LDS10A
Infrared-LED distance sensor

The LDS10A is an optoelectronic distance sensor for a wide range of industrial applications.

It works contact-free with harmless LED-lighting and performs with a new unique sensing technology based on time-of-flight principle and sophisticated signal processing algorithms.

The flexible interface system with analog and digital outputs as well as serial configuration via Modbus RTU makes the LDS10A easy to install and reduces the time to get a working application.

The LDS10A is the basic type of Astechs new distance sensor series. Its extremely simple and robust design enables the LDS10A to realize distance sensing and presence detection applications with an unbeaten Price-Performance ratio.

Key Features

- **Reflector-less distance sensing on various surfaces**
- **Safe operation even in public places by LED-lighting (No laser)**
- **Unbeaten Price-Performance-Ratio**
- **One connection cable for supply voltage, serial data interface, switching and analogue output**
- **Customized parameterization via PC**
- **Programmable analogue and digital interfaces**
- **Robust, compact housing, easy to install,**
- **Protection standard IP 67**

Applications

- Distance sensing on natural solid surfaces up to 10 m
- Object presence detection
- Fill level measurement
- Area intrusion surveillance
- Hot metal detection up to 1200 °C
- Storage box allocation monitoring
- Stack height observation
- Traffic surveillance
- Vehicle dimension monitoring

Options and accessory

- Mounting bracket
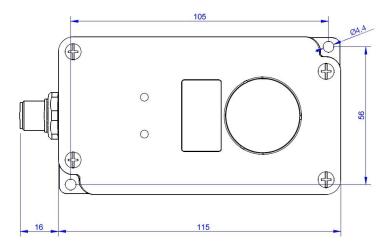- Connection cables
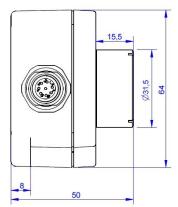- PC-Software for parameterization

Technical Data

Measuring range [1]	
Onto natural target (20 % reflection)	0.1 m … 10 m
Onto target board (90% reflection)	0.1 m … 40 m
Measuring uncertainty [2]	± 50 mm
Reproducibility [1]	± 5 mm
Resolution	1 mm
Measuring frequency	2.2 Hz … 140 Hz
Lighting	Infrared-LED, 850 nm
Lighting classification	"Exempt class" according to IEC 62471:2006
Lighting beam divergence	3°
Receiver beam divergence	6°
Operating temperature	-25 °C … +75 °C
Supply voltage	10 … 30 V DC (protected against voltage reversal)
Power consumption	< 3 W
Serial data interface	RS485, MODBUS RTU, 19.400 baud
Digital output	2x PNP, NO/NC selectable
Analogue output	0/4 mA ... 20 mA current output, Adjustable range limits, 10-bit
Status indicator	2x RGB-LED on top cover
Connector	8 pin, M12-standard, male
Housing material	Aluminum, powder-coated
Dimensions (L x W x H)	131 mm x 64 mm x 50 mm, incl. connector
Weight	280 g
Mounting	2 holes for M4 screws, 105 mm x 56 mm
Protection class	IP 67 (waterproof and dust protected)
EMC	IEC 61326-1

[1] Dependent on target reflectance, surface structure, ambient light and atmospheric conditions

[2] Single measurement, statistical spread 95%

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