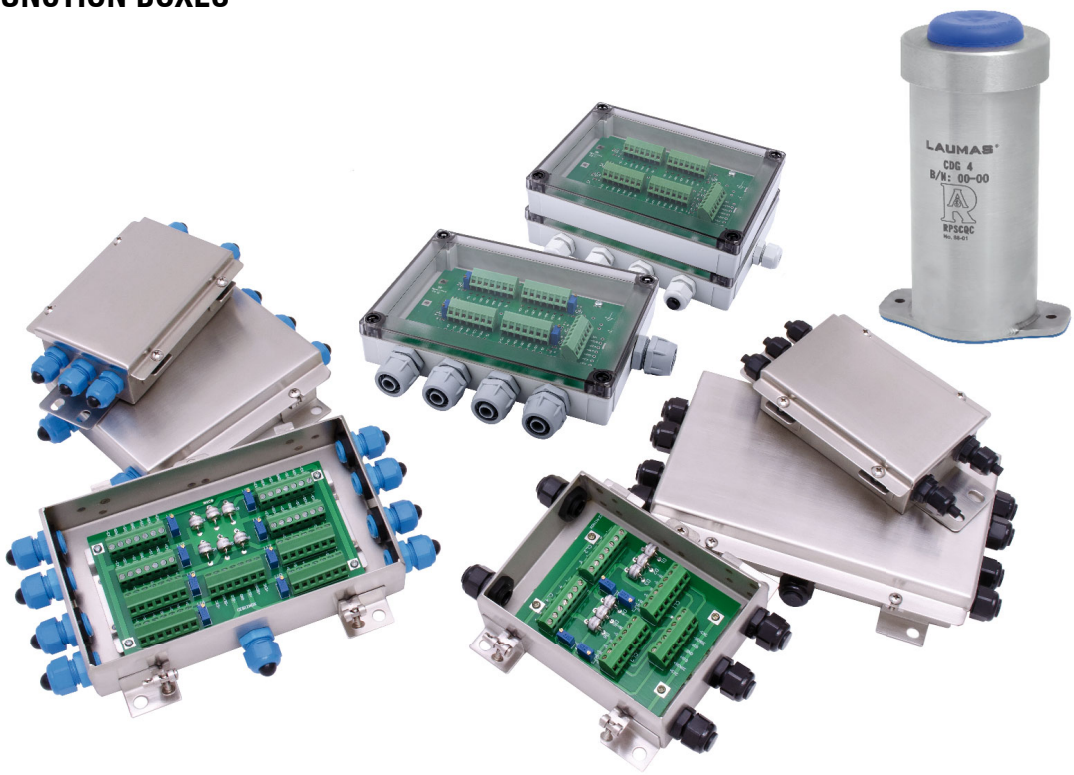
LAUMAS®
Innovation in Weighing

PRODUCTS CATALOG

D1 JUNCTION BOXES



D2 ACCESSORIES AND WIRINGS

JUNCTION BOXES

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. Hygienic junction boxes. Versions with lightning and electrical shock protection device.
Approved versions: ATEX, IECEx, EAC Ex.

ACCESSORIES AND WIRINGS

The accessories complete the offer of Laumas devices and components for industrial weighing systems: high-efficiency power supplies, load cells signal simulators, cables and PVC sheaths, standard weights.

CERTIFICATIONS

European Conformity Mark (CE)

UKCA CERTIFICATION (UK Conformity Assessed) for the United Kingdom

EAC CERTIFICATION

OIML APPROVAL

ATEX CERTIFICATION
IECEx CERTIFICATION

3-A SANITARY STANDARDS

EAC Ex CERTIFICATION

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).

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PRODUCTS CATALOG

LAUMAS®

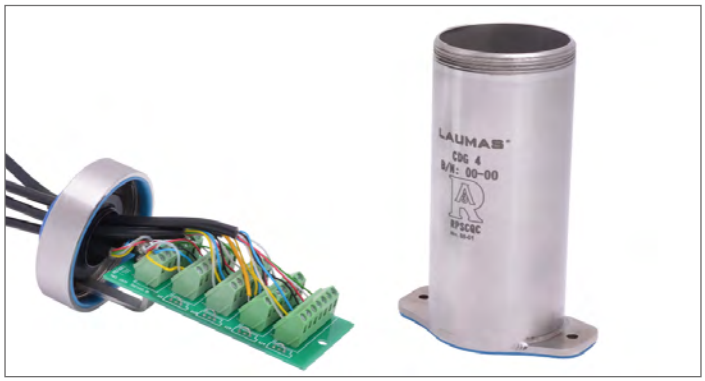
Notes

PRODUCTS CATALOG

CDG 3A

HYGIENIC JUNCTION BOXES

IP68



DESCRIPTION	CODE
Equalization board	CDG4EQ3A
Parallel connection board	CDG43A

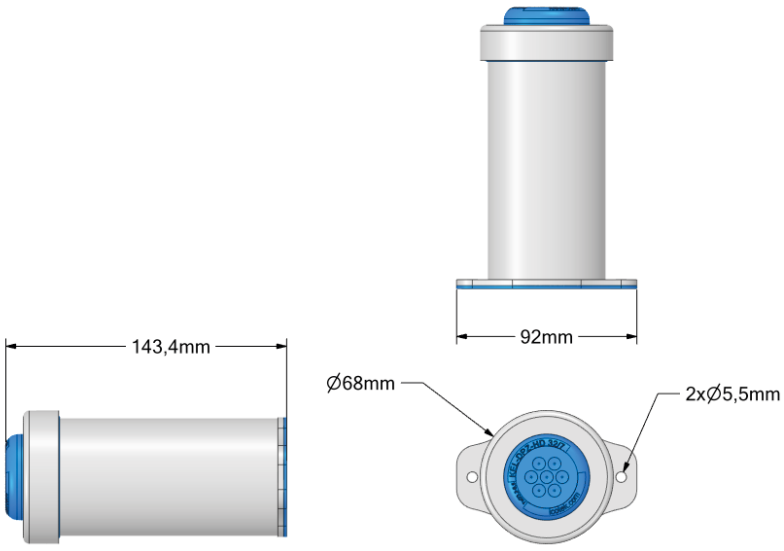
- Hygienic junction box in AISI 304 stainless steel.
- Cylindrical design to facilitate sanitization.
- IP68 protection rating.
- Blue hygienic cable gland for passage up to 7 cables.
- Hygienic device RPSCQC authorized by 3-A SSI.
- Working temperature: -20 °C +60 °C.
- Up to 4 load cells connection (4/6 wires).
- Two hygienic M5 screws with seal (included in the supply).

CERTIFICATIONS

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

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

DIMENSIONS (mm)

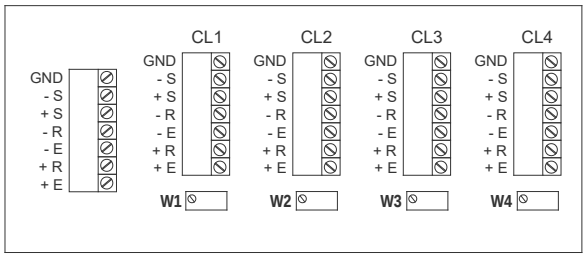


Rev. 0.0

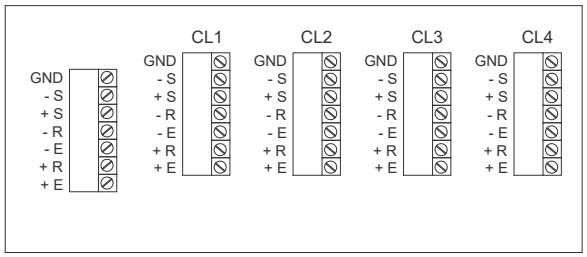
CDG 3A
HYGIENIC JUNCTION BOXES

ELECTRICAL CONNECTIONS

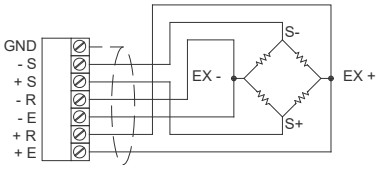
CDG4EQ3A



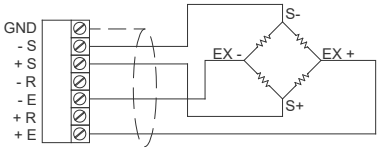
CDG43A



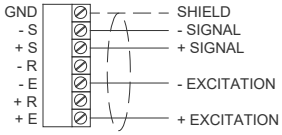
6-WIRES LOAD CELLS CONNECTION



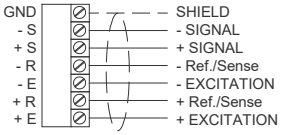
4-WIRES LOAD CELLS CONNECTION



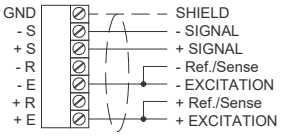
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



EQUALIZATION PROCEDURE (CDG4EQ3A)

WARNING!

- For load cells with 2 mV/V sensitivity the difference between the sensitivities must not be greater than 0.1 mV.
  For load cells with 3 mV/V sensitivity the difference between the sensitivities must not be greater than 0.15 mV.
- CDG4EQ3A: the board is equipped with a 20 Ω potentiometer for each load cell.

