAUMAS®

### INTERFACES AND FIELDBUSES

**RS485**.
Male M12 circular connector, A-coded, 5-pin.
Female M12 circular connector, A-coded, 5-pin.
Baud rate: 2400, 4800, 9600, 19200, 38400, 115200 (bit/s). *coming soon*

**RS485 + analog output.**
Current: 0÷20 mA; 4÷20 mA (up to 400 Ω).
Voltage: 0÷10 V; 0÷5 V (min 2 kΩ).
Male M12 circular connector, A-coded, 5-pin.
Female M12 circular connector, A-coded, 5-pin.

**IO-Link.**
**2x** male M12 circular connector, A-coded, 4-pin.
The instrument works as *device* in a IO-Link network.

**CANopen.**
Male M12 circular connector, A-coded, 5-pin.
Female M12 circular connector, A-coded, 5-pin.
The instrument works as *slave* in a CANopen synchronous network.

**CC-Link IE Field Basic.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a CC-Link IE Field Basic network.

**CC-Link.**
Male M12 circular connector, A-coded, 4-pin.
Female M12 circular connector, A-coded, 5-pin.
The instrument works as *Remote Device Station* in a CC-Link network and occupies 3 stations. *coming soon*

**Profibus DP.**
Male M12 circular connector, B-coded, 5-pin.
Female M12 circular connector, B-coded, 5-pin.
The instrument works as *slave* in a Profibus DP network. *coming soon*

**Modbus/TCP.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a Modbus/TCP network.

**Ethernet TCP/IP.**
Female M12 circular connector, D-coded, 4-pin.
The instrument works in an Ethernet TCP/IP network and it is accessible via web browser. *coming soon*

**Ethernet/IP.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *adapter* in an Ethernet/IP network.

**Profinet IO.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *device* in a Profinet IO network.

**EtherCAT.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in an EtherCAT network.

**POWERLINK.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a Powerlink network.

**SERCOS III.**
**2x** female M12 circular connectors, D-coded, 4-pin.
The instrument works as *slave* in a Sercos III network.



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# LCB3A

## HYGIENIC UNIVERSAL DIGITIZER FOR LOAD CELLS

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### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output or fieldbuses;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - up to 4 load cells in parallel by junction box.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP version for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via PC software) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Calibration via characterization values of the load cell.
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Configuration backup and restore via PC software.

**BASE PROGRAM**

- Hysteresis and setpoint value setting.

**SINGLE PRODUCT LOADING PROGRAM**

- 99 settable formulas.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Batching start via external contact or fieldbus.

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 4 (350 Ω) - 4/6 wires • 3.3 VDC/40 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 6.6 nV/d |
| Measurement range | ±26 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 500/s |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 3 filter types • 5÷500 Hz |
| Relay outputs | 3 - max 115 VAC/150 mA - 24 VDC/200 mA |
| Digital inputs | 2 - 5÷24 VDC |
| Micro USB port | B type - USB 2.0 (full-speed) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +50 °C |



*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

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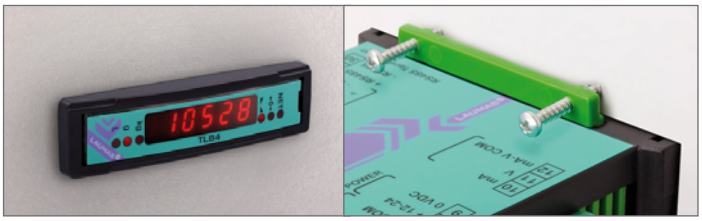
# TLB4

## WEIGHT TRANSMITTER - 4 INDEPENDENT CHANNELS

RS485 · ANALOG OUTPUT · ALIBI · Instrument Manager


Front panel mounting (fixing kit included)



### DESCRIPTION

- Weight transmitter with 4 independent reading channels with display of the total weight.
- The TLB4 series allows to have same benefits and performance of an advanced digital weighing system even using analog load cells.
- Back panel mounting on Omega/DIN rail (space-saving vertical shape).
- Front panel mounting (except PROFIBUS DP version) with fixing kit included (panel drilling template: 96x23 mm; panel thickness: 2.5 mm).
- Dimensions: 115x26x120 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- Four buttons for the system calibration.
- IP30 front panel protection rating.
- Removable screw terminal blocks.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 3 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 4 load cell dedicated inputs.

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · ETHERNET POWERLINK certified product · DeviceNet · EtherNet/IP · PI CERTIFIED PROFIBUS · PROFINET · CANopen · CLPA · CC-Link · PROFIBUS · PROFINET · SERCOS interface · ETHERNET TCP/IP · EtherCAT



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ISO 9001
ISO 14001

# TLB4

## WEIGHT TRANSMITTER - 4 INDEPENDENT CHANNELS

LAUMAS®

| | DESCRIPTION | CODE |
|---|---|---|
|  | **RS485** serial port.<br>Baud rate: 2400, 4800, 9600, 19200, 38400, 115200 (bit/s). | TLB4RS485 |
|  | Optoisolated 16 bit **analog output.**<br>Current: 0÷20 mA; 4÷20 mA (up to 300 Ω).<br>Voltage: 0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ).<br>Equipped with RS485 serial port. | TLB4 |
|  | **CANopen** port.<br>Baud rate: 10, 20, 25, 50, 100, 125, 250, 500, 800, 1000 (kbit/s).<br>The instrument works as *slave* in a synchronous CANopen network.<br>Equipped with RS485 serial port. | TLB4CANOPEN |
|  | **DeviceNet** port.<br>Baud rate: 125, 250, 500 (kbit/s).<br>The instrument works as *slave* in a DeviceNet network.<br>Equipped with RS485 serial port. | TLB4DEVICENET |
|  | **CC-Link** port.<br>Baud rate: 156, 625, 2500, 5000, 10000 (kbit/s).<br>The instrument works as *Remote Device Station* in a CC-Link network and occupies 3 stations.<br>Equipped with RS485 serial port. | TLB4CCLINK |
|  | **Profibus DP** port.<br>Baud rate: up to 12 Mbit/s.<br>The instrument works as *slave* in a Profibus DP network.<br>Equipped with RS485 serial port. | TLB4PROFIBUS |
|  | **Modbus/TCP** port.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Modbus/TCP network.<br>Equipped with RS485 serial port. | TLB4MODBUSTCP |
|  | **Ethernet TCP/IP** port.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works in an Ethernet TCP/IP network and it is accessible via web browser.<br>Equipped with RS485 serial port. | TLB4ETHETCP |
|  | **2x Ethernet/IP** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *adapter* in an Ethernet/IP network.<br>Equipped with RS485 serial port. | TLB4ETHEIP |
|  | **2x Profinet IO** ports.<br>Type: RJ45 100Base-TX.<br>The instrument works as *device* in a Profinet IO network.<br>Equipped with RS485 serial port. | TLB4PROFINETIO |
|  | **2x EtherCAT** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in an EtherCAT network.<br>Equipped with RS485 serial port. | TLB4ETHERCAT |
|  | **2x POWERLINK** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Powerlink network.<br>Equipped with RS485 serial port. | TLB4POWERLINK |
|  | **2x SERCOS III** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Sercos III network.<br>Equipped with RS485 serial port. | TLB4SERCOS |



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ISO 9001
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# TLB4

## WEIGHT TRANSMITTER - 4 INDEPENDENT CHANNELS

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.25 µV/VSI / OIML R61, R51 - WELMEC Guide 8.8:2017 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

CERTIFICATIONS ON REQUEST

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 16 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity • Analog output linearity (only for TLB4) | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift (only for TLB4) | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 4 channels - 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 µV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 600/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 21 levels • 5÷600 Hz |
| Relay outputs | 3 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (only for TLB4) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 3 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML |
|---|---|
| Applied standards by region | EU: 2014/31/UE - EN45501:2015 - OIML R76:2006<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016 |
| Operation modes | single interval, multi-interval |
| Accuracy class | III or IIII |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) |
| Minimum input signal for scale verification division | 0.25 µV/VSI |
| Working temperature | -10 °C +40 °C |



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# TLB4

## WEIGHT TRANSMITTER - 4 INDEPENDENT CHANNELS

LAUMAS®

### MAIN FUNCTIONS

- 4 independent channels for load cells: monitoring and direct management of each connected load cell.
- Immediate reporting of anomalies (also on the connected weight indicator display).
- TLB4 functions can be managed by a W series weight indicator connected via RS485 serial port (excluding instruments with graphic display) or remotely via the communication interfaces.
- Digital equalization of the 4 channels.
- Load distribution analysis on the 4 channels with backups archive: storing, consultation, printing.
- Single channel overload function.
- Detailed diagnostics of each load cell (max 4): depending on the type of weighing system you can perform:
  - load automatic diagnostics;
  - automatic diagnostics on zero.
- Tilt compensation of the weighing system up to ±10 degrees via inclinometer (not included). The weight correction is also valid for systems approved for legal for trade use.
- Archive of the last 50 significant events (zeroing, calibration, equalization, alarms): storing, consultation, printing.
- Transmission via RS485 (Modbus RTU) or fieldbus of the divisions for the 4 reading channels. Only the points of each load cell connected are transmitted, with no filter applied; the calculation of the weight value, the zero setting and calibration are made by the customer.
- Transmission of load distribution percentages via RS485 (Modbus RTU) or fieldbus.
- Connections to:
  - PLC via analog output or fieldbus;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display, inclinometer and printer via RS485;
  - up to 16 load cells in parallel;
  - W series weight indicator via RS485.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP version for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Possibility to define the condition of stable weight.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

**Approved versions for legal for trade use**

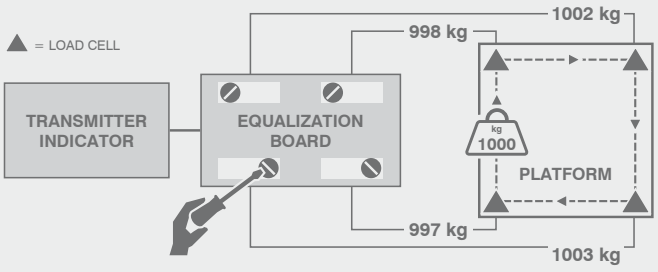
- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Two operation mode: single interval or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).

### SINGLE PRODUCT LOADING PROGRAM

- Settable dosage formula.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Batching start via external contact or fieldbus.
- Autotare at batching start.

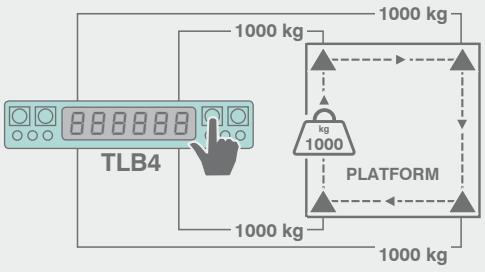
### EQUALIZATION WITH JUNCTION BOXES

The equalization with junction boxes and trimmers requires several manual steps and can suffer drift over time, requiring subsequent repetitions of the same procedure.




### DIGITAL EQUALIZATION

The TLB4 does not require the use of the junction box thanks to the support of 4 independent channels; the digital equalization function simplifies the procedure to a single step and it is free of drift over time.




### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |

*The Company reserves the right to make changes to the technical data, drawings and images without notice.*



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# TLM8

## WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS

IP68 IP69K RS485 ANALOG OUTPUT ALIBI Instrument Manager A3 CLOUD


## DESCRIPTION

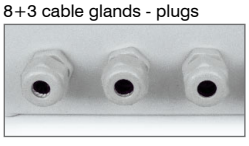
- Weight transmitter with 8 independent reading channels with display of the total weight.
- The TLM8 series allows to have same benefits and performance of an advanced digital weighing system even using analog load cells.
- TEST key for direct access to the diagnostic functions.
- Back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 148x92x60 mm.
- Backlit LCD graphic display, resolution: 128x64 pixel, visible area: 60x32 mm.
- 5-key keyboard.
- Extractable screw terminal blocks.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

IP68/IP69K AISI 304 STAINLESS STEEL BOXES (on request)

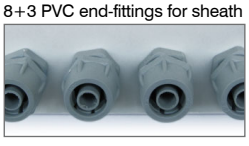
Hygienic version

IP67 POLYCARBONATE BOXES (on request)

8+3 cable glands - plugs



8+3 PVC end-fittings for sheath



## INPUTS/OUTPUTS AND COMMUNICATION

- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols.
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 8 load cell dedicated inputs.

## FIELDBUSES

MODBUS RTU MODBUS/TCP ETHERNET POWERLINK certified product DeviceNet EtherNet/IP PI CERTIFIED PROFIBUS • PROFINET

CC-Link PARTNER ASSOCIATION PROFIBUS CC-Link CANopen SERCOS interface ETHERNET TCP/IP EtherCAT



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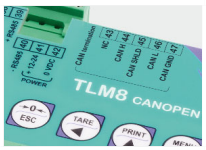
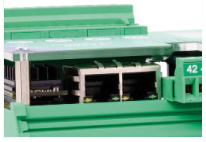
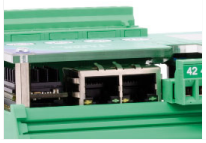
# TLM8

## WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS

LAUMAS®

| | DESCRIPTION | CODE |
|---|---|---|
|  | **RS485** serial port.<br>Baud rate: 2400, 4800, 9600, 19200, 38400, 115200 (bit/s).<br>16 bit **analog output.**<br>Current: 0÷20 mA; 4÷20 mA (up to 400 Ω).<br>Voltage: 0÷10 V; 0÷5 V (min 2 kΩ) | TLM8 |
|  | **CANopen** port.<br>Baud rate: 10, 20, 25, 50, 100, 125, 250, 500, 800, 1000 (kbit/s).<br>The instrument works as *slave* in a synchronous CANopen network.<br>Equipped with RS485 serial port. | TLM8CANOPEND |
|  | **DeviceNet** port.<br>Baud rate: 125, 250, 500 (kbit/s).<br>The instrument works as *slave* in a DeviceNet network.<br>Equipped with RS485 serial port. | TLM8DEVICENETD |
|  | **CC-Link** port.<br>Baud rate: 156, 625, 2500, 5000, 10000 (kbit/s).<br>The instrument works as *Remote Device Station* in a CC-Link network and occupies 3 stations.<br>Equipped with RS485 serial port. | TLM8CCLINKD |
|  | **Profibus DP** port.<br>Baud rate: up to 12 Mbit/s.<br>The instrument works as *slave* in a Profibus DP network.<br>Equipped with RS485 serial port. | TLM8PROFIBUSD |
|  | **Modbus/TCP** port.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Modbus/TCP network.<br>Equipped with RS485 serial port. | TLM8MODBUSTCPD |
|  | **Ethernet TCP/IP** port.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works in an Ethernet TCP/IP network and it is accessible via web browser.<br>Equipped with RS485 serial port. | TLM8ETHETCPD |
|  | **2x Ethernet/IP** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *adapter* in an Ethernet/IP network.<br>Equipped with RS485 serial port. | TLM8ETHEIPND |
|  | **2x Profinet IO** ports.<br>Type: RJ45 100Base-TX.<br>The instrument works as *device* in a Profinet IO network.<br>Equipped with RS485 serial port. | TLM8PROFINETIOD |
|  | **2x EtherCAT** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in an EtherCAT network.<br>Equipped with RS485 serial port. | TLM8ETHERCATD |
|  | **2x POWERLINK** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Powerlink network.<br>Equipped with RS485 serial port. | TLM8POWERLINKD |
|  | **2x SERCOS III** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Sercos III network.<br>Equipped with RS485 serial port. | TLM8SERCOSD |



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# TLM8

## WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 µV/VSI

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

Complies with United Kingdom regulations for legal for trade use

CERTIFICATIONS ON REQUEST

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 16 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity • Analog output linearity (only for TLM8) | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift (only for TLM8) | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 8 channels - 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 µV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 600/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 21 levels • 5÷600 Hz |
| Relay outputs | 5 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3 - 5÷24 VDC PNP |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Analog output (only for TLM8) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 400 Ω)<br>0÷10 V; 0÷5 V (min 2 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML |
|---|---|
| Applied standards by region | EU: 2014/31/UE - EN45501:2015 - OIML R76:2006<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016 |
| Operation modes | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) |
| Minimum input signal for scale verification division | 0.2 µV/VSI |
| Working temperature | -10°C +40°C |



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# TLM8

## WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS

LAUMAS®

### MAIN FUNCTIONS

- 8 independent channels for load cells: monitoring and direct management of each connected load cell.
- Immediate reporting of anomalies (also on the connected weight indicator display).
- TLM8 functions can be managed by a W series weight indicator connected via RS485 serial port (excluding instruments with graphic display) or remotely via the communication interfaces.
- Digital equalization of the 8 channels.
- Load distribution analysis on the 8 channels with backups archive: storing, consultation, printing.
- Single channel overload function.
- Detailed diagnostics of each load cell (max 8): depending on the type of weighing system you can perform:
  - load automatic diagnostics;
  - automatic diagnostics on zero.
- Tilt compensation of the weighing system up to ±10 degrees via inclinometer (not included). The weight correction is also valid for systems approved for legal for trade use.
- Archive of the last 50 significant events (zeroing, calibration, equalization, alarms): storing, consultation, printing.
- Transmission via RS485 (Modbus RTU) or fieldbus of the divisions for the 8 reading channels. Only the points of each load cell connected are transmitted, with no filter applied; the calculation of the weight value, the zero setting and calibration are made by the customer.
- Transmission of load distribution percentages via RS485 (Modbus RTU) or fieldbus.
- Connections to:
  - PLC via analog output and fieldbus;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display, inclinometer and printer via RS485;
  - up to 16 load cells in parallel;
  - W series weight indicator via RS485.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP version for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Possibility to define the condition of stable weight.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

**Approved versions for legal for trade use**

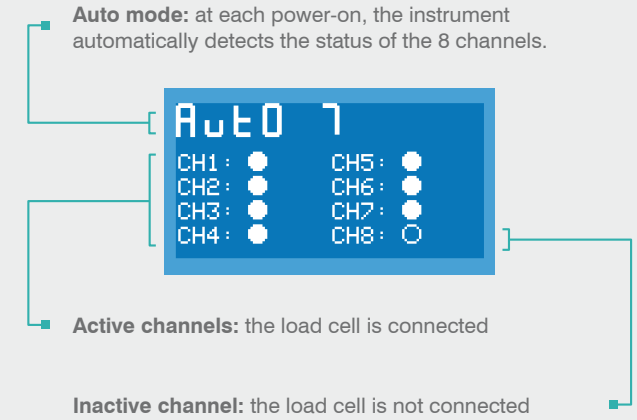
- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).

**SINGLE PRODUCT LOADING PROGRAM**

- Settable dosage formula.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Batching start via external contact or fieldbus.
- Autotare at batching start.

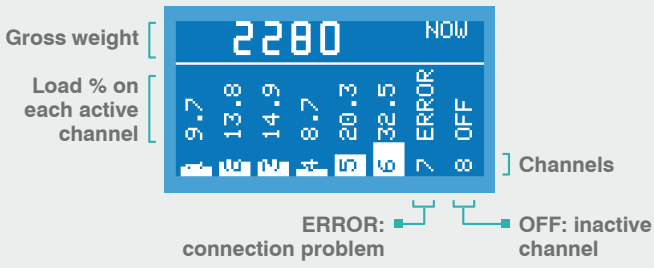
### 8 INDEPENDENT CHANNELS

The screen shows the standard automatic operating mode: the activation/deactivation status of each channel indicates the presence/ absence of connection with the load cells.



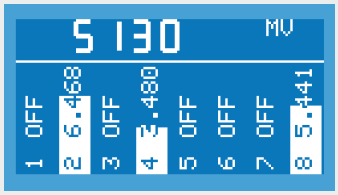

### LOAD DISTRIBUTION

The TLM8 displays, in graphical form, the current load distribution on each active channel.




### LOAD CELLS INPUT TEST

The TLM8 displays, in graphical form, the load cells response signal in mV for each active channel.



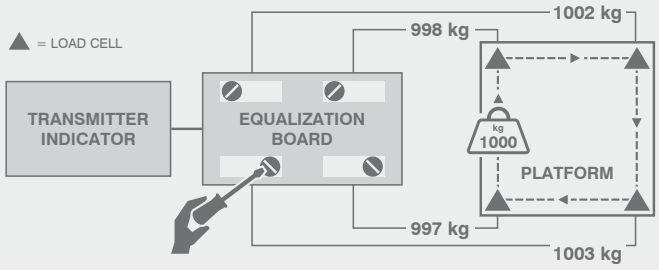

Rev. 0.0

# TLM8

## WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS

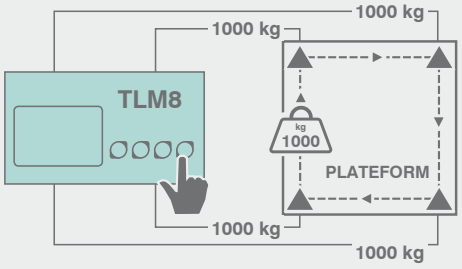
### EQUALIZATION WITH JUNCTION BOXES

The equalization with junction boxes and trimmers requires several manual steps and can suffer drift over time, requiring subsequent repetitions of the same procedure.




### DIGITAL EQUALIZATION

The TLM8 does not require the use of the junction box thanks to the support of 8 independent channels; the digital equalization function simplifies the procedure to a single step and it is free of drift over time.




## OPTIONS ON REQUEST

| | DESCRIPTION | | CODE |
|---|---|---|---|
|  | Alibi memory. | | OPZWALIBI |
| | AISI 304 stainless steel box; dimensions: 286x206x85 mm | | |
|  | - IP68 protection rating.<br>- 10 M12x1.5 cable glands.<br>- Adjustable stainless steel bracket included.<br>- Dimensions with bracket: 290x206x187 mm.<br>- Kit for front panel mounting (option on request). | Available versions:<br>Standard<br>ATEX II 3GD (zone 2-22)<br>IECEx (zone 2-22) | <br>CASTLM8I<br>CASTLM8I-X<br>CASTLM8I-IEX |
|  | - IP69K front panel protection rating<br>- Hygienic version RPSCQC authorized by 3-A SSI<br>- 6 M12x1.5 cable glands<br>- Supports for front panel mounting included | | CASTLM8I3A |
| | IP67 polycarbonate box; dimensions: 188x188x130 mm<br>(four fixing holes Ø4 mm; centre distance: 164x164 mm) | | |
|  | - transparent cover<br>- transparent cover; 8+3 M16x1.5 cable glands - plugs<br>- transparent cover; 8+3 PVC end-fittings for sheath | | CASTLG<br>CASTLG8PG9<br>CASTLG8GUA |
|  | - external keyboard<br>- external keyboard; 8+3 M16x1.5 cable glands - plugs<br>- external keyboard; 8+3 PVC end-fittings for sheath | | CASTLGTAST<br>CASTLGTAST8PG9<br>CASTLGTAST8GUA |



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# CASTLM8I

## STAINLESS STEEL BOX FOR TLM8 WEIGHT TRANSMITTER

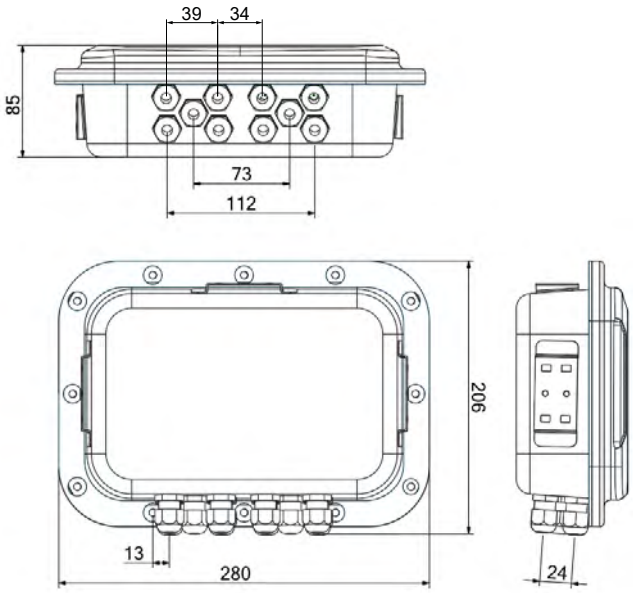
IP68 IP69K



*TLM8 instrument not included.*
*To know the functions and technical features of the instrument, refer to the dedicated data sheet.*

- AISI 304 stainless steel box for TLM8 multichannel weight transmitter.
- Dimensions: 280x206x85 mm; with bracket: 290x206x187 mm.
- Adjustable stainless steel bracket included.
- IP68 protection rating.
- 10 M12x1.5 cable glands.
- 5-key keyboard.
- TEST key for direct access to the diagnostic functions.

### DIMENSIONS (mm)




Rev. 0.0

# CASTLM8I

## STAINLESS STEEL BOX FOR TLM8 WEIGHT TRANSMITTER

### CERTIFICATIONS

UK CA — Equivalent of the CE marking for the United Kingdom

CERTIFICATIONS ON REQUEST

IP69K — Declaration of conformity + IP69K marking protection rating
*Water protection in case of high-pressure or steam jet cleaning (test: pressurized water is sprayed from a distance of max 150 mm)*
*Water pressure: 100 bar; temperature: 80 °C; test duration: 250 seconds (reference standard: DIN 40050-9)*

### AVAILABLE VERSIONS

| | DESCRIPTION | CODE |
|---|---|---|
|  | Installation: wall and desk (bracket included),<br>front panel (option on request - drilling template: 248x160 mm). | CASTLM8I |
|  | **X version**: **ATEX II 3GD (zone 2-22)**<br>**IEX version**: **IECEx (zone 2-22)**<br>Installation: wall and desk (bracket included),<br>front panel (option on request - drilling template: 248x160 mm). | CASTLM8I-X<br>CASTLM8I-IEX |

### OPTIONS ON REQUEST

| | ACCESSORIES | CODE |
|---|---|---|
|  | Kit for front panel mounting | |
| | *Compatible with standard version* | STAFFETLM8I |
| | *Compatible with X, IEX versions* | STAFFETLM8IEX |

Rev. 0.0

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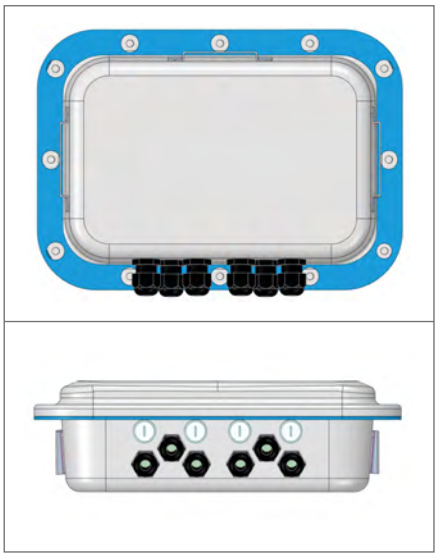
# CASTLM8I 3A

## HYGIENIC STAINLESS STEEL BOX FOR TLM8 WEIGHT TRANSMITTER

IP69K



*TLM8 instrument not included.*
*To know the functions and technical features of the instrument, refer to the dedicated data sheet.*



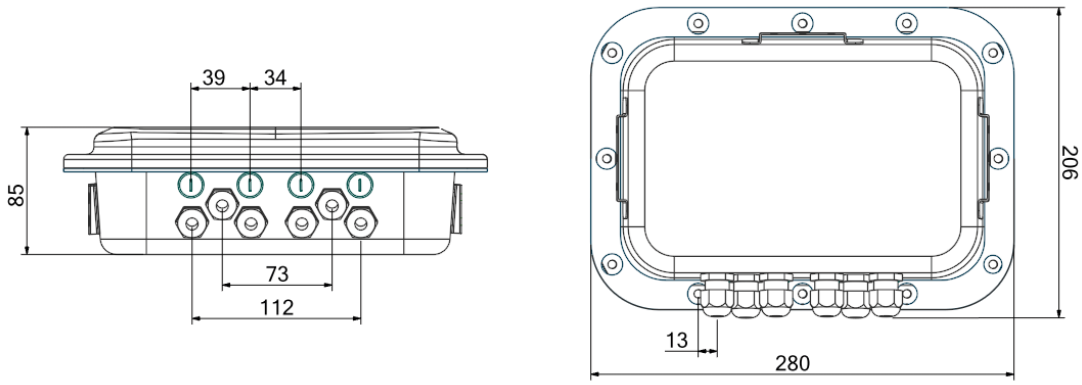
- Hygienic box in AISI 304 stainless steel for TLM8 multichannel weight transmitter.
- Hygienic device RPSCQC authorized by 3-A SSI.
- Dimensions: 280x206x85 mm.
- Supports for front panel mounting included.
- IP69K front panel protection rating.
- 6 M12x1.5 cable glands.
- 5-key keyboard.
- TEST key for direct access to the diagnostic functions.

### CERTIFICATIONS

UK CA — Equivalent of the CE marking for the United Kingdom

American standard that regulates the design, production and use of hygienic equipment

### DIMENSIONS (mm)

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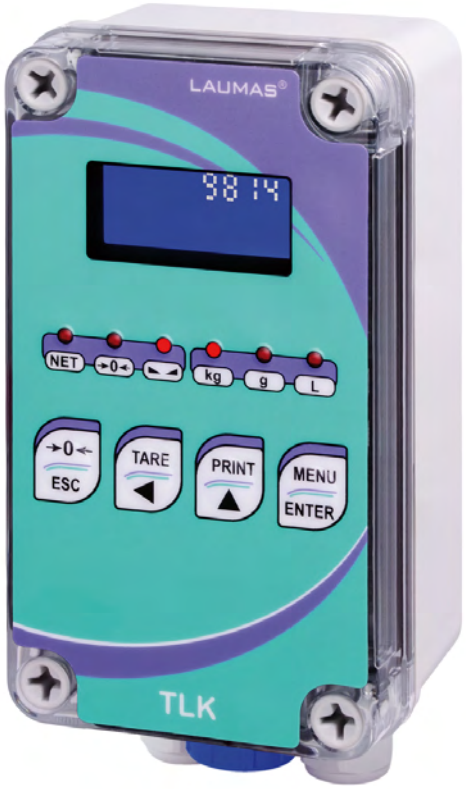
Rev. 0.0

# TLK
## WEIGHT TRANSMITTER

RS485 RS232 · IP67 · MODBUS RTU

### DESCRIPTION

- Weight transmitter in IP67 polycarbonate box with 2 M16x1.5 cable glands.
- Dimensions: 80x170x65 mm (four fixing holes Ø4 mm; centre distance: 60x120 mm).
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 6 signalling LED.
- 4-key keyboard.




### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 4 relay outputs controlled by the setpoint values or via protocols.
- 2 PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - up to 8 load cells in parallel by junction box;
  - W series weight indicator via RS485.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 5 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Hysteresis and setpoint value setting.
- Energy saving mode.
- All functions can be managed by a W series weight indicator connected via RS485 serial port (excluding instruments with graphic display).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.

### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.6 $\mu$V/VSI |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| | **CERTIFICATIONS ON REQUEST** |
| **M** | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |



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# TLK
## WEIGHT TRANSMITTER

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### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 2 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML |
|---|---|
| Applied standards by region | EU: 2014/31/UE - OIML R76:2006 - EN45501:2015<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016 |
| Operation modes | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) |
| Minimum input signal for scale verification division | 0.6 μV/VSI |
| Working temperature | -10 °C +40 °C |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | **Rechargeable external lead battery.**<br>▪ 12 V - 2800 mAh capacity<br>▪ IP67 polycarbonate box 160x80x85 mm with transparent cover (4 fixing holes Ø4 mm; centre distance: 152x122 mm).<br>▪ Battery charger.<br>▪ 26 hours operating time*. | BATEXT |
|  | **Rechargeable internal NiMH battery.**<br>▪ 8 elements - 1.2 V - AA type - 2450 mAh capacity.<br>▪ Supplied already installed in the instrument, with external dedicated switch; overall box dimensions: 190x80x65 mm.<br>▪ 24 hours operating time*. | OPZBATTWF |

** Approx. maximum operating time for typical use with fully charged battery, with 4 load cells (350 ohm) and energy saving mode enabled.*

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# TLB
## WEIGHT TRANSMITTER

RS485 ANALOG OUTPUT Instrument Manager


### DESCRIPTION

- Weight transmitter suitable for back panel mounting on Omega/DIN rail.
- Space-saving vertical shape.
- Dimensions: 115x25x120 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- Four buttons for the system calibration.
- Removable screw terminal blocks.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 3 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · ETHERNET POWERLINK certified product · DeviceNet · EtherNet/IP · PI CERTIFIED PROFIBUS · PROFINET

PROFIBUS · CC-Link · CANopen · SERCOS interface · ETHERNET TCP/IP · EtherCAT



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# TLB
## WEIGHT TRANSMITTER

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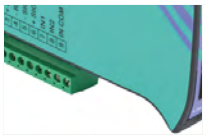
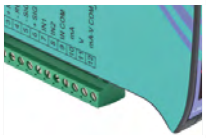
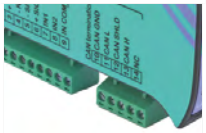
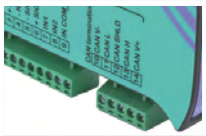
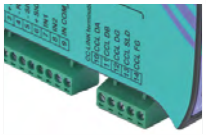
| | DESCRIPTION | CODE |
|---|---|---|
|  | **RS485** serial port.<br>Baud rate: 2400, 4800, 9600, 19200, 38400, 115200 (bit/s). | TLB485 |
|  | Optoisolated 16 bit **analog output**.<br>Current: 0÷20 mA; 4÷20 mA (up to 300 Ω).<br>Voltage: 0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ).<br>Equipped with RS485 serial port. | TLB |
|  | **CANopen** port.<br>Baud rate: 10, 20, 25, 50, 100, 125, 250, 500, 800, 1000 (kbit/s).<br>The instrument works as *slave* in a synchronous CANopen network.<br>Equipped with RS485 serial port. | TLBCANOPEN |
|  | **DeviceNet** port.<br>Baud rate: 125, 250, 500 (kbit/s).<br>The instrument works as *slave* in a DeviceNet network.<br>Equipped with RS485 serial port. | TLBDEVICENET |
|  | **CC-Link** port.<br>Baud rate: 156, 625, 2500, 5000, 10000 (kbit/s).<br>The instrument works as *Remote Device Station* in a CC-Link network and occupies 3 stations. Equipped with RS485 serial port. | TLBCCLINK |
|  | **Profibus DP** port.<br>Baud rate: up to 12 Mbit/s.<br>The instrument works as *slave* in a Profibus DP network.<br>Equipped with RS485 serial port. | TLBPROFI |
|  | **Modbus/TCP** port.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Modbus/TCP network.<br>Equipped with RS485 serial port. | TLBMODBUSTCP |
|  | **Ethernet TCP/IP** port.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works in an Ethernet TCP/IP network and it is accessible via web browser. Equipped with RS485 serial port. | TLBETHETCP |
|  | **2x Ethernet/IP** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *adapter* in an Ethernet/IP network.<br>Equipped with RS485 serial port. | TLBETHEIPN |
|  | **2x Profinet IO** ports.<br>Type: RJ45 100Base-TX.<br>The instrument works as *device* in a Profinet IO network.<br>Equipped with RS485 serial port. | TLBPROFINETION |
|  | **2x EtherCAT** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in an EtherCAT network.<br>Equipped with RS485 serial port. | TLBETHERCAT |
|  | **2x POWERLINK** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Powerlink network.<br>Equipped with RS485 serial port. | TLBPOWERLINK |
|  | **2x SERCOS III** ports.<br>Type: RJ45 10Base-T or 100Base-TX (auto-sensing).<br>The instrument works as *slave* in a Sercos III network.<br>Equipped with RS485 serial port. | TLBSERCOS |



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## CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 μV/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

Complies with United Kingdom regulations for legal for trade use

Measurement Canada - $n_{max}$ 5000 - Class III - Complies with Canadian regulations for legal for trade use

NTEP - $n_{max}$ 5000 - Class III - Complies with United States regulations for legal for trade use

CERTIFICATIONS ON REQUEST

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

## TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity (only for TLB) | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift (only for TLB) | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 3 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (only for TLB) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 3 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016 | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021<br>Canada: Weights and Measures Regulations, 2019 |
| Operation modes | single interval, multi-interval | single interval, multi-interval |
| Accuracy class | III or IIII | III |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 5000 (class III) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |

# TLB
## WEIGHT TRANSMITTER

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output or fieldbus;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485;
  - up to 8 load cells in parallel by junction box.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP version for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Two operation mode: single interval or multi-interval.
- Net weight zero tracking.
- Calibration.

SPACE SAVING COMPACT DESIGN


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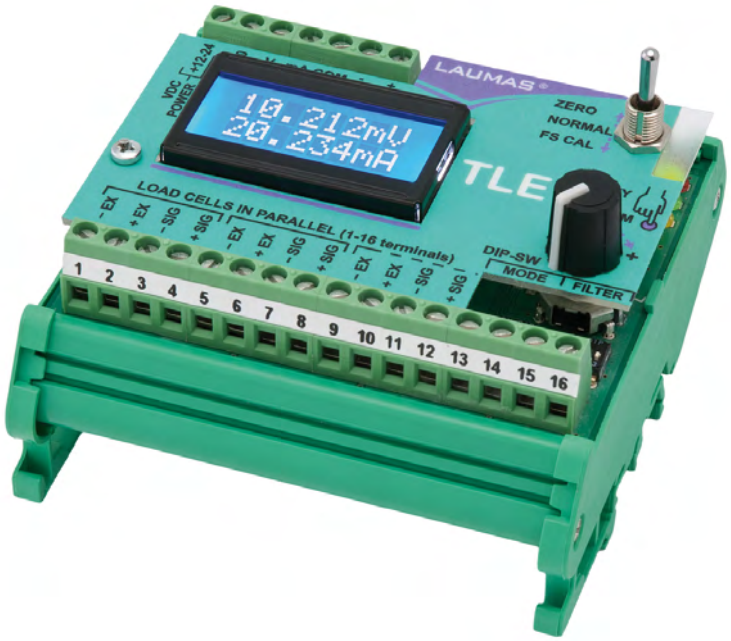
# TLE

## ANALOG WEIGHT TRANSMITTER - RS485

IP67 RS485 ANALOG OUTPUT

MODBUS RTU




### DESCRIPTION

- Weight transmitter suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 90x95x60 mm.
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 3-way selector switch, DIP-switch and control knob.

### INPUTS/OUTPUTS AND COMMUNICATION

- Current or voltage 16-bit high-speed analog output (response time: 3 ms).
- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 4 load cell dedicated inputs.

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - up to 8 load cells in parallel by junction box.
- Zero and full scale adjustment without multimeter.
- Simultaneous display of the response signal of the load cells expressed in mV and the value of the analog output.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights).
- Tare weight zero setting.

### CERTIFICATIONS

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom



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# TLE
## ANALOG WEIGHT TRANSMITTER - RS485

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8kHz |
| Divisions (RS485) | ±200000 • 0.01 μV/d (with measurement range ±10 mV and sensitivity 2 mV/V)<br>±300000 • 0.01 μV/d (with measurement range ±15 mV and sensitivity 3 mV/V) |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 8 levels • 10÷300 Hz |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Analog output | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

c UL us — Equipment to be powered by 12-24 VDC LPS or Class 2 power source

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) | |
|  | - transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath | CASTL<br>CASTLPG9<br>CASTLGUA |
|  | ATEX II 3GD *(zone 2-22)* version<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs | CASTLATEX |



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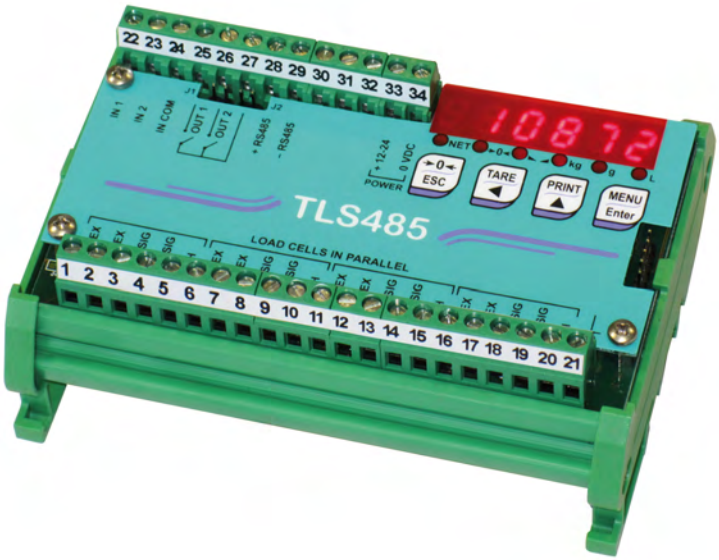
ISO 9001
ISO 14001

# TLS485
## WEIGHT TRANSMITTER

IP67 RS485 MODBUS RTU




### DESCRIPTION

- Weight transmitter suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 123x92x50 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- 4-key keyboard.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 2 optorelay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 4 load cell dedicated inputs.

