



# FQ

## FQI7/BP-0E

Photo.M18,PNP-NO+NC,M12 plug,Diffuse  
M18 PHOTOELECTRIC SENSORS WITH SHORT BODY

## OVERVIEW

- Wide range of models: direct diffuse, retro-reflective, polarized and fixed-focus
- Direct diffuse models with short and long sensing distance, polarized and through beam
- Nickel brass or plastic housing
- NO+NC complementary output
- P67 protection degree
- Complete protection against electrical damages
- Approvals: CE



## TECHNICAL FEATURES

### Detection properties

|                          |       |
|--------------------------|-------|
| Nominal sensing distance | 400mm |
|--------------------------|-------|

|                     |                |
|---------------------|----------------|
| Thermal drift of Sr | $\leq 10\%$ Sr |
|---------------------|----------------|

|                 |    |
|-----------------|----|
| Repeat Accuracy | 5% |
|-----------------|----|

|                        |         |
|------------------------|---------|
| Sensitivity adjustment | Trimmer |
|------------------------|---------|

### Application

|                                |                                              |
|--------------------------------|----------------------------------------------|
| Function Principle             | Diffuse reflection (medium distance, ≤600mm) |
| Notes                          | white target Kodak 90% 200 x 200mm           |
| Optic position                 | Axial                                        |
| Outputs                        |                                              |
| Output type                    | PNP NO+NC                                    |
| Output Function                | NO+NC                                        |
| Switching frequency            | 250Hz                                        |
| Response time                  | 2ms                                          |
| Electrical data                |                                              |
| Operating Voltage              | 10...30VDC                                   |
| No-Load supply current         | ≤ 30mA                                       |
| Load current                   | ≤50mA                                        |
| Leakage current                | ≤10μA                                        |
| Output voltage drop            | ≤2V@Iload=50mA                               |
| Max ripple content             | ≤10%                                         |
| LED indicators                 | Yellow (status output)                       |
| Time delay before availability | ≤200ms                                       |
| Short-circuit protection       | Short circuit (autoreset), Overvoltage       |
|                                |                                              |

|                                |                                                  |
|--------------------------------|--------------------------------------------------|
| Reverse Polarity Protection    | Polarity inversal, Impulsive voltage             |
| Emission                       | LED Infrared (880nm)                             |
| Interference to external light | 5000lux (incandescent lamp), 10000lux (sunlight) |

**Mechanical data**

|                       |                                   |
|-----------------------|-----------------------------------|
| Dimensions            | M18 x 1 /L =66,3mm                |
| Housing material      | PBT / PC plug                     |
| Weight                | 20g                               |
| Connections           | M12 plug                          |
| Active Head Material  | PC                                |
| Tightening torque     | 1Nm                               |
| Operating temperature | - 25°C...+ 70° C (Without freeze) |
| Diameter/Dimension    | M18                               |

**Test/Approvals**

|                       |                                                |
|-----------------------|------------------------------------------------|
| Approvals             | CE                                             |
| EMC compatibility     | EN 60947-5-2                                   |
| Shocks and vibrations | Vibration IEC 60068-2-6 / Shock IEC 60068-2-27 |
| Degree of protection  | IP67                                           |

**Accessories**

|                      |                           |
|----------------------|---------------------------|
| Supplied Accessories | nuts M18 x 1, screwdriver |
|----------------------|---------------------------|

|                       |                                  |
|-----------------------|----------------------------------|
| Generical Data        |                                  |
| Dimensions            | M18 x 1 /L =66,3mm               |
| Operating Temperature | - 25°C...+ 70°C (Without freeze) |
| Mechanical Protection | IP67                             |

M18 x 1 /L =66,3mm

- 25°C...+ 70°C (Without freeze)

IP67

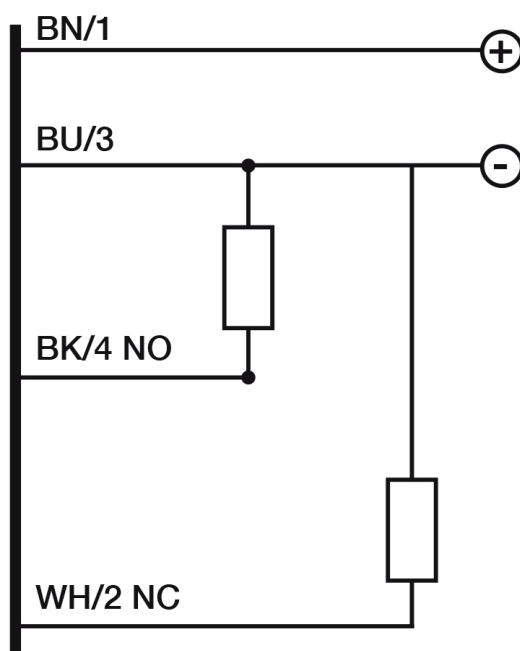
# CONNECTIONS

Electrical diagram

The diagram illustrates an electrical circuit. On the left, a vertical line represents a common rail. Four horizontal lines branch off from this rail, labeled from top to bottom: BN/1, BU/3, BK/4 NO, and WH/2 NC. The BN/1 line ends in a circle with a plus sign (+). The BU/3 line ends in a circle with a minus sign (-). A vertical line connects the junction of the BU/3 line to the junction of the WH/2 NC line. A second vertical line connects the junction of the BK/4 NO line to the junction of the WH/2 NC line. Two rectangular components, representing relays or switches, are connected in series between the BU/3 and WH/2 NC lines. The first rectangle is connected between the BU/3 line and the BK/4 NO line. The second rectangle is connected between the WH/2 NC line and the junction of the BU/3 and BK/4 NO lines.

