

# Fibre optics and amplifiers for the smallest of spaces

## Fibre optic sensors

- **Easy connection of different fibre optics**
- **Manual or automatic setting via pushbutton**
- **LED display to check operation, switching status and function**
- **Various fibre materials for different applications**
- **Easy mounting on DIN rail possible**



**Fibre optics systems**

If there is only little mounting space for standard photoelectric sensors, fibre optics can be used. They are connected via fibre optic amplifiers which contain the control monitor and photoelectric components. Both the through-beam and the sensing principle are applied.

**Fibre-optics materials**

Fibre optics made of silicate glass are particularly resistant to heat and ageing, their optical response does not change when they are bent. They cannot be cut to length by the user.

Acrylic fibre optics are suited for standard applications, they can be cut to length and are less expensive than glass fibre optics.

High-flex fibre optics allow extremely small bending radii.



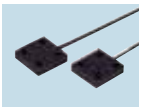
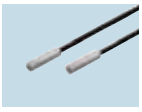
## OOF amplifiers for acrylic fibre optics

| Type | Number of input channels | For fibre optics | Type of light | Sensing range through beam | Sensing range diffuse | Output H = light-on D = dark-on | $U_b$ [V] | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|---|
| **Type OOF · M12 connector · plastics · DC · Wiring diagram no. 1 · Connector groups 14, 16, 17** | | | | | | | | | |
|  | 2 | FE/FT-11 | Red | 3.8 m | 0...300 mm | H/D PNP | 12...36 | 1 | **OO5000** |
| **Type OOF · M12 connector · plastics · DC · Wiring diagram no. 6 · Connector groups 16, 17** | | | | | | | | | |
|  | 4 | FE/FT-11 | Red | 3.8 m | 0...300 mm | H/D PNP | 12...36 | 2 | **OO5001** |
| **Type OOF · M16 connector · plastics · DC · Wiring diagram no. 7 · Connector group 27** | | | | | | | | | |
|  | 6 | FE/FT-11 | Red | 3.8 m | 0...300 mm | H/D PNP | 12...36 | 3 | **OO5002** |
| **Type OOF · M16 connector · plastics · DC · Wiring diagram no. 8 · Connector group 27** | | | | | | | | | |
|  | 8 | FE/FT-11 | Red | 3.8 m | 0...300 mm | H/D PNP | 12...36 | 4 | **OO5003** |

## OBF amplifiers for acrylic fibre optics

| Type | Number of input channels | For fibre optics | Type of light | Sensing range through beam | Sensing range diffuse | Output H = light-on D = dark-on | $U_b$ [V] | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|---|
| **Type OBF · M12 connector · plastics · DC · Wiring diagram no. 9 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202** | | | | | | | | | |
|  | 1 | FE/FT-11 | Red | 0...2 m | 0...100 mm | H/D PNP/NPN | 10...30 | 5 | **OBF500** |
| **Type OBF · M8 connector · plastics · DC · Wiring diagram no. 9 · Connector groups 4, 5, 80, 86, 147** | | | | | | | | | |
|  | 1 | FE/FT-11 | Red | 0...2 m | 0...100 mm | H/D PNP/NPN | 10...30 | 6 | **OBF501** |
| **Type OBF · Cable 2 m · plastics · DC · Wiring diagram no. 10** | | | | | | | | | |
|  | 1 | FE/FT-11 | Red | 0...2 m | 0...100 mm | H/D PNP/NPN | 10...30 | 7 | **OBF502** |
| **Type OBF · M8 connector · plastics · DC · Wiring diagram no. 11 · Connector groups 1, 3, 145** | | | | | | | | | |
|  | 1 | FE/FT-11 | Red | 0...2 m | 0...100 mm | H/D PNP/NPN | 10...30 | 6 | **OBF503** |

## Acrylic fibre optics for OBF / OOF housings, through-beam system

| Type | System | Fibre optic material | Range OB50.. / OBF5.. / OO50.. [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FE-11 | PMMA | 60 / 130 / 160 | aluminium | -40...70 | PE (polyethylene) | 8 | **E20609** |
|  | FE-11 | PMMA | 60 / 130 / 160 | aluminium | -40...70 | PE (polyethylene) | 9 | **E20612** |
|  | FE-11 | PMMA | 150 / 210 / 800 | aluminium | -40...70 | PE (polyethylene) | 9 | **E20615** |
|  | FE-11 | PMMA | 150 / 300 / 700 | aluminium | -40...70 | PE (polyethylene) | 10 | **E20757** |
|  | FE-11 | PMMA | 200 / 350 / 800 | aluminium | -40...70 | PE (polyethylene) | 11 | **E20603** |
|  | FE-11 | PMMA | 200 / 450 / 800 | aluminium | -40...70 | PE (polyethylene) | 9 | **E20606** |
|  | FE-11 | PMMA | 400 / 900 / 1600 | aluminium | -40...70 | PE (polyethylene) | 12 | **E20753** |
|  | FE-11 | PMMA | 1200 / 2000 / 3800 | aluminium | -40...70 | PE (polyethylene) | 13 | **E20752** |
|  | FE-11 | PMMA | 140 / 230 / 400 | stainless steel | -40...70 | PE (polyethylene) | 14 | **E20714** |
|  | FE-11 | PMMA | 200 / 450 / 800 | stainless steel 316L / 1.4404 | -40...70 | PE (polyethylene) | 15 | **E20750** |

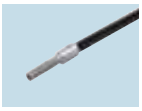
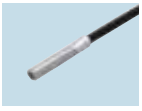
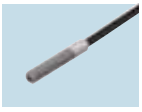
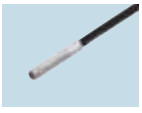
## Acrylic fibre optics for OBF / OOF housings, through-beam system, highly flexible

| Type | System | Fibre optic material | Range OB50.. / OBF5.. / OO50.. [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FE-11 | PMMA | 50 / 56 / 120 | aluminium | -40...60 | PE (polyethylene) | 8 | **E21103** |
|  | FE-11 | PMMA | 50 / 56 / 120 | aluminium | -40...60 | PE (polyethylene) | 9 | **E21104** |
|  | FE-11 | PMMA | 250 / 350 / 750 | aluminium | -40...60 | PE (polyethylene) | 9 | **E21102** |

