



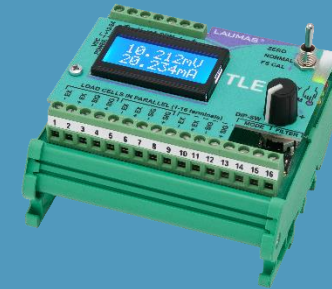
26 November 2020

WEBINAR

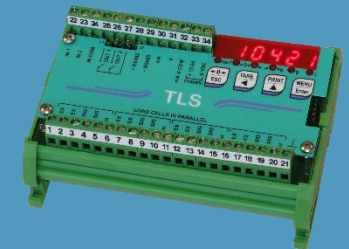
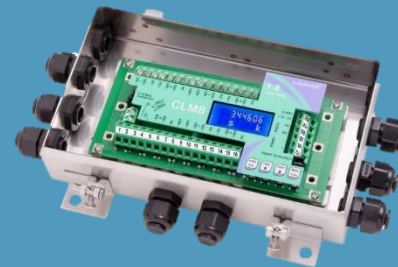


#LAUMASKNOWHOW

LAUMAS®  
Innovation in Weighing



# WEIGHT TRANSMITTERS



# WEIGHT TRANSMITTERS

*"A weight transmitter is an electronic instrument equipped with one or more inputs for load cells and at least one analog or digital output ; it is used to transmit the weight data to a PC, a PLC or any other management device"*