Example with 4 load cells and a sample weight of 978 kg:

1. Turn the potentiometers'screw counterclockwise until to 0 Ω.
2. Place the sample weight in correspondence with the CL1 load cell and take note of the value shown on the display; repeat the same operation for all load cells.
   Example: CL1 = 1008 kg CL2 = 998 kg
   CL3 = 973 kg CL4 = 985 kg
3. Adjust the potentiometers related to the higher weight values (W1, W2, W4), leaving the lowest one unchanged (W3).
4. Place the sample weight in correspondence with the CL1 load cell; by adjusting the potentiometer W1 change the value shown on the display from 1008 kg to 973 kg.
5. Place the sample weight in correspondence with the CL2 load cell; by adjusting the potentiometer W2 change the value shown on the display from 998 kg to 973 kg.
6. Place the sample weight in correspondence with the CL4 load cell; by adjusting the potentiometer W3 change the value shown on the display from 985 kg to 973 kg.
7. Place the sample weight in correspondence with the CL3 load cell and take note of the value shown on the display, for example 966 kg.
8. Place the sample weight in correspondence with the CL1 and adjust the potentiometer W1 until 966 kg is displayed.
9. Place the sample weight in correspondence with the CL2 and adjust the potentiometer W2 until 966 kg is displayed.
10. Place the sample weight in correspondence with the CL4 and adjust the potentiometer W4 until 966 kg is displayed.
11. Place the sample weight in correspondence with the CL3 and take note of the value shown on the display, for example 962 kg.
12. Repeat the procedure several times until the display shows the same weight value for all four load cells.
13. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

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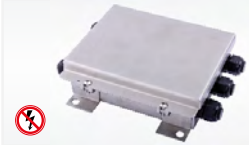
ISO 9001
ISO 14001

JUNCTION BOXES

AISI 304 STAINLESS STEEL

- AISI 304 STAINLESS STEEL JUNCTION BOX
- IP67 PROTECTION RATING
- WORKING TEMPERATURE: -20 °C +60 °C
- 4/6 WIRES LOAD CELLS CONNECTION

	DESCRIPTION	CODE
	EQUALIZATION BOARD	
	▪ Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M16x1.5 - plugs. ▪ Lightning and electrical shock protection device.	CE41INOX
	▪ Up to 8 load cells connection. ▪ 8+1 polyamid cable glands M16x1.5 - plugs. ▪ Lightning and electrical shock protection device.	CE81INOX
	▪ Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M12x1.5 - plugs.	CE41INOXP
	PARALLEL CONNECTION BOARD	
	▪ Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M12x1.5 - plugs.	C41INOXP

CERTIFICATIONS

EAC Complies with the Eurasian Customs Union standards

UKCA Equivalent of the CE marking for the United Kingdom

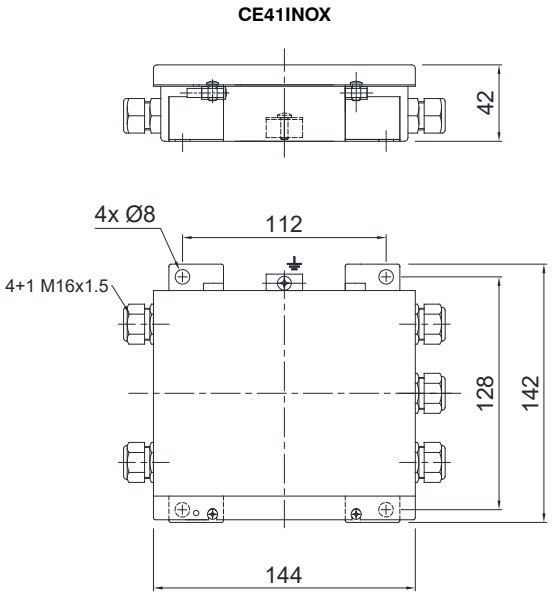
Rev. 0.0

JUNCTION BOXES

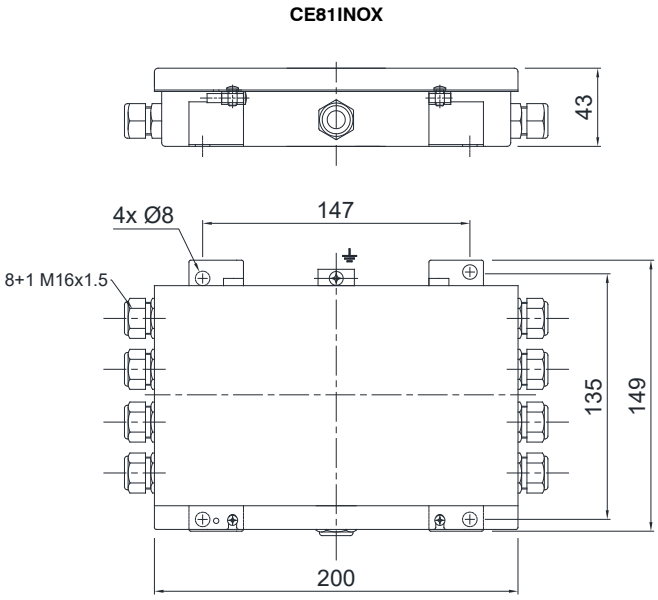
AISI 304 STAINLESS STEEL

DIMENSIONS (mm)

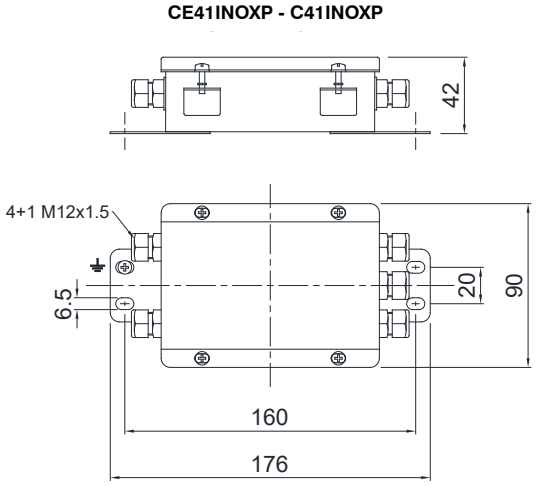
CE41INOX



CE81INOX



CE41INOXP - C41INOXP



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ISO 9001
ISO 14001

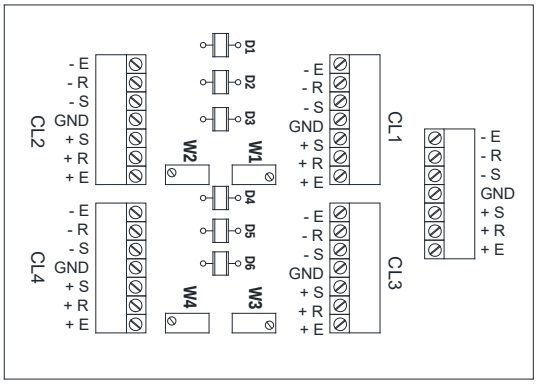
JUNCTION BOXES

AISI 304 STAINLESS STEEL

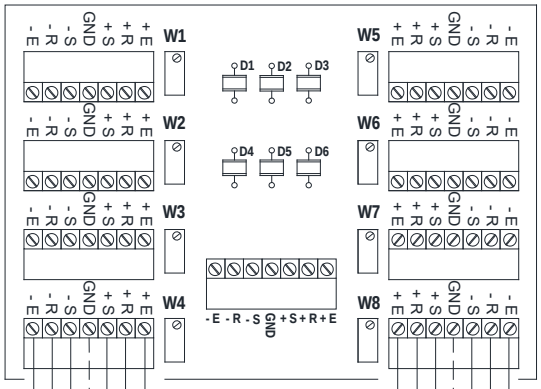
LAUMAS®

ELECTRICAL CONNECTIONS

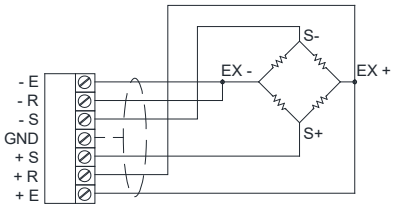
CE41INOX



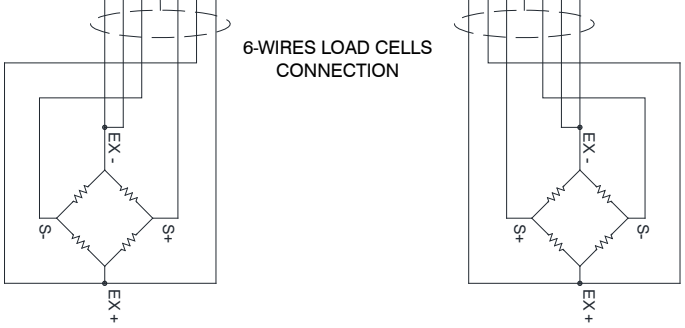
CE81INOX



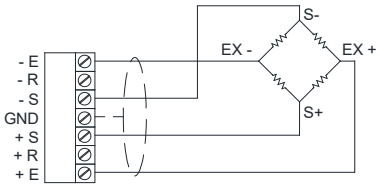
6-WIRES LOAD CELLS CONNECTION



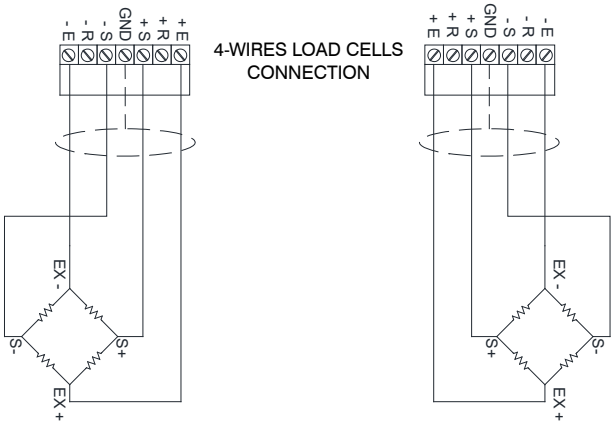
6-WIRES LOAD CELLS CONNECTION



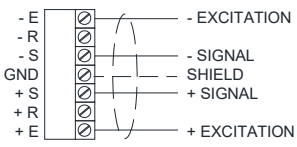
4-WIRES LOAD CELLS CONNECTION



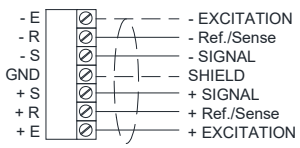
4-WIRES LOAD CELLS CONNECTION



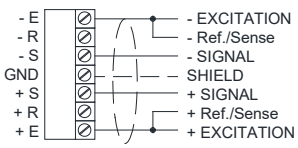
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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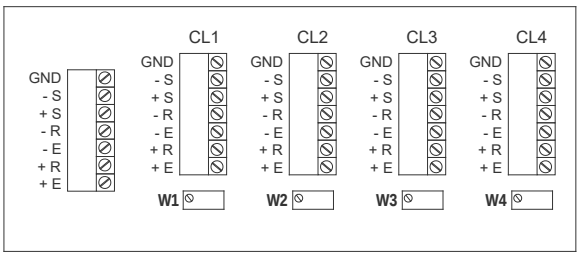
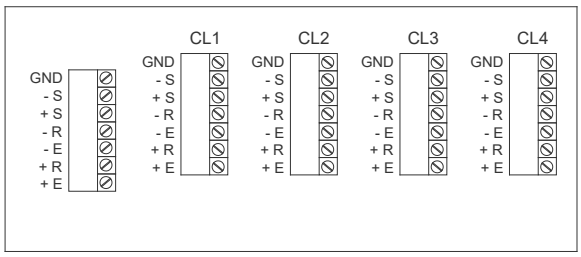
ISO 9001
ISO 14001

ELECTRICAL CONNECTIONS

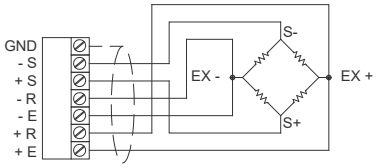
CE41INOXP



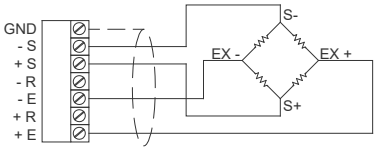
C41INOXP



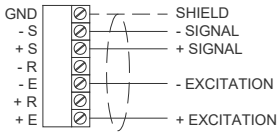
6-WIRES LOAD CELLS CONNECTION



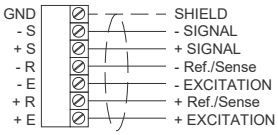
4-WIRES LOAD CELLS CONNECTION



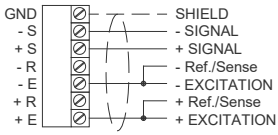
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



EQUALIZATION PROCEDURE

WARNING!

