WDESK-L

WEIGHT INDICATOR - WEIGHING AND BATCHING

LAUMAS®

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

PROGRAM	CODE
BASE	WDESKL-B
LOAD	WDESKL-C
UNLOAD	WDESKL-S
3 PRODUCTS	WDESKL-3
* 6 PRODUCTS	WDESKL-6
* 14 PRODUCTS	WDESKL-14
Multiprogram	WDESKL-MU

* *External 8-relay modules included*

FIELDBUSES

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

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ISO 9001
ISO 14001

www.laumas.com

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CERTIFICATIONS

OIML	OIML R76:2006, class III, 3x10000 divisions, 0.2 μV/VSI / OIML R61 - WELMEC Guide 8.8:2011 (MID)
c UL us	UL Recognized component - Complies with United States and Canada regulations
EAC	Complies with the Eurasian Customs Union regulations
UK CA	Equivalent of the CE marking for the United Kingdom
NMI TRADE APPROVED	NMI Trade Approved - Complies with Australian market regulations for legal for trade use
TRADE APPROVED	Complies with New Zealand regulations for legal for trade use
NTEP	NTEP - n_{max} 10000 - Class III/IIIL - Complies with United States regulations for legal for trade use
PA	Complies with Chinese market regulations for legal for trade use
	CERTIFICATIONS ON REQUEST
M	Conformity assessment (initial verification) in combination with Laumas weighing module
	Complies with the regulations of the Russian Federation for legal for trade use

DESCRIPTION

- ABS weight indicator.
- 6-digit semi-alphanumeric backlit LCD display (20 mm height).
- 46 signalling symbols.
- 6-key keyboard.
- Real-time clock/calendar with buffer battery.
- The instrument can be configured and managed using the free “Instrument Manager” PC software, which you can download from www.laumas.com.

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 or continuous one way transmission.
- 5 relay outputs controlled by the setpoint values or via protocols (4 outputs if the analog output is present).
- 3 optoisolated PNP digital inputs: status reading via serial communication protocols (2 inputs if the 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).

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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.
- 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.
- 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.
- Weight value printing with date and time via keyboard or external contact.
- Printing (header) can be customized using the free "JollyPrint" PC software, available at www.laumas.com.
- Labeling machine management (except 3/6/14 PRODUCTS program).

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).
- The following values can be printed via keyboard or external contact: gross weight, net weight, tare, preset tare, date, time, ID code (alibi 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.
- Manual batching with remote displays connected in parallel to the instrument.

Only for:

LOAD and 3/6/14 PRODUCTS programs

- Autotare at batching start.
- Setting a quantity to be batched greater than the scale capacity.

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.
- Formulas setting in percentage.
- Intermediate unloadings during the batching.
- Partial unloadings at cycle end.

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.

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TECHNICAL FEATURES

Power supply and consumption	12÷24 VDC ±10%; 6 W (on request: 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
Conversion rate	5÷300 Hz
Display range	±999999
Decimals • Display increments	0÷4 • x1 x2 x5 x10 x20 x50 x100
Digital filter	10 levels
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

c UL 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
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
Operation modes	single interval, multi-interval, multiple range	single interval, multi-interval, multiple range
Accuracy class	III or IIII	III or IIIL
Maximum number of scale verification divisions	10000 (class III); 1000 (class IIII)	10000 (class III/IIIL)
Minimum input signal for scale verification division	0.2 μV/VSI	
Working temperature	-10 °C +40 °C	-10 °C +40 °C (+14 °F +104 °F)

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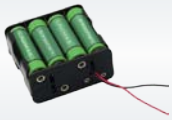
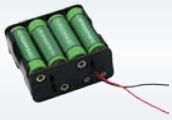
AVAILABLE VERSIONS

	DESCRIPTION
	P version (*standard*) - Installation: desk, wall, column, front panel (drilling template: 186x96 mm). - Dimensions: 226x122x164 mm. - IP67 protection rating. - 6 M16x1.5 cable glands. - Universal power supply included: 24 VDC/1 A - 100÷240 VAC input; cable length: 3 m.
	Q version - Installation: front panel (supports included; drilling template: 186x92 mm), desk, wall. - Dimensions: 226x122x152 mm. - IP67 front panel protection rating. - Removable screw terminal blocks.
	D version - Installation: desk, wall, column, front panel (drilling template: 186x96 mm). - Dimensions: 226x122x189 mm. - IP40 protection rating. - IP67 front panel protection rating. - D-SUB connectors. - Universal power supply included: 24 VDC/1 A - 100÷240 VAC input; cable length: 3 m.
	X version: **ATEX (zone 2-22)** - Installation: desk, wall, column, front panel (drilling template: 186x96 mm). - Dimensions: 226x122x164 mm. - IP67 protection rating. - 6 M16x1.5 cable glands.

