
Retrometer
LTL·X
DELTA

LTL·X Portable Retrometer for pavem

Why measure retroreflectivity

As the median age of the average driver grows, the importance of the nighttime visibility of pavement markings for traffic safety becomes even greater.

Nighttime visibility is determined by the retroreflectivity of the pavement markings and therefore retroreflectivity is an important performance feature built into the roadways and is essential for efficient traffic flow and highway safety. Public safety demands that the visibility of the pavement marking is tested regularly like the visual ability of the driver.

Performance based safety management programs can help reduce accidents, save money and provide valuable information for asset utilization.

Likewise in-service performance and economy can be improved when maintenance decisions are based on measurements and not on fixed replacement intervals.

When introducing new types of pavement markings the improvements expected in performance should be documented by measurement.

In all situations the measurements must be reliable, and provide international accredited traceability to minimize tort liability and contractual disputes.

Why measure with the LTL-X

DELTA's new LTL-X is the reference instrument of tomorrow. The LTL-X measures the retroreflection of pavement markings at a simulated distance of 30 m according to CEN and ASTM standards.

For more than two decades DELTA has been focused on pavement marking visibility and the development of retrometers.

Most national and international standards for road reflection properties and measurement instrumentation incorporate a significant part of DELTA research.

Proven in the field

When measuring pavement marking retroreflectivity it is critical that the result can be trusted. The LTL-X is a fourth generation retrometer based on proven knowledge from the worldwide use of the LTL 2000 and its predecessors.

Reliability and repeatability are not just words reserved for laboratory tests on artificial, measurement "friendly" samples. The LTL-X with its advanced new technology will perform on the road, on real life markings and under real life working conditions.

Flexible communication design

The LTL-X is designed to handle communication technology of today and tomorrow. The built-in interface panel of the LTL-X ensures the future adaptation of the communication and data storage facilities to enabe a seamless interface to databases and inventory systems of the future.

Advanced ergonomic design

The single hand operation of the LTL-X combined with the retractable handle minimizes operator fatigue. The display clearly shows the measurement results, instrument status and other settings. Acoustic signals guide the user during operation.

ent markings

Adaptable construction design

Wheels can be mounted, without the use of tools, for easier operation of the LTL-X during extended measurement periods.

The LTL-X can measure wet night pavement marking retroreflectivity by either the wet road or the continuous wetting measurement method.

Easy operation

The retractable handle, with integrated graphic display, makes the LTL-X very easy to use. The measurements and settings are done with a single finger touch.

The graphic display shows the retroreflectivity readings as well as road ID, line and user ID, date and time, measurement averages, instrument status etc. Optional GPS values are shown on demand. The operation of the instrument is fully menu driven. A choice of languages is provided.

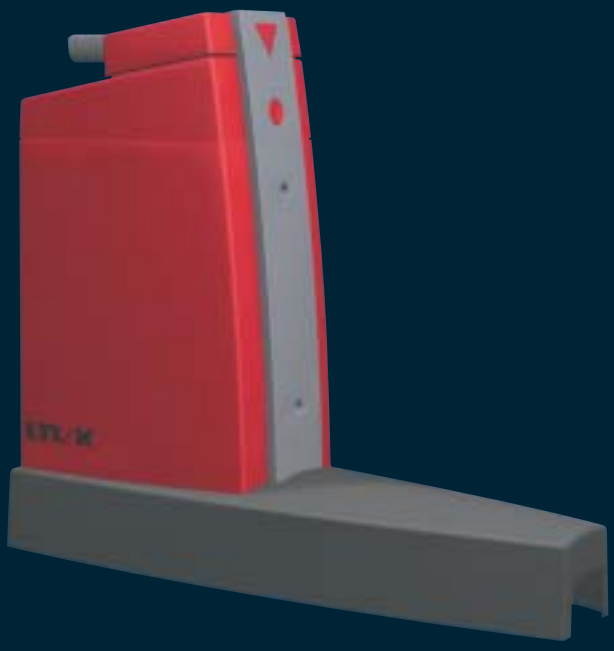
The built-in memory stores all data related to the retro-reflectivity measurement. The data can be printed from the built-in printer or communicated to a personal computer using the Road Sensor Control (RSC) software program.

Documented measurements

The automatic registration of all measuring operations and results in the memory, including all settings and calibrations, ensures complete documentation of the measurement program.

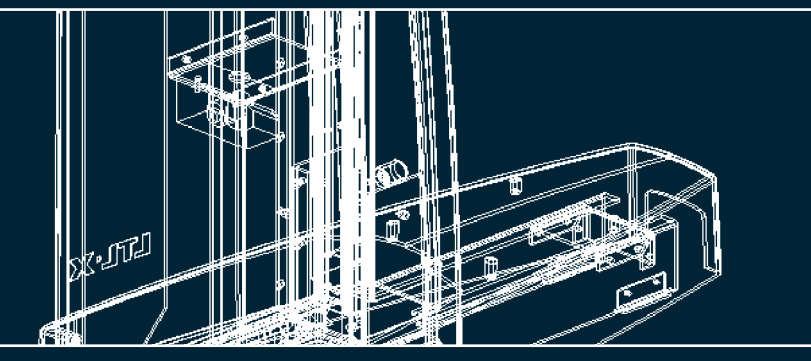
Calibration and Traceablility

The LTL-X is calibrated with a reflection standard supplied with the instrument. The standard is calibrated in DELTA‘s accredited calibration laboratory. Regular audits of the approved calibration procedures and traceability to inter-national primary laboratories ensure the highest level of accuracy.



- *Reliable, repeatable, traceable measurements*
- *Measures flat and profiled markings*
- *Measures dry and wet markings*
- *Built-in printer*
- *Fully documented measurements*
- *Built-in measurement statistics*
- *Easy to operate*
- *Ergonomic design for comfort and efficiency*
- *Data storage and communication*
- *A choice of display languages*

- ***Combining experience and innovation***
- ***The reference instrument of tomorrow***



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