MODULOC SYSTEM ENGINEERING

MSE-D150

- Millimetre precise measurement at various surfaces
- Long range reflector-less distance measurement, with additional reflectors on the object over 100m with additional reflectors1 mounted onto target
- High availability under in the high temperature area with high precision big supply voltage range 10 V until 30 V DC
- Risk less use because of laser class 2
- Simple alignment with a visible laser class
- Bi-directional data-interface, switching and analogue output
- Simple setup for parameter with a PC or laptop
- Measured values are displayed in meters, decimetre, centimetre, feet, inch... and different resolutions due to free scaling
- Stable and simple to installing housing with protetion IP 65
- Profibus DP via UNIGATE Gateway

General Description

The MSE-D150 Laser Distance Measurement Sensor is designed for mobile and stationary distance measurement in a industrial environment. The MSE-D150 works based on comparative phase measurement. To achieve this, it emits visible laser beams in different frequencies. The target being measured returns diffusely reflected light that is subsequently compared with a reference signal. Finally, a microprocessor uses the recorded phase shift to calculate a required distance with mm accuracy.

The sensor MSE-D150 distinguishes itself through a high precision as well as a big independence of the surface of the measured object. The MSE-D150 is design for fast measurement on a white target. The red, well visible laser beam allows a simple alignment.

Applications

- Supervision of crane and conveyors
- Distance and position measurement
- Expletive-stand-measurement
- Supervision of security-relevant parts
- Supervision of walking beam systems / stroke length measurement / position of lifts
- Position control
- Diameter measurement of coils

General Specification

Application	**Distance-measurement for solid surfaces without reflector**
Measuring range	**0.1 m up to 30 m** with natural surfaces, more than 100 m achievable, depending on target reflectance
Measuring accuracy	**± 3 mm** (+15 °C up to +30 °C), ± 5 mm (-10 °C up to +50 °C) **± 2 mm** under defined measuring conditions
Resolution	**max. 0.1 mm**, user scalable
Reproducibility	**± 0.5 mm**
Operating modes	distance tracking DT, DW, DX only LDM 42 A, single measurement DM, trigger mode DF
Measuring time	**0.16 up to 6 s** setup or auto mode DT **0.1 s** mode DW at white surface **20 ms** mode DX at white surface
Laser Class	**Laser Class 2** under DIN EN 60825-1:2001-11, ≤1 mW, **650 nm (visible red)**
Laser divergence	0,6 mrad
Operating temperature	**-10 °C up to +50 °C**
Storage temperature	-40 °C up to +70 °C
Data interface	**RS232 or RS422** • 2400, 4800, 9600, 19200, 38400 Baud, ASCII, 8N1 • Programming with Windows terminal program (for example LDMTool or HyperTerminal) • programmable automatic start of measurement after switching on
Analog output	**4 mA up to 20 mA current output** • programmable distance range limits, load resistance ≤ 500 Ω • accuracy: ± 0.15%, temperature drift: < 50 PPM/°C
Digital switching output	**"high-side switch"**, programmable switching threshold and hysteresis, rated for max. load of 0.5 A
Supply voltage	**10 up to 30 V direct voltage**
Power consumption	depending on operating mode < 0.4 W for standby, < 1,5 W for distance tracking
Dimensions	approx. **212 x 96 x 50** (L x W x H) in mm
Mounting	100 x 85 in mm, 4 x M6 holes
Weight / protection class	Aluminum approx. **850 g / IP 65**
EMV	EN 61000-6-2 and EN 55011
Shock resistance	10 g / 6 ms persistence shock DIN ISO 9022-3-31-01-1
Scope of delivery	Sensor with male plug, female cable connector with prefabricated cable 2 m, customers side open, user manual
Options	Cable with varied length, connecting Box, Profibus Gateway, software, filter and protection glass

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