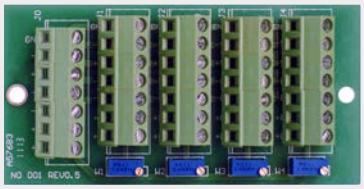
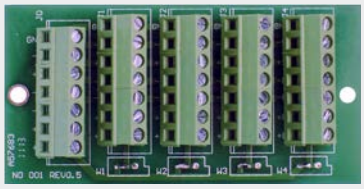
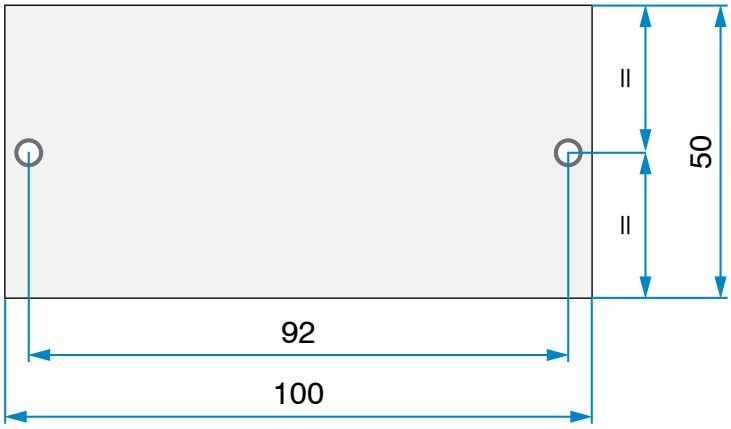
HL6EQSN - HL6N

LOAD CELLS CONNECTION BOARDS

	DESCRIPTION	MODEL
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

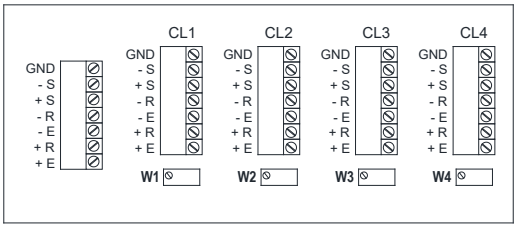
UK CA Equivalent of the CE marking for the United Kingdom

ELECTRICAL CONNECTIONS

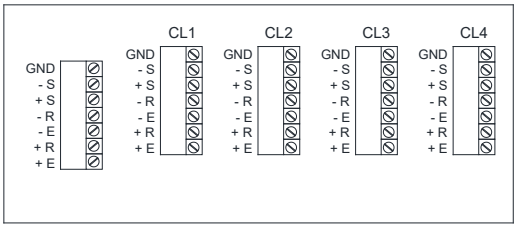
TO CONNECT TO THE INSTRUMENT USE:

- **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).

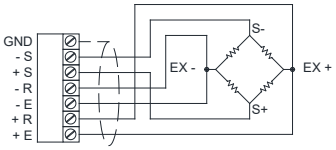
HL6EQSN



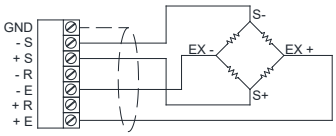
HL6N



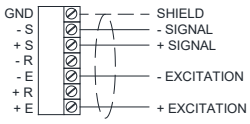
6-WIRES LOAD CELLS CONNECTION



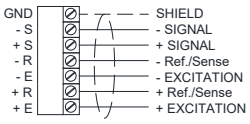
4-WIRES LOAD CELLS CONNECTION



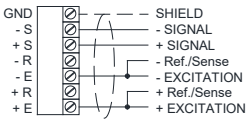
4-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 6 WIRES LOAD CELL



6-WIRES OUTPUT CABLE
WITH 4 WIRES LOAD CELL



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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