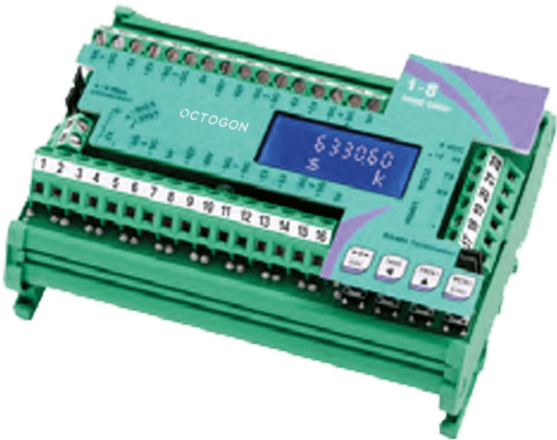


INTELLIGENT JUNCTION BOX



WEIGHT TRANSMITTER

Type: **ETLB**

- 8 INDEPENDENT CHANNELS
- UP TO 16 LOAD CELLS
- DIGITAL EQUALISATION
- OIML R76 CLASS III



VERSIONS

Rail version	for Omega or DIN rail behind the panel or in a junction box, 125 x 92 x 52 mm
Board version	board only, 151 x 72 x 30 mm
16 channels	two ETLB connected together
Approved version	legal for trade to OIML R76:2006, class III or IIII
Options on request	Ethernet TCP/IP with web app · alibi memory · inclinometer

Please state the version with the order. The boxes are listed under accessories.



OVERVIEW

The ETLB is a junction box that reads every load cell on its own. Eight independent 24 bit channels replace the potentiometers of a passive box: the cells are equalised by software, corner by corner or axis by axis, and that setting does not drift. The display shows which channels carry a cell, what each one answers in millivolts, and how the load is distributed over them in per cent — so a corner that runs away, a cell that fails or a cable that breaks is named instead of being hidden in the sum. An automatic diagnosis watches the distribution under load and at zero, and the last fifty events — calibrations, zero settings, equalisations, alarms — stay in the archive. Two serial ports carry the weight to a PLC, to an indicator of the W series or to a printer; Ethernet TCP/IP with a built-in web app is available on request. Two ETLB together make a system of sixteen independent channels.

CHANNELS AND MEASUREMENT	DEVICE, SUPPLY AND VERSIONS
• 8 independent channels, 24 bit, 4.8 kHz • Up to 16 load cells of 350 Ω, 4- or 6-wire • Cell supply 5 V DC / 240 mA • Measuring range ± 39 mV, sensitivity ± 7 mV/V • Linearity < 0.01 % of full scale • Thermal drift < 0.0005 % of full scale per $^{\circ}\text{C}$ • Digital equalisation, corner or axis • Load distribution and automatic diagnosis	• LCD 2 $\times$ 8 digits, 5 mm, field 38 $\times$ 16 mm • Keypad with 4 keys, lightning protection • RS485 and RS232 · Ethernet TCP/IP on request • Supply 12 ... 24 V DC ± 10 %, 5 W • DIN rail version 125 $\times$ 92 $\times$ 52 mm • Board version 151 $\times$ 72 $\times$ 30 mm • IP67 boxes of polycarbonate or stainless steel • OIML R76:2006 class III, 3 $\times$ 10000 e



TECHNICAL DATA

INPUT AND MEASUREMENT

Channels	8 independent · 16 by connecting a second ETLB
Number of load cells	up to 16 of 350 Ω · 4- or 6-wire
Load cell supply	5 V DC / 240 mA
A/D converter	8 channels · 24 bit (16 000 000 digits) · 4.8 kHz · 600 conversions per second
Measuring range	± 39 mV · cell sensitivity ± 7 mV/V
Increments	± 999999 · 0.01 μ V/d at ± 10 mV and 2 mV/V
Digital filter	21 levels · 5 ... 600 readings per second

PRECISION

Linearity	< 0.01 % of full scale
Thermal drift	< 0.0005 % of full scale per °C

ENVIRONMENT AND MECHANICS

Operating temperature	-20 ... +60 °C
Storage temperature	-30 ... +80 °C
Humidity	85 %, no condensation
Metrological range	-10 ... +40 °C for the approved use
Protection	against lightning and electrical discharge
Dimensions	DIN or Omega rail 125 x 92 x 52 mm · board only 151 x 72 x 30 mm

FUNCTIONS

Digital equalisation	the answer of the cells is united by software — CORNER with the weight on each cell, AXIS with the weight on the axes of the cell pairs
Load distribution	the share of each active channel in per cent, with an archive to store, read and print
Diagnosis	automatic diagnosis under load and at zero · immediate signal of an anomaly, also on the indicator
Cell input test	state of every channel and its answer in millivolts
Event archive	the last 50 zero settings, calibrations, equalisations and alarms
Inclinometer	optional sensor compensates a tilt of up to ± 10 degrees
Calibration	theoretical by keyboard, or real with sample weights and linearization over up to 8 points
Zero	tare zero setting · automatic zero at power-on · gross weight zero tracking · semi-automatic tare and preset tare
Parameter protection	system parameters protected by password, by hardware or by fieldbus