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485;
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

### CERTIFICATIONS

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom



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# TLS485
## WEIGHT TRANSMITTER

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 80 Hz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±19.5 mV |
| Usable load cells sensitivity | ±3 mV/V |
| Conversions per second | 80/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷80 Hz |
| Optorelay outputs | 2 - max 24 VDC/60 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Optorelay outputs | 2 - max 24 VDC/60 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) | |
|  | - transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath | CASTL<br>CASTLPG9<br>CASTLGUA |
|  | - external keyboard<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs<br>- external keyboard; 4+2 PVC end-fittings for sheath | CASTLTAST<br>CASTLTASTPG9<br>CASTLTASTGUA |
|  | ATEX II 3GD *(zone 2-22)* version<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs | CASTLTASTATEX |



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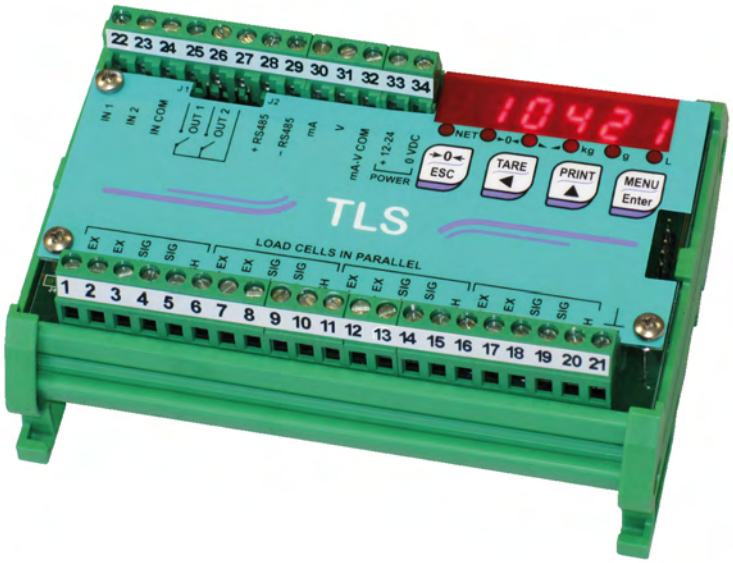
# TLS
## WEIGHT TRANSMITTER

IP67 RS485 ANALOG OUTPUT Instrument Manager MODBUS RTU




### DESCRIPTION

- Weight transmitter suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 123x92x50 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- 4-key keyboard.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- Current or voltage 16 bit optoisolated analog output.
- 2 optorelay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 4 load cell dedicated inputs.

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output;
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485;
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

### CERTIFICATIONS

- UL Recognized component - Complies with United States and Canada standards
- Complies with the Eurasian Customs Union standards
- Equivalent of the CE marking for the United Kingdom



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# TLS
## WEIGHT TRANSMITTER

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 80 Hz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±19.5 mV |
| Usable load cells sensitivity | ±3 mV/V |
| Conversions per second | 80/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷80 Hz |
| Optorelay outputs | 2 - max 24 VDC/60 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Optorelay outputs | 2 - max 24 VDC/60 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) | |
|  | - transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath | CASTL<br>CASTLPG9<br>CASTLGUA |
|  | - external keyboard<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs<br>- external keyboard; 4+2 PVC end-fittings for sheath | CASTLTAST<br>CASTLTASTPG9<br>CASTLTASTGUA |
|  | ATEX II 3GD *(zone 2-22)* version<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs | CASTLTASTATEX |



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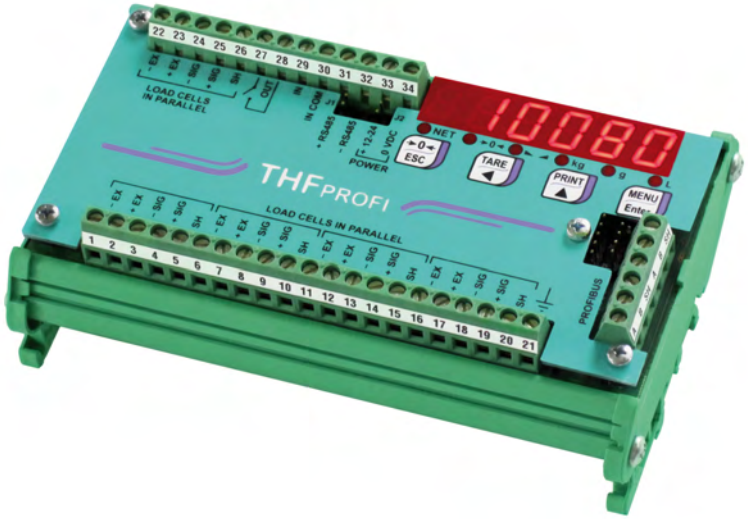
# THFPROFI

## WEIGHT TRANSMITTER - RS485/PROFIBUS

IP67 RS485

MODBUS RTU




### DESCRIPTION

- Weight transmitter suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 148x92x50 mm.
- 6-digit semi-alphanumeric red LED display (11 mm height).
- 6 signalling LED.
- 4-key keyboard.

### INPUTS/OUTPUTS AND COMMUNICATION

- Serial port with Profibus DP protocol.
- RS485 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 1 relay output controlled by the setpoint values or via protocols.
- 1 optoisolated PNP digital input: status reading via serial communication protocols.
- 5 load cell dedicated inputs.

### MAIN FUNCTIONS

- Connections to:
  - PLC via Profibus DP protocol (up to 126 instruments with line repeaters, up to 32 without line repeaters);
  - PC/PLC via RS485 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485;
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 5 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

### CERTIFICATIONS

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom



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# THFPROFI

## WEIGHT TRANSMITTER - RS485/PROFIBUS

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 1 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 1 - 5÷24 VDC PNP |
| Serial ports | RS485 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Profibus DP port: baud rate • adresses | up to 12 (Mbit/s) • 1÷125 |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 1 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) | |
|  | - transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath | CASTL<br>CASTLPG9<br>CASTLGUA |
|  | - external keyboard<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs<br>- external keyboard; 4+2 PVC end-fittings for sheath | CASTLTAST<br>CASTLTASTPG9<br>CASTLTASTGUA |
|  | ATEX II 3GD *(zone 2-22)* version<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs | CASTLTASTATEX |



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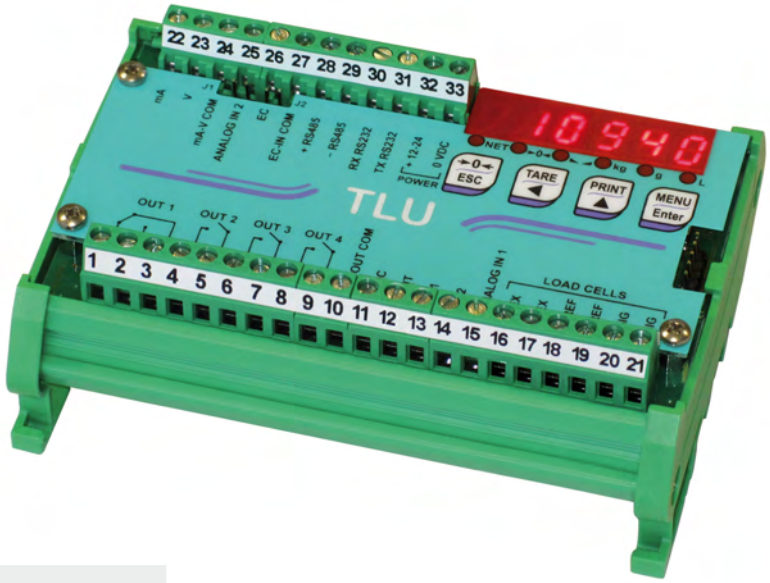
# TLU

## LOAD LIMITING DEVICE/INDICATOR

IP67 RS485 RS232 ANALOG OUTPUT

MODBUS RTU




CODE

| |
|---|
| TLU |
| TLUANA (analog output) |

### DESCRIPTION

- Load limiting device/indicator suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 123x92x50 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- 4-key keyboard.

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (TLUANA);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485/RS232;
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 5 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Setpoint value setting.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- Current or voltage 16 bit optoisolated analog output (TLUANA).
- 4 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.

### CERTIFICATIONS

- UL Recognized component - Complies with United States and Canada standards
- Complies with the Eurasian Customs Union standards
- Equivalent of the CE marking for the United Kingdom



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# TLU
## LOAD LIMITING DEVICE/INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 80 Hz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±19.5 mV |
| Usable load cells sensitivity | ±3 mV/V |
| Conversions per second | 80/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷80 Hz |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 4 - max 115 VAC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) | |
|  | - transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath | CASTL<br>CASTLPG9<br>CASTLGUA |
|  | - external keyboard<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs<br>- external keyboard; 4+2 PVC end-fittings for sheath | CASTLTAST<br>CASTLTASTPG9<br>CASTLTASTGUA |
|  | ATEX II 3GD *(zone 2-22)* version<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs | CASTLTASTATEX |

Rev. 0.0

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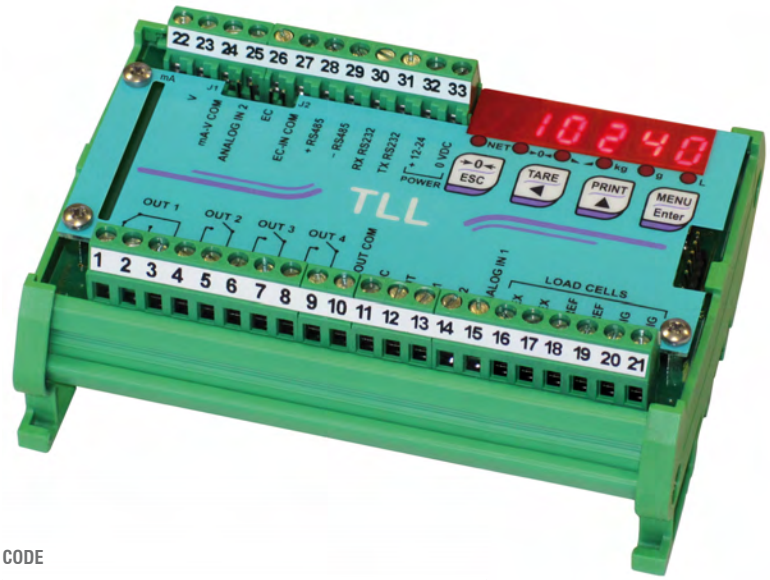
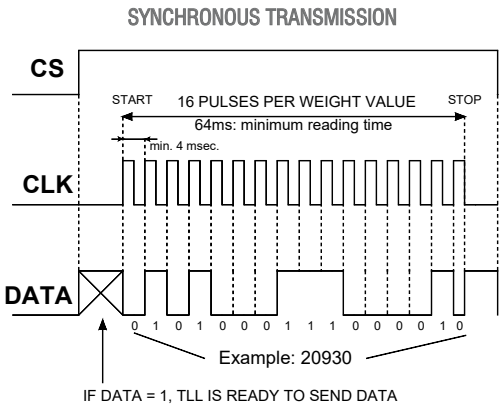
# TLL
## WEIGHT TRANSMITTER

IP67 · RS485 RS232 · ANALOG OUTPUT · MODBUS RTU




CODE

| |
|---|
| TLL |
| TLLANA (analog output) |

### DESCRIPTION

- Weight transmitter suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 123x92x50 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- 4-key keyboard.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- Current or voltage 16 bit optoisolated analog output (TLLANA).
- 4 relay outputs controlled by the setpoint values or via protocols (2 outputs if synchronous serial transmission is present).
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols (1 input if synchronous serial transmission is present).
- 1 load cell dedicated input.

### MAIN FUNCTIONS

- Connections to:
  - PLC via synchronous serial communication;
  - PLC via analog output (TLLANA);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485/RS232;
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 5 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

### CERTIFICATIONS

- UL Recognized component - Complies with United States and Canada standards
- Complies with the Eurasian Customs Union standards
- Equivalent of the CE marking for the United Kingdom



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# TLL
## WEIGHT TRANSMITTER

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 80 Hz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±19.5 mV |
| Usable load cells sensitivity | ±3 mV/V |
| Conversions per second | 80/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷80 Hz |
| Relay outputs | 4/2 - max 115 VAC/150mA |
| Optoisolated digital inputs | 2/1 - 5÷24 VDC PNP |
| Serial ports | synchronous transmission, RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) | |
|  | - transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath | CASTL<br>CASTLPG9<br>CASTLGUA |
|  | - external keyboard<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs<br>- external keyboard; 4+2 PVC end-fittings for sheath | CASTLTAST<br>CASTLTASTPG9<br>CASTLTASTGUA |
|  | ATEX II 3GD *(zone 2-22)* version<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs | CASTLTASTATEX |



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# LCD3 - LCD3PL

## DIGITAL LOAD LIMITER/TRANSMITTER FOR LIFTING SYSTEMS

RS485
RS232

| | | CODE |
|---|---|---|
| 1 instrument | load limiters in single weighing systems | LCD3 |
| 2 instruments | load limiters in multi-weighing systems | LCD3A+B |
| 3 instruments | load limiters in multi-weighing systems | LCD3A+B+C |
| 4 instruments | load limiters in multi-weighing systems | LCD3A+B+C+D |
| 1 instrument | load limiters with dual load cell input for safety systems | LCD3PL |

### DESCRIPTION

- Digital load limiter/transmitter for lifting systems.
- Mounting on Omega/DIN rail for back panel or junction box.
- Dimensions: 140x93x65 mm (terminal blocks included).
- Set-up and calibration via keyboard and LCD display (two-line by 16-digit, 5 mm height).
- Connecting multiple units with load limiting and summing function.
- Alarm signal following load cell connection failure.
- LED indicators showing the status of the relay outputs.
- 4-key keyboard.

### LCD3 SPECIFICATIONS

- Load limitation detected by the intervention of alarm and pre-alarm thresholds.
- Load limitation (single and sum) for systems with up to 4 weighing points, by connecting multiple units.
- Connecting multiple units with load limiting and summing function.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via ASCII continuous one way transmission.
- 2 digital inputs: status reading via serial communication protocols.
- LCD3:
  - 3 exchange relay outputs.
  - 1 load cell dedicated input.
  - Integrated RF interface for connecting multiple units (option on request).
- LCD3PL:
  - 4 relay outputs: one NO + two exchange relay outputs + one safety exchange relay output with guided contacts.
  - 2 independent load cell inputs.

### LCD3PL SPECIFICATIONS

- Dual channel input system for double bridge load cells, in accordance with category 2 as per EN 13849-1:2008, PL d (corresponding to SIL 2, EN62061 standard).
- Load limitation via safety relay with guided contacts, monitored in real time.
- Independent general alarm relay.
- 2 relays for general threshold intervention (e.g. pre-alarm/discharge system).



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ISO 9001
ISO 14001

# LCD3 - LCD3PL

## DIGITAL LOAD LIMITER/TRANSMITTER FOR LIFTING SYSTEMS

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232;
  - remote display via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - other units for summing function via RS485 or RF (option on request).
- Continuous load cell connection integrity check.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.

### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

Category 2 as per EN 13849-1:2008, PL d (corresponding to SIL 2 level, EN 62061 standard) (LCD3PL)

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 24÷48 VDC/VAC; 6 VA |
| Number of load cells • Load cells supply | up to 8 (350 Ω) • 4 VDC |
| Linearity | <0.01% full scale |
| Thermal drift | <0.002% full scale/°C |
| A/D Converter | 24 bit |
| Measure range | ±3.9 mV |
| Conversion per second | 3/s |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 |
| Digital filter | 0.25÷3 Hz |
| Relay outputs | LCD3: n. 3 exchange relay outputs - 30 VDC/250 VAC; 2 A<br>LCD3PL: n. 4, 1 NO + 2 exchange relay outputs + 1 safety exchange relay output with guided contacts - 18÷50 VDC/VAC; 2 A |
| Optoisolated digital inputs | n. 2 |
| Serial ports | RS485, RS232 |
| Baud rate | 1200, 2400, 9600, 19200, 38400, 57600, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +60 °C |
| Working temperature | -10 °C +50 °C |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm). | |
| | - transparent cover | CASTL |
| | - transparent cover; 4+2 M16x1.5 cable glands - plugs | CASTLPG9 |
| | - transparent cover; 4+2 PVC end-fittings for sheath | CASTLGUA |
|  | Only for LCD3<br>Integrated RF (radio) interface for connecting multiple units<br>RF frequency 868 MHz (7 channels)<br>Average range of coverage 50 metres | OPZLCD3RF |

Rev. 0.0

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# TLKWF

## WEIGHT TRANSMITTER - WiFi

LAUMAS®

IP67 · WiFi · RS485 RS232 · eSAVING · MODBUS RTU


### DESCRIPTION

- WiFi weight transmitter in IP67 polycarbonate box with 2 M16x1.5 cable glands.
- Dimensions: 80x170x65 mm (four fixing holes Ø4 mm; centre distance: 60x120 mm).
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 6 signalling LED.
- 4-key keyboard.

### INPUTS/OUTPUTS AND COMMUNICATION

- WiFi module for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols.
- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 4 relay outputs controlled by the setpoint values or via protocols or web.
- 2 PNP digital inputs: status reading via serial communication protocols or web.
- 1 load cell dedicated input.

### MAIN FUNCTIONS

- Connections to:
  - PC via WiFi/virtual Ethernet port;
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - others TLKWF devices and Laumas W series instruments (equipped with OPZW1RADIO optional module) via WiFi;
  - PC/smartphone/tablet via web browser (point-to-point direct connection);
  - up to 8 load cells in parallel by junction box;
  - W series weight indicator via RS485.
- TCP/IP WEB APP: integrated software for remote supervision, management and control of the instrument.
- Communication with existing WiFi networks.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 5 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Hysteresis and setpoint value setting.
- Energy saving mode.
- All functions can be managed by a W series weight indicator connected via RS485 serial port or WiFi (excluding instruments with graphic display).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.

### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.6 $\mu$V/VSI |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |

**CERTIFICATIONS ON REQUEST**

| | |
|---|---|
| M | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |

Rev. 0.0

# TLKWF
## WEIGHT TRANSMITTER - WiFi

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 2 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Wireless | WiFi module (2.4 GHz) with serial protocols in tunnel mode and integrated web server. Radio range up to 100 m line of sight. |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| c UL us | | |
|---|---|---|
| | Relay outputs | 4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML |
|---|---|
| Applied standards by region | EU: 2014/31/UE - OIML R76:2006 - EN45501:2015<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016 |
| Operation modes | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) |
| Minimum input signal for scale verification division | 0.6 μV/VSI |
| Working temperature | -10 °C +40 °C |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | **Rechargeable external lead battery.**<br>▪ 12 V - 2800 mAh capacity<br>▪ IP67 polycarbonate box 160x80x85 mm with transparent cover (4 fixing holes Ø4 mm; centre distance: 152x122 mm).<br>▪ Battery charger.<br>▪ 26 hours operating time*. | BATEXT |
|  | **Rechargeable internal NiMH battery.**<br>▪ 8 elements - 1.2 V - AA type - 2450 mAh capacity.<br>▪ Supplied already installed in the instrument, with external dedicated switch; overall box dimensions: 190x80x65 mm.<br>▪ 24 hours operating time*. | OPZBATTWF |

** Approx. maximum operating time for typical use with fully charged battery, with 4 load cells (350 ohm) and energy saving mode enabled.*

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ISO 9001
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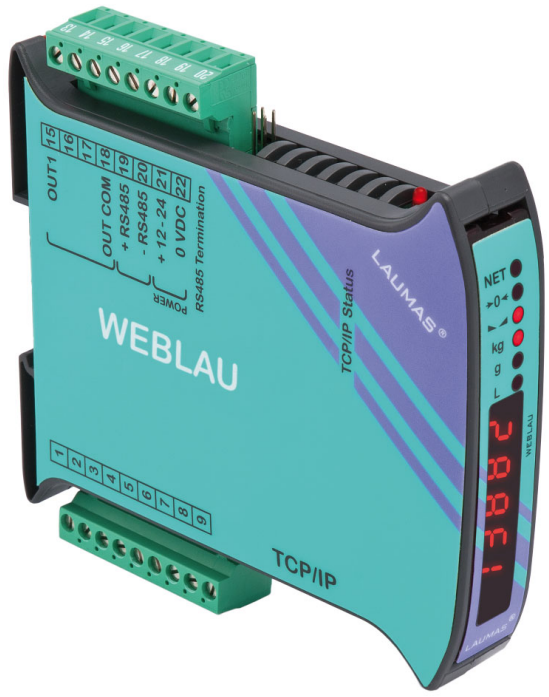
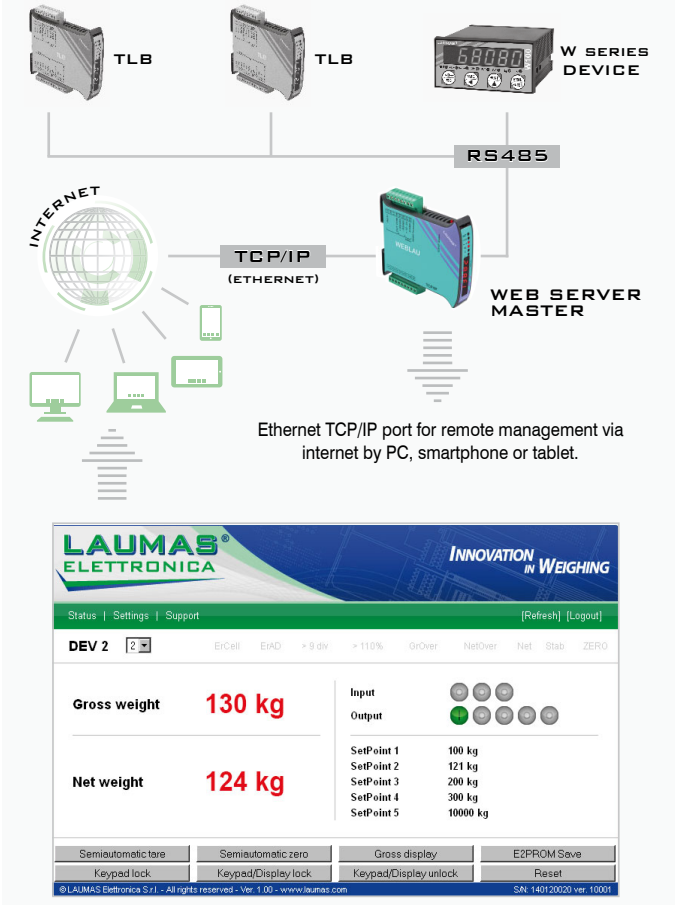
# WEBLAU

## WEB SERVER MASTER - 8 INSTRUMENTS VIA RS485

LAUMAS®

ETHERNET TCP/IP




### DESCRIPTION

The WEBLAU device is a useful support for all installers/dealers of Laumas weighing instruments as it makes easier the remote maintenance, allowing to control wherever, the status of the instruments connected to RS485 including the possible anomalies.

- Web server master suitable for back panel mounting on Omega/DIN rail.
- Space-saving vertical shape.
- Dimensions: 115x25x120 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- Four buttons for the system calibration.
- Removable screw terminal blocks.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485 serial port for communication via ModBus RTU protocol.
- ETHERNET TCP/IP communication port and a web server to view and control the status and operation of the instruments present in the RS485 network.

### MAIN FUNCTIONS

- Displays the weight and state of up to 8 W and TLB series Laumas instruments, connected to RS485.
- Setpoint value setting.
- Inputs and outputs check and management.

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Relay outputs | 1 - 115 VAC/150 mA |
| Serial ports | RS485 |
| Baud rate | 9600 (bit/s) |
| Ethernet TCP/IP port | RJ45 10Base-T or 100Base-TX (auto-sensing) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

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ISO 9001
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# CASTL-ATEX

## IP67 WATERPROOF BOXES - ATEX VERSION



| DESCRIPTION | | | CODE |
|---|---|---|---|
| for transmitters: | TLE | transparent cover | CASTLATEX |
| for transmitters: | TLS, TLS485, TLU, TLL, THFPROFI | external keyboard | CASTLTASTATEX |

### DESCRIPTION

- IP67 polycarbonate waterproof box.
- 4+2 M16x1.5 cable glands-plugs.
- Dimensions: 170x140x95 mm (4 fixing holes Ø4 mm; centre distance152x122 mm).

### CERTIFICATIONS

- Equivalent of the CE marking for the United Kingdom
- ATEX II 3GD (*zone 2-22*)
- IECEx *(zone 2-22)*

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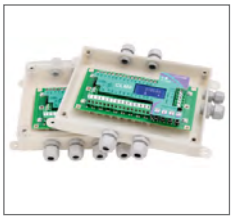
# B2 - INTELLIGENT JUNCTION BOXES

## PRODUCTS CATALOG

LAUMAS®

## B2.1 MULTICHANNEL


| | | | | | |
|---|---|---|---|---|---|
|  | CLM8I | 51 |  | CLM4ABS<br>CLM8ABS<br>CLM4ABSR<br>CLM8ABSR | 51 |
|  | CLM8 | 51 |  | CASTL<br>CASTLPG9<br>CASTL8PG9<br>CASTLGUA<br>CASTL8GUA | 51 |
|  | CLM8INOX | 51 | | | |

# Notes

## PRODUCTS CATALOG

# CLM8

## INTELLIGENT JUNCTION BOX - 8 INDEPENDENT CHANNELS

LAUMAS®

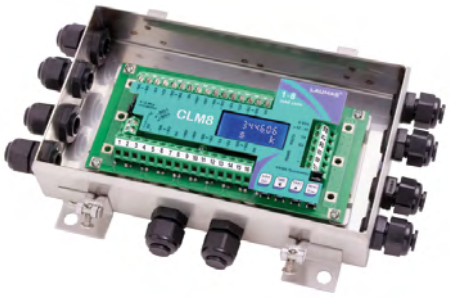
IP67 RS485 RS232 ±10° ALIBI Instrument Manager

ETHERNET TCP/IP option on request — TCP/IP WEB APP

MODBUS RTU

### DESCRIPTION

- Intelligent junction box with 8 independent channels for load cells; allows the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 4-key keyboard.
- Lightning and electrical shock protection device.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.



- IP67 AISI 304 stainless steel version.
- Dimensions: 200x148x45 mm (four fixing holes Ø4 mm; centre distance: 148x132 mm).

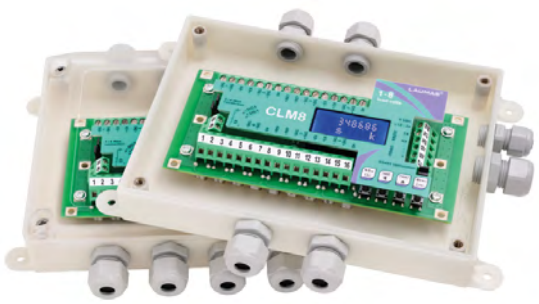
| | CODE |
|---|---|
| 8+2 M16x1.5 cable glands - plugs | CLM8INOX |

PVC END-FITTINGS FOR SHEATH

- IP67 polycarbonate box with transparent lid.
- Dimensions: 170x140x95 mm (four fixing holes Ø4 mm; centre distance: 152x122 mm).

➔ *CLM8 instrument not included.*

| | CODE |
|---|---|
| box without holes | CASTL |
| 4+2 M16x1.5 cable glands - plugs | CASTLPG9 |
| 8+3 M16x1.5 (1 M12x1.5) cable glands - plugs | CASTL8PG9 |
| 4+2 PVC end-fittings for sheath | CASTLGUA |



- IP67 ABS version with transparent lid.
- Dimensions: 210x130x40 mm (four fixing holes Ø4 mm; centre distance: 196x112 mm).

| | CODE |
|---|---|
| 4+3 M16x1.5 (1 M12x1.5) cable glands - plugs | CLM4ABS |
| 8+3 M16x1.5 (1 M12x1.5) cable glands - plugs | CLM8ABS |
| 4+3 PVC end-fittings for sheath | CLM4ABSR |
| 8+3 PVC end-fittings for sheath | CLM8ABSR |

- Omega/DIN rail mounting version suitable for back panel or junction box; dimensions: 125x92x52 mm.

| CODE |
|---|
| CLM8 |

- Naked version, board only; dimensions: 151x72x30 mm.

| CODE |
|---|
| CLM8I |

Rev. 0.0

# CLM8

## INTELLIGENT JUNCTION BOX - 8 INDEPENDENT CHANNELS

LAUMAS®

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 8 load cell dedicated inputs.
- Ethernet TCP/IP port (option on request).

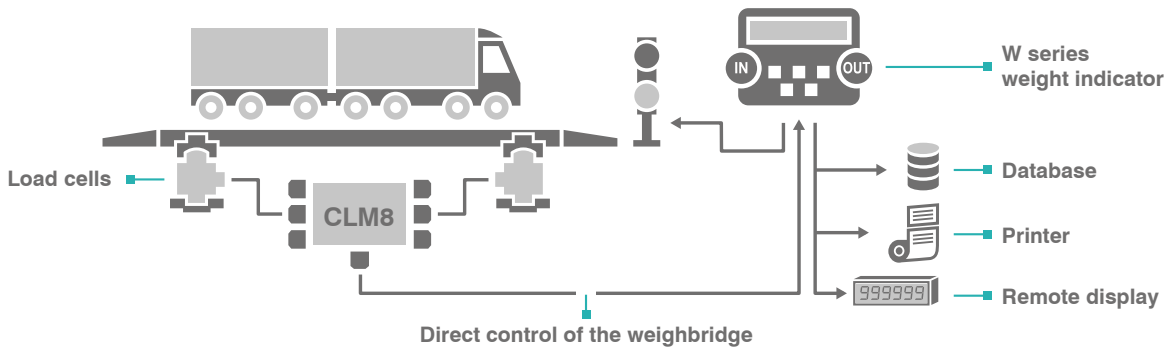
### MAIN FUNCTIONS

- 8 independent channels for load cells: monitoring and direct management of each connected load cell.
- Immediate reporting of anomalies (also on the connected weight indicator display).
- CLM8 series functions can be managed by a W series weight indicator connected via RS485 serial port (excluding instruments with graphic display) or remotely via the communication interfaces.
- Digital equalization of the 8 channels.
- Load distribution analysis on the 8 channels with backups archive: storing, consultation, printing.
- Detailed diagnostics of each load cell (max 8): depending on the type of weighing system you can perform:
  - load automatic diagnostics;
  - automatic diagnostics on zero.
- Tilt compensation of the weighing system up to ±10 degrees via inclinometer (not included). The weight correction is also valid for systems approved for legal for trade use.
- Archive of the last 50 significant events (zeroing, calibration, equalization, alarms): storing, consultation, printing.
- Transmission via RS232/RS485 (ModBus RTU) or TCP/IP (option on request) of the divisions for the 8 reading channels. Only the points of each load cell connected are transmitted, with no filter applied; the calculation of the weight value, the zero setting and calibration are made by the customer.
- Transmission of load distribution percentages via RS232/RS485 (ModBus RTU) or TCP/IP (option on request).
- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display, inclinometer and printer via RS485/RS232;
  - up to 16 load cells in parallel;
  - W series weight indicator via RS485.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Possibility to define the condition of stable weight.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).

### EXAMPLE OF APPLICATION - WEIGHBRIDGE




### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.4 $\mu$V/VSI

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

Complies with United Kingdom regulations for legal for trade use

#### CERTIFICATIONS ON REQUEST

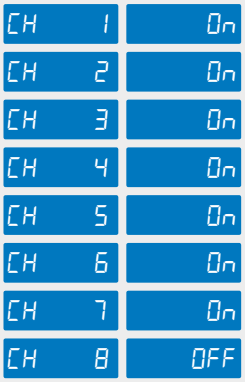
| | |
|---|---|
| M | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA ) |

Rev. 0.0

# CLM8

## INTELLIGENT JUNCTION BOX - 8 INDEPENDENT CHANNELS

### 8 INDEPENDENT CHANNELS




The display shows the status of each channel to indicate the presence/absence of connection with the load cells.

**Active channels:** the load cell is connected

**Inactive channel:** the load cell is not connected

### LOAD DISTRIBUTION

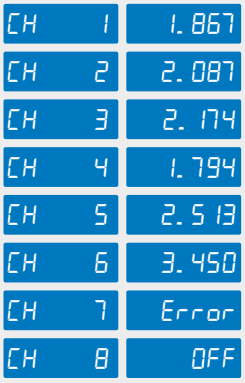

The CLM8 displays the current load distribution on each active channel.

**Load percentage on each active channel**

**ERROR: connection problem**

**OFF: inactive channel**

### LOAD CELLS INPUT TEST



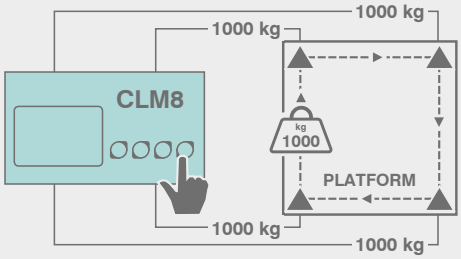

**Load cells response signal in mV for each active channel**

**ERROR: connection problem**

**OFF: inactive channel**

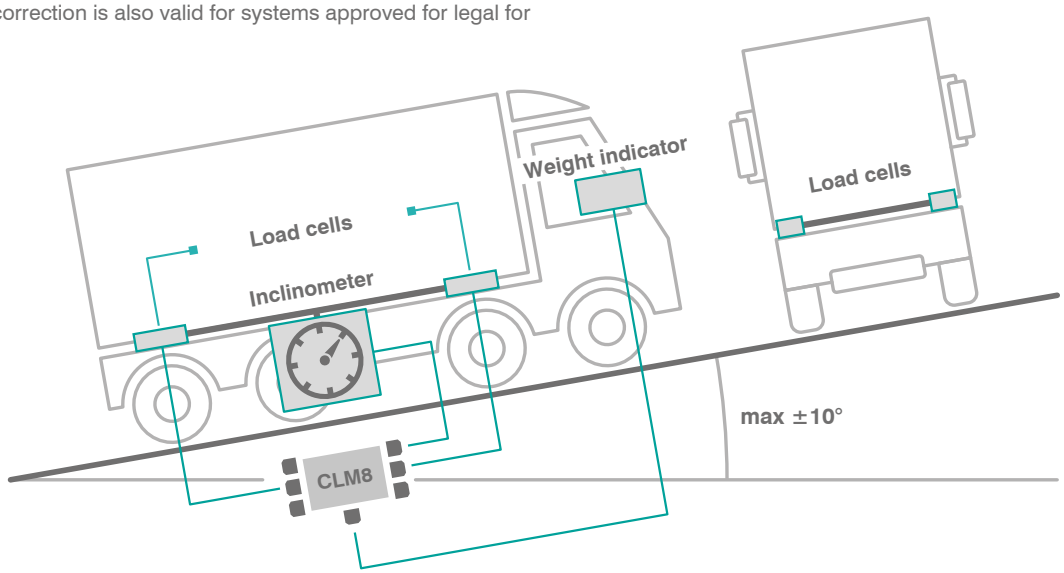
### DIGITAL EQUALIZATION

By placing a sample weight at each load cell, it is possible to perform the digital equalization of the weighing system.
The digital equalization function simplifies the procedure to a single step and it is free of drift over time.




### INCLINOMETER

The inclinometer function uses the tilt data provided by an external sensor connected to the weighing instrument, to compensate for the variations in the detected weight value due to the inclination of the weighed structure with respect to the horizontal plane. The range of allowed inclination values is ±10°.
The weight correction is also valid for systems approved for legal for trade use.




Rev. 0.0

# CLM8

## INTELLIGENT JUNCTION BOX - 8 INDEPENDENT CHANNELS

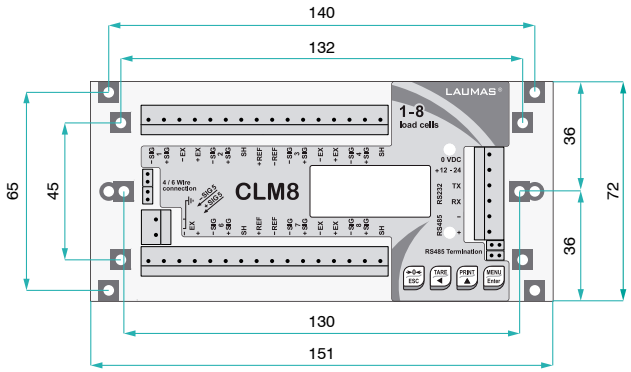
LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 16 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 8 channels - 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 600/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 21 levels • 5÷600 Hz |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | |
|---|---|
| c UL us | Working temperature: -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source. |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML |
|---|---|
| Applied standards by region | EU: 2014/31/UE - EN45501:2015 - OIML R76:2006<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016 |
| Operation modes | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) |
| Maximum number of scale verification divisions with inclinometer | 1000 (class IIII); 5200 (class III) single interval; 2x5200 or 3x2000 (class III) multi-interval or multiple range |
| Minimum input signal for scale verification division | 0.4 μV/VSI |
| Working temperature | -10 °C +40 °C |




### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Inclinometer model ACS-020-2-SC00-HE2-PM with PBT fiber reinforced casing (Posital product). | POSTILTIX-ACS020 |
|  | Alibi memory. | OPZWALIBI |
|  | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument. | OPZETTCPCLM |

*The Company reserves the right to make changes to the technical data, drawings and images without notice.*



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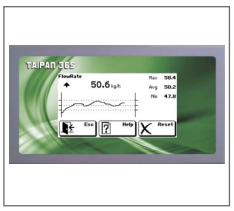
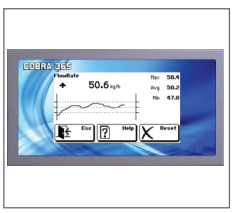
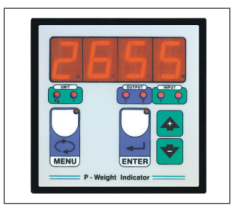
## B3.1 WEIGHT INDICATORS


| | | | | | |
|---|---|---|---|---|---|
|  | WLIGHT | 59 |  | WTAB-2G | 71 |
|  | W100 | 62 |  | WETOIML | 76 |
|  | WTAB-R | 66 |  | WEIOIML | 78 |


## B3.2 WEIGHT INDICATORS (WEIGHING AND BATCHING)


| | | | | | |
|---|---|---|---|---|---|
|  | W200 | 80 |  | WDOS | 98 |
|  | W200BOX | 86 |  | WDESK-L | 105 |
|  | W200BOXEC | 92 |  | WDESK-R | 105 |

## B3.2 WEIGHT INDICATORS (WEIGHING AND BATCHING)


| | | | | | |
|---|---|---|---|---|---|
|  | WDESK-G | 114 |  | WT60 | 153 |
|  | WINOX-L | 124 |  | WL60 | 156 |
|  | WINOX-R | 124 |  | WR | 159 |
|  | WINOX-R 3A | 133 |  | TAIPAN365 | 161 |
|  | WINOX-G | 139 |  | TAIPAN265 | 163 |
|  | WINOX-2G | 139 |  | COBRA365 | 165 |
|  | JOLLY2<br>JOLLY4 | 149 |  | COBRA265 | 167 |
|  | PWI | 151 | | | |

## B3.3 BATCHING SYSTEMS WITH SEVERAL SCALES


| | | | | | |
|---|---|---|---|---|---|
|  | DOS2005 | 169 |  | WRMDB | 173 |
|  | WRBIL | 171 | | | |


## B3.4 WEIGHBRIDGES


| | | | | | |
|---|---|---|---|---|---|
|  | WDESK-BL | 175 |  | WINOX-BGE | 184 |
|  | WDESK-BR | 175 |  | WTAB-BR | 189 |
|  | WTAB-BGE | 179 |  | WINOX-BR | 193 |


## B3.5 SUPERVISORY SOFTWARE


| | | | | | |
|---|---|---|---|---|---|
|  | INSTRUMENT MANAGER | 197 |  | PROG-NG | 200 |
|  | PROG-DB | 199 |  | PROG-WBRIDGE | 202 |

# WLIGHT
## WEIGHT INDICATOR

LAUMAS®

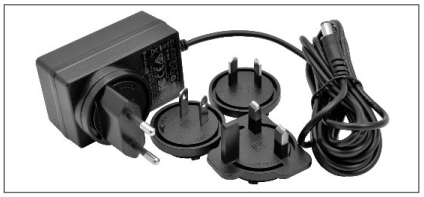
RS232 · RECHARGEABLE BATTERY · ALIBI · MODBUS RTU · Instrument Manager



Indicator-holder bracket and column


Stainless steel bracket for wall mounting


D-SUB connectors - IP40


Universal power supply included
24 VDC/1 A - 100÷240 VAC input
3 m cable length

## CERTIFICATIONS

- OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)
- UL Recognized component - Complies with United States and Canada standards
- Complies with the Eurasian Customs Union standards
- Equivalent of the CE marking for the United Kingdom
- Complies with United Kingdom regulations for legal for trade use
- NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use
- Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

- **M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

Rev. 0.0

# WLIGHT
## WEIGHT INDICATOR

LAUMAS®

### DESCRIPTION

- ABS weight indicator.
- Installation: desk, wall, column.
- Dimensions: 280x120x200 mm.
- 6-digit semi-alphanumeric red LED display (20 mm height).
- 8 signaling LED.
- 5-key keyboard.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- D-SUB connectors.
- Designed to operate with 8 NiMH rechargeable batteries, 1.2 V, AA type (not included).
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS232 serial port for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 1 load cell dedicated input.

