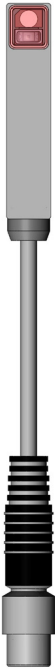


# F16RP-Dx-1F

## Photoelectric Sensors

### Red light retro-reflective



#### Retro-reflective

Cable with M8 Connector	Logic	Range	Output Function
F16RP-DP-1F	PNP n.o.	1 m	Dark on
F16RP-DN-1F	NPN n.o.	1 m	Dark on

#### Safety Notes



These photoelectric sensors may not be used in applications where personal safety depends on proper function of the devices (not safety designed per EU machine guideline). Read these operating instructions carefully before putting the device into service.



**Caution!** Red light beam!  
Glare and irritation of the eyes.  
**DO NOT LOOK INTO THE LIGHT BEAM!**  
Exempt Group according to EN 62471.



The CE Marking confirms that our products conform to the EU Directives and the EMC Law.

#### Application

Only for NFPA 79 applications (machines with a supply voltage of max. 600 volts). Device shall be connected only by using any R/C (CYJV2) cord, having suitable ratings.

#### Display Elements

##### Yellow LED light reception / stability indicator

LED on: Light at the receiver

LED flashes: Unreliable range

#### Installation



**Caution!** Red light beam!  
Do not look into the light beam.

The sensor must be installed as to prevent a direct line of eyesight to the light source, even during operation.

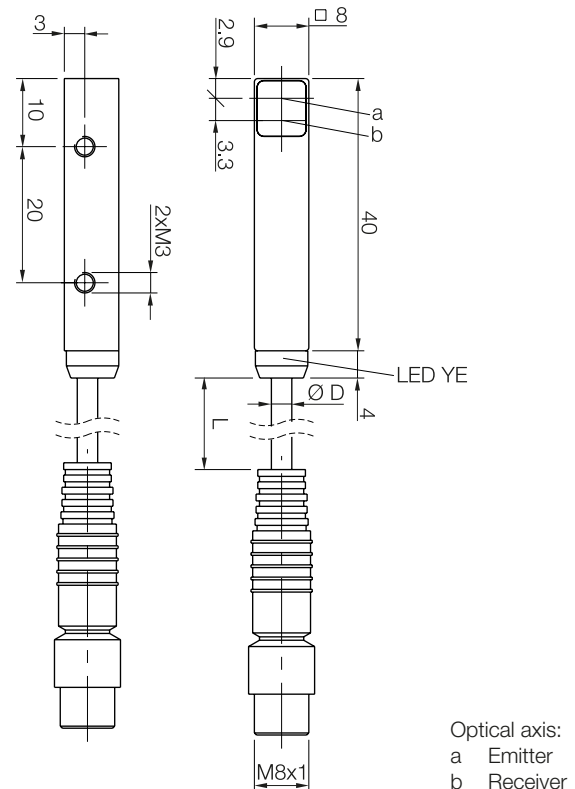


Fig. 1: Dimensions

# F16RP-Dx-1F

## Photoelectric Sensors

### Red light retro-reflective

#### Wiring diagrams

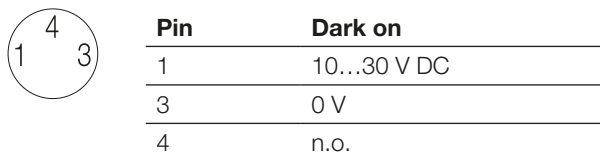


Fig. 2: Pinouts connector

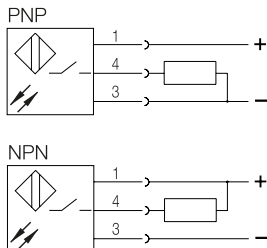


Fig. 3: Connection diagram

#### Settings

1. Position sensor and reflector at desired distance.
2. Determine the on and off switching point of the output (yellow LED): Move the sensor in all directions so that the LED turns on and off again.
3. Install the sensor in the center of the determined switching points.

#### Light spot diameter

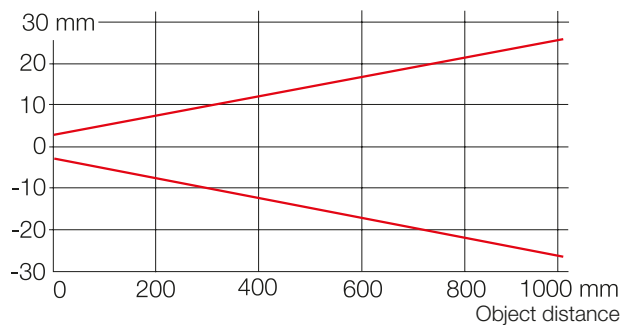


Fig. 4: Light spot diameter depending on distance to the object

#### Technical Data

##### Optical

Range $s_r$	1 m
Light type	red light
Wave length $\lambda$	645 nm
Polarizing filter	yes
Blind zone	30 mm

##### Electrical

Supply voltage $U_B$	10...30 V DC
Rated operating voltage $U_e$	24 V
Ripple (% from $U_e$ )	$\leq 10\%$
No-load current $I_O$	$\leq 15$ mA
Effective operating current $I_e$	100 mA
Permissible capacitance	$\leq 0.05$ $\mu$ F
Voltage drop $U_d$ at $I_e$	$\leq 0.7$ V
Turn-on delay	$\leq 1$ ms
Turn-off delay	$\leq 1$ ms
Switching frequency $f$	500 Hz
Output depending on version	PNP or NPN
Short circuit protected	yes
Reverse polarity protected	yes
Switching function	n.o.
Output function	dark-on

##### Mechanical

Connection type	Cable with M8-connector, 3-pin, 0.2 m
Housing material	GD-Zn nickel plated
Active surface material	PMMA
Housing dimensions	8 x 8 x 44 mm
Weight	15.2 g

##### Displays

Light reception indicator	yellow LED
Stability indicator	yellow LED (flashing)

##### Ambient

Ambient temperature $T_a$	-5...+55 °C
Enclosure rating per IEC 60529	IP67



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