

SOLAS CONVENTION: LAUMAS SOLUTIONS



1 CONTAINER WEIGHING

2 CONTENT WEIGHING

SOLAS IN A FEW WORDS...

The International Maritime Organization (IMO) has amended the Safety of Life at Sea Convention (SOLAS) to require, as a condition for loading a packed container onto a ship for export, that the container has a verified weight. This requirement became legally effective since July 2016. After that date, it's a violation of SOLAS to load a packed container onto a vessel if the vessel operator and marine terminal operator do not have a verified container weight.



VERIFIED GROSS MASS - VGM - CALCULATION METHOD

1



CONTAINER WEIGHING
after it has been packed

2



CONTENT WEIGHING
weighing all the cargo and contents of the
container prior to loading

LAUMAS SOLUTIONS



LAUMAS®
ELETTRONICA

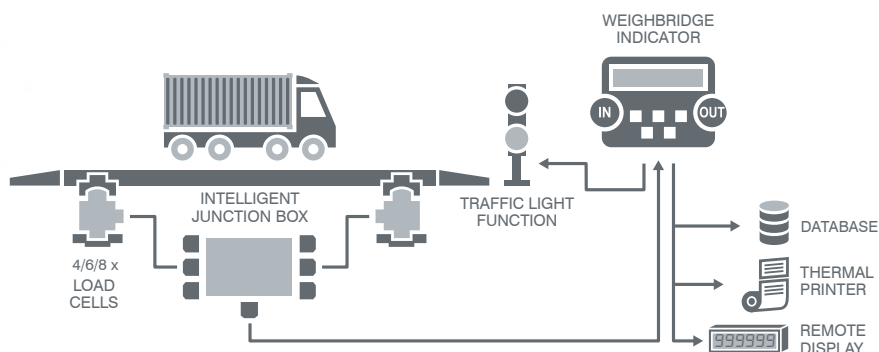
Laumas offers **certified** and **calibrated** weighing solutions



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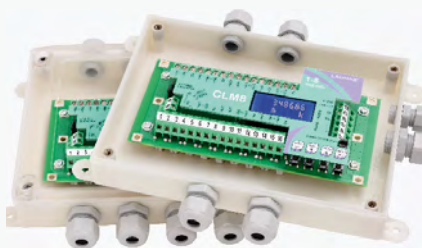
COMPONENTS FOR APPROVED WEIGHBRIDGE



A



COK



CLM8-ABS

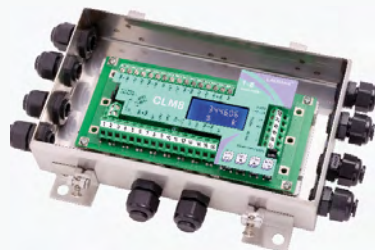


WTAB BR

B



COL



CLM8INOX



WINOX BL

4/6/8 x COLUMN LOAD CELLS

- IP68 protection class.
- OIML R60 C3/C4 accuracy class.
- Mounting kit.

COK:

- 25 tons. single cell capacity.
- Special steel.
- Combined error $\leq \pm 0.02\%$

COL:

- 30 tons. single cell capacity.
- 17-4 PH stainless steel.
- Combined error $\leq \pm 0.013\%$

INTELLIGENT JUNCTION BOX

- IP67 protection class.
- OIML R76:2006, class III, 10000 divisions $0.2 \mu V/VSI$.
- ABS box version.
- AISI 304 stainless steel version.
- PG9 cable glands-plugs (4+2 / 8+2).
- Backlit alphanumeric LCD display.
- Ethernet and RS485/RS232 serial ports.
- Lightning and electrical shock protection device.

Main functions:

- 8 independent channels for load cells, allow to have same benefits and performance of an advanced digital weighing system even using analog load cells.
- Monitoring and direct management of the individual load cells connected.
- Digital equalizer.
- Instant anomalies report.
- Load automatic diagnostics.
- Data backups archive.

WEIGHBRIDGE INDICATOR

- IP40 protection class (D-SUB connectors).
- OIML R76:2006, class III, 10000 divisions $0.2 \mu V/VSI$.
- ABS box version with red LED display. Integrated thermal printer (optional).
- AISI 304 stainless steel version with backlit LCD display.
- RS485/RS232 serial ports.
- Alibi memory.

