CLM8

INTELLIGENT JUNCTION BOX - 8 INDEPENDENT

LIDÉN WEIGHING

LAUMAS®

CE | OIML | M | c UL us | EAC | IP67 | RS485 RS232 | ±10° | ALIBI | Instrument Manager

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

MODBUS RTU

DESCRIPTION

- Intelligent junction box with 8 independent channels for load cells; allows the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
- Backlit alphanumeric LCD display, two-line by 8-digit (5 mm height), visible area: 38x16 mm.
- 4-key keyboard.
- Lightning and electrical shock protection device.
- The instrument can be configured and managed using the free "Instrument Manager" PC software, which you can download from www.laumas.com.
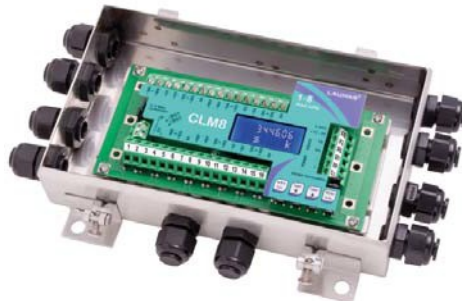
- IP67 AISI 304 stainless steel version.
- Dimensions: 200x148x45 mm (four fixing holes Ø4 mm; centre distance: 148x132 mm).

	CODE
8+2 PG9 cable glands - plugs	CLM8INOX

PVC END-FITTINGS FOR SHEATH

- IP67 polycarbonate box with transparent cover.
- Dimensions: 170x140x95 mm (four fixing holes Ø4 mm; centre distance: 152x122 mm).
- ➔ *CLM8 instrument not included.*

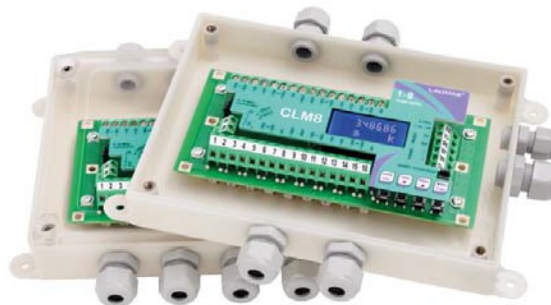|	CODE
box without holes	CASTL
4+2 M16x1.5 cable glands - plugs	CASTLPG9
8+2 PG9 cable glands - plugs	CASTL8PG9
4+2 PVC end-fittings for sheath	CASTLGUA
8+2 PVC end-fittings for sheath	CASTL8GUA

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

	CODE
4+3 PG9 (1 PG7) cable glands - plugs	CLM4ABS
8+3 PG9 (1 PG7) cable glands - plugs	CLM8ABS
4+3 PVC end-fittings for sheath	CLM4ABSR
8+3 PVC end-fittings for sheath	CLM8ABSR

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

CODE
CLM8

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

CODE
CLM8I

INPUTS/OUTPUTS AND COMMUNICATION

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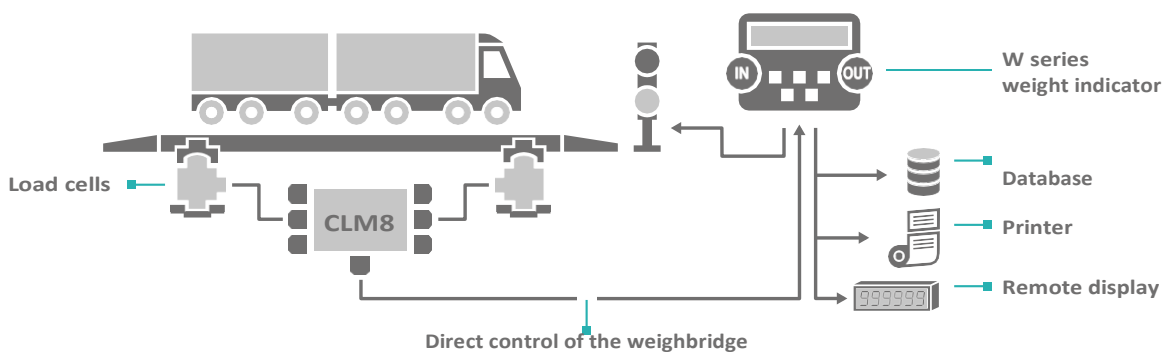- Ethernet TCP/IP port (option on request).