LOAD CELLS

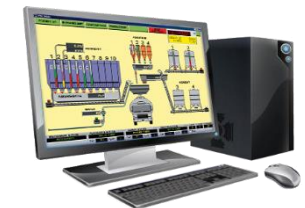


WEIGHT TRANSMITTER

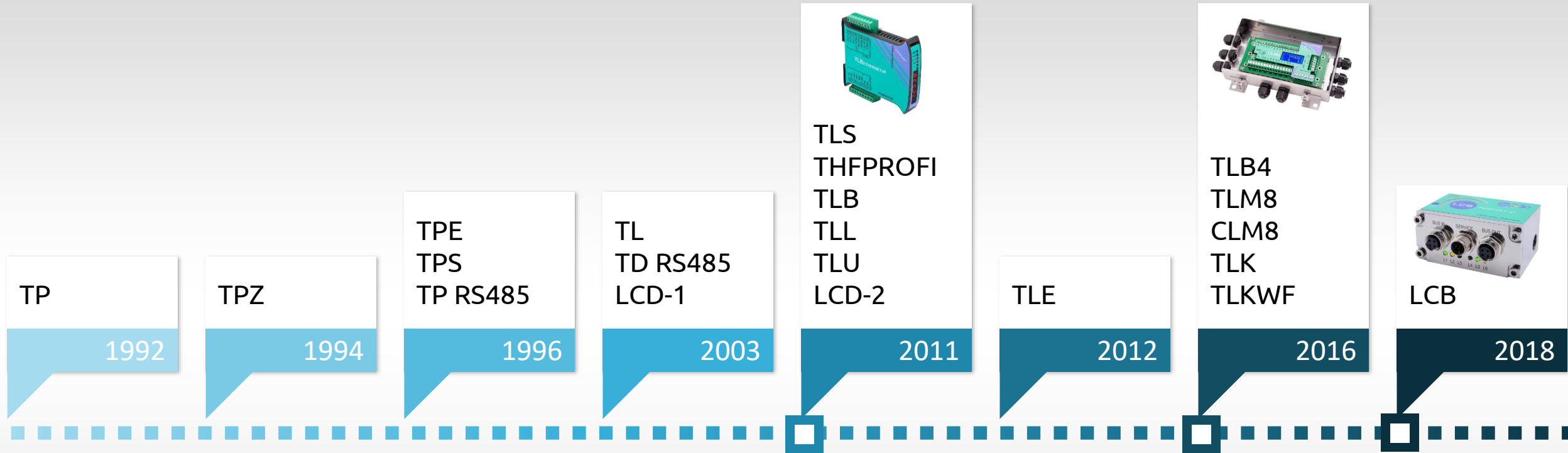


Analog output/  
Fieldbus

PLC / PC

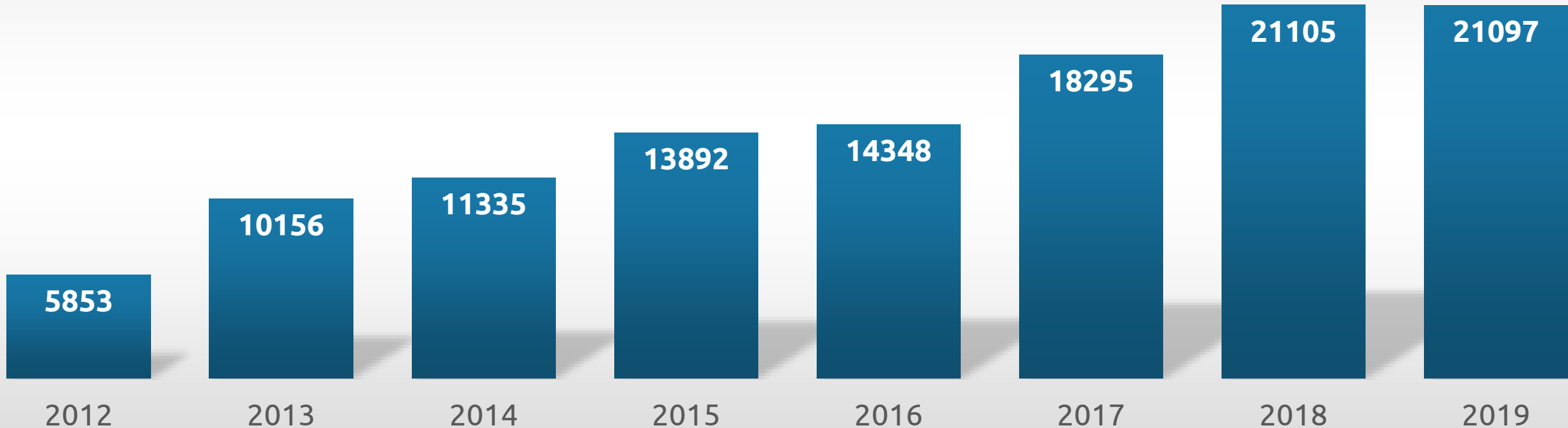


# THE WEIGHT TRANSMITTERS EVOLUTION

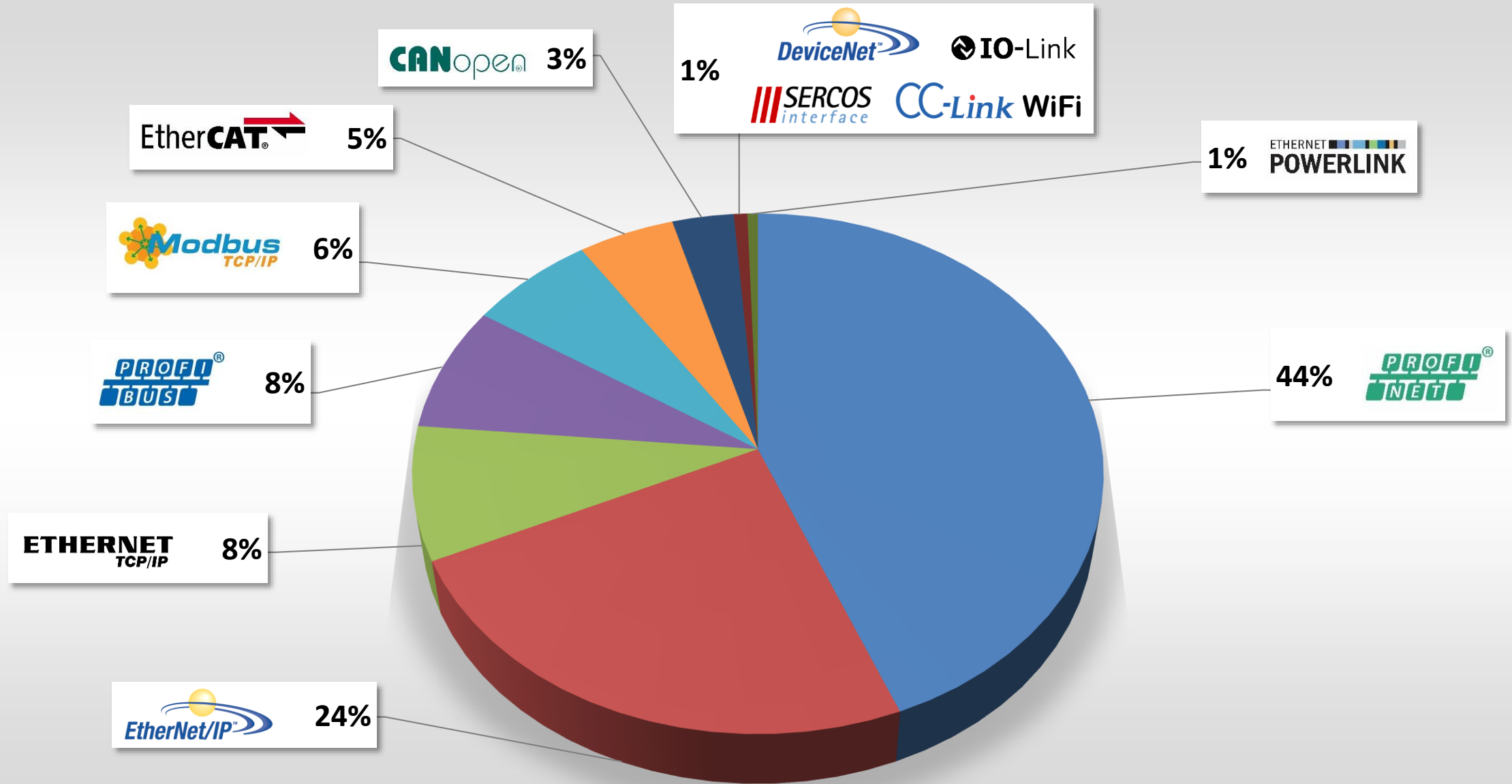


# LAUMAS WEIGHT TRANSMITTERS: GROWTH GRAPH

TOTAL QUANTITY



# FIELDBUS MARKET SHARE IN 2019



# WEIGHT TRANSMITTERS: GENERAL OVERVIEW



- Transmission of the weight value to indicators, PC, PLC
- **Display** and **keypad** for the calibration
- **Field bus** for the communication with PC/PLC
- Analog output, relay outputs, RS232, RS485
- **Single channel:** TPS, TLE, TLS, TLB, TLK, TLKWF, THFPROFI, TLL, TLU, LCD-2
- **Multichannel:** TLB4, TLM8, CLM8
- **LCB:** digitizer, IoT, connectable via cable or integral to the load cell's body

# PRODUCT CERTIFICATIONS

# M

**EC-TYPE  
APPROVAL**

NAWI R76 - MID/AWI  
R51-R61



**R51 - R61 - R76**



**ATEX - EC-Type  
examination**

Directive  
2014/34/EU – ATEX;  
zone 0-1-2 gas;  
zone 20-21-22 dust



**IECEX CoC  
Certificate**

Standards: IEC 60079-0,  
60079-11, 60079-31,  
60079-15; zone 0-1-2  
gas; zone 20-21-22 dust



**NTEP Certification**

for commercial  
weighing and measuring  
equipment in the U.S.  
for legal for trade use

# EAC

**Eurasian Customs  
Union standard**

The EAC mark replaces  
the GOST



**TR CU 012 Standards**

EAC Ex for use in  
potentially explosive  
atmosphere; zone 0-1-2  
gas; zone 20-21-22 dust



