

PT700523

LASER SENSORS • DISTANCE MEASUREMENT

Optical sensors function contactlessly. They detect objects independent of their characteristics (e.g., shape, color, surface structure, material). The basic operating principle is based on the transmission and reception of light. There are three different versions: 1. The through-beam sensor consists of two separate devices, a transmitter and a receiver that are aligned with one another. If the light beam between the two devices is interrupted, the switching output integrated in the receiver changes its status. 2. With the retro-reflective sensor, the transmitter and receiver are located in one device. The emitted light beam is reflected back to the receiver by a reflector that is to be mounted opposite the device. As soon as the light beam is interrupted, the switching output integrated in the device changes its status. 3. With the diffuse reflection sensor, the transmitter and receiver are in one device. The emitted light beam is reflected by the object that is to be detected. As soon as the receiver detects the reflected light, the switching output integrated in the device changes its status.



MECHANICAL DATA

Ambient temperature (MAX)	50 °C
Ambient temperature (MIN)	-20 °C
Degree of protection (IP)	IP67
Housing design	Cuboid
Housing material	Zinc die-cast
Material of optical surface	Glass
Sensor height	90 mm
Sensor length	70 mm
Sensor width	30 mm
Storage temperature (MAX)	70 °C
Storage temperature (MIN)	-30 °C

ELECTRICAL DATA

Absolute linearity deviation	5 mm
Decay time	300 ms
Max. output current	100 mA
Measuring method for optical distance measurement	Light delay time
Measuring range length (MAX)	6000 mm
Measuring range length (MIN)	300 mm
No-load current	150 mA
Number of pins	5
Number of switching outputs	2
Relative repeat accuracy	10 %
Response time	300 ms
Response/decay time	300 ms
Reverse polarity protection	Yes
Scanning principle	Push button

ELECTRICAL DATA

Setting procedure	Teach-In
Short-circuit-proof	Yes
Supply voltage (MAX)	30 V
Supply voltage (MIN)	18 V
Type of analog output	4 mA ... 20 mA
Type of electrical connection	Connector M12
Type of switching function	Push-pull
Type of switching output	PNP/NPN
Voltage type	DC
With LED display	Yes

OPTICAL DATA

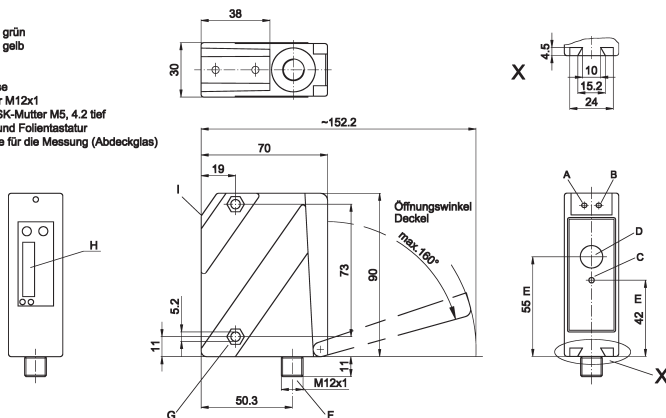
Laser protection class	Class 2
Light beam form	Line
Light source	Laser diode, red light
Light spot range	12 mm ²
Light spot range	12 mm ²
Light spot, laser focus	12 mm ²
Relative measurement accuracy	1 %
Resolution	3000 µm
Wavelength of the sensor	658 nm

OTHER DATA

Relative linearity deviation	5 %
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DIMENSIONAL DRAWING

- A Anzeigediode grün
- B Anzeigediode gelb
- C Sender
- D Empfänger
- E optische Achse
- F Gerätestecker M12x1
- G Senkung für SK-Mutter M5, 4.2 tief
- H LED Display und Folientastatur
- I Referenzkante für die Messung (Abdeckglas)



INSTALLATION



Mounting / Installation may only be carried out by a qualified electrician!

DISPOSAL



SAFETY WARNINGS

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information!

Never use these devices in applications where the safety of a person depends on their functionality.