

W100

WEIGHT INDICATOR

LAUMAS®



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).



→ 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).

CERTIFICATIONS

-  OIML R76:2006, class III, 3x10000 divisions, 0.2 μ V/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)
-  UL Recognized component - Complies with United States and Canada standards
-  Complies with the Eurasian Customs Union standards
-  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
-  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

-  Conformity assessment (initial verification) in combination with Laumas weighing module ( )
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/s	
Display range	±999999	
Decimals • Display increments	0÷4 • x1 x2 x5 x10 x20 x50 x100	
Digital filter • Readings per second	10 levels • 5÷300 Hz	
Relay outputs	5/4 - max 115 VAC/150 mA	
Optoisolated digital inputs	3/2 - 5÷24 VDC PNP	
Serial ports	RS485, RS232	
Baud rate	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	
	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	





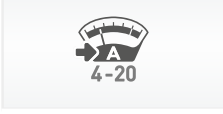

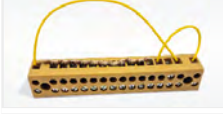
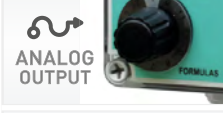


METROLOGICAL SPECIFICATIONS OF TYPE APPROVED INSTRUMENTS

OIML

NTEP

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	USA: NIST HANDBOOK 44, 2020; NCWM PUB 14, 2021
Operation mode	single interval, multi-interval, multiple range	single interval, multi-interval, multiple range
Accuracy class	III or IIIL	III or IIIL
Maximum number of scale verification divisions	10000 (class III); 1000 (class IIIL)	10000 (class III/IIIL)
Minimum input signal for scale verification division	0.2 μV/VS1	
Working temperature	-10 °C +40 °C	-10 °C +40 °C (+14 °F +104 °F)

OPTIONS ON REQUEST

	ACCESSORIES	CODE
	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