**"UL RECOGNIZED  
COMPONENT"  
CERTIFICATION**

The U.S. and Canadian  
standards



**NMI Certifications  
for legal for trade**

in **Australia** and  
**New Zealand**



**3-A Certification**

for sanitary standards


# CONSORTIA AND ASSOCIATIONS



**PI**  
PROFIBUS &  
PROFINET  
International



**ETG**  
EtherCAT  
Technology Group



**IO-Link**  
Consortium



**CANopen**  
CAN in Automation  
(CiA)



**EPSG**  
Ethernet POWERLINK  
Standardization Group



**SERCOS**  
International

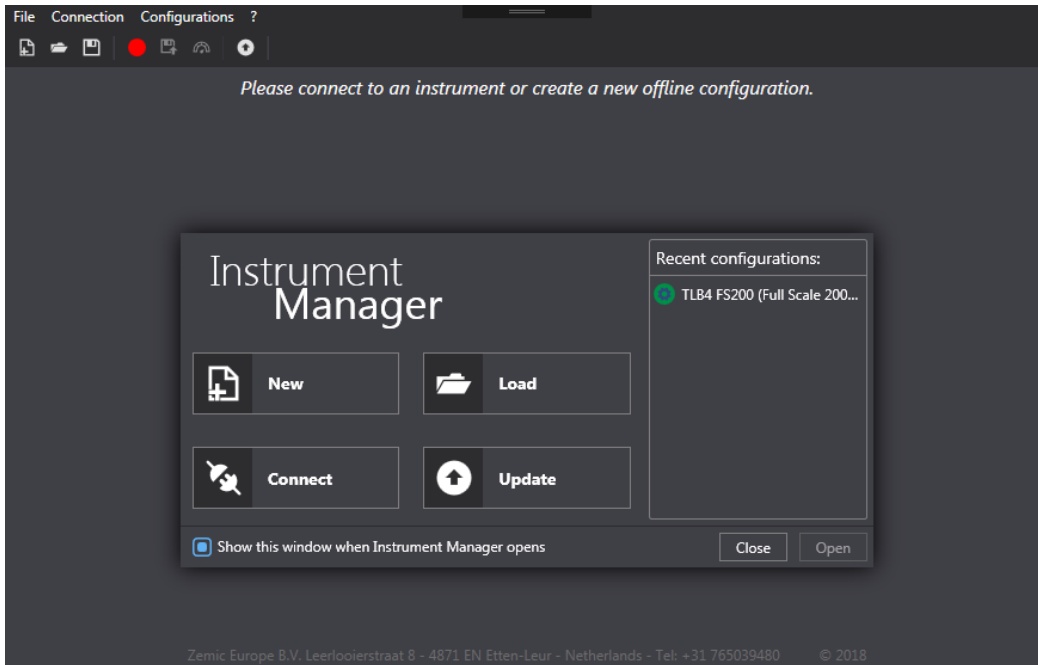


**CLPA**  
CC-Link Partner  
Association



# INSTRUMENT MANAGER

PC SOFTWARE FOR PROGRAMMING, MONITORING AND MANAGEMENT



Serial communication  
via **RS485**

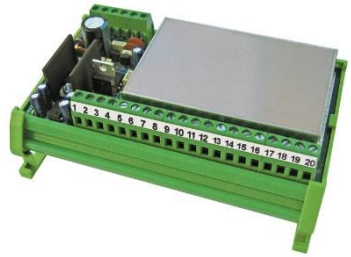
Real time  
**Monitoring**

Firmware  
**updating**

**Storage** of the setting  
parameters

**FREE DOWNLOAD**

# SINGLE CHANNEL WEIGHT TRANSMITTERS: TL FAMILY



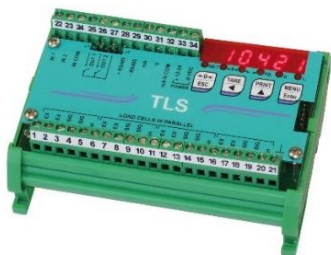
## TPS

- **Blind**
- Analog output
- Calibration: **trimmers** and **dip-switches**



## TLE

- **The most cost effective**
- Analog output, RS485
- Calibration: **display** and **encoder**



## TLS

- Analog outputs, RS485
- 2 relay outputs, 2 logic inputs
- Calibration: **display** and **keypad**

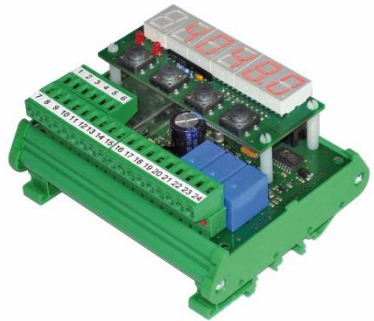


- **4 load cell inputs** (in parallel)
- **IP67** junction box for field installation
- Back panel mounting on Omega/DIN rail

# SINGLE CHANNEL WEIGHT TRANSMITTERS: LOAD LIMITERS

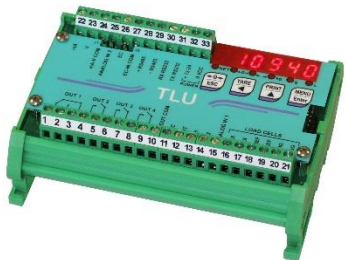
## LCD-2

- RS232, RS485
- 3 relay outputs, 1 logic input
- Possibility to connect up to **4x LCD-2** for bridge cranes total weight checking



## TLU

- Analog output, RS232, RS485
- 4 relay outputs, 2 logic inputs



- 1 load cell input (8x350Ω)
- **IP67** junction box for field installation
- Back panel mounting on Omega/DIN rail
- Calibration: **display** and **keypad**