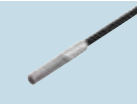
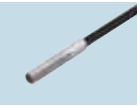
**You can find wiring diagrams and scale drawings from page 308**



## Acrylic fibre optics for OBF / OOF housings, diffuse reflection system

| Type | System | Fibre optic material | Range OB50.. / OBF5.. / OO50.. [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FT-11 | PMMA | 6 / 10 / | aluminium | -40...70 | PE (polyethylene) | 16 | **E20756** |
|  | FT-11 | PMMA | 20 / 25 / 60 | aluminium | -40...70 | PE (polyethylene) | 17 | **E20639** |
|  | FT-11 | PMMA | 20 / 25 / 60 | aluminium | -40...70 | PE (polyethylene) | 11 | **E20712** |
|  | FT-11 | PMMA | 60 / 70 / 300 | aluminium | -40...70 | PE (polyethylene) | 18 | **E20645** |
|  | FT-11 | PMMA | 60 / 90 / 300 | aluminium | -40...70 | PE (polyethylene) | 18 | **E20651** |
|  | FT-11 | PMMA | 60 / 70 / 300 | aluminium | -40...70 | PE (polyethylene) | 19 | **E20648** |
|  | FT-11 | PMMA | 60 / 90 / 300 | aluminium | -40...70 | PE (polyethylene) | 19 | **E20654** |
|  | FT-11 | PMMA | 70 / 100 / 300 | aluminium | -40...70 | PE (polyethylene) | 19 | **E20633** |
|  | FT-11 | PMMA | 15 / 25 / 60 | stainless steel | -40...70 | PE (polyethylene) | 20 | **E20748** |
|  | FT-11 | PMMA | 20 / 25 / 60 | stainless steel | -40...70 | PE (polyethylene) | 21 | **E20711** |
|  | FT-11 | PMMA | 40 / 60 / 150 | stainless steel | -40...70 | PE (polyethylene) | 22 | **E20715** |
|  | FT-11 | PMMA | 70 / 100 / 300 | stainless steel | -40...70 | PE (polyethylene) | 23 | **E20749** |
|  | FE-11 | PMMA | – | – | -30...70 | PE (polyethylene) | 24 | **E20772** |

## Acrylic fibre optics for OBF / OOF housings, diffuse reflection system, highly flexible

| Type | System | Fibre optic material | Range OB50.. / OBF5.. / OO50.. [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FT-11 | PMMA | 10 / 10 / 30 | aluminium | -40...60 | PE (polyethylene) | 25 | **E21106** |
|  | FT-11 | PMMA | 10 / 10 / 30 | aluminium | -40...60 | PE (polyethylene) | 26 | **E21107** |
|  | FT-11 | PMMA | 70 / 104 / 180 | aluminium | -40...60 | PE (polyethylene) | 27 | **E21105** |

## Acrylic fibre optics for OBF / OOF housings, through-beam system, can be cut to length

| Type | System | Fibre optic material | Range OB50.. / OBF5.. / OO50.. [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FE-11 | PMMA | 175 / 370 / 700 | aluminium | -40...70 | – | 28 | **E20767** |

## Acrylic fibre optics for OBF / OOF housings, diffuse reflection system, can be cut to length

| Type | System | Fibre optic material | Range OB50.. / OBF5.. / OO50.. [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FT-11 | PMMA | 55 / 110 / 235 | aluminium | -40...70 | – | 29 | **E20765** |

## Acrylic fibres on a reel for OBF housing

| Type | Description | Order no. |
|---|---|---|
|  | acrylic fibres on a reel · 20 m · for type OBF, OOF · Housing materials: PE (polyethylene), Fibre optic: PMMA, can be cut to length | **E20773** |
|  | acrylic fibres on a reel · 50 m · for type OBF, OOF · Housing materials: PE (polyethylene), Fibre optic: PMMA, can be cut to length | **E20774** |

**You can find wiring diagrams and scale drawings from page 308**



## OOF amplifiers for glass fibre optics

| Type | Number of input channels | For fibre optics | Type of light | Sensing range through beam | Sensing range diffuse | Output H = light-on D = dark-on | $U_b$ [V] | Drawing no. | Order no. |
|---|---|---|---|---|---|---|---|---|---|
| **Type OOF · M12 connector · plastics · DC · Wiring diagram no. 1 · Connector groups 14, 16, 17** | | | | | | | | | |
|  | 2 | FE/FT-00 | Red | 0.4 m | 0...200 mm | H/D PNP | 12...36 | 30 | **OO5004** |
| **Type OOF · M12 connector · plastics · DC · Wiring diagram no. 6 · Connector groups 16, 17** | | | | | | | | | |
|  | 4 | FE/FT-00 | Red | 0.4 m | 0...200 mm | H/D PNP | 12...36 | 31 | **OO5005** |
| **Type OOF · M16 connector · plastics · DC · Wiring diagram no. 7 · Connector group 27** | | | | | | | | | |
|  | 6 | FE/FT-00 | Red | 0.4 m | 0...200 mm | H/D PNP | 12...36 | 32 | **OO5006** |
| **Type OOF · M16 connector · plastics · DC · Wiring diagram no. 8 · Connector group 27** | | | | | | | | | |
|  | 8 | FE/FT-00 | Red | 0.4 m | 0...200 mm | H/D PNP | 12...36 | 33 | **OO5007** |

## OKF amplifiers for glass fibre optics

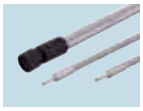
| Type | Number of input channels | For fibre optics | Type of light | Sensing range through beam | Sensing range diffuse | Output H = light-on D = dark-on | $U_b$ [V] | Drawing no. | Order no. |
|---|---|---|---|---|---|---|---|---|---|
| **Type OKF · Cable 2 m · plastics · DC · Wiring diagram no. 12** | | | | | | | | | |
|  | 1 | FE/FT-00 | Red | 0...0.12 m | 0...40 mm | H/D PNP | 10...36 | 34 | **OK5001** |
| **Type OKF · M12 connector · plastics · DC · Wiring diagram no. 13 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202** | | | | | | | | | |
|  | 1 | FE/FT-00 | Red | 0...0.12 m | 0...40 mm | H/D PNP | 10...36 | 35 | **OK5008** |