Main functions:

- Double weighing (entry and exit), single weighing (entry or exit), double weighing with trailer, Single weighing with trailer, multiple weighing (weighing of multi-compartment trucks).
- Open input weighs archive (max 254).
- Trucks database with password, max 999 preset tare that can be stored and recalled.
- Up to 10000 weighed values that can saved in alibi memory.
- Traffic two-light management function.
- Totals management (loaded and unloaded material).
- Print of displayed weight, print of open weighings, print of totals, reprint of last weigh..

FOR FURTHER TECHNICAL INFORMATION,
PLEASE REFER TO THE INDIVIDUAL
PRODUCT SHEETS ON WEBSITE
www.laumas.com



CONTAINER WEIGHING

LAUMAS SOLUTION

C

COMPONENTS FOR APPROVED OVERHEAD TRAVELLING CRANE



FTZA

4 x SHEAR BEAM LOAD CELLS

- 10 tons. single cell capacity.
- 17-4 PH stainless steel.
- Combined error $\leq \pm 0.02\%$
- IP68 protection class.
- OIML R60 C3 accuracy class.

TLM8

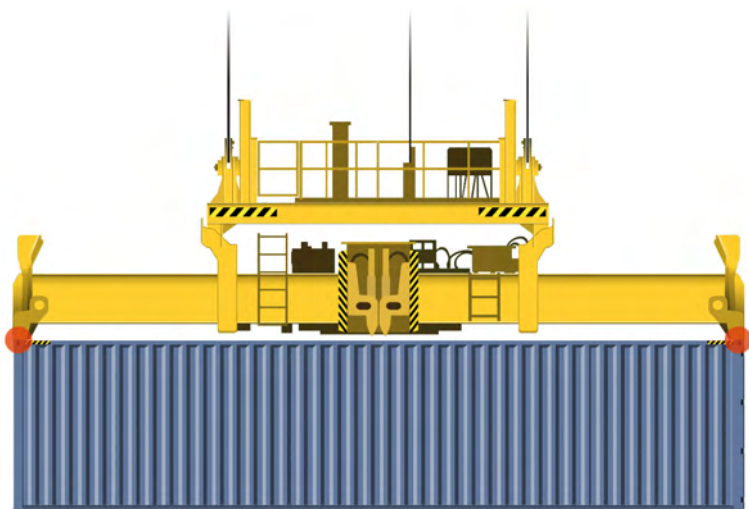
DIGITAL/ANALOG WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS

- IP67 ABS waterproof box, PG9 cable glands-plugs (8+3).
- OIML R76:2006, class III, 10000 divisions $0.2 \mu\text{V/VSI}$.
- Backlit graphic LCD display, STN transmissive.
- Divisions of the 8 channels transmission via RS485 or fieldbus.
- 16 bit analog output.
- Alibi memory

Fieldbus: CANopen, DeviceNet, CC-LINK, PROFIBUS DP, PROFINET IO, Ethernet/IP, Modbus/TCP, Ethernet TCP/IP, EtherCAT, POWERLINK, SERCOS III.

Main functions:

- 8 independent channels for load cells allow to have same benefits and performance of an advanced digital weighing system even using analog load cells.
- Monitoring and direct management of the individual load cells connected.
- Load distribution synoptic analysis on 8 channels.
- Digital equalizer.
- Load automatic diagnostics.
- Data backups archive.