# SINGLE CHANNEL WEIGHT TRANSMITTERS: TLB

- Calibration: **display** and **buttons**
- 1 load cell input (8x350Ω)
- Analog output, RS485, Fieldbuses
- 3 Relay outputs, 2 logic inputs
- Back panel mounting on Omega/DIN rail



# SINGLE CHANNEL WEIGHT TRANSMITTERS: TLK - TLKWF



## TLK

- RS232, RS485
- 4 relay outputs, 2 logic inputs



## TLKWF

- **WiFi**, RS485, RS232
- 4 relay outputs, 2 logic inputs



- 1 load cells input (8x350Ω)
- **IP67** junction box for field installation
- Calibration: **display** and **keypad**
- **Internal or external battery**

# SINGLE CHANNEL WEIGHT TRANSMITTERS: TLKWF



LAN

OPZW1RADIO



RS485



MODWF



# SINGLE CHANNEL WEIGHT TRANSMITTERS: LCB



IoT  
System

- Load cells **digitizer**
- 1 load cell input (4x350Ω)
- 3 relay outputs, 2 logic inputs
- Analog outputs, RS485, **Field buses**
- Conceived for **IoT** or **Industry 4.0**
- Mounting: wired or integral to the load cell body
- **IP67 - AISI316** stainless steel
- Calibration: via **micro USB** port and software **LCB Manager**
- **Base – Load** programs



# MULTICHANNEL WEIGHT TRANSMITTERS: TLB4 - TLM8

- **4/8 independent input channels**
- Visualization and memorization of the **weight distribution**, in percentage, of every active channel
- Digital **equalization**
- Advanced **diagnostic** features





# MULTICHANNEL WEIGHT TRANSMITTERS: TLB4 - TLM8



## TLB4

- **4 independent input channels**
- Analog output, RS485, **Field buses**
- 3 relay outputs, 2 logic inputs
- **Front panel** or Omega/DIN rail mounting
- Evaluation certificate according to **OIML R51/R61**
- **NMI approval** for **Australian** and **New Zealand** market



## TLM8

- **8 independent input channels**
- Analog output, RS485, **Field buses**
- 5 relay outputs, 3 logic inputs
- Back panel mounting on Omega/DIN rail or in **IP67** junction box for field installation



# MULTICHANNEL WEIGHT TRANSMITTERS: CLM8

## SMART JUNCTION BOX

- Connectable to any LAUMAS weight indicator **series W** via serial communication RS485
- **8 independent input channels**
- RS232, RS485, **Ethernet TCP/IP**
- Back panel mounting on Omega/DIN rail
- **IP67** ABS or Stainless steel junction box for field installation
- Ideal to be used as junction box **for weighbridge applications.**



