WDESK-L/R

WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

CE | OIML | M | Ex | c UL us | EAC | NMI TRADE APPROVED | | IP67 | RS485 RS232 | ANALOG OUTPUT | RECHARGEABLE BATTERY | ALIBI

WiFi

Indicator-holder bracket and column
Stainless steel bracket for wall mounting
Panel mounting

PROGRAM	OIML	M / NMI / G / EAC / cULus					LCD	RED LED
BASE	R76 - R61	●	●	●	●	●	WDESKL-B	WDESKR-B
LOAD	R76 - R61	●	●	●	●	●	WDESKL-C	WDESKR-C
UNLOAD	R76 - R61	●	●	●	●	●	WDESKL-S	WDESKR-S
3 PRODUCTS	R76 - R61	●	●	●	●	●	WDESKL-3	WDESKR-3
* 6 PRODUCTS	R76 - R61	●	●	●	●	●	WDESKL-6	WDESKR-6
* 14 PRODUCTS	R76 - R61	●	●	●	●	●	WDESKL-14	WDESKR-14
Multiprogram	R76 - R61	●	●	●	●	●	WDESKL-MU	WDESKR-MU

* External 8-relay modules included

ON REQUEST

CERTIFICATIONS

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

CERTIFICATIONS ON REQUEST

M — Conformity assessment (initial verification) in combination with Laumas weighing module

c UL us — UL Recognized component - Complies with the United States and Canada standards

EAC — Complies with the Eurasian Custom Union standards (Russia, Belarus, Kazakhstan)

NMI TRADE APPROVED — NMI Trade Approved - Complies with the Australian standards for legal use with third parties

G — Complies with the regulations of the Russian Federation for legal use with third parties

FIELDBUSES

MODBUS RTU MODBUS/TCP | CANopen | PROFIBUS | DeviceNet | EtherNet/IP | ETHERNET TCP/IP | PI CERTIFIED PROFIBUS · PROFINET

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DESCRIPTION

- ABS weight indicator.
- *L version*: 6-digit semi-alphanumeric backlit LCD display (20 mm height) - 46 signalling symbols.
- *R version*: 6-digit semi-alphanumeric red LED display (20 mm height) - 16 signaling LED.
- 6-key keyboard.
- Real-time clock/calendar with buffer battery.

To know the specific characteristics of the various instrument versions, refer to the table of available versions.

INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas bidirectional 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).
- WiFi module (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.
- 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 5 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.
- Weight value printing with date and time via keyboard or external contact.
- `TCP/IP WEB APP`
  Integrated software in combination with the WiFi module and Ethernet TCP/IP options 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).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (aliby memory).

BASE PROGRAM
- Piece counting.
- Weight totalizing.
- Hysteresis and setpoint value setting.
- The indicator can be used as a remote display with setpoints.
- 12 groups selection by 5 setpoint via external selector switch or contact (option on request).

BATCHING PROGRAM
- 99 settable formulas.
- Batching resume after a blackout.
- Automatic fall calculation.
- Tolerance error control.
- Precision batching through slow function.
- Precision batching through tapping function.
- Consumption storage.
- Printing of batching data.
- Alarm contact management.
- Selection of the first 12 formulas via external selector switch or contact (option on request).
- Batching start via external contact or keyboard.

Only for:
LOAD and 3/6/14 PRODUCTS programs
- Autotare at batching start.

UNLOAD program
- Automatic loading of the product into the weighed structure.
- Management of batching with big bags.

3/6/14 PRODUCTS program
- Formulas programming in fixed or variable steps.

MULTIPROGRAM
- The Multiprogram instruments do not have any selected program but can be set by the installer with different operating modes: BASE, LOAD, UNLOAD, 3 PRODUCTS, 6 PRODUCTS, 14 PRODUCTS.