### MAIN FUNCTIONS

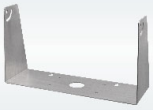
- Connections to:
  - PC/PLC via RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS232;
  - up to 8 load cells in parallel by junction box.
- Piece counting.
- Weight totalizing.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard.
- The indicator can be used as a remote display.

**CE-M (NAWI) e NTEP (SCALES) approved versions**

- System parameters management protected by qualified access via software (password) or hardware.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.

### OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
|  | 8 NiMH rechargeable batteries, 1.2 V, AA type.<br>Operating time: 16 hours. | OPZWBATTWLIGHT |

| | ACCESSORIES | |
|---|---|---|
|  | ABS adjustable support for column mounting. | STAFFAWDESK |
|  | Stainless steel adjustable bracket for wall mounting.<br>Dimensions with bracket: 206x290x187 mm. | STAFFAIWINOX |
|  | Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Painted steel bracket for platform/floor mounting.<br><br>Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN<br><br>COLONNAM<br>+ STAFFAIN |

| | APPLICATIONS - SOFTWARE | |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |

Rev. 0.0

# WLIGHT
## WEIGHT INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Serial ports | RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Working temperature | -20 °C +58 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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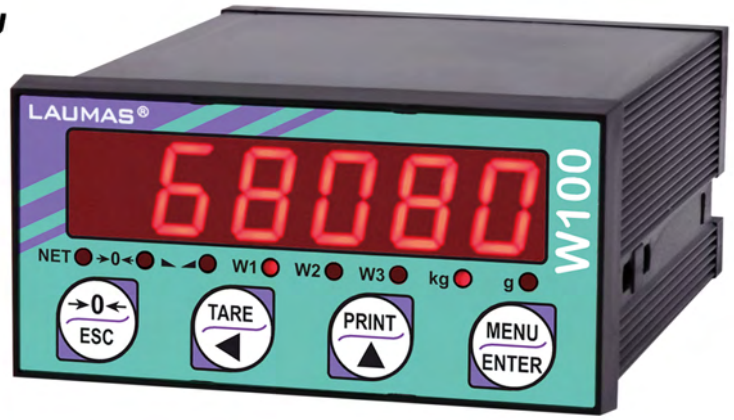
# W100
## WEIGHT INDICATOR

LAUMAS®

MODBUS RTU




CLOUD · Instrument Manager · ALIBI · ANALOG OUTPUT · RS485 RS232

### DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 96x48x130 mm (drilling template: 92x45 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- 8 signalling LED.
- 4-key keyboard.
- IP54 front panel protection rating (IP65 front optional).
- Real-time clock/calendar with buffer battery.
- Removable screw terminal blocks.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - IoT gateway for cloud connection via RS485.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.
- Weight value printing with date and time via keyboard or external contact.
- The indicator can be used as a remote display with setpoint.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).
- Labeling machine management.


*On request: label support for initial verification*

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple range or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).



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# W100
## WEIGHT INDICATOR

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

#### CERTIFICATIONS ON REQUEST

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )
Support for metric label (dimensions: 124x77x1.5 mm)

Complies with the regulations of the Russian Federation for legal for trade use



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# W100
## WEIGHT INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation mode | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# W100
## WEIGHT INDICATOR

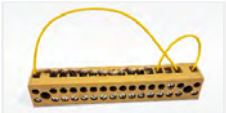
LAUMAS®

## OPTIONS ON REQUEST

| | ACCESSORIES | CODE |
|---|---|---|
|  | IP65 panel gasket. | OPZW48X96IP65 |

| | INTERFACES | |
|---|---|---|
|   | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA |
|   | **Additional RS485** port.<br>➔ *One input and one output not available.* | ✶ OPZW1RS485 |
|   | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010 |
|   | Weight reading from 4-20 mA input (120 Ω). | OPZWING420 |

✶ *Select one option among those marked with an asterisk.*

| | EXPANSIONS | |
|---|---|---|
|  | 12 groups selection by 5 setpoint via external selector switch. | ✶ EC |
|  | 12 groups selection by 5 setpoint via external contact. | ✶ E |
|   | Simultaneous use of E/EC option with the analog output. | OPZWAEC |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | RELE5M |

✶ *Select one option among those marked with an asterisk.*

| | APPLICATIONS - SOFTWARE | |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |



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# WTAB-R

## WEIGHT INDICATOR

LAUMAS®

RS485 RS232 · ANALOG OUTPUT · RECHARGEABLE BATTERY · WiFi · Instrument Manager · ALIBI · CLOUD


D-SUB connectors - IP40

Integrated thermal printer (on request)

Universal power supply included
24 VDC/1 A - 100÷240 VAC input
3 m cable length

## CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID) |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| NMI TRADE APPROVED | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NEW ZEALAND TRADE APPROVED | Complies with New Zealand regulations for legal for trade use |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| NTEP | NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |

### CERTIFICATIONS ON REQUEST

| | |
|---|---|
| M | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |
| | Complies with the regulations of the Russian Federation for legal for trade use |

## FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET



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ISO 14001

# WTAB-R

## WEIGHT INDICATOR

### DESCRIPTION

- ABS desk weight indicator.
- Dimensions: 315x170x315 mm.
- 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 8-key keyboard.
- IP40 protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- D-SUB connectors.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).
- WiFi module (option on request).

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the WiFi module and Ethernet TCP/IP options for remote supervision, management and control of the instrument.
- Piece counting.
- Weight totalizing.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight).
- 9 preset tare values that can be stored.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).
- Weight value printing with date and time via keyboard or external contact.
- The indicator can be used as a remote display with setpoints.
- Labeling machine management.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).



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# WTAB-R
## WEIGHT INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay digital outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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ISO 9001
ISO 14001

## OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
|  | 12.2 V rechargeable lead battery, 2.8 Ah capacity, supplied already installed in the instrument. Operating time: 16 hours. | OPZWBATTWTAB |

| | ACCESSORIES | |
|---|---|---|
|  | Integrated thermal printer: 24 column, paper end sensor, working temperature: 0÷50 °C, humidity: 20%÷80%, paper roll included (width: 57 ±0.5 mm - outside diameter: 50 mm).<br>➔ *RS485 port not available.* | OPZWTABSTA |
|  | Thermal paper roll. | CARTASTAVP |
|  | Adhesive thermal paper roll. | CARTAFISCADEN |

| | INTERFACES AND FIELDBUSES | |
|---|---|---|
| WiFi | **WiFi module** (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols. | ✶ OPZW1RADIOTAB |
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.* | ✶ OPZW1RS485 |
|  | **CANopen** protocol. | ✶ OPZW1CADB9 |
|  | **DeviceNet** protocol. | ✶ OPZW1DEDB9 |
|  | **Profibus DP** protocol. | ✶ OPZW1PRDB9 |
|  | **Ethernet/IP** protocol - Ethernet port. | ✶ OPZW1ETIPDB9 |
|  | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument. | ✶ OPZW1ETTCPDB9 |

✶ *Select one option among those marked with an asterisk.*

# WTAB-R
## WEIGHT INDICATOR

LAUMAS®

### OPTIONS ON REQUEST

| | | CODE |
|---|---|---|
|   | **Modbus/TCP** protocol - Ethernet port. | ✶ OPZW1MBTCPDB9 |
|   | **Profinet IO** protocol - Ethernet port. | ✶ OPZW1PNETIODB9 |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply. | OPZWUSBDB9 |
|   | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010 |
|   | Weight reading from 4-20 mA input (120 Ω). | OPZWING420 |

### APPLICATIONS - SOFTWARE

| | | |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC |

✶ *Select one option among those marked with an asterisk.*



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# WTAB-2G

## WEIGHT INDICATOR

LAUMAS®

RS485
RS232

CLOUD
BARCODE SCAN
WiFi
RECHARGEABLE BATTERY
ALIBI
ANALOG OUTPUT


MULTILANGUAGE SOFTWARE

D-SUB connectors - IP40

Integrated thermal printer (on request)

Universal power supply included
24 VDC/1 A - 100÷240 VAC input
3 m cable length

## CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID) |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| NMI TRADE APPROVED | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NEW ZEALAND TRADE APPROVED | Complies with New Zealand regulations for legal for trade use |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| NTEP | NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |

### CERTIFICATIONS ON REQUEST

| | |
|---|---|
| M | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |
| | Complies with the regulations of the Russian Federation for legal for trade use |

## FIELDBUSES

MODBUS RTU
MODBUS/TCP
CANopen
PROFIBUS
DeviceNet
EtherNet/IP
ETHERNET TCP/IP
PI CERTIFIED PROFIBUS • PROFINET



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ISO 9001
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# WTAB-2G
## WEIGHT INDICATOR

LAUMAS®

### DESCRIPTION

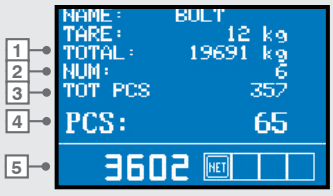
- ABS desk weight indicator.
- Dimensions: 315x170x315 mm.
- Backlit LCD graphic display, resolution: 240x128 pixel, visible area: 128x75 mm.
- 27-key keyboard.
- IP40 protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- D-SUB connectors.
- Multilanguage software (4 languages + 1 customizable).

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).
- WiFi module (option on request).

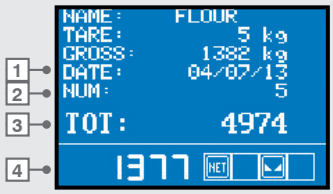
**Example screens**

**Piece counter**



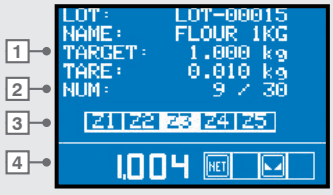

1. Totalized weight since last deletion.
2. Performed weighings since last deletion.
3. Totalized pieces since last deletion.
4. Number of pieces.
5. Net weight.

**Totalizer**




1. Date of last deletion.
2. Performed weighings since last deletion.
3. Totalized weight since last deletion.
4. Net weight.

**Statistical checking of prepackages**




1. Nominal weight.
2. Checked samples/total samples.
3. Tolerance zone.
4. Net weight.

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the WiFi module and Ethernet TCP/IP options for remote supervision, management and control of the instrument.
- Piece counting.
- Weight totalizing.
- Statistical checking of prepackages.
- 99 items database with association of a preset tare value, 3 setpoint values and 2 values for weight thresholds function (HIGH/LOW).
- Weight thresholds function (HIGH/LOW) shown on the display.
- Customizable name of the production lot.
- Barcodes printing by lot name, item name, weighings progressive number.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).
- Weight value printing with date and time via keyboard or external contact.
- The indicator can be used as a remote display with setpoint.
- Labeling machine management.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).



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ISO 9001
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# WTAB-2G
## WEIGHT INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay digital outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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## OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
|  | 12.2 V rechargeable lead battery, 2.8 Ah capacity, supplied already installed in the instrument. Operating time: 16 hours. | OPZWBATTWTAB |

| | ACCESSORIES | |
|---|---|---|
|  | Integrated thermal printer: 24 column, paper end sensor, working temperature: 0÷50 °C, humidity: 20%÷80%, paper roll included (width: 57 ±0.5 mm - outside diameter: 50 mm).<br>➔ *RS485 port not available.* | OPZWTABSTA |
|  | Thermal paper roll. | CARTASTAVP |
|  | Adhesive thermal paper roll. | CARTAFISCADEN |

| | INTERFACES AND FIELDBUSES | |
|---|---|---|
| WiFi | **WiFi module** (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols. | ✶ OPZW1RADIOTAB |
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.* | ✶ OPZW1RS485D |
|  | **CANopen** protocol. | ✶ OPZW1CADB9 |
|  | **DeviceNet** protocol. | ✶ OPZW1DEDB9 |
|  | **Profibus DP** protocol. | ✶ OPZW1PRDB9 |
|  | **Ethernet/IP** protocol - Ethernet port. | ✶ OPZW1ETIPDB9 |
|  | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument. | ✶ OPZW1ETTCPDB9 |

✶ *Select one option among those marked with an asterisk.*

# WTAB-2G
## WEIGHT INDICATOR

LAUMAS®

### OPTIONS ON REQUEST

| | | CODE |
|---|---|---|
|   | **Modbus/TCP** protocol - Ethernet port. | ✶ OPZW1MBTCPDB9 |
|   | **Profinet IO** protocol - Ethernet port. | ✶ OPZW1PNETIODB9 |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply. Support for keyboard and barcode reader. | OPZWUSBDB9 |
|   | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010 |
|   | Weight reading from 4-20 mA input (120 Ω). | OPZWING420 |

### APPLICATIONS - SOFTWARE

| | | |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC |

✶ *Select one option among those marked with an asterisk.*



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# WETOIML

## WEIGHT INDICATOR

RS232


### DESCRIPTION

- Desktop ABS weight indicator (dimensions: 245x170x170 mm) Column mounting with optional indicator holder column or wall mounting with optional bracket (dimensions with support: 245x170x220 mm).
- 6-digit semi-alphanumeric red LED display (20 mm height).
- 6 signalling LED.
- 5-key waterproof keyboard.
- 6 V rechargeable internal battery, 4 Ah capacity.
- Power supply included.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS232 serial port for communication via protocol ASCII Laumas or continuous one way transmission.
- DB9 connector for connection to load cell.


### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS232;
  - remote display and printer via RS232.
- Weight totalizing.
- Piece counting.
- Average weight of heads of cattle.
- Net/Gross function for manual batching.
- Digital filter to reduce the effects of weight oscillation.
- Real calibration (with sample weights).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Gross/net weight and tare printing (date, time and customer logo/ header with external printer).

**CE-M version: 2014/31/EU-EN45501:2015-OIML R76:2006**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Operation mode: single interval.
- Net weight zero tracking.
- Calibration.
- The following values can be printed via keyboard: gross weight, net weight, tare, date and time.

### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, III class, 3x10000 divisions 2 $\mu$V/VSI |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| | **CERTIFICATIONS ON REQUEST** |
| **M** | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |

Rev. 0.0

# WETOIML
## WEIGHT INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC ±10%; 12 W |
| Number of load cells • Load cells supply | up to 4 (350 Ω) 4/6 wires • 5 VDC/150 mA |
| Linearity | <0.01% full scale |
| Internal divisions | max 200000 |
| Measurement range | -10 mV +15 mV |
| Display range | 0-999999 |
| Decimals • Display increments | 0-3 • x1 x2 x5 x10 x20 x50 |
| Readings per second | 20/s |
| Minimum input signal | 1 μV |
| Serial ports | RS232 |
| Baud rate | 1200, 2400, 4800, 9600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +50 °C |
| Working temperature | -10 °C +40 °C |

#### METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS

| | |
|---|---|
| Applied standards | 2014/31/UE - EN45501:2015 - OIML R76:2006 |
| Operation mode | Single interval |
| Accuracy class | III |
| Maximum number of scale verification divisions | max 3000 |
| Minimum impedance load cell | 87Ω |
| Maximum impedance load cell | 1215Ω |
| Input sensitivity | 2 μV |
| Initial zeroing device | ≤ 10% di max |
| Device for maintaining zero | ≤ 0.5 division/s. (total effect of maintaining zero + semi-automatic zero ≤4% Max) |
| Semi-automatic zeroing device | ≤ 2% di max |
| Subtractive tare device (semiautomatic tare) | T- ≤ max |
| Connecting cable with junction box | 6-wire shielded cable without length limitations |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Galvanized steel bracket for wall mounting.<br>- Overall dimensions with bracket: 245x170x220 mm. | STAFFAWET |
|  | Indicator stainless steel support column (Ø38 mm, h 700 mm)<br>Painted steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN |
| | Indicator stainless steel support column (Ø38 mm, h 700 mm)<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFAIN |

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# WEIOIML

## WEIGHT INDICATOR

RS232


### DESCRIPTION

- IP67 AISI 304 stainless steel weight indicator; suitable for desk or wall or column mounting.
- Dimensions: 210x140x75 mm; with support: 245x140x260 mm. IP67 waterproof connectors.
- 6-digit semi-alphanumeric red LED display (20 mm height).
- 6 signalling LED.
- 5-key waterproof keyboard.
- Rechargeable internal battery, 6 V 4 Ah.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS232 serial port for communication via protocol ASCII Laumas or continuous one way transmission.
- Circular connectors for connection to load cell.

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS232.
  - remote display and printer via RS232.
- Weight totalizing.
- Piece counting.
- Average weight of heads of cattle.
- Net/Gross function for manual batching.
- Digital filter to reduce the effects of weight oscillation.
- Real calibration (with sample weights).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight).
- Semi-automatic zero.
- Gross/net weight and tare printing (date, time and customer logo/ header with external printer).

**CE-M version: 2014/31/EU-EN45501:2015-OIML R76:2006**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Operation mode: single interval.
- Net weight zero tracking.
- Calibration.
- The following values can be printed via keyboard: gross weight, net weight, tare, date and time.



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# WEIOIML
## WEIGHT INDICATOR

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, III class, 3x10000 divisions 2 μV/VSI

Equivalent of the CE marking for the United Kingdom

CERTIFICATIONS ON REQUEST

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC ±10%; 12 W |
| Number of load cells • Load cells supply | up to 4 (350 Ω) 4/6 wires • 5 VDC/150 mA |
| Linearity | <0.01% full scale |
| Internal divisions | max 200000 |
| Measurement range | -10 mV +15 mV |
| Display range | -2000 ÷ 999999 |
| Decimals • Display increments | 0-3 • x1 x2 x5 x10 x20 x50 |
| Readings per second | 20/s |
| Minimum input signal | 1 μV |
| Serial ports | RS232 |
| Baud rate | 1200, 2400, 4800, 9600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +50 °C |
| Working temperature | -10 °C +40 °C |

#### METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS

| | |
|---|---|
| Applied standards | 2014/31/UE - EN45501:2015 - OIML R76:2006 |
| Operation mode | Single interval |
| Accuracy class | III |
| Maximum number of scale verification divisions | max 3000 |
| Minimum impedance load cell | 87Ω |
| Maximum impedance load cell | 1215Ω |
| Input sensitivity | 2 μV |
| Initial zeroing device | ≤ 10% di max |
| Device for maintaining zero | ≤ 0.5 division/s. (total effect of maintaining zero + semi-automatic zero ≤4% Max) |
| Semi-automatic zeroing device | ≤ 2% di max |
| Subtractive tare device (semiautomatic tare) | T- ≤ max |
| Connecting cable with junction box | 6-wire shielded cable without length limitations |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Stainless steel indicator-holder column (Ø38 mm, h 700 mm)<br>Painted steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN |
| | Stainless steel indicator-holder column (Ø38 mm, h 700 mm)<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFAIN |

*The Company reserves the right to make changes to the technical data, drawings and images without notice.*



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ISO 9001
ISO 14001

# W200

## WEIGHT INDICATOR - WEIGHING AND BATCHING

RS485
RS232
Instrument Manager
ALIBI
ANALOG OUTPUT


| PROGRAM | CODE |
|---|---|
| BASE | W200 |
| LOAD | W200-C |
| UNLOAD | W200-S |
| 3 PRODUCTS | W200-3 |
| * 6 PRODUCTS | W200-6 |
| * 14 PRODUCTS | W200-14 |
| Multiprogram | W200-MU |

* *External 8-relay modules included*

### CERTIFICATIONS

- OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)
- UL Recognized component - Complies with United States and Canada standards
- Complies with the Eurasian Customs Union standards
- Equivalent of the CE marking for the United Kingdom
- NMI Trade Approved - Complies with Australian market regulations for legal for trade use
- Complies with New Zealand regulations for legal for trade use
- Complies with United Kingdom regulations for legal for trade use
- NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use
- Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

- M — Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )
- Complies with the regulations of the Russian Federation for legal for trade use

### FIELDBUSES

MODBUS RTU
MODBUS/TCP
CANopen
PROFIBUS
DeviceNet
EtherNet/IP
ETHERNET TCP/IP
PI CERTIFIED PROFIBUS · PROFINET

Rev. 0.0

# W200

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 96x96x130 mm (drilling template: 92x92 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- 8 signalling LED.
- 5-key keyboard.
- IP54 front panel protection rating (IP65 front optional).
- Real-time clock/calendar with buffer battery.
- Removable screw terminal blocks.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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ISO 9001
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# W200

## WEIGHT INDICATOR - WEIGHING AND BATCHING

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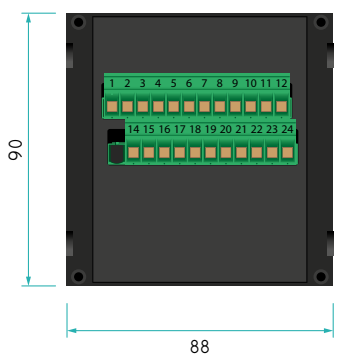
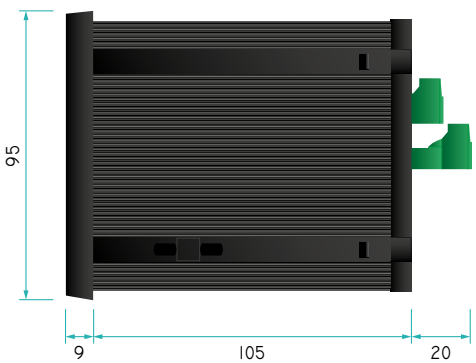
### TECHNICAL FEATURES

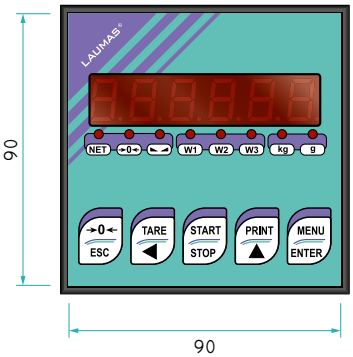
| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W (on request: 115÷230 VAC; 50÷60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation mode | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |




Rev. 0.0

# W200
## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | POWER SUPPLY | CODE |
|---|---|---|
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>➔ *Not compatible with fieldbuses and USB port.*<br>➔ *Not compatible with EAC certifications.* | B C S 3P 6P 14P<br>• • • • • • |
| | **ACCESSORIES** | |
|  | IP65 panel gasket. | OPZW96X96IP65<br>B C S 3P 6P 14P<br>• • • • • • |
| | **INTERFACES AND FIELDBUSES** | |
| ANALOG OUTPUT | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
| RS485+ | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E/EC option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
| CANopen | **CANopen** protocol.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1CAW200<br>B C S 3P 6P 14P<br>• • • • • • |
| DeviceNet | **DeviceNet** protocol.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1DEW200<br>B C S 3P 6P 14P<br>• • • • • • |
| PROFIBUS | **Profibus DP** protocol.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1PRW200<br>B C S 3P 6P 14P<br>• • • • • • |
| EtherNet/IP | **Ethernet/IP** protocol - Ethernet port.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1ETIPW200<br>B C S 3P 6P 14P<br>• • • • • • |
| ETHERNET TCP/IP | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1ETTCPW200<br>B C S 3P 6P 14P<br>• • • • • • |
| MODBUS/TCP | **Modbus/TCP** protocol - Ethernet port.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1MBTCPW200<br>B C S 3P 6P 14P<br>• • • • • • |
| PI | **Profinet IO** protocol - Ethernet port.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1PNETIOW200<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | OPZWUSBW200<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*

Rev. 0.0

# W200
## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE |
|---|---|---|
|  | USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included. | OPZWCONUSBIP68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included. | OPZWCONETHEIP68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m, to be used in combination with the OPZWCONETHEIP68 option. | OPZWCONETHE5MT<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 4-20 mA input (120 Ω). | OPZWING420<br>B C S 3P 6P 14P<br>• • • • • • |

### APPLICATIONS - SOFTWARE

| | | |
|---|---|---|
|  | Alibi memory. | OPZWALIBI<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC<br>B C S 3P 6P 14P<br>• • • • • • |



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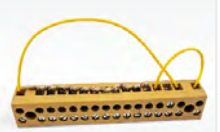
### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | CODE |
|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC RELE6PROD24V<br>115/230 VAC RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*



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# W200BOX

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

ANALOG OUTPUT · ALIBI · IP67 · Instrument Manager · RS485 RS232


ATEX/IECEx/EAC EX version (on request)

| PROGRAM | CODE |
|---|---|
| BASE | W200BOX-B |
| LOAD | W200BOX-C |
| UNLOAD | W200BOX-S |
| 3 PRODUCTS | W200BOX-3 |
| * 6 PRODUCTS | W200BOX-6 |
| * 14 PRODUCTS | W200BOX-14 |
| Multiprogram | W200BOX-MU |

* *External 8-relay modules included.*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET



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# W200BOX

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

**CERTIFICATIONS ON REQUEST**

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

ATEX II 3GD *(zone 2-22)* ( CE - UKCA )
➔ *The external relay modules must be protected.*

IECEx *(zone 2-22)*
➔ *The external relay modules must be protected.*

Complies with the Eurasian Customs Union standards for use in potentially explosive atmospheres

Complies with the regulations of the Russian Federation for legal for trade use

### DESCRIPTION

- Weight indicator in IP67 polycarbonate box with 4+2 M16x1.5 cable glands-plugs, suitable for wall mounting.
- Dimensions: 170x140x95 mm (4 fixing holes Ø 4 mm; centre distance: 152x122 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- 8 signalling LED.
- 5-key keyboard.
- Real-time clock/calendar with buffer battery.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).



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# W200BOX

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple range or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

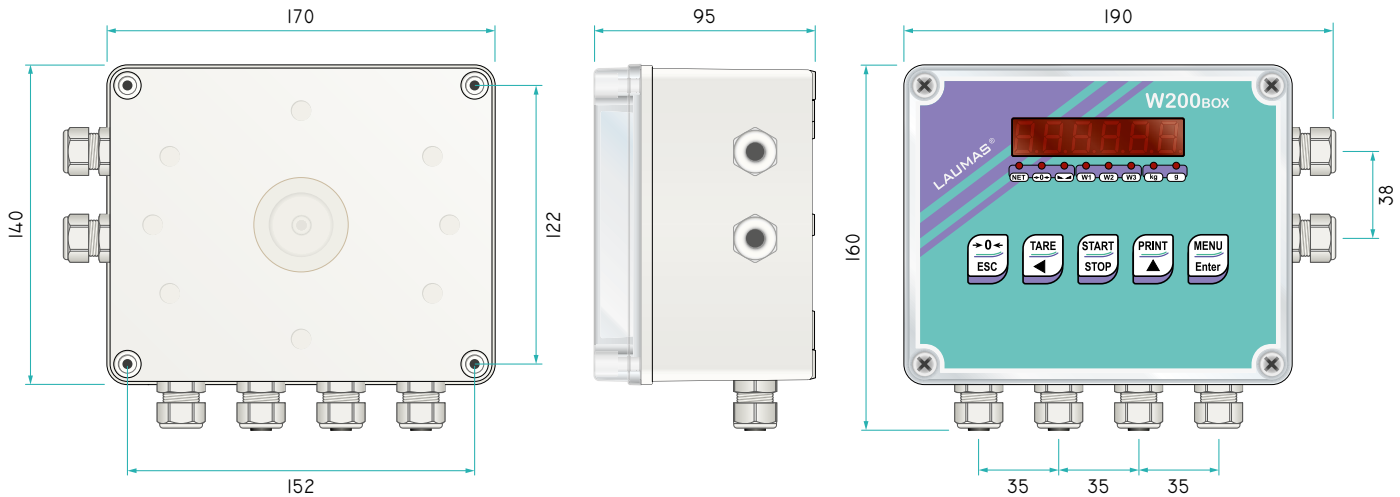
- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.




Rev. 0.0

# W200BOX

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation mode | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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ISO 9001
ISO 14001

# W200BOX

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELD BUSES | CODE |
|---|---|---|
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E/EC option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **CANopen** protocol. | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **DeviceNet** protocol. | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profibus DP** protocol. | ✶ OPZW1PRW200BOX<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet/IP** protocol - Ethernet port.<br>➔ *Internal crimp wiring.* | ✶ OPZW1ETIPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *Internal crimp wiring.* | ✶ OPZW1ETTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Modbus/TCP** protocol - Ethernet port.<br>➔ *Internal crimp wiring.* | ✶ OPZW1MBTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profinet IO** protocol - Ethernet port.<br>➔ *Internal crimp wiring.* | ✶ OPZW1PNETIOCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 4-20 mA input (120 Ω). | OPZWING420<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*

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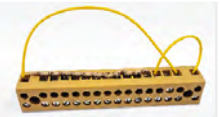
# W200BOX

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | CODE |
|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC RELE6PROD24V<br>115/230 VAC RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | APPLICATIONS - SOFTWARE | CODE |
|---|---|---|
|  | Alibi memory. | OPZWALIBI<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC<br>B C S 3P 6P 14P<br>• • • • • • |



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# W200BOXEC

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

ANALOG OUTPUT · ALIBI · IP64 · Instrument Manager · RS485 RS232


ATEX/IECEx/EAC EX version (on request)

| PROGRAM | CODE |
|---|---|
| BASE | W200BOXEC-B |
| LOAD | W200BOXEC-C |
| UNLOAD | W200BOXEC-S |
| 3 PRODUCTS | W200BOXEC-3 |
| * 6 PRODUCTS | W200BOXEC-6 |
| * 14 PRODUCTS | W200BOXEC-14 |
| Multiprogram | W200BOXEC-MU |

* *External 8-relay modules included.*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET



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# W200BOXEC

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

**CERTIFICATIONS ON REQUEST**

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

ATEX II 3D *(zone 22)* ( CE - UKCA )
➔ *The external relay modules must be protected.*

IECEx *(zone 22)*
➔ *The external relay modules must be protected.*

Complies with the Eurasian Customs Union standards for use in potentially explosive atmospheres

Complies with the regulations of the Russian Federation for legal for trade use

### DESCRIPTION

- Weight indicator in IP64 polycarbonate box with 4+2 M16x1.5 cable glands-plugs, suitable for wall mounting.
- External selector switch for setpoint groups or formulas selection.
- Start and stop buttons.
- Dimensions: 170x140x95 mm (4 fixing holes Ø 4 mm; centre distance: 152x122 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- 8 signalling LED.
- 5-key keyboard.
- Real-time clock/calendar with buffer battery.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).



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# W200BOXEC

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple range or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch.

**BATCHING PROGRAM**

- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch.
- Batching start via button or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

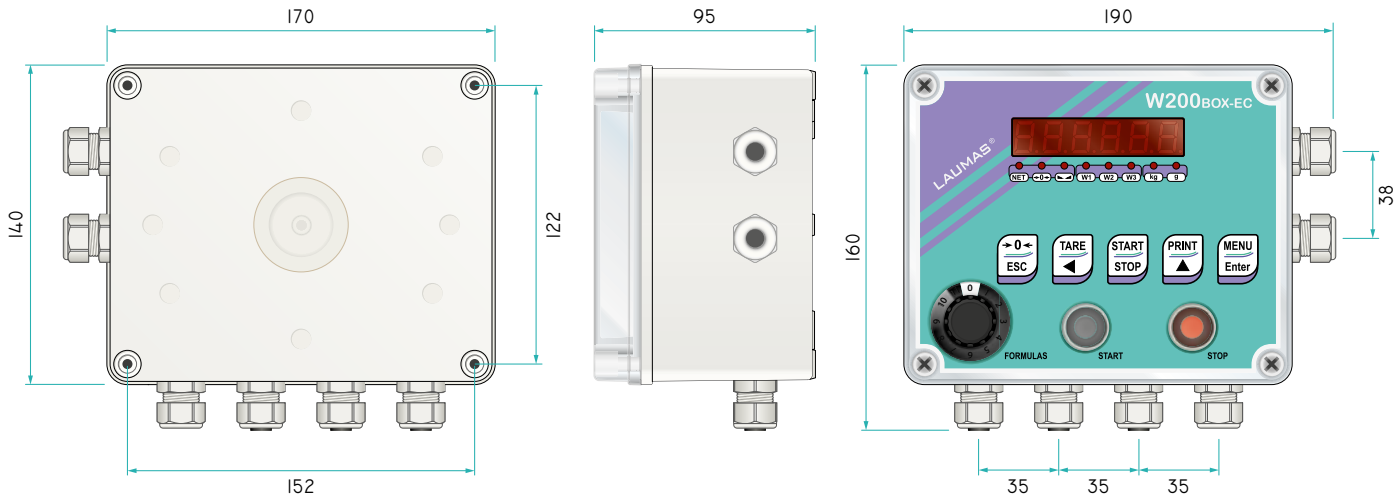
- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.

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# W200BOXEC

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation mode | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# W200BOXEC

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELD BUSES | CODE |
|---|---|---|
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output.<br>➔ *Option required to use the analog output.* | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **CANopen** protocol. | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **DeviceNet** protocol. | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profibus DP** protocol. | ✶ OPZW1PRW200BOX<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet/IP** protocol - Ethernet port.<br>➔ *Internal crimp wiring.* | ✶ OPZW1ETIPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *Internal crimp wiring.* | ✶ OPZW1ETTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Modbus/TCP** protocol - Ethernet port.<br>➔ *Internal crimp wiring.* | ✶ OPZW1MBTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profinet IO** protocol - Ethernet port.<br>➔ *Internal crimp wiring.* | ✶ OPZW1PNETIOCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 4-20 mA input (120 Ω). | OPZWING420<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*

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# W200BOXEC

## WEIGHT INDICATOR INTO BOX - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A.<br>Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115/230 VAC | RELE6PROD24V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A.<br>Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

| | APPLICATIONS - SOFTWARE | CODE |
|---|---|---|
|  | Alibi memory. | OPZWALIBI<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC<br>B C S 3P 6P 14P<br>• • • • • • |

Rev. 0.0

*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

# WDOS

## WEIGHT INDICATOR - WEIGHING AND BATCHING

RS485
RS232
ALIBI
ANALOG OUTPUT


MULTILANGUAGE SOFTWARE


| PROGRAM | CODE |
|---|---|
| BASE | WDOS-MU |
| LOAD | WDOS-C |
| UNLOAD | WDOS-S |
| 3 PRODUCTS | WDOS-3 |
| * 6 PRODUCTS | WDOS-6 |
| * 14 PRODUCTS | WDOS-14 |
| Multiprogram | WDOS-MU |

* *External 8-relay modules included*

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

M — Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

Complies with the regulations of the Russian Federation for legal for trade use

### FIELDBUSES

MODBUS RTU
MODBUS/TCP
CANopen
PROFIBUS
DeviceNet
EtherNet/IP
ETHERNET TCP/IP
PI CERTIFIED PROFIBUS · PROFINET



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# WDOS

## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 96x130x96 mm (drilling template: 92x92 mm).
- Backlit LCD graphic display, resolution: 128x64 pixel, visible area: 60x32 mm.
- 6-digit semi-alphanumeric red LED display (10 mm height).
- 8 signalling LED.
- 10-key keyboard.
- IP54 front panel protection rating (IP65 front optional).
- Real-time clock/calendar with buffer battery.
- Removable screw terminal blocks.
- Multilanguage software (4 languages + 1 customizable).

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Simultaneous display of net weight and gross weight.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- Graphical representation of the system load status.
- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Production storage.
- Products stocks management.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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# WDOS

## WEIGHT INDICATOR - WEIGHING AND BATCHING

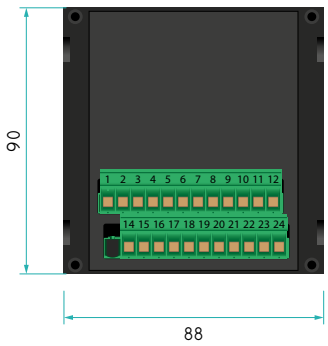
LAUMAS®

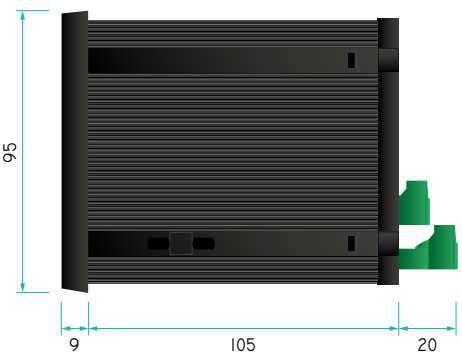
### TECHNICAL FEATURES

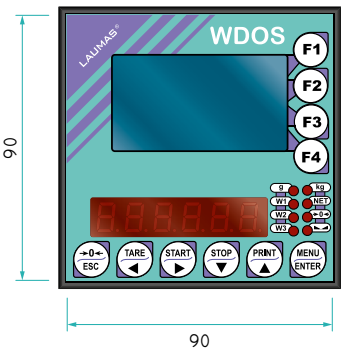
| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W (on request: 115÷230 VAC; 50÷60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/240 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation mode | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |




Rev. 0.0

# WDOS

## WEIGHT INDICATOR - WEIGHING AND BATCHING

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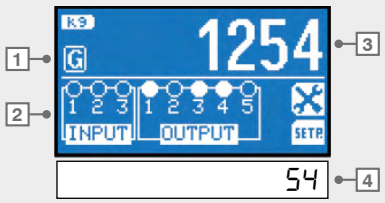
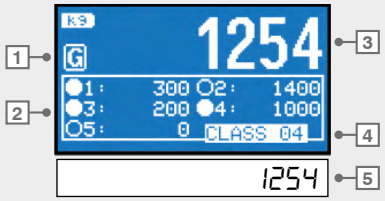
### Example screens for BASE program

#### Net weight, gross weight and inputs/outputs status displaying



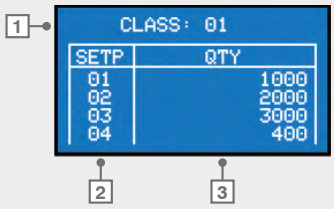

1. Gross weight symbol.
2. Inputs and outputs status.
3. Gross weight value.
4. Net weight value.

#### Gross weight and setpoint displaying




1. Gross weight symbol.
2. Setpoint status and value.
3. Gross weight value.
4. Number of setpoint class *(only for instruments equipped with E/EC option)*.
5. Gross weight value.