MAIN FUNCTIONS

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

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

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

EXAMPLE OF APPLICATION - WEIGHBRIDGE

Load cells

CLM8

W series weight indicator

Database

Printer

Remote display

Direct control of the weighbridge

CERTIFICATIONS

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

CERTIFICATIONS ON REQUEST

M	Conformity assessment (initial verification) in combination with Laumas weighing module
c ⏚us	UL Recognized component - Complies with the United States and Canada standards
EAC	Complies with the Eurasian Custom Union standards

8 INDEPENDENT CHANNELS

CH	1	ON
CH	2	ON
CH	3	ON
CH	4	ON
CH	5	ON
CH	6	ON
CH	7	ON
CH	8	OFF

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

1C	9.7
2C	13.8
3C	14.9
4C	8.7
5C	20.3
6C	32.5
7C	Err
8C	OFF

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

| CH | 1 | 1.867 |
CH	2	2.087
CH	3	2.174
CH	4	1.794
CH	5	2.513
CH	6	3.450
CH	7	eRRor
CH	8	OFF

Load cells response signal in mV for each active channel

ERROR: connection problem

OFF: inactive channel

DIGITAL EQUALIZATION

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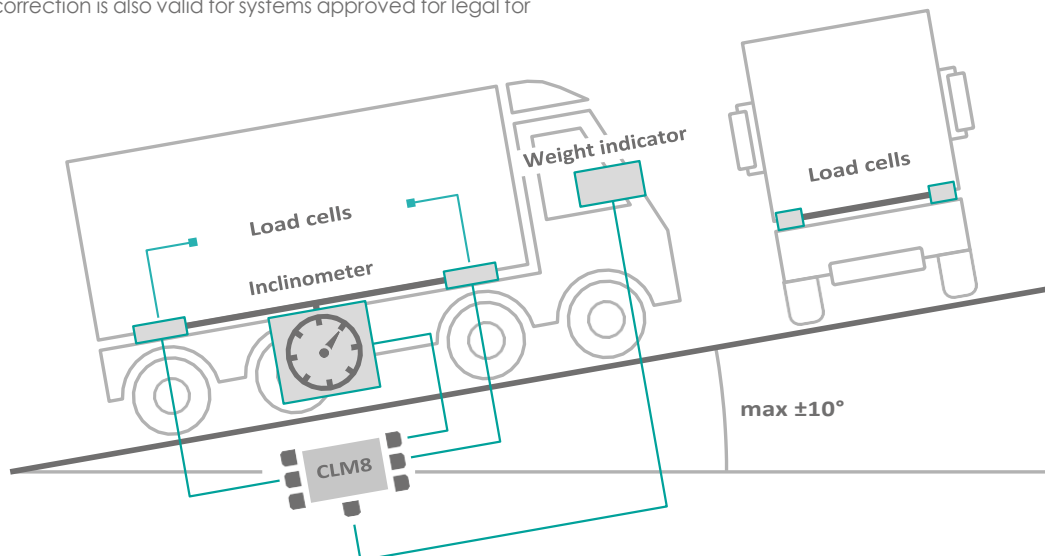

CLM8

1000 kg   1000 kg

1000 kg

PLATFORM

1000 kg   1000 kg
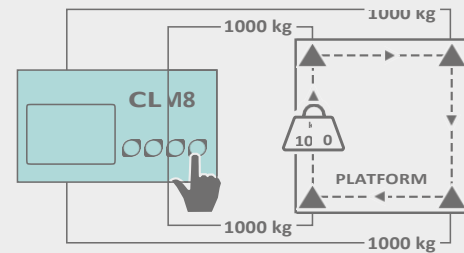
▲ = LOAD CELL

INCLINOMETER NEW

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

Load cells

Weight indicator

Load cells

Inclinometer

max ±10°

CLM8

Rev. 0.0

CLM8
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LIDÉN WEIGHING

LAUMAS®

TECHNICAL FEATURES

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

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

METROLOGICAL SPECIFICATIONS OF TYPE-APPROVED INSTRUMENTS

Applied standards	2014/31/UE - EN45501:2015 - OIML R76:2006
Operation modes	single interval, multi-interval, multiple range
Accuracy class	III or IIII
Maximum number of scale verification divisions	10000 (class III); 1000 (class IIII)
Maximum number of scale verification divisions with inclinometer	1000 (class IIII); 5200 (class III) single interval; 2x5200 or 3x2000 (class III) multi-interval or multiple range
Minimum input signal for scale verification division	0.4 µV/VSI
Working temperature	-10 °C +40 °C
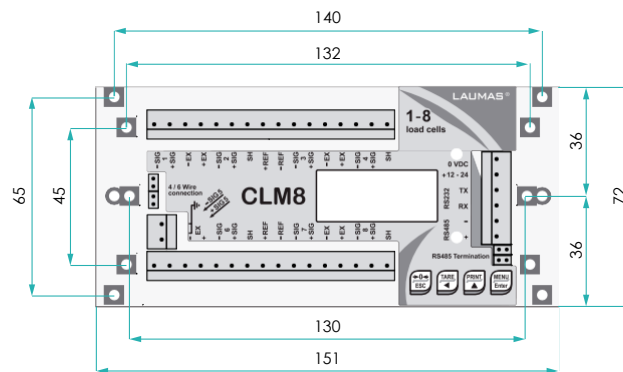
OPTIONS ON REQUEST

	DESCRIPTION	CODE
±10°	Inclinometer model NS-15/DPN2-RXG (TE Connectivity Sensors product).	INCDPN2-RXG
	Inclinometer model NS-15/DPN2-RUG with protective case (TE Connectivity Sensors product).	INCDPG2-RUG
	Alibi memory.	OPZWALIBI
	Ethernet TCP/IP protocol - Ethernet port. Integrated software for remote supervision, management and control of the instrument.	OPZETTCPCLM

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