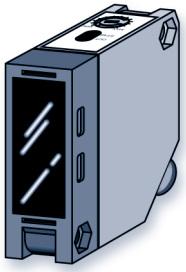


Diffuse Ref. Photoelectric Sensors

INFRA ELECTRONIC SENSORS

PHOTOELECTRIC SENSORS IN SQUARE HOUSING 12 ÷ 30 V DC PROGRAMMABLE OUTPUT

- ***Compact size, output and supply indicators***
- ***Cost effective***
- ***Cable or M12 quick connect models***
- ***Fast response time: 5 mS ON/OFF***

FQ Series

Identification code

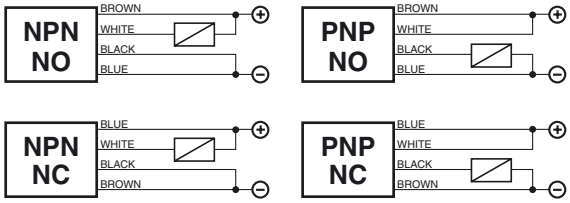
FQ 01 D2 K

- **FQ** — SERIES FQ
- **01** — PROGRAMMABLE OUTPUT
- **D2** — Switching distance = 10 ÷ 40 CM (**D1**) / Switching distance = 25 ÷ 100 CM (**D2**) / Switching distance = 35 ÷ 180 CM (**D3**)
- **K** — CONNECTOR OUTPUT M12

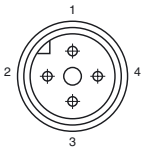
AVAILABLE	D1	D2	D3
NOMINAL SWITCHING DISTANCE (Sn)	**10 ÷ 40 cm** (1)	**25 ÷ 100 cm** (1)	**35 ÷ 180 cm** (2)
TOLERANCE	+10/-10 %Sn		
HYSTERESIS	10%		
EMISSION	Infrared (875 ηm)		
NOMINAL VOLTAGE	12 ÷ 30VDC (-15 /+10%)		
RESIDUAL RIPPLE	≤ 10%		
OUTPUT	NPN or PNP (programmable)		
CONTACT	NO or NC (programmable)		
MAX. OUTPUT CURRENT	200 mA		
ABSORPTION AT 30 VDC	40 mA		
VOLTAGE DROP (Sensor ON)	≤ 1.8 V (I = 100 mA)		
YELLOW LED	Output indicator		
GREEN LED	Supply indicator		
SENSITIVITY ADJUSTEMENT	Trimmer 1 turn		
SWITCHING FREQUENCY	200 Hz		
RESPONSE TIME	5 mS		
START UP DELAY	100 mS		
SHORT CIRCUIT PROTECTION	Present (self-resetting)		
ELECTRIC PROTECTIONS	Againts polarity reversal - inductive loads		
TEMPERATURE LIMITS	-10 ÷ +60 °C		
LIGHT IMMUNITY	> 10.000 Lux (3)		
PROTECTION DEGREE	IP 65		
CABLE LENGTH	2 m		
CABLE SECTION	4 x 0.25 mm²		
HOUSING MATERIAL	Housing: ABS - Lenses: methacrylate		
WEIGHT - cable output - (connector output)	- 160 g - (120 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.

Wiring diagrams



Connection with connector M12 (K)



CONTACTS CONFIGURATION

Output	Contacts numbers			
	1	2	3	4
NPN NO	+	NO	–	–
NPN NC	–	NC	+	–
PNP NO	+	+	–	NO
PNP NC	–	+	+	NC
Emitter	+		–	

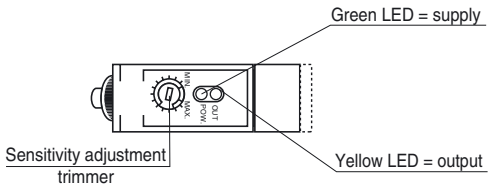
View of quadripole male connector

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

Sensitivity adjustment

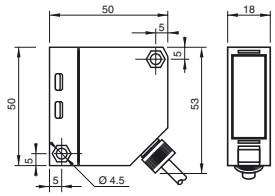
1) **SENSITIVITY INCREASE**
Screw the trimmer towards right towards position "+"

2) **SENSITIVITY DECREASE**
Screw the trimmer towards left towards position "–"



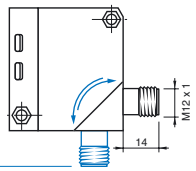
Note: the trimmer just needs one turn.

Dimensions (mm)



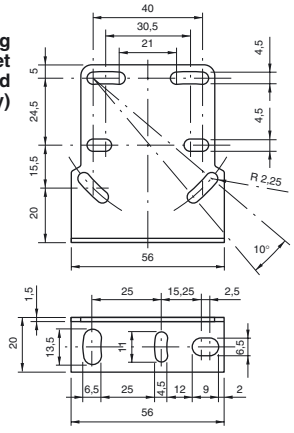
Configuration with cable

Configuration with connector K

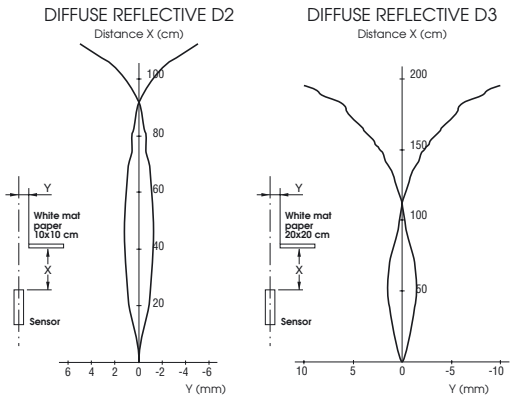


Rotating connector

Mounting bracket (supplied accessory)



Characteristic curves



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