- For load cells with 2 mV/V sensitivity the difference between the sensitivities must not be greater than 0.1 mV.
  For load cells with 3 mV/V sensitivity the difference between the sensitivities must not be greater than 0.15 mV.
- CE41ATEX - CE81ATEX: the board is equipped with a 50 Ω potentiometer for each load cell.
  CE41INOXP: the board is equipped with a 20 Ω potentiometer for each load cell.

Example with 4 load cells and a sample weight of 978 kg:

1. Turn the potentiometers'screw counterclockwise until to 0 Ω.
2. Place the sample weight in correspondence with the CL1 load cell and take note of the value shown on the display; repeat the same operation for all load cells.
   Example: CL1 = 1008 kg CL2 = 998 kg
   CL3 = 973 kg CL4 = 985 kg
3. Adjust the potentiometers related to the higher weight values (W1, W2, W4), leaving the lowest one unchanged (W3).
4. Place the sample weight in correspondence with the CL1 load cell; by adjusting the potentiometer W1 change the value shown on the display from 1008 kg to 973 kg.
5. Place the sample weight in correspondence with the CL2 load cell; by adjusting the potentiometer W2 change the value shown on the display from 998 kg to 973 kg.
6. Place the sample weight in correspondence with the CL4 load cell; by adjusting the potentiometer W3 change the value shown on the display from 985 kg to 973 kg.
7. Place the sample weight in correspondence with the CL3 load cell and take note of the value shown on the display, for example 966 kg.
8. Place the sample weight in correspondence with the CL1 and adjust the potentiometer W1 until 966 kg is displayed.
9. Place the sample weight in correspondence with the CL2 and adjust the potentiometer W2 until 966 kg is displayed.
10. Place the sample weight in correspondence with the CL4 and adjust the potentiometer W3 until 966 kg is displayed.
11. Place the sample weight in correspondence with the CL3 and take note of the value shown on the display, for example 962 kg.
12. Repeat the procedure several times until the display shows the same weight value for all four load cells.
13. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

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

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ATEX/IECEx JUNCTION BOXES

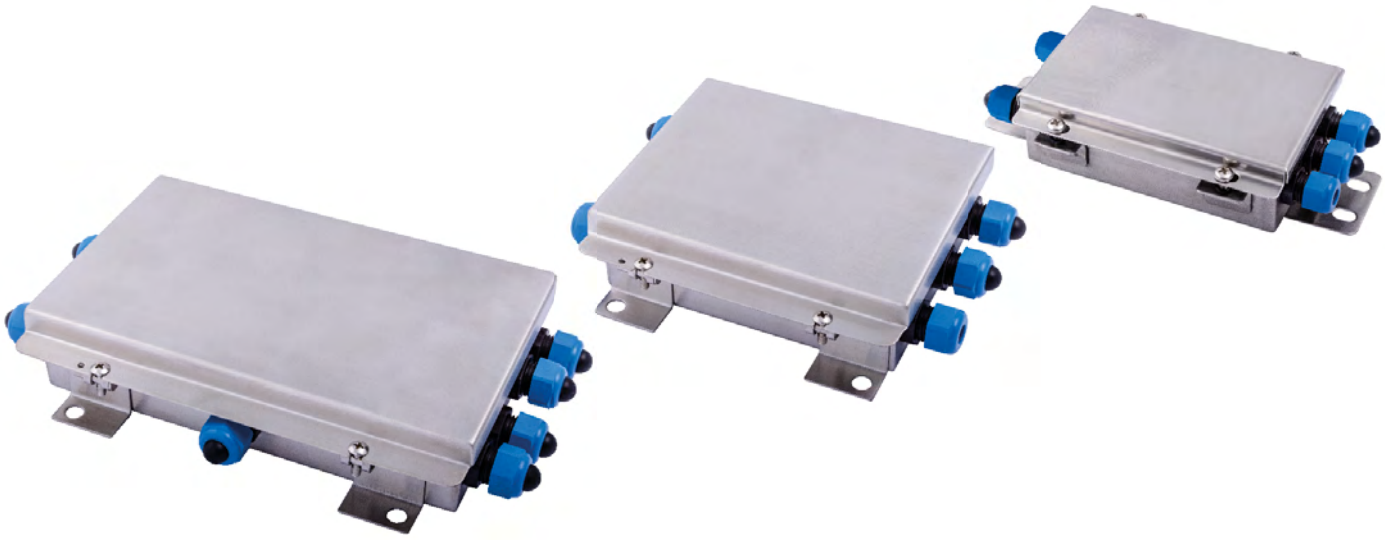
AISI 304 STAINLESS STEEL

LAUMAS®

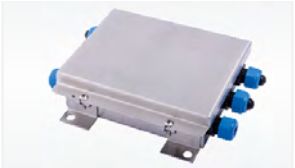
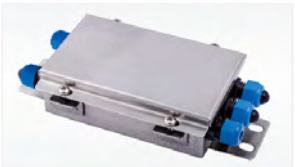
II 1G Ex ia IIC T4
II 1D Ex ta IIIC T85°C

-20 °C ≤ Tamb +60 °C
-20 °C ≤ Tamb +60 °C

IP67



- AISI 304 STAINLESS STEEL JUNCTION BOX
- IP67 PROTECTION RATING
- 4/6 WIRES LOAD CELLS CONNECTION

	DESCRIPTION	CODE
	EQUALIZATION BOARD	
	▪ Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M16x1.5 - plugs.	CE41ATEX
	▪ Up to 8 load cells connection. ▪ 8+1 polyamid cable glands M16x1.5 - plugs.	CE81ATEX
	▪ Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M12x1.5 - plugs.	CE41PATEX

CERTIFICATIONS

ATEX *(zone 0-1-2-20-21-22)* (CE - UKCA)

Complies with the Eurasian Customs Union standards

Equivalent of the CE marking for the United Kingdom

	CERTIFICATIONS ON REQUEST
IECEx	IECEx *(zone 0-1-2-20-21-22)*
EAC Ex	Complies with the Eurasian Customs Union standards for use in potentially explosive atmospheres

Rev. 0.0

ATEX/IECEx JUNCTION BOXES

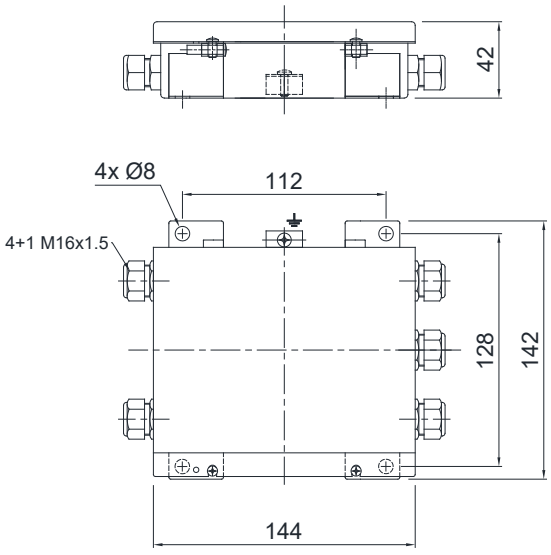
AISI 304 STAINLESS STEEL

INSTALLATION AND MAINTENANCE

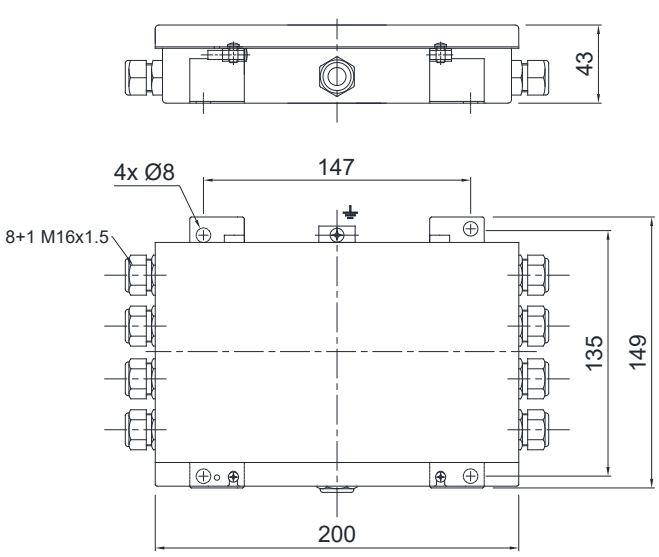
- Connect the junction boxes to the earthing system.
- Use appropriate section cables in accordance with the technical standard EN60079-14:2014.
- For junction boxes installed in dangerous areas use ATEX Ex ia certified barriers placed in a safe area.
- Periodically wipe the junction boxes surface with a damp cloth to prevent dust buildup.
- Replace the cable gland membrane if it is damaged to prevent gas or dust entering the junction box.