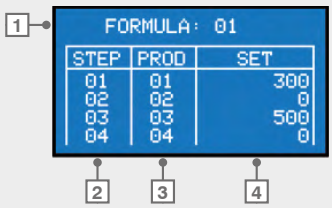
#### Setpoint programming




1. Selected class.
2. Setpoint number.
3. Setpoint value.

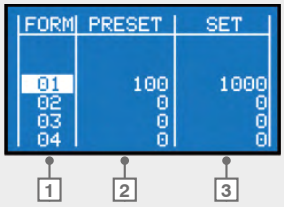
### Example screens for BATCHING programs

#### Formulas programming
*3/6/14 PRODUCTS program*




1. Selected formula.
2. Step number.
3. Product number.
4. Set value.

#### Formulas programming
*LOAD and UNLOAD programs*

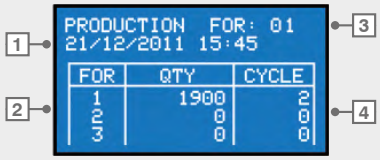



1. Selected formula.
2. Preset value.
3. Set value.

#### Details of batching product displaying
*LOAD and UNLOAD programs*

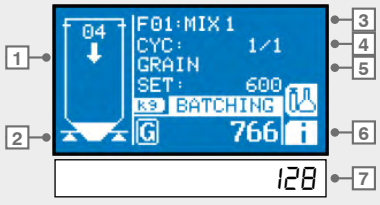

1. Formula number.
2. Running cycle.
3. Product number.
4. Preset value.
5. Set value.
6. Fall value.
7. Tolerance value.

#### Production displaying for each formula
**(amount of batched product and number of cycles performed)**



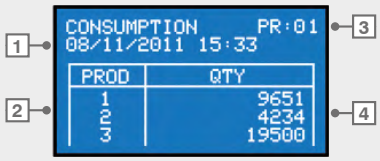

1. Date and time of last deletion.
2. Formulas list.
3. Selected formula.
4. Batched quantity and number of cycles performed.

#### Displaying during the batching
*3/6/14 PRODUCTS program*



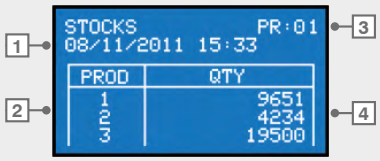

1. Product number and arrow indicating the product loading.
2. Product level on the scale.
3. Formula number and name.
4. Running cycle.
5. Product number or name.
6. Gross weight value.
7. Batching product weight.

#### Consumptions displaying for each product
*3/6/14 PRODUCTS program*




1. Date and time of last deletion.
2. Products list.
3. Selected product.
4. Consumptions.

#### Stocks displaying for each product
*3/6/14 PRODUCTS program*




1. Current date and time.
2. Products list.
3. Selected product.
4. Stocks.

Rev. 0.0

# WDOS
## WEIGHT INDICATOR - WEIGHING AND BATCHING

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### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE | B | C | S | 3P | 6P | 14P |
|---|---|---|---|---|---|---|---|---|
| | **POWER SUPPLY** | | | | | | | |
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>→ *Not compatible with fieldbuses and USB port.*<br>→ *Not compatible with EAC certifications.* | | • | • | • | • | • | • |
| | **ACCESSORIES** | | | | | | | |
|  | IP65 panel gasket. | OPZW96X96IP65 | • | • | • | • | • | • |
| | **INTERFACES AND FIELD BUSES** | | | | | | | |
| ANALOG OUTPUT | Optoisolated 16 bit **analog output**.<br>→ *One input and one output not available.* | ✶ OPZW1ANALOGICA | • | • | • | • | • | • |
| RS485+ | **Additional RS485** port.<br>→ *One input and one output not available.*<br>→ *Not compatible with E/EC option.* | ✶ OPZW1RS485 | • | • | • | • | • | • |
| CANopen | **CANopen** protocol.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1CAWDOS | • | – | – | – | – | – |
| DeviceNet | **DeviceNet** protocol.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1DEWDOS | • | – | – | – | – | – |
| PROFIBUS | **Profibus DP** protocol.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1PRWDOS | • | • | • | • | • | • |
| EtherNet/IP | **Ethernet/IP** protocol - Ethernet port.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1ETIPWDOS | • | – | – | – | – | – |
| ETHERNET TCP/IP | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1ETTCPWDOS | • | • | • | • | • | • |
| MODBUS/TCP | **Modbus/TCP** protocol - Ethernet port.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1MBTCPWDOS | • | • | • | • | • | • |
| PI | **Profinet IO** protocol - Ethernet port.<br>→ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1PNETIOWDOS | • | – | – | – | – | – |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>→ *Not compatible with 115 VAC and 230 VAC.* | OPZWUSBWDOS | • | • | • | • | • | • |

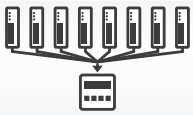
✶ *Select one option among those marked with an asterisk.*

Rev. 0.0

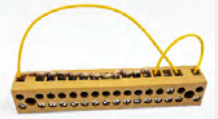
### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE | B | C | S | 3P | 6P | 14P |
|---|---|---|---|---|---|---|---|---|
|  | USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included. | OPZWCONUSBIP68 | • | • | • | • | • | • |
|  | Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included. | OPZWCONETHEIP68 | • | • | • | • | • | • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m, to be used in combination with the OPZWCONETHEIP68 option. | OPZWCONETHE5MT | • | • | • | • | • | • |
|   | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010 | • | • | • | • | • | • |
|   | Weight reading from 4-20 mA input (120 Ω). | OPZWING420 | • | • | • | • | • | • |

### APPLICATIONS - SOFTWARE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | Alibi memory. | OPZWALIBI | • | • | • | • | • | • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC | • | • | • | • | • | • |
|  | Single gross weight values reading by others transmitting instruments (up to 8) via RS485 serial port. | OPZWINGSER8 | • | – | – | – | – | – |

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | CODE |
|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC RELE6PROD24V<br>115/230 VAC RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*



*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

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# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

CLOUD · ANALOG OUTPUT · ALIBI · WiFi · Instrument Manager · RECHARGEABLE BATTERY · RS485 RS232 · IP67



Indicator-holder bracket and column
Stainless steel bracket for wall mounting
Panel mounting

| PROGRAM | LCD | RED LED |
|---|---|---|
| BASE | WDESKL-B | WDESKR-B |
| LOAD | WDESKL-C | WDESKR-C |
| UNLOAD | WDESKL-S | WDESKR-S |
| 3 PRODUCTS | WDESKL-3 | WDESKR-3 |
| * 6 PRODUCTS | WDESKL-6 | WDESKR-6 |
| * 14 PRODUCTS | WDESKL-14 | WDESKR-14 |
| Multiprogram | WDESKL-MU | WDESKR-MU |

* *External 8-relay modules included*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET

Rev. 0.0

# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 μV/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

**M** Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

Complies with the regulations of the Russian Federation for legal for trade use

### DESCRIPTION

- ABS weight indicator.
- *L version*: 6-digit semi-alphanumeric backlit LCD display (20 mm height) - 46 signalling symbols.
- *R version*: 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 6-key keyboard.
- Real-time clock/calendar with buffer battery.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

*To know the specific characteristics of the various instrument versions, refer to the table of available versions.*

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).
- WiFi module (option on request).



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# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the WiFi module and Ethernet TCP/IP options for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Piece counting.
- Weight totalizing.
- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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ISO 9001
ISO 14001

# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W (on request: 115/230 VAC; 50/60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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ISO 9001
ISO 14001

# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### AVAILABLE VERSIONS

| | DESCRIPTION | CODE |
|---|---|---|
|  | **P version** (*standard*)<br>- Installation: desk, wall, column, front panel (drilling template: 186x96 mm).<br>- Dimensions: 226x122x164 mm.<br>- IP67 protection rating.<br>- 6 M16x1.5 cable glands.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WDESK-P |
|  | **Q version**<br>- Installation: front panel (supports included; drilling template: 186x92 mm), desk, wall.<br>- Dimensions: 226x122x152 mm.<br>- IP67 front panel protection rating.<br>- Removable screw terminal blocks. | WDESK-Q |
|  | **D version**<br>- Installation: desk, wall, column, front panel (drilling template: 186x96 mm).<br>- Dimensions: 226x122x189 mm.<br>- IP40 protection rating.<br>- IP67 front panel protection rating.<br>- D-SUB connectors.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WDESK-D |
|  | **X version**: **ATEX II 3GD (zone 2-22)** (CE - UKCA)<br>- Installation: desk, wall, column, front panel (drilling template: 186x96 mm).<br>- Dimensions: 226x122x164 mm.<br>- IP67 protection rating.<br>- 6 M16x1.5 cable glands. | WDESK-X |

### OPTIONS ON REQUEST

| | ACCESSORIES | CODE |
|---|---|---|
|  | Stainless steel adjustable bracket for wall and table mounting.<br>Dimensions with bracket: 230x122x250 mm. | STAFFAINOXWDESK |
|  | Supports for front panel mounting. | STAFFEWINOX |
|  | ABS adjustable support for column mounting. | STAFFAWDESK |
|  | Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Painted steel bracket for platform/floor mounting.<br><br>Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN<br><br>COLONNAM<br>+ STAFFAIN |



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# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>➔ *Not compatible with D version.*<br>➔ *Not compatible with EAC certifications.* | |
|  | Universal power supply 24 VDC/1 A.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AUN |
|  | Universal power supply 24 VDC/1 A with jack connector.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AJACKUN |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 16 hours.<br>➔ *Not compatible with X version.* | OPZWBATTWDESK |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 16 hours. | OPZWBATTWDESKATEX |



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### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELDBUSES | CODE |
|---|---|---|
|  | **WiFi module** (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols.<br>(* for Q version)<br>➔ *X version: only available with internal antenna.* | ✶ OPZW1RADIO<br>✶ OPZW1RADIOQ(*)<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E/EC option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **CANopen** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X version: not compatible with E/EC option.* | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **DeviceNet** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X version: not compatible with E/EC option.* | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profibus DP** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X version: not compatible with E/EC option.* | ✶ OPZW1PR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet/IP** protocol - IP68 Ethernet port.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1ETIP68<br>✶ OPZW1ETIPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet TCP/IP** protocol - IP68 Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1ETTCP68<br>✶ OPZW1ETTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Modbus/TCP** protocol - IP68 Ethernet port.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1MBTCP68<br>✶ OPZW1MBTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profinet IO** protocol - IP68 Ethernet port.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1PNETIO68<br>✶ OPZW1PNETIOCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **IP68 USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with X version.* | OPZWUSB68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with X version.* | OPZWUSBDB9<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*



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# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE | B | C | S | 3P | 6P | 14P |
|---|---|---|---|---|---|---|---|---|
|  | Extension cable for the WiFi module antenna; length: 100 cm.<br>➔ *Q version: included with the OPZW1RADIOQ option.* | OPZWCONWF | • | • | • | • | • | • |
|  | USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included. | OPZWCONUSBIP68 | • | • | • | • | • | • |
|  | Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included. | OPZWCONETHEIP68 | • | • | • | • | • | • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m. | OPZWCONETHE5MT | • | • | • | • | • | • |
|  | Weight reading from 0-10 VDC input (15 kΩ).<br>➔ *Not compatible with X version.* | OPZWING010 | • | • | • | • | • | • |
|  | Weight reading from 4-20 mA input (120 Ω).<br>➔ *Not compatible with X version.* | OPZWING420 | • | • | • | • | • | • |

### APPLICATIONS - SOFTWARE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | Alibi memory. | OPZWALIBI | • | • | • | • | • | • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC | • | • | • | • | • | • |



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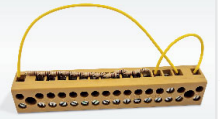
# WDESK-L/R

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115/230 VAC | RELE6PROD24V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*



*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

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# WDESK-G

## WEIGHT INDICATOR - WEIGHING AND BATCHING

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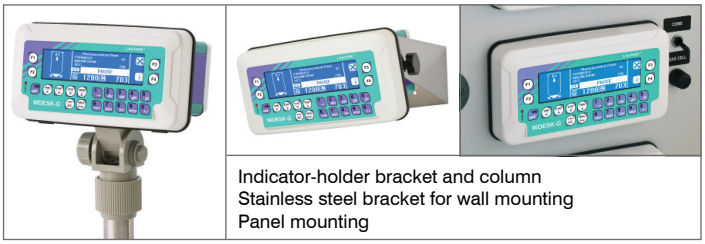
ALIBI · ANALOG OUTPUT · RS485 RS232 · IP67 · CLOUD · RECHARGEABLE BATTERY · WiFi · BARCODE SCAN


MULTILANGUAGE SOFTWARE



Indicator-holder bracket and column
Stainless steel bracket for wall mounting
Panel mounting

| PROGRAM | CODE |
|---|---|
| BASE | WDESKG-B |
| LOAD | WDESKG-C |
| UNLOAD | WDESKG-S |
| 3 PRODUCTS | WDESKG-3 |
| * 6 PRODUCTS | WDESKG-6 |
| * 14 PRODUCTS | WDESKG-14 |
| Multiprogram | WDESKG-MU |

* *External 8-relay modules included*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET

Rev. 0.0

# WDESK-G

## WEIGHT INDICATOR - WEIGHING AND BATCHING

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### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 μV/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID) |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| NMI TRADE APPROVED | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NMI TRADE APPROVED | Complies with New Zealand regulations for legal for trade use |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| NTEP | NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |
| | **CERTIFICATIONS ON REQUEST** |
| M | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |
| | Complies with the regulations of the Russian Federation for legal for trade use |

### DESCRIPTION

- ABS weight indicator.
- Backlit LCD graphic display, resolution: 240x64 pixel, visible area: 133x39 mm.
- 21-key keyboard.
- Real-time clock/calendar with buffer battery.
- Multilanguage software (4 languages + 1 customizable).

*To know the specific characteristics of the various instrument versions, refer to the table of available versions.*

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).
- WiFi module (option on request).



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## WEIGHT INDICATOR - WEIGHING AND BATCHING

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### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the WiFi module and Ethernet TCP/IP options for remote supervision, management and control of the instrument.
- Customizable name of the production lot.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Piece counting.
- Weight totalizing.
- Statistical checking of prepackages.
- 99 items database with association of a preset tare value, 3 setpoint values and 2 values for weight thresholds function (HIGH/LOW).
- Weight thresholds function (HIGH/LOW) shown on the display.
- Barcodes printing by lot name, item name, weighings progressive number.
- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- Graphical representation of the system load status.
- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Production storage.
- Products stocks management.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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# WDESK-G

## WEIGHT INDICATOR - WEIGHING AND BATCHING

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### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W (on request: 115÷230 VAC; 50÷60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WDESK-G

## WEIGHT INDICATOR - WEIGHING AND BATCHING

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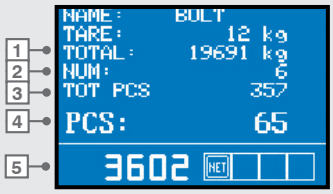
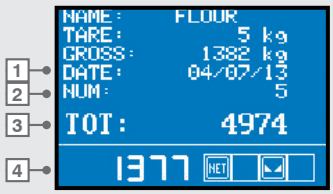
### Example screens for BASE program

#### Piece counter



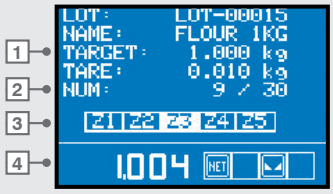

1. Totalized weight since last deletion.
2. Performed weighings since last deletion.
3. Totalized pieces since last deletion.
4. Number of pieces.
5. Net weight.

#### Totalizer




1. Date of last deletion.
2. Performed weighings since last deletion.
3. Totalized weight since last deletion.
4. Net weight.

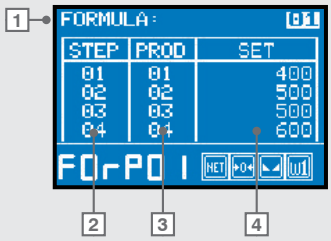
#### Statistical checking of prepackages




1. Nominal weight.
2. Checked samples/total samples.
3. Tolerance zone.
4. Net weight.

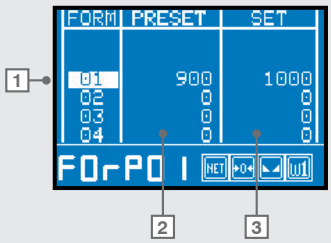
### Example screens for BATCHING programs

#### Formulas programming
*3/6/14 PRODUCTS program*



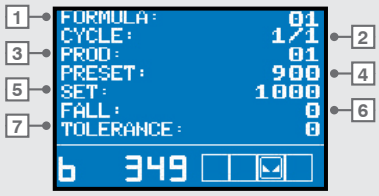

1. Selected formula.
2. Step number.
3. Product number.
4. Set value.

#### Formulas programming
*LOAD and UNLOAD programs*



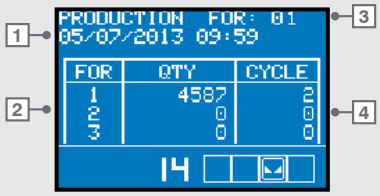

1. Selected formula.
2. Preset value.
3. Set value.

#### Details of batching product displaying
*LOAD and UNLOAD programs*



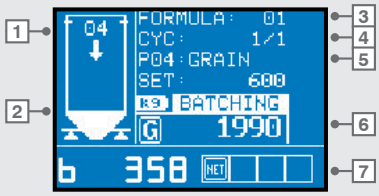

1. Formula number.
2. Running cycle.
3. Product number.
4. Preset value.
5. Set value.
6. Fall value.
7. Tolerance value.

#### Production displaying for each formula
**(amount of batched product and number of cycles performed)**



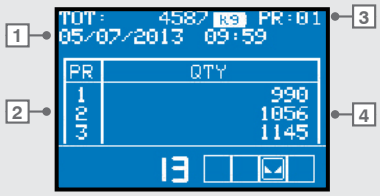

1. Date and time of last deletion.
2. Formulas list.
3. Selected formula.
4. Batched quantity and number of cycles performed.

#### Displaying during the batching
*3/6/14 PRODUCTS program*



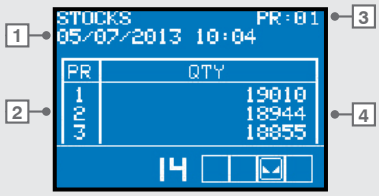

1. Product number and arrow indicating the product loading.
2. Product level on the scale.
3. Formula number.
4. Running cycle.
5. Product number and name.
6. Gross weight value.
7. Batching product weight.

#### Consumptions displaying for each product
*3/6/14 PRODUCTS program*




1. Date and time of last deletion.
2. Products list.
3. Selected product.
4. Consumptions.

#### Stocks displaying for each product
*3/6/14 PRODUCTS program*




1. Current date and time.
2. Products list.
3. Selected product.
4. Stocks.

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## WEIGHT INDICATOR - WEIGHING AND BATCHING

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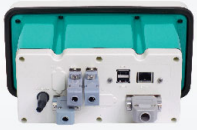
### AVAILABLE VERSIONS

| | DESCRIPTION | CODE |
|---|---|---|
|  | **P version** (*standard*)<br>- Installation: desk, wall, column, front panel (drilling template: 186x96 mm).<br>- Dimensions: 226x122x164 mm.<br>- IP67 protection rating.<br>- 6 M16x1.5 cable glands.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WDESK-P |
|  | **Q version**<br>- Installation: front panel (supports included; drilling template: 186x92 mm), desk, wall.<br>- Dimensions: 226x122x152 mm.<br>- IP67 front panel protection rating.<br>- Removable screw terminal blocks. | WDESK-Q |
|  | **D version**<br>- Installation: desk, wall, column, front panel (drilling template: 186x96 mm).<br>- Dimensions: 226x122x189 mm.<br>- IP40 protection rating.<br>- IP67 front panel protection rating.<br>- D-SUB connectors.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WDESK-D |
|  | **X version**: **ATEX II 3GD (zone 2-22)** ( CE - UKCA )<br>- Installation: desk, wall, column, front panel (drilling template: 186x96 mm).<br>- Dimensions: 226x122x164 mm.<br>- IP67 protection rating.<br>- 6 M16x1.5 cable glands. | WDESK-X |

### OPTIONS ON REQUEST

| | ACCESSORIES | CODE |
|---|---|---|
|  | Stainless steel adjustable bracket for wall and table mounting.<br>Dimensions with bracket: 230x122x250 mm. | STAFFAINOXWDESK |
|  | Supports for front panel mounting. | STAFFEWINOX |
|  | ABS adjustable support for column mounting. | STAFFAWDESK |
|  | Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Painted steel bracket for platform/floor mounting.<br><br>Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN<br><br>COLONNAM<br>+ STAFFAIN |



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# WDESK-G

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>➔ *Not compatible with D version.*<br>➔ *Not compatible with EAC certifications.* | |
|  | Universal power supply 24 VDC/1 A.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AUN |
|  | Universal power supply 24 VDC/1 A with jack connector.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AJACKUN |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 16 hours.<br>➔ *Not compatible with X version.* | OPZWBATTWDESK |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 16 hours. | OPZWBATTWDESKATEX |



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### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELDBUSES | CODE |
|---|---|---|
|  | **WiFi module** (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols.<br>(* for Q version)<br>➔ *X version: only available with internal antenna.* | ✶ OPZW1RADIO<br>✶ OPZW1RADIOQ(*)<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E/EC option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **CANopen** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X version: not compatible with E/EC option.* | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **DeviceNet** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X version: not compatible with E/EC option.* | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profibus DP** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X version: not compatible with E/EC option.* | ✶ OPZW1PR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet/IP** protocol - IP68 Ethernet port.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1ETIP68<br>✶ OPZW1ETIPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet TCP/IP** protocol - IP68 Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1ETTCP68<br>✶ OPZW1ETTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Modbus/TCP** protocol - IP68 Ethernet port.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1MBTCP68<br>✶ OPZW1MBTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profinet IO** protocol - IP68 Ethernet port.<br>➔ *X, P version: internal crimp wiring.* | ✶ OPZW1PNETIO68<br>✶ OPZW1PNETIOCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **IP68 USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply. Support for keyboard and barcode reader.<br>➔ *Not compatible with X version.* | OPZWUSB68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with X version.* | OPZWUSBDB9<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*



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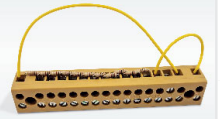
### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE |
|---|---|---|
|  | Extension cable for the WiFi module antenna; length: 100 cm.<br>➔ *Q version: included with the OPZW1RADIOQ option.* | OPZWCONWF<br>B C S 3P 6P 14P<br>• • • • • • |
|  | USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included. | OPZWCONUSBIP68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included. | OPZWCONETHEIP68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m. | OPZWCONETHE5MT<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 0-10 VDC input (15 kΩ).<br>➔ *Not compatible with X version.* | OPZWING010<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Weight reading from 4-20 mA input (120 Ω).<br>➔ *Not compatible with X version.* | OPZWING420<br>B C S 3P 6P 14P<br>• • • • • • |

### APPLICATIONS - SOFTWARE

| | | |
|---|---|---|
|  | Alibi memory. | OPZWALIBI<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC<br>B C S 3P 6P 14P<br>• • • • • • |

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115/230 VAC | RELE6PROD24V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*



*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

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# WINOX-L/R

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

CLOUD · IP69K · RS485 RS232 · ANALOG OUTPUT · ALIBI · RECHARGEABLE BATTERY · WiFi · Instrument Manager



Indicator-holder bracket and column
Desk version
Panel mounting

| PROGRAM | LCD | RED LED |
|---|---|---|
| BASE | WINOXL-B | WINOXR-B |
| LOAD | WINOXL-C | WINOXR-C |
| UNLOAD | WINOXL-S | WINOXR-S |
| 3 PRODUCTS | WINOXL-3 | WINOXR-3 |
| * 6 PRODUCTS | WINOXL-6 | WINOXR-6 |
| * 14 PRODUCTS | WINOXL-14 | WINOXR-14 |
| Multiprogram | WINOXL-MU | WINOXR-MU |

* *External 8-relay modules included*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET

Rev. 0.0

# WINOX-L/R

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

#### CERTIFICATIONS ON REQUEST

IP69K

Declaration of conformity + IP69K marking protection rating (only M16x1.5 cable glands versions)
*Water protection in case of high-pressure or steam jet cleaning (test: pressurized water is sprayed from a distance of max 150 mm)*
*Water pressure: 100 bar; temperature: 80 °C; test duration: 250 seconds (reference standard: DIN 40050-9)*

M

Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

Complies with the Eurasian Customs Union standards for use in potentially explosive atmospheres

Complies with the regulations of the Russian Federation for legal for trade use

### DESCRIPTION

- AISI 304 stainless steel weight indicator.
- *L version*: 6-digit semi-alphanumeric backlit LCD display (20 mm height) - 46 signalling symbols.
- *R version*: 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 6-key keyboard.
- Real-time clock/calendar with buffer battery.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

*To know the specific characteristics of the various instrument versions, refer to the table of available versions.*

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).
- WiFi module (option on request).



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# WINOX-L/R

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the WiFi module and Ethernet TCP/IP options for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeller Management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Piece counting.
- Weight totalizing.
- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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# WINOX-L/R

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W (on request P version: 115/230 VAC; 50/60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WINOX-L/R

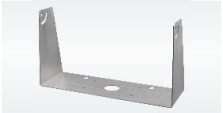
## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### AVAILABLE VERSIONS

| | DESCRIPTION | CODE |
|---|---|---|
|  | **P version** (*standard*)<br>- Installation: wall and desk (bracket included), column, front panel (drilling template: 248x160 mm).<br>- Dimensions: 286x206x108 mm; with bracket: 290x206x187 mm.<br>- IP68 protection rating.<br>- 6 M16x1.5 cable glands.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WINOX-P |
|  | **Q version**<br>- Installation: front panel (supports included; drilling template: 248x160 mm), wall, desk, column.<br>- Dimensions: 286x206x96 mm.<br>- IP68 front panel protection rating.<br>- Removable screw terminal blocks. | WINOX-Q |
|  | **D version**<br>- Desk version.<br>- Dimensions: 286x85x206 mm.<br>- IP40 protection rating.<br>- IP68 front panel protection rating.<br>- D-SUB connectors.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WINOX-D |
|  | **X version**: **ATEX II 3GD (zone 2-22)** ( CE - UKCA )<br>**IEX version**: **IECEx (zone 2-22)**<br>- Installation: wall and desk (bracket included), column, front panel (drilling template: 248x160 mm).<br>- Dimensions: 286x206x108 mm; with bracket: 290x206x187 mm.<br>- IP68 protection rating.<br>- 6 M16x1.5 cable glands. | WINOX-X<br>WINOX-IEX |

### OPTIONS ON REQUEST

| | ACCESSORIES | CODE |
|---|---|---|
|  | Stainless steel adjustable bracket for wall and table mounting. | STAFFAIWINOX |
|  | Supports for front panel mounting. | STAFFEWINOX |
|  | ABS support for column mounting. | STAFFAIWINOXSUP |
|  | Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Painted steel bracket for platform/floor mounting.<br><br>Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN<br><br>COLONNAM<br>+ STAFFAIN |



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### OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>➔ *Not compatible with Q, D, X, IEX versions.*<br>➔ *Not compatible with OPZWBATTWINOX option.*<br>➔ *Not compatible with EAC certifications.* | OPZWINOXVCA |
|  | Universal power supply 24 VDC/1 A.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AUN |
|  | Universal power supply 24 VDC/1 A with jack connector.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AJACKUN |
|  | 12.2 V rechargeable lead battery, 2.8 Ah capacity, supplied already installed in the instrument. Operating time: 16 hours.<br>➔ *Not compatible with D, X, IEX version.*<br>➔ *Not compatible with 115 VAC and 230 VAC.* | OPZWBATTWINOX |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 16 hours.<br>➔ *Not compatible with Q and D versions.*<br>➔ *Not compatible with 115 VAC and 230 VAC.* | OPZWBATTWINOXATEX |



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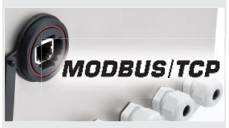
# WINOX-L/R

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELDBUSES | CODE |
|---|---|---|
|  | **WiFi module** (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols.<br>(* for Q version)<br>➔ *Not compatible with X and IEX versions.* | ✶ OPZW1RADIO<br>✶ OPZW1RADIOQ(*)<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E/EC option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **CANopen** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X, IEX version: not compatible with E/EC option.* | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **DeviceNet** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X, IEX version: not compatible with E/EC option.* | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profibus DP** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X, IEX version: not compatible with E/EC option.* | ✶ OPZW1PR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet/IP** protocol - IP68 Ethernet port.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1ETIP68<br>✶ OPZW1ETIPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet TCP/IP** protocol - IP68 Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1ETTCP68<br>✶ OPZW1ETTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Modbus/TCP** protocol - IP68 Ethernet port.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1MBTCP68<br>✶ OPZW1MBTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profinet IO** protocol - IP68 Ethernet port.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1PNETIO68<br>✶ OPZW1PNETIOCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **IP68 USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with X and IEX versions.* | OPZWUSB68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with X and IEX versions.* | OPZWUSBDB9<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*

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# WINOX-L/R

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE | B | C | S | 3P | 6P | 14P |
|---|---|---|---|---|---|---|---|---|
|  | Extension cable for the WiFi module antenna; length: 100 cm.<br>➔ *Q version: included with the OPZW1RADIOQ option.* | OPZWCONWF | • | • | • | • | • | • |
|  | USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included. | OPZWCONUSBIP68 | • | • | • | • | • | • |
|  | Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included. | OPZWCONETHEIP68 | • | • | • | • | • | • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m. | OPZWCONETHE5MT | • | • | • | • | • | • |
|  | Weight reading from 0-10 VDC input (15 kΩ).<br>➔ *Not compatible with X and IEX versions.* | OPZWING010 | • | • | • | • | • | • |
|  | Weight reading from 4-20 mA input (120 Ω).<br>➔ *Not compatible with X and IEX versions.* | OPZWING420 | • | • | • | • | • | • |

### APPLICATIONS - SOFTWARE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | Alibi memory. | OPZWALIBI | • | • | • | • | • | • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC | • | • | • | • | • | • |



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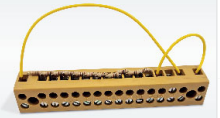
### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115/230 VAC | RELE6PROD24V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*



*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

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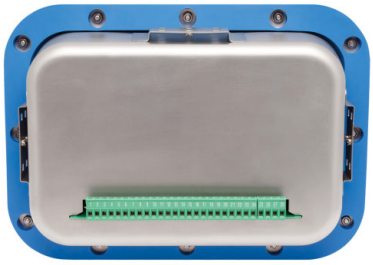
# WINOX-R 3A

## STAINLESS STEEL HYGIENIC WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

CLOUD · ANALOG OUTPUT · ALIBI · RECHARGEABLE BATTERY · Instrument Manager · RS485 RS232 · IP69K


Panel mounting



Back side

PROGRAM

| | |
|---|---|
| BASE | WINOXR-B |
| LOAD | WINOXR-C |
| UNLOAD | WINOXR-S |
| 3 PRODUCTS | WINOXR-3 |
| * 6 PRODUCTS | WINOXR-6 |
| * 14 PRODUCTS | WINOXR-14 |
| Multiprogram | WINOXR-MU |

* *External 8-relay modules included*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET

Rev. 0.0

# WINOX-R 3A

## STAINLESS STEEL HYGIENIC WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID) |
| 3-A | American standard that regulates the design, production and use of hygienic equipment |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| NMI TRADE APPROVED | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NEW ZEALAND TRADE APPROVED | Complies with New Zealand regulations for legal for trade use |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| NTEP | NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |

CERTIFICATIONS ON REQUEST

| | |
|---|---|
| M | Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UK CA ) |
| | Complies with the regulations of the Russian Federation for legal for trade use |

### DESCRIPTION

- AISI 304 stainless steel hygienic weight indicator.
- Hygienic device RPSCQC authorized by 3-A SSI.
- Installation: front panel (supports included; drilling template: 248x160 mm).
- Dimensions: 286x206x96 mm.
- IP69K front panel protection rating.
- Extractable screw terminal blocks.
- 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 6-key keyboard.
- Real-time clock/calendar with buffer battery.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas bidirectional or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).



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# WINOX-R 3A

## STAINLESS STEEL HYGIENIC WEIGHT INDICATOR - WEIGHING AND BATCHING

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### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Piece counting.
- Weight totalizing.
- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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# WINOX-R 3A

## STAINLESS STEEL HYGIENIC WEIGHT INDICATOR - WEIGHING AND BATCHING

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### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020;<br>NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WINOX-R 3A

## STAINLESS STEEL HYGIENIC WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELDBUSES | CODE |
|---|---|---|
|   | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **CANopen** protocol.<br>➔ *One input and one output not available.*<br>➔ *Integrated RS485 port not available.*<br>➔ *Not compatible with E option.* | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **DeviceNet** protocol.<br>➔ *One input and one output not available.*<br>➔ *Integrated RS485 port not available.*<br>➔ *Not compatible with E option.* | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **Profibus DP** protocol.<br>➔ *One input and one output not available.*<br>➔ *Integrated RS485 port not available.*<br>➔ *Not compatible with E option.* | ✶ OPZW1PR<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **Ethernet/IP** protocol - IP68 Ethernet port. | ✶ OPZW1ETIP68<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **Ethernet TCP/IP** protocol - IP68 Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument. | ✶ OPZW1ETTCP68<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **Modbus/TCP** protocol - IP68 Ethernet port. | ✶ OPZW1MBTCP68<br>B C S 3P 6P 14P<br>• • • • • • |
|   | **Profinet IO** protocol - IP68 Ethernet port. | ✶ OPZW1PNETIO68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **IP68 USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply. | OPZWUSB68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m. | OPZWCONETHE5MT<br>B C S 3P 6P 14P<br>• • • • • • |
|   | Weight reading from 0-10 VDC input (15 kΩ). | OPZWING010<br>B C S 3P 6P 14P<br>• • • • • • |
|   | Weight reading from 4-20 mA input (120 Ω). | OPZWING420<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*



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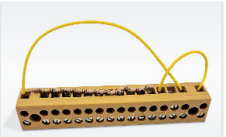
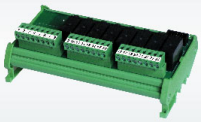
# WINOX-R 3A

## STAINLESS STEEL HYGIENIC WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external contact.<br>Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | | E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E option with the analog output. | | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A.<br>Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115 VAC<br>230 VAC | RELE6PROD24V<br>RELE6PROD115V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A.<br>Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |
| | APPLICATIONS - SOFTWARE | | |
|  | Alibi memory. | | OPZWALIBI<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | | OPZWDATIPC<br>B C S 3P 6P 14P<br>• • • • • • |

### OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
|  | Universal power supply 24 VDC/1 A.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AUN |
|  | 12.2 V rechargeable lead battery, 2.2 Ah capacity, supplied already installed in the instrument. Operating time: 16 hours. | OPZWBATTWINOX |



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# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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CLOUD · ANALOG OUTPUT · ALIBI · RECHARGEABLE BATTERY · WiFi · BARCODE SCAN · RS485 RS232 · IP69K


MULTILANGUAGE SOFTWARE


Indicator-holder bracket and column
Desk version
Panel mounting

| PROGRAM | LCD 133x39 mm | LCD 128x75 mm |
|---|---|---|
| BASE | WINOXG-B | WINOX2G-B |
| LOAD | WINOXG-C | WINOX2G-C |
| UNLOAD | WINOXG-S | WINOX2G-S |
| 3 PRODUCTS | WINOXG-3 | WINOX2G-3 |
| * 6 PRODUCTS | WINOXG-6 | WINOX2G-6 |
| * 14 PRODUCTS | WINOXG-14 | WINOX2G-14 |
| Multiprogram | WINOXG-MU | WINOX2G-MU |

* *External 8-relay modules included*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS • PROFINET

Rev. 0.0

# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 μV/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

**CERTIFICATIONS ON REQUEST**

IP69K

Declaration of conformity + IP69K marking protection rating (only M16x1.5 cable glands versions)
*Water protection in case of high-pressure or steam jet cleaning (test: pressurized water is sprayed from a distance of max 150 mm)*
*Water pressure: 100 bar; temperature: 80 °C; test duration: 250 seconds (reference standard: DIN 40050-9)*

M

Conformity assessment (initial verification) in combination with Laumas weighing module ( CE - UKCA )

Complies with the Eurasian Customs Union standards for use in potentially explosive atmospheres

Complies with the regulations of the Russian Federation for legal for trade use

### DESCRIPTION

- AISI 304 stainless steel weight indicator.
- *G version*: backlit LCD graphic display, resolution: 240x64 pixel, visible area: 133x39 mm - 21-key keyboard.
- *2G version*: backlit LCD graphic display, resolution: 240x128 pixel, visible area: 128x75 mm - 27-key keyboard.
- Real-time clock/calendar with buffer battery.
- Multilanguage software (4 languages + 1 customizable).

*To know the specific characteristics of the various instrument versions, refer to the table of available versions.*

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).
- WiFi module (option on request).



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# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box.
  - IoT gateway for cloud connection via RS485.
- TCP/IP WEB APP: integrated software in combination with the WiFi module and Ethernet TCP/IP options for remote supervision, management and control of the instrument.
- Customizable name of the production lot.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Weight value printing with date and time via keyboard or external contact.
- Labeling machine Management (except 3/6/14 PRODUCTS program).

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

**BASE PROGRAM**

- Piece counting.
- Weight totalizing.
- Statistical checking of prepackages.
- 99 items database with association of a preset tare value, 3 setpoint values and 2 values for weight thresholds function (HIGH/LOW).
- Weight thresholds function (HIGH/LOW) shown on the display.
- Barcodes printing by lot name, item name, weighings progressive number.
- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

**BATCHING PROGRAM**

- Graphical representation of the system load status.
- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Production storage.
- Products stocks management.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Manual batching with remote displays connected in parallel to the instrument.

*Only for:*

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program

- Formulas programming in fixed or variable steps.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

**MULTIPROGRAM**

- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.



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# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W (on request P version: 115/230 VAC; 50/60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5/4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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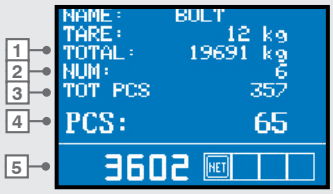
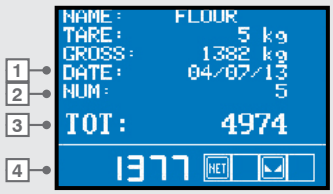
### Example screens for BASE program

#### Piece counter



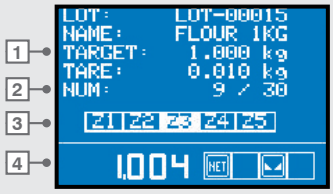

1. Totalized weight since last deletion.
2. Performed weighings since last deletion.
3. Totalized pieces since last deletion.
4. Number of pieces.
5. Net weight.

#### Totalizer




1. Date of last deletion.
2. Performed weighings since last deletion.
3. Totalized weight since last deletion.
4. Net weight.

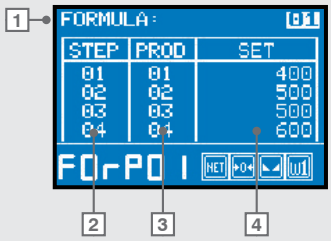
#### Statistical checking of prepackages




1. Nominal weight.
2. Checked samples/total samples.
3. Tolerance zone.
4. Net weight.

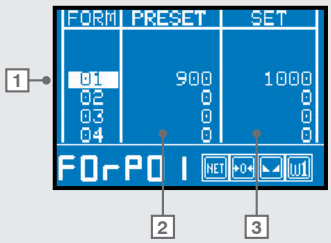
### Example screens for BATCHING programs

#### Formulas programming
*3/6/14 PRODUCTS program*



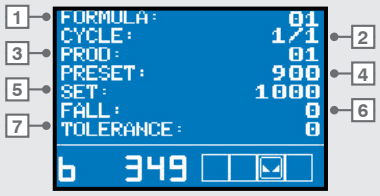

1. Selected formula.
2. Step number.
3. Product number.
4. Set value.

#### Formulas programming
*LOAD and UNLOAD programs*



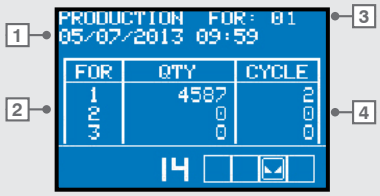

1. Selected formula.
2. Preset value.
3. Set value.

#### Details of batching product displaying
*LOAD and UNLOAD programs*



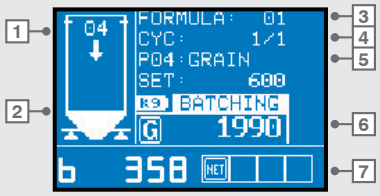

1. Formula number.
2. Running cycle.
3. Product number.
4. Preset value.
5. Set value.
6. Fall value.
7. Tolerance value.

