CLM8 - CLM16

INTELLIGENT JUNCTION BOX - 8/16 INDEPENDENT CHANNELS

LAUMAS®

ETHERNET TCP/IP option on request | TCP/IP WEB APP | MODBUS RTU

DESCRIPTION

- Intelligent junction box with 8 independent channels for load cells (16 channels by connecting 2 CLM8); allows the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 4-key keyboard.
- Lightning and electrical shock protection device.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.

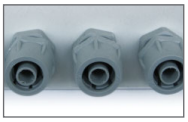
INPUTS/OUTPUTS AND COMMUNICATION

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

CLM8 series

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

PVC END-FITTINGS FOR SHEATH



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

box without holes

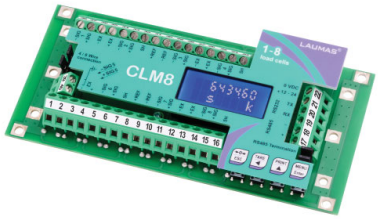
4+2 M16x1.5 cable glands - plugs

8+2 M16x1.5 cable glands - plugs

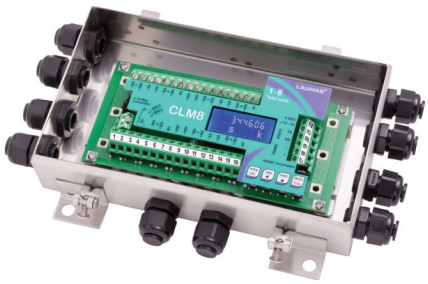
4+2 PVC end-fittings for sheath

➔ *CLM8 instrument not included.*

CLM8I series



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



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

8+2 M16x1.5 cable glands - plugs

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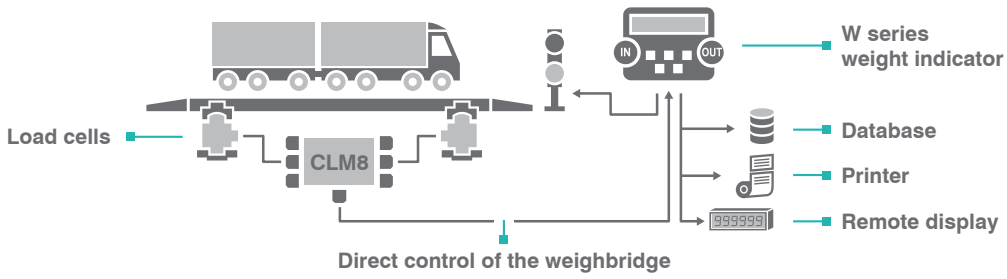
MAIN FUNCTIONS

- 8 independent channels for load cells: monitoring and direct management of each connected load cell.
- Immediate reporting of anomalies (also on the connected weight indicator display).
- CLM8 series functions can be managed by a W series weight indicator connected via RS485 serial port (excluding instruments with graphic display) or remotely via the communication interfaces.
- Digital equalization of active channels for a single load cell or an axis.
- Load distribution analysis on the 8 channels with backups archive: storing, consultation, printing.
- Detailed diagnostics of each load cell (max 8): depending on the type of weighing system you can perform:
  - load automatic diagnostics;
  - automatic diagnostics on zero.
- Tilt compensation of the weighing system up to ±10 degrees via optional inclinometer.
- Archive of the last 50 significant events (zeroing, calibration, equalization, alarms): storing, consultation, printing.
- Transmission via RS232/RS485 (ModBus RTU) or TCP/IP (option on request) of the divisions for the 8 reading channels. Only the points of each load cell connected are transmitted, with no filter applied; the calculation of the weight value, the zero setting and calibration are made by the customer.
- Transmission of load distribution percentages via RS232/RS485 (ModBus RTU) or TCP/IP (option on request).
- Connections to:
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display, inclinometer and printer via RS485/RS232;
  - up to 16 load cells in parallel;
  - W series weight indicator via RS485.
  - an additional CLM8 instrument for making a weighing system with 16 independent channels.
- TCP/IP WEB APP: integrated software in combination with the Ethernet TCP/IP option for remote supervision, management and control of the instrument.
- Digital filter to reduce the effects of weight oscillation.
- Possibility to define the condition of stable weight.
- Theoretical calibration (via keyboard) and real calibration (with sample weights and the possibility of weight linearization up to 8 points).
- Tare weight zero setting.
- Automatic zero setting at power-on.
- Gross weight zero tracking.
- Semi-automatic tare (net/gross weight) and preset tare.
- Semi-automatic zero.
- Direct connection between RS485 and RS232 without converter.

