



# LTL-X Mark II

## Specifications



### Optical specifications

Field of measurement:

- Width: 45 mm / 1.77 in
- Height: 200 mm / 7.87 in

Illumination angle  $R_L$  EN 1436: 1.24°

Illumination angle  $R_L$  ASTM E 1710: 88.76°

Observation angle  $R_L$  EN 1436: 2.29°

Observation angle  $R_L$  ASTM E 1710: 1.05°

Illumination angular spread:

Horizontal: / Vertical: 0.33 / 0.17°

Observation angular spread:  $\pm 0.17^\circ$

Equivalent observations distance: 30 m

$R_L$  min. reading ( $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$ ): 0

$R_L$  max. reading ( $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$ ): 2000

### Construction

Structural parts: Aluminum

Housing: Polymer

Keyboard: Silicone rubber

Circuit boards: Epoxy glass

### Instrument dimensions

Length: 573 mm / 22.6 in

Width: 222 mm / 8.7 in

Height: 538 mm / 21.2 in

Weight: 9 Kg / 20 lb

### Regulatory compliance

Radio: EN 300440-1 V1.6.1:2010

EMC: EN 301489-1 V1.8.1:2008, EN 301489-3 V1.4.1:2002

Safety: EN/IEC 60950-1 :2006, EN/IEC 60950-22 :2006

FCC: 47 CFR, FCC Part 15B, Class A

### Electrical characteristics

Battery: Built in 12 volt / 4,5 Ah Hi-Power

External charger power supply: Friwo FW7530/15  
(100-240 VAC / 15VDC)

Charging time: Approx. 3 hour 30 min

Charger fuse (5\*20 mm): T3.15A

Power supply fuse (5\*20 mm): T3.15A

### Data

Data memory: 200,000 measurements

Data transfer: USB 2.0

Typical repeatability: +/- 2%

Typical reproducibility: +/- 5%

### Environmental specification

Temperature:

- Operating: 0°C to +60°C / 32°F to 140°F
- Storage: -15°C to +60°C / 5°F to 140°F
- Humidity: < 85%, non condensing

### Timing

Measurement time: < 1 sec

Time between measurement: 1 sec

### Standards

EN 1436 ( $R_L$  & Qd), ASTM E 1710 ( $R_L$ ), ASTM E 2177 ( $R_L$  wet), ASTM E 2832 ( $R_L$  continuous wetting)

### Features

- Easy readable colour LED display
- Night time visibility ( $R_L$ ) measurement
- Measures plain texture and profiled markings up to 15 mm/0.6 in
- Measures dry and wet markings and under continuous wetting
- Wet timer to facilitate measuring wet road markings
- Shows and stores day, time, humidity and temperature
- Facility for averaging measurements
- ID functions (road, operator, line type)
- Multilingual menu
- Data storage and communication
- RSC software for PC downloads and data presentation
- Ergonomic design and operation, single hand operated
- Stray light compensated
- Maintenance free LED light

### Standard delivery

- LTL-X Mark II retroreflectometer
- Transportation box on wheels
- Telescopic handle and wheels
- Built-in printer
- Calibration standard with DANAK certificate

- Battery charger
- Quick guide
- Built-in GPS

### **Downloads**

To be downloaded from [www.roadsensors.com](http://www.roadsensors.com) under 'Products':

- LTL-X Mark II user and PC software manuals
- LTL software pack. Provide automatic download of driver and RSC software

### **Warranty**

2 years

*R&TTE Declaration of Conformity (DoC) and US Attestation of Conformity (AoC) can be supplied by DELTA upon request or viewed on: [roadsensors.madebydelta.com/technical-background/certification](http://roadsensors.madebydelta.com/technical-background/certification)*

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