

PHOTOELECTRIC SENSORS

DIFFUSE REFLECTIVE

14÷230 V AC/DC - REPLAY OUTPUT

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

FQ Series

IDENTIFICATION CODE

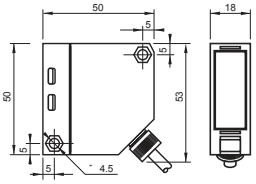
FQ **05** **D2** **K**

- **FQ** — SERIES FQ
- **05** — REPLAY OUTPUT NORMAL OFF
- **D2** — Switching distance = 10 ÷ 40 cm **D1**; Switching distance = 25 ÷ 100 cm **D2**; Switching distance = 35 ÷ 180 cm **D3**; Switching distance = 40 ÷ 200 cm **D4**
- **K** — CONNECTOR OUTPUT M12

SHIELDED	D1	D2	D3	D4
NOMINAL SWITCHING DISTANCE (Sn)	10...40cm	25...100cm(1)	35...180cm(2)	40...200cm
TOLERANCE	+10/-10 %Sn			
HYSTERESIS	10%			
EMISSION	Infrared (875 nm)			
NOMINAL VOLTAGE	14 ÷ 230V AC - DC (-15 /+10%)			
MAINS FREQUENCY	50 ÷ 60 Hz			
OUTPUT	Relay (10 x 10^6 ops. min.)			
MAX. OUTPUT CURRENT	3A 30 VAC - 1A 220 VAC (90W, 360 VA)			
ABSORPTION	2.5 VA			
YELLOW LED	Output indicator			
GREEN LED	Supply indicator			
SENSITIVITY ADJUSTEMENT	Trimmer 1 turn			
SWITCHING FREQUENCY	10 Hz			
RESPONSE TIME	50 ms			
START UP DELAY	300 ms			
TEMPERATURE LIMITS	-10 ÷ +60 °C			
LIGHT IMMUNITY	> 10.000 Lux (3)			
PROTECTION DEGREE	IP 65			
CABLE LENGTH	2 m			
CABLE SECTION	5 x 0.30 mm²			
HOUSING MATERIAL	Housing: ABS - Lenses: methacrylate			
WEIGHT - cable output - (connector output)	- 180 g - (125 g)			

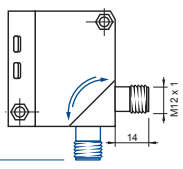
(1) Determined with a white mat paper (cm 10 x 10).
(2) Determined with a white mat paper (cm 20 x 20).
(3) Determined with halogen tungsten lamp 3000 °K.
Note: for a proper use see norms at pages 18, 19, 20, 21 and 22.

DIMENSIONS (mm)



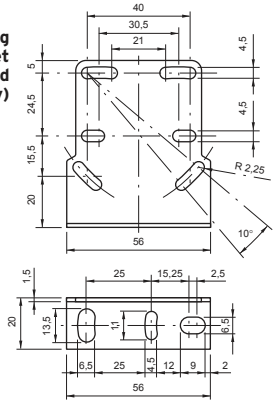
Configuration with cable

Configuration with connector K

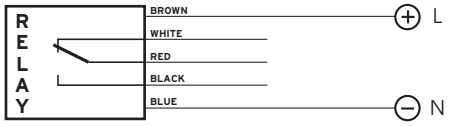


Rotating connector

Mounting bracket (supplied accessory)

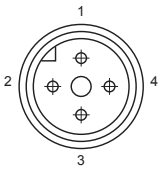


WIRING DIAGRAMS



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

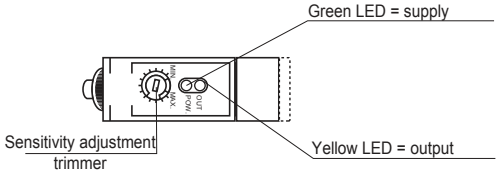
Output	Contacts numbers			
	1	2	3	4
Relay	L	COM	N	NO
Wire colors	brown	white	blue	black

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

SENSITIVITY ADJUSTMENT

1) SENSITIVITY INCREASE
Screw the trimmer towards right towards position "+"

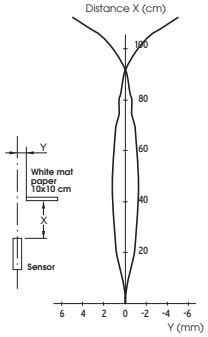
2) SENSITIVITY DECREASE
Screw the trimmer towards left towards position "-"



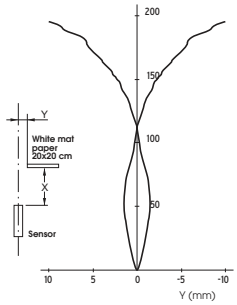
Note: the trimmer just needs one turn.

CHARACTERISTIC CURVES

DIFFUSE REFLECTIVE D2
Distance X (cm)



DIFFUSE REFLECTIVE D3 - D4
Distance X (cm)



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