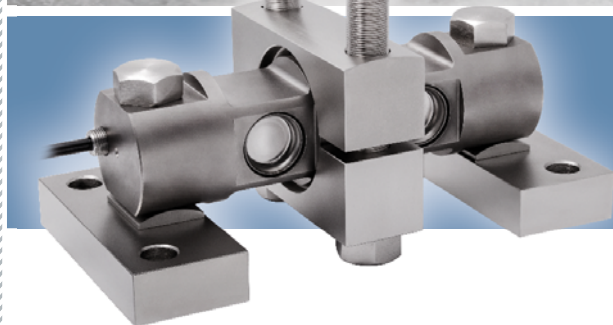
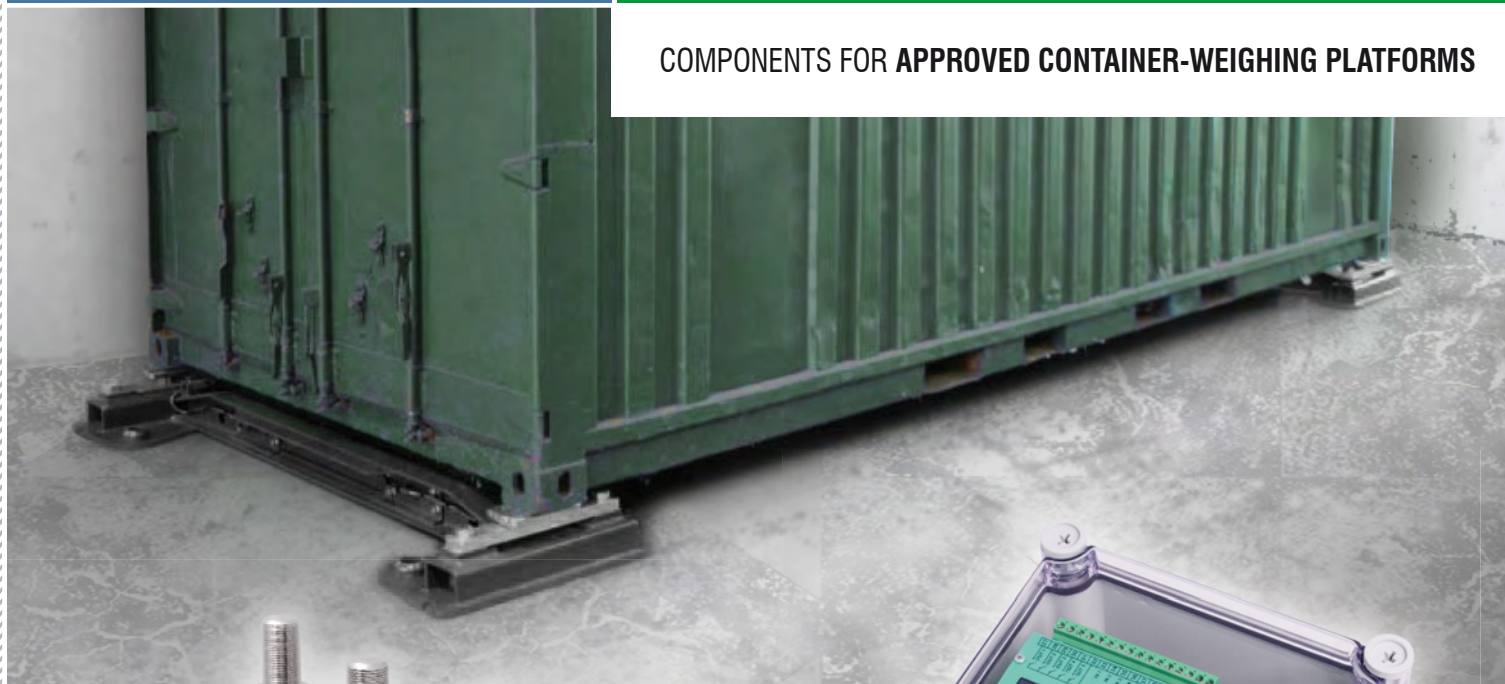


● 4 load cells positioning

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LAUMAS
ELETTRONICA

COMPONENTS FOR **APPROVED** CONTAINER-WEIGHING PLATFORMS**DTX****4x DOUBLE SHEAR BEAM LOAD CELLS**

- 20' container: 13 tons. single cell capacity
- 40' container: 18 tons. single cell capacity
- Nickel-plated steel alloy.
- Combined error $\leq \pm 0.02\%$
- IP68 protection class.
- OIML R60 C3 accuracy class.
- Mounting kit.