## OUF amplifiers for glass fibre optics

| Type | Number of input channels | For fibre optics | Type of light | Sensing range through beam | Sensing range diffuse | Output H = light-on D = dark-on | $U_b$ [V] | Drawing no. | Order no. |
|---|---|---|---|---|---|---|---|---|---|
| **Type OUF · Cable 2 m · plastics · DC · Wiring diagram no. 2** | | | | | | | | | |
|  | 1 | FE/FT-00 | Infrared | 0.12 m | 40 mm | H PNP | 10...36 | 36 | **OU5001** |

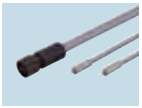
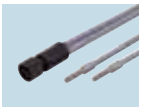
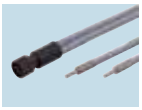
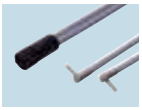
| Type | Number of input channels | For fibre optics | Type of light | Sensing range through beam | Sensing range diffuse | Output H = light-on D = dark-on | $U_b$ [V] | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|---|
| **Type OUF · Cable 2 m · plastics · DC · Wiring diagram no. 3** | | | | | | | | | |
|  | 1 | FE/FT-00 | Infrared | 0.12 m | 40 mm | D PNP | 10...36 | 36 | **OU5002** |
| **Type OUF · M12 connector · plastics · DC · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204** | | | | | | | | | |
|  | 1 | FE/FT-00 | Infrared | 0...0.12 m | 0...40 mm | H PNP | 10...36 | 37 | **OU5043** |
| **Type OUF · M12 connector · plastics · DC · Wiring diagram no. 5 · Connector groups 8, 9, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 151, 153, 154, 184, 188, 190, 193, 202, 203, 204** | | | | | | | | | |
|  | 1 | FE/FT-00 | Infrared | 0...0.12 m | 0...40 mm | D PNP | 10...36 | 37 | **OU5044** |

## Glass fibre optics for OOF / OKF and OUF housings, through-beam system

| Type | System | Fibre optic material | Range OOF / OKF / OUF [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -20...80 | PVC | 38 | **E20059** |
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -20...80 | PVC | 39 | **E20060** |
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -20...80 | PVC | 40 | **E20062** |
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -20...80 | PVC | 41 | **E20228** |
|  | FE-00 | glass | 160 / 50 / 50 | stainless steel | -20...80 | PVC | 42 | **E20061** |
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -40...290 | aluminium | 43 | **E20128** |
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -40...290 | aluminium | 44 | **E20130** |
|  | FE-00 | glass | 400 / 120 / 120 | aluminium | -40...290 | aluminium | 45 | **E20129** |
|  | FE-00 | glass | 160 / 50 / 50 | stainless steel | -40...290 | aluminium | 46 | **E20127** |

**You can find wiring diagrams and scale drawings from page 308**



| Type | System | Fibre optic material | Range OOF / OKF / OUF [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FE-00 | glass | 160 / 50 / 50 | stainless steel | -20...150 | metal silicone | 47 | **E20506** |
|  | FE-00 | glass | 400 / 120 / 120 | stainless steel | -20...150 | metal silicone | 48 | **E20505** |
|  | FE-00 | glass | 400 / 120 / 120 | stainless steel | -20...150 | metal silicone | 49 | **E20492** |
|  | FE-00 | glass | 400 / 120 / 120 | stainless steel | -20...150 | metal silicone | 50 | **E20493** |

## Glass fibre optics for OOF / OKF and OUF housings, diffuse reflection system

| Type | System | Fibre optic material | Range OOF / OKF / OUF [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FT-00 | glass | 200 / 40 / 40 | aluminium | -20...80 | PVC | 51 | **E20051** |
|  | FT-00 | glass | 200 / 40 / 40 | aluminium | -20...80 | PVC | 52 | **E20052** |
|  | FT-00 | glass | 200 / 40 / 40 | aluminium | -20...80 | PVC | 53 | **E20054** |
|  | FT-00 | glass | 200 / 40 / 40 | Brass | -20...80 | PVC | 54 | **E20249** |
|  | FT-00 | glass | 24 / 6 / 6 | stainless steel | -20...80 | PVC | 55 | **E20230** |
|  | FT-00 | glass | 24 / 8 / 8 | stainless steel | -20...80 | PVC | 42 | **E20053** |
|  | FT-00 | glass | 200 / 40 / 40 | aluminium | -40...290 | aluminium | 56 | **E20055** |
|  | FT-00 | glass | 200 / 40 / 40 | aluminium | -40...290 | aluminium | 57 | **E20056** |
|  | FT-00 | glass | 200 / 40 / 40 | aluminium | -40...290 | aluminium | 58 | **E20058** |
|  | FT-00 | glass | 24 / 8 / 8 | stainless steel | -40...290 | aluminium | 46 | **E20057** |

| Type | System | Fibre optic material | Range OOF / OKF / OUF [mm] | Sensing head material | Ambient temperature [°C] | Sheathing material | Draw-ing no. | Order no. |
|---|---|---|---|---|---|---|---|---|
|  | FT-00 | glass | 24 / 8 / 8 | stainless steel | -20...150 | metal silicone | 47 | **E20507** |
|  | FT-00 | glass | 200 / 40 / 40 | stainless steel | -20...150 | metal silicone | 59 | **E20489** |
|  | FT-00 | glass | 200 / 40 / 40 | stainless steel | -20...150 | metal silicone | 60 | **E20494** |
|  | FT-00 | glass | 200 / 40 / 40 | stainless steel | -20...150 | metal silicone | 53 | **E20495** |
|  | FT-00 | glass | - / 40 / 40 | Brass | -20...80 | – | 61 | **E20078** |