#### Production displaying for each formula
**(amount of batched product and number of cycles performed)**



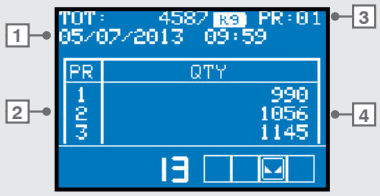

1. Date and time of last deletion.
2. Formulas list.
3. Selected formula.
4. Batched quantity and number of cycles performed.

#### Displaying during the batching
*3/6/14 PRODUCTS program*



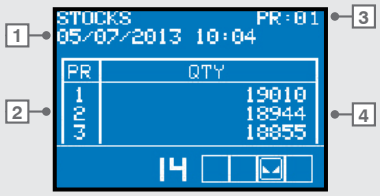

1. Product number and arrow indicating the product loading.
2. Product level on the scale.
3. Formula number.
4. Running cycle.
5. Product number and name.
6. Gross weight value.
7. Batching product weight.

#### Consumptions displaying for each product
*3/6/14 PRODUCTS program*




1. Date and time of last deletion.
2. Products list.
3. Selected product.
4. Consumptions.

#### Stocks displaying for each product
*3/6/14 PRODUCTS program*




1. Current date and time.
2. Products list.
3. Selected product.
4. Stocks.

Rev. 0.0

# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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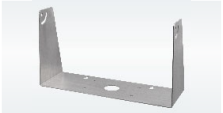
### AVAILABLE VERSIONS

| | DESCRIPTION | CODE |
|---|---|---|
|  | **P version** (*standard*)<br>- Installation: wall and desk (bracket included), column, front panel (drilling template: 248x160 mm).<br>- Dimensions: 286x206x108 mm; with bracket: 290x206x187 mm.<br>- IP68 protection rating.<br>- 6 M16x1.5 cable glands.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WINOX-P |
|  | **Q version**<br>- Installation: front panel (supports included; drilling template: 248x160 mm), wall, desk, column.<br>- Dimensions: 286x206x96 mm.<br>- IP68 front panel protection rating.<br>- Removable screw terminal blocks. | WINOX-Q |
|  | **D version**<br>- Desk version.<br>- Dimensions: 286x85x206 mm.<br>- IP40 protection rating.<br>- IP68 front panel protection rating.<br>- D-SUB connectors.<br>- Universal power supply included: 24 VDC/1 A - 100÷240 VAC input cable length: 3 m. | WINOX-D |
|  | **X version**: **ATEX II 3GD (zone 2-22)** ( CE - UKCA )<br>**IEX version**: **IECEx (zone 2-22)**<br>- Installation: wall and desk (bracket included), column, front panel (drilling template: 248x160 mm).<br>- Dimensions: 286x206x108 mm; with bracket: 290x206x187 mm.<br>- IP68 protection rating.<br>- 6 M16x1.5 cable glands. | WINOX-X<br>WINOX-IEX |

### OPTIONS ON REQUEST

| | ACCESSORIES | CODE |
|---|---|---|
|  | Stainless steel adjustable bracket for wall and table mounting. | STAFFAIWINOX |
|  | Supports for front panel mounting. | STAFFEWINOX |
|  | ABS support for column mounting. | STAFFAIWINOXSUP |
|  | Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Painted steel bracket for platform/floor mounting.<br><br>Stainless steel indicator-holder column (Ø38 mm, height 700 mm).<br>Stainless steel bracket for platform/floor mounting. | COLONNAM<br>+ STAFFACN<br><br>COLONNAM<br>+ STAFFAIN |



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# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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### OPTIONS ON REQUEST

| | POWER SUPPLY | CODE |
|---|---|---|
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>➔ *Not compatible with Q, D, X, IEX versions.*<br>➔ *Not compatible with OPZWBATTWINOX option.*<br>➔ *Not compatible with EAC certifications.* | OPZWINOXVCA |
|  | Universal power supply 24 VDC/1 A.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AUN |
|  | Universal power supply 24 VDC/1 A with jack connector.<br>- 100÷240 VAC input.<br>- 3 m cable length. | ALI24SPINA1AJACKUN |
| | 12.2 V rechargeable lead battery, 2.8 Ah capacity, supplied already installed in the instrument. Operating time: 16 hours.<br>➔ *Not compatible with D, X, IEX version.*<br>➔ *Not compatible with 115 VAC and 230 VAC.* | OPZWBATTWINOX |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 16 hours.<br>➔ *Not compatible with Q and D versions.*<br>➔ *Not compatible with 115 VAC and 230 VAC.* | OPZWBATTWINOXATEX |



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# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

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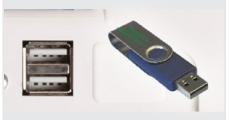
### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | INTERFACES AND FIELDBUSES | CODE |
|---|---|---|
|  | **WiFi module** (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols.<br>(* for Q version)<br>➔ *Not compatible with X and IEX versions.* | ✶ OPZW1RADIO<br>✶ OPZW1RADIOQ(*)<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Optoisolated 16 bit **analog output**.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Additional RS485** port.<br>➔ *One input and one output not available.*<br>➔ *Not compatible with E/EC option.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **CANopen** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X, IEX version: not compatible with E/EC option.* | ✶ OPZW1CA<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **DeviceNet** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X, IEX version: not compatible with E/EC option.* | ✶ OPZW1DE<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profibus DP** protocol.<br>➔ *Q version: one input and one output not available.*<br>➔ *Q version: integrated RS485 port not available.*<br>➔ *Q, P, X, IEX version: not compatible with E/EC option.* | ✶ OPZW1PR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet/IP** protocol - IP68 Ethernet port.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1ETIP68<br>✶ OPZW1ETIPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Ethernet TCP/IP** protocol - IP68 Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1ETTCP68<br>✶ OPZW1ETTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Modbus/TCP** protocol - IP68 Ethernet port.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1MBTCP68<br>✶ OPZW1MBTCPCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **Profinet IO** protocol - IP68 Ethernet port.<br>➔ *X, IEX, P version: internal crimp wiring.* | ✶ OPZW1PNETIO68<br>✶ OPZW1PNETIOCR<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **IP68 USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply. Support for keyboard and barcode reader.<br>➔ *Not compatible with X and IEX versions.* | OPZWUSB68<br>B C S 3P 6P 14P<br>• • • • • • |
|  | **USB** port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.<br>➔ *Not compatible with X and IEX versions.* | OPZWUSBDB9<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*

Rev. 0.0

# WINOX-G/2G

## STAINLESS STEEL WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | | CODE | B | C | S | 3P | 6P | 14P |
|---|---|---|---|---|---|---|---|---|
|  | Extension cable for the WiFi module antenna; length: 100 cm.<br>➔ *Q version: included with the OPZW1RADIOQ option.* | OPZWCONWF | • | • | • | • | • | • |
|  | USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included. | OPZWCONUSBIP68 | • | • | • | • | • | • |
|  | Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included. | OPZWCONETHEIP68 | • | • | • | • | • | • |
|  | Ethernet male/male extension cable with IP68 connector; length: 5 m. | OPZWCONETHE5MT | • | • | • | • | • | • |
|  | Weight reading from 0-10 VDC input (15 kΩ).<br>➔ *Not compatible with X and IEX versions.* | OPZWING010 | • | • | • | • | • | • |
|  | Weight reading from 4-20 mA input (120 Ω).<br>➔ *Not compatible with X and IEX versions.* | OPZWING420 | • | • | • | • | • | • |

### APPLICATIONS - SOFTWARE

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  | Alibi memory. | OPZWALIBI | • | • | • | • | • | • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | OPZWDATIPC | • | • | • | • | • | • |



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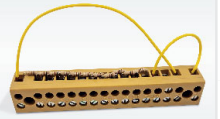
### OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch. | | ✶ EC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact. | | ✶ E<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Simultaneous use of E/EC option with the analog output. | | OPZWAEC<br>B C S 3P 6P 14P<br>• • • • • • |
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115/230 VAC | RELE6PROD24V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |

✶ *Select one option among those marked with an asterisk.*



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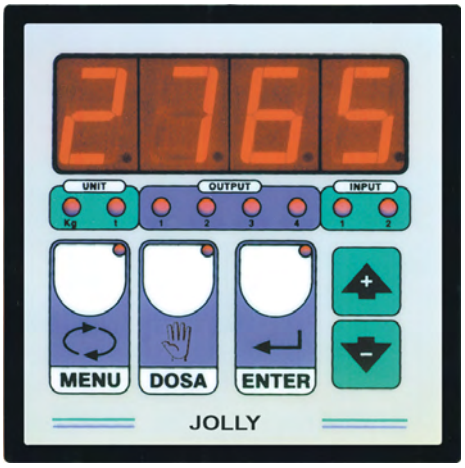
# JOLLY

## WEIGHT INDICATOR - 2/4 OUTPUTS - 2 INPUTS





Box for wall mounting (on request)
IP64 protection rating

| | CODE |
|---|---|
| 6 operating modes selectable and calibration by the customer | JOLLY2 |
| 4 operating modes selectable and calibration by the customer | JOLLY4 |

### DESCRIPTION

- Weight indicator in DIN box suitable for panel mounting or in a box for wall mounting (on request).
- Dimensions: 96x96x65 mm (drilling template: 91x91 mm).
- 4-digit semi-alphanumeric red LED display (20 mm height).
- 8+3 signalling LED.
- 5-key keyboard.
- IP64 front panel protection rating.
- Removable screw terminal blocks.

### INPUTS/OUTPUTS AND COMMUNICATION

- 2/4 relay digital outputs controlled by the setpoint values.
- 2 digital inputs.
- 1 load cell dedicated input.

### MAIN FUNCTIONS

- Reading the load cells value expressed in mV: load cells connections continuous check.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard).
- Tare weight zero setting.

**JOLLY2 weighing and batching systems; 6 modes selectable:**

- Weight indicator with a relay alarm threshold (1SET)
- Weight indicator with two relay alarm thresholds (2SET)
- Single product batching in loading with two speeds (1LOAD)
- Two products batching in loading succession (2LOAD)
- Single product batching in unloading with two speeds (1UNLOAD)
- Two products batching in unloading succession (2UNLOAD)

**JOLLY4 weighing and batching systems; 4 modes selectable:**

- Weight indicator with four alarm thresholds (4SET).
- Two products batching in loading with slow and cycle end (2LOAD).
- Three products batching in loading with cycle end (3LOAD).
- Four products batching in loading (4LOAD).



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# JOLLY

## WEIGHT INDICATOR - 2/4 OUTPUTS - 2 INPUTS

LAUMAS®

### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC; 50/60 Hz; 5 VA |
| Number of load cells • Load cells supply | up to 4 (350 Ω) • 5 VDC/60 mA |
| Internal divisions | 20000 |
| Measure range | -4 mV +16.5 mV |
| Display range | -999 +19999* |
| Display increments | x1 x2 x5 |
| Conversion rate | 10/s |
| Relay logic outputs | n. 2/4 - 115 VAC/2 A |
| Logic inputs | n. 2 |
| Humidity (condensate free) | 90% |
| Storage temperature | -20 °C +70 °C |
| Working temperature | -10 °C +50 °C |

** over 10000 divisions the weight will restart from zero and will blink to indicate that the above mentioned value has been surpassed*

### OPTIONS ON REQUEST

| | DESCRIPTION |
|---|---|
| 12/24 VDC | Power supply 12 VDC / 24 VDC |
|  | IP64 box; dimensions 98x125x75 mm<br><br>Wall mounting version |



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# P-WI

## WEIGHT INDICATOR - 2 OUTPUTS - 2 INPUTS



Box for wall mounting (on request)
IP64 protection rating

| PROGRAM | | CODE |
|---|---|---|
| 2 SETPOINT | Two setpoint values settable by keyboard | PWI |
| LOAD | Single-product load batching; 1 formula | PWIC |
| UNLOAD | Single-product unload batching; 1 formula | PWIS |

### DESCRIPTION

- Weight indicator in DIN box suitable for panel mounting or in a box for wall mounting (on request).
- Dimensions: 96x96x65 mm (drilling template: 91x91 mm).
- 4-digit semi-alphanumeric red LED display (20 mm height).
- 6+3 signalling LED.
- 4-key keyboard.
- IP64 front panel protection rating.
- Removable screw terminal blocks.

### INPUTS/OUTPUTS AND COMMUNICATION

- 2 relay digital outputs controlled by the setpoint values or via protocols.
- 2 digital inputs.
- 1 load cell dedicated input.

### MAIN FUNCTIONS

- Connections to:
  - 24 column printer via TTL serial;
  - up to 4 load cells in parallel by junction box.
- Reading the load cells value expressed in mV: load cells connections continuous check.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard).
- Tare weight zero setting.
- Password protection: It is possible to enable an internal parameter to protect the access to the calibration and constants programming.

**2 SETPOINT**

- Weight indicator with 2 setpoint can be set by keyboard (max value 9999), output on two voltage free contacts.
- Hysteresis settable by keyboard.
- Print of weight, date and time from keyboard.

**BATCHING PROGRAM:**

- Slow, weight, fall and max weight values settable by keyboard.
- Automatic fall and consumption calculation.
- Print of constant, formulas and consumption; automatic printing of batching data at the end of every cycle.
- Pause of the batching by the keyboard.

*Only for:*

LOAD program

- Single-product load batching by two different extraction speeds, executing the autotare every cycle-start.

UNLOAD program

- Single-product unload batching by two different extraction speeds and shows the increasing weight on the display.



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# P-WI

## WEIGHT INDICATOR - 2 OUTPUTS - 2 INPUTS

LAUMAS®

### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC; 50/60 Hz; 5 VA |
| Number of load cells • Load cells supply | up to 4 (350 Ω) • 5 VDC/60 mA |
| Internal divisions | 20000 |
| Measure range | -4 mV +16.5 mV |
| Display range | -999 +19999* |
| Display increments | x1 x2 x5 |
| Conversion rate | 10/s |
| Relay logic outputs | n. 2 - 115 VAC/2 A |
| Logic inputs | n. 2 |
| Humidity (condensate free) | 90% |
| Storage temperature | -20 °C +70 °C |
| Working temperature | -10 °C +50 °C |

** over 10000 divisions the weight will restart from zero and will blink to indicate that the above mentioned value has been surpassed*

### OPTIONS ON REQUEST

| | DESCRIPTION |
|---|---|
| 12/24 VDC | Power supply 12 VDC / 24 VDC. |
|  | IP64 box; dimensions 98x125x75 mm.<br><br>Wall mounting version |

Rev. 0.0

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# WT60

## WEIGHT INDICATOR - WEIGHING AND BATCHING

RS232/422 RS485 ANALOG OUTPUT

MODBUS RTU

PROFIBUS


| PROGRAM | | CODE |
|---|---|---|
| BASE | 4 setpoint | WT60B |
| BASE ANALOG | Analog Output | WT60/ANA |
| LOAD | 12 formulas | WT60C |
| UNLOAD | 12 formulas | WT60S |
| 3 PRODUCTS | 12 formulas | WT603P |
| * 6 PRODUCTS | 12 formulas | WT606P |
| * 14 PRODUCTS | 12 formulas | WT6014P |

* *External 8-relay modules included*

### DESCRIPTION

- Weight indicator in DIN box suitable for panel mounting (dimensions: 144x72x170 mm; drilling template: 139x67 mm; 170 mm mounting depth with serial wirings and terminal blocks).
- 5-digit semi-alphanumeric red LED display (20 mm height).
- 8 signalling LED.
- 5-key keyboard.
- IP54 front panel protection rating.
- Extractable terminal boards.
- External 8-relay modules included:
  - for **6 PRODUCTS:** dimensions: 80x60x160 mm; 115 VAC 2A external contacts.
  - for **14 PRODUCTS:** dimensions: 80x60x160 mm, 80x60x120 mm; 115 VAC 2A external contacts.

### INPUTS/OUTPUTS AND COMMUNICATION

- 2 independent serial ports: COM1 = RS232 and COM2 = RS422/485 for communication via ModBus RTU protocol, Profibus DP, ASCII Laumas bidirectional or continuous one way transmission.
- 4 relay outputs controlled by the setpoint values or via protocols.
- 3 optoisolated PNP digital inputs.
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request for batching programs).

### CERTIFICATIONS

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# WT60

## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (WT60/ANA)
  - PC/PLC via COM1/2 (up to 32 instruments) with PC supervision software;
  - remote display (COM1/2) and printer (COM1).
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights).
- Tare weight zero setting.
- Gross weight zero tracking.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Weight value printing with date and time via keyboard or external contact.
- Reading the load cells value expressed in mV: load cells connections continuous check.
- Password to protect the access to selected functions.

**BASE PROGRAM / BASE WITH ANALOG OUTPUT**

- Weight indicator with 4 setpoint.
- Hysteresis and setpoint value setting.
- Automatic zero setting at power-on.

**BATCHING PROGRAM**

- 50 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance value control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Print of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.
- Setting a single tolerance value for all formulas/products
- Current batching can be interrupted via keyboard or external contact.
- Pause of the batching by the keyboard.

*Only for:*

LOAD program

- Autotare at batching start.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3-6-14 PRODUCTS program

- Autotare at batching start.
- Net weight batching for each product.
- Slow contact for a product batching by two different extraction speeds (6 PRODUCTS).

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 115/230 VAC; 50/60 Hz; 10 VA |
| Number of load cells • Load cells supply | up to 8 (350 Ω) 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.03% full scale |
| Thermal drift • Analog output thermal drift | <0.0003% full scale/°C • <0.001% full scale/°C |
| A/D Converter | 24 bit |
| Internal divisions | ±99999 |
| Measurement range | ±2 mV ±19.5 mV |
| Display range | ± 99999 (20% ÷ 100% full scale) |
| Decimals • Display increments | 0-4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 0.2-25 Hz • 5,10, 25, 50 reading/s |
| Relay outputs | n. 4 - 115 VAC/30 VDC; 0.5 A |
| Digital inputs | n. 3 |
| Serial ports | COM1: RS232; COM2: RS422/RS485 |
| Baud rate | 1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600 (bit/s) |
| Optoisolated analog output | 16 bit = 65536 divisions; 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; 0-5 V; 0-10 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +70 °C |
| Working temperature | -10 °C +50 °C |



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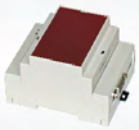
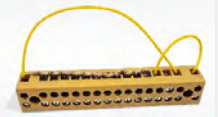
# WT60

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### OPTIONS ON REQUEST

| | DESCRIZIONE | CODE |
|---|---|---|
| ANALOG OUTPUT | Optoisolated 16 bit analog output. | |
|  | Profibus converter, IP40, suitable for Omega/DIN rail mounting, allows to connect 1 or 2 Laumas instruments in Slave configuration to any security Profibus DP Master by means of the RS422/RS485 port. Dimensions: 71x58x90 mm.<br>1 instrument<br>2 instruments | <br><br><br>MPROFIUNO<br>MPROFIDUE |
|  | External selector switch for selecting the first 12 formulas. | EC |
|  | Selection of the first 12 formulas via external contact. | E |



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# WL60

## WEIGHT INDICATOR - WEIGHING AND BATCHING

RS232/422 RS485 ANALOG OUTPUT

MODBUS RTU

PROFIBUS


| PROGRAM | | CODE |
|---|---|---|
| BASE | 6 setpoint | WL60B |
| LOAD | 50 formulas | WL60C |
| UNLOAD | 50 formulas | WL60S |
| 3 PRODUCTS | 50 formulas | WL603 |
| * 6 PRODUCTS | 50 formulas | WL606 |
| * 14 PRODUCTS | 50 formulas | WL6014 |

* *External 8-relay modules included*

### DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 144x72x120 mm (drilling template: 139x67 mm; 170 mm mounting depth with wirings and moderator).
- 8-digit semi-alphanumeric red LED display (14 mm height).
- 16-key keyboard with buzzer.
- IP54 front panel protection rating.
- Real-time clock/calendar with buffer battery.
- Extractable terminal boards.
- External 8-relay modules included:
  - for **6 PRODUCTS:** dimensions: 80x60x160 mm; external contacts: 115 VAC 2 A.
  - for **14 PRODUCTS:** dimensions: 80x60x160 mm, 80x60x120 mm; external contacts: 115 VAC 2 A.

### INPUTS/OUTPUTS AND COMMUNICATION

- 2 independent serial ports: COM1=RS232 and COM2= RS422/485 for communication via ModBus RTU protocol, Profibus DP (RS422/485), ASCII Laumas bidirectional or one way transmission.
- 6 relay outputs controlled by the setpoint values or via protocols.
- 6 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.
- Current or voltage 16 bit analog output (on request).

### CERTIFICATIONS

UKCA Equivalent of the CE marking for the United Kingdom



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# WL60

## WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via COM1/2 (up to 32 instruments) with PC supervision software;
  - remote display and printer via COM1/2;
  - up to 8 load cells in parallel by junction box.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights).
- Tare weight zero setting.
- Zero tracking.
- Semi-automatic zero.
- Displaying of the maximum weight value reached (peak).
- Weight value printing with date and time via keyboard or external contact.
- Reading the load cells value expressed in mV: load cells connections continuous check.
- Password to protect the access to selected functions.

**BASE PROGRAM / BASE WITH ANALOG OUTPUT**

- Weight indicator with 6 setpoint.
- Hysteresis and setpoint value setting.
- Automatic zero setting at power-on.

**BATCHING PROGRAM**

- 50 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Print of batching data.
- Alarm contact management.
- Automatic batching.
- Batching start via external contact or keyboard.
- Signaling of minimum and maximum weight.
- Setting a single tolerance value for all formulas/products.
- Current batching can be interrupted via keyboard or external contact.
- Pause of the batching by the keyboard.

*Only for:*

LOAD program

- Autotare at batching start.

UNLOAD program

- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3-6-14 PRODUCTS program

- Net weight batching for each product.

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 (115) VAC; 50/60 Hz; 15 VA |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.03% full scale |
| Thermal drift • Analog output thermal drift | <0.0003% full scale/°C • <0.001% full scale/°C |
| A/D Converter | 24 bit |
| Internal divisions | ±99999 |
| Measurement range | ±2 mV ±19.5 mV |
| Display range | ± 99999 (20% ÷ 100% full scale) |
| Decimals • Display increments | 0-4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 0.2-25 Hz • 5, 10, 25, 50 reading/s |
| Relay outputs | n. 6 - 115 VAC/30 VDC; 0.5 A |
| Digital inputs | n. 6 |
| Serial ports | COM1: RS232; COM2: RS422/RS485 |
| Baud rate | 1200, 2400, 4800, 9600, 14400, 19200, 28000, 38400, 57600, 115200 (bit/s) |
| Analog output (on request) | 16 bit. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +70 °C |
| Working temperature | -10 °C +50 °C |



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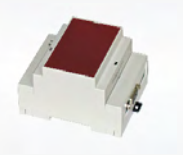
# WL60

## WEIGHT INDICATOR - WEIGHING AND BATCHING

### OPTIONS ON REQUEST

| | DESCRIZIONE | CODE |
|---|---|---|
| ANALOG OUTPUT | 16 bit analog output. | |
|  | Profibus converter, IP40, suitable for Omega/DIN rail mounting, allows to connect 1 or 2 Laumas instruments in Slave configuration to any security Profibus DP Master by means of the RS422/RS485 port. Dimensions: 71x58x90 mm. | |
| | 1 instrument | MPROFIUNO |
| | 2 instruments | MPROFIDUE |



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# WR

## WEIGHT INDICATOR - WEIGHING AND BATCHING

RS232/422
RS485

MODBUS RTU

PROFIBUS


| PROGRAM | | CODE |
|---|---|---|
| 4 PRODUCTS | 50 formulas / 20 steps | WR4/50/1 |
| * 12 PRODUCTS | 50 formulas / 20 steps | WR12/50/1 |
| * 8 PRODUCTS + 4 LITRE-COUNTER | 50 formulas / 20 steps | WR8+4/50/1 |
| * 20 PRODUCTS | 50 formulas / 20 steps | WR20/50/1 |

* *External 8-relay module included.*

### DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 192x96x150 mm (drilling template: 186x92 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- Backlit LCD display, two-line by 16-digit (5 mm height).
- 4 signalling LED.
- 18-key keyboard.
- IP54 front panel protection rating.
- Real-time clock/calendar.
- External 8-relay module included in the versions with more than 4 products: suitable for mounting on Omega/DIN rail, to install up to 100 meters of distance; dimensions: 93x60x126 mm; power supply: 24 VDC 8 W; external contacts: 115 VAC 0.5 A.

### INPUTS/OUTPUTS AND COMMUNICATION

- 2 independent serial ports: COM1=RS232 and COM2=RS232 or RS422/485 for communication via ModBus RTU protocol, Profibus DP (RS422/485), ASCII Laumas bidirectional or continuous one way transmission.
- 8 relay outputs controlled by the setpoint values or via protocols.
- 8 optoisolated PNP digital inputs: status reading via serial communication protocols.

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via COM2 (up to 32 instruments) with PC Supervision Software;
  - remote display and printer via COM1/2;
  - up to 8 load cells in parallel by junction box.
- 50 formulas to 20 programming steps (otherwise 99 formulas to 10 programming steps, on request).
- Programming, in the desired order by the operator, steps for loading product, partial or total unloading, opening and closing relay output, waiting for external input, waiting for a desired time.
- For litre-counter version: setting and displaying products directly in kg.
- Batching start via keyboard by setting formula and desired cycles (up to 9999).
- Starting via external contact of the formula and the number of cycles previously stored by keyboard, or starting via external contact of the first 15 formulas (9 formulas by contraves) selected by the four BCD inputs for a only cycle at a time.
- Alarm for lack of product during the batching.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Minimum stocks check for each product.
- Reading real stock: consumption and stocks calculation for each product (option on request).
- Production calculation for each formula with cycle's number executed.
- Alarm contact management.
- Automatic batching via keyboard for a single product.
- Automatic unloading via keyboard for a preset amount.
- Assisted manual batching.
- Print of batching data.
- Pause of the batching by the keyboard.
- Batching resume after a blackout.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration and real calibration (with sample weights).
- Tare weight zero setting.
- Reading the load cells value expressed in mV.
- Password to protect the access to selected functions.
- Autotare at batching start.



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# WR

## WEIGHT INDICATOR - WEIGHING AND BATCHING

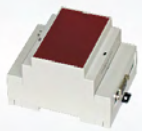
### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC; 50/60 Hz; 25 VA |
| Number of load cells • Load cells supply | up to 8 (350 Ω) 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0003% full scale/°C |
| A/D Converter | 24 bit |
| Internal divisions | 60000 (20% ÷ 100% full scale) |
| Measurement range | -7.5 mV +17.5 mV |
| Display range | -99999; +900000 |
| Decimals • Display increments | 0-4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 0.2-25 Hz • 6, 12, 25, 50 reading/s |
| Relay outputs | n. 8 - 115 VAC/30 VDC 0.5 A |
| Optoisolated digital inputs | n. 8 - 12/24 VDC PNP |
| Serial ports | COM1: RS232; COM2: RS232, RS422/RS485 |
| Baud rate | 2400, 9600, 19200, 38400 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20°C +70°C |
| Working temperature | -10°C +50°C |

### OPTIONS ON REQUEST

| | DESCRIZIONE | CODE |
|---|---|---|
|  | Profibus converter, IP40, suitable for Omega/DIN rail mounting, allows to connect 1 or 2 Laumas instruments in Slave configuration to any security Profibus DP Master by means of the RS422/485 port. Dimensions: 71x58x90 mm. | |
| | 1 instrument | MPROFIUNO |
| | 2 instruments | MPROFIDUE |
|  | Reading real stock: consumption and stocks calculation for each product. By weighing the silos by means weight transmitters and load cells, it is possible transmit to WR the real quantity (stock) present into the silos. | |

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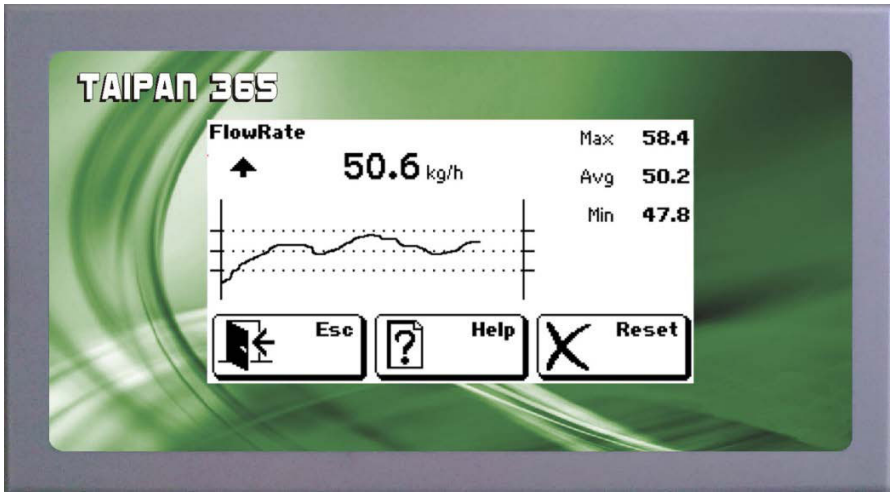
# TAIPAN365

## LOSS-IN-WEIGHT WEIGHING SYSTEM

RS232/422 RS485 ANALOG OUTPUT




### DESCRIPTION

- Loss-in-weight regulator suitable for front panel mounting.
- Dimensions: 196x105x100 mm (drilling template: 187x97 mm)
- Touch screen LCD display.
- IP65 front panel protection rating.
- The TAIPAN365 not only integrates weight and speed variables but also generates the instantaneous flow rate per hour, total weight and the function of automatic flow rate regulator function.

On request:

- Profibus, Profinet IO, Ethercat, Ethernet TCP/IP and Ethernet IP protocols.
- Separate module for an additional analogue input and output.
- USB host for USB pen drive.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS232/RS422/RS485 serial port for communication via ModBus RTU and ASCII protocols.
- 6 relay outputs.
- 6 optoisolated PNP digital inputs.
- 1 load cell dedicated input.
- Current or voltage 16 bit analog output.

### MAIN FUNCTIONS

- Maintaining the setpoint flow by adjusting IP analog output, with an alarm output of flow out of tolerance.
- Continuous transmission of the instantaneous flow rate, detected by analog output proportional to it.
- Ability to set, for batching, the values of preset, set and fall with pulse outputs to the achievement of values.
- Possibility of setting of the setpoint via analog input; optional extra analog output in addition to the standard output.
- Save points for the working curve of the doser when used in combination with with non-linear extractors (eg electromagnetic extractor).
- Calculation of total weight of the batched material and transmission through pulse output; ability to drive a 24-column printer via RS232.
- Programming of up to 15 different setpoints of work, settable by BCD inputs.
- Able to freeze the analog output value, by means of logic input, in order to avoid the initial pendulation of system (which runs all 15 setpoints).
- Ability to display, during operation, I/O status, the current weight, current speed, encoder pulses and the correction factor set.
- Procedures for the zero setting on working loaded belt and automatic adjustment factor correction.
- Can be connected with PC/PLC using comunication protocols ASCII and Modbus-RTU (on request: Profibus, Profinet IO, Ethercat, Ethernet TCP/IP and Ethernet IP).

### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom



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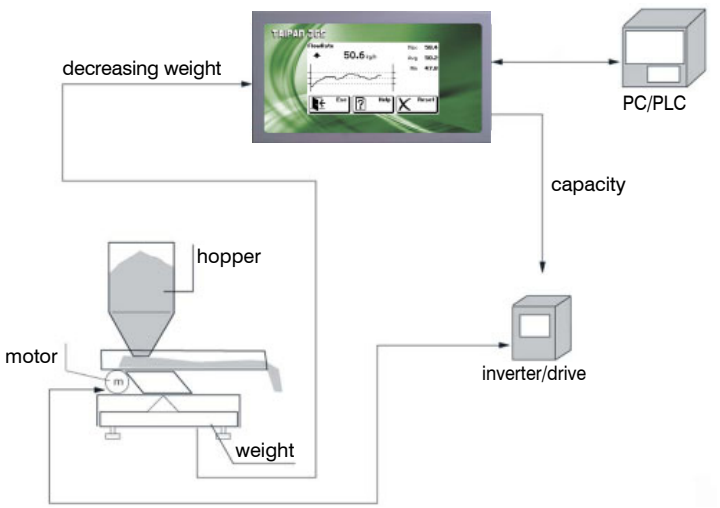
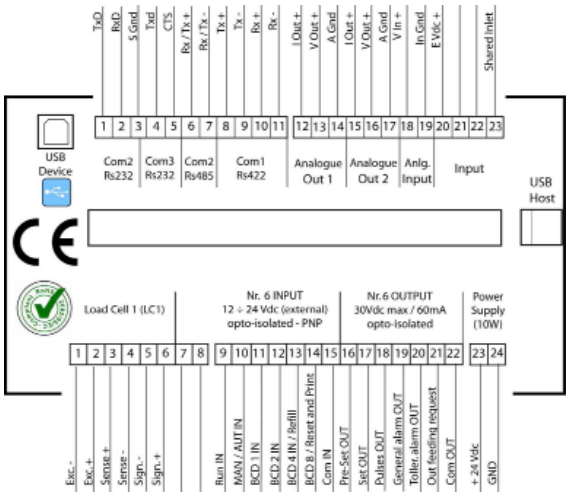
# TAIPAN365

## LOSS-IN-WEIGHT WEIGHING SYSTEM

### APPLICATION DIAGRAM




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 24 VDC; 10 W |
| CPU - Micro controller | RISC 32 bit - 44 MHz |
| Number of load cells in parallel • Load cells supply | up to 8 (350 Ω) • 5 VDC/120 mA |
| A/D Converter | 24 bit |
| Display resolution | 10000 |
| Internal resolution | 600000 |
| Display increments | x1 x2 x5 x10 |
| Relay outputs | 6 - 30 VDC/60 mA |
| Optoisolated digital inputs | 6 - 12÷24 VDC PNP |
| Serial ports | RS232/RS485/USB Device, Ethernet |
| Analog outputs | 16 bit |
| Analogue input | 24 bit |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +60 °C |
| Working temperature | -10 °C +50 °C |



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# TAIPAN265

## LOSS-IN-WEIGHT WEIGHING SYSTEM

LAUMAS®

RS232/422 RS485 ANALOG OUTPUT


### DESCRIPTION

- Loss-in-weight regulator in DIN box suitable for front panel mounting.
- Dimensions: 144x72x120 mm (drilling template: 139x67 mm)
- Backlit LCD display, two-line by 16-digit (5 mm height).
- Protective fuse accessible from the outside.

On request:

- PROFIBUS protocol (it needs additional module).
- Separate module for an additional analogue input and output.
- ETHERNET interface module.
- 24 column printer.

### MAIN FUNCTIONS

- Maintaining the set point flow by adjusting IP analog output, with an alarm output of flow out of tolerance.
- Continuous transmission of the instantaneous flow rate, detected by analog output proportional to it.
- Ability to set, for batching, the values of preset, set and fall with pulse outputs to the achievement of values.
- Calculation of total weight of the batched material and transmission through pulse output; ability to drive a printer via RS232.
- Programming of up to 15 different set points of work, settable by BCD inputs.
- Ability to freeze the analog output value by means of logic input, in order to avoid the initial pendulation of system (for all 15 set point).
- Ability to display, during operation, I/O status, the current weight, current speed, encoder pulses and the correction factor set
- Possibility to connect to PC/PLC by means comunication protocols: ASCII, Modbus RTU and Profibus (on request).

### INPUTS/OUTPUTS AND COMMUNICATION

- 1 RS232/RS422/RS485 serial output (DB9 connector) for communication via ModBus RTU, Profibus DP, ASCII protocols.
- 6 relay outputs.
- 8 optoisolated PNP digital inputs.
- 1 load cell dedicated input.
- Current or voltage 16 bit analog output.

### CERTIFICATIONS

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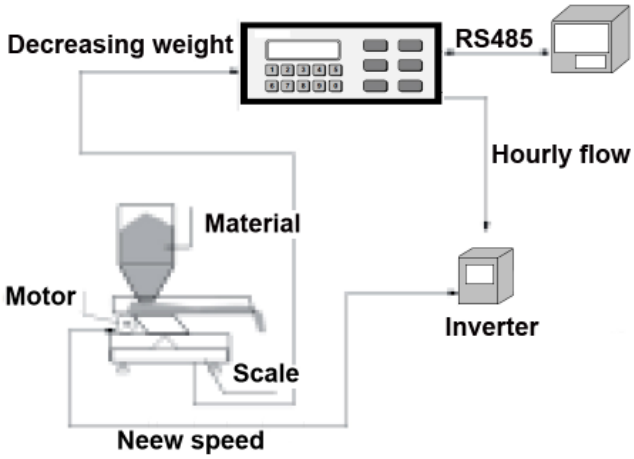
# TAIPAN265

## LOSS-IN-WEIGHT WEIGHING SYSTEM

### APPLICATION DIAGRAM




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230/115 VAC 50-60Hz ; 15 VA |
| Number of load cells • Load cells supply | up to 6 (350 Ω) a 4/6 wires • 5 VDC / 90 mA |
| A/D Converter | 24 bit |
| Measurement range | ±3.9 mV/V |
| Display resolution | 60000 |
| Internal resolution | 16000000 |
| Display increments | x1 x2 x5 x10 |
| Relay outputs | 6 - max 115 VAC / 30 VDC / 0.5 A each |
| Optoisolated digital inputs | 8 - 12/24 VDC PNP |
| Serial ports | COM1: RS232c half duplex; COM2: RS422/RS485 half duplex |
| Baud rate | 9600 (bit/s) |
| Analog output | 16 bit. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V (min 10 kΩ) |
| Encoder supply | 12 VDC |
| Encoder input | single phase push-pull max. 2 kHz |
| Humidity (condensate free) | 10÷90% |
| Storage temperature | -20 °C +70 °C |
| Working temperature | -10 °C +50 °C |



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# COBRA365

## CONTINUOUS BELT WEIGHING SYSTEM

RS232/422 RS485 · IP65 · ANALOG OUTPUT


### DESCRIPTION

- Flow rate regulator for belt suitable for front panel mounting.
- Dimensions: 196x105x100 mm (drilling template: 187x97 mm).
- Touch screen LCD display.
- IP65 front panel protection rating.
- The COBRA365 not only integrates weight and speed variables but also generates the instantaneous flow rate per hour, total weight and the function of automatic flow rate regulator function.

On request:

- Profibus, Profinet IO, Ethercat, Ethernet TCP/IP and Ethernet IP protocols.
- Separate module for an additional analog input and output.
- USB host for USB pen drive.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS232/RS422/RS485 serial port for communication via ModBus RTU protocol and ASCII.
- 6 relay outputs.
- 6 optoisolated PNP digital inputs.
- 1 load cell dedicated input.
- Current or voltage 16 bit analog output.

### MAIN FUNCTIONS

- Maintaining the setpoint flow by adjusting IP analog output, with an alarm output of flow out of tolerance.
- Continuous transmission of the instantaneous flow rate, detected by analog output proportional to it.
- Ability to set, for batching, the values of preset, set and fall with pulse outputs to the achievement of values.
- Possibility of setting of the setpoint via analog input; optional extra analog output in addition to the standard output.
- Save points for the working curve of the doser when used in combination with with non-linear extractors (eg electromagnetic extractor).
- Calculation of total weight of the batched material and transmission through pulse output; ability to drive a 24-column printer via RS232.
- Programming of up to 15 different setpoints, settable by BCD inputs.
- Able to freeze the analog output value, by means of logic input, in order to avoid the initial pendulation of system (which runs all 15 setpoints).
- Ability to display, during operation, I/O status, the current weight, current speed, the pulse encoder and the correction factor set.
- Procedures for the zero setting on working loaded belt and automatic adjustment factor correction.
- Can be connected with PC/PLC using comunication protocols ASCII and Modbus-RTU (on request: Profibus, Profinet IO, Ethercat, Ethernet TCP/IP and Ethernet IP).