Approved versions for legal for trade use

- System parameters management protected by qualified access via software (password), hardware or fieldbus.
- Weight subdivisions displaying (1/10 e).
- Three operation mode: single interval or multiple ranges or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- Tilt compensation of the weighing system up to ±10 degrees via optional inclinometer (only for OIML).

EXAMPLE OF APPLICATION - WEIGHBRIDGE



CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.4 μV/VSI

UL Recognized component - Complies with United States and Canada regulations

Complies with the Eurasian Customs Union regulations

Equivalent of the CE marking for the United Kingdom

Complies with United Kingdom regulations for legal for trade use

Complies with the Brazilian regulations for legal for trade use

CERTIFICATIONS ON REQUEST

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

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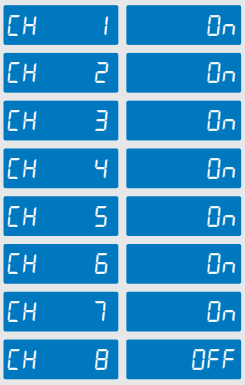
8 INDEPENDENT CHANNELS



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

Active channels: the load cell is connected

Inactive channel: the load cell is not connected

LOAD DISTRIBUTION

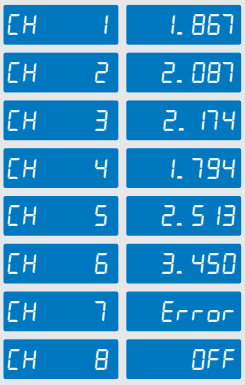
The CLM8 displays the current load distribution on each active channel.

Load percentage on each active channel

ERROR: connection problem

OFF: inactive channel

LOAD CELLS INPUT TEST



Load cells response signal in mV for each active channel

ERROR: connection problem

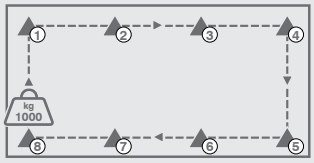
OFF: inactive channel

DIGITAL EQUALIZATION

The digital equalization function simplifies the procedure to a single step and it is free of drift over time.

CORNER mode

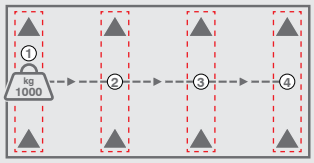
The sample weight is positioned in correspondence with each load cell



PLATFORM

AXIS mode

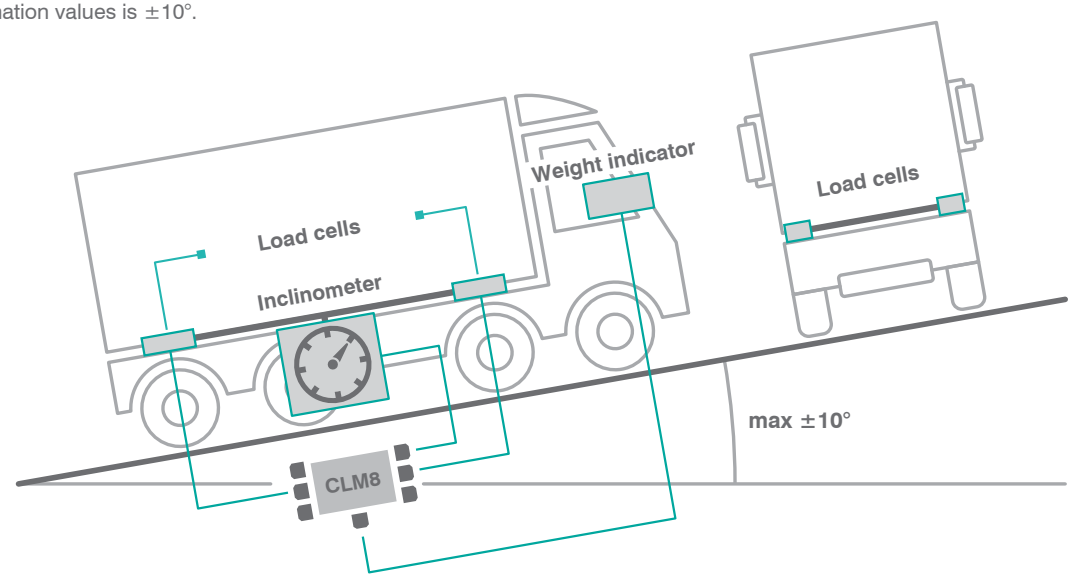
The sample weight is positioned in correspondence with the axes formed by the pairs of load cells