Connector

### Electrical diagram

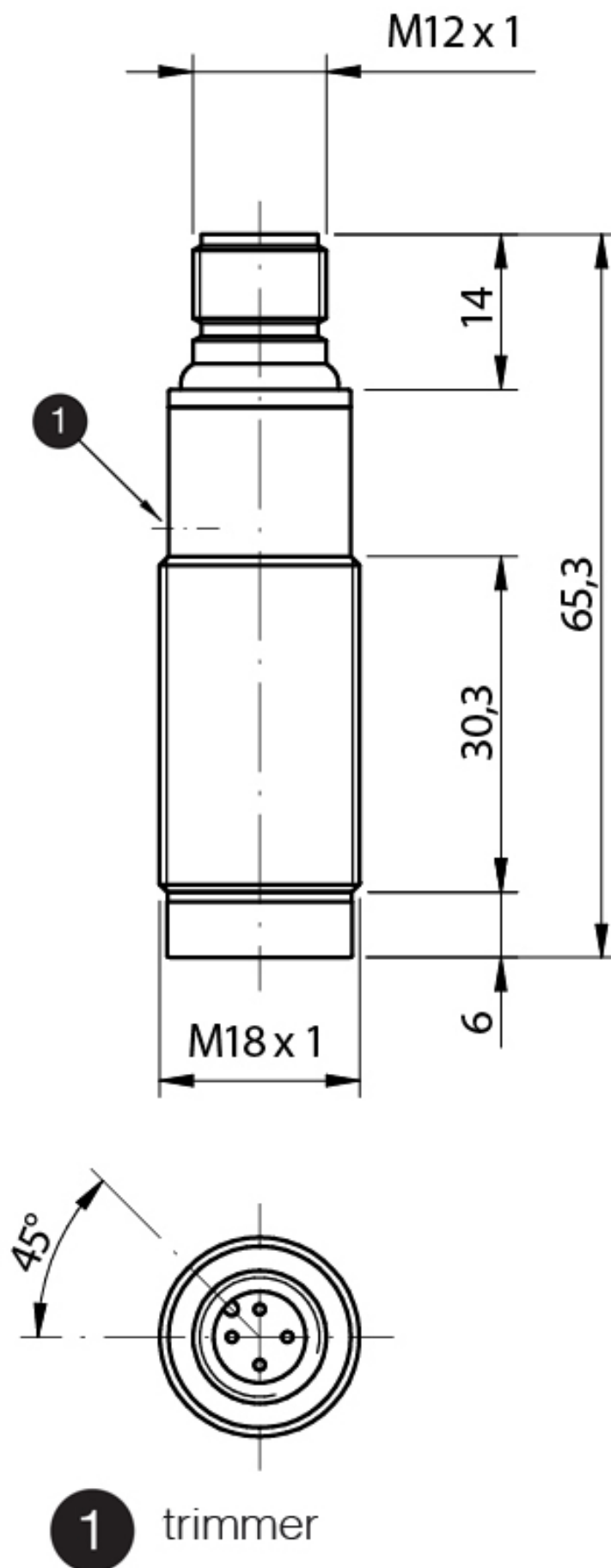


## Connector

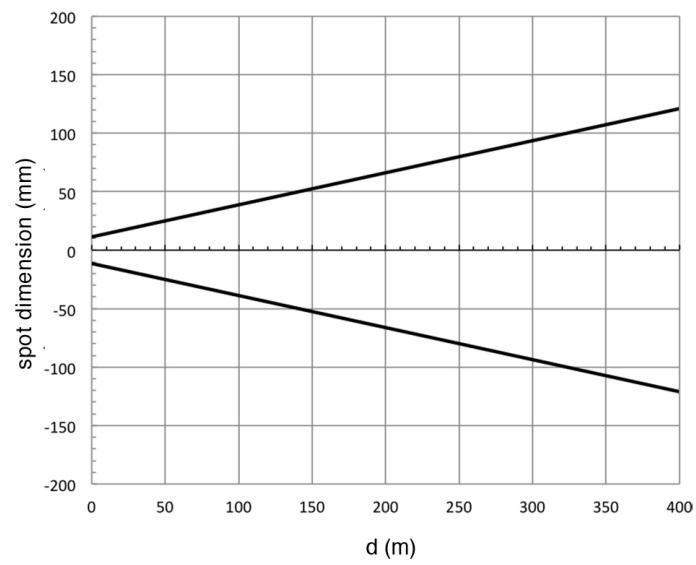


## OTHERS

Dimensions



Response curves



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