

# LAUMAS



## По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
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Иваново (4932)77-34-06  
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Россия (495)268-04-70

Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Липецк (4742)52-20-81  
Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Киргизия (996)312-96-26-47

Новокузнецк (3843)20-46-81  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Казахстан (7172)727-132

Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93

## Certifications



## Junction boxes

Stainless steel or ABS junction boxes with equalization board or with board for parallel connection from 1 to 4 or from 5 to 8 load cells.  
Versions with lightning and electrical shock protection device.  
Approved versions: ATEX, IECEx, EAC Ex.

## Accessories and wirings




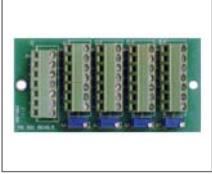
The accessories complete the offer of Laumas devices and components for industrial weighing systems: high-efficiency power supplies, load cells signal simulators, cables and PVC sheaths, sample weights.

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LAUMAS®

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	<b>HL6EQSN HL6N</b>	Equalization board Parallel connection board  <b>20</b>

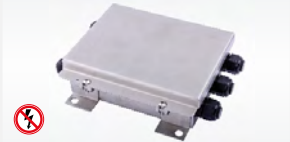



# JUNCTION BOXES

AISI 304 STAINLESS STEEL

LAUMAS®



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

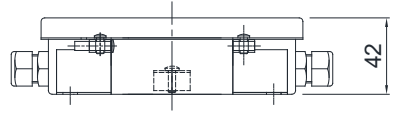
	DESCRIPTION	CODE
<b>EQUALIZATION BOARD</b>		
	<ul style="list-style-type: none"> <li>■ Up to 4 load cells connection.</li> <li>■ 4+1 M16 polyamid cable glands-plugs.</li> <li>■ Lightning and electrical shock protection device.</li> </ul>	CE41INOX
	<ul style="list-style-type: none"> <li>■ Up to 8 load cells connection.</li> <li>■ 8+1 M16 polyamid cable glands-plugs.</li> <li>■ Lightning and electrical shock protection device.</li> </ul>	CE81INOX
	<ul style="list-style-type: none"> <li>■ Up to 4 load cells connection.</li> <li>■ 4+1 M12 polyamid cable glands-plugs.</li> </ul>	CE41INOXP
<b>PARALLEL CONNECTION BOARD</b>		
	<ul style="list-style-type: none"> <li>■ Up to 4 load cells connection.</li> <li>■ 4+1 M12 polyamid cable glands-plugs.</li> </ul>	C41INOXP

## CERTIFICATIONS

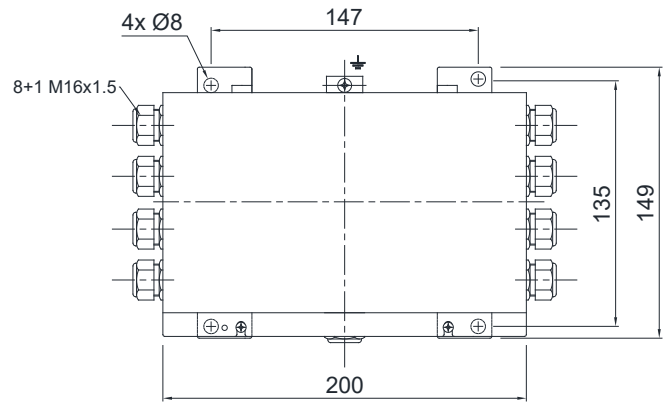
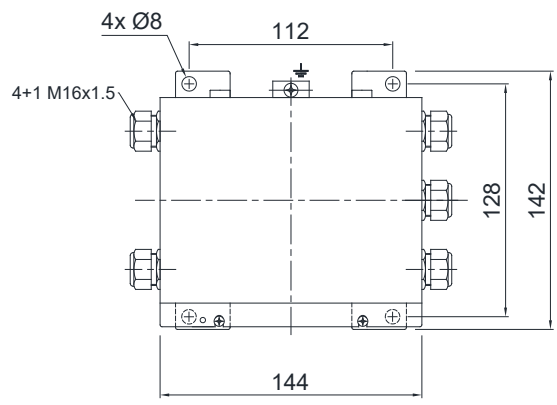
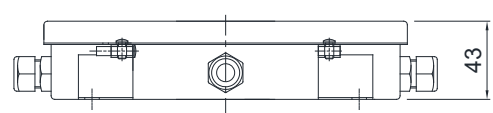
**EAC** Complies with the Eurasian Custom Union standards

## DIMENSIONS (mm)

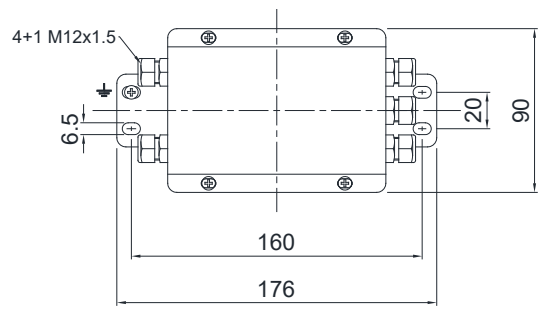
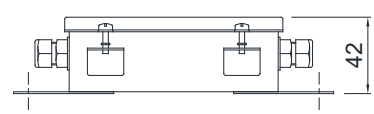
CE41INOX



CE81INOX

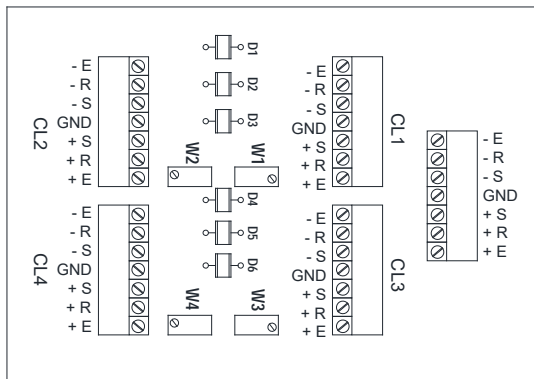


CE41INOXP - C41INOXP

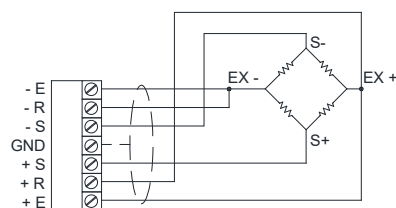


### ELECTRICAL CONNECTIONS

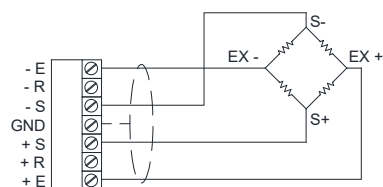
**CE41INOX**



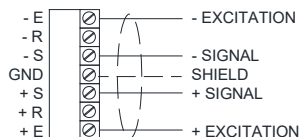
**6-WIRES LOAD CELLS CONNECTION**



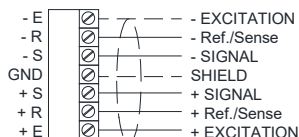
**4-WIRES LOAD CELLS CONNECTION**



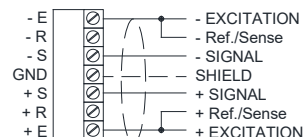
**4-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL**