DIMENSIONS (mm)

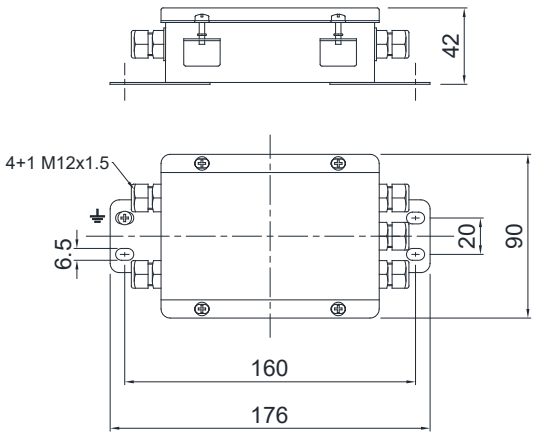
CE41ATEX



CE81ATEX



CE41PATEX



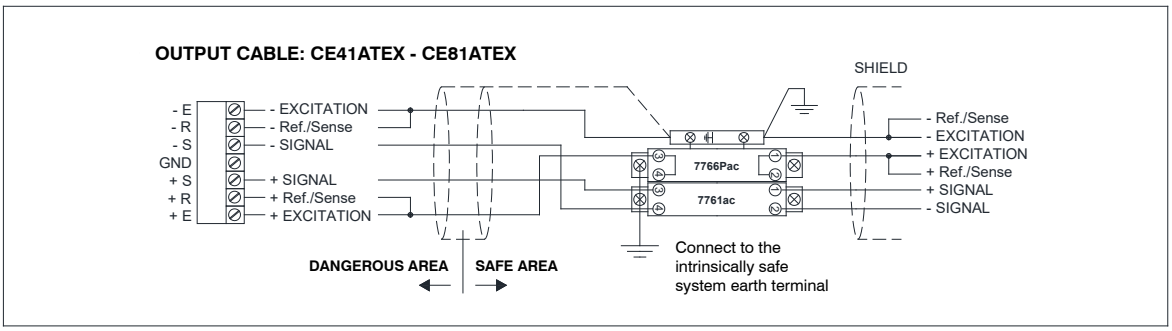
Rev. 0.0

ATEX/IECEx JUNCTION BOXES

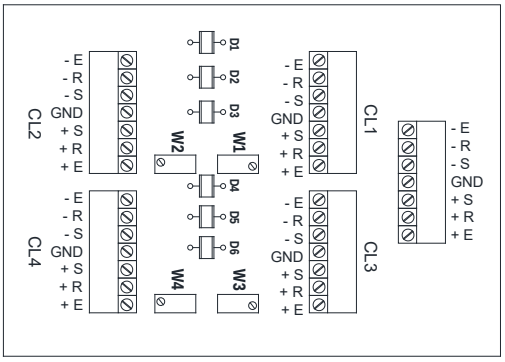
AISI 304 STAINLESS STEEL

LAUMAS®

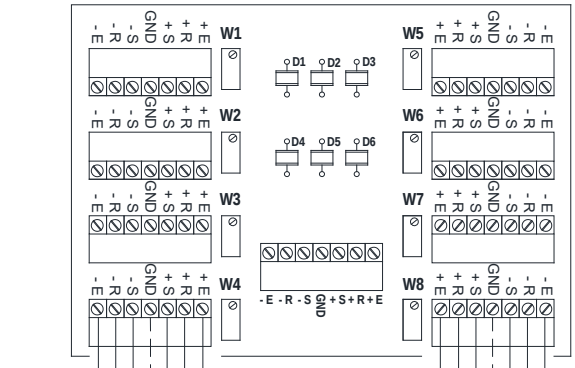
ELECTRICAL CONNECTIONS



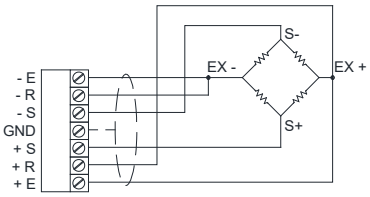
CE41ATEX



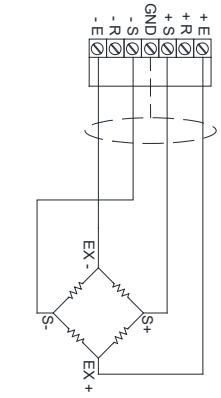
CE81ATEX



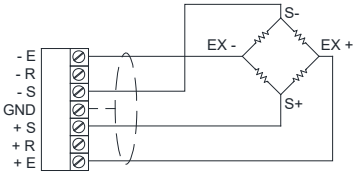
6-WIRE LOAD CELLS CONNECTION



6-WIRE LOAD CELLS CONNECTION

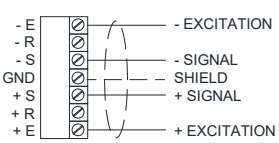


4-WIRE LOAD CELLS CONNECTION

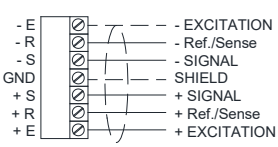


4-WIRE LOAD CELLS CONNECTION

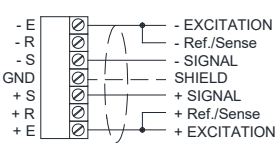
4-WIRE OUTPUT CABLE
WITH 4-WIRE LOAD CELL



6-WIRE OUTPUT CABLE
WITH 6-WIRE LOAD CELL



6-WIRE OUTPUT CABLE
WITH 4-WIRE LOAD CELL



Rev. 0.0

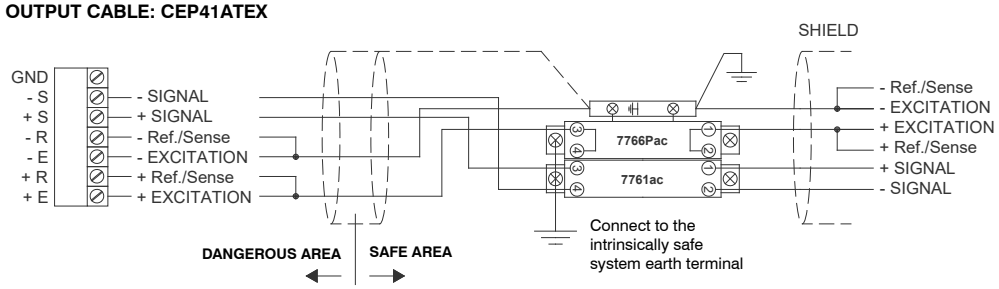
ATEX/IECEx JUNCTION BOXES

AISI 304 STAINLESS STEEL

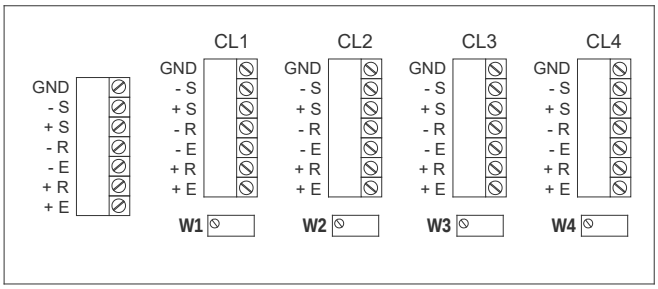
LAUMAS®

ELECTRICAL CONNECTIONS

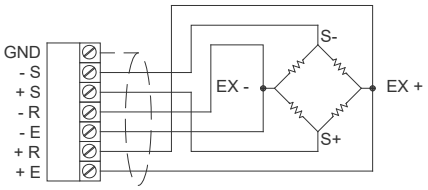
OUTPUT CABLE: CEP41ATEX



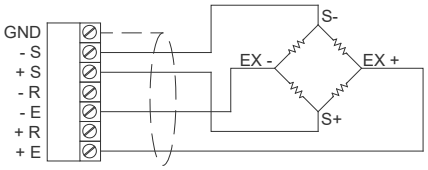
CE41PATEX



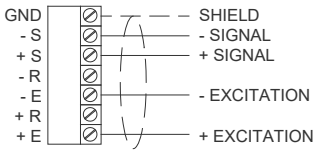
6-WIRE LOAD CELLS CONNECTION



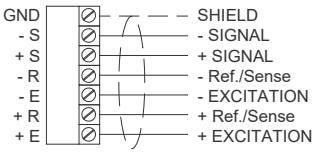
4-WIRE LOAD CELLS CONNECTION



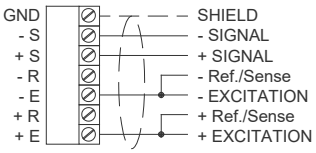
4-WIRE OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRE OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRE OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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ISO 9001
ISO 14001

EQUALIZATION PROCEDURE

WARNING!

- For load cells with 2 mV/V sensitivity the difference between the sensitivities must not be greater than 0.1 mV.
  For load cells with 3 mV/V sensitivity the difference between the sensitivities must not be greater than 0.15 mV.
- CE41ATEX - CE81ATEX: the board is equipped with a 50 Ω potentiometer for each load cell.
  C41INOXP: the board is equipped with a 20 Ω potentiometer for each load cell.

Example with 4 load cells and a sample weight of 978 kg:

1. Turn the potentiometers'screw counterclockwise until to 0 Ω.
2. Place the sample weight in correspondence with the CL1 load cell and take note of the value shown on the display; repeat the same operation for all load cells.
   Example: CL1 = 1008 kg CL2 = 998 kg
   CL3 = 973 kg CL4 = 985 kg
3. Adjust the potentiometers related to the higher weight values (W1, W2, W4), leaving the lowest one unchanged (W3).
4. Place the sample weight in correspondence with the CL1 load cell; by adjusting the potentiometer W1 change the value shown on the display from 1008 kg to 973 kg.
5. Place the sample weight in correspondence with the CL2 load cell; by adjusting the potentiometer W2 change the value shown on the display from 998 kg to 973 kg.
6. Place the sample weight in correspondence with the CL4 load cell; by adjusting the potentiometer W3 change the value shown on the display from 985 kg to 973 kg.
7. Place the sample weight in correspondence with the CL3 load cell and take note of the value shown on the display, for example 966 kg.
8. Place the sample weight in correspondence with the CL1 and adjust the potentiometer W1 until 966 kg is displayed.
9. Place the sample weight in correspondence with the CL2 and adjust the potentiometer W2 until 966 kg is displayed.
10. Place the sample weight in correspondence with the CL4 and adjust the potentiometer W3 until 966 kg is displayed.
11. Place the sample weight in correspondence with the CL3 and take note of the value shown on the display, for example 962 kg.
12. Repeat the procedure several times until the display shows the same weight value for all four load cells.
13. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

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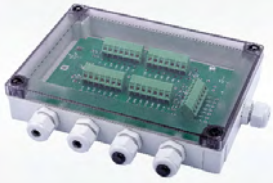
JUNCTION BOXES

ABS

- ABS JUNCTION BOX
- IP67 PROTECTION RATING
- WORKING TEMPERATURE: -20 °C +60 °C
- 4/6 WIRES LOAD CELLS CONNECTION

	DESCRIPTION	CODE
	EQUALIZATION BOARD	
	Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M16x1.5 - plugs. ▪ 4+1 PVC end-fittings for sheath.	CE41N CE41NR
	Up to 8 load cells connection. Lightning and electrical shock protection device. ▪ 8+2 polyamid cable glands M16x1.5 - plugs. ▪ 8+2 PVC end-fittings for sheath.	CE81PN CE81PNR
	PARALLEL CONNECTION BOARD	
	Up to 4 load cells connection.	CIP67N
	Up to 4 load cells connection. ▪ 4+1 polyamid cable glands M16x1.5 - plugs. ▪ 4+1 PVC end-fittings for sheath.	C41N C41NR