**ETHERNET**  
TCP/IP

# MULTICHANNEL WEIGHT TRANSMITTERS: APPLICATIONS EXAMPLES



CLM8  
weighbridge  
installation



CLM8 with  
weight  
indicator Wxx



TLM8 with  
PLC/PC

WINOXBR

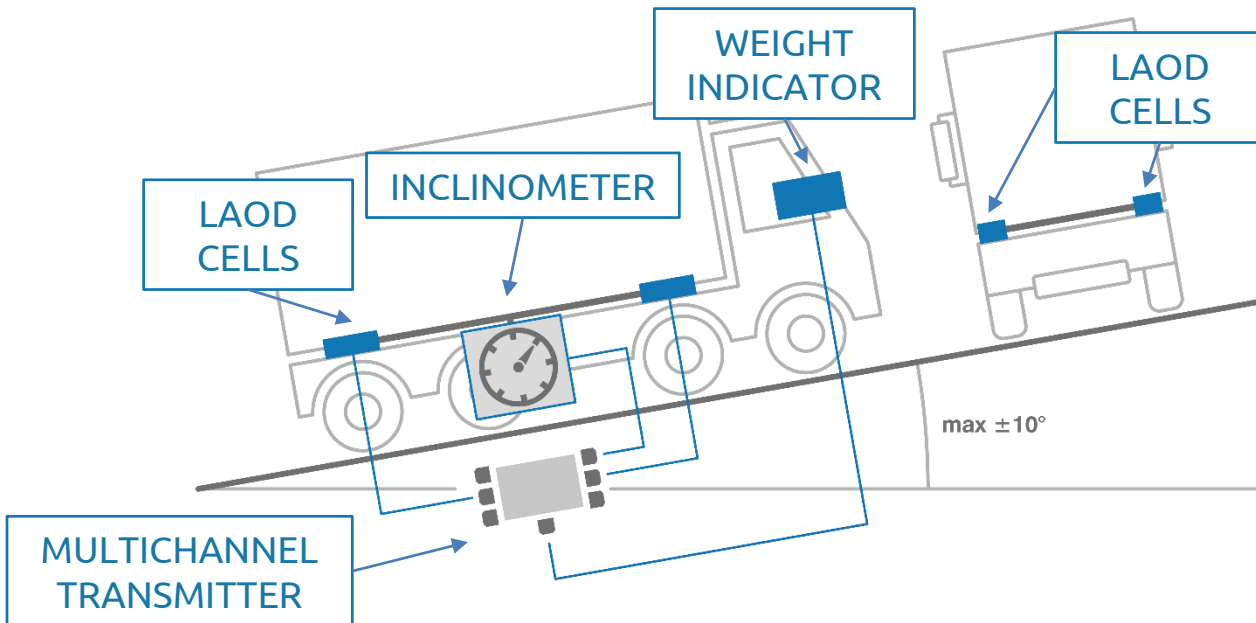


WINOX2G














# MULTICHANNEL WEIGHT TRANSMITTERS: INCLINOMETER FUNCTION

- The **inclinometer function** uses the tilt data provided by an external sensor connected to the weighing instrument, to **compensate weight variations** given by the inclination of the weighed structure up to  $\pm 10^\circ$ .
- It's ideal for **on board weighing** applications.
- The weight correction is also valid for **legal for trade** weighing systems.

















## FIELD BUSES: PLC & COMPATIBILITY











Producer	Protocol
	PROFIBUS/DP PROFINET/IO IO-Link
	DeviceNet EtherNet/IP
	EtherCAT DeviceNet EtherNet/IP
	EtherCAT
	SERCOS-III

Producer	Protocol
	POWERLINK
	CC-Link
	CANopen Modbus/TCP EtherNet/IP
	EtherCAT
	EtherCAT
	Modbus/RTU

# SINGLE CHANNEL WEIGHT TRANSMITTERS OVERVIEW

		Housing material Dimensions	Mounting	Supply	Display and Keyboard	A/D Converter	Divisions	Divisions <i>CE-M approved</i>	Analog output	No. relay outputs	No. digital inputs	Serial port	WiFi	Fieldbuses <i>Optional</i>	Alibi memory <i>Optional</i>	Box versions <i>Optional</i>	Certifications
	<b>TLB Serie</b>	ABS 115x25x120 mm	Back panel mounting on Omega/DIN rail	12÷24 VDC ±10% - 5 W	Red LED  4 buttons	24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.2 µV/VS1	✓ cod. TLB	3	2	RS485 (Modbus RTU)	-	CANopen DeviceNet CC-Link PROFIBUS DP PROFINET IO Ethernet/IP  Modbus/TCP Ethernet TCP/IP EtherCAT POWERLINK SERCOS III	-	-	
	<b>TLS Serie</b>	ABS 123x92x50 mm	Back panel mounting on Omega/DIN rail or junction box	12÷24 VDC ±10% - 5 W	Red LED  4-key	24 bit (16000000 points) 80 Hz	±999999 0.01 µV/d	-	✓ cod. TLS	2	2	RS485 (Modbus RTU)	-	-	-	IP67, IP67 ATEX II 3GD 170x140x95 mm	
	<b>TLE</b>	ABS 90x95x60 mm	Back panel mounting on Omega/DIN rail or junction box	12÷24 VDC ±10% - 3 W	LCD  Encoder with integrated button	24 bit (16000000 points) 4.8 kHz	±200000 0.01 µV/d	-	✓	-	-	RS485 (Modbus RTU)	-	-	-	IP67, IP67 ATEX II 3GD 170x140x95 mm	
	<b>TLL</b>	ABS 123x92x50 mm	Back panel mounting on Omega/DIN rail or junction box	12÷24 VDC ±10% - 5 W	Red LED  4-key	24 bit (16000000 points) 80 Hz	±999999 0.01 µV/d	-	✓ cod. TLLANA	4	2	RS232, RS485 (Modbus RTU)	-	-	-	IP67, IP67 ATEX II 3GD 170x140x95 mm	
	<b>TLU</b>	ABS 123x92x50 mm	Back panel mounting on Omega/DIN rail or junction box	12÷24 VDC ±10% - 5 W	Red LED  4-key	24 bit (16000000 points) 80 Hz	±999999 0.01 µV/d	-	✓ cod. TLUANA	4	2	RS232, RS485 (Modbus RTU)	-	-	-	IP67, IP67 ATEX II 3GD 170x140x95 mm	
	<b>TLK Serie</b>	PC IP67 80x170x65 mm	Wall	12÷24 VDC ±10% - 2 W  <i>Optional battery</i>	LCD  4-key	24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.6 µV/VS1	-	4	2	RS232, RS485 (Modbus RTU)	✓ cod. TLKWF	-	-	-	
	<b>LCB</b>	IP67 - AIS316 stainless steel 97x38x82 mm (incl. flying connectors)	Integral to the load cell body or wired	12÷24 VDC ±10% - 5 W	-	24 bit (16000000 points) 4.8 kHz	±999999 6.6 nV/d	-	✓ cod. LCBRS485ANA	3	2	RS485 (Modbus RTU) cod. LCBRS485	-	IO-Link CANopen CC-Link IE CC-Link PROFIBUS DP PROFINET IO  Ethernet/IP Modbus/TCP Ethernet TCP/IP EtherCAT POWERLINK SERCOS III	-	-	