**TLM8****DIGITAL/ANALOG WEIGHT TRANSMITTER - 8 INDEPENDENT CHANNELS**

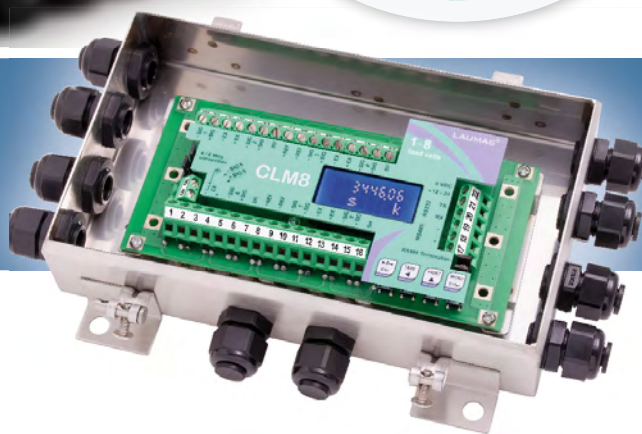
- IP67 ABS waterproof box, PG9 cable glands-plugs (8+3).
- OIML R76:2006, class III, 10000 divisions $0.2 \mu\text{V/VSI}$.
- Backlit graphic LCD display, STN transmissive.
- Divisions of the 8 channels transmission via RS485 or fieldbus.
- 16 bit analog output.
- Alibi memory

Fieldbus: CANopen, DeviceNet, CC-LINK, PROFIBUS DP, PROFINET IO, Ethernet/IP, Modbus/TCP, Ethernet TCP/IP, EtherCAT, POWERLINK, SERCOS III.

Main functions:

- 8 independent channels for load cells, allow to have same benefits and performance of an advanced digital weighing system even using analog load cells.
- Monitoring and direct management of the individual load cells connected.
- Load distribution synoptic analysis on 8 channels.
- Digital equalizer.
- Load automatic diagnostics.
- Data backups archive.

COMPONENTS FOR APPROVED ON-BOARD WEIGHING



DTX

4/6 x DOUBLE SHEAR BEAM LOAD CELLS

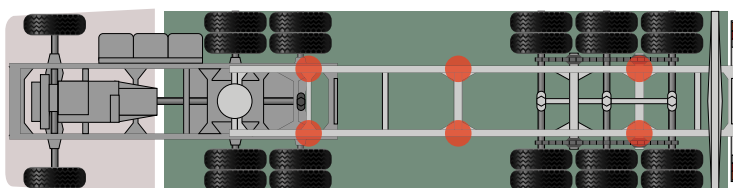
- 20' container: 13 tons. single cell capacity
- 40' container: 18 tons. single cell capacity
- Nickel-plated steel alloy.
- Combined error $\leq \pm 0.02\%$
- IP68 protection class.
- OIML R60 C3 accuracy class.
- Mounting kit.

CLM8INOX

INTELLIGENT JUNCTION BOX

- IP67 protection class.
- OIML R76:2006, class III, 10000 divisions $0.2 \mu\text{V}/\text{VSI}$.
- AISI 304 stainless steel version.
- PG9 cable glands-plugs (4 + 2 / 8 + 2).
- Backlit alphanumeric LCD display.
- Ethernet and RS485/RS232 serial ports.
- Lightning and electrical shock protection device.

INCLINOMETER MANAGEMENT



● Posizionamento 4/6 celle di carico a bordo mezzo

Main functions:

- 8 independent channels for load cells, allow to have same benefits and performance of an advanced digital weighing system even using analog load cells.
- Monitoring and direct management of the individual load cells connected.
- Digital equalizer.
- Instant anomalies report.
- Load automatic diagnostics.
- Data backups archive.

APPROVED CRANE SCALE. 6000 kg MAX. CAPACITY**KITDIN****OIML R60 C3 TRACTION WEIGHING SYSTEM**

- 3000 kg or 6000 kg maximum load.
- 17-4 PH stainless steel traction load cell. OIML R60 C3. Combined error $\leq \pm 0.02\%$. IP68 protection class.
- Swivel hook and shackle.

WTAB-R**ABS WEIGHT INDICATOR** desk mounting.

- IP40 protection class (D-SUB connectors).
- OIML R76:2006, class III, 10000 divisions $0.2 \mu\text{V}/\text{VSI}$.
- Red LED display.
- Integrated thermal printer (optional).
- RS485/RS232 serial ports.
- Ethernet/USB port
- 16 bit analog input.
- Alibi memory.



Fieldbus:
CANopen
DeviceNet
CC-LINK
PROFIBUS DP
PROFINET IO
Ethernet/IP
Modbus/TCP
Ethernet TCP/IP

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APPROVED CRANE SCALE. 6000 kg MAX. CAPACITY WEIGHT RADIO TRANSMISSION

KITDIN

OIML R60 C3 TRACTION WEIGHING SYSTEM

- 3000 kg or 6000 kg maximum load.
- 17-4 PH stainless steel traction load cell. OIML R60 C3. Combined error $\leq \pm 0.02\%$. IP68 protection class.
- Swivel hook and shackle.