CERTIFICATIONS

EAC Complies with the Eurasian Customs Union standards

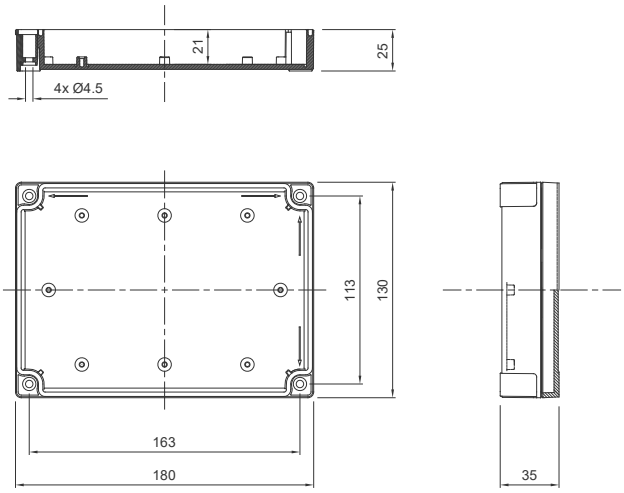
UKCA Equivalent of the CE marking for the United Kingdom

Rev. 0.0

JUNCTION BOXES

ABS

DIMENSIONS (mm)

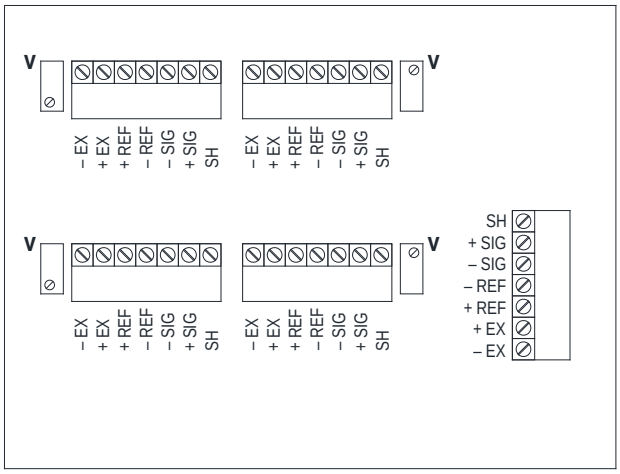


ELECTRICAL CONNECTIONS

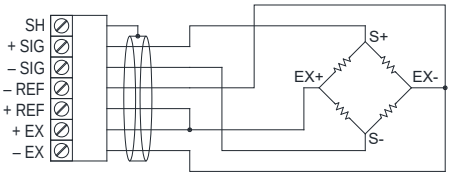
TO CONNECT TO THE INSTRUMENT USE:

- 4-wire connection: shielded cable 4x0.5 mm² (minimum section).
- 6-wire connection: shielded cable 6x0.2 mm² (minimum section).

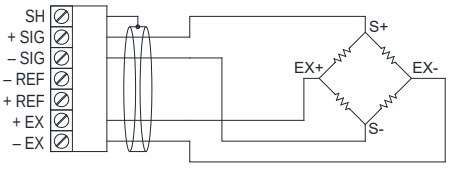
CE41N - CE41NR



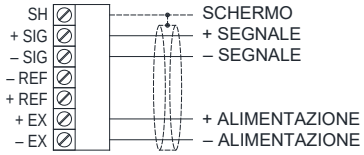
6-WIRES LOAD CELLS CONNECTION



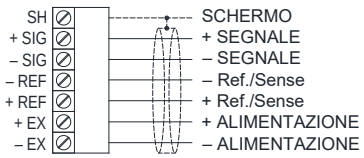
4-WIRES LOAD CELLS CONNECTION



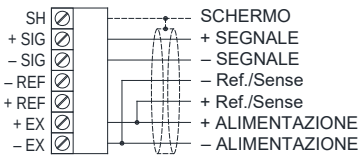
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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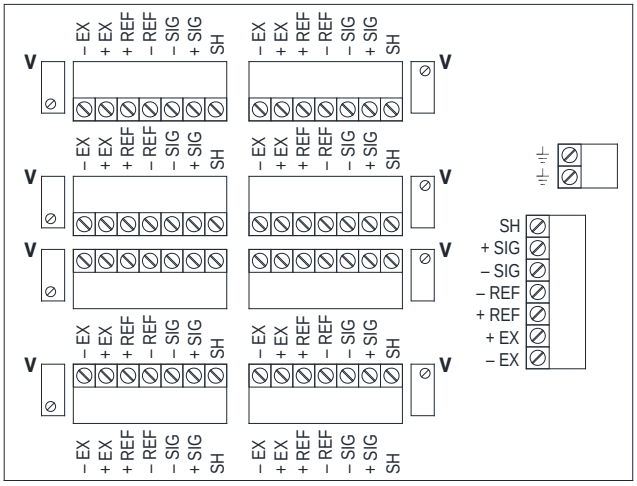
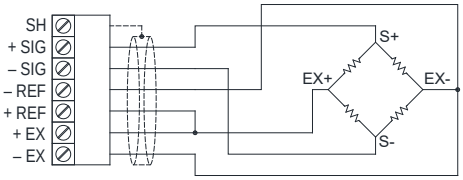
ISO 9001
ISO 14001

ELECTRICAL CONNECTIONS

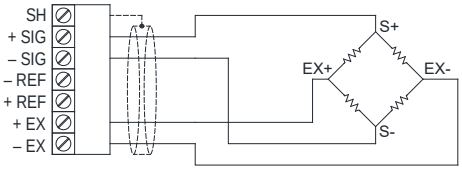
CE81PN - CE81PNR



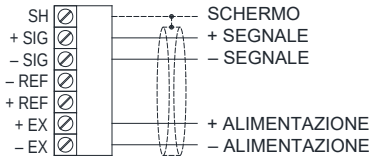
6-WIRES LOAD CELLS CONNECTION



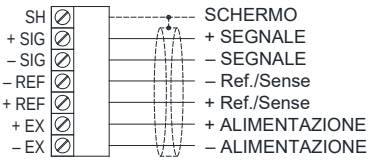
4-WIRES LOAD CELLS CONNECTION



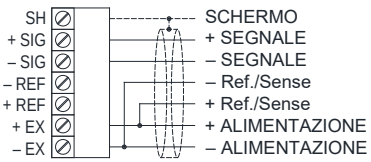
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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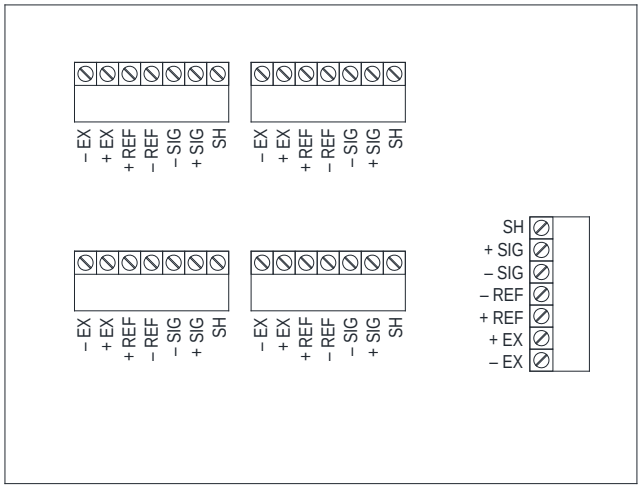
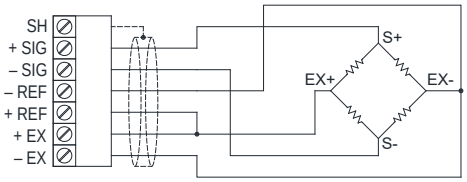
ELECTRICAL CONNECTIONS

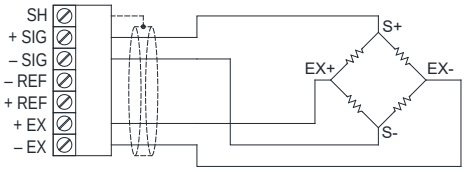
CIP67N - C41N - C41NR



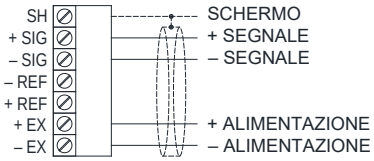
6-WIRES LOAD CELLS CONNECTION



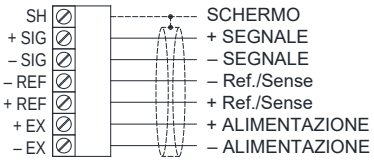
4-WIRES LOAD CELLS CONNECTION



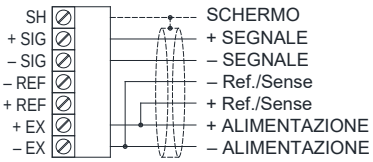
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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EQUALIZATION PROCEDURE

WARNING!

- For load cells with 2 mV/V sensitivity the difference between the sensitivities must not be greater than 0.1 mV.
  For load cells with 3 mV/V sensitivity the difference between the sensitivities must not be greater than 0.15 mV.
- The board is equipped with a 50 Ω potentiometer for each load cell.

PROCEDURE WITH TESTER (mV and VDC scale):

Example with 4 load cells and a sample weight of 978 kg:

1. Check that the voltage value measured on the test points V is 0 mV; if necessary adjust the potentiometers until the correct value is obtained.
2. Place the sample weight in correspondence with each load cell, noting the weight indicated on the display each time.
   Example: 1008 kg, 998 kg, 973 kg and 985 kg.
3. Measure the supply voltage between +EX and –EX terminals. Example: 4.87 VDC.
4. Adjust the potentiometers related to the higher weight values, leaving the lowest one unchanged; the mV value to be measured on the respective test points is given by the following formula:
   [(load cell value to be adjusted - lowest load cell value) ÷ lowest load cell value] x supply voltage value x 1000
   [(1008 - 973) ÷ 973] x 4.87 x 1000 = 175 mV
   [(998 - 973) ÷ 973] x 4.87 x 1000 = 125 mV
   [(985 - 973) ÷ 973] x 4.87 x 1000 = 60 mV
5. Adjust the potentiometers of the three load cells until the following values are obtained respectively:
   175 mV, 125 mV, 60 mV
6. Place the sample weight in correspondence of each load cell, the display must now show the same value for all of them.
7. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

PROCEDURE WITHOUT TESTER:

Example with 4 load cells and a sample weight of 978 kg:

