

WEIGHT TRANSMITTER



Type: **ETLG**

- 24 BIT A/D CONVERTER, 4.8 kHz
- UP TO 8 LOAD CELLS (350 Ω)
- RS485 AND 11 FIELDBUSES
- OIML R76 CLASS III, 3 $\times$ 10 000 e



VERSIONS

ETLG Analog	RS485 + opto-isolated analogue output 0...20 / 4...20 mA · 0...10 / 0...5 / $\pm$ 10 / $\pm$ 5 V
ETLG485	RS485, 2400 ... 115200 bit/s
ETLGCANOPEN	CANopen, slave · 10 ... 1000 kbit/s
ETLGDEVICENET	DeviceNet, slave · 125, 250, 500 kbit/s
ETLGCCLINK	CC-Link, remote device station (3 stations) · 156 ... 10000 kbit/s
ETLGPROFI	Profibus DP, slave · up to 12 Mbit/s
ETLGMODBUSTCP	Modbus/TCP, slave · RJ45 10Base-T / 100Base-TX
ETLGETHETCP	Ethernet TCP/IP, web browser · RJ45 10Base-T / 100Base-TX
ETLGETHEIPN	2 $\times$ EtherNet/IP, adapter · RJ45 10Base-T / 100Base-TX
ETLGPROFINETION	2 $\times$ PROFINET IO, device · RJ45 100Base-TX
ETLGETHERCAT	2 $\times$ EtherCAT, slave · RJ45 10Base-T / 100Base-TX
ETLGPOWERLINK	2 $\times$ POWERLINK, slave · RJ45 10Base-T / 100Base-TX
ETLGSERCOS	2 $\times$ SERCOS III, slave · RJ45 10Base-T / 100Base-TX

Every version is equipped with an RS485 serial port.



OVERVIEW

The ETLG is a weight transmitter in a space-saving vertical housing for the back panel, mounted on an Omega/DIN rail. It takes one load cell input for up to eight 350 Ω load cells in parallel, converts with 24 bit at 4.8 kHz and shows the weight on a six-digit red LED display; four keys are enough for the system calibration. Every version has an RS485 port with ModBus RTU, ASCII Laumas or continuous one-way transmission. On top of that, the ETLG Analog adds an opto-isolated 16 bit analogue output in current or voltage, and eleven further versions carry a fieldbus: CANopen, DeviceNet, CC-Link, Profibus DP, Modbus/TCP, Ethernet TCP/IP, EtherNet/IP, PROFINET IO, EtherCAT, POWERLINK or SERCOS III. Three relay outputs follow the set points or the protocol, two opto-isolated PNP inputs are read back over the protocol. The free Instrument Manager PC software configures and manages the device. Approved versions are available for legal-for-trade use.

MEASUREMENT AND INPUT	OUTPUTS AND DEVICE
• 24 bit A/D converter, 4.8 kHz • Up to 8 load cells of 350 Ω, 4- or 6-wire • Load cell supply 5 V DC / 120 mA • Measuring range ± 39 mV, ± 7 mV/V • 300 conversions per second • Divisions ± 999999, 0.01 μV/d • Digital filter 10 levels, 5 ... 300 readings/s • Linearity < 0.01 % of full scale	• 3 relay outputs, max. 115 V AC / 150 mA • 2 opto-isolated PNP inputs, 5 ... 24 V DC • Analogue output 16 bit, opto-isolated (ETLG Analog) • RS485 on every version, 11 fieldbus versions • Red LED display, 6 digits, 8 mm · 6 LEDs · 4 keys • Dimensions 25 × 115 × 120 mm • Back panel, Omega/DIN rail • Supply 12 ... 24 V DC ± 10 %, 5 W



TECHNICAL DATA

INPUT AND MEASUREMENT

Number of load cells	up to 8 of 350 Ω · 4- or 6-wire
Load cell supply	5 V DC / 120 mA
A/D converter	24 bit (16 000 000 points) · 4.8 kHz
Conversions per second	300
Measuring range	± 39 mV
Load cell sensitivity	± 7 mV/V
Divisions	$\pm 999999 \cdot 0.01$ μ V/d (range ± 10 mV, sensitivity 2 mV/V)
Digital filter	10 levels · 5 ... 300 readings per second

PRECISION

Linearity	< 0.01 % of full scale
Thermal drift	< 0.0005 % of full scale per °C
Analogue output linearity	< 0.01 % of full scale (ETLG Analog)
Analogue output drift	< 0.003 % of full scale per °C (ETLG Analog)

ENVIRONMENT AND MECHANICS

Operating temperature	-20 ... +60 °C
Storage temperature	-30 ... +80 °C
Humidity	85 %, non-condensing
Dimensions	25 × 115 × 120 mm
Mounting	back panel, Omega/DIN rail
Terminals	removable screw terminal blocks