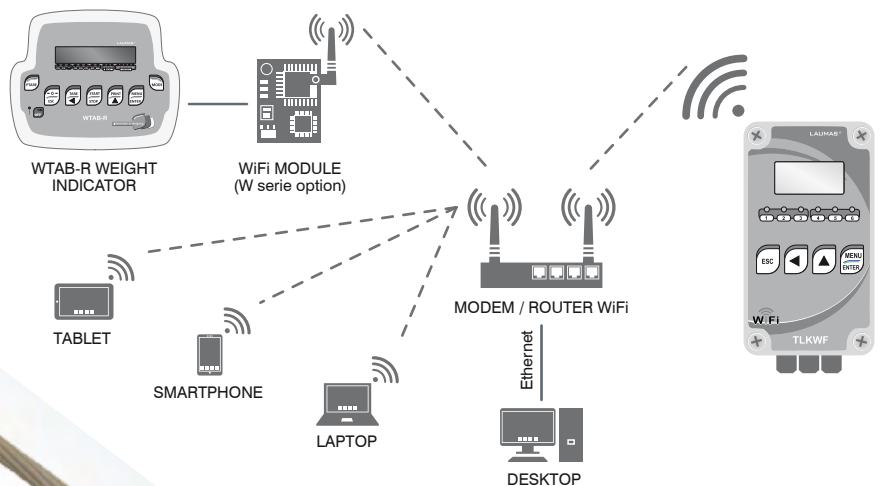
TLKWf

DIGITAL WEIGHT TRANSMITTER - WiFi

- IP67 polycarbonate box, PG9 cable glands-plugs (3).
- Backlit alphanumeric LCD display.
- WiFi module with serial tunneling protocols and integrated web server. Radio range up to 100 m in free air.
- RS485/RS232 serial ports.
- External / Internal rechargeable battery.

Main functions:

- Connections to others TLKWf devices and W series Laumas instruments with OPZW1RADIO optional module via WiFi.
- Communication via existing WiFi networks.
- Integrated web site in combination with WiFi connection for supervision, management and remote control of the weight transmitter. The web site is displayed on PC, smatphone and tablet with standard browsers (Explorer, Safari, Chrome, etc).
- Energy saving mode.



WIFI WEB SERVER & SITE



FOR FURTHER TECHNICAL INFORMATION,
PLEASE REFER TO THE INDIVIDUAL PRODUCT
SHEETS ON WEBSITE www.laumas.com

WiFi

2

CONTENT WEIGHING

LAUMAS SOLUTION

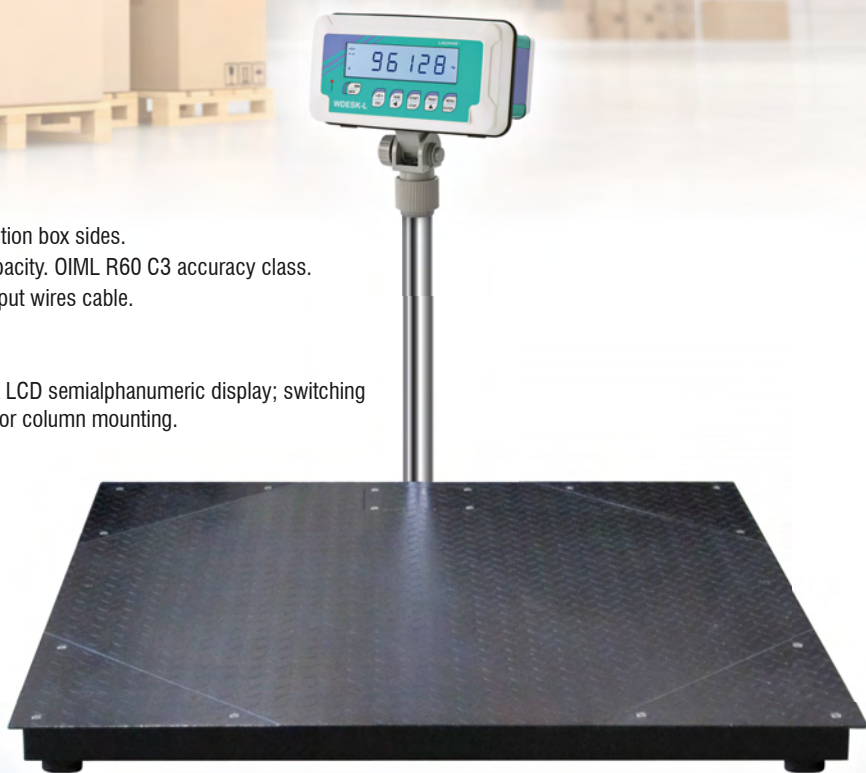
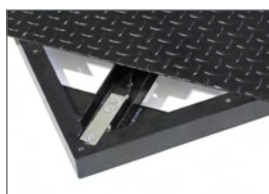
H-I



