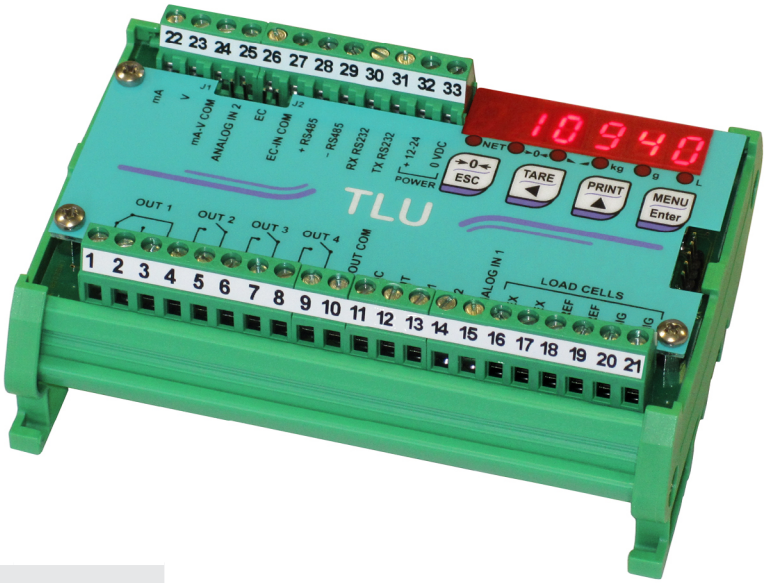
# TLU

## LOAD LIMITING DEVICE/WEIGHT TRANSMITTER

LAUMAS®

**MODBUS RTU**




CODE

| |
|---|
| TLU |
| TLUANA (analog output) |

### DESCRIPTION

- Load limiting device/weight transmitter suitable for back panel mounting on Omega/DIN rail or junction box (on request).
- Dimensions: 123x92x50 mm.
- 6-digit semi-alphanumeric red LED display (8 mm height).
- 6 signalling LED.
- 4-key keyboard.

### INPUTS/OUTPUTS AND COMMUNICATION

- RS485/RS232 serial ports for communication via protocols ModBus RTU, ASCII Laumas or continuous one way transmission.
- Current or voltage 16 bit optoisolated analog output (TLUANA).
- 4 relay outputs controlled by the setpoint values or via protocols.
- 2 optoisolated PNP digital inputs: status reading via serial communication protocols.
- 1 load cell dedicated input.

### MAIN FUNCTIONS

- Connections to:
  - PLC via analog output (TLUANA);
  - PC/PLC via RS485/RS232 (up to 99 instruments with line repeaters, up to 32 without line repeaters);
  - remote display via RS485/RS232;
  - up to 8 load cells in parallel by junction box.
- 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 5 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.
- Setpoint value setting.

### CERTIFICATIONS

- UL Recognized component - Complies with United States and Canada regulations
- Complies with the Eurasian Customs Union regulations
- Equivalent of the CE marking for the United Kingdom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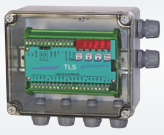
### TECHNICAL FEATURES

| | |
|---|---|
| Power supply and consumption | 12÷24 VDC ±10%; 5 W |
| 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) - 80 Hz |
| Divisions (with measurement range ±10 mV and sensitivity 2 mV/V) | ±999999 • 0,01 μV/d |
| Measurement range | ±19.5 mV |
| Usable load cells sensitivity | ±3 mV/V |
| Conversions per second | 80 |
| Display range | ±999999 |
| Decimals • Display increments | 0÷4 • x1 x2 x5 x10 x20 x50 x100 |
| Digital filter • Readings per second | 10 levels • 5÷80 |
| Relay outputs | 4 - max 115 VAC/150 mA |
| Optoisolated digital inputs | 2 - 5÷24 VDC PNP |
| Serial ports | RS485, RS232 |
| Baud rate | 2400, 4800, 9600, 19200, 38400, 115200 (bit/s) |
| Optoisolated analog output | 16 bit = 65535 divisions. 0÷20 mA; 4÷20 mA (up to 300 Ω)<br>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 | 4 - max 115 VAC/150 mA |
| | Working temperature | -20 °C +60 °C |
| | Equipment to be powered by 12-24 VDC LPS or Class 2 power source | |

### OPTIONS ON REQUEST

| | DESCRIPTION |
|---|---|
| | IP67 polycarbonate box; dimensions: 170x140x95 mm<br>(four fixing holes Ø4 mm; centre distance: 152x122 mm) |
|  | CASTL<br>- transparent lid<br>- transparent lid; 4+2 M16x1.5 cable glands - plugs<br>- transparent lid; 4+2 PVC end-fittings for sheath |
| | CASTLTAST<br>- external keyboard<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs<br>- external keyboard; 4+2 PVC end-fittings for sheath |
| | CASTLTASTATEX<br>- ATEX *(zone 2-22)* version<br>- external keyboard; 4+2 M16x1.5 cable glands - plugs |

*The Company reserves the right to make changes to the technical data, drawings and images without notice.*

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