1. Turn the potentiometers'screw counterclockwise until to 0 Ω.
2. Place the sample weight in correspondence with the CL1 load cell and take note of the value shown on the display; repeat the same operation for all load cells.
   Example: CL1 = 1008 kg CL2 = 998 kg
   CL3 = 973 kg CL4 = 985 kg
3. Adjust the potentiometers related to the higher weight values (W1, W2, W4), leaving the lowest one unchanged (W3).
4. Place the sample weight in correspondence with the CL1 load cell; by adjusting the potentiometer W1 change the value shown on the display from 1008 kg to 973 kg.
5. Place the sample weight in correspondence with the CL2 load cell; by adjusting the potentiometer W2 change the value shown on the display from 998 kg to 973 kg.
6. Place the sample weight in correspondence with the CL4 load cell; by adjusting the potentiometer W3 change the value shown on the display from 985 kg to 973 kg.
7. Place the sample weight in correspondence with the CL3 load cell and take note of the value shown on the display, for example 966 kg.
8. Place the sample weight in correspondence with the CL1 and adjust the potentiometer W1 until 966 kg is displayed.
9. Place the sample weight in correspondence with the CL2 and adjust the potentiometer W2 until 966 kg is displayed.
10. Place the sample weight in correspondence with the CL4 and adjust the potentiometer W3 until 966 kg is displayed.
11. Place the sample weight in correspondence with the CL3 and take note of the value shown on the display, for example 962 kg.
12. Repeat the procedure several times until the display shows the same weight value for all four load cells.
13. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

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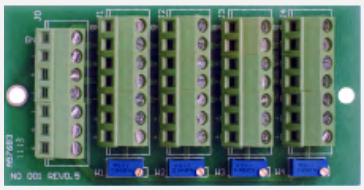
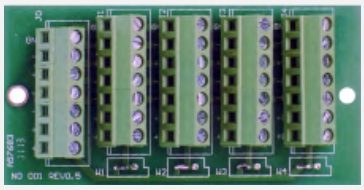
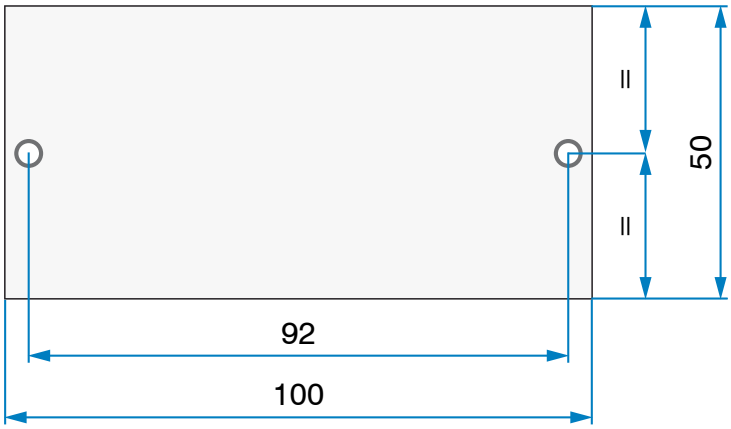
HL6EQSN - HL6N

LOAD CELLS CONNECTION BOARDS

	DESCRIPTION	CODE
	EQUALIZATION BOARD	
	▪ Up to 4 load cells connection (4/6 wires). ▪ Working temperature: -20 °C +60 °C.	HL6EQSN
	PARALLEL CONNECTION BOARD	
	▪ Up to 4 load cells connection (4/6 wires). ▪ Working temperature: -20 °C +60 °C.	HL6N

DIMENSIONS (mm)



CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

Rev. 0.0

HL6EQSN - HL6N

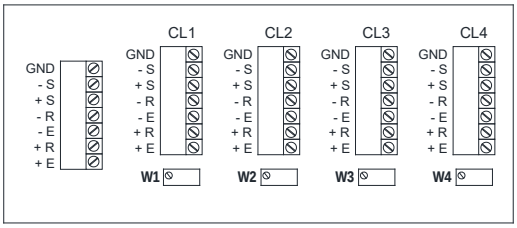
LOAD CELLS CONNECTION BOARDS

ELECTRICAL CONNECTIONS

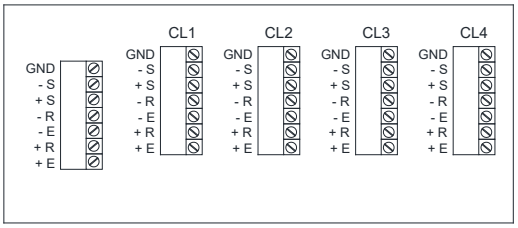
TO CONNECT TO THE INSTRUMENT USE:

- **HL6EQSN:**
  - 4-wire connection: shielded cable 4x0.5 mm² (minimum section).
  - 6-wire connection: shielded cable 6x0.2 mm² (minimum section).
- **HL6N:**
  - 4-wire connection: shielded cable 4x1 mm² (minimum section).
  - 6-wire connection: shielded cable 6x0.2 mm² (minimum section).

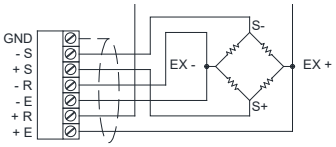
HL6EQSN



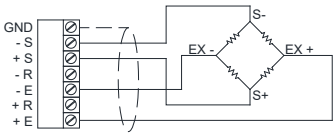
HL6N



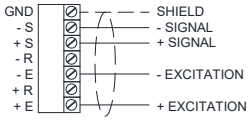
6-WIRES LOAD CELLS CONNECTION



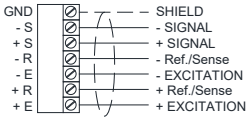
4-WIRES LOAD CELLS CONNECTION



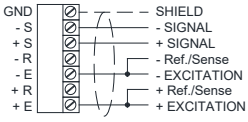
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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HL6EQSN - HL6N

LOAD CELLS CONNECTION BOARDS

LAUMAS®

EQUALIZATION PROCEDURE

WARNING!

- For load cells with 2 mV/V sensitivity the difference between the sensitivities must not be greater than 0.1 mV.
- For load cells with 3 mV/V sensitivity the difference between the sensitivities must not be greater than 0.15 mV.
- The board is equipped with a 20 Ω potentiometer for each load cell.

PROCEDURE WITH TESTER (mV and VDC scale):

Example with 4 load cells and a sample weight of 978 kg:

1. Check that the voltage value measured on the test points V is 0 mV; if necessary adjust the potentiometers until the correct value is obtained.
2. Place the sample weight in correspondence with each load cell, noting the weight indicated on the display each time.
   Example: 1008 kg, 998 kg, 973 kg and 985 kg.
3. Measure the supply voltage between +EX and –EX terminals. Example: 4.87 VDC.
4. Adjust the potentiometers related to the higher weight values, leaving the lowest one unchanged; the mV value to be measured on the respective test points is given by the following formula:
   [(load cell value to be adjusted - lowest load cell value) ÷ lowest load cell value] x supply voltage value x 1000
   [(1008 - 973) ÷ 973] x 4.87 x 1000 = 175 mV
   [(998 - 973) ÷ 973] x 4.87 x 1000 = 125 mV
   [(985 - 973) ÷ 973] x 4.87 x 1000 = 60 mV
5. Adjust the potentiometers of the three load cells until the following values are obtained respectively:
   175 mV, 125 mV, 60 mV
6. Place the sample weight in correspondence of each load cell, the display must now show the same value for all of them.
7. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

PROCEDURE WITHOUT TESTER:

Example with 4 load cells and a sample weight of 978 kg:

1. Turn the potentiometers'screw counterclockwise until to 0 Ω.
2. Place the sample weight in correspondence with the CL1 load cell and take note of the value shown on the display; repeat the same operation for all load cells.
   Example: CL1 = 1008 kg CL2 = 998 kg
   CL3 = 973 kg CL4 = 985 kg
3. Adjust the potentiometers related to the higher weight values (W1, W2, W4), leaving the lowest one unchanged (W3).
4. Place the sample weight in correspondence with the CL1 load cell; by adjusting the potentiometer W1 change the value shown on the display from 1008 kg to 973 kg.
5. Place the sample weight in correspondence with the CL2 load cell; by adjusting the potentiometer W2 change the value shown on the display from 998 kg to 973 kg.
6. Place the sample weight in correspondence with the CL4 load cell; by adjusting the potentiometer W3 change the value shown on the display from 985 kg to 973 kg.
7. Place the sample weight in correspondence with the CL3 load cell and take note of the value shown on the display, for example 966 kg.
8. Place the sample weight in correspondence with the CL1 and adjust the potentiometer W1 until 966 kg is displayed.
9. Place the sample weight in correspondence with the CL2 and adjust the potentiometer W2 until 966 kg is displayed.
10. Place the sample weight in correspondence with the CL4 and adjust the potentiometer W3 until 966 kg is displayed.
11. Place the sample weight in correspondence with the CL3 and take note of the value shown on the display, for example 962 kg.
12. Repeat the procedure several times until the display shows the same weight value for all four load cells.
13. Remove the sample weight and zero the tare, then place the sample weight in the middle and calibrate the instrument (see the instrument's user manual).

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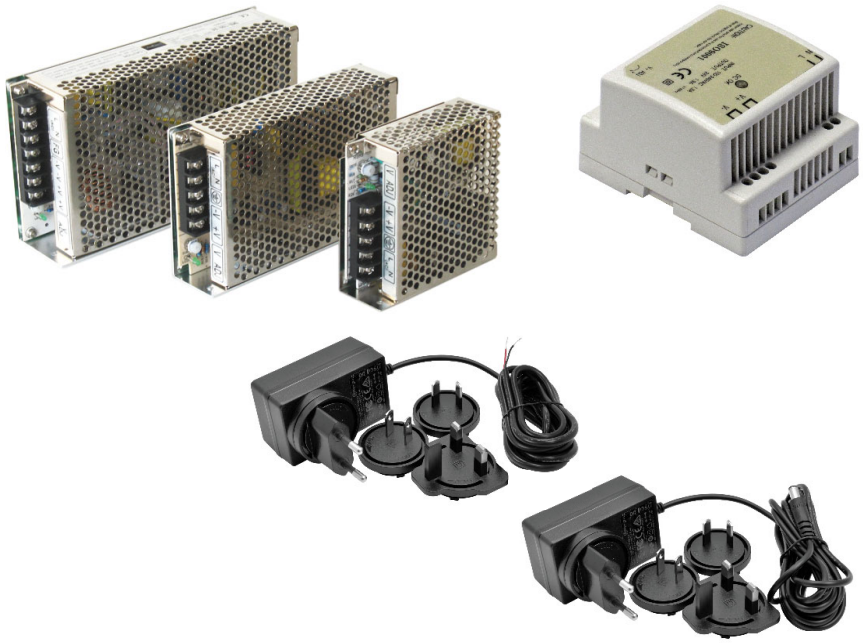
Notes