APPROVED SCALE 1500x1500 mm. 3000 kg MAX. CAPACITY

PAINTED STEEL SCALE WITH ABS WEIGHT INDICATOR

- Painted steel platform with inspectable loading top on cells and junction box sides.
- 4x IP68 AISI 420 stainless steel shear beam load cell. 1000 kg capacity. OIML R60 C3 accuracy class.
- IP67 stainless steel junction box with equalization board and 6-output wires cable.
- Galvanized steel self-centering adjustable jointed feet.
- Stainless steel column with painted steel bracket.
- IP67 ABS weight indicator with 6 PG9 cable glands-plugs; ; backlit LCD semialphanumeric display; switching power supply plug 24V 450mA. ABS adjustable indicator-bracket for column mounting.



H

PLATFORM + INDICATOR
P1500 WDESK-L

STAINLESS STEEL SCALE WITH WEIGHT INDICATOR

- AISI 304 stainless steel platform with inspectable loading top on cells and junction box sides.
- 4x IP68 17-4PH stainless steel shear beam load cell. 1000 kg capacity. OIML R60 C3 accuracy class.
- IP67 stainless steel junction box with equalization board and 6-output wires cable.
- Galvanized steel self-centering adjustable jointed feet.
- Stainless steel column with bracket.
- IP68 AISI 304 stainless steel weight indicator with 6 PG9 cable glands-plugs; ; red LED display; switching power supply plug 24V 450mA. Stainless steel adjustable indicator-bracket for column mounting.



I

PLATFORM + INDICATOR
PINOXN WINOX-R

2 CONTENT WEIGHING

LAUMAS SOLUTION

L-M
APPROVED PALLET-WEIGHING. 3000 kg MAX. CAPACITY

PAINTED STEEL PALLET-WEIGHING SCALE WITH ABS WEIGHT INDICATOR

- Painted steel pallet-weighing with wheels and handle for inclined transport. Dimension 1250 x 840 x 95 mm (minimum height).
- 4x IP68 AISI 420 stainless steel shear beam load cells; 1000 kg capacity; OIML R60 C3 accuracy class.
- IP67 stainless steel junction box with equalization board and 6-output wires cable.
- Galvanized steel jointed feet.
- Stainless steel indicator stand on painted steel mobile pedestal (4 swivel wheels).
- IP67 ABS weight indicator with 6 PG9 cable glands-plugs; backlit LCD semialphanumeric display; switching power supply plug 24V 450mA. ABS adjustable indicator-bracket for column mounting.



L PALLET-WEIGHING + INDICATOR
PX WDESK-L

STAINLESS STEEL PALLET-WEIGHING SCALE WITH INOX WEIGHT INDICATOR

- AISI 304 stainless steel pallet-weighing with wheels and handle for inclined transport. Dimension 1250 x 840 x 95 mm (minimum height).
- 4x IP68 17-4 PH stainless steel shear beam load cells; 1000 kg capacity; OIML R60 C3 accuracy class.
- IP67 stainless steel junction box with equalization board and 6-output wires cable.
- AISI 304 stainless steel jointed feet.
- Stainless steel indicator stand on painted steel mobile pedestal (4 swivel wheels).
- IP68 AISI 304 stainless steel weight indicator with 6 PG9 cable glands-plugs; red LED display; switching power supply plug 24V 450mA. Stainless steel adjustable indicator-bracket for column mounting.



M PALLET-WEIGHING + INDICATOR
PXI WINOX-R



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