OUTPUTS AND INTERFACES

Serial ports	RS485 and RS232 · ModBus RTU, ASCII or continuous one way transmission · direct RS485 to RS232 without a converter
Baud rate	1200, 2400, 4800, 9600, 19200, 38400, 115200 bit/s
Cable length	RS485 1000 m with twisted shielded AWG24 · RS232 15 m up to 19200 bit/s
Network	up to 32 instruments on RS485, up to 99 with amplifiers · indicator of the W series, remote display, printer, inclinometer

DISPLAY AND OPERATION

Display	alphanumeric backlit LCD, 2 lines of 8 digits, 5 mm · visible field 38 x 16 mm · keypad with 4 keys
Set-up	4-key keypad and display, or the free PC software Instrument Manager, or remotely over the communication ports
Display increments	0 ... 4 decimals · $\times 1 \times 2 \times 5 \times 10 \times 20 \times 50 \times 100$ · display range ± 999999

POWER SUPPLY

Supply voltage	12 ... 24 V DC ± 10 % · external LPS or class 2 power supply
Power consumption	5 W

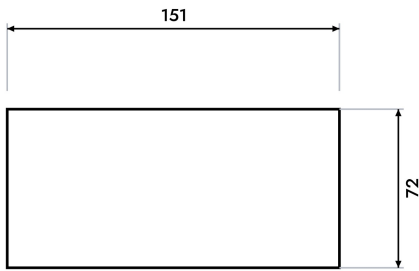


ELECTRICAL CONNECTION

1	-Signal cell 5	11	+Signal cell 7	21	+Power supply (12 / 24 V DC)	31	+REF / SENSE cells 1 ... 4
2	+Signal cell 5	12	-Supply cells 7 and 8 (-EX)	22	-Power supply - GND RS232/RS485	32	Shield cells 1 and 2
3	-Supply cells 5 and 6 (-EX)	13	+Supply cells 7 and 8 (+EX)	23	Shield cells 3 and 4	33	+Signal cell 2
4	+Supply cells 5 and 6 (+EX)	14	-Signal cell 8	24	+Signal cell 4	34	-Signal cell 2
5	-Signal cell 6	15	+Signal cell 8	25	-Signal cell 4	35	+Supply cells 1 and 2 (+EX)
6	+Signal cell 6	16	Shield cells 7 and 8	26	+Supply cells 3 and 4 (+EX)	36	-Supply cells 1 and 2 (-EX)
7	Shield cells 5 and 6	17	+RS485	27	-Supply cells 3 and 4 (-EX)	37	+Signal cell 1
8	+REF / SENSE cells 5 ... 8	18	-RS485	28	+Signal cell 3	38	-Signal cell 1
9	-REF / SENSE cells 5 ... 8	19	RX RS232	29	-Signal cell 3	39	GND — earthing system
10	-Signal cell 7	20	TX RS232	30	-REF / SENSE cells 1 ... 4	40	GND — earthing system

Every pair of cells shares one excitation and one shield, and each group of four shares the REF/SENSE pair; the signal pair is its own for every cell — that is what makes the channel independent. If all cells used have 4 wires, the two jumpers shown in the manual must be closed. Terminals 39 and 40 go to the earthing system. Manufacturer type: CLM8.

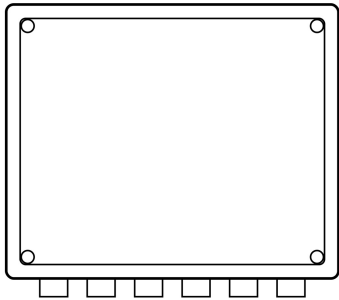
DIMENSIONS (mm)



Top view



Side view



IP67 box · 170 × 140 × 95 mm
4 × Ø 4 mm · 6 cable glands M16 × 1,5

Board version 151 × 72 mm with the hole patterns 140 × 65 mm and 132 × 45 mm; rail version 125 × 92 × 52 mm. Beside them the polycarbonate IP67 box, 170 × 140 × 95 mm, with 4 + 2 cable glands.



COMPLIANCE AND CERTIFICATION

	OIML R76:2006	class III, 3 × 10000 verification scale intervals, 0.4 µV/VSI · EU type examination 0200-NAWI-04345 to 2014/31/EU
	UL	recognised component for the USA and Canada
	INMETRO	Portaria Inmetro N° 157/2022 — class III, up to 10000 verification scale intervals, Brazil
	UK	Non-automatic Weighing Instrument Regulations 2016 — United Kingdom
	EAC	Eurasian Customs Union — TR CU 020/2011

Class III or IIII, up to 10000 and 1000 verification scale intervals; with the inclinometer 5200 in class III single interval, 2 × 5200 or 3 × 2000 multi-interval or multiple range. Metrological range -10 ... +40 °C. Initial verification together with a weighing module on request.

ACCESSORIES AND OPTIONS

IP67 box, polycarbonate	transparent cover, 170 × 140 × 95 mm · 4 fixing holes Ø 4 mm, centre distance 152 × 122 mm · without holes, with 4 + 2 or 8 + 2 cable glands M16 × 1.5, or with 4 + 2 PVC end-fittings
IP67 version, stainless steel	AISI 304, 200 × 148 × 45 mm · 4 fixing holes Ø 4 mm, centre distance 148 × 132 mm · 8 + 2 cable glands M16 × 1.5
Inclinometer	compensates a tilt of up to ± 10 degrees (OIML versions)
Ethernet TCP/IP	interface and built-in web app for remote supervision, management and control · alibi memory on request

The instrument is not included with the polycarbonate box. The device itself carries no protection rating; it comes from the box or from the panel.