### CERTIFICATIONS

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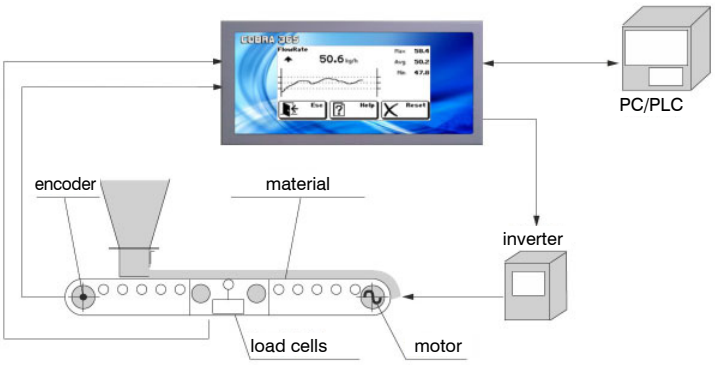
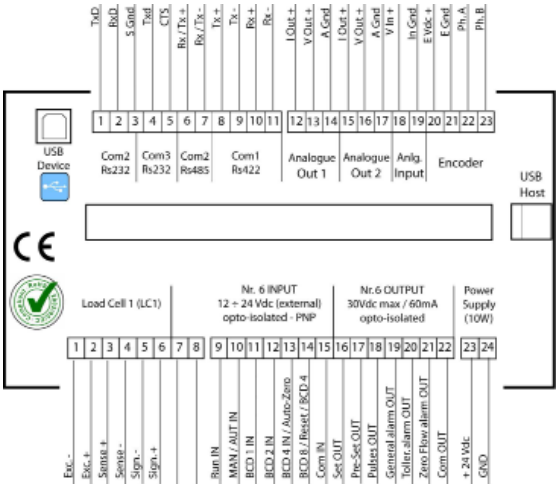
# COBRA365

## CONTINUOUS BELT WEIGHING SYSTEM

### APPLICATION DIAGRAM




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 24 VDC; 10 W |
| CPU - Micro controller | RISC 32 bit - 44 MHz |
| Number of load cells in parallel • Load cells supply | up to 8 (350 Ω) • 5 VDC/120 mA |
| A/D Converter | 24 bit |
| Display resolution | 10000 |
| Internal resolution | 600000 |
| Display increments | x1 x2 x5 x10 |
| Relay outputs | 6 - 30 VDC/60 mA |
| Optoisolated digital inputs | 6 - 12÷24 VDC PNP |
| Serial ports | RS232/RS485/USB Device, Ethernet |
| Analog outputs | 16 bit |
| Analog input | 24 bit |
| Encoder supply | 24 VDC |
| Encoder input | bi-fase PP max 2 kHz |
| Humidity (condensate free) | 85% |
| Working temperature | -10 °C +50 °C |



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# COBRA265

## CONTINUOUS BELT WEIGHING SYSTEM

RS232/422 RS485 ANALOG OUTPUT


### DESCRIPTION

- Flow rate regulator for belt in DIN box suitable for front panel mounting (dimensions: 144x72x120 mm; drilling template: 139x67 mm).
- Backlit LCD alphanumeric display, two-line by 16-digit (5 mm height).
- Protective fuse accessible from the outside.
- The COBRA265 not only integrates weight and speed variables but also generates the instantaneous flow rate per hour, total weight and the function of automatic flow rate regulator function.

On request:

- PROFIBUS protocol (it needs additional module).
- separate module for an additional analogue input and output.
- ETHERNET interface module.
- 24 column printer.

### MAIN FUNCTIONS

- Maintaining the set point flow by adjusting IP analog output, with an alarm output of flow out of tolerance.
- Continuous transmission of the instantaneous flow rate, detected by analog output proportional to it.
- Ability to set, for batching, the values of preset, set and fall with pulse outputs to the achievement of values.
- Calculation of total weight of the batched material and transmission through pulse output; ability to drive a printer via RS232.
- Programming of up to 15 different set points, settable by BCD inputs.
- Ability to freeze the analog output value by means of logic input, in order to avoid the initial pendulation of system (for all 15 set point).
- Ability to display, during operation, I/O status, the current weight, current speed, encoder pulses and the correction factor set.
- Procedures for the zero setting on working loaded belt and automatic adjustment factor correction.
- Possibility to connect to PC/PLC by means comunication protocols: ASCII, Modbus RTU and Profibus (on request).

### INPUTS/OUTPUTS AND COMMUNICATION

- 1 RS232/RS422/RS485 serial port (DB9 connector) for communication via ModBus RTU protocol, ASCII.
- 6 relay outputs.
- 8 optoisolated PNP digital inputs.
- 1 load cell dedicated input.
- Current or voltage 16 bit analog output.

### CERTIFICATIONS

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# COBRA265

## CONTINUOUS BELT WEIGHING SYSTEM

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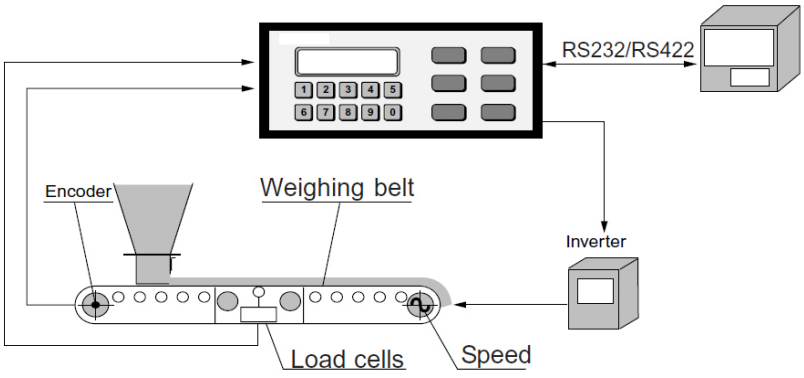
### APPLICATION DIAGRAM




Ask for an offer for WEIGH BRIDGE or CONVEYOR BELT complete.

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230/115 VAC 50-60 Hz; 15 VA |
| Number of load cells • Load cells supply | up to 6 (350 Ω) a 4/6 wires • 5 VDC / 90 mA |
| Measurement range | ±3.9 mV/V |
| A/D Converter | 24 bit |
| Display resolution | 60000 |
| Internal resolution | 16000000 |
| Readings per second | x1 x2 x5 x10 |
| Relay outputs | 6 - max 115 VAC / 30 VDC / 0.5 A each |
| Optoisolated digital inputs | 8 - 12÷24 VDC PNP |
| Serial ports | COM1: RS232c half duplex; COM2: RS422/RS485 half duplex |
| Baud rate | 2400, 9600, 19200, 38400 (bit/s) |
| Optoisolated analog output | 16 bit. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V (min 10 kΩ) |
| Encoder supply | 12 VDC |
| Encoder input | single phase push-pull max. 2 kHz |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +50 °C |
| Working temperature | -10 °C +50 °C |



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# DOS2005

## SYSTEMS FOR CONCRETE-ASPHALT PLANT WITH 3 SCALES

LAUMAS®


**A** Scale


**B** Scale


**C** Scale

| PROGRAM | SCALE | | CODE |
|---|---|---|---|
| 8 + 4 PRODUCTS | A + B | 20 formulas / 2 scales | DOS2005/2 |
| 8 + 4 + 4 PRODCUTS | A + B + C | 20 formulas / 3 scales | DOS2005/3 |

### DESCRIPTION

- DOS2005 has been designed to control 2 or 3 scales simultaneously with 1 litre-counter (max 20 Hz).
- The **A** scale manages up to 8 products, while the **B** and **C** scales manage up to 4 products each.
- An important characteristic is that batching can be started from a weighing scale even if the other scales have not finished the batching cycle (max 1 cycle of displacement).

**A scale:** up to 8 products
- DOS2005 main unit in DIN box suitable for panel mounting.
- Dimensions: 144x96x80 mm (drilling template: 137x91 mm).
- 5-digit semi-alphanumeric red LED display (20 mm height).
- 18 signalling LED.
- 8-key keyboard.
- IP64 front panel protection rating.
- Clock/calendar.
- 6 relay outputs.
- 5 digital inputs.
- 3 load cell dedicated inputs.

**B - C scales:** up to 4 products for each scale
- RIPE model instruments in DIN box suitable for panel mounting.
- Dimensions: 96x96x80 mm (drilling template: 91x91 mm).
- 4-digit semi-alphanumeric red LED display (20 mm height) (after exceeding the value 9999 the display shows the value with movable point; for example 11.50 means 11500).
- 3-key keyboard.
- IP64 front panel protection rating.
- 4 relay outputs.
- 5 digital inputs.

**External 6-relay module**
- Omega/DIN rail mounting.
- Dimensions: 115x80x55 mm.

### MAIN FUNCTIONS

- Connections to:
  - 24 column printer via TTL serial;
  - up to 12 load cells in parallel by junction box.
- 20 settable formulas.
- Tare weight zero setting.
- Theoretical calibration (via keyboard) and real calibration (with sample weights).
- Reading the load cells value expressed in mV: load cells connections continuous check.
- Batching start via keyboard by setting formula and desired cycles (up to 9999).
- Batching start via external contact of the first 12 formulas.
- Autotare on first component for each scale.
- Precision batching through slow function.
- Precision batching through tapping function.
- Automatic fall calculation.
- Consumption storage.
- Print of batching data.
- The litre-counter quantity can be modified also during the batching phase.
- Batching resume after a blackout.
- Manual batching via keyboard.
- Digital filter to reduce the effects of weight oscillation.
- Password to protect the access to selected functions.
- Pause of the batching by the keyboard.



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# DOS2005

## SYSTEMS FOR CONCRETE-ASPHALT PLANT WITH 3 SCALES

LAUMAS®

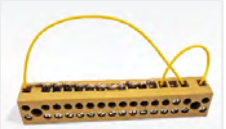
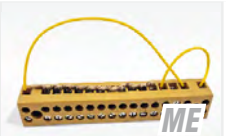
### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC ±10%; 50/60 Hz; 15 VA |
| Number of load cells • Load cells supply | up to 12 (350 Ω) • 5 VDC/180 mA |
| Internal divisions | 12000 |
| Measurement range | ±4 mV; +16.5 mV |
| Display range | -3000 +60000 |
| Display increments | x1 x2 x5 x10 |
| Readings per second | 6 reading/s |
| Relay outputs | n. 6, 6, 4 - 115 VAC 2 A |
| Digital inputs | n. 5 |
| Humidity (condensate free) | 90% |
| Storage temperature | -20 °C +70 °C |
| Working temperature | -10 °C +50 °C |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Selection of the first 12 formulas via external selector switch. | EC |
|  | Selection of the first 12 formulas via external contact. | E |
|   | Multiplies, via external selector switch, the products amount set in the formulas for a coefficient ranging from 0.5 to 6. | MC |
|   | Multiplies, via 12 external contact, the products amount set in the formulas for a coefficient ranging from 0.5 to 6. | ME |

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# WRBIL

## SIMULTANEOUSLY BATCHING SYSTEMS WITH SEVERAL SCALES

LAUMAS®

RS232/422
RS485



**A** Scale


**B** Scale


**C** Scale

| PROGRAM | SCALE | | CODE |
|---|---|---|---|
| * 31 PRODUCTS | A | 50 formulas / 20 steps / 1 loading scale | WR31/50/1 |
| * 26 PRODUCTS | A | 50 formulas / 20 steps / 1 loading scale +1 unload | WR26/50/1+1 |
| * 27 PRODUCTS | A + B | 50 formulas / 20 steps / 2 loading scales | WR27/50/2 |
| * 22 PRODUCTS | A + B | 50 formulas / 20 steps / 2 loading scales +1 unload | WR22/50/2+1 |
| * 23 PRODUCTS | A + B + C | 50 formulas / 20 steps / 3 loading scales | WR23/50/3 |
| 24 PRODUCTS | A + B + C | 50 formulas / 20 steps / 3 loading scales | WR24/50/3 |

* *In addition to the automatically batched products, it is possibile set up to 6 more manually batched products*

## DESCRIPTION

- The WRBIL system manages weighing in batching plants that require up to 3 scales in the same production line.
- It manages from 1 to 3 scales simultaneously, with management of 22 to 31 different products distributed between scales, plus 6 products for manual additions (false scales).
- The WR26/50/1+1 and WR22/50/2+1 versions are able to manage, in addition to the loading scales, even 1 unloading scale.
- It is possible to select two different operating modes:
  - the second batching cycle can be started even if the other scales are at first batching cycle (max 1 cycle of displacement).
  - the second batching cycle can be started only if the other scales have finished the first batching cycle.
- In case of damage to a transmitter it is possible to connect the load cells directly to the WR (“Emergency scale” function).

**The system consists of:**

- 1 WR main unit;
- From 1 to 3 weight indicators (**M** approved): W100, W200, WDOS, WDESK, WINOX (the number of indicators depends on the number of scales);
- From 3 to 4 external 8-relay modules: suitable for mounting on Omega/DIN rail, dimensions: 93x60x126 mm; 24 VDC 8 W power supply; 115 VAC 0.5 A external contacts.

*For INPUTS/OUTPUTS AND COMMUNICATION, MAIN FUNCTIONS and other data refer to instrument data sheets: WR, W100, W200, WDOS, WDESK, WINOX.*

## CERTIFICATIONS

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# WRBIL

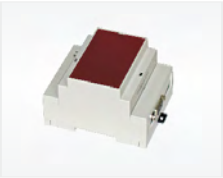
## SIMULTANEOUSLY BATCHING SYSTEMS WITH SEVERAL SCALES

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 (115) VAC; 50/60 Hz; 25 VA |
| Number of load cells • Load cells supply | up to 8 (350 Ω) • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0003% full scale/°C |
| A/D Converter | 24 bit |
| Internal divisions | 60000 (20% ÷ 100% full scale) |
| Measurement range | -7.5 mV +17.5 mV |
| Display range | -99999; +900000 |
| Decimals • Display increments | 0-4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 0.2-25 Hz • 6, 12, 25, 50 reading/s |
| Relay outputs | n. 8 - 115 VAC/30 VDC 0.5 A |
| Optoisolated digital inputs | n. 8 - 12/24 VDC PNP |
| Serial ports | RS232, RS422, RS485 |
| Baud rate | 9600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20°C +70°C |
| Working temperature | -10°C +50°C |

### OPTIONS ON REQUEST

| | DESCRIZIONE | CODE |
|---|---|---|
|  | Profibus converter, IP40, suitable for Omega/DIN rail mounting, allows to connect 1 or 2 Laumas instruments in Slave configuration to any security Profibus DP Master by means of the RS422/485 port. Dimensions: 71x58x90 mm. | |
| | 1 instrument | MPROFIUNO |
| | 2 instruments | MPROFIDUE |



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ISO 9001
ISO 14001

# WRMDB

## MULTIPLE SCALE BATCHING SYSTEMS

RS232/422
RS485


**A** scale
AGGREGATES
by weight

**B** scale
CEMENT
by weight

**C** scale
WATER
by weight

**D** scale
ADDITIVE
by weight

| PROGRAM | SCALE | | CODE |
|---|---|---|---|
| 6 + 2 PRODUCTS | A + B | 50 formulas / 2 scales | WRMDB6/2 |
| 6 + 2 + 2 PRODUCTS | A + B + C | 50 formulas / 3 scales | WRMDB6/2/2 |
| 10 + 4 PRODUCTS | A + B | 50 formulas / 2 scales | WRMDB10/4 |
| 10 + 4 + 4 PRODUCTS | A + B + C | 50 formulas / 3 scales | WRMDB10/4/4 |
| 8 + 4 + 1 + 4 PRODUCTS | A + B + C + D | 50 formulas / 4 scales | WRMDB8/4/1/4 |

## DESCRIPTION

- The WRMDB system for concrete preparation and to control batching from 2 to 4 scales and impulse water (max 20 Hz):
  - 2 scales: 6 aggregates, 2 cements, impulse water;
  - 3 scales: 6 aggregates, 2 cements, 2 weight/impulses additives, impulse water;
  - 2 scales: 10 aggregates, 4 cements, impulse water;
  - 3 scales: 10 aggregates, 4 cements, 4 weight/impulses additives, impulse water;
  - 4 scales: 8 aggregates, 4 cements, weight/impulses water, 4 weight/impulses additives.
- It allows to measure the humidity of 2 aggregates (excluding probes) and to calculate the amount of water and aggregates according to the humidity value detected.
- Suitable for **M** approved plant for concrete mixer trucks load and sale of concrete to third parties.
- When more batching cycles have been programmed via keyboard, batching on one scale (aggregate, cement, additive) may start even if the other scales have not yet terminated the previous batching cycle.

**The system consists of:**

- 1 WR main unit.
- From 2 to 4 weight indicators (**M** approved): W100, W200, WDOS, WDESK, WINOX (the number of indicators depends on the number of scales).
- From 2 to 4 external 8-relay modules: suitable for mounting on DIN rail, dimensions: 93x60x126 mm; 24 VDC 8 W power supply; 115 VAC 0.5 A external contacts.

*For INPUTS/OUTPUTS AND COMMUNICATION, MAIN FUNCTIONS and other data refer to instrument data sheets: WR, W100, W200, WDOS, WDESK, WINOX.*

## CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom



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# WRMDB

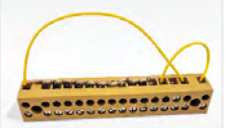
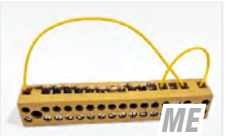
## MULTIPLE SCALE BATCHING SYSTEMS

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 (115) VAC; 50/60 Hz; 25 VA |
| Number of load cells • Load cells supply | up to 8 (350 Ω) • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0003% full scale/°C |
| A/D Converter | 24 bit |
| Internal divisions | 60000 (20% ÷ 100% full scale) |
| Measurement range | -7.5 mV +17.5 mV |
| Display range | -99999; +900000 |
| Decimals • Display increments | 0-4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 0.2-25 Hz • 6, 12, 25, 50 reading/s |
| Relay outputs | n. 8 - 115 VAC/30 VDC 0.5 A |
| Analog inputs | n. 5 - 0÷10 VDC |
| Optoisolated digital inputs | n. 8 12/24 VDC PNP |
| Serial ports | RS232, RS422, RS485 |
| Baud rate | 9600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20°C +70°C |
| Working temperature | -10°C +50°C |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Selection of the first 12 formulas via external selector switch. | EC |
|  | Selection of the first 12 formulas via external contact. | E |
|   | Multiplies, via external selector switch, the products amount set in the formulas for a coefficient ranging from 0.5 to 6. | MC |
|   | Multiplies, via 12 external contact, the products amount set in the formulas for a coefficient ranging from 0.5 to 6. | ME |



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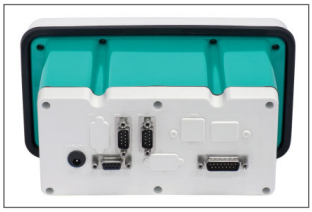
# WDESK-BL/BR

## WEIGHBRIDGE INDICATOR

RS485
RS232
Instrument Manager
ALIBI
RECHARGEABLE BATTERY





D-SUB connectors - IP40

Stainless steel bracket for wall mounting (on request)

Universal power supply included
24 VDC/1 A - 100÷240 VAC input
3 m cable length

### DESCRIPTION

- ABS weight indicator.
- Dimensions: 226x122x189 mm.
- *BL version*: 6-digit semi-alphanumeric backlit LCD display (20 mm height) - 46 signalling symbols.
- *BR version*: 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 19-key keyboard.
- IP40 protection rating.
- IP67 front panel protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- D-SUB connectors.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- 3 serial ports (2x RS485 and 1x RS232) for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 4 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

#### CERTIFICATIONS ON REQUEST

Complies with the regulations of the Russian Federation for legal for trade use



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ISO 9001
ISO 14001

# WDESK-BL/BR

## WEIGHBRIDGE INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) or 16 (700 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | 2x RS485, 1x RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WDESK-BL/BR

## WEIGHBRIDGE INDICATOR

LAUMAS®

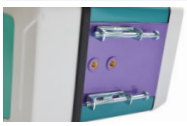
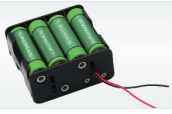
### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells, 350 Ω, (or 16 load cells, 700 Ω) in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks).
- Simultaneous management of 254 trucks.
- Open input weighings archive (max 254).
- Database with 999 preset tares.
- Up to 10000 weighings that can be saved in alibi memory.
- Traffic light management via relay outputs.
- Totals management (loaded and unloaded products).
- Printing of displayed weight, open weighings, totals, and last weighing done.
- Customizable printouts (header and footer) via PC software.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks), ID code (alibi memory).

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Stainless steel adjustable bracket for wall and table mounting.<br>Dimensions with bracket: 230x122x250 mm. | STAFFAINOXWDESK |
|  | Supports for front panel mounting. | STAFFEWINOX |
|  | Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type.<br>- Non-removable.<br>- Operating time: 11 hours. | OPZWBATTWDESK |
|  | Alibi memory. | OPZWALIBI |

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# WDESK-BL/BR

## WEIGHBRIDGE INDICATOR

LAUMAS®

### INTELLIGENT JUNCTION BOXES

CLM4ABS / CLM8ABS

CLM8INOX

The weight indicator displays the intelligent junction box functions.

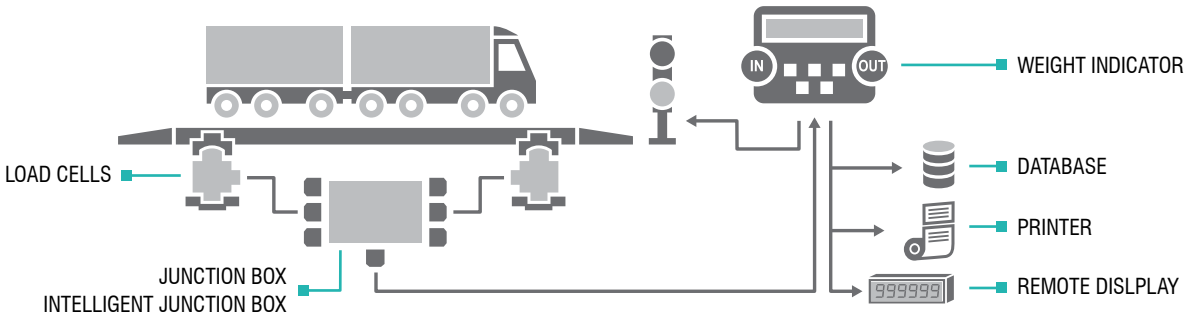
Example:

**LOAD DISTRIBUTION ON THE 8 INDEPENDENT CHANNELS**

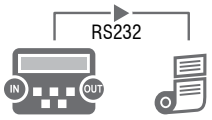

Load percentage on each active channel

ERROR: connection problem

OFF: channel not active

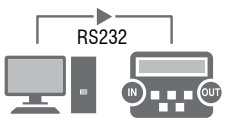



### PRINTER

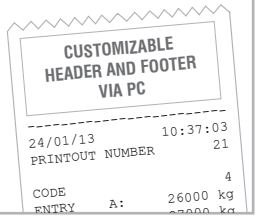



Supported external printers:
Epson TM-U295
Epson LX300
Custom Kube II
**Laumas STAVT II**
*Other models on request.*

CUSTOMIZABLE PRINTOUT




Printout example refers to the integrated printer.

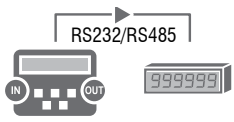



Epson name is the exclusive property of Seiko Epson Corporation; "Custom" name is the exclusive property of Custom Group SpA.

### DATABASE


The database allows you to associate a preset tare value to an identification code (ID).

### REMOTE DISPLAY




Suitable for weight remote displaying.

**RIP6100N**


Rev. 0.0

# WTAB-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

RS485 RS232 · ALIBI · ETHERNET TCP/IP · Instrument Manager · BARCODE SCAN · RECHARGEABLE BATTERY


MULTILANGUAGE SOFTWARE

Integrated thermal printer
(on request)

D-SUB connectors - IP40

### DESCRIPTION

- ABS desk weight indicator.
- Dimensions: 315x170x315 mm.
- Backlit LCD graphic display, resolution: 240x64 pixel, visible area: 133x39 mm.
- 52-key keyboard.
- IP40 protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- Multilanguage software (4 languages + 1 customizable).
- D-SUB connectors.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

Universal power supply 24 VDC/1 A.
100÷240 VAC input.
3 m cable length.

### INPUTS/OUTPUTS AND COMMUNICATION

- 1 Ethernet TCP/IP port.
- 2 USB ports for connection to external keyboard, barcode reader or pendrive (included).
- 4 serial ports (2x RS485 and 2x RS232) for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols.
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.



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www.laumas.com

# WTAB-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells, 350 Ω, (or 16 load cells, 700 Ω) in parallel by junction box;
  - digital load cells: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks).
- Simultaneous management of 254 trucks.
- Open input weighings archive (max 254).
- Database with 500 vehicles (license plates, preset tares), products, customers and operators.
- Up to 10000 weighings that can be saved in alibi memory.
- Remote display with traffic light function managed via RS485/RS232.
- Traffic light management via relay outputs.
- Totals management (loaded and unloaded products).
- Barcode reader management with printing and open weighing ID recall.
- Data transfer to USB pendrive (included).
- Printing of displayed weight, open weighings, totals, and last weighing done.
- Customizable printouts (header and footer) via PC software.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks), ID code (alibi memory).

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

Complies with the regulations of the Russian Federation for legal for trade use



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# WTAB-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) or 16 (700 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3 - 5÷24 VDC PNP |
| Serial ports | 2x RS485, 2x RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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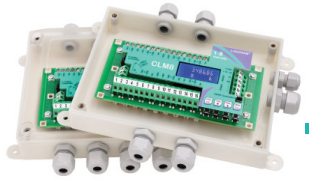
# WTAB-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### INTELLIGENT JUNCTION BOXES



CLM4ABS / CLM8ABS

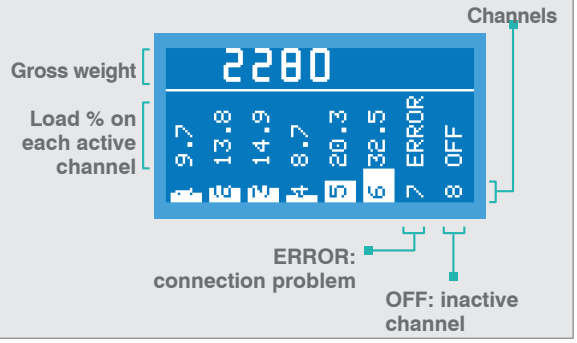
CLM8INOX

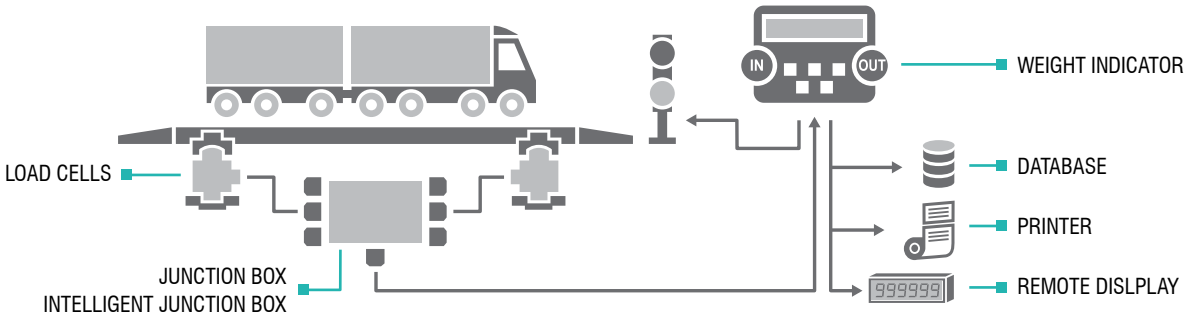
The weight indicator displays the intelligent junction box functions.

Example:

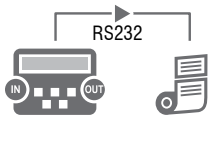
**LOAD DISTRIBUTION**

The instrument displays, in graphical form, the current load distribution on each active channel.



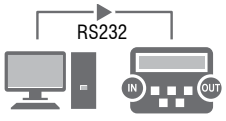

### PRINTER



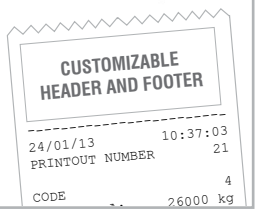

Supported external printers:
Epson TM-U295
Epson LX300
Custom Kube II
Epson TM-T20III
**Laumas STAVT II**
*Other models on request.*

Integrated thermal printer

CUSTOMIZABLE PRINTOUT



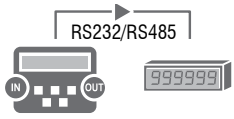

Printout example refers to the integrated printer.




### DATABASE


The database allows to associate a vehicle (license plate and preset tare) to a customer identification code (ID) and to weighing data.

### REMOTE DISPLAY




**RIP6100IP65**


Remote display with traffic light function managed via serial port.

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# WTAB-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### DIGITAL LOAD CELLS

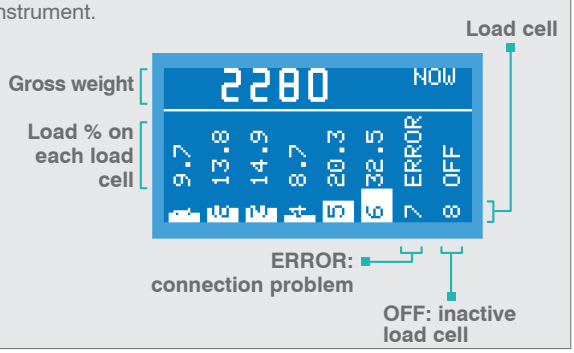
The weight indicator displays the intelligent junction box functions.

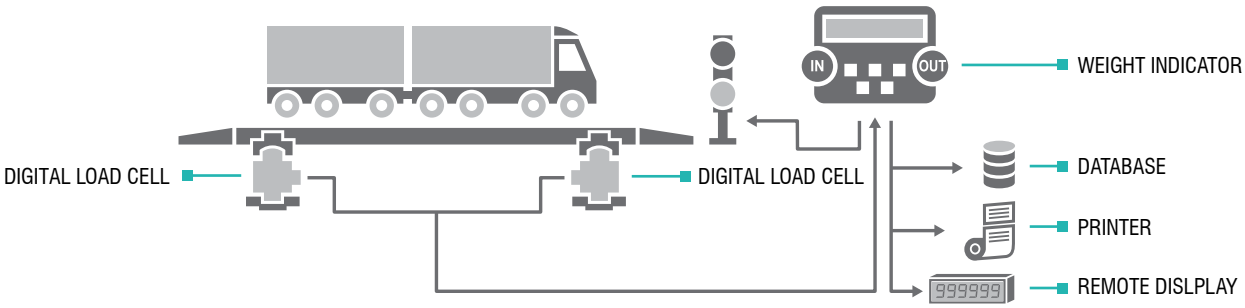
COD

Example:

**LOAD DISTRIBUTION**

The instrument displays, in graphical form, the current load distribution on each digital load cell connected to the instrument.




### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Integrated thermal printer: 24 column, paper end sensor, working temperature: 0÷50 °C, humidity: 20%÷80%, paper roll included (width: 57 ±0.5 mm - outside diameter: 50 mm).<br>*One RS485 port not available.* | OPZWTABSTA |
|  | Thermal paper roll. | CARTASTAVP |
|  | Adhesive thermal paper roll. | CARTAFISCADEN |
|  | Alibi memory. | OPZWALIBI |
|  | 12.2 V rechargeable lead battery, 2.8 Ah capacity, supplied already installed in the instrument. Operating time: 6 hours. | OPZWBATTWTAB |

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# WINOX-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

RS485
RS232

ETHERNET TCP/IP

ALIBI

Instrument Manager

BARCODE SCAN


D-SUB connectors - IP40

MULTILANGUAGE SOFTWARE

Universal power supply 24 VDC/1 A.
100÷240 VAC input.
3 m cable length.

### DESCRIPTION

- AISI 304 stainless steel desk weight indicator.
- Dimensions: 286x85x206 mm.
- Backlit LCD graphic display, resolution: 240x64 pixel, visible area: 133x39 mm.
- 52-key keyboard.
- IP40 protection rating.
- IP68 front panel protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- Multilanguage software (4 languages + 1 customizable).
- D-SUB connectors.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- 1 Ethernet TCP/IP port.
- 2 USB ports for connection to external keyboard, barcode reader or pendrive (included).
- 4 serial ports (2x RS485 and 2x RS232) for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols.
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.



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# WINOX-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells, 350 Ω, (or 16 load cells, 700 Ω) in parallel by junction box;
  - digital load cells: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks).
- Simultaneous management of 254 trucks.
- Open input weighings archive (max 254).
- Database with 500 vehicles (license plates, preset tares), products, customers and operators.
- Up to 10000 weighings that can be saved in alibi memory.
- Remote display with traffic light function managed via RS485/RS232.
- Traffic light management via relay outputs.
- Totals management (loaded and unloaded products).
- Barcode reader management with printing and open weighing ID recall.
- Data transfer to USB pendrive (included).
- Printing of displayed weight, open weighings, totals, and last weighing done.
- Customizable printouts (header and footer) via PC software.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks), ID code (alibi memory).

### CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI

UL Recognized component - Complies with United States and Canada standards

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

Complies with the regulations of the Russian Federation for legal for trade use



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# WINOX-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) or 16 (700 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3 - 5÷24 VDC PNP |
| Serial ports | 2x RS485, 2x RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 5 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |

Rev. 0.0

# WINOX-BGE

## GRAPHIC WEIGHBRIDGE INDICATOR

LAUMAS®

### INTELLIGENT JUNCTION BOXES

CLM4ABS / CLM8ABS

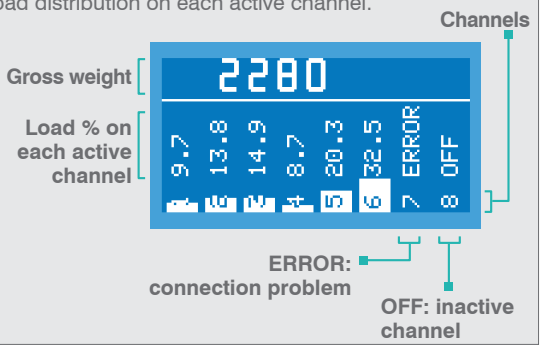
CLM8INOX

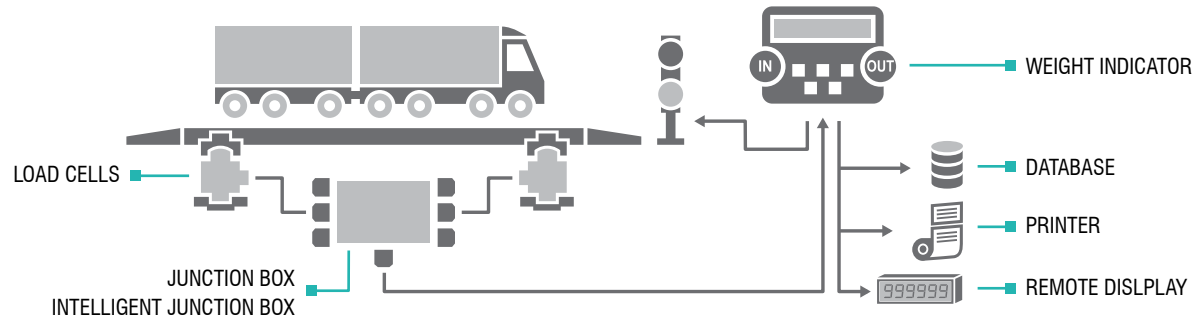
The weight indicator displays the intelligent junction box functions.

Example:

**LOAD DISTRIBUTION**

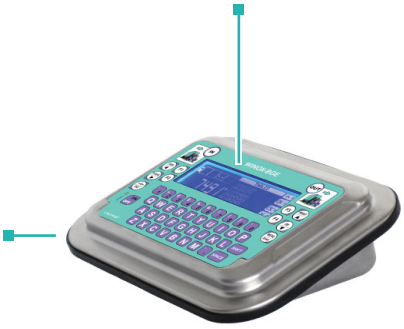
The instrument displays, in graphical form, the current load distribution on each active channel.




### DIGITAL LOAD CELLS

COD

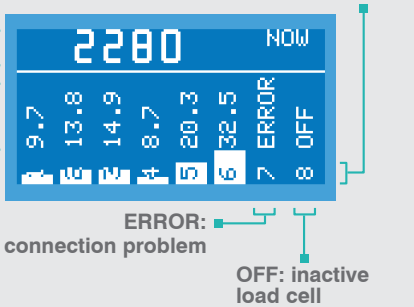


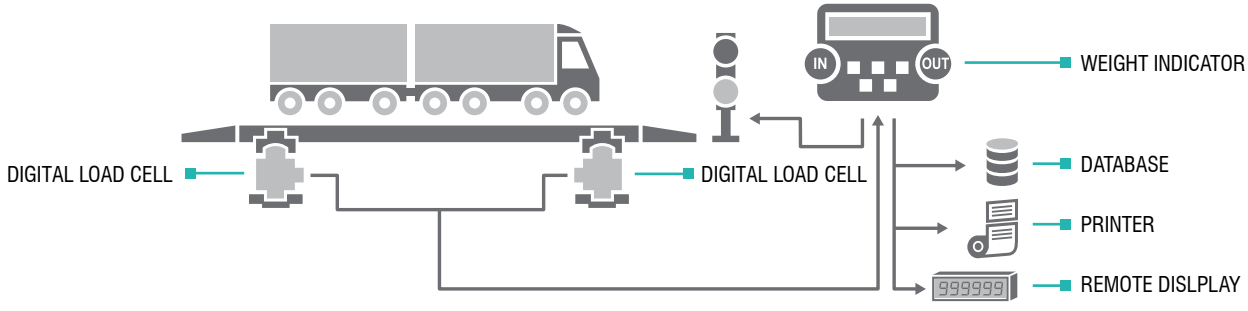
The weight indicator displays the intelligent junction box functions.

Example:

**LOAD DISTRIBUTION**

The instrument displays, in graphical form, the current load distribution on each digital load cell connected to the instrument.

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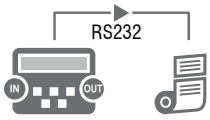
# WINOX-BGE

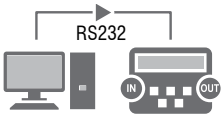
## GRAPHIC WEIGHBRIDGE INDICATOR

### PRINTER




Supported external printers:
Epson TM-U295
Epson LX300
Custom Kube II
Epson TM-T20III
**Laumas STAVT II**
*Other models on request.*

CUSTOMIZABLE PRINTOUT

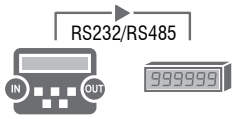



Epson name is the exclusive property of Seiko Epson Corporation; "Custom" name is the exclusive property of Custom Group SpA

### DATABASE


The database allows to associate a vehicle (license plate and preset tare) to a customer identification code (ID) and to weighing data.

### REMOTE DISPLAY




Remote display with traffic light function managed via serial port.


Rev. 0.0

# WTAB-BR

## WEIGHBRIDGE INDICATOR

LAUMAS®

RS485
RS232

Instrument Manager

ALIBI

RECHARGEABLE BATTERY


D-SUB connectors - IP40

Integrated thermal printer (on request)

Universal power supply included
24 VDC/1 A - 100÷240 VAC input
3 m cable length

### DESCRIPTION

- ABS desk weight indicator.
- Dimensions: 315x170x315 mm.
- 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 19-key keyboard.
- IP40 protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- D-SUB connectors.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- 3 serial ports (2x RS485 and 1x RS232) for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 4 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.

### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| NMI TRADE APPROVED | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NEW ZEALAND TRADE APPROVED | Complies with New Zealand regulations for legal for trade use |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| NTEP | NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |
| | **CERTIFICATIONS ON REQUEST** |
| | Complies with the regulations of the Russian Federation for legal for trade use |



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# WTAB-BR

## WEIGHBRIDGE INDICATOR

LAUMAS®

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) or 16 (700 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | 2x RS485, 1x RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WTAB-BR
## WEIGHBRIDGE INDICATOR

LAUMAS®

### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells, 350 Ω, (or 16 load cells, 700 Ω) in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks).
- Simultaneous management of 254 trucks.
- Open input weighings archive (max 254).
- Database with 999 preset tares.
- Up to 10000 weighings that can be saved in alibi memory.
- Traffic light management via relay outputs.
- Totals management (loaded and unloaded products).
- Printing of displayed weight, open weighings, totals, and last weighing done.
- Customizable printouts (header and footer) via PC software.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks), ID code (alibi memory).

### OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | 12.2 V rechargeable lead battery, 2.8 Ah capacity, supplied already installed in the instrument. Operating time: 13 hours. | OPZWBATTWTAB |
|  | Integrated thermal printer: 24 column, paper end sensor, working temperature: 0÷50 °C, humidity: 20%÷80%, paper roll included (width: 57 ±0.5 mm - outside diameter: 50 mm).<br>➔ *One RS485 port not available.* | OPZWTABSTA |
|  | Thermal paper roll. | CARTASTAVP |
|  | Adhesive thermal paper roll. | CARTAFISCADEN |
|  | Alibi memory. | OPZWALIBI |



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# WTAB-BR
## WEIGHBRIDGE INDICATOR

LAUMAS®

### INTELLIGENT JUNCTION BOXES

CLM4ABS / CLM8ABS

CLM8INOX

The weight indicator displays the intelligent junction box functions.

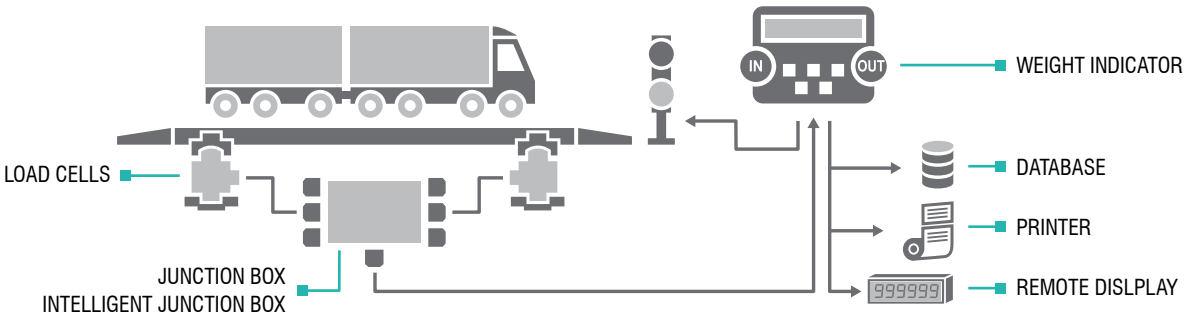
Example:

**LOAD DISTRIBUTION ON THE 8 INDEPENDENT CHANNELS**

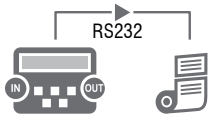

Load percentage on each active channel

ERROR: connection problem

OFF: channel not active



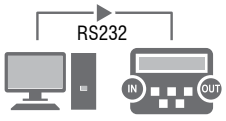

### PRINTER



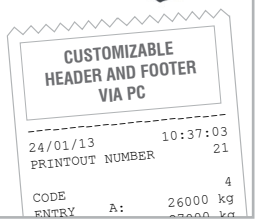

Supported external printers:
Epson TM-U295
Epson LX300
Custom Kube II
**Laumas STAVT II**
*Other models on request.*

Integrated thermal printer

CUSTOMIZABLE PRINTOUT



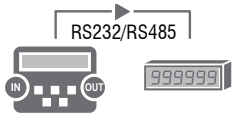

Printout example refers to the integrated printer.




### DATABASE


The database allows you to associate a preset tare value to an identification code (ID).

### REMOTE DISPLAY




**RIP6100N**


Suitable for weight remote displaying.

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# WINOX-BR

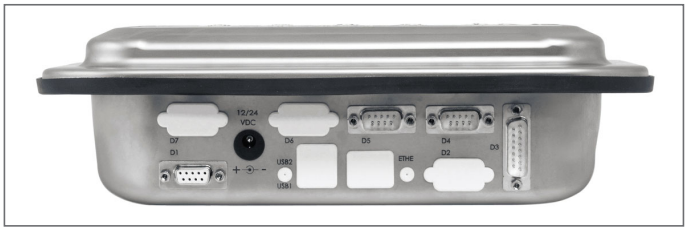
## WEIGHBRIDGE INDICATOR

RS485
RS232

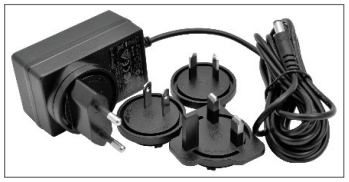
Instrument Manager

ALIBI

RECHARGEABLE BATTERY

D-SUB connectors - IP40



Universal power supply included
24 VDC/1 A - 100÷240 VAC input
3 m cable length

### DESCRIPTION

- AISI 304 stainless steel desk weight indicator.
- Dimensions: 286x85x206 mm.
- 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 19-key keyboard.
- IP40 protection rating.
- IP68 front panel protection rating.
- Real-time clock/calendar with buffer battery.
- Power supply included.
- D-SUB connectors.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

### INPUTS/OUTPUTS AND COMMUNICATION

- 3 serial ports (2x RS485 and 1x RS232) for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- 4 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.



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# WINOX-BR
## WEIGHBRIDGE INDICATOR

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### MAIN FUNCTIONS

- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells, 350 Ω, (or 16 load cells, 700 Ω) in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks).
- Simultaneous management of 254 trucks.
- Open input weighings archive (max 254).
- Database with 999 preset tares.
- Up to 10000 weighings that can be saved in alibi memory.
- Traffic light management via relay outputs.
- Totals management (loaded and unloaded products).
- Printing of displayed weight, open weighings, totals, and last weighing done.
- Customizable printouts (header and footer) via PC software.
- Digital filter to reduce the effects of weight oscillation.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.

**Approved versions for legal for trade use**

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, single weighing with trailer, multiple weighing (weighing of multi-compartment trucks), ID code (alibi memory).

### CERTIFICATIONS

| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI |
| c UL us | UL Recognized component - Complies with United States and Canada standards |
| EAC | Complies with the Eurasian Customs Union standards |
| UK CA | Equivalent of the CE marking for the United Kingdom |
| NMI TRADE APPROVED | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NZ TRADE APPROVED | Complies with New Zealand regulations for legal for trade use |
| UK TRADE APPROVED | Complies with United Kingdom regulations for legal for trade use |
| NTEP | NTEP - $n_{max}$ 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |
| | **CERTIFICATIONS ON REQUEST** |
| | Complies with the regulations of the Russian Federation for legal for trade use |



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# WINOX-BR
## WEIGHBRIDGE INDICATOR

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### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 6 W |
| Number of load cells • Load cells supply | up to 8 (350 Ω) or 16 (700 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity | <0.01% full scale |
| Thermal drift | <0.0005% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | 2x RS485, 1x RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| | | |
|---|---|---|
| c UL us | Relay outputs | 4 - max 30 VAC, 60 VDC/150 mA |
| | Working temperature | -20 °C +50 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML | NTEP |
|---|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China | USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021 |
| Operation modes | single interval, multi-interval, multiple range | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII | III or IIIL |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) | 10000 (class III/IIIL) |
| Minimum input signal for scale verification division | 0.2 μV/VSI | |
| Working temperature | -10 °C +40 °C | -10 °C +40 °C (+14 °F +104 °F) |



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# WINOX-BR
## WEIGHBRIDGE INDICATOR

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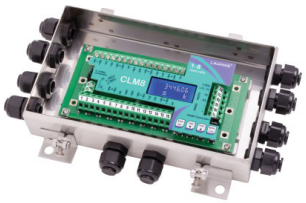
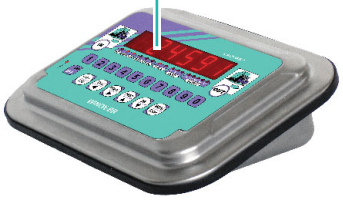
### INTELLIGENT JUNCTION BOXES

CLM4ABS / CLM8ABS



CLM8INOX



The weight indicator displays the intelligent junction box functions.

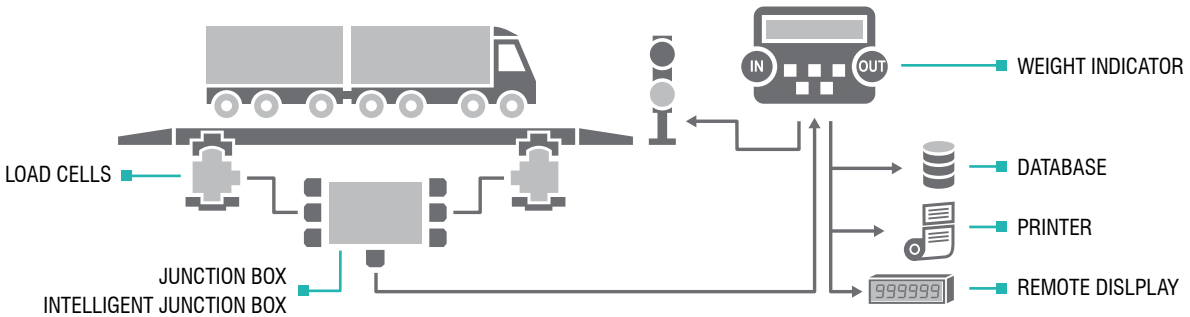
Example:

**LOAD DISTRIBUTION ON THE 8 INDEPENDENT CHANNELS**

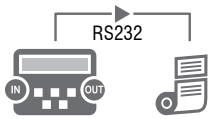

Load percentage on each active channel

ERROR: connection problem

OFF: channel not active

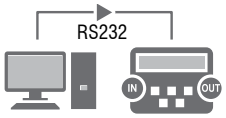



### PRINTER

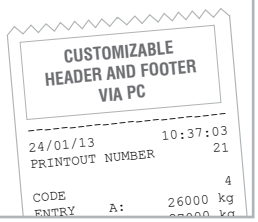



Supported external printers:
Epson TM-U295
Epson LX300
Custom Kube II
**Laumas STAVT II**
*Other models on request.*

CUSTOMIZABLE PRINTOUT



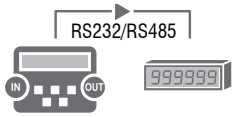

Printout example refers to the integrated printer.




### DATABASE


The database allows you to associate a preset tare value to an identification code (ID).

### REMOTE DISPLAY




Suitable for weight remote displaying.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## OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Alibi memory. | OPZWALIBI |

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# INSTRUMENT MANAGER

## SOFTWARE FOR MANAGING THE INSTRUMENT PARAMETERS

The Instrument Manager software allows you to manage the setting of parameters, updating and monitoring of Laumas weight indicators and weight transmitters from a PC. Refer to the data sheet of the desired instrument to verify its compatibility.

The connection is made between the RS232 or RS485 serial port of Laumas instruments and the PC USB port using a RS232/USB or RS485/USB converter cable.

The software can be used on Windows 7 or higher.

### MAIN FUNCTIONS

#### CONFIGURATIONS

- Through the Instrument Manager, you can create a complete configuration for an instrument by setting the values of all the functional parameters from a PC. You can also create complete configurations for instruments not connected to a PC and send or upload them later.
- By saving the configurations within the software, you will be able to recover them quickly and easily.
- You can compare different configurations and print a summary of the value of all the parameters, highlighting any differences.

#### MONITORING

- Real-time monitoring of the weight read by the instrument to analyze the pattern in relation to setpoint, stability and digital inputs/outputs.
- *For multichannel weight transmitters:*
  real-time display of the weight distribution on the various load cells connected to the instrument and of the mV values read individually on each channel.

#### REAL CALIBRATION

- Calibration of an instrument through sample weights: the procedure is guided by an interface that shows in real time the weight read by the instrument and any corrections made by the user.
- *For multichannel weight transmitters:*
  selection of channels and equalization of an instrument in order to standardize the weight when the position on the platform varies. Through the wizard, you can minimize errors during the procedure and display the weight distribution in real time. Through a dedicated interface, you can monitor and manually set the active channels.

#### AUTOMATIC FIRMWARE UPDATE OF THE INSTRUMENT

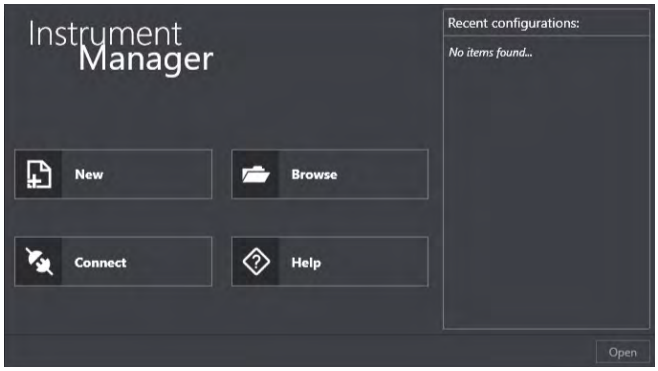
- The Instrument Manager software allows you to update the firmware of the weighing instrument by automatically downloading from the internet the new firmware distributed by Laumas. In this way, the instruments will always be updated to the latest versions.

#### QUALIFIED ACCESS TO LEGALLY RELEVANT PARAMETERS

- Instrument Manager allows simple management of legally relevant parameters for approved instruments, keeping them protected from unauthorized access.

*Purely indicative image. Refer to the data sheet of the desired instrument to check its compatibility with the Instrument Manager software.*

WELCOME SCREEN



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# INSTRUMENT MANAGER

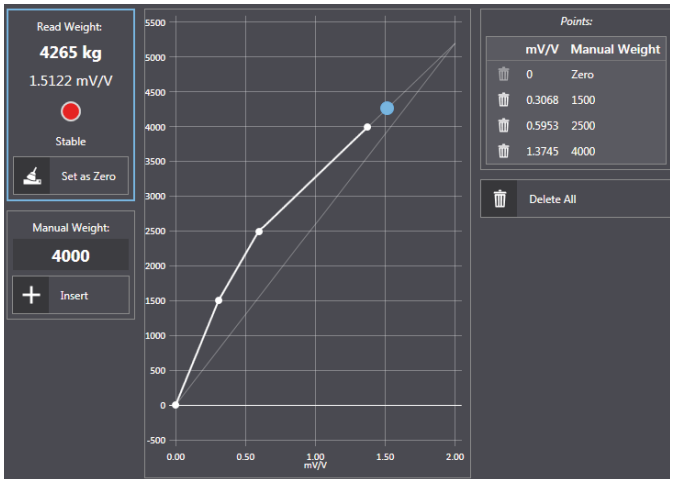
## SOFTWARE FOR MANAGING THE INSTRUMENT PARAMETERS

LAUMAS®

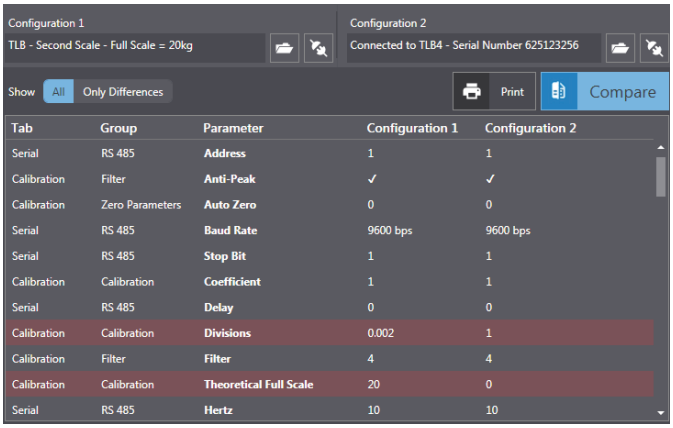
CONFIGURATIONS

| | Profile | Instrument | Model | Version | Name | Details | Date | Last Edit |
|---|---|---|---|---|---|---|---|---|
| Clear Filters | | | | | | | From / To | From / To |
| | D Default | TLB | TLB | 1.14.0 | **Second Scale** | Full Scale = 20kg | 6/17/2019 2:22:16 PM | 6/17/2019 2:22:16 PM |
| | D Default | TLB | TLB | 1.14.0 | **TLB Default** | | 6/17/2019 2:22:28 PM | 6/17/2019 2:22:28 PM |
| | S Second Profile | TLB4 | TLB4 Powerlink | 1.5.0 | **For PLC** | | 6/17/2019 2:22:45 PM | 6/17/2019 2:22:45 PM |
| | S Second Profile | TLM8 | | | **EtherCAT Online** | | 6/17/2019 2:23:01 PM | 6/17/2019 2:39:01 PM |

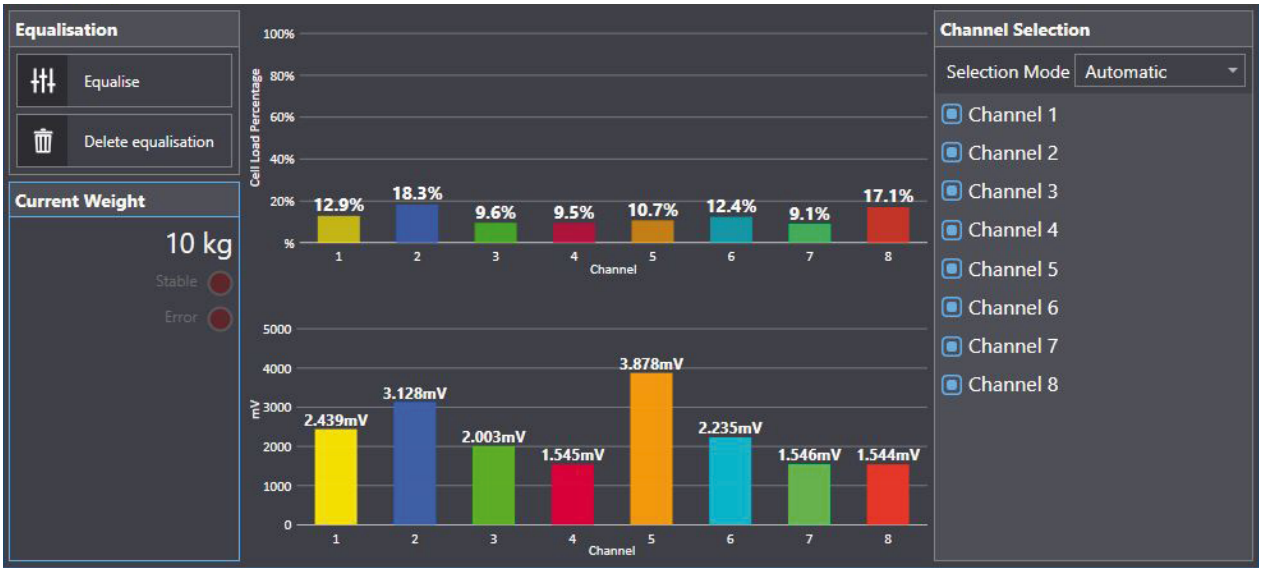
REAL CALIBRATION




COMPARE




MULTICHANNEL

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# PROG DB

## SOFTWARE FOR DATA STORAGE ON PC

The PROG DB software is included in the supply of the OPZWDATIPC and OPZWUSB options and is compatible with W200, WDOS, WDESK, WINOX, WTAB series instruments.

It allows the management of any data via PC (weighings carried out, batching procedures, alarms) and allows the connection of several instruments.

Data is transferred from the instrument to the PC:
- via USB pen drive (OPZWUSB option);
- in serial mode (OPZWDATIPC option): RS232 for distances shorter than 15 metres, or RS485 via converter.

The software runs under Microsoft Windows 7/10.

MULTILANGUAGE SOFTWARE

### MAIN FUNCTIONS

- Automatic recognition of new connected instruments.
- Customization of the instruments with name and notes.
- Display of single instrument data.
- Search among data of all the instruments (consumption and production included), with the possibility to activate filters.
- Export of displayed data and of the search procedures conducted in CSV.
- Printing of displayed data and of the search procedures conducted.

### OPERATING SPECIFICATIONS FOR BASE MOD. INDICATORS

- Storage of the current weight value by manual control (from the keypad or an external input) and/or automatic control (by using the built-in timer). Each stored record includes: gross weight, net weight, tare, unit of measurement, number of decimals, date and time, Alibi ID (only if the alibi memory is available) and the peak or coefficient.
- Recording of weight samples at the instrument's maximum speed (300 Hz).
- Recording the weight beyond the threshold: the instrument's setpoints can be used to create a system that stores the moment when the weight exceeds a certain threshold.
- Data recording for stress tests (only for OPZWUSB):
  - This mode enables the recording of weight values up to the instrument's maximum sampling speed (300 Hz).
  - During the test, the instrument saves the values temporarily in the internal memory (max. 5000 samples), and at the end of the test, it transfers them to the USB key. The adjustment of the built-in timer value (3 to 999 ms) allows the continuous recording for a period of 15 to 4995 secs.
  - A setpoint can be used to set the recording start at the moment when a certain weight is reached. Then, storage will end automatically when the weight goes beyond the set threshold value.

### OPERATING SPECIFICATIONS FOR LOAD, UNLOAD, 3/6/14 PRODUCTS MOD.

- Storage of all data related to the batching cycles performed, such as: formula number, current cycle number, scale number, date and time together with product number (the latter for each batched product), theoretical value and actual value.

### MEMORY FULL SIGNAL

- Check of the memory usage status. When the memory usage status reaches the set thresholds, a signal is sent. When the memory is 100% full, older data are overwritten (circular memory).

### PROG DB SOFTWARE IS INCLUDED IN THE FOLLOWING OPTIONS

| OPTION CODE | FOR INSTRUMENTS | DESCRIPTION |
|---|---|---|
| OPZWUSBDB9 | WDESK, WINOX, WTAB | Data storage on USB pen drive for instruments with D-SUB connectors. |
| OPZWUSB68 | WDESK, WINOX | Data storage on USB pen drive for instruments with IP68 port. |
| OPZWUSBW200 | W200 | Data storage on USB pen drive. |
| OPZWUSBWDOS | WDOS | Data storage on USB pen drive. |
| OPZWDATIPC | W200, WDOS, WDESK, WINOX, WTAB | Data transfer via serial port. |

PROG DB software is included in the WINOX BGE and WTAB BGE instruments.



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# PROG NG

## PC SUPERVISORY SOFTWARE

The software allows PC supervision of up to 32 instruments interconnected via RS422/RS485.

Instruments: W100, W200, WDOS, WDESK, WINOX, TLS, TLB, WR, WL60, WT60. The software runs under Microsoft Windows 98/2000/XP/7/10.

Database can also be installed on a server.
PROG NG is not compatible with weighbridge instruments.

MULTILANGUAGE SOFTWARE

| SOFTWARE | CONNECTED INSTRUMENTS (max 32) | |
|---|---|---|
| | FIRST INSTRUMENT | ADDITIONAL INSTRUMENTS (max 31) |
| **PROGNGWR** | WR | WR<br>WL60<br>WT60<br>WDOS, WINOX, W100, W200, WDESK, TLS485, TLB485 |
| **PROGNGWL** | WL | WL60<br>WT60<br>WDOS, WINOX, W100, W200, WDESK, TLS485, TLB485 |
| **PROGNGWT**<br>**PROGNGWDOS**<br>**PROGNGWINOX** | WT<br>WDOS<br>WINOX | WT60<br>WDOS, WINOX, W100, W200, WDESK, TLS485, TLB485 |
| **PROGNGW100**<br>**PROGNGW200**<br>**PROGNGWDESK** | W100<br>W200<br>WDESK | W100, W200, WDESK, TLS485, TLB485 |
| **PROGNGTLS485**<br>**PROGNGTLB485** | TLS485<br>TLB485 | TLS485, TLB485 |



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# PROG NG

## PC SUPERVISORY SOFTWARE

LAUMAS®

### MAIN FUNCTIONS

**CUSTOMER AND SUPPLIER DATA**

- Customer/Supplier data are linked with the raw materials or production to allow the traceability.

**RAW MATERIAL STOCKS**

- Automatic storage of the loading-unloading quantities in case of weighed silos, otherwise the quantities can be inserted by the operator.
- Setting of date, lot, delivery note.
- Historical archive of raw material loading/unloading.
- Raw material traceability with date, time, supplier etc.

**BATCHING**

- It is possible the contemporary batching start for more instruments on the same production line.
- The batching start can be executed directly by PC or instrument (from keyboard or external contact).
- Batchings historical archive: data of all batchings started by PC or instrument, data for every used raw material, production lot, customer data etc.
- Event/alarm archive: saving of data, time and operator's name for every significant operation or alarm.
- Consumption & production statistics to obtain the total consumption for each raw material or production quantities for each formula in a specified period.

**FORMULAS**

- The program allows to memorize unlimited formulas on PC database.

**PRODUCTION PROGRAM**

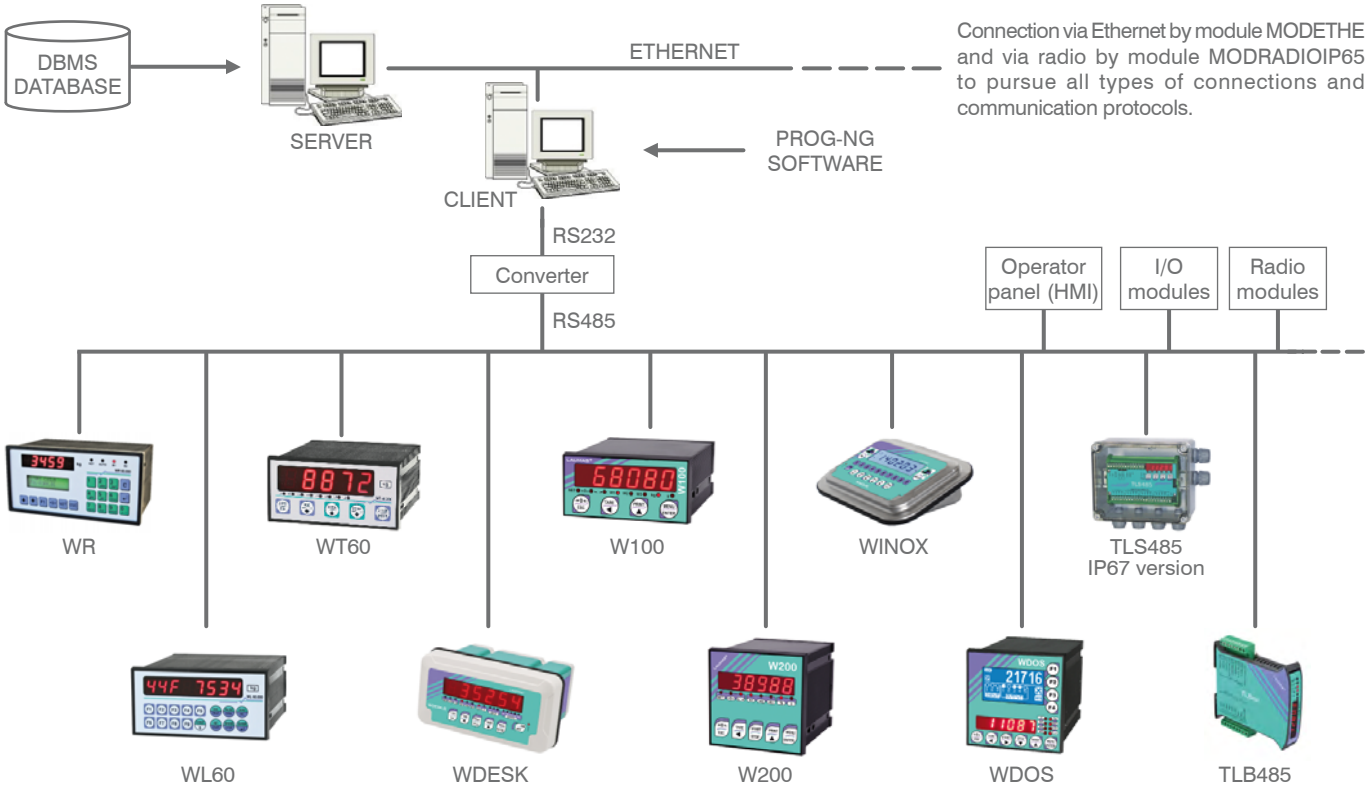
- Production start of different formulas in the programmed sequence.

**PRINT**

- It is possible to print also on file in HTML format for obtaining the references via internet.

**PASSWORD**

- Selectable for every operator with different levels of protection.




Rev. 0.0

# PROG WBRIDGE

## SOFTWARE FOR MANAGING WEIGHBRIDGE SCALES

The PROG WBRIDGE software enables managing a fixed platform weighing system connected via a serial port or Ethernet TCP/IP connection from a PC.

The software can be used on Windows XP or higher operating systems.

Compatible with WTAB-BL, WTAB-BR, WINOX-BL, WINOX-BR instruments, all W series indicators with BASE program, WLIGHT and CLM8.


WTAB-L


WTAB-R


WINOX-L


WINOX-R

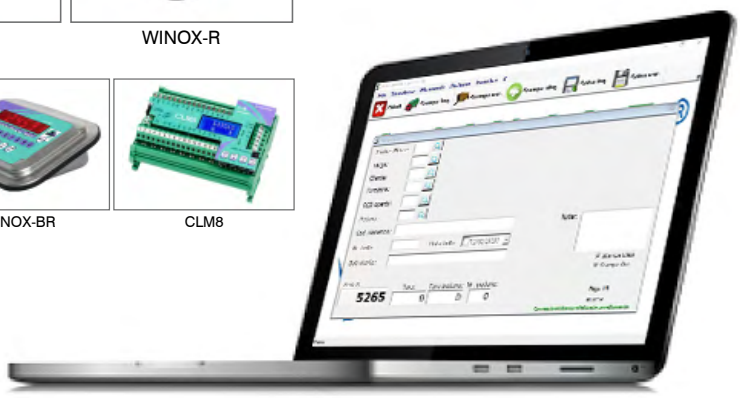

WTAB-BL


WTAB-BR


WINOX-BL


WINOX-BR


CLM8



## MAIN FUNCTIONS

### WEIGHING AND SCALES MANAGEMENT

- The software allows the following weighing operations to be performed:
  - single weighing (incoming or outgoing);
  - double weighing (incoming and outgoing);
  - multiple weighing (incoming and outgoing).
- The software can handle the presence of a second scales:
  - incoming or outgoing weighing on scales A or on scales B;
  - double weighing with input on scales A and output on scales B and vice versa;
  - management of vehicles with trailer (weighing tractor on scales A and weighing trailer on scales B).
- Two identification indices are associated with each registered weight:
  - RCD: identification index of a weighing operation to which one or more weight values recorded during its execution may be associated;
  - Progressive: identification index associated with each weight value recorded during the weighing operations.

### DATABASE

- The application works on a local SQLite database or on a remote MySQL database.
- The Database is used for managing vehicles, products, weighing platforms, customer and supplier records. These data can be associated with the weighings and their printouts.
- The remote MySQL database can be shared between different software installations on different PCs allowing you to manage a weighing system with multiple platforms: weighing on one platform can be used as input data for weighing on one of the other platforms of the system.

### WEIGHING IMAGES

- Each scales can be associated with up to two IP cameras for image acquisition during weighing. The acquired images are associated with the weighings in the database, from which they can be retrieved, and are included in the printouts.

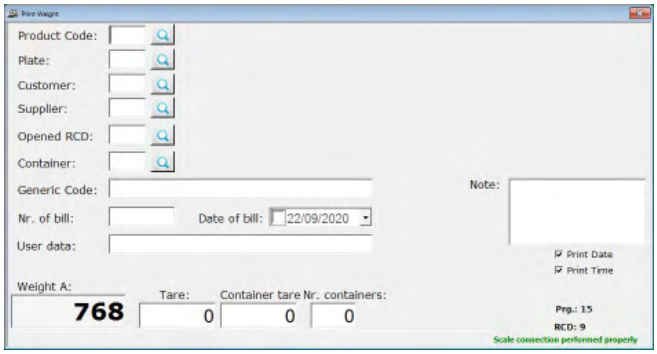
### PRINTOUTS

- Different print templates are provided to match the different weighing types. By using the Crystal Report software (produced and distributed by SAP SE, not included), you can customize the print templates or create new ones, defining the size of the print, the information to include and their layout.

### OPERATION IN COMBINATION WITH APPROVED INSTRUMENTS

- PROG WBRIDGE allows you to manage saves to the ALIBI memory of approved instruments. The primary indication of the weight of the approved system remains that of the instruments.

MAIN SCREEN



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## B4.1 WEIGHT INDICATORS IN EXPLOSION PROOF BOX

**ADPEW100RIP** 205

**ADPEW200** 207

## B4.2 FAIL-SAFE ZENER BARRIERS

**BARRIERAMTL** 212

# ADPEW100RIP

## W100RIP REMOTE DISPLAY IN EXPLOSION PROOF BOX

IP66

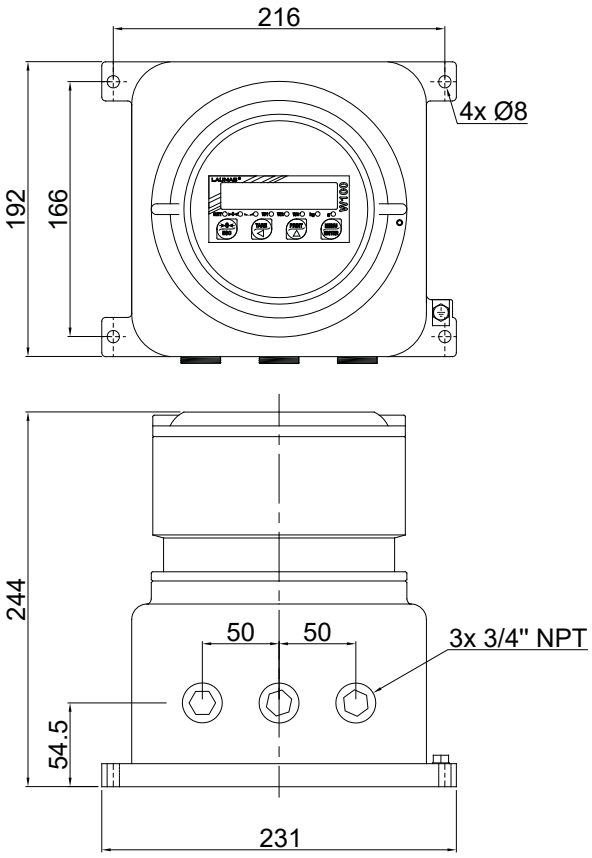
### DESCRIPTION

- W100RIP remote display.
- ADPE explosion proof box equipped with heat-resistant transparent tempered glass window:

| ATEX marking | IECEx marking |
|---|---|
| II 2 GD<br>Ex d IIC T6 Gb<br>Ex tb IIIC T85°C Db IP66<br>(-20 °C≤Ta≤+40 °C)<br>BVI 14 ATEX 0007 | Ex d IIC T6 Gb<br>Ex tb IIIC T85°C Db IP66<br>(-20 °C≤Ta≤+40 °C)<br>IECEx EPS 14.0017 |

- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.


### DIMENSIONS (mm)




Weight 8 kg

Rev. 0.0

# ADPEW100RIP

## W100RIP REMOTE DISPLAY IN EXPLOSION PROOF BOX

### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 |
| Relay outputs | 5 - max 115 VAC/150 mA |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

### TREATMENT

Treatment for metallic surfaces by “off-shore” painting for ADPEW100 box.



