

PT98E231

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)	45 °C
Ambient temperature (MIN)	-10 °C
Cable length	5 m
Degree of protection (IP)	IP67
Housing design	Cuboid
Housing material	PBT
Material of optical surface	Acrylic glass
Reflector included in the scope of delivery	No
Sensor height	60 mm
Sensor length	57 mm
Sensor width	20.4 mm
Storage temperature (MAX)	60 °C
Storage temperature (MIN)	-20 °C

ELECTRICAL DATA

Alarm output	No
Laser power	1 mW
Measuring method for optical distance measurement	Triangulation
Measuring range length (MAX)	34 mm
Measuring range length (MIN)	26 mm
No-load current	100 mA
Number of switching outputs	3
Operating voltage (MAX)	26.4
Operating voltage (MIN)	21.6
Pre-failure message	No
Relative repeat accuracy	0.62 %
Residual ripple	2 %

ELECTRICAL DATA

Response/decay time	0.2 ms
Setting procedure	Manual adjustment
Supply voltage (MAX)	26.4 V
Supply voltage (MIN)	21.6 V
Type of analog output	0 V ... 10 V / 4 mA ... 20 mA
Type of electrical connection	Cable
Type of switching function	Programmable/configurable
Type of switching output	PNP/NPN
Voltage type	DC
With LED display	Yes
With time function	No

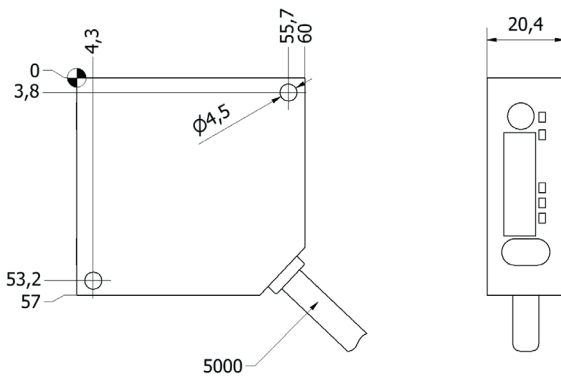
OPTICAL DATA

Laser focus distance	30 mm
Laser protection class	Class 2
Light beam form	Point
Light source	Laser diode, red light
Light spot	0.01 mm ²
Light spot range	0.0225 mm ²
Light spot range	0.0225 mm ²
Light spot, laser focus	0.01 mm ²
Resolution	0.5 μm
Small light beam diameter	Yes
Wavelength of the sensor	655 nm

OTHER DATA

Relative linearity deviation	0.1 %
------------------------------	-------

DIMENSIONAL DRAWING



INSTALLATION

DISPOSAL



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



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.