PRODUCTS CATALOG

ALI

SINGLE OUTPUT SWITCHING POWER SUPPLIES



- High efficiency stabilized power supplies
- Protection against short circuits
- Protection against overloads
- Cooling by free air convection
- Plate mounting: holes ø3,5 mm and M3
  ALI5/24DIN: Omega/DIN rail mounting

OUTPUT VOLTAGE	5 VDC ±2% 5 A	12 VDC ±1% 1.3 A	24 VDC ±1% 2.1 A	24 VDC ±1% 6.5 A
INPUT VOLTAGE (*selectable)	85÷264 VAC 47÷63 Hz	85÷132 VAC* 170÷264 VAC* 47÷63 Hz	85÷132 VAC* 170÷264 VAC* 47÷63 Hz	88÷132 VAC* 176÷264 VAC* 47÷63 Hz
OUTPUT POWER	25 W	15.6 W	50.4 W	156 W
DC ADJUSTMENT RANGE	-5% +10%	-10% +10%	-10% +10%	-12% +16%
WORKING TEMPERATURE HUMIDITY (RH)	-10 °C +60 °C 20% +90%	-10 °C +60 °C 20% +90%	-10 °C +60 °C 20% +90%	-10 °C +60 °C 20% +90%
STORAGE TEMPERATURE HUMIDITY (RH)	-20 °C +85 °C 10% +95%	-20 °C +85 °C 10% +95%	-20 °C +85 °C 10% +95%	-20 °C +85 °C 10% +95%
FIXED SWITCHING FREQUENCY	37 Hz	37 Hz	27 Hz	25 Hz
DIMENSIONS	100x97x38 mm	100x97x38 mm	160x97x38 mm	200x110x50 mm
WEIGHT	390 g	310 g	510 g	800 g
CODE	ALIM5P190	ALI12STAB	ALI24STAB	ALI24STAB6A

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ALI

SINGLE OUTPUT SWITCHING POWER SUPPLIES

	5 VDC ±2% 5.4 A	24 VDC ±2% 2 A	24 VDC ±5% 1 A
OUTPUT VOLTAGE			
INPUT VOLTAGE (*selectable)	85÷264 VAC 47÷63 Hz	85÷264 VAC 47÷63 Hz	100÷240 VAC 47÷63 Hz
OUTPUT POWER	25 W	48 W	24 W
DC ADJUSTMENT RANGE	-5% +10%	-6% +10%	-
WORKING TEMPERATURE HUMIDITY (RH)	-10 °C +60 °C 20% +90%	-10 °C +60 °C 20% +90%	0 °C +40 °C 10% +90%
STORAGE TEMPERATURE HUMIDITY (RH)	-20 °C +85 °C 10% +95%	-20 °C +85 °C 10% +95%	-20 °C +60 °C 10% +90%
FIXED SWITCHING FREQUENCY	37 Hz	37 Hz	-
DIMENSIONS	93x78x67 mm	93x78x67 mm	72x43x37 mm
WEIGHT	310 g	310 g	150 g
CODE	ALI5DIN5A	ALI24DIN2A	ALI24SPINA1AUN ALI24SPINA1AJACKUN

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ADPEALIM

INDUSTRIAL POWER SUPPLY IN EXPLOSION PROOF BOX

IP66

DESCRIPTION

The system is composed by:

- Industrial power supply ALI24DIN2A, single output voltage, suitable for Omega/DIN rail mounting.
- ADPE explosion proof box (ATEX/IECEx):

ATEX marking	IECEx marking
Ex II 2 GD Ex d IIB+H2 T6 Gb Ex tb IIIC T85°C Db IP6 (-20 °C≤Ta≤+40 °C) INERIS 14 ATEX 0008X	Ex d IIB+H2 T6 Gb Ex tb IIIC T85°C Db IP66 (-20 °C≤Ta≤+40 °C) IECEx INE 13.0065X

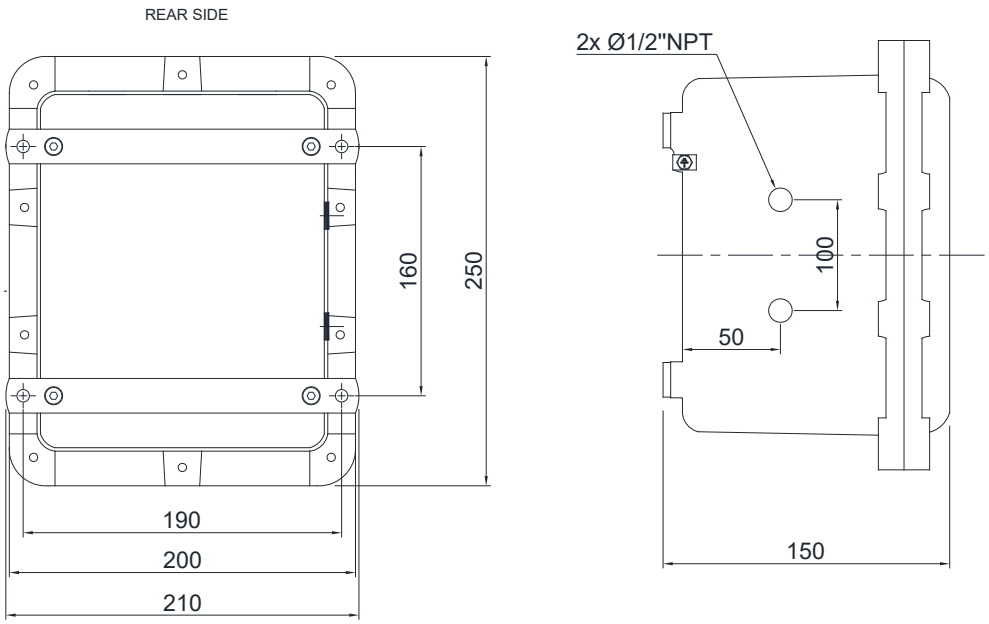
TECHNICAL FEATURES

Input voltage	85 ÷ 264 VAC; 47 ÷ 63 Hz
Output voltage	24 VDC ±2%; 2 A
Output power	48 W
Output adjustment range	-6% ÷ +10%
Working temperature	-10 °C ÷ +40 °C
Storage temperature	-20 °C ÷ +85 °C
Humidity (RH)	20% ÷ 90%
Storage humidity (RH)	10% ÷ 95%
Fixed switching frequency	100 kHz
Weight	7150 g
Protection class	IP66

CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

DIMENSIONS (mm)



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Rev. 0.0

SIMN
LOAD CELL SIMULATOR

DESCRIPTION

- Analog simulator of 6-wire load cell signal.
- Load cell resistance selector.
- Output value: 0÷3 mV/V.

MAIN FUNCTIONS

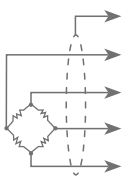
- Enables weighing instruments to be calibrated by means of a multimeter with scale in mV VDC.

CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

ELECTRICAL CONNECTIONS

Cable lenght	35 cm
Cable diameter	6.5 mm
Cores	6 x 0.2 mm²

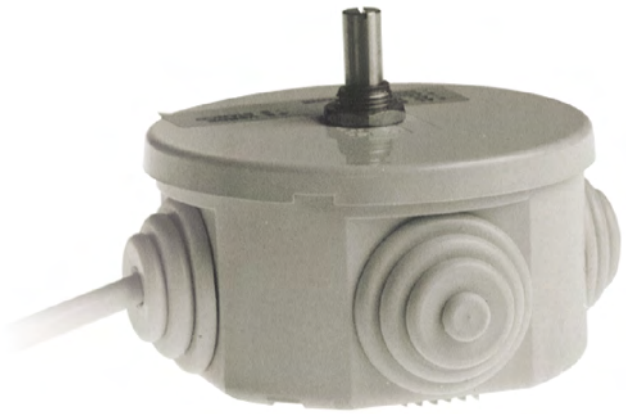


SHIELD	
+ SIGNAL	GREEN
+ EXCITATION + REF./SENSE	RED BLUE
- SIGNAL	WHITE
- EXCITATION - REF./SENSE	BLACK YELLOW

Rev. 0.0

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

SIM
LOAD CELL SIMULATOR



DESCRIPTION

- Analog simulator of 6-wire load cell signal.
- Load cell resistance selector.
- Output value: 0÷3 mV/V.

MAIN FUNCTIONS

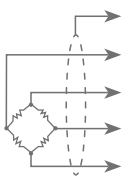
- Enables weighing instruments to be calibrated by means of a multimeter with scale in mV VDC.

CERTIFICATIONS

UK CA Equivalent of the CE marking for the United Kingdom

ELECTRICAL CONNECTIONS

Cable lenght	130 cm
Cable diameter	5 mm
Cores	6 x 0.14 mm²



SHIELD	
+ SIGNAL	GREEN
+ EXCITATION + REF./SENSE	RED BLUE
- SIGNAL	WHITE
- EXCITATION - REF./SENSE	BLACK BROWN

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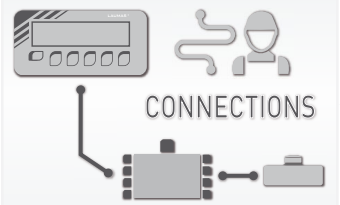
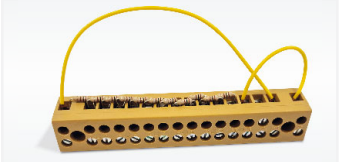
	DESCRIPTION	CODE
	CABLES AND SHEATHES	
	6x0.22 mm² shielded cable. Available coils: 5 - 10 - 200 m.	CAVO6020S
	6x0.22 mm² anti-rodent armored shielded cable. Available coils: 5 - 10 - 200 m.	CAVO6020SARM
	PVC flexible sheath, installed on the load cell cable. IP67 - inner Ø: 10 mm - outer Ø: 14 mm. ▪ length 3 m + 1 PVC end-fitting ▪ length 5 m + 1 PVC end-fitting ▪ length 6 m + 1 PVC end-fitting ▪ length 10 m + 1 PVC end-fitting	 GUA3 GUA5 GUA6 GUA10
	6x0.22 mm² shielded extension cable, sheathed, for connecting the weighing instrument to the junction box. PVC flexible sheath - IP67. Wiring by the customer. ▪ length 5 m + 1 M16x1.5 PVC end-fitting ▪ length 10 m + 1 M16x1.5 PVC end-fitting	 ESTENSIONE5 ESTENSIONE10
	WIRINGS	
	Wiring between load cell and junction box. Wiring between weighing instrument and junction box.	COLCELLA COLSTRU
	SELECTOR SWITCHES	
	External 12-position selector switch for selecting formulas and setpoint groups.	EC
	12 groups selection by 5 setpoint via external contact.	E

