W100
WEIGHT INDICATOR

LAUMAS®

OIML · M · cULus · NMI TRADE APPROVED · NEW ZEALAND TRADE APPROVED · UK TRADE APPROVED · NTEP · INMETRO · PA ·

MODBUS RTU

DESCRIPTION

- Weight indicator in DIN box suitable for front panel mounting.
- Dimensions: 96x48x130 mm (drilling template: 92x45 mm).
- 6-digit semi-alphanumeric red LED display (14 mm height).
- 8 signalling LED.
- 4-key keyboard.
- IP54 front panel protection rating (IP65 front optional).
- Real-time clock/calendar with buffer battery.
- Removable screw terminal blocks.
- 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.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if analog output is present).
- 1 load cell dedicated input.
- Current or voltage 16 bit optoisolated analog output (option on request).

MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (on request);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display and printer via RS485/RS232;
  - up to 8 load cells in parallel by junction box;
  - intelligent junction box or other multichannel instruments: allow the use of advanced functions as digital equalization, load distribution analysis and automatic diagnostics.
  - IoT gateway for cloud connection 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.
- Displaying of the maximum weight value reached (peak).
- Direct connection between RS485 and RS232 without converter.
- Hysteresis and setpoint value setting.
- Weight value printing with date and time via keyboard or external contact.
- The indicator can be used as a remote display with setpoint.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).
- Labeling machine management.

➤ *On request: label support for initial verification*

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 range or multi-interval.
- Net weight zero tracking.
- Calibration.
- Alibi memory (option on request).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi memory).

Rev. 0.0

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CERTIFICATIONS

OIML R76:2006, class III, 3x10000 divisions, 0.2 μV/VSI   /   OIML R61 - WELMEC Guide 8.8:2011 (MID)

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

NMI Trade Approved - Complies with Australian market regulations for legal for trade use

Complies with New Zealand regulations for legal for trade use

Complies with United Kingdom regulations for legal for trade use

Complies with the Brazilian regulations for legal for trade use

NTEP - n_{max} 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use

Complies with Chinese market regulations for legal for trade use

CERTIFICATIONS ON REQUEST

M Conformity assessment (initial verification) in combination with Laumas weighing module (CE - UKCA)
Support for metric label (dimensions: 124x77x1.5 mm)

Complies with the regulations of the Russian Federation for legal for trade use

TECHNICAL FEATURES

Power supply and consumption	12÷24 VDC ±10%; 5 W
Number of load cells • Load cells supply	up to 8 (350 Ω) - 4/6 wires • 5 VDC/120 mA
Linearity • Analog output linearity	<0.01% full scale • <0.01% full scale
Thermal drift • Analog output thermal drift	<0.0005% full scale/°C • <0.003% full scale/°C
A/D Converter	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	300
Display range	±999999
Decimals • Display increments	0÷4 • x1 x2 x5 x10 x20 x50 x100
Digital filter • Readings per second	10 levels • 5÷300
Relay outputs	5/4 - max 115 VAC/150 mA
Optoisolated digital inputs	3/2 - 5÷24 VDC PNP
Serial ports	RS485, RS232
Baud rate	1200, 2400, 4800, 9600, 19200, 38400, 115200 (bit/s)
Optoisolated analog output (option on request)	16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω) 0÷10 V; 0÷5 V; ±10 V; ±5 V (min 10 kΩ)
Humidity (condensate free)	85%
Storage temperature	-30 °C +80 °C
Working temperature	-20 °C +60 °C

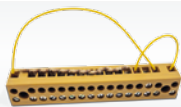|		
ⓒ � ᵁˢ	Relay outputs	5/4 - max 30 VAC, 60 VDC/150 mA
	Working temperature	-20 °C +50 °C
	Equipment to be powered by 12-24 VDC LPS or Class 2 power source	

METROLOGICAL SPECIFICATIONS OF TYPE APPROVED INSTRUMENTS	OIML	NTEP	INMETRO
Applied standards by region	EU: 2014/31/UE; OIML R76:2006; EN45501:2015 Russian Federation: GOST OIML R76-1-2011 United Kingdom: Non-automatic Weighing Instrument Regulations 2016 Australia: National Measurement Regulations 1999 New Zealand: Weights and Measures Regulations 1999 China: Law on Metrology of the People's Republic of China	USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021	Brazil: Portaria Inmetro N°157/2022
Operation mode	single interval, multi-interval, multiple range	single interval, multi-interval, multiple range	single interval, multi-interval, multiple range
Accuracy class	III or IIII	III or IIIL	III
Maximum number of scale verification divisions	10000 (class III); 1000 (class IIII)	10000 (class III/IIIL)	10000 (class III)
Minimum input signal for scale verification division	0.2 μV/VSI		0.2 μV/VSI
Working temperature	-10 °C +40 °C	-10 °C +40 °C (+14 °F +104 °F)	-10 °C +40 °C

OPTIONS ON REQUEST

	ACCESSORIES	CODE
	Label support for initial verification.	
	IP65 panel gasket.	OPZW48X96IP65

	INTERFACES	
ANALOG OUTPUT	Optoisolated 16 bit **analog output**. ➡ *One input and one output not available.*	✳ OPZW1ANALOGICA
RS485⁺	**Additional RS485** port. ➡ *One input and one output not available.*	✳ OPZW1RS485
0-10	Weight reading from 0-10 VDC input (15 kΩ).	OPZWING010
4-20	Weight reading from 4-20 mA input (120 Ω).	OPZWING420

✳ *Select one option among those marked with an asterisk.*

	EXPANSIONS	
	12 groups selection by 5 setpoint via external selector switch.	✳ EC
	12 groups selection by 5 setpoint via external contact.	✳ E
ANALOG OUTPUT	Simultaneous use of E/EC option with the analog output.	OPZWAEC
	External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A.	RELE5M

✳ *Select one option among those marked with an asterisk.*

	APPLICATIONS - SOFTWARE	
	Alibi memory.	OPZWALIBI

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

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