



# FAL

## FALS/BP-3E

**Photo.M18,Laser emiss.,PNP-NO+NC,M12  
plug,BGS**

**M18 PHOTOELECTRIC SENSORS DC LASER EMISSION**

## OVERVIEW

- Complete range of M18 sensors with 10...30 Vdc power supply
- Axial and radial optic with flat surface
- Visible red laser emission models
- IP67 protection degree
- Metallic or plastic housing
- Sensitivity adjustment available for all models
- Total protection against any type of electric damages
- Approvals: CE and cULus listed



## TECHNICAL FEATURES

### Detection properties

|                          |         |
|--------------------------|---------|
| Nominal sensing distance | 80mm    |
| Thermal drift of Sr      | ≤10% Sr |
| Repeat Accuracy          | 10%     |
| Sensitivity adjustment   | Trimmer |

|                                       |      |
|---------------------------------------|------|
| Minimum sensing distance (blind zone) | 30mm |
|---------------------------------------|------|

### Application

|                    |                                    |
|--------------------|------------------------------------|
| Function Principle | Blackground suppression            |
| Notes              | white target Kodak 90% 100 x 100mm |
| Optic position     | Radial 90°                         |

### Outputs

|                     |           |
|---------------------|-----------|
| Output type         | PNP NO+NC |
| Output Function     | NO+NC     |
| Switching frequency | 1,5kHz    |
| Response time       | 333μs     |

### Electrical data

|                        |                                     |
|------------------------|-------------------------------------|
| Operating Voltage      | 10...30VDC                          |
| No-Load supply current | ≤ 30mA                              |
| Load current           | ≤100mA                              |
| Leakage current        | ≤10μA                               |
| Output voltage drop    | ≤2V@Iload=100mA                     |
| Max ripple content     | ≤10%                                |
| LED indicators         | Yellow (Lon) or output status Lo/Do |
|                        |                                     |

|                                |                                                  |
|--------------------------------|--------------------------------------------------|
| Time delay before availability | ≤200ms                                           |
| Short-circuit protection       | Short circuit (autoreset), Overvoltage           |
| Reverse Polarity Protection    | Polarity inversal, Impulsive voltage             |
| Emission                       | LASER Red (650nm) class1                         |
| Interference to external light | 3000lux (incandescent lamp), 10000lux (sunlight) |

**Mechanical data**

|                       |                                 |
|-----------------------|---------------------------------|
| Dimensions            | M18 x 1/L=89,4mm                |
| Housing material      | Nickel plated brass / PC plug   |
| Weight                | 60g                             |
| Connections           | M12 plug                        |
| Active Head Material  | Glass / ABS                     |
| Tightening torque     | 25Nm                            |
| Operating temperature | -15°C...+ 55°C (Without freeze) |
| Diameter/Dimension    | M18                             |

**Test/Approvals**

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

## Accessories

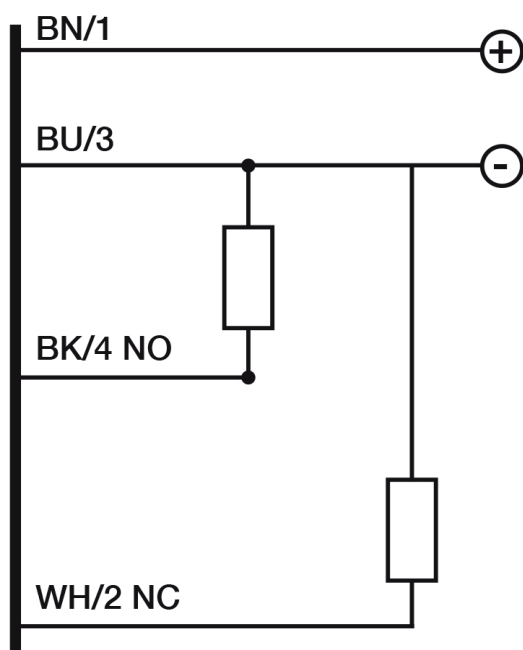
|                      |                           |
|----------------------|---------------------------|
| Supplied Accessories | nuts M18 x 1, screwdriver |
|----------------------|---------------------------|

## Generical Data

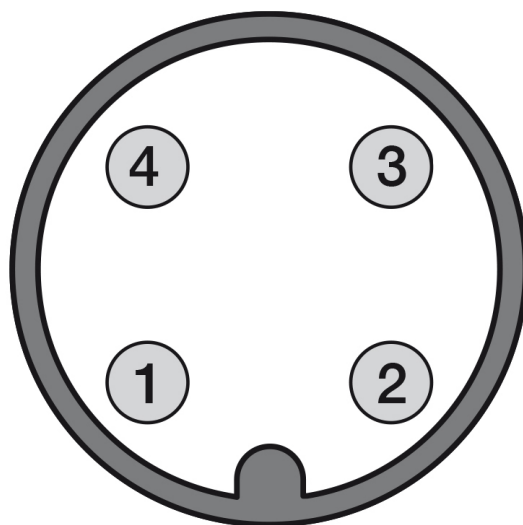
|                       |                                  |
|-----------------------|----------------------------------|
| Dimensions            | M18 x 1/L=89,4mm                 |
| Operating Temperature | - 15°C...+ 55°C (Without freeze) |
| Mechanical Protection | IP67                             |