OPTIONS ON REQUEST

	ACCESSORIES
	Stainless steel adjustable bracket for wall and table mounting. Dimensions with bracket: 230x122x250 mm.
	Supports for front panel mounting.
	ABS adjustable support for column mounting.
	Stainless steel indicator-holder column (Ø38 mm, height 700 mm). Painted steel bracket for platform/floor mounting. Stainless steel indicator-holder column (Ø38 mm, height 700 mm). Stainless steel bracket for platform/floor mounting.

OPTIONS ON REQUEST

	POWER SUPPLY
115/230 VAC	Power supply 115/230 VAC; 50/60 Hz; 6 VA. ➔ *Not compatible with D version.* ➔ *Not compatible with EAC certifications.*
	Universal power supply 24 VDC/1 A. - 100÷240 VAC input. - 3 m cable length.
	Universal power supply 24 VDC/1 A with jack connector. - 100÷240 VAC input. - 3 m cable length.
	Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type. - Non-removable. - Operating time: 16 hours. ➔ *Not compatible with X version.*
	Battery pack made up of 8 NiMH rechargeable elements, 1.2 V, AA type. - Non-removable. - Operating time: 16 hours.

OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

INTERFACES AND FIELDBUSES

WiFi module (2.4 GHz) for wireless connection via integrated web server (for remote supervision, management and control of the instrument) or via ModBus RTU, ASCII Laumas protocols.
- X version: only available with internal antenna.

✶ P, D, X version
✶ Q version

✶ Optoisolated 16 bit **analog output**.
- *One input and one output not available.*

✶ **Additional RS485** port.
- *One input and one output not available.*
- *Not compatible with E/EC option.*

✶ **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.*

✶ **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.*

✶ **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.*

Ethernet/IP protocol

✶ P, Q, D version: IP68 Ethernet port
✶ P, X version: internal crimp wiring

Ethernet TCP/IP protocol
Integrated software for remote supervision, management and control of the instrument.

✶ P, Q, D version: IP68 Ethernet port
✶ P, X version: internal crimp wiring

Modbus/TCP protocol

✶ P, Q, D version: IP68 Ethernet port
✶ P, X version: internal crimp wiring

PROFINET IO protocol

✶ P, Q, D version: IP68 Ethernet port
✶ P, X version: internal crimp wiring

DATAUSB

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.*

USB port for data storage to pen drive (included). These data (weighed values, alarms) can be imported and processed on the PC using the PROG-DB software included in the supply.
- *Not compatible with X version.*

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

The Q version instruments can mount only one IP68 port and do not provide internal crimp wiring.

OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

	Extension cable for the WiFi module antenna; length: 100 cm. ➔ *Included in the Wi-Fi module option for Q version.*
	USB male/female extension cable with IP68 panel connector; length: 50 cm, sealing cap and cover included.
	Ethernet male/female extension cable with IP68 panel connector; length: 30 cm, sealing cap included.
	Ethernet male/male extension cable with IP68 connector; length: 5 m.
	Weight reading from 0-10 VDC input (15 kΩ). ➔ *Not compatible with X version.*
	Weight reading from 4-20 mA input (120 Ω). ➔ *Not compatible with X version.*

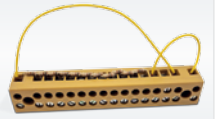
APPLICATIONS - SOFTWARE

	Alibi memory.
	DATAPC 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.

OPTIONS ON REQUEST AND COMPATIBILITY WITH BATCHING PROGRAMS

EXPANSIONS

✶ EC
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.



✶ E
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.

Simultaneous use of E/EC option with the analog output.

External 5-relay module to increase the capacity of SPDT contacts to 115 VAC/2 A.
➔ *Not compatible with models 6/14 PRODUCTS.*

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.

RELE6PROD24V	12÷24 VDC
RELE6PROD230V	115/230 VAC

RELE14PROD
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.

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

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