FUNCTIONS

Connections	PLC via analogue output or fieldbus · PC/PLC via RS485 · remote display via RS485 · up to 8 load cells in parallel via junction box
Calibration	theoretical via the keys or real with sample weights · linearisation up to 8 points
Zero and tare	tare zero setting · automatic zero at power-on · gross zero tracking · semi-automatic tare (net/gross) and preset tare · semi-automatic zero
Peak	display of the maximum weight reached
Set points	set point and hysteresis setting
RS232	direct connection between RS485 and RS232 without converter
Approved versions	parameters protected by password, hardware or fieldbus · display of 1/10 e · single interval or multi-interval · net zero tracking

OUTPUTS AND INTERFACES

Relay outputs	3 · max. 115 V AC / 150 mA · by set points or protocol
Digital inputs	2 · opto-isolated · 5 ... 24 V DC PNP · read via protocol
Analogue output	ETLG Analog: opto-isolated, 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 k Ω)
Serial port	RS485 · ModBus RTU, ASCII Laumas, continuous one-way transmission
Baud rate	2400, 4800, 9600, 19200, 38400, 115200 bit/s
RS485 network	up to 32 instruments, 99 with line repeaters
Fieldbus	depending on the version, see VERSIONS

DISPLAY AND OPERATION

Display	6-digit semi-alphanumeric red LED display, 8 mm · 6 indicator LEDs
Keys	4, for the system calibration
Display range	± 999999
Decimals · increments	0 ... 4 · x1 x2 x5 x10 x20 x50 x100
Configuration	free Instrument Manager PC software

POWER SUPPLY

Supply voltage	12 ... 24 V DC ± 10 %
Power consumption	5 W



ELECTRICAL CONNECTION

ETLG Analog · ETLG485 · ETLGPROFI

1	-load cell excitation (-EX)
2	+load cell excitation (+EX)
3	+load cell REF / SENSE
4	-load cell REF / SENSE
5	-load cell signal
6	+load cell signal
7	input no. 1 (+5 ... 24 V DC)
8	input no. 2 (+5 ... 24 V DC)
9	common of the inputs (0 V)
10	+analogue output 0...20 / 4...20 mA ¹

11	+analogue output 0...10 V ¹
12	-common of the analogue output ¹
13	output no. 1
14	output no. 2
15	output no. 3
16	common of the outputs
17	RS485 +
18	RS485 -
19	+supply 12 / 24 V DC
20	-supply · RS485 shield, GND

All other versions (fieldbus)

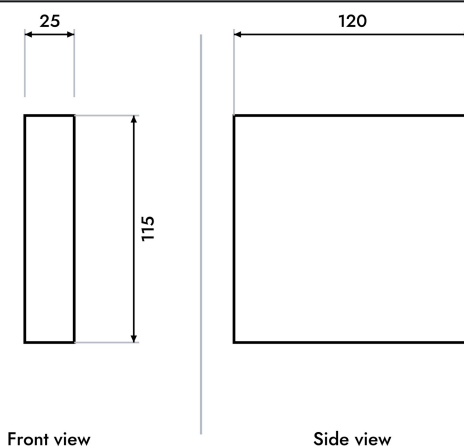
1	-load cell excitation (-EX)
2	+load cell excitation (+EX)
3	+load cell REF / SENSE
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15	output no. 1
16	output no. 2
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18	common of the outputs
19	RS485 +
20	RS485 -
21	+supply 12 / 24 V DC
22	-supply · RS485 shield, GND

¹ ETLG Analog only

Terminals 10 ... 14 are not present on the fieldbus versions. For 4-wire load cells, bridge -EX to -REF and +EX to +REF. Manufacturer type: TLB.

DIMENSIONS (mm)



25 × 115 × 120 mm, for back panel mounting on an Omega/DIN rail.



COMPLIANCE AND CERTIFICATION

	OIML R76:2006	class III, 3 × 10000 divisions, 0.2 µV/VSI · EU type examination 0200-NAWI-10230 to 2014/31/EU · OIML R61 / WELMEC Guide 8.8:2011 (MID), evaluation certificate DK0199-R61-12.06
	UL	recognised component for the USA and Canada, file E365453
	NTEP	certificate 14-072A1 — nmax 5000, class III, legal for trade in the USA
	INMETRO	Portaria Inmetro N° 157/2022 — class III, up to 10000 verification divisions, Brazil
	UK	Non-automatic Weighing Instrument Regulations 2016 — United Kingdom
	EAC	Eurasian Customs Union — TR CU 020/2011

Measurement Canada approval AM-5961 — nmax 5000, class III. Equivalent of the CE marking for the United Kingdom. Approved versions: class III or IIII, 10000 (class IIII) or 1000 (class IIII) verification divisions, single interval or multi-interval, metrological range -10 ... +40 °C. UL version: relay outputs max. 30 V AC, 60 V DC / 150 mA; to be powered by a 12 ... 24 V DC LPS or Class 2 power source. Initial verification together with a Laumas weighing module on request.

ACCESSORIES AND OPTIONS

Junction box	for connecting up to 8 load cells in parallel
Instrument Manager	free PC software for configuring and managing the device
Web app	integrated in the ETLGETHETCP version for remote supervision, management and control
Approved versions	for legal-for-trade use — see COMPLIANCE AND CERTIFICATION

The load cells are not included.