## Accessories

| Type | Description | Order no. |
|---|---|---|
|  | Lens attachment · Ø 5 mm / M3 · for through-beam fibre optics · Housing materials: aluminium black anodised / glass | **E20679** |
|  | Lens attachment · Ø 6 mm / M4 · for through-beam fibre optics · Housing materials: aluminium black anodised / glass | **E20680** |
|  | Lens attachment · D5x10-M3-ALU · for through-beam fibre optics · M3 · Housing materials: aluminium black anodised | **E20754** |
|  | Lens attachment · D5x10-M4-ALU · for through-beam fibre optics · M4 · Housing materials: aluminium black anodised | **E20755** |
|  | Diaphragm attachment · D5x10-M3-ALU/D0.4 · for through-beam fibre optics · M3 · Housing materials: aluminium black anodised | **E20762** |
|  | Angle bracket · for type OBF · Housing materials: steel galvanised | **E20593** |
|  | Angle bracket · OU · with mounting material · Housing materials: galvanised steel | **E20211** |
|  | Mounting clamp · Ø 3 mm · for fibre optics · Housing materials: aluminium black anodised | **E20107** |
| | Mounting clamp · Ø 3.5 mm · for fibre optics · Housing materials: aluminium black anodised | **E20106** |

**You can find wiring diagrams and scale drawings from page 308**



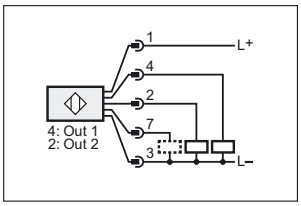
| Type | Description | Order no. |
|---|---|---|
|  | Mounting clamp · Ø 4.5 mm · for fibre optics · Housing materials: aluminium black anodised | **E20105** |
| | Mounting clamp · Ø 5 mm · for fibre optics · Housing materials: aluminium black anodised | **E20104** |
| | Mounting clamp · Ø 6 mm · for fibre optics · Housing materials: aluminium black anodised | **E20103** |
| | Mounting clamp · Ø 7 mm · for fibre optics · Housing materials: aluminium black anodised | **E20102** |
|  | Mounting clamp · Ø 8 mm · Housing materials: aluminium black anodised | **E10221** |
|  | Mounting clamp · Ø 10 mm · for fibre optics · Housing materials: PBT | **E20353** |
|  | cutter for fibre optics · for type FE/FT-11 · Housing materials: plastics | **E20600** |

## Wiring diagrams

### Core colours

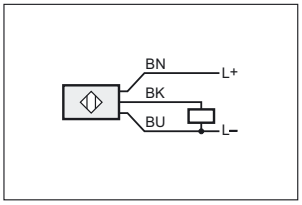
| | |
|---|---|
| BK | black |
| BN | brown |
| BU | blue |
| VT | purple |
| WH | white |

**1**

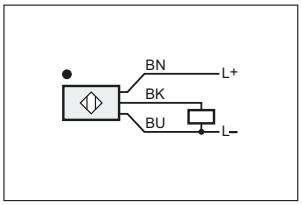



7: function check

**2**




**3**

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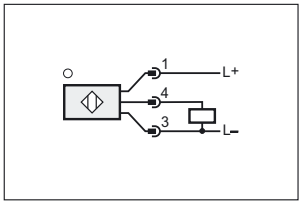


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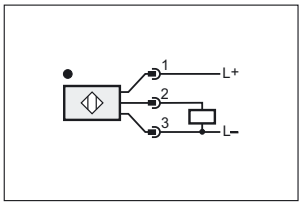


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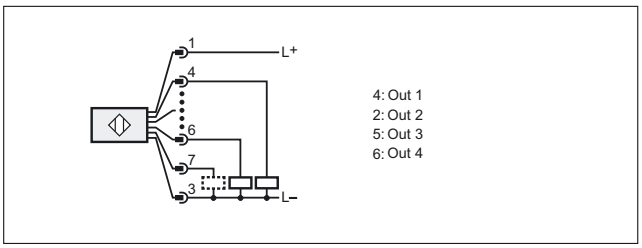
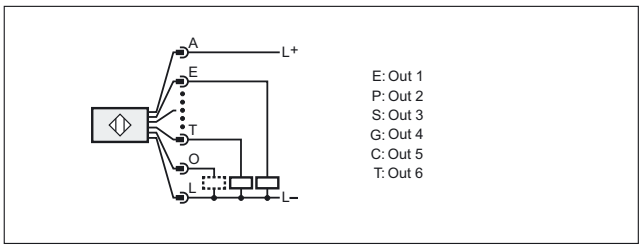



7: function check

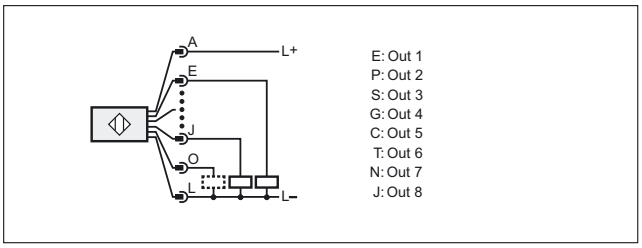
**7**




O: function check

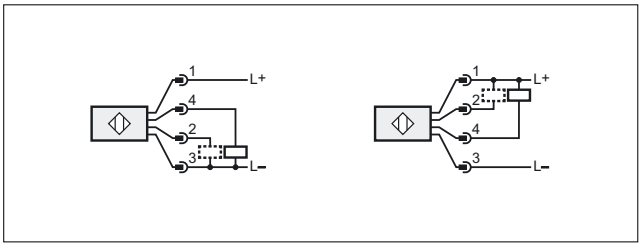
## Wiring diagrams

**8**




O: function check

**9**

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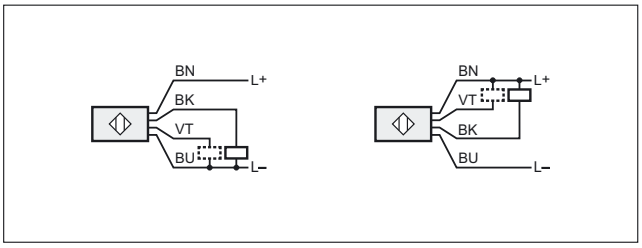


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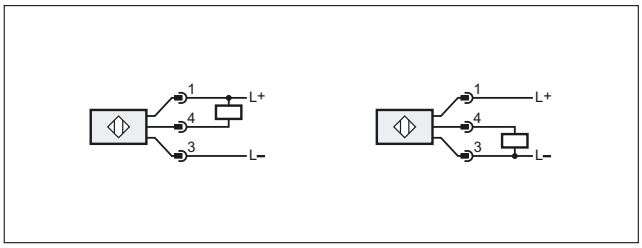