TECHNICAL FEATURES

Power supply and consumption	12÷24 VDC ±10%; 6 W (on request P version: 115÷230 VAC; 50÷60 Hz; 6 VA)
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

c**RU**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

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)
Minimum input signal for scale verification division	0.2 μV/VSI
Working temperature	-10 °C +40 °C

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ISO 9001
ISO 14001

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LAUMAS ®

AVAILABLE VERSIONS

	DESCRIPTION	CODE
	P version (*standard*) - Installation: desk, wall, column, front panel (drilling template: 186x96 mm). - Dimensions: 226x122x164 mm. - IP67 protection rating. - 6 PG9 cable glands. - Power supply included.	WDESK-P
	Q version - Installation: front panel (<u>supports included</u>; drilling template: 186x92 mm), desk, wall. - Dimensions: 226x122x152 mm. - IP67 front panel protection rating. - Extractable screw terminal blocks.	WDESK-Q
	D version - Installation: desk, wall, column, front panel (drilling template: 186x96 mm). - Dimensions: 226x122x189 mm. - IP40 protection rating. - IP67 front panel protection rating. - 4 D-SUB connectors. - Power supply included.	WDESK-D
	X version: **ATEX II 3GD (zone 2-22)** - Installation: desk, wall, column, front panel (drilling template: 186x96 mm). - Dimensions: 226x122x164 mm. - IP67 protection rating. - 6 PG9 cable glands.	WDESK-X

OPTIONS ON REQUEST

	ACCESSORIES	CODE
	Stainless steel adjustable bracket for wall and table mounting. Dimensions with bracket: 230x122x250 mm.	STAFFAINOXWDESK
	Supports for front panel mounting.	STAFFEWINOX
	ABS adjustable support for column mounting.	STAFFAWDESK
	Stainless steel indicator-holder column (Ø38 mm, height 700 mm). Painted steel bracket for platform mounting.	COLONNAM + STAFFACN
	Stainless steel indicator-holder column (Ø38 mm, height 700 mm). Stainless steel bracket for platform mounting.	COLONNAM + STAFFAIN

OPTIONS ON REQUEST

	POWER SUPPLY	CODE
115/230 **VAC**	Power supply 115/230 VAC; 50/60 Hz; 6 VA. ➡ *Not compatible with D version.*	
	24 VDC/1 A stabilized power supply. - 100÷240 VAC input. - 3 m cable length.	ALI24SPINA1A
	24 VDC/1 A stabilized power supply with jack connector. - 100÷240 VAC input. - 3 m cable length.	ALI24SPINA1AJACK
	24 VDC/1 A stabilized power supply with omega rail socket. - 100÷240 VAC input. - 3 m cable length, with or without jack connector.	ALI24SPINAPRESA
	Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type. - Non-removable. - Operating time: 16 hours.	OPZWBATTWDESK

OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

	INTERFACES AND FIELDBUSES	CODE
WiFi	**WiFi module** for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols. (* for Q version) ➡ *X version: only available with internal antenna.*	✱ OPZW1RADIO ✱ OPZW1RADIOQ(*) B C S 3P 6P 14P • • • • • •
ANALOG OUTPUT	Optoisolated 16 bit **analog output**. ➡ *One input and one output not available.*	✱ OPZW1ANALOGICA B C S 3P 6P 14P • • • • • •
RS485+	**Additional RS485** port. ➡ *One input and one output not available.* ➡ *Not compatible with E/EC option.*	✱ OPZW1RS485 B C S 3P 6P 14P • • • • • •
CANopen	**CANopen** protocol. ➡ *Q version: one input and one output not available.* ➡ *Q version: integrated RS485 port not available.* ➡ *Q, P, X version: not compatible with E/EC option.*	✱ OPZW1CA B C S 3P 6P 14P • – – – – –
DeviceNet	**DeviceNet** protocol. ➡ *Q version: one input and one output not available.* ➡ *Q version: integrated RS485 port not available.* ➡ *Q, P, X version: not compatible with E/EC option.*	✱ OPZW1DE B C S 3P 6P 14P • – – – – –
PROFIBUS	**Profibus DP** protocol. ➡ *Q version: one input and one output not available.* ➡ *Q version: integrated RS485 port not available.* ➡ *Q, P, X version: not compatible with E/EC option.*	✱ OPZW1PR B C S 3P 6P 14P • • • • • •
EtherNet/IP	**Ethernet/IP** protocol - IP68 Ethernet port. ➡ *X version: internal crimp wiring.*	✱ OPZW1ETIP68 B C S 3P 6P 14P • – – – – –
ETHERNET TCP/IP	**Ethernet TCP/IP** protocol - IP68 Ethernet port. Integrated software for remote supervision, management and control of the instrument. ➡ *X version: internal crimp wiring.*	✱ OPZW1ETTCP68 B C S 3P 6P 14P • • • • • •
MODBUS/TCP	**Modbus/TCP** protocol - IP68 Ethernet port. ➡ *X version: internal crimp wiring.*	✱ OPZW1MBTCP68 B C S 3P 6P 14P • • • • • •
PI	**Profinet IO** protocol - IP68 Ethernet port. ➡ *X version: internal crimp wiring.*	✱ OPZW1PNETIO68 B C S 3P 6P 14P • – – – – –
IP68 USB	**IP68 USB** port for data storage to pen drive (included). These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply. ➡ *Not compatible with X version.*	OPZWUSB68 B C S 3P 6P 14P • • • • • •