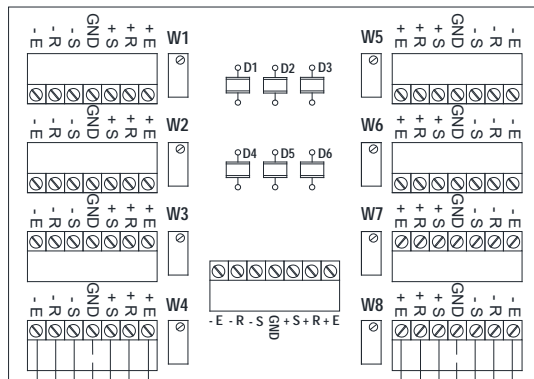
**6-WIRES OUTPUT CABLE WITH 6 WIRES LOAD CELL**



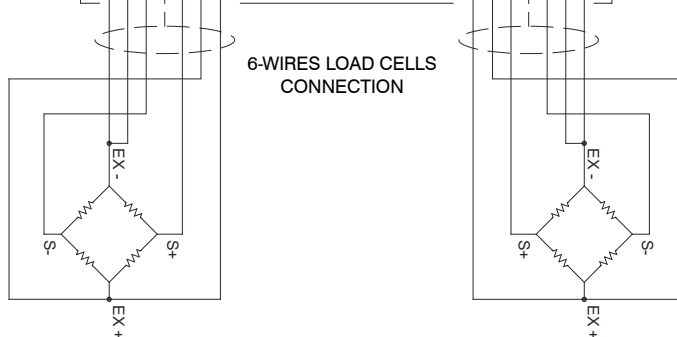
**6-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL**



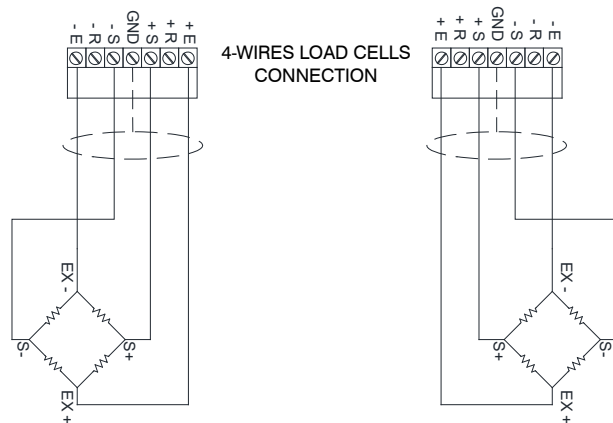
**CE81INOX**



**6-WIRES LOAD CELLS CONNECTION**

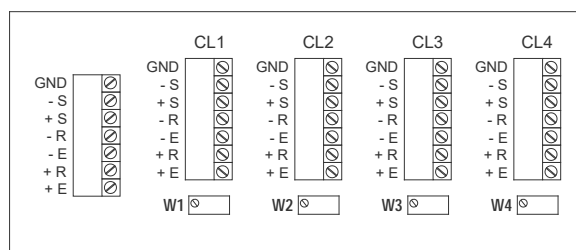


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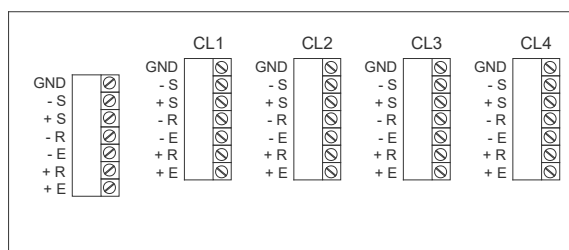


### ELECTRICAL CONNECTIONS

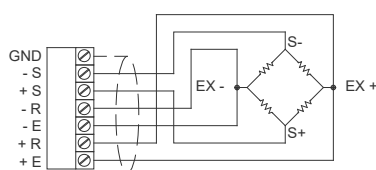
CE41INOXP



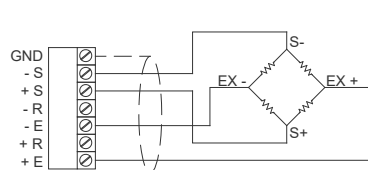
C41INOXP



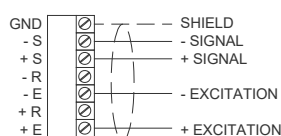
6-WIRES LOAD CELLS CONNECTION



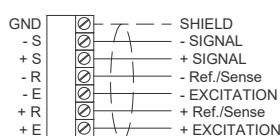
4-WIRES LOAD CELLS CONNECTION



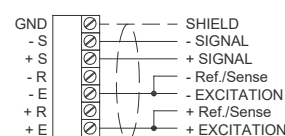
4-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL



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  $\Omega$  potentiometer for each load cell.
- C41INOXP: the board is equipped with a 20  $\Omega$  potentiometer for each load cell.

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

- Turn the potentiometers' screw counterclockwise until to 0  $\Omega$ .
- 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
- Adjust the potentiometers related to the higher weight values (W1, W2, W4), leaving the lowest one unchanged (W3).
- 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.
- 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.
- 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.
- 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.
- Place the sample weight in correspondence with the CL1 and adjust the potentiometer W1 until 966 kg is displayed.
- Place the sample weight in correspondence with the CL2 and adjust the potentiometer W2 until 966 kg is displayed.
- Place the sample weight in correspondence with the CL4 and adjust the potentiometer W3 until 966 kg is displayed.
- Place the sample weight in correspondence with the CL3 and take note of the value shown on the display, for example 962 kg.
- Repeat the procedure several times until the display shows the same weight value for all four load cells.
- 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).