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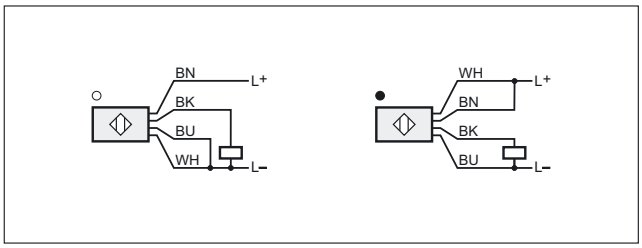


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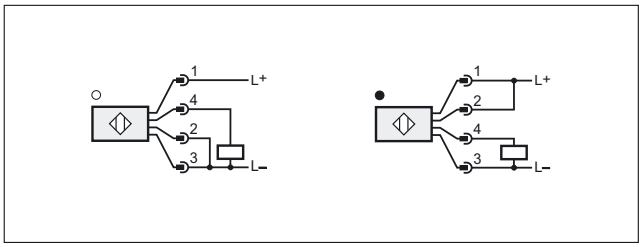


**Scale drawings / drawing no. – CAD download: www.ifm.com**

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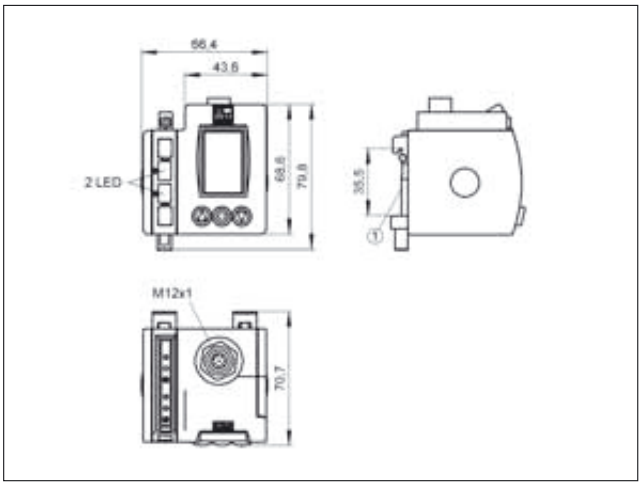
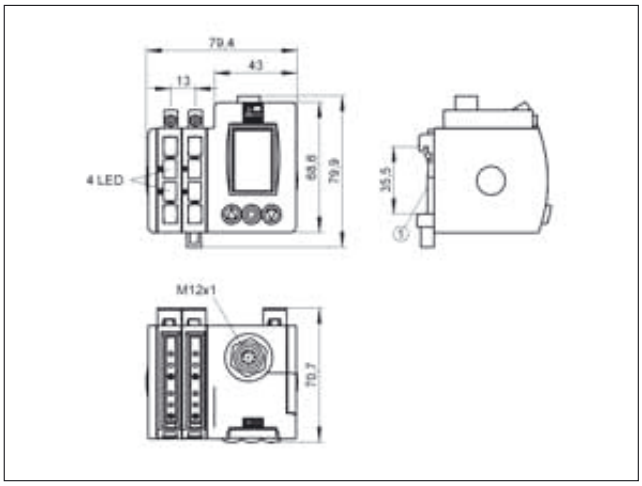



1: Mounting on DIN rail

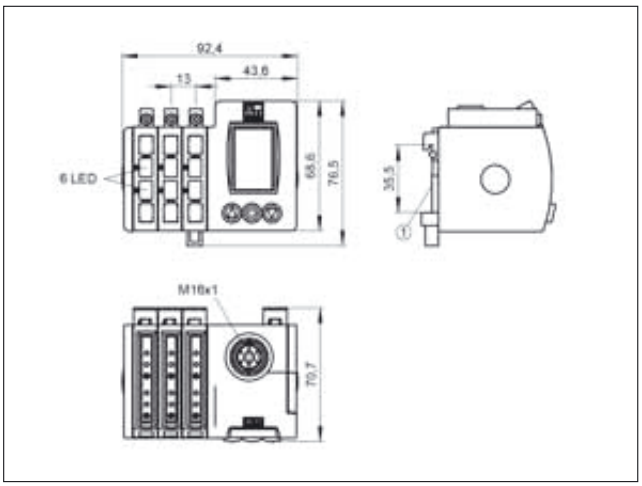
**2**




1: Mounting on DIN rail

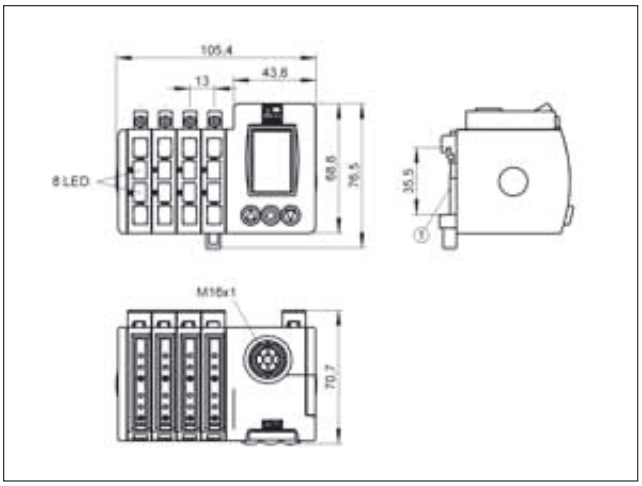
**Scale drawings / drawing no. – CAD download: www.ifm.com**