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

OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

	Description	CODE					
	Extension cable for the WiFi module antenna; length: 100 cm. ➡ *Q version: included with the OPZW1RADIOQ option.*	**OPZWCONWF** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
	USB male/female extension cable with IP68 panel connector; lenght: 50 cm, sealing cap and cover included.	**OPZWCONUSBIP68** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
	Ethernet male/female extension cable with IP68 panel connector; lenght: 30 cm, sealing cap included.	**OPZWCONETHEIP68** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
	Ethernet male/male extension cable with IP68 connector; lenght: 5 m.	**OPZWCONETHE5MT** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
0-10	Weight reading from 0-10 VDC input (15 kΩ).	**OPZWING010** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
4-20	Weight reading from 4-20 mA input (120 Ω).	**OPZWING420** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					

EXPANSIONS

	Description	CODE					
	Base: 12 groups selection by 5 setpoint via external selector switch. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external selector switch.	✱ **EC** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
	Base: 12 groups selection by 5 setpoint via external contact. Load, Unload, 3/6/14 Products: selection of the first 12 formulas via external contact.	✱ **E** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
ANALOG OUTPUT	Simultaneous use of E/EC option with the analog output.	**OPZWAEC** B · C · S · 3P · 6P · 14P ● ● ● ● ● ●					
	External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A.	**RELE5M** B · C · S · 3P · 6P · 14P ● ● ● ● – –					

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

OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

			CODE
	External 8-relay module to manage from 1 to 6 products; 8 relays up to max 115 VAC/2 A. Module included with models 6/14 PRODUCTS.	12÷24 VDC	RELE6PROD24V
		115 VAC	RELE6PROD115V
		230 VAC	RELE6PROD230V

B	C	S	3P	6P	14P
–	–	–	–	●	●

		CODE
	External 8-relay module to manage from 7 to 14 products to be added to RELE6PROD module; 8 relays up to max 115 VAC/2 A. Module included with model 14 PRODUCTS.	RELE14PROD

B	C	S	3P	6P	14P
–	–	–	–	–	●

APPLICATIONS - SOFTWARE

FORM ⇩ %	Formulas setting in percentage.	OPZWFORPERC

B	C	S	3P	6P	14P
–	–	–	●	●	●

	Setting a quantity to be batched greater than the scale capacity with automatic calculation of cycles. ➡ *Not available for CE-M approved version.*	OPZWQMC

B	C	S	3P	6P	14P
–	●	–	●	●	●

	Intermediate unloadings during the batching. ➡ *Not available for CE-M approved version.*	OPZWSCARI

B	C	S	3P	6P	14P
–	–	–	●	●	●

	Partial unloadings at cycle end. ➡ *Not available for CE-M approved version.*	OPZWSCARP

B	C	S	3P	6P	14P
–	–	–	●	●	●

	Alibi memory.	OPZWALIBI

B	C	S	3P	6P	14P
●	●	●	●	●	●

	Data transfer from the instrument to the PC, via RS232 (directly) or RS485 (by converter) serial port. These data (weighed values, batchings, alarms) can be imported and processed on the PC using the PROG-DB software included. We suggest to use this option when the indicator is always connected to the PC.	OPZWDATIPC

B	C	S	3P	6P	14P
●	●	●	●	●	●

	Manual batching with remote displays connected in parallel to the instrument via RS485 serial port; allows to display on different remote displays the following batching information: formula and product number, remaining quantity to be batched, gross weight.	OPZWLAUMAN

B	C	S	3P	6P	14P
–	●	●	●	●	●