# MULTICHANNEL WEIGHT TRANSMITTERS OVERVIEW

		Housing material Dimensions	Mounting	Supply	Display and Keyboard	A/D Converter	Divisions	Divisions <i>CE-M approved</i>	Analog output	No. Relay outputs	No. Digital inputs	Serial port	WiFi	Fieldbuses <i>Optional</i>	Alibi memory <i>Optional</i>	Box versions <i>Optional</i>	Certifications
	<b>TLB4 Serie</b>	ABS 115x26x120 mm	Back panel mounting on Omega/DIN rail or front panel	12÷24 VDC ±10% - 5 W	Red LED  4 buttons	4 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.25 µV/VSI	✓ cod. TLB4	3	2	RS485 (Modbus RTU)	-	CANopen DeviceNet CC-Link PROFIBUS DP PROFINET IO Ethernet/IP  Modbus/TCP Ethernet TCP/IP EtherCAT POWERLINK SERCOS III	✓	-	
	<b>TLM8 Serie</b>	ABS 148x92x60 mm	Back panel mounting on Omega/DIN rail or junction box	12÷24 VDC ±10% - 5 W	Graphic LCD  5-key	8 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.2 µV/VSI	✓	5	3	RS485 (Modbus RTU)	-	CANopen DeviceNet CC-Link PROFIBUS DP PROFINET IO Ethernet/IP  Modbus/TCP Ethernet TCP/IP EtherCAT POWERLINK SERCOS III	✓	IP67 188x188x130 mm	
	<b>CLM8INOX</b>	INOX IP67 200x148x45 mm	Junction box	12÷24 VDC ±10% - 5 W	LCD  4-key	8 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.4 µV/VSI	-	-	-	RS232, RS485 (Modbus RTU)	-	Ethernet TCP/IP	✓	-	
	<b>CLM4ABS CLM8ABS</b>	ABS IP67 210x130x40 mm	Junction box	12÷24 VDC ±10% - 5 W	LCD  4-key	8 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.4 µV/VSI	-	-	-	RS232, RS485 (Modbus RTU)	-	Ethernet TCP/IP	✓	-	
	<b>CLM8TL</b>	PC IP67 170x140x95 mm	Junction box	12÷24 VDC ±10% - 5 W	LCD  4-key	8 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.4 µV/VSI	-	-	-	RS232, RS485 (Modbus RTU)	-	Ethernet TCP/IP	✓	-	
	<b>CLM8</b>	125x92x52 mm	Back panel mounting on Omega/DIN rail	12÷24 VDC ±10% - 5 W	LCD  4-key	8 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.4 µV/VSI	-	-	-	RS232, RS485 (Modbus RTU)	-	Ethernet TCP/IP	✓	-	
	<b>CLM8I</b>	151x72x30 mm	-	12÷24 VDC ±10% - 5 W	LCD  4-key	8 channels 24 bit (16000000 points) 4.8 kHz	±999999 0.01 µV/d	3x10000e 0.4 µV/VSI	-	-	-	RS232, RS485 (Modbus RTU)	-	Ethernet TCP/IP	✓	-	

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*Thanks for your attention!*