**3**



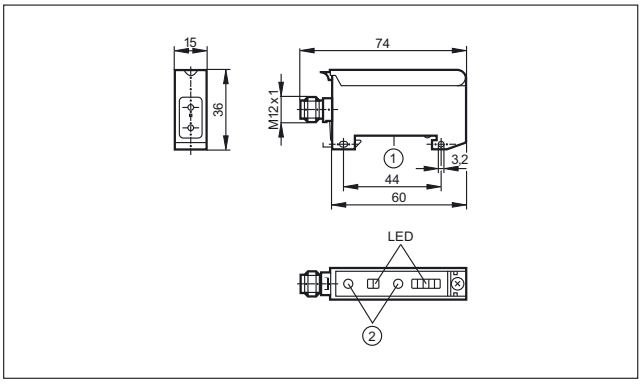

1: Mounting on DIN rail

**4**



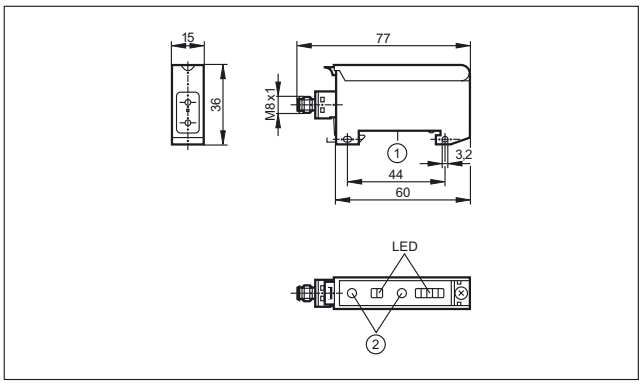

1: Mounting on DIN rail

**5**




1: Mounting on DIN rail, 2: setting pushbuttons

**6**




1: Mounting on DIN rail, 2: setting pushbuttons

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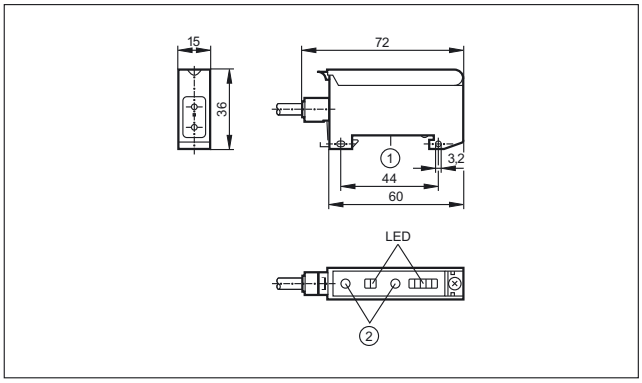
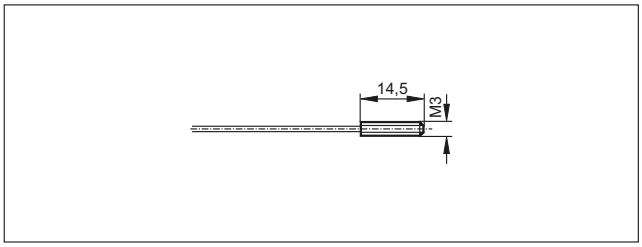



1: Mounting on DIN rail, 2: setting pushbuttons

**8**

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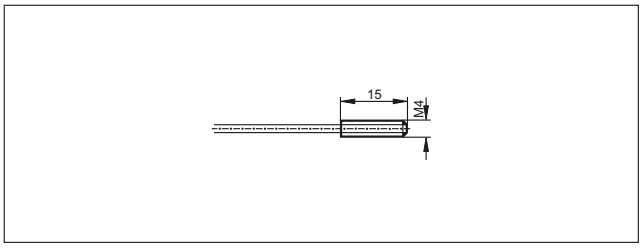


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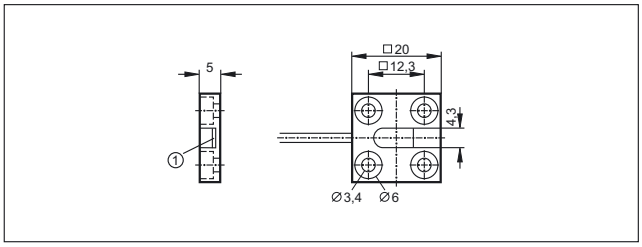


1: Sensing surface

**Scale drawings / drawing no. – CAD download: www.ifm.com**

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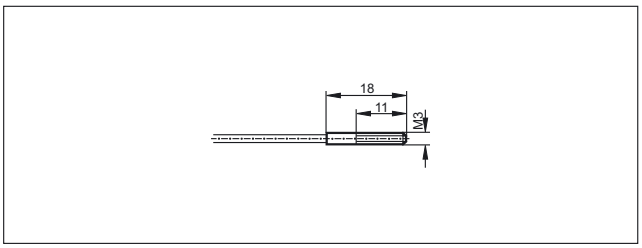


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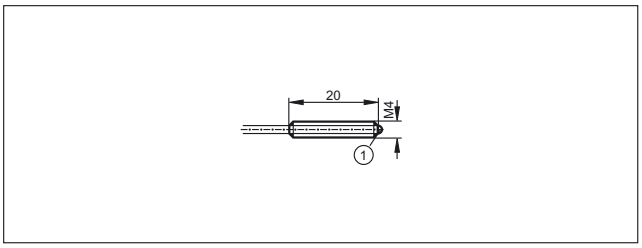
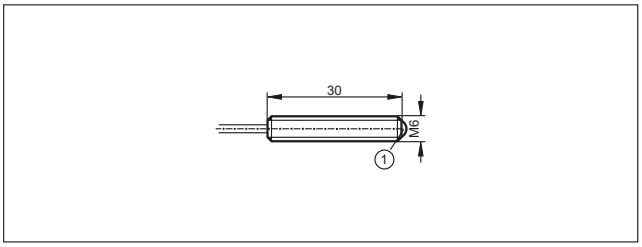


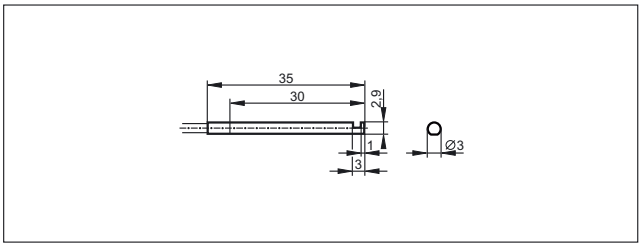

1: glass lens

**13**




1: glass lens

**14**

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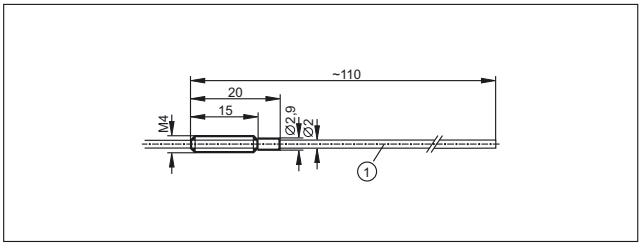
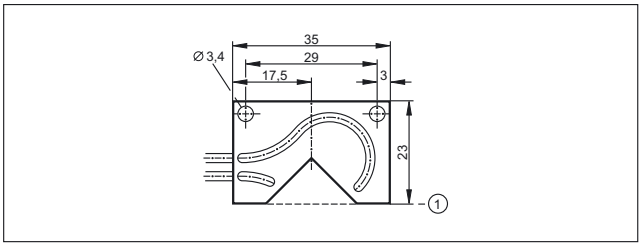