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# ADPEW200

## W200 SERIES WEIGHT INDICATOR IN EXPLOSION PROOF BOX

RS485 RS232 · ANALOG OUTPUT · ALIBI · Instrument Manager · IP66

### DESCRIPTION

The system is composed by:

- W200 weight indicator (see W200 data sheet).
- ATEX certified Zener barriers (dimensions: 105x12.6x82 mm, standard OMEGA/DIN rail mounting):
  *MTL 7766Pac supply barrier*
  *MTL 7761ac signal barrier*
- ADPE explosion proof box (ATEX/IECEx) equipped with heat-resistant transparent tempered glass window and 5 external buttons which performs the same function as W200 keypad:

| ATEX marking | IECEx marking |
|---|---|
| Ex II 2(1) GD<br>Ex d [ia Ga] IIB+H2 T6 Gb<br>Ex tb [ia Da] IIIC T85°C Db IP66<br>(-20 °C≤Ta≤+40 °C)<br>INERIS 14ATEX0008X | Ex d [ia Ga] IIB+H2 T6 Gb<br>Ex tb [ia Da] IIIC T85°C Db IP66<br>(-20 °C≤Ta≤+40 °C)<br>IECEx INE 13.0065X |

- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.


| PROGRAM | CODE |
|---|---|
| BASE | ADPEW200-B |
| LOAD | ADPEW200-C |
| UNLOAD | ADPEW200-S |
| 3 PRODUCTS | ADPEW200-3 |
| * 6 PRODUCTS | ADPEW200-6 |
| * 14 PRODUCTS | ADPEW200-14 |
| Multiprogram | ADPEW200-MU |

* *External 8-relay modules included*

### FIELDBUSES

MODBUS RTU · MODBUS/TCP · CANopen · PROFIBUS · DeviceNet · EtherNet/IP · ETHERNET TCP/IP · PI CERTIFIED PROFIBUS & PROFINET

Rev. 0.0

# ADPEW200

## W200 SERIES WEIGHT INDICATOR IN EXPLOSION PROOF BOX

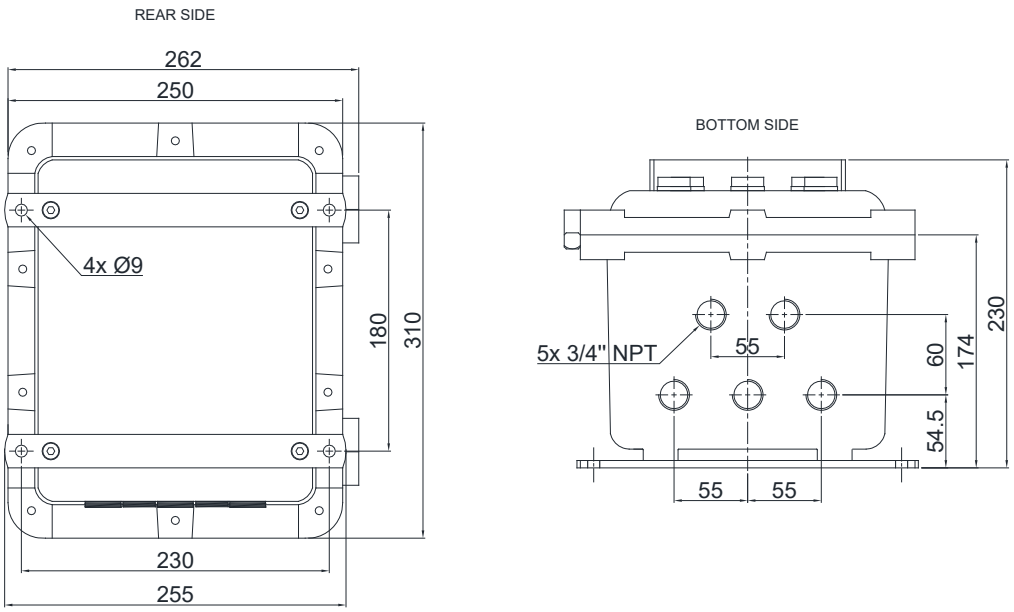
### CERTIFICATIONS

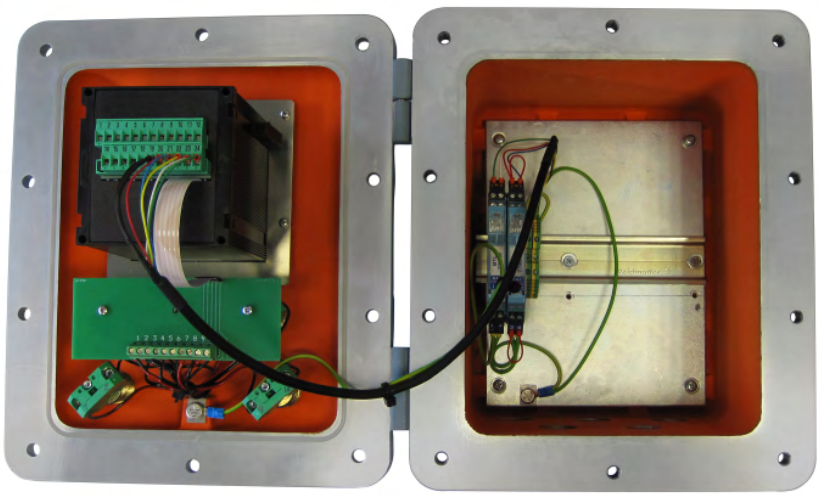
| | |
|---|---|
| OIML | OIML R76:2006, class III, 3x10000 divisions, 0.2 $\mu$V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID) |
| EAC | Complies with the Eurasian Customs Union standards |
| UKCA | Equivalent of the CE marking for the United Kingdom |
| NMI | NMI Trade Approved - Complies with Australian market regulations for legal for trade use |
| NZ | Complies with New Zealand regulations for legal for trade use |
| UK | Complies with United Kingdom regulations for legal for trade use |
| PA | Complies with Chinese market regulations for legal for trade use |

CERTIFICATIONS ON REQUEST

| | |
|---|---|
| M | Conformity assessment (initial verification) in combination with Laumas weighing module |
| EAC Ex | Complies with the Eurasian Customs Union standards for use in potentially explosive atmospheres |
| | Complies with the regulations of the Russian Federation for legal for trade use |

### DIMENSIONS (mm)



Weight: 14 kg



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# ADPEW200

## W200 SERIES WEIGHT INDICATOR IN EXPLOSION PROOF BOX

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### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W (on request: 115÷230 VAC; 50÷60 Hz; 6 VA) |
| Number of load cells • Load cells supply | up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA |
| Linearity • Analog output linearity | <0.01% full scale • <0.01% full scale |
| Thermal drift • Analog output thermal drift | <0.0005% full scale/°C • <0.003% full scale/°C |
| A/D Converter | 24 bit (16000000 points) - 4.8 kHz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0.01 μV/d |
| Measurement range | ±39 mV |
| Usable load cells sensitivity | ±7 mV/V |
| Conversions per second | 300/s |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷300 Hz |
| Relay outputs | 5/4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 3/2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output (option on request) | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ) |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |

| METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS | OIML |
|---|---|
| Applied standards by region | EU: 2014/31/UE; OIML R76:2006; EN45501:2015<br>Russian Federation: GOST OIML R76-1-2011<br>United Kingdom: Non-automatic Weighing Instrument Regulations 2016<br>Australia: National Measurement Regulations 1999<br>New Zealand: Weights and Measures Regulations 1999<br>China: Law on Metrology of the People's Republic of China |
| Operation mode | single interval, multi-interval, multiple range |
| Accuracy class | III or IIII |
| Maximum number of scale verification divisions | 10000 (class III); 1000 (class IIII) |
| Minimum input signal for scale verification division | 0.2 μV/VSI |
| Working temperature | -10 °C +40 °C |



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# ADPEW200

## W200 SERIES WEIGHT INDICATOR IN EXPLOSION PROOF BOX

LAUMAS®

**OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS** - *The options refer to the W200 weight indicator*

| | POWER SUPPLY | CODE |
|---|---|---|
| 115/230 VAC | Power supply 115/230 VAC; 50/60 Hz; 6 VA.<br>➔ *Not compatible with fieldbuses.*<br>➔ *Not compatible with EAC certifications.* | B C S 3P 6P 14P<br>• • • • • • |
| | **INTERFACES AND FIELDBUSES** | |
| ANALOG OUTPUT | Optoisolated **analog output** - 16 bit.<br>➔ *One input and one output not available.* | ✶ OPZW1ANALOGICA<br>B C S 3P 6P 14P<br>• • • • • • |
| RS485+ | **Additional RS485** port.<br>➔ *One input and one output not available.* | ✶ OPZW1RS485<br>B C S 3P 6P 14P<br>• • • • • • |
| CANopen | **CANopen** protocol.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1CAW200<br>B C S 3P 6P 14P<br>• • • • • • |
| DeviceNet | **DeviceNet** protocol.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1DEW200<br>B C S 3P 6P 14P<br>• • • • • • |
| PROFIBUS | **Profibus DP** protocol.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1PRW200<br>B C S 3P 6P 14P<br>• • • • • • |
| EtherNet/IP | **Ethernet/IP** protocol - Ethernet port.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1ETIP<br>B C S 3P 6P 14P<br>• • • • • • |
| ETHERNET TCP/IP | **Ethernet TCP/IP** protocol - Ethernet port.<br>Integrated software for remote supervision, management and control of the instrument.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1ETTCP<br>B C S 3P 6P 14P<br>• • • • • • |
| MODBUS/TCP | **Modbus/TCP** protocol - Ethernet port.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1MBTCP<br>B C S 3P 6P 14P<br>• • • • • • |
| PI | **Profinet IO** protocol - Ethernet port.<br>➔ *Not compatible with 115 VAC and 230 VAC.* | ✶ OPZW1PNETIO<br>B C S 3P 6P 14P<br>• • • • • • |

✶ *Select one option among those marked with an asterisk.*



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# ADPEW200

## W200 SERIES WEIGHT INDICATOR IN EXPLOSION PROOF BOX

LAUMAS®

**OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS** - *The options refer to the W200 weight indicator*

| | EXPANSIONS | | CODE |
|---|---|---|---|
|  | External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A. | | RELE5M<br>B C S 3P 6P 14P<br>• • • • – – |
|  | External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS. | 12÷24 VDC<br>115/230 VAC | RELE6PROD24V<br>RELE6PROD230V<br>B C S 3P 6P 14P<br>– – – – • • |
|  | External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS. | | RELE14PROD<br>B C S 3P 6P 14P<br>– – – – – • |
| | **APPLICATIONS - SOFTWARE** | | |
|  | Alibi memory. | | OPZWALIBI<br>B C S 3P 6P 14P<br>• • • • • • |
|  | Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC. | | OPZWDATIPC<br>B C S 3P 6P 14P<br>• • • • • • |
| | **TREATMENT** | | |
|  | Treatment for metallic surfaces by “off-shore” painting for ADPEW200 box. | | OPZOSADPEW200 |

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*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

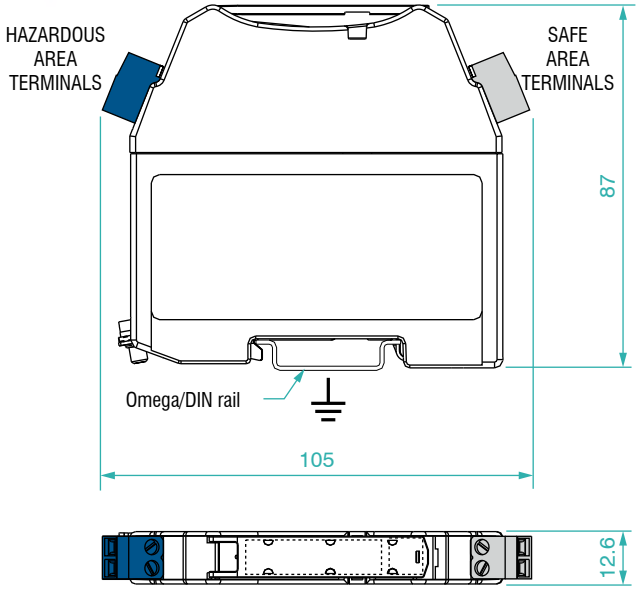
# BARRIERAMTL

## INTRINSIC SAFETY ZENER BARRIERS


### DESCRIPTION

- Zener barriers protect circuits in ATEX Zones. They are safety devices that divert a fault tension to the ground, preventing the formation of sparks or the overheating of devices in hazardous areas.
- Omega/DIN rail mounting.
- Extractable screw terminals.

| ATEX marking | IECEx marking |
|---|---|
| Ex II (1) GD<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>(-20 °C≤Ta≤+60 °C)<br>BAS01ATEX7217 | [Ex ia Ga] IIB<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>(-20 °C≤Ta≤+60 °C)<br>IECEx BAS 04.0025 |

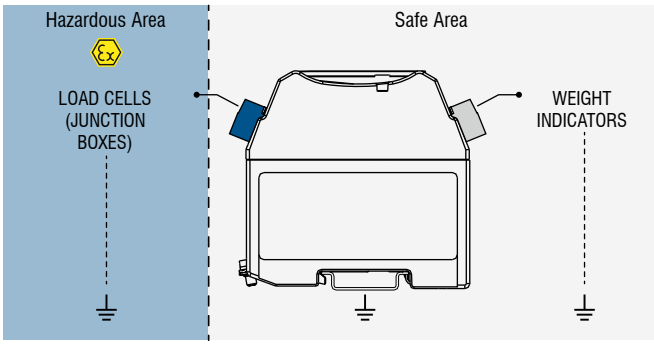



**Intrinsically safety MTL7766Pac passive barrier (power supply):**

- 2 channels, analog signal, strain-gauge bridges.
- -20 °C≤Ta≤+60 °C; Po=0.942 W; Co=1.41 μF; Lo=0.34 mH;
- Each channel: Uo=12 V; Io=157 mA.

**Intrinsically safety MTL7761ac passive barrier (signal):**

- 2 channels, analog signal.
- -20 °C≤Ta≤+60 °C; Po=0.225 W; Co=4.9 μF; Lo=3.72 mH;
- Each channel: Uo=9 V; Io=100 mA.



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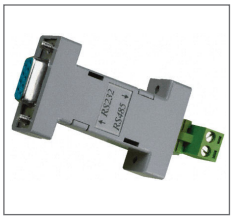
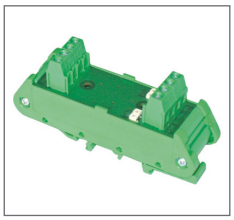
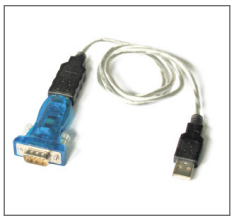
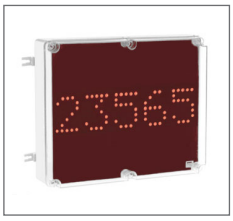
## B5.1 CONVERTERS / WiFi-SERIAL TRANSCEIVERS


| | | | | | |
|---|---|---|---|---|---|
|  | MODWF | 215 |  | CONV232485 | 218 |
|  | CONVLAU | 217 |  | CONVUSB485 | 218 |
|  | CONVUSB | 218 | | | |


## B5.2 REMOTE DISPLAYS


| | | | | | |
|---|---|---|---|---|---|
|  | RIP6100IP65 | 219 |  | RIPLED5100 | 222 |
|  | RIP6100N | 220 |  | RIP550SHA | 223 |
|  | RIPDOSMANHA | 221 |  | HDRIP675Y | 224 |


## B5.3 THERMAL PRINTERS


| | | | | | |
|---|---|---|---|---|---|
|  | STAVTII | 225 |  | STAVP | 226 |

# MODWF

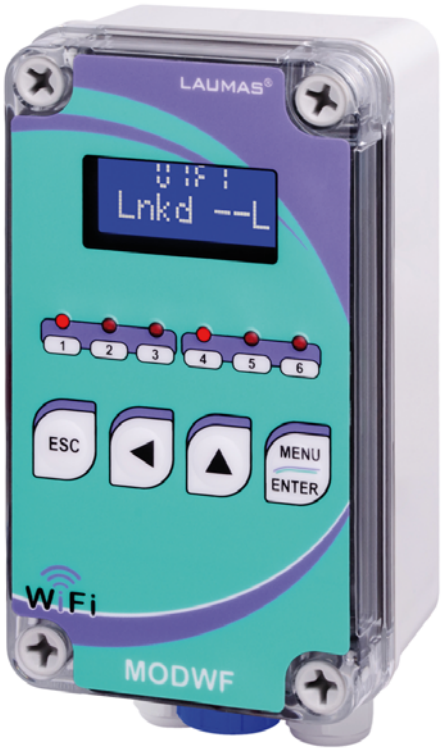
## WiFi / SERIAL TRANSCEIVER

LAUMAS®

IP67 · WiFi · RS485 RS232 · eSAVING · MODBUS RTU

### DESCRIPTION

- WiFi communication interface device between two serial devices.
- Transceiver in IP67 polycarbonate box with 2 M16x1.5 cable glands.
- Dimensions: 80x170x65 mm (four fixing holes Ø4 mm; centre distance: 60x120 mm).
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 6 signalling LED.
- 4-key keyboard.




### INPUTS/OUTPUTS AND COMMUNICATION

- WiFi module for wireless connection with ModBus RTU, ASCII Laumas protocols.
- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.

### MAIN FUNCTIONS

- Connections to:
  - PC via WiFi/virtual Ethernet port;
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - others MODWF devices and W series weight indicators (equipped with OPZW1RADIO optional module) via WiFi.
- WiFi/serial tunnel function.
- Communication with existing WiFi networks.
- Energy saving mode.

### CERTIFICATIONS

EAC Complies with the Eurasian Custom Union standards

UKCA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 2 W |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Wireless | WiFi module (2.4 GHz) with serial protocols in tunnel mode.<br>Radio range up to 100 m line of sight. |
| Humidity (condensate free) | 85% |
| Storage temperature | -30 °C +80 °C |
| Working temperature | -20 °C +60 °C |



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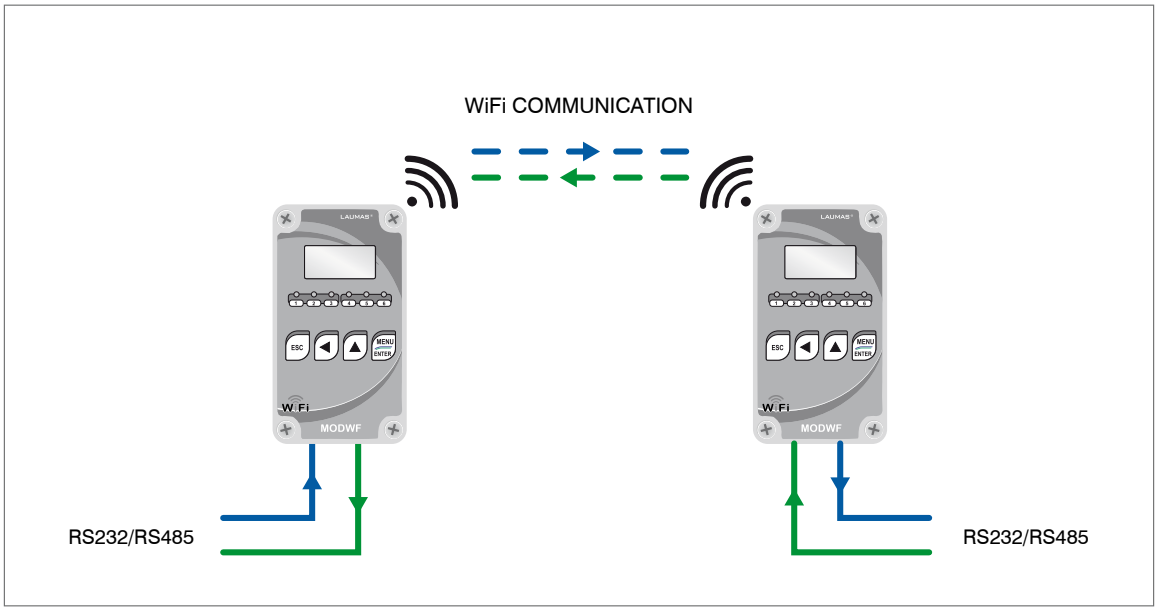
# MODWF

## WiFi / SERIAL TRANSCEIVER




## OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | **Rechargeable external lead battery.**<br>▪ 12 V - 2800 mAh capacity<br>▪ IP67 polycarbonate box 160x80x85 mm with transparent cover (4 fixing holes Ø4 mm; centre distance: 152x122 mm).<br>▪ Battery charger.<br>▪ 26 hours operating time*. | BATEXT |
|  | **Rechargeable internal NiMH battery.**<br>▪ 8 elements - 1.2 V - AA type - 2450 mAh capacity.<br>▪ Supplied already installed in the instrument, with external dedicated switch; overall box dimensions: 190x80x65 mm.<br>▪ 24 hours operating time*. | OPZBATTWF |

** Approx. maximum operating time for typical use with fully charged battery, with 4 load cells (350 ohm) and energy saving mode enabled.*

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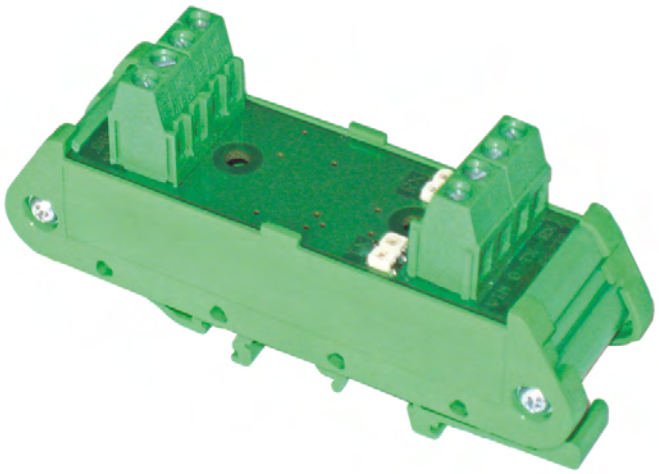
# CONVLAU

## RS485-RS232 CONVERTER



### DESCRIPTION

- The converter connects a RS485 instrument to a PC or PLC equipped with RS232 serial port.
- Automatic receive/transmission selection (RS485 half duplex) or fixed (RS422 full-duplex).
- Back panel mounting on Omega/DIN rail or waterproof junction box.
- 4 LED indicano lo stato attivo di ricezione/trasmissione dati RS232, la presenza dell'alimentazione e la presenza di collegamento RS232.
- 4 LEDs indicate the active RS232 data reception/transmission status, the presence of power supply and the presence of RS232 connection.
- Dimensions : 30x90x50 mm.

### CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 5÷26 VDC ±15%; 0.5W |
| RS232 serial port | |
| Baud rate | 115200 (bit/s) |
| Cable lenght | 15 m |
| RS485 serial port | |
| Baud rate | 115200 (bit/s) |
| Cable lenght | 1200 m / 9600 (bit/s) |
| Complying to standards | EN55022:2010 - EN61000-6-2:2005 - EN6100-6-4:2007 |
| Humidity (condensate free) | 85% |
| Storage temperature | -20°C +60°C |
| Working temperature | -10°C +50°C |



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# CONV
## RS232-RS485-USB CONVERTERS

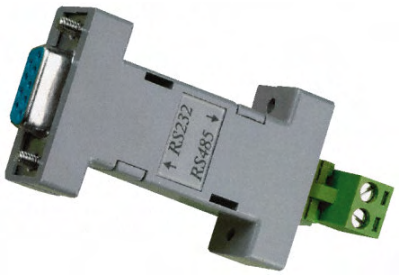
RS232 RS485 USB

### CONVUSB

**USB to RS232 Converter**

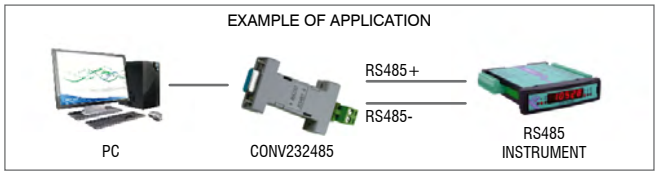
- RS232 additional PC port.
- System requirements: WIN 98 SE - 2000 - XP - Mac OS V8.6 or higher.
- USB 1.1 standard compatible.
- DB9 connector.
- Baud rate: >1 Mbit/s.

### CONV232485




**RS232-RSRS485 Converter**

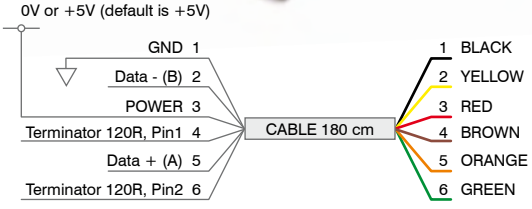
- Connects up to 32 devices with RS485 interface to RS232 port.
- Equipped with RS232 DB9 female connector and 2-pin RS485 extractable terminal board.
- Automatic receive/transmission selection (RS485 half duplex).
- Powered by RS232 port.
- Maximum current: 10 mA.
- Baud rate: 115200 baud.
- Maximum distance: 1200 m.
- Working temperature: -10°C ÷ 45°C.




### CONVUSB485


**USB-RS485 Converte cable**

- Connects devices with RS485 terminal board to a USB port.
- Automatic receive/transmission selection (RS485 half duplex). The host recognizes the CONVUSB485 as an additional virtual serial port (VCP = virtual COM port) via USB drivers downloaded from http://www.ftdichip.com; the drivers are always updated and available for all versions of: Windows, MacOS and Linux. Should you not use a virtual serial port, a DLL library is available to be integrated into your application software.
- 2 LEDs indicate the active reception / transmission status.
- USB 2.0 full speed standard compatible.
- Powered by USB port.
- Maximum current: 250 mA.
- Cable lenght: 180 cm.
- Baud rate: 300 bit/s ÷ 300 Mbit/s.
- Working temperature: -40°C ÷ 85°C.

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# RIP6100IP65

## REMOTE DISPLAY

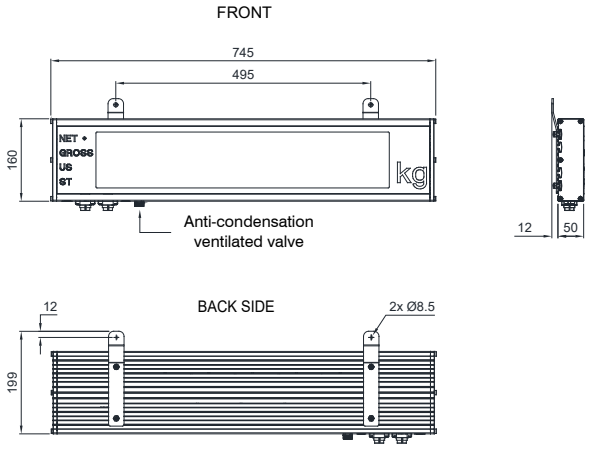
RS485
RS232

IP65


## DESCRIPTION

- Remote display with big digits display for external use, suitable for wall mounting.
- 6-digit semi-alphanumeric red LED display (95 mm height).
- 4 signalling LED.
- Red/green traffic light function.
- Anodized aluminum profile box.
- IP65 protection rating.
- Serial ports for transmission protocol.
- Configuration from PC via RS232 serial port.
- 15 settable addresses.
- Brightness control.
- Anti-condensation ventilated valve to regulate humidity and pressure.
- Connectors, power cable (length: 1.3 m) and brackets for wall mounting included.

## DIEMENSIONS




## TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 110÷240 VAC; <10 VA |
| Serial ports | RS232, RS485 |
| Baud rate | 9600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +60 °C |
| Working temperature | -10 °C +50 °C |

## CERTIFICATIONS

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## OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Sun and rain protection. | RIP6100IP65SHIELD |

Rev. 0.0

# RIP6100N

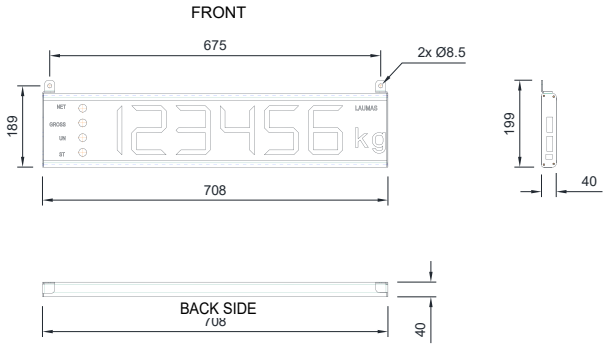
## REMOTE DISPLAY

RS485
RS232


### DESCRIPTION

- Remote display with big digits display, suitable for wall mounting.
- 6-digit semi-alphanumeric red SMD LED display (90 mm height).
- 4 signalling LED.
- Aluminum profile box.
- IP30 protection rating.
- Serial ports for transmission protocol.
- Configuration from PC via RS232 serial port.
- 15 settable addresses.
- Power supply included: 12 VDC/2 A - 100÷240 VAC input cable length: 1.2 m.
- Serial connection cable (length: 5 m) and brackets for wall mounting included.

### DIEMENSIONS




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply | 12 VDC; 1.5 A |
| Serial port | RS232, RS485 |
| Baud rate | 9600 (bit/s) |
| Humidity (condensate free) | 80% |
| Storage temperature | -10 °C +60 °C |
| Working temperature | -10 °C +50 °C |

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# RIPDOSMANHA

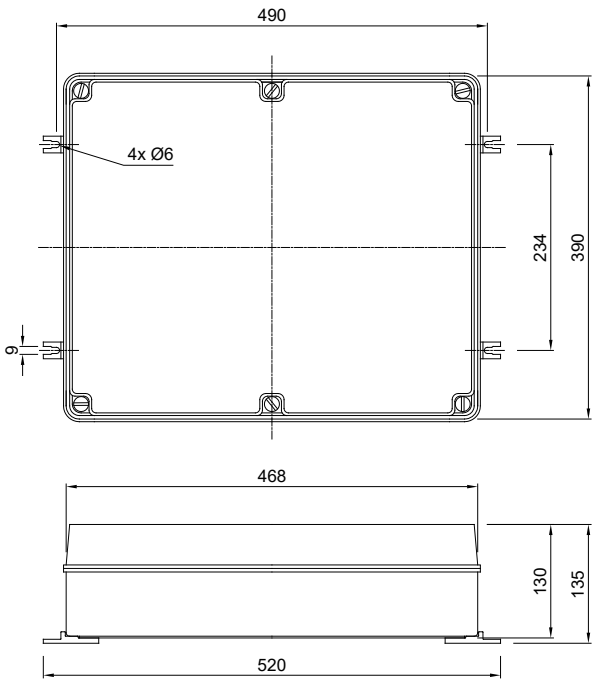
## REMOTE DISPLAY FOR WR SERIES INSTRUMENTS

RS232
RS422


### DESCRIPTION

- Remote display for connection to WR instruments, suitable for wall mounting.
- Semi-alphanumeric red LED display, two-line by 8-digit (57 mm height).
- Plastic box.
- IP56 protection rating.
- Serial ports for transmission protocol.
- Enables the operator to perform a guided manual batching: the first line indicates the formula's number and the gross weight; the second line indicates the product's number and the quantity to be batched, that decreases to zero during the product loading.

### DIEMENSIONS




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC; 30 W |
| Serial ports | RS232, RS422 |
| Baud rate | 1200, 2400, 4800, 9600, 19200, 38400, 57600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C ÷ +50 °C |
| Working temperature | -10 °C ÷ +40 °C |

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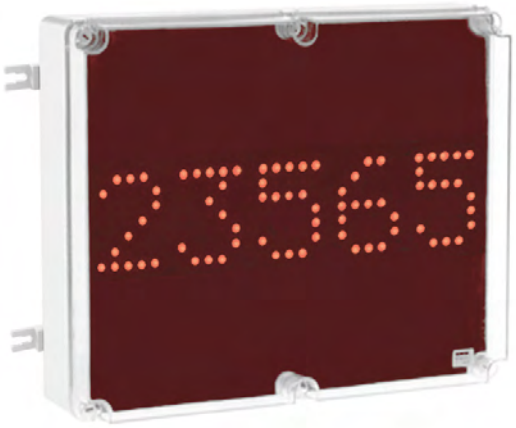
# RIPLED5100

## REMOTE DISPLAY

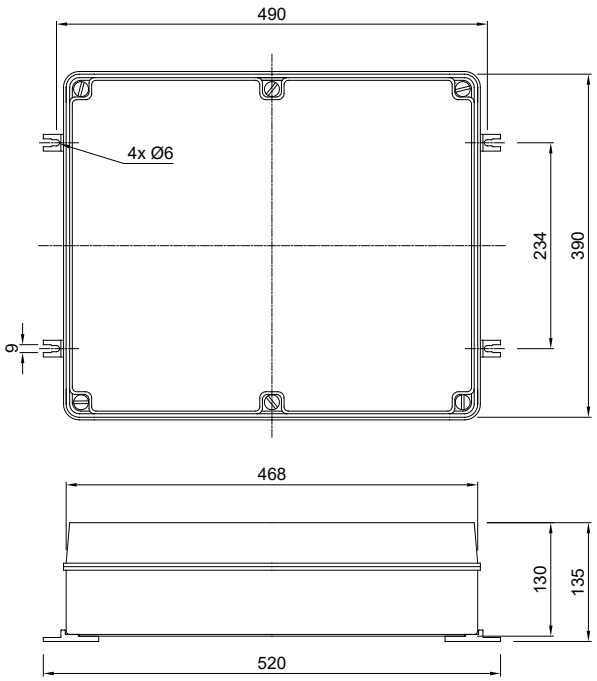
RS232
RS422




### DESCRIPTION

- Remote display with big digits display, suitable for wall mounting.
- Dot-matrix alphanumeric display, 5-digit (100 mm height).
- Plastic box.
- IP56 protection rating.
- Serial ports for transmission protocol.
- Brightness control.

### DIEMENSIONS




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC; 20 W |
| Serial ports | RS232, RS422 |
| Baud rate | 1200, 2400, 4800, 9600, 19200, 38400, 57600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C ÷ +50 °C |
| Working temperature | -10 °C ÷ +40 °C |

### CERTIFICATIONS

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# RIP550SHA

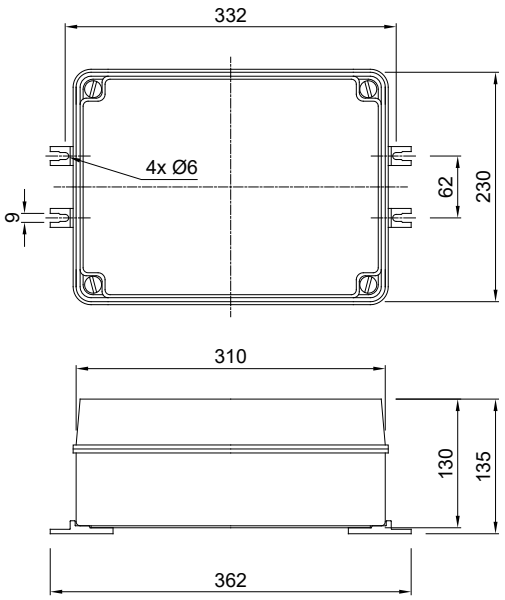
## REMOTE DISPLAY

RS232
RS422


### DESCRIPTION

- Remote display with big digits display, suitable for wall mounting.
- 5-digit semi-alphanumeric red LED display (57 mm height).
- Plastic box.
- IP56 protection rating.
- Serial ports for transmission protocol.

### DIEMENSIONS




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC; 10 W |
| Serial ports | RS232, RS422 |
| Baud rate | 1200, 2400, 4800, 9600, 19200, 38400, 57600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -20 °C +50 °C |
| Working temperature | -10 °C +40 °C |

### CERTIFICATIONS

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# HDRIP675Y

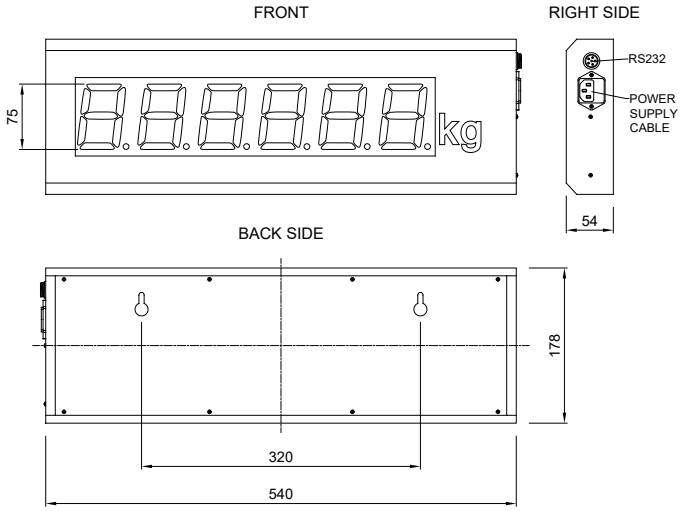
## REMOTE DISPLAY FOR WETOIML/WEIOIML SERIES INSTRUMENTS

RS232


### DESCRIPTION

- Remote display for connection to instruments WEIOIML and WETOIML.
- 6-digit semi-alphanumeric red LED display (75 mm height).
- Painted sheet metal box.
- IP40 protection rating.
- Serial port for transmission protocol.
- 230 VAC power cable (length: 1.5 m) and RS232 serial connection cable (length: 10 m) included.

### DIEMENSIONS




### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 230 VAC; 25 VA |
| Serial ports | RS232 |
| Baud rate | 9600 (bit/s) |
| Humidity (condensate free) | 85% |
| Storage temperature | -10 °C +50 °C |
| Working temperature | 0 °C +40 °C |

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# STAVT-II

## POS THERMAL PRINTER

RS232


## DESCRIPTION

- POS thermal printer, 32 column.
- RS232 serial port.
- Clock/calendar.
- Paper end sensor.
- Barcode printing in CODE39 format.
- The printer can store an image to use for customizing receipts (software included).
- Scope of delivery: printer, RS232 cable, programming cable, 110/240 VCA power supply, CD-ROM.

## TECHNICAL FEATURES

| | |
|---|---|
| Power supply | 7.5 VDC; 2 A |
| Dimensions | 122x93x150 mm |
| Resolution | 8 dots/mm - 384 dots/line |
| Paper width | 57 ±0.5 mm |
| Paper roll diameter | max 60 mm |
| Serial ports | RS232 |
| Net weight | 400 g |
| Gross weight | 950 g |
| Operating humidity | 10% - 80% |
| Working temperature | 0 °C +50 °C |
| Storage temperature | -20 °C +60 °C |

## OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
| | Thermal paper roll for weight/price/amount scales. | CARTAFISC |
| | Thermal adhesive paper roll. | CARTAFISCADEN |

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# STAVP
## THERMAL PANEL PRINTER

RS232


CODE

| |
|---|
| STAVPRS232 |
| STAVPTTL |

## DESCRIPTION

- Thermal panel printer, 32 column.
- RS232 serial port.
- TTL port.
- Paper end sensor.
- Barcode printing in CODE39 format.
- The printer can store an image to use for customizing receipts (software included).
- Scope of delivery: printer, mounting brackets, connecting cable, programming cable, power cable, 115/230 VCA power supply, CD-ROM.

## TECHNICAL FEATURES

| | |
|---|---|
| Power supply | 5÷8.5 VDC; 3 A |
| Dimensions | 111x64x68 mm |
| Drilling template | 103x57 mm |
| Resolution | 8 dots/mm - 384 dots/line |
| Paper width | 57 ±0.5 mm |
| Paper roll diameter | max 40 mm |
| Serial ports | RS232, TTL |
| Net weight | 300 g |
| Gross weight | 400 g |
| Operating humidity | 20% - 80% |
| Working temperature | 0 °C +50 °C |
| Storage temperature | -20 °C +70 °C |

## OPTIONS ON REQUEST

| | DESCRIPTION | CODE |
|---|---|---|
|  | Stabilized power supply<br>24 VDC/5 VDC, 5 A - 19÷36 VDC, 1.6 A input | ALI24V5VDC5A |
|  | Thermal paper roll. | CARTASTAVP |
|  | Adhesive thermal paper roll. | CARTAFISCADEN |

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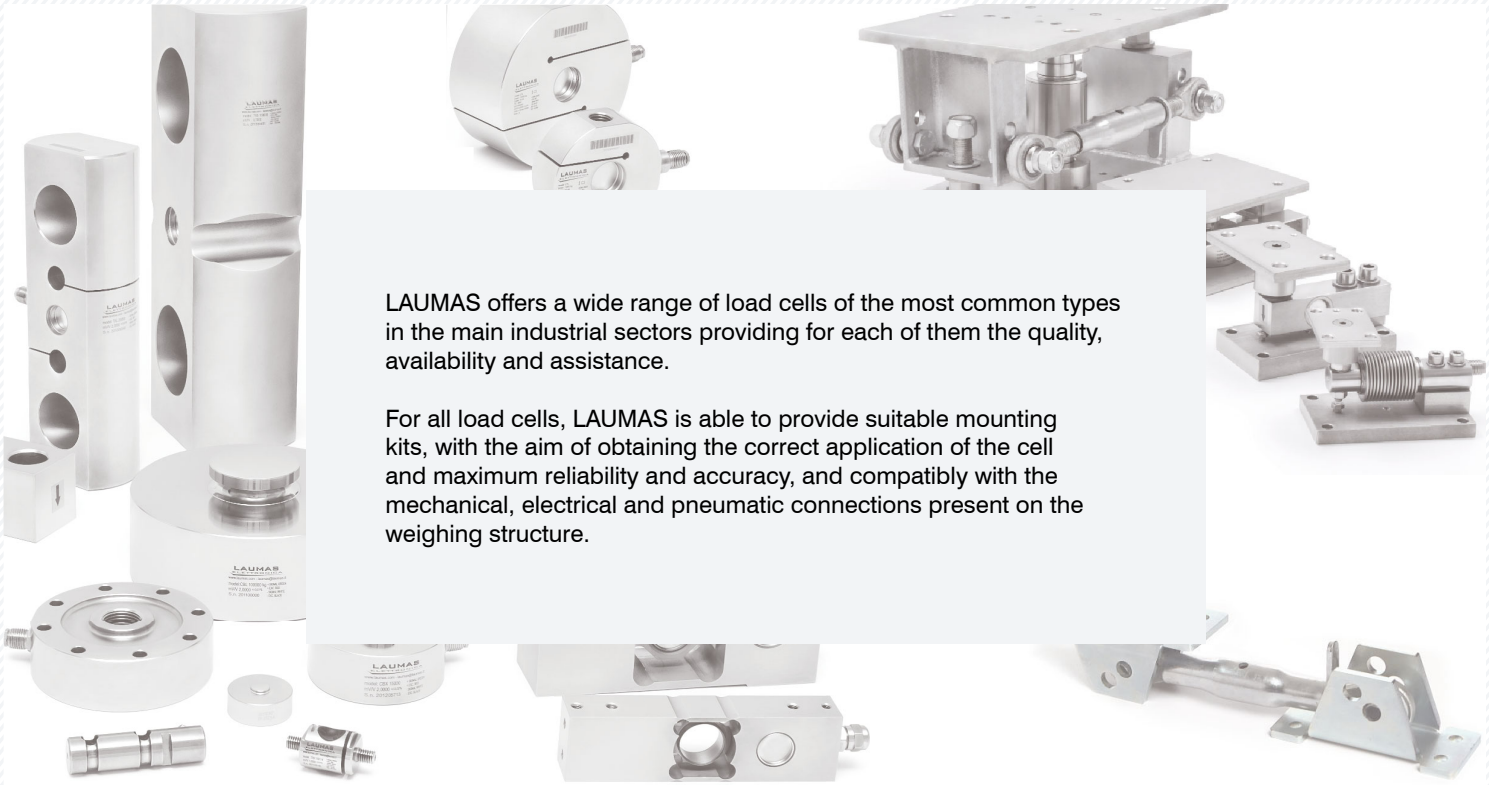
# LOAD CELLS AND MOUNTING KITS



LAUMAS offers a wide range of load cells of the most common types in the main industrial sectors providing for each of them the quality, availability and assistance.

For all load cells, LAUMAS is able to provide suitable mounting kits, with the aim of obtaining the correct application of the cell and maximum reliability and accuracy, and compatibly with the mechanical, electrical and pneumatic connections present on the weighing structure.

# JUNCTION BOXES


IP67 IP68

AISI 304 stainless steel or ABS junction boxes, including equalization boards or parallel connection boards, to connect from 1 to 4 or from 5 to 8 load cells.

Lightning and electrical shock protection device.

ATEX certified versions:
II 1G Ex ia IIC T4 -20 °C ≤ Tamb +60 °C
II 1D Ex ta IIIC T85°C -20 °C ≤ Tamb +60 °C

Hygienic version: hygienic device RPSCQC authorized by 3-A SSI.

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