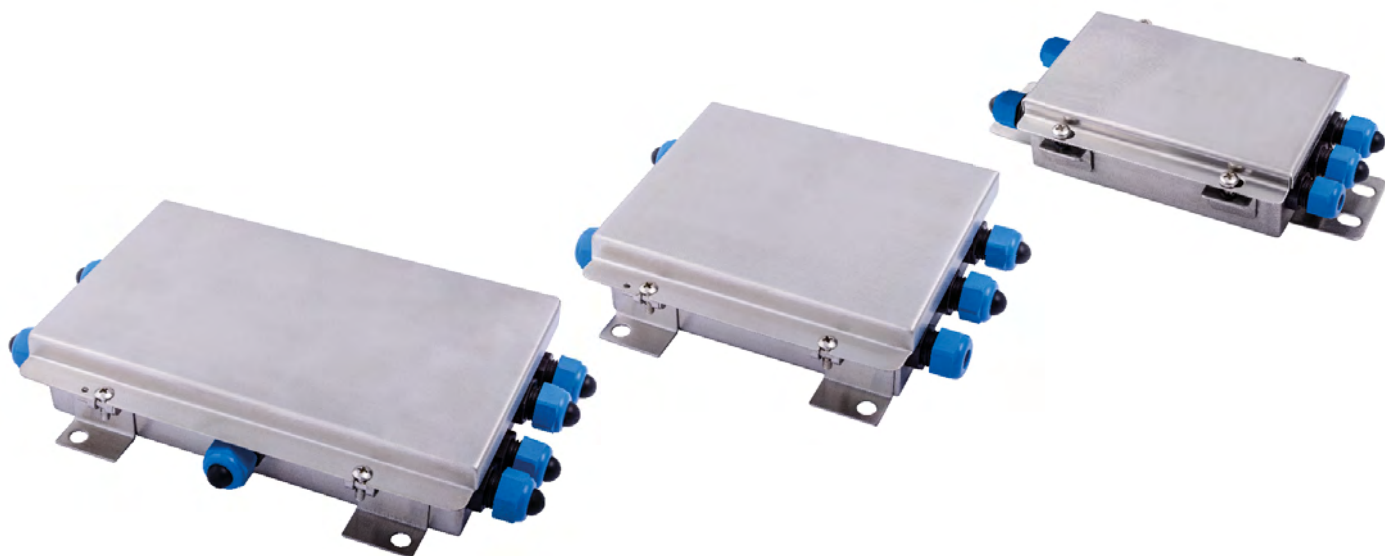
# ATEX/IECEX JUNCTION BOXES

AISI 304 STAINLESS STEEL



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

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



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

	DESCRIPTION	CODE
<b>EQUALIZATION BOARD</b>		
	<ul style="list-style-type: none"> <li>■ Up to 4 load cells connection.</li> <li>■ 4+1 M16 polyamid cable glands-plugs.</li> <li>■ Lightning and electrical shock protection device.</li> </ul>	CE41ATEX
	<ul style="list-style-type: none"> <li>■ Up to 8 load cells connection.</li> <li>■ 8+1 M16 polyamid cable glands-plugs.</li> <li>■ Lightning and electrical shock protection device.</li> </ul>	CE81ATEX
	<ul style="list-style-type: none"> <li>■ Up to 4 load cells connection.</li> <li>■ 4+1 M12 polyamid cable glands-plugs.</li> </ul>	CE41PATEX

## CERTIFICATIONS



ATEX (zone 0-1-2-20-21-22)



Complies with the Eurasian Custom Union standards

CERTIFICATIONS ON REQUEST



IECEX (zone 0-1-2-20-21-22)

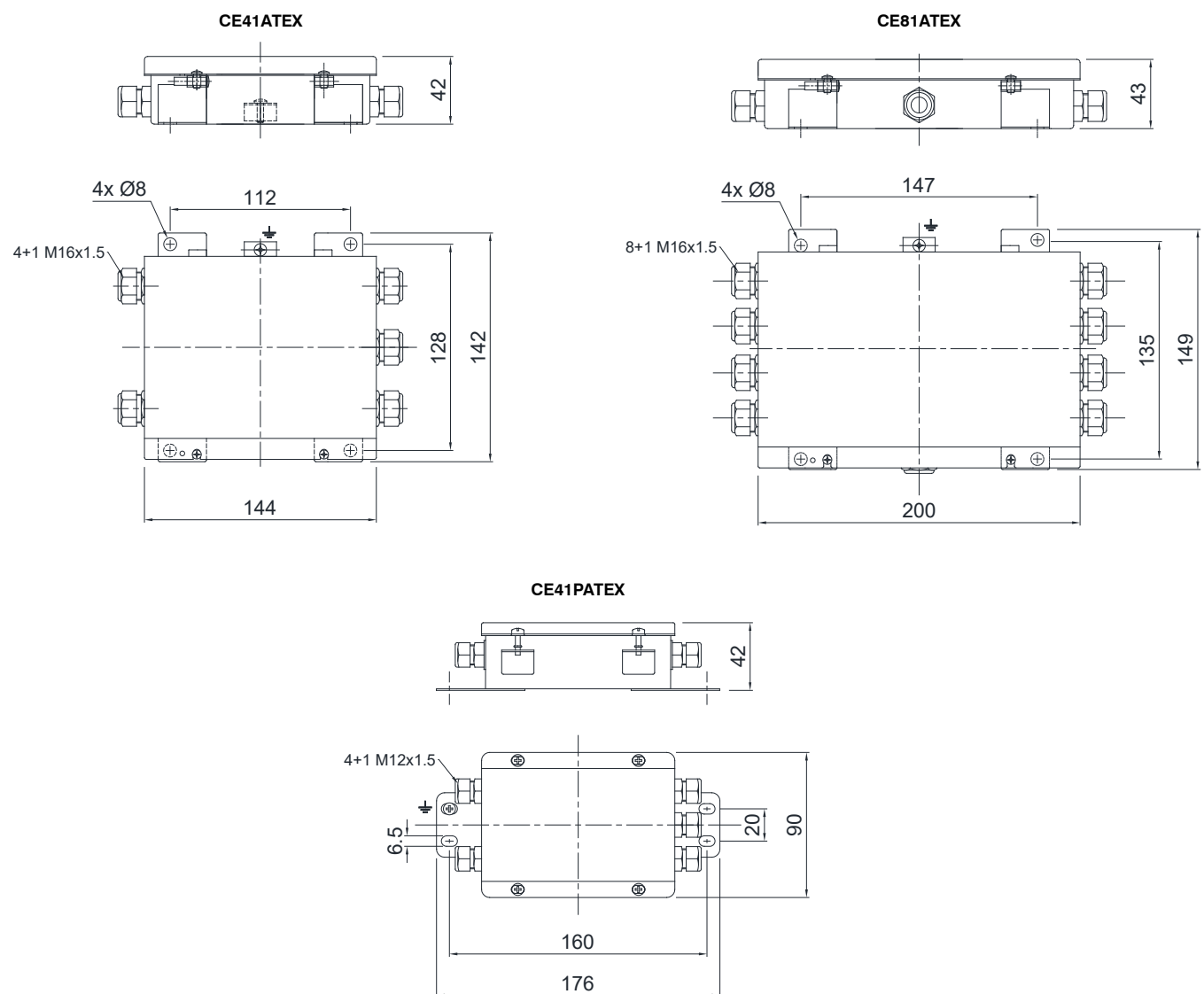


Complies with the Eurasian Custom Union standards for use in potentially explosive atmospheres

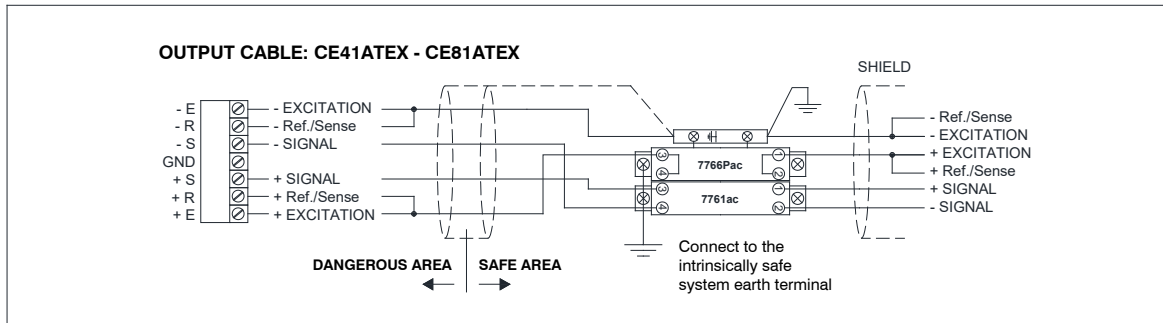
### INSTALLATION AND MAINTENANCE

- 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, classified zones 0-1, use ATEX EEx 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.

