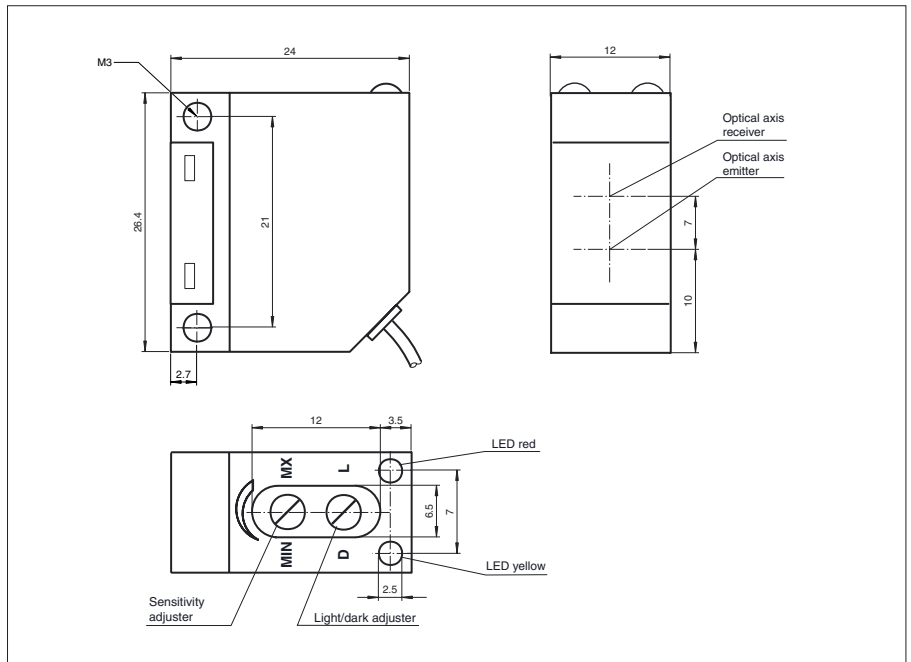## Dimensions

Model Number

ML5-8-400/30/115

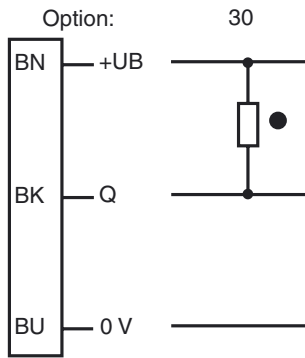Diffuse mode sensor
with fixed cable

Features

- Miniature design
- Infrared light design
- Light/dark ON, switchable
- Pre-fault indication
- Degree of protection IP67
- Thru-holes for screw mounting

Electrical connection

Option: 30

○ = Light on
● = Dark on

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical data

General specifications

Detection range	0 ... 400 mm
Adjustment range	150 ... 400 mm
Reference target	standard white 100 mm X 100 mm
Light source	LED
Light type	modulated infrared light , 950 nm
Ambient light limit	≤ 20000 Lux sun light ≤ 5000 Lux halogen light

Indicators/operating means

Function indicator	LED yellow: switching state LED red: pre-fault indication
Control elements	Light/Dark switch, sensitivity adjuster

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I_0	≤ 30 mA

Output

Switching type		light/dark on, switchable
Signal output		1 NPN output, short-circuit protected, reverse polarity protected, open collector
Switching voltage		max. 30 V DC
Switching current		max. 200 mA
Voltage drop	U_d	≤ 2.5 V
Switching frequency	f	≤ 500 Hz
Response time		1 ms

Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-25 ... 70 °C (-13 ... 158 °F)

Mechanical specifications

Degree of protection	IP67 according to EN 60529
Connection	2 m, 3 x 0.14 mm^2, PUR cable
Material	
Housing	Polycarbonate
Optical face	PMMA
Mass	approx. 45 g

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2

### Approvals and certificates

CE conformity	yes
UL approval	cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)
CCC approval	CCC approval / marking not required for products rated ≤36 V

Curves/Diagrams

Characteristic response curve

Offset Y [mm]

matt white paper
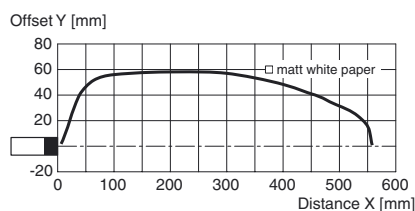
Distance X [mm]

Permissible distance (offset) between optical axis and object.

X

-Y : Y
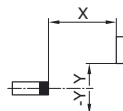
Additional Information

Conventional use:

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The reflex light scanner contains the emitter and receiver in a single housing. The light from transmitter is beamed back from the recorded object is evaluated by the receiver. The detection range depends on the object colour. With dark or very small objects the detection range reduces.

Mounting instructions:

The sensor can be fastened over the through-holes directly or with a mounting bracket (not included in scope of supply).
The base surface must be flat to avoid distorting the housing during mounting. It is advisable to secure the bolts and screws with washers so that the sensor does not become misaligned.

Instructions for adjustment:

Adjust the sensor to the background. If the yellow LED is on now, the detection range needs to be reduced with the detection range adjuster, until the yellow LED goes off.

Object detection check:

Position the object into the light beam. Position light spot on object. If the object is detected, the yellow LED is illuminated. If not, adjust the detection range with the potentiometer, until the yellow LED lights up.
The red LED flashes if reception deteriorates (e.g. soiled lenses or by maladjustment) and when falling short of the stability control.

Iustration:

We recommend that you clean the optical interfaces and check the plug-in connections and screw connections at regular intervals.

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