# CONNECTIONS

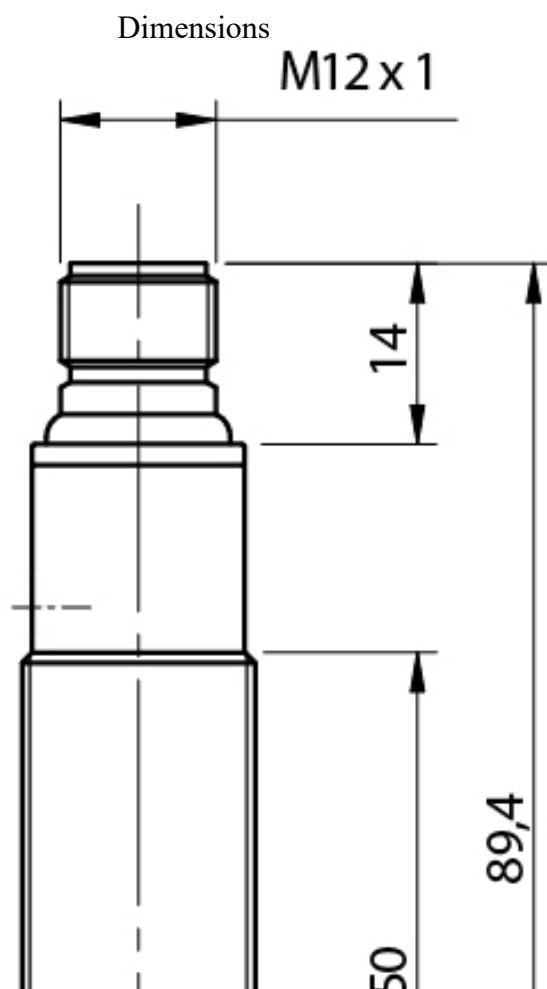
Eletrical diagram

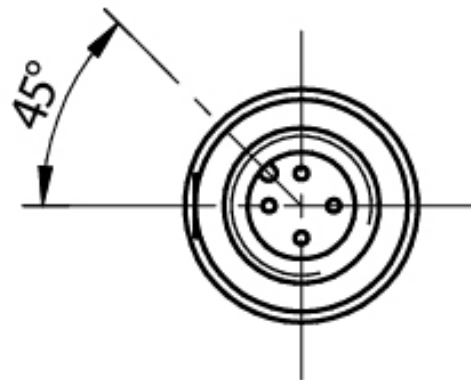
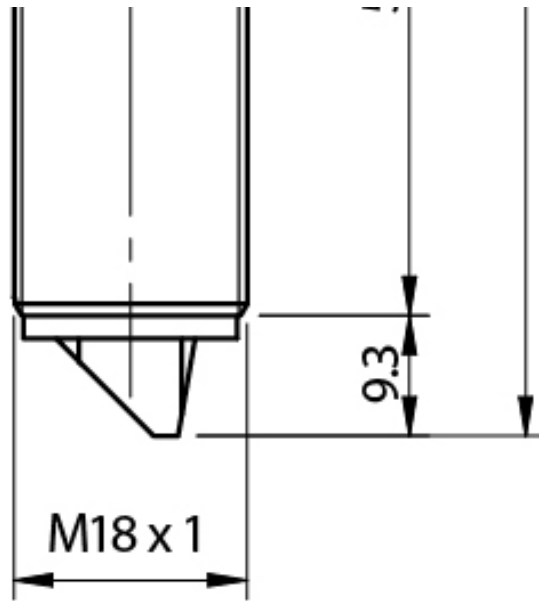


Connector

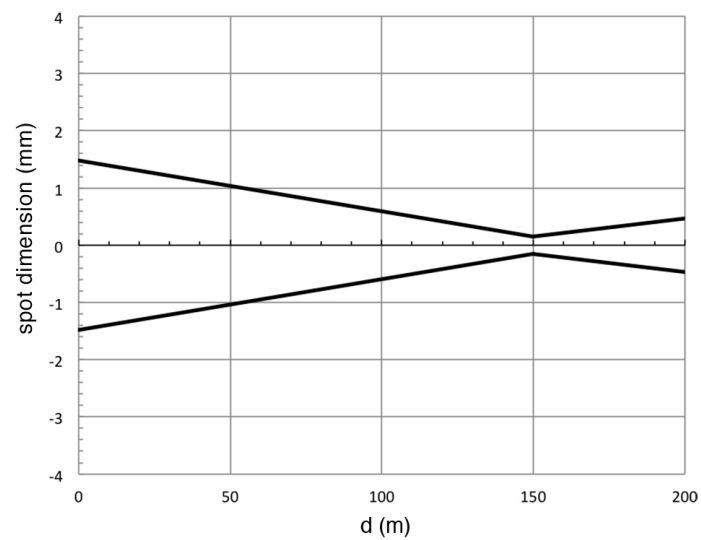


## OTHERS





Response curves



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