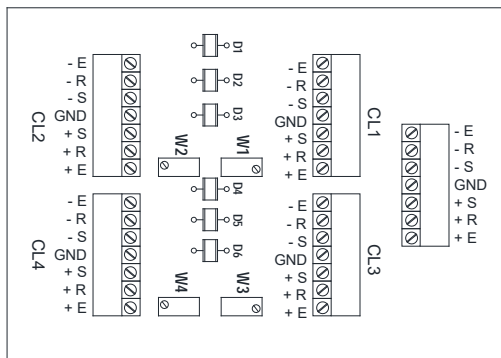
### DIMENSIONS (mm)



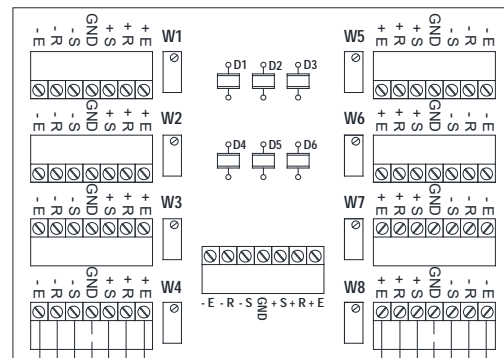
### ELECTRICAL CONNECTIONS



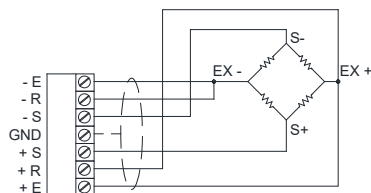
**CE41ATEX**



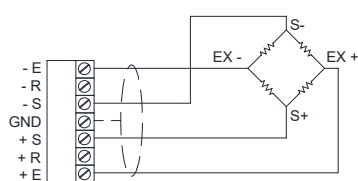
**CE81ATEX**



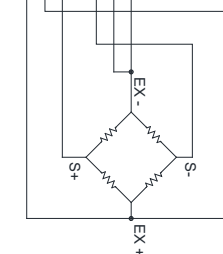
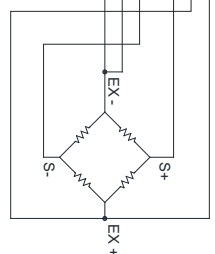
**6-WIRE LOAD CELLS CONNECTION**



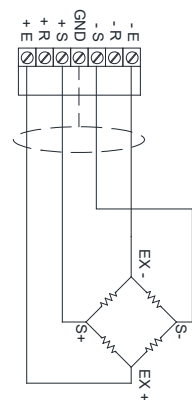
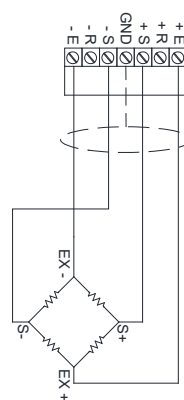
**4-WIRE LOAD CELLS CONNECTION**



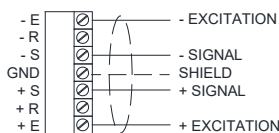
**6-WIRE LOAD CELLS CONNECTION**



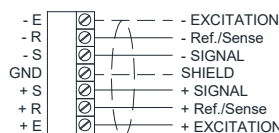
**4-WIRE LOAD CELLS CONNECTION**



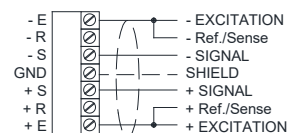
**4-WIRE OUTPUT CABLE WITH 4-WIRE LOAD CELL**



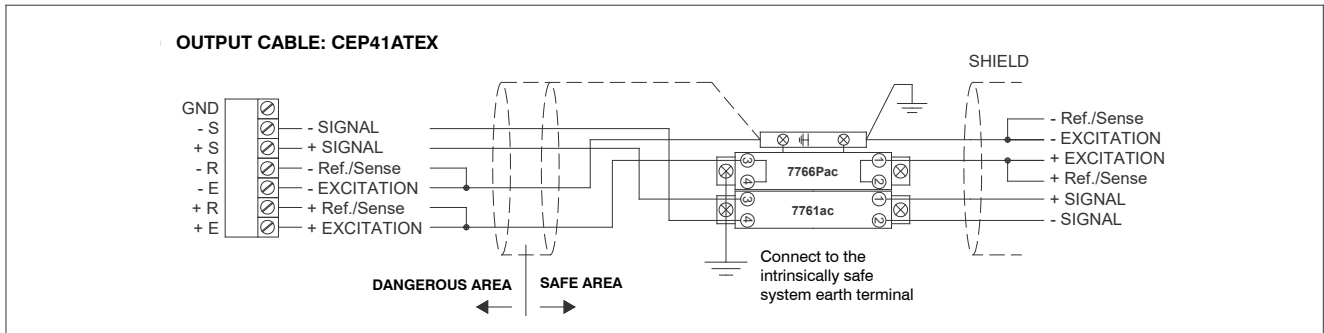
**6-WIRE OUTPUT CABLE WITH 6-WIRE LOAD CELL**



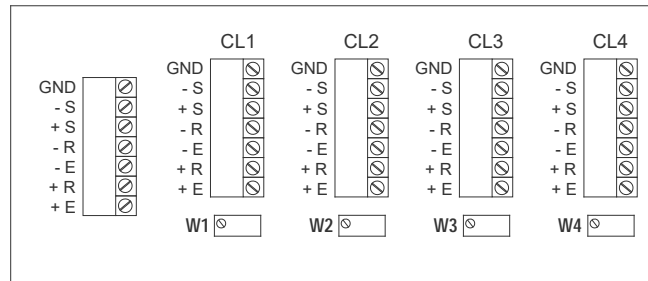
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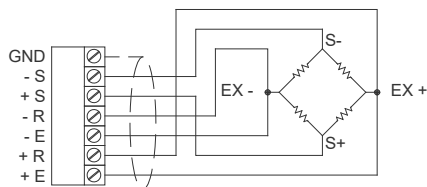
### ELECTRICAL CONNECTIONS



