

13.1030 3DEMON ROBOTIC LASER ROBOVEC

For 3D millimeter-scale displacements monitoring



GENERAL DESCRIPTION

The ROBOVEC unit has been designed for (semi-)permanent installation in any structure or geotechnical situation that requires continuous monitoring of the 3D position of significant points. The ROBOVEC allows to measure distance, horizontal and vertical angles for an unidentified number of points. The main features of ROBOVEC are flexibility in the choice of the number of monitored points, easy configuration and scheduling of the measurement campaigns, Ethernet integration.

This instrument can be mounted vertically, horizontally or even upside down on the ceiling.

TECHNICAL DESCRIPTION

The ROBOVEC unit is based on a laser distance meter and a bi-axial modular robotization for horizontal and vertical movement. The instrument is able to measure the variation of the distance and then horizontal and vertical angles between the instrument zero, assumed to be fix, and the monitored points. Additional parameters that can be measured by the instrument are the temperature and the reflected signal strength.

During a measurement campaign, the ROBOVEC can perform an auto-centering algorithm on selected targets in order to find the new target's centre if this has moved between two following measurements. The measurements are automatically stored on the PC for further analysis.

The ROBOVEC system is fully compatible with other SMARTeC products. The measurements can be automatically and dynamically imported in a standard SDB database and can be integrated with measurements from other sensors (e.g. static SOFO, ADAM, DiTeSt, 3DeMoN-GPS ...). The user can therefore view and analyze all its data with a single software interface.



FEATURES

- Automatic and remote operation
- High resolution and precision
- Long range distance measurements
- Distance accuracy up to 0.2 mm
- Angle measurements resolution 0.0013°
- Temperature measurements
- TCP/IP connectivity
- Compatible with SDB software

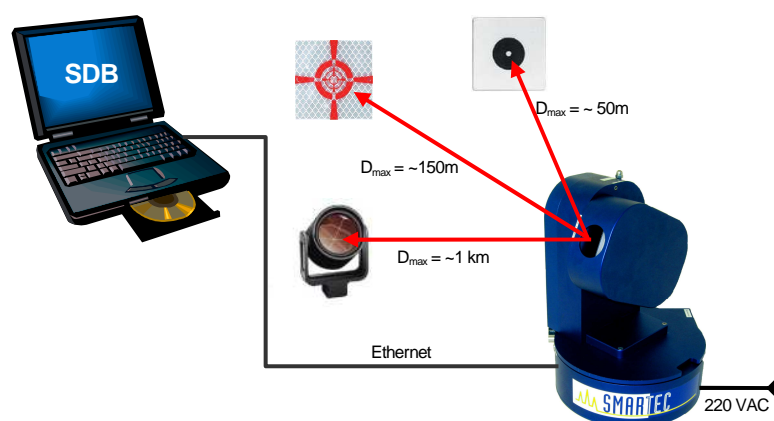
PERFORMANCES

Distance measurement accuracy	Indoors: ± 0.15 mm Outdoors: ± 1.5 mm
Angle measurement resolution	0.0013°
Measurement range	0.05 to ~800 m
Leveling	None, not required
May distance acquisition rate	6 Hz (**)
Measurement time	Without auto-centering: ~10 s for each target With auto-centering: ~10 min for each target
Targets	0.2 m to ~50 m : None (**) ~50 m to ~150 m : Conventional reflecting targets (**) >150 m : Conventional geodetic prism may be needed (**)

(**) Depending on the on-site conditions

TECHNICAL CHARACTERISTICS

AC Power supply	110/220 VAC
External connections	Ethernet cable to PC (cross-over cable for direct connection, normal cable for HUB/Switch connection)
Dimensions	~300 mm x 300 mm x 400 mm
Laser	Laser class II (<0.95mW)
Weight	~16 kg
Operating temperature	-10°C to 50°C



ORDERING INFORMATION