

# Diffuse Ref. Photoelectric Sensors



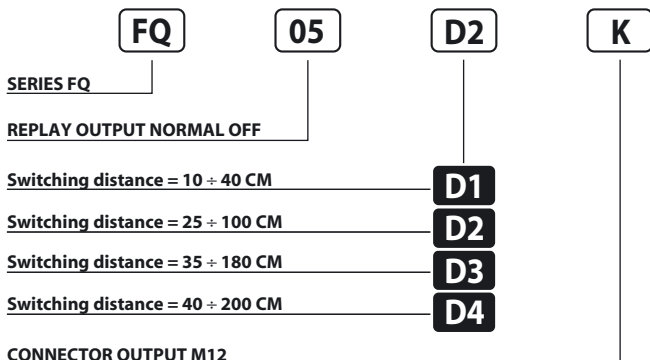
PHOTOELECTRIC SENSORS IN SQUARE HOUSING 14 ÷ 230 V AC/DC REPLAY OUTPUT

- Wide input voltage
- 3A relay SPDT
- Cable or M12 quick connect models
- Output and Supply indicators

**FQ Series**



## Identification code

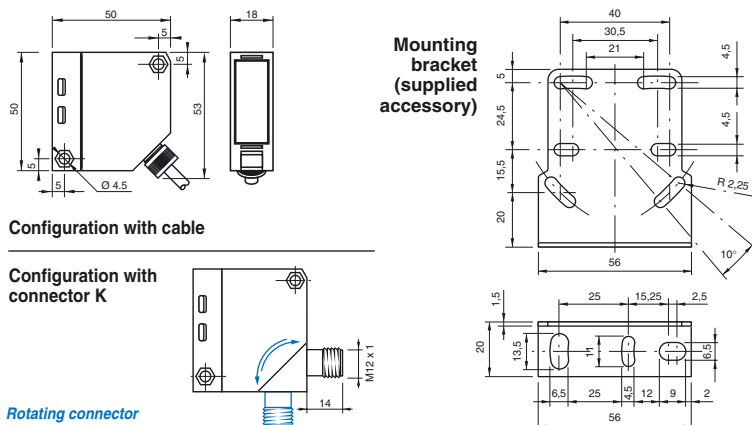


AVAILABLE	D1	D2	D3	D4
NOMINAL SWITCHING DISTANCE (S <sub>n</sub> )	10÷40cm	25÷100cm <sup>(1)</sup>	35÷180cm <sup>(2)</sup>	40÷200cm
TOLERANCE	+10/-10 %S <sub>n</sub>			
HYSTERESIS	10%			
EMISSION	Infrared (875 nm)			
NOMINAL VOLTAGE	14 ÷ 230V AC - DC (-15 /+10%)			
MAINS FREQUENCY	50 ÷ 60 Hz			
OUTPUT	Relay (10 x 10 <sup>6</sup> ops. min.)			
MAX. OUTPUT CURRENT	3A 30 V AC - 1A 220 V AC (90W, 360 VA)			
ABSORPTION	2.5 VA			
YELLOW LED	Output indicator			
GREEN LED	Supply indicator			
SENSITIVITY ADJUSTMENT	Trimmer 1 turn			
SWITCHING FREQUENCY	10 Hz			
RESPONSE TIME	100 mS			
START UP DELAY	≤ 300 mS			
TEMPERATURE LIMITS	-10 ÷ +60° C			
LIGHT IMMUNITY	> 10.000 Lux <sup>(3)</sup>			
PROTECTION DEGREE	IP 65			
CABLE LENGTH	2 m			
CABLE SECTION	5 x 0.30 mm <sup>2</sup>			
HOUSING MATERIAL	Housing: ABS - Lenses: methacrylate			
WEIGHT - cable output - (connector output)	- 180 g - (125 g)			

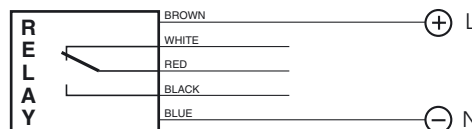
(1) Determined with a white mat paper (cm 10 x 10).  
 (2) Determined with a white mat paper (cm 20 x 20).  
 (3) Determined with halogen tungsten lamp 3000° K.

Note: for a proper use see norms at pages 14, 15, 16, 17 and 18.

## Dimensions (mm)

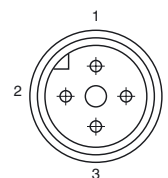


## Wiring diagrams



**Note:** in case of inductive loads it is necessary to connect one diode in antiparallel at the edges of the load.

## Connection with connector M12 (K)



View of quadripole male connector.

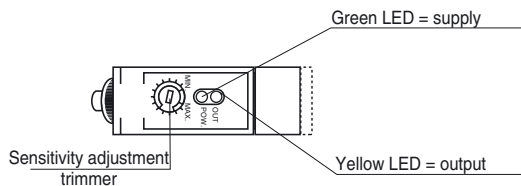
### CONTACTS CONFIGURATION

Output	Contacts numbers			
	1	2	3	4
Relay	L	COM	N	NO
Wire colors	brown	white	blue	black

**Note:** Photoelectric sensor not suitable for use with 90° connectors.

## Sensitivity adjustment

- 1) SENSITIVITY INCREASE**  
Screw the trimmer towards right towards position "+"
- 2) SENSITIVITY DECREASE**  
Screw the trimmer towards left towards position "-"



**Note:** the trimmer just needs one turn.

## Characteristic curves

