

10.029

LASER DISTANCE METER

Approval Date: 20 May 1998

Reviewed on : 23 October 2007

Version: 1

Purpose

The laser distance meter will be used for general topographic surveying applications, and in particular for position fixing of survey boats on rivers during discharge measurements and for linking of piezometer wells to bench marks.

Conditions & Requirements

- The Laser Distance Meter (LDM) shall be of reliable and simple design, adequate for the application.
- The LDM shall be supplied with a keyboard, reflector equipment (prism targets), a cross hair for aiming and a rechargeable battery.
- A set of prisms shall be part of the delivery and shall comprise 5 prisms and mechanical adapters to hold 1, 3 and 5 prisms and including compatible prism pole or tripod.
- The LDM shall be compatible with the environment of operation and the mode of transport.
- The LDM shall match with the above described theodolite (see 10.026)
- An operator's manual shall be part of the delivery.
- The LDM's laser output shall be eye safe.

Specifications

range (depending upon atmospheric conditions)

- with 1 prism 500m to 900m
 - with 3 prisms 700m to 1300m
- prism retro reflective type

standard deviation

- standard mode 5 mm +5 ppm
- tracking 10 mm +5 ppm

display resolution 0.01 m

carrier wave length 850 nanometer (IR)

scale correction factor

- input on LDM ± 500 ppm/1 ppm
- input on key board ± 999.9 ppm/0.1 ppm

key board

- input vertical angle 360°
 - least count 1 sec
 - distance for setting out meters
 - least count 0.01 m
- tilting range -65 to 90°
- instrument life time >5 years of continuous operation
- temperature range -20 to 60°C
- housing splash waterproof

Accessories

- battery charger with cables
- retro prisms, single units and assemblies of 3, 5 or more units with matching adapter.
- stable prism pole or tripod to hold the prism assemblies
- omni-directional prism assembly (360°) for use on a roving boat.

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