



# Diffuse Ref. Photoelectric Sensors



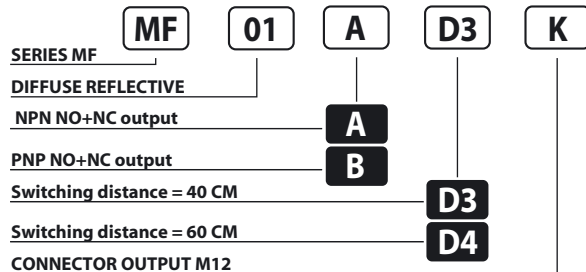
PHOTOELECTRIC SENSORS IN METAL HOUSING 12 ÷ 30V DC NPN / PNP OUTPUT

- Programmable output, NPN or PNP, NC + NO
- Simple one-turn sensitivity
- Cable or M12 quick connect models
- Fast response time: 2 mS / 500 Hz
- Long working distances

## MF Series



### Identification code

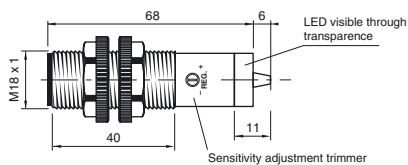


| AVAILABLE                                  | D3  | D4                   |
|--|---|----------------------|
| NOMINAL SWITCHING DISTANCE (Sn)            | 40 cm <sup>(1)</sup>                                | 60 cm <sup>(2)</sup> |
| TOLERANCE                                  | +10/-10 %Sn   |                      |
| HYSTERESIS                                 | 10%   |                      |
| EMISSION                                   | Infrared (875 nm)                                   |                      |
| NOMINAL VOLTAGE                            | 12 ÷ 30VDC (-15 /+10%)                              |                      |
| RESIDUAL RIPPLE                            | ≤ 10%   |                      |
| MAX. OUTPUT CURRENT                        | 200 mA  |                      |
| ABSORPTION AT 30 VDC                       | 40 mA   |                      |
| VOLTAGE DROP (Sensor ON)                   | ≤ 1,5 V (I = 100 mA)                                |                      |
| STATUS LED                                 | Yellow  |                      |
| SENSITIVITY ADJUSTEMENT                    | 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>(3)</sup>                         |                      |
| PROTECTION DEGREE                          | IP 67   |                      |
| CABLE LENGTH                               | 2 m   |                      |
| CABLE SECTION                              | 4 x 0.25 mm <sup>2</sup>                            |                      |
| HOUSING MATERIAL                           | Housing: nickel-plated brass - Lenses: methacrylate |                      |
| WEIGHT - cable output - (connector output) | - 130 g - (70 g)                                    |                      |

- <sup>(1)</sup> Determined with a white mat paper (cm 10 x 10).  
<sup>(2)</sup> Determined with a white mat paper (cm 20 x 20).  
<sup>(3)</sup> Determined with halogen tungsten lamp 3000 °K.  
 Note: for a proper use see norms at pages 12, 13, 14, 15 and 16.

### Dimensions (mm)

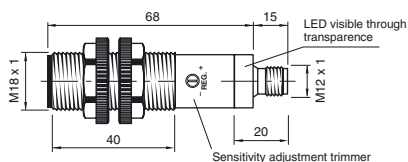
#### Configuration with cable



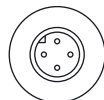
#### Configuration with cable - Back view



#### Configuration with connector K

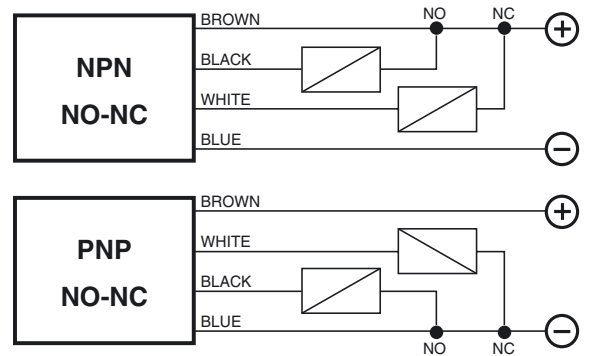


#### Configuration with connector K Back view



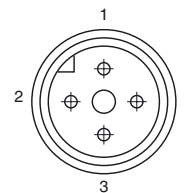
Note: the trimmer just needs one turn.

### Wiring diagrams



### Connection with connector M12 (K)

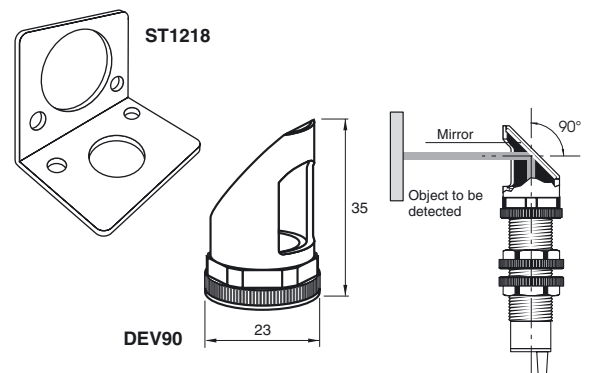
#### View of quadripole male connector



#### CONTACTS CONFIGURATION

| Available (NO + NC) | Contacts numbers |    |   |    |
|---------------------|------------------|----|---|----|
|                     | 1                | 2  | 3 | 4  |
| +                   | +                | NC | - | NO |

### Accessories



### Characteristic curves