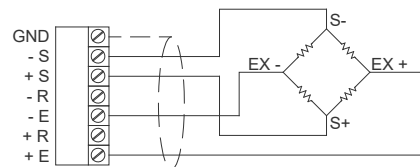
### CE41PATEX



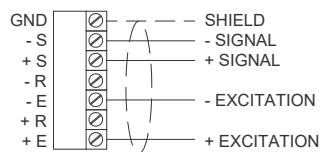
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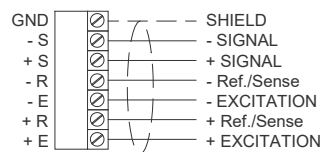
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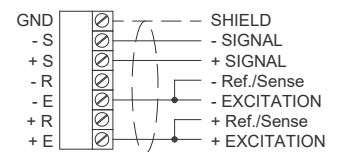
### 4-WIRE OUTPUT CABLE WITH 4 WIRES LOAD CELL



### 6-WIRE OUTPUT CABLE WITH 6 WIRES LOAD CELL



### 6-WIRE OUTPUT CABLE WITH 4 WIRES LOAD CELL



### EQUALIZATION PROCEDURE

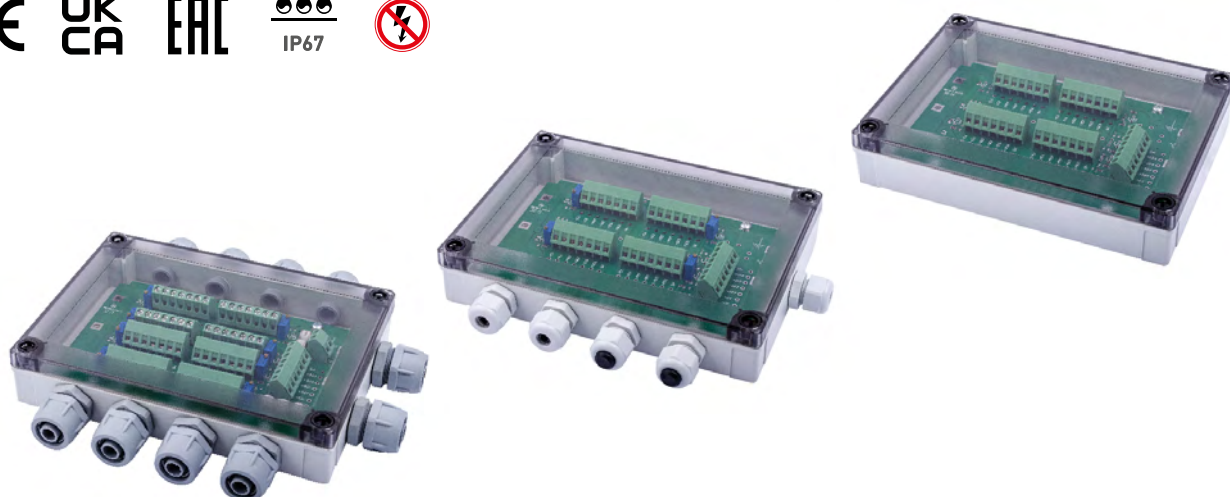
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#### WARNING!

- 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  $\Omega$  potentiometer for each load cell.  
C41INOXP: the board is equipped with a 20  $\Omega$  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  $\Omega$ .
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).



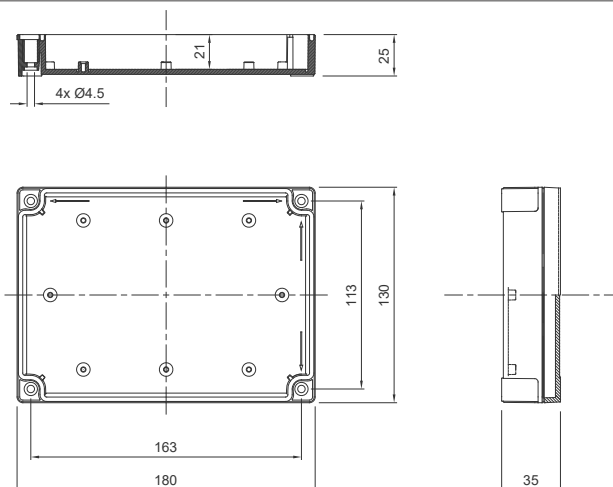
- ABS JUNCTION BOX
- IP67 PROTECTION RATING
- WORKING TEMPERATURE: -20 °C +60 °C
- 4/6 WIRES LOAD CELLS CONNECTION

	DESCRIPTION	CODE
<b>EQUALIZATION BOARD</b>		
	Up to 4 load cells connection. <ul style="list-style-type: none"> <li>■ 4+1 M16 polyamid cable glands-plugs.</li> <li>■ 4+1 PVC end-fittings for sheath.</li> </ul>	CE41N CE41NR
	Up to 8 load cells connection. Lightning and electrical shock protection device. <ul style="list-style-type: none"> <li>■ 8+2 M16 polyamid cable glands-plugs.</li> <li>■ 8+2 PVC end-fittings for sheath.</li> </ul>	CE81PN CE81PNR
<b>PARALLEL CONNECTION BOARD</b>		
	Up to 4 load cells connection.	CIP67N
	Up to 4 load cells connection. <ul style="list-style-type: none"> <li>■ 4+1 M16 polyamid cable glands-plugs.</li> <li>■ 4+1 PVC end-fittings for sheath.</li> </ul>	C41N C41NR

### CERTIFICATIONS

**EAC** Complies with the Eurasian Custom Union standards

### DIMENSIONS (mm)

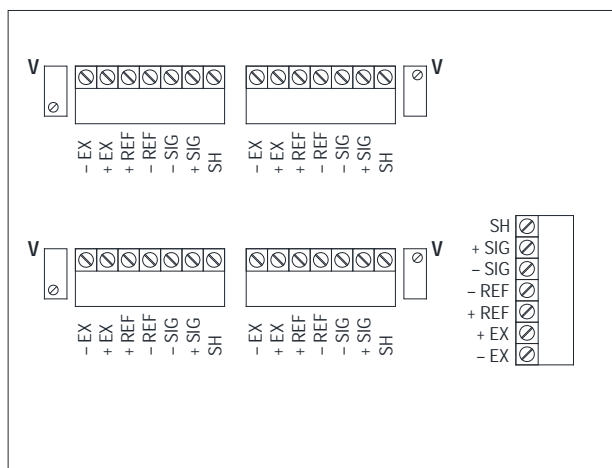


### ELECTRICAL CONNECTIONS

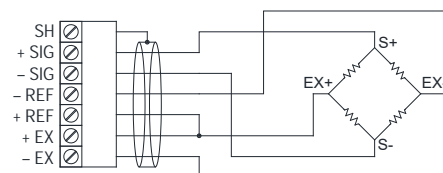
#### TO CONNECT TO THE INSTRUMENT USE:

- 4-wire connection: shielded cable 4x0.5 mm<sup>2</sup> (minimum section).
- 6-wire connection: shielded cable 6x0.2 mm<sup>2</sup> (minimum section).