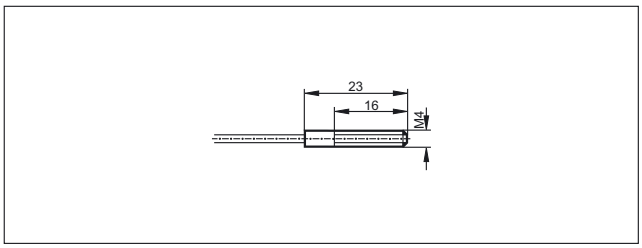

1: bendable

**16**




1: Reference edge

**17**

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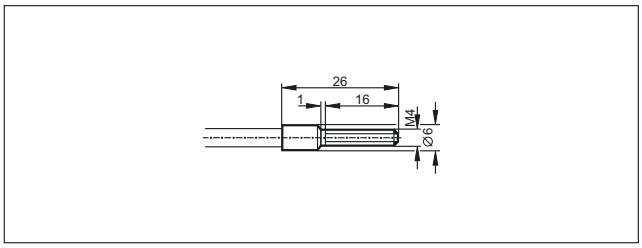


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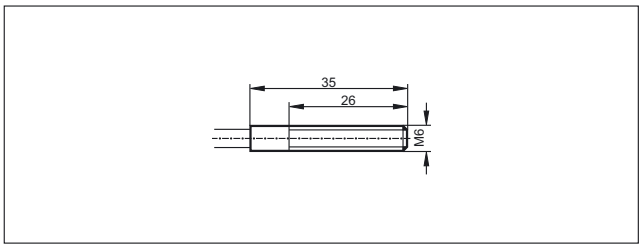


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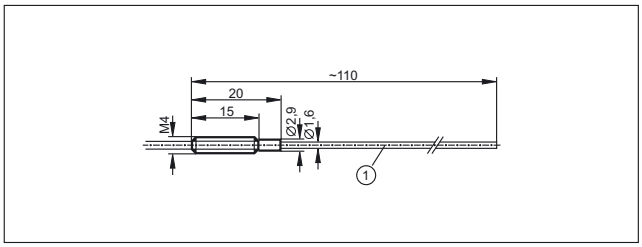
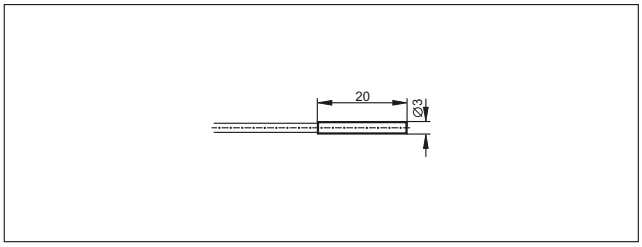



1: bendable

**21**

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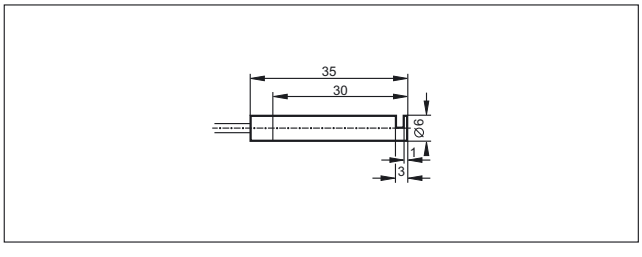

**Scale drawings / drawing no. – CAD download: www.ifm.com**

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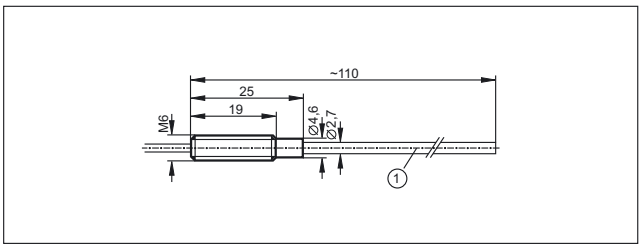
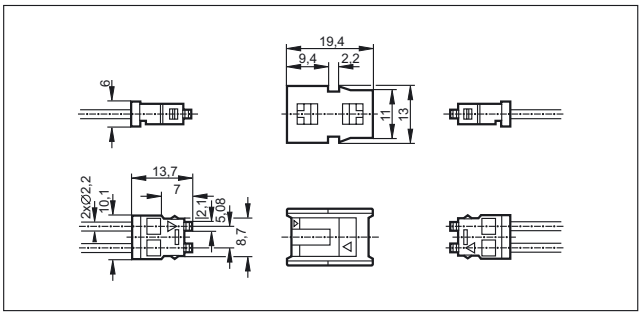



1: bendable

**24**

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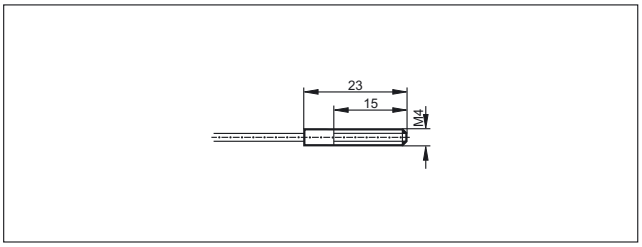


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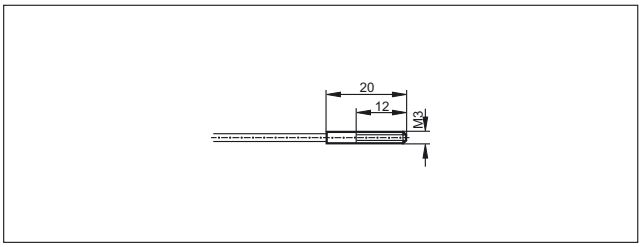