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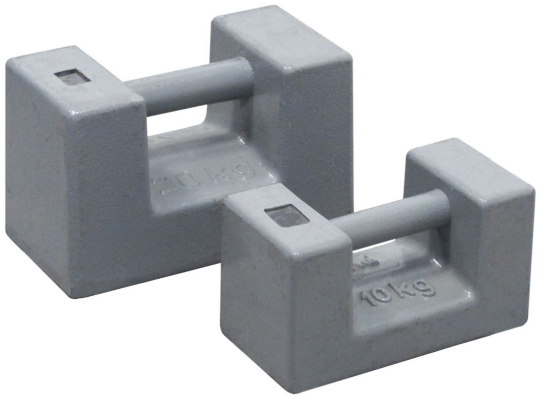
PC

PAINTED CAST IRON STANDARD WEIGHTS WITH HANDLE

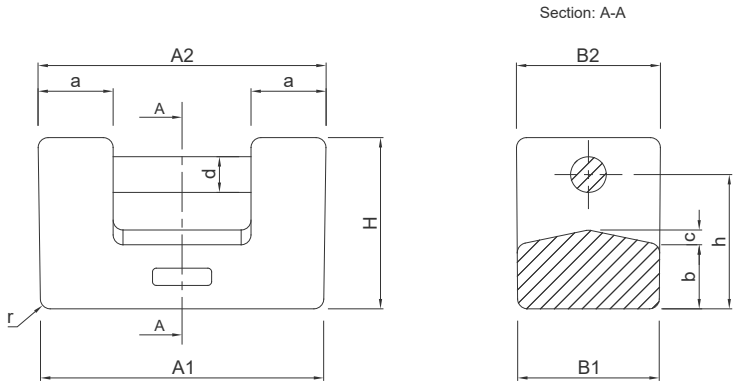


DESCRIPTION

- HT150 painted cast iron.
- Tensile strength (MPa) = 150w
- Structure: pearlitic cast iron (flake graphite+ferrite).
- Composition (%): C: 3.46 - 3.54
  Si: 0.51 - 0.57
  Mn: 2.12 - 2.49
- Certifiable in class M1 as per OIML R111-1.
- Aluminum case with carrying handle (option on request).

NOMINAL VALUE kg	TOLERANCE	DIMENSIONS	MASS CODE	CASE CODE
5	±250 mg (M1)	152 x 77 x 84 mm	PC5M1	BOXPC5M1
10	±500 mg (M1)	193 x 97 x 109 mm	PC10M1	BOXPC10M1
20	±1000 mg (M1)	234 x 117 x 139 mm	PC20M1	BOXPC20M1

DIMENSIONS



Nominal value	A1	A2	B1	B2	H	a	b	c	d	h	r
5 kg	150	152	75	77	84	36	30	6	19	66	5
10 kg	190	193	96	97	109	46	38	8	25	84	6
20 kg	230	234	115	117	139	61	52	12	29	109	8

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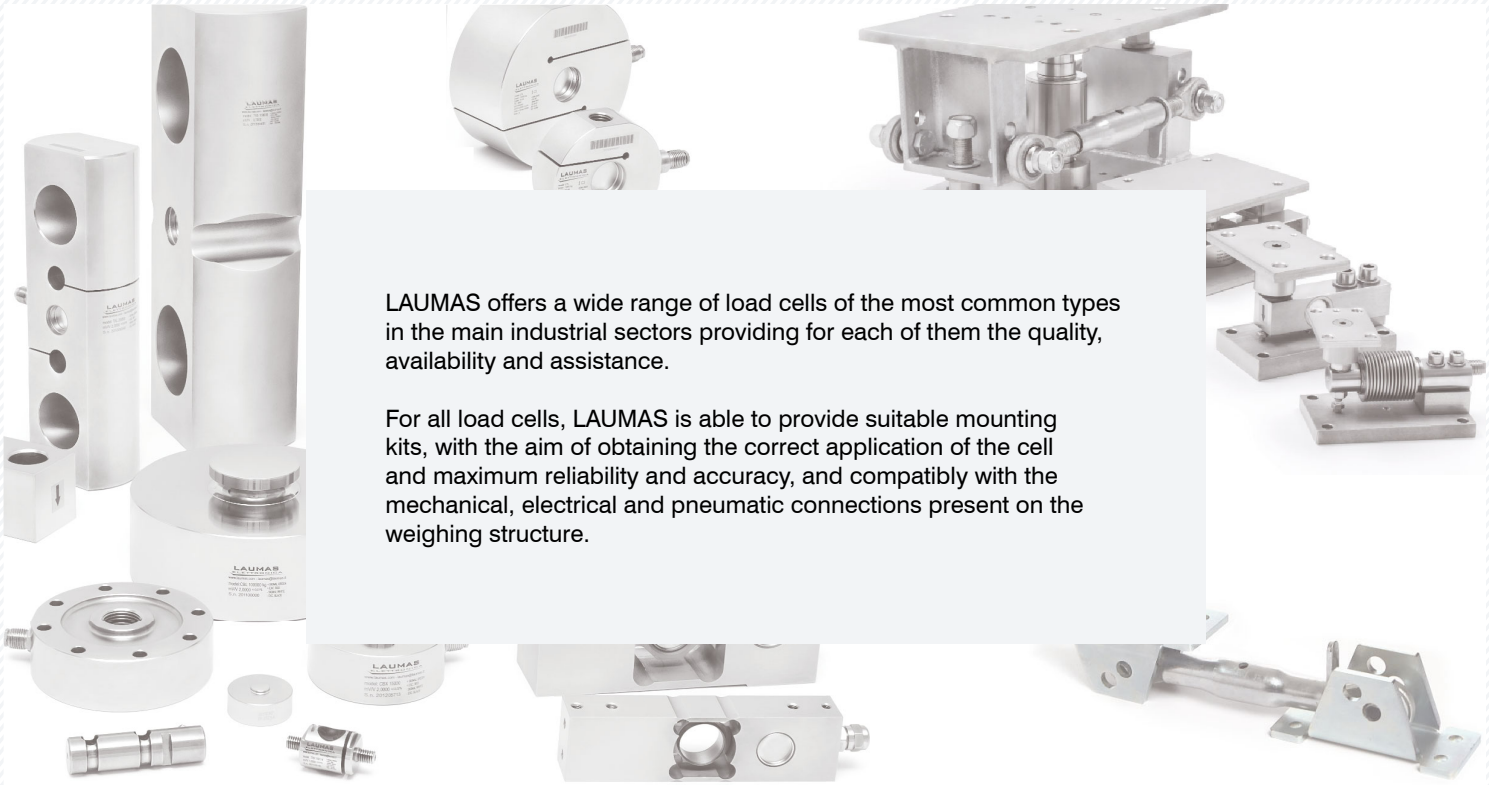
LOAD CELLS AND MOUNTING KITS



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.

ELECTRONIC INSTRUMENTATION FOR WEIGHING AND BATCHING SYSTEMS

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.

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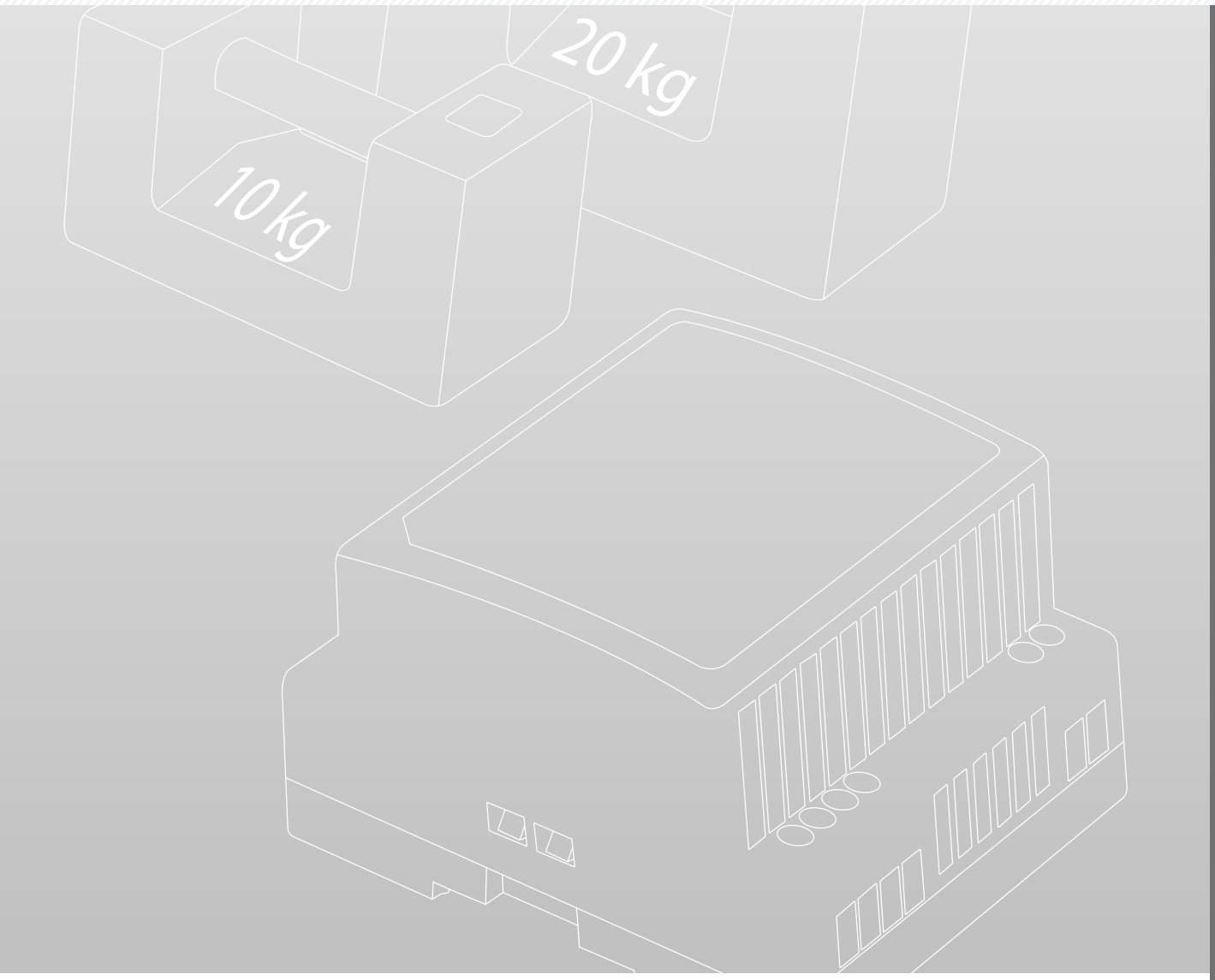

LAUMAS

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