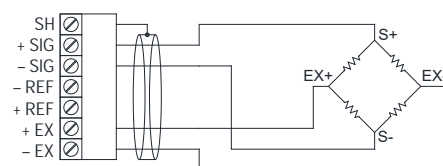
#### CE41N - CE41NR



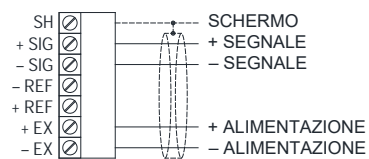
#### 6-WIRES LOAD CELLS CONNECTION



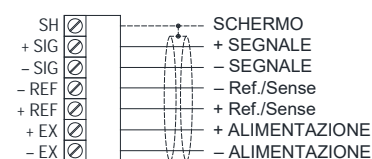
#### 4-WIRES LOAD CELLS CONNECTION



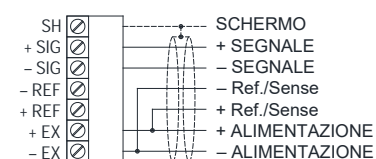
#### 4-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL



#### 6-WIRES OUTPUT CABLE WITH 6 WIRES LOAD CELL

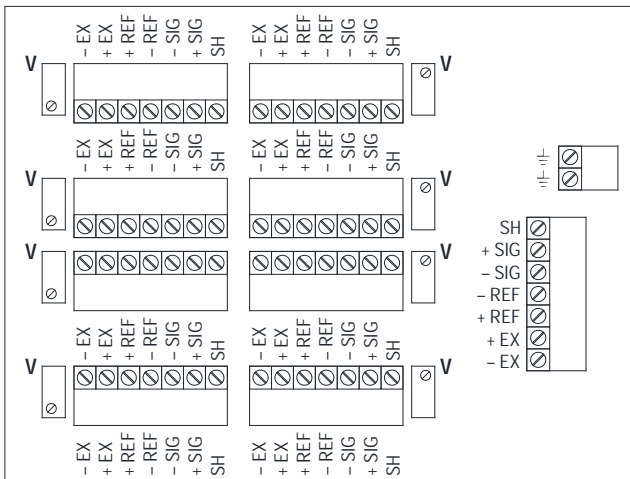


#### 6-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL

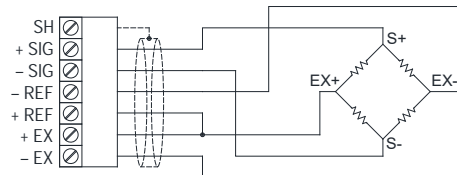


### ELECTRICAL CONNECTIONS

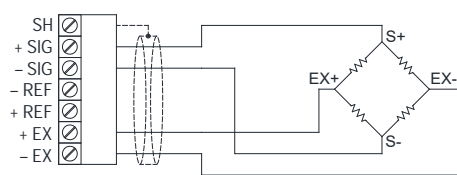
#### CE81PN - CE81PNR



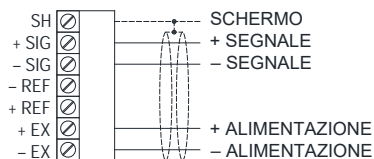
#### 6-WIRES LOAD CELLS CONNECTION



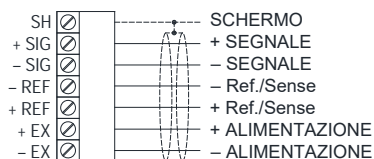
#### 4-WIRES LOAD CELLS CONNECTION



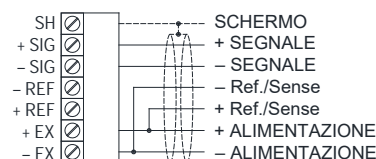
#### 4-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL



#### 6-WIRES OUTPUT CABLE WITH 6 WIRES LOAD CELL



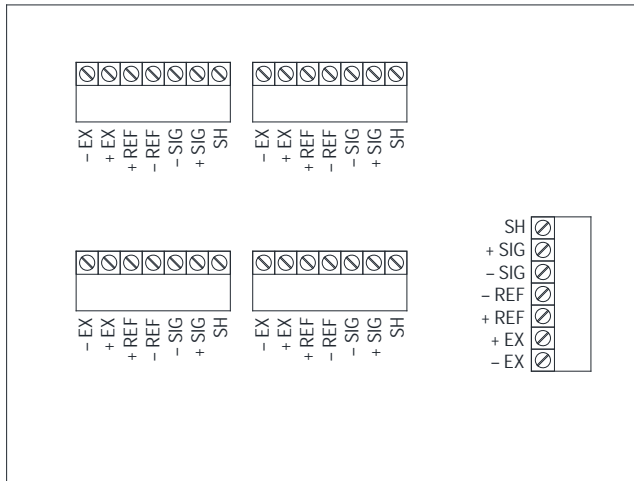
#### 6-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL



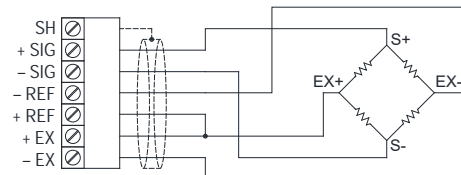


### ELECTRICAL CONNECTIONS

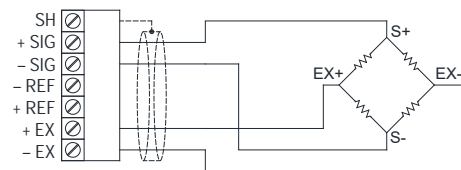
#### CIP67N - C41N - C41NR



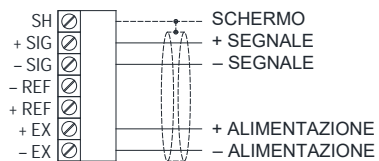
#### 6-WIRES LOAD CELLS CONNECTION



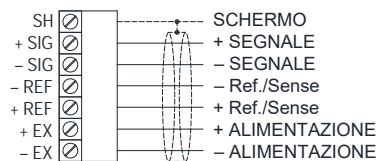
#### 4-WIRES LOAD CELLS CONNECTION



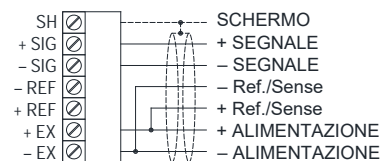
#### 4-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL



#### 6-WIRES OUTPUT CABLE WITH 6 WIRES LOAD CELL



#### 6-WIRES OUTPUT CABLE WITH 4 WIRES LOAD CELL



### 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:  

$$[(\text{load cell value to be adjusted} - \text{lowest load cell value}) \div \text{lowest load cell value}] \times \text{supply voltage value} \times 1000$$

$$[(1008 - 973) \div 973] \times 4.87 \times 1000 = 175 \text{ mV}$$

$$[(998 - 973) \div 973] \times 4.87 \times 1000 = 125 \text{ mV}$$

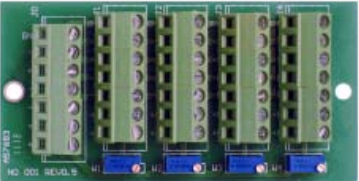
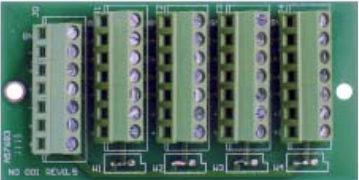
$$[(985 - 973) \div 973] \times 4.87 \times 1000 = 60 \text{ mV}$$
5. Adjust the potentiometers of the three load cells until the following values are obtained respectively:  
175 mV, 125 mV, 60 mV
6. Place the sample weight in correspondence of each load cell, the display must now show the same value 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:

