



# Retro Ref. Photoelectric Sensors

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

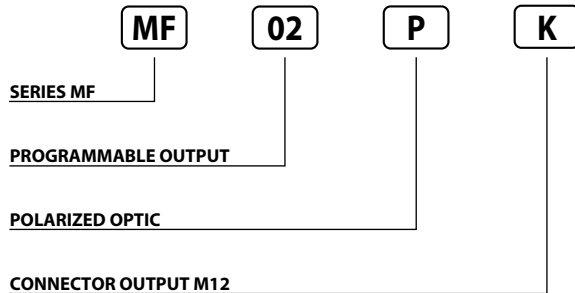
- Programmable outputs, NPN or PNP, N.C. or N.O.
- Simple one-turn sensitivity
- M12 quick connect or integral cable
- 2 msec ON/OFF

**MF Series**

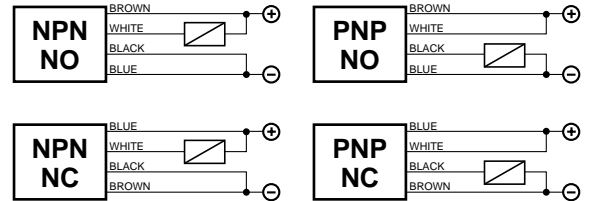
**New**



## Identification code

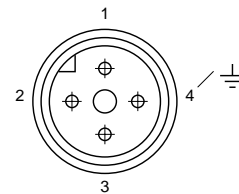


## Wiring diagrams



Note: For series or parallel connections see notes at page 6.

## Connection with connector M12 (K)



View of quadripole male connector.

### CONTACTS CONFIGURATION

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

Note: the K plug is compatible with the following connectors: VAUDEHA, BINDER, HIRSCHMANN, LUMBERG, AMPHENOL-TUCHEL.

AVAILABLE	POLARIZED	STANDARD
SWITCHING DISTANCE	1 m <sup>(1)</sup>	3 m <sup>(1)</sup>
HYSTERESIS	10%	
EMISSION	Red (660 nm)	Infrared (875 nm)
NOMINAL VOLTAGE	12 ÷ 30VDC (-15 /+10%)	
RESIDUAL RIPPLE	≤ 10%	
OUTPUT	NPN or PNP (may be selected)	
CONTACT	NO or NC (may be selected)	
MAX. OUTPUT CURRENT	200 mA	
ABSORPTION AT 30 VDC	30 mA	40 mA
VOLTAGE DROP (Sensor ON)	≤ 2 V (I = 100 mA)	
STATUS LED	Yellow	
SENSITIVITY ADJUSTMENT	Trimmer 1 turn	
SWITCHING FREQUENCY	500 Hz	
RESPONSE TIME	2 mS	
START UP DELAY	100 mS	
SHORT CIRCUIT PROTECTION	Present (self-resetting)	
ELECTRIC PROTECTIONS	Against polarity reversal - inductive loads	
TEMPERATURE LIMITS	-10 ÷ +60 °C	
LIGHT IMMUNITY	> 10.000 Lux <sup>(2)</sup>	
PROTECTION DEGREE	IP 65	
CABLE LENGTH	2 m	
CABLE SECTION	4 x 0.25 mm <sup>2</sup>	
HOUSING MATERIAL	Housing: ABS - Lenses: methacrylate	
WEIGHT - cable output - (connector output)	- 130 g - (70 g)	

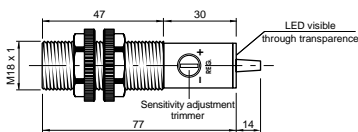
<sup>(1)</sup> Determined with CT04S reflector.

<sup>(2)</sup> Determined with halogen tungsten lamp 3000° K.

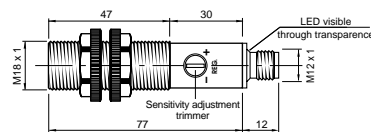
Note: for a proper use see norms at pages 6, 7 and 8.

## Dimensions (mm)

### Configuration with cable



### Configuration with connector K



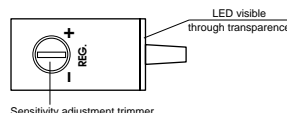
## Sensitivity adjustment

### 1) SENSITIVITY INCREASE

Screw the trimmer towards right towards position "+"

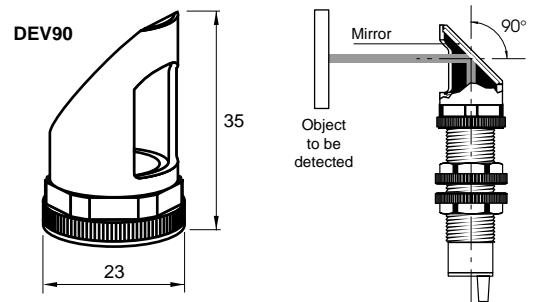
### 2) SENSITIVITY DECREASE

Screw the trimmer towards left towards position "-"



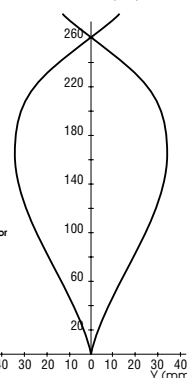
Note: the trimmer just needs one turn.

## Accessories



## Characteristic curves

RETRO REFLECTIVE  
Distance X (cm)



POLARIZED RETRO REFLECTIVE  
Distance X (cm)