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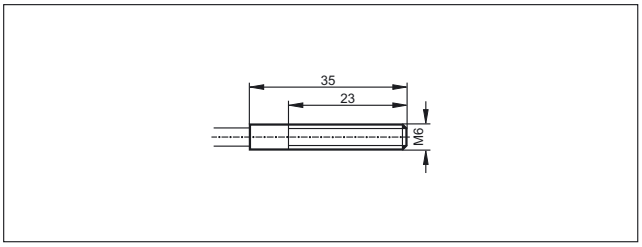


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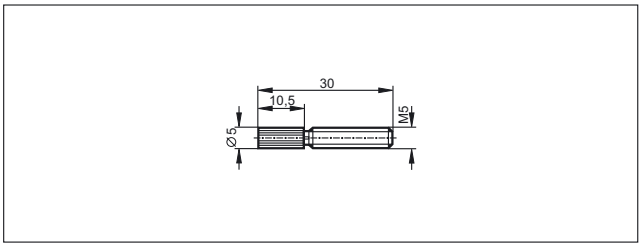


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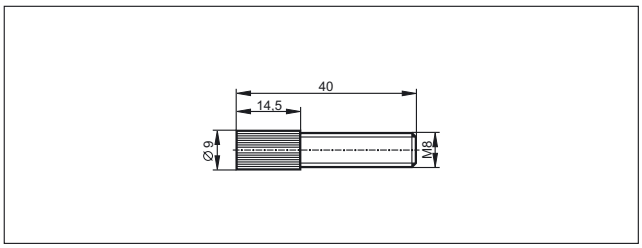


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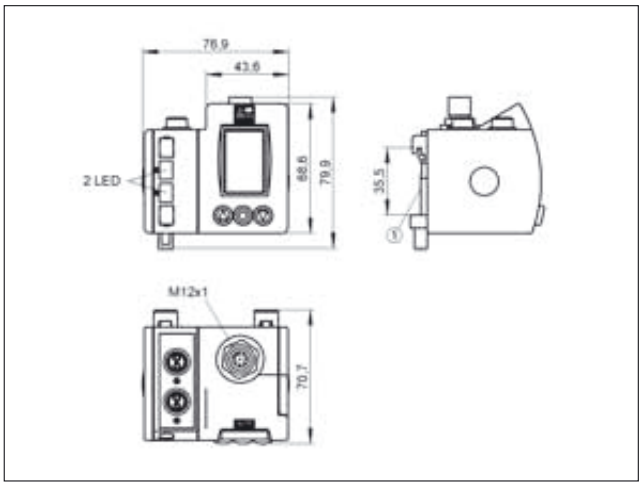
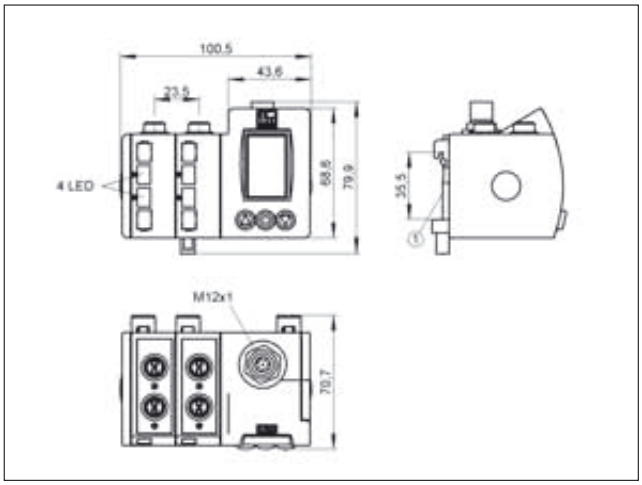



1: Mounting on DIN rail

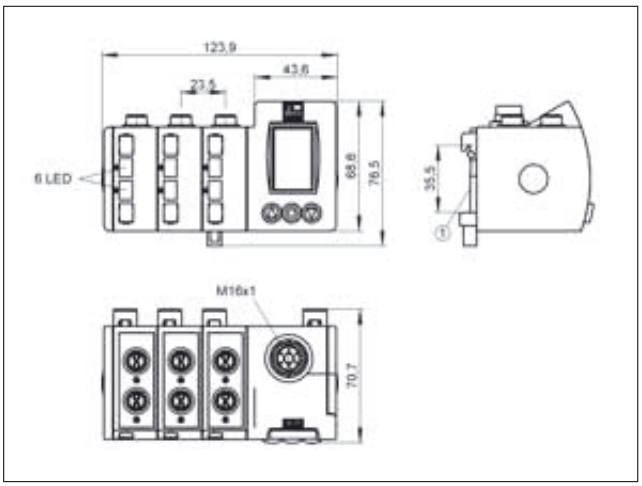
**31**




1: Mounting on DIN rail

**Scale drawings / drawing no. – CAD download: www.ifm.com**

**32**




1: Mounting on DIN rail

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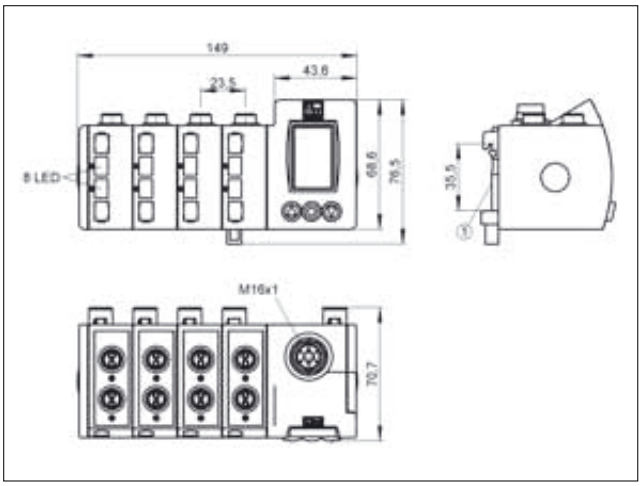


1: Mounting on DIN rail

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