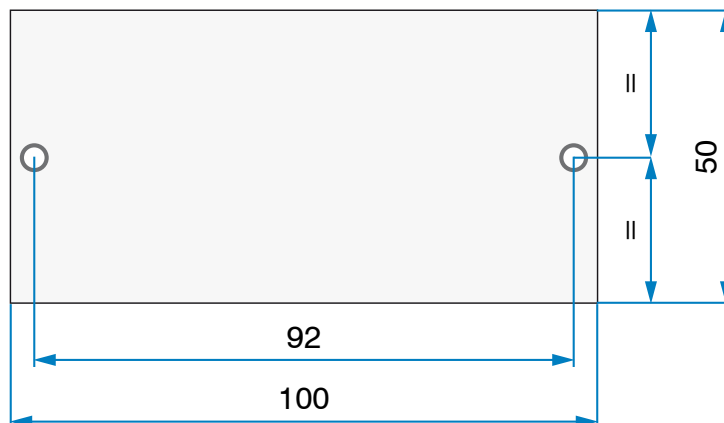
##### Example with 4 load cells and a sample weight of 978 kg:

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).



	DESCRIPTION	CODE
<b>EQUALIZATION BOARD</b>		
	<ul style="list-style-type: none"> <li>Up to 4 load cells connection (4/6 wires).</li> <li>Working temperature: -20 °C +60 °C.</li> </ul>	HL6EQSN
<b>PARALLEL CONNECTION BOARD</b>		
	<ul style="list-style-type: none"> <li>Up to 4 load cells connection (4/6 wires).</li> <li>Working temperature: -20 °C +60 °C.</li> </ul>	HL6N

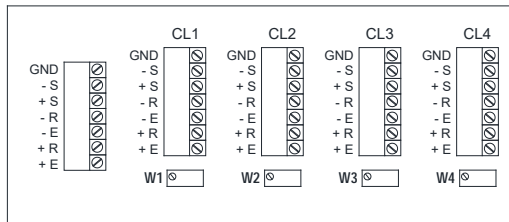
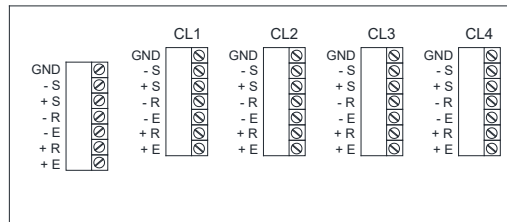
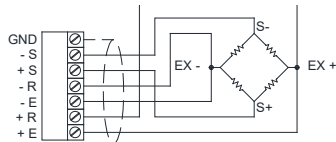
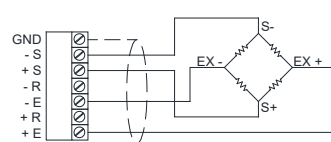
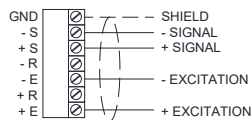
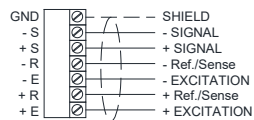
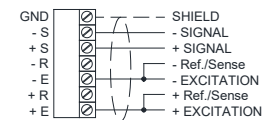
### DIMENSIONS (mm)



### ELECTRICAL CONNECTIONS

#### TO CONNECT TO THE INSTRUMENT USE:

- **HL6EQSN:**
  - 4-wire connection: shielded cable 4x0.5 mm<sup>2</sup> (minimum section).
  - 6-wire connection: shielded cable 6x0.2 mm<sup>2</sup> (minimum section).
- **HL6N:**
  - 4-wire connection: shielded cable 4x1 mm<sup>2</sup> (minimum section).
  - 6-wire connection: shielded cable 6x0.2 mm<sup>2</sup> (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**


### 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:  

$$[(\text{load cell value to be adjusted} - \text{lowest load cell value}) \div \text{lowest load cell value}] \times \text{supply voltage value} \times 1000$$

$$[(1008 - 973) \div 973] \times 4.87 \times 1000 = 175 \text{ mV}$$

$$[(998 - 973) \div 973] \times 4.87 \times 1000 = 125 \text{ mV}$$

$$[(985 - 973) \div 973] \times 4.87 \times 1000 = 60 \text{ mV}$$
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).

		PAGE
	<b>D2.1</b>	<b>STABILIZED POWER SUPPLIES</b>
	<b>ALI</b>	Single output power supplies <b>25</b>
	<b>ADPEALIM</b>	Industrial power supply in explosion proof box <b>26</b>
	<b>D2.2</b>	<b>LOAD CELL SIMULATOR</b>
	<b>SIM</b>	Analog simulator for load cell signal <b>27</b>
	<b>D2.3</b>	<b>CABLES - SHEATHES - WIRINGS - SELECTOR SWITCHES</b>
	<b>CAV06020S/ARM GUA3/5/6/10 ESTENSIONE5/10 COLCELLA/ COLSTRU/EC</b>	<b>28</b>
	<b>D2.4</b>	<b>SAMPLE WEIGHTS</b>
	<b>PC</b>	Cast iron sample weights <b>29</b>



- High efficiency stabilized power supplies
- Protection against short circuits
- Protection against overloads
- Cooling by free air convection
- Plate mounting: holes  $\varnothing 3,5$  mm and M3
- ALI5/24DIN: Omega/DIN rail mounting

							
OUTPUT VOLTAGE	5 VDC $\pm 2\%$ 5 A	12 VDC $\pm 1\%$ 1.3 A	24 VDC $\pm 1\%$ 2.1 A	24 VDC $\pm 1\%$ 6.5 A	5 VDC $\pm 2\%$ 5.4 A	24 VDC $\pm 2\%$ 2 A	24 VDC $\pm 1\%$ 1 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	85 ÷ 264 VAC 47 ÷ 63 Hz	85 ÷ 264 VAC 47 ÷ 63 Hz	100 ÷ 240 VAC 50 ÷ 60 Hz
OUTPUT POWER	25 W	15.6 W	50.4 W	156 W	25 W	48 W	24 W
DC ADJUSTMENT RANGE	-5% +10%	-10% +10%	-10% +10%	-12% +16%	-5% +10%	-6% +10%	-
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%	-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 +85 °C 10% +95%	-20 °C +85 °C 10% +95%	-20 °C +85 °C 10% +95%	-20 °C +85 °C 10% +95%	-30 °C +70 °C 10% +90%
FIXED SWITCHING FREQUENCY	37 Hz	37 Hz	27 Hz	25 Hz	37 Hz	37 Hz	-
DIMENSIONS	100x97x38 mm	100x97x38 mm	160x97x38 mm	200x110x50 mm	93x78x67 mm	93x78x67 mm	89x74x34 mm
WEIGHT	390 g	310 g	510 g	800 g	310 g	310 g	300 g
CODE	ALIM5P190	ALI12STAB	ALI24STAB	ALI24STAB6A	ALI5DIN	ALI24DIN	ALI24SPINA1A ALI24SPINA1AJACK