▲ = LOAD CELL

INCLINOMETER

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



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LAUMAS Elettronica srl • Phone: (+39) 0521 683124 • Fax (+39) 0521 681091
UFFICIO VENDITE ITALIA: commerciale@laumas.it • EXPORT SALES DEPARTMENT: sales@laumas.it

ISO 9001
ISO 14001

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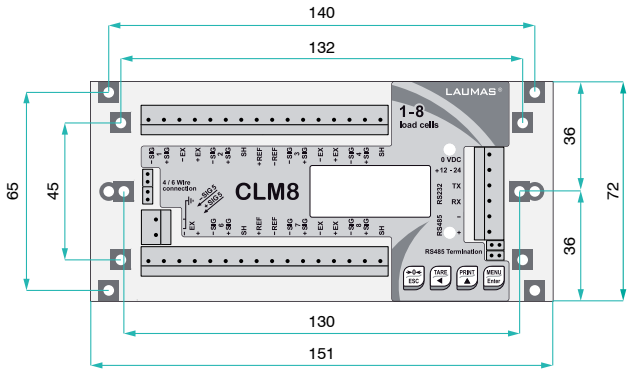
TECHNICAL FEATURES (CLM8)

Power supply and consumption	12÷24 VDC ±10%; 5 W
Number of load cells • Load cells supply	up to 16 (350 Ω) - 4/6 wires • 5 VDC/240 mA
Linearity	<0.01% full scale
Thermal drift	<0.0005% full scale/°C
A/D Converter	8 channels - 24 bit (16000000 points) - 4.8 kHz
Divisions (with measurement range ±10 mV and sensitivity 2 mV/V)	±999999 • 0.01 μV/d
Measurement range	±39 mV
Usable load cells sensitivity	±7 mV/V
Conversions per second	600/s
Display range	±999999
Decimals • Display increments	0÷4 • x1 x2 x5 x10 x20 x50 x100
Digital filter • Readings per second	21 levels • 5÷600 Hz
Serial ports	RS485, RS232
Baud rate	1200, 2400, 4800, 9600, 19200, 38400, 115200 (bit/s)
Humidity (condensate free)	85%
Storage temperature	-30 °C +80 °C
Working temperature	-20 °C +60 °C

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

METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS	OIML	INMETRO
Applied standards by region	EU: 2014/31/UE - EN45501:2015 - OIML R76:2006 United Kingdom: Non-automatic Weighing Instrument Regulations 2016	Brazil: Portaria Inmetro N°157/2022
Operation modes	single interval, multi-interval, multiple range	single interval, multi-interval, multiple range
Accuracy class	III or IIII	III
Maximum number of scale verification divisions	10000 (class III); 1000 (class IIII)	10000 (class III)
Maximum number of scale verification divisions with inclinometer	1000 (class IIII); 5200 (class III) single interval; 2x5200 or 3x2000 (class III) multi-interval or multiple range	-
Minimum input signal for scale verification division	0.4 μV/VSI	0.4 μV/VSI
Working temperature	-10 °C +40 °C	-10 °C +40 °C



OPTIONS ON REQUEST

	DESCRIPTION
	Inclinometer model BWM827-15-232 (BW Sensing product)
	Alibi memory.
	**Ethernet TCP/IP** protocol - Ethernet port. Integrated software for remote supervision, management and control of the instrument.

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

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