### DESCRIPTION

The system is composed by:

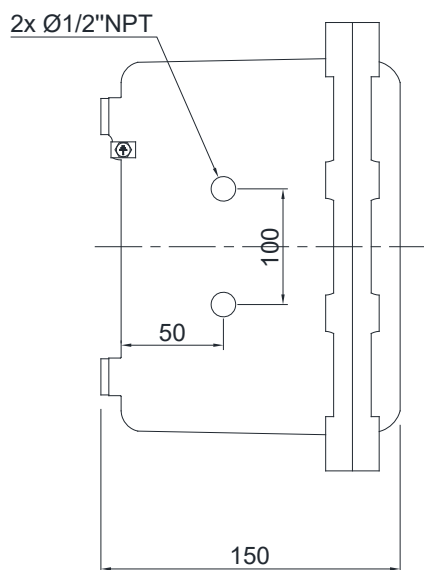
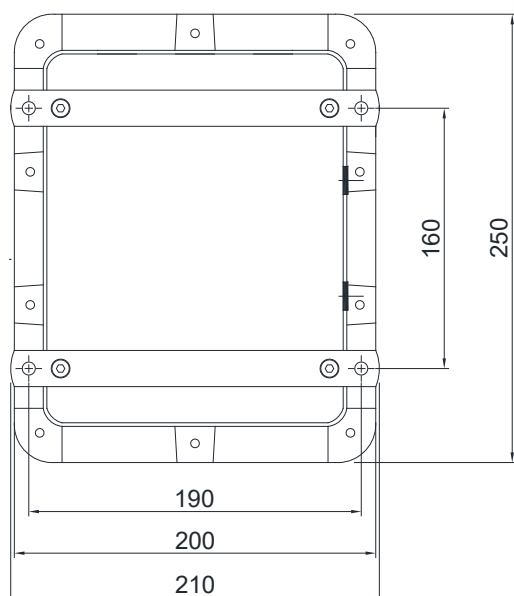
- Industrial power supply ALI24DIN2A, single output voltage, suitable for Omega/DIN rail mounting.
- ADPE explosion proof box (ATEX/IECEx):

ATEX marking	IECEx marking
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

REAR SIDE







### DESCRIPTION

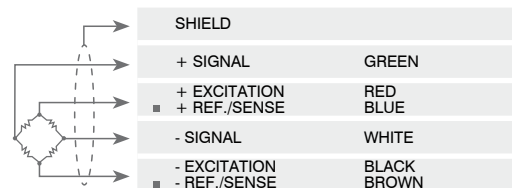
- Analog simulator for load cell signal up to 32 mV.
- Load cell resistance selector.

### MAIN FUNCTIONS

- It allows the weighing instruments calibration by a mV VDC scale tester.
- 4 or 6 wires load cells selection.





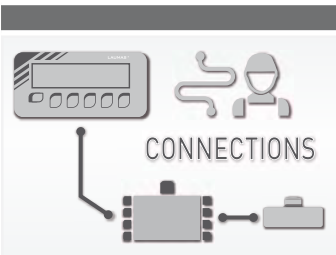


### ELECTRICAL CONNECTIONS

Cable length	130 cm
Cable diameter	5 mm
Cores	4/6 x 0.14 mm <sup>2</sup>



■ where provided



	DESCRIPTION	CODE
<b>CABLES AND SHEATHES</b>		
	6x0.22 mm <sup>2</sup> shielded cable. Available coils: 5 - 10 - 200 m.	CAVO6020S
	6x0.22 mm <sup>2</sup> 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. <ul style="list-style-type: none"> <li>■ length 3 m + 1 PVC end-fitting</li> <li>■ length 5 m + 1 PVC end-fitting</li> <li>■ length 6 m + 1 PVC end-fitting</li> <li>■ length 10 m + 1 PVC end-fitting</li> </ul>	GUA3 GUA5 GUA6 GUA10
	6x0.22 mm <sup>2</sup> shielded extension cable, sheathed, for connecting the weighing instrument to the junction box. PVC flexible sheath - IP67. Wiring by the customer. <ul style="list-style-type: none"> <li>■ length 5 m + 1 M16x1.5 PVC end-fitting</li> <li>■ length 10 m + 1 M16x1.5 PVC end-fitting</li> </ul>	ESTENSIONE5 ESTENSIONE10
<b>WIRINGS</b>		
	Wiring between load cell and junction box.	COLCELLA
	Wiring between weighing instrument and junction box.	COLSTRU
<b>SELECTOR SWITCHES</b>		
	External 12-position selector switch for selecting formulas and setpoint groups.	EC



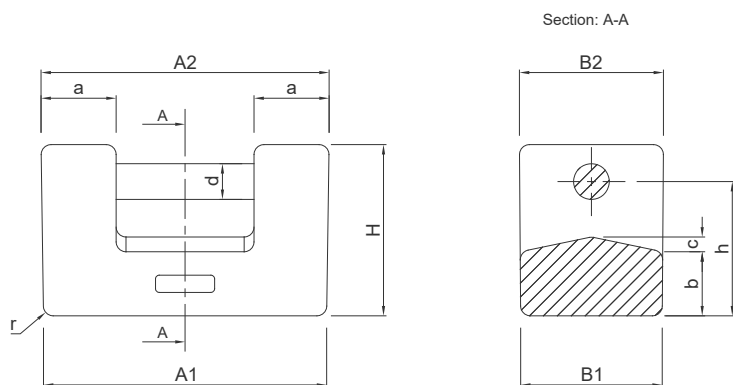
### DESCRIPTION

- HT150 painted cast iron masses with handle.
- Composition (%): C: 3.46 - 3.54  
Si: 0.51 - 0.57  
Mn: 2.12 - 2.49
- Tensile strength: 150 MPa.
- Structure: pearlitic cast iron (flake graphite+ferrite).
- M1 accuracy class according to 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

**По вопросам продаж и поддержки обращайтесь:**

Алматы (7273)495-231	Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54
Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астрахань (8512)99-46-04	Калуга (4842)92-23-67	Омск (3812)21-46-40	Ставрополь (8652)20-65-13
Барнаул (3852)73-04-60	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462)77-98-35
Белгород (4722)40-23-64	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Брянск (4832)59-03-52	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Владивосток (423)249-28-31	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Волгоград (844)278-03-48	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Вологда (8172)26-41-59	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Воронеж (473)204-51-73	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Екатеринбург (343)384-55-89	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212)92-98-04
Иваново (4932)77-34-06	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Ижевск (3412)26-03-58	Набережные Челны (8552)20-53-41	Севастополь (8692)22-31-93	Череповец (8202)49-02-64
Иркутск (395)279-98-46	Нижний Новгород (831)429-08-12	Симферополь (3652)67-13-56	Ярославль (4852)69-52-93
Россия (495)268-04-70	Киргизия (996)312-96-26-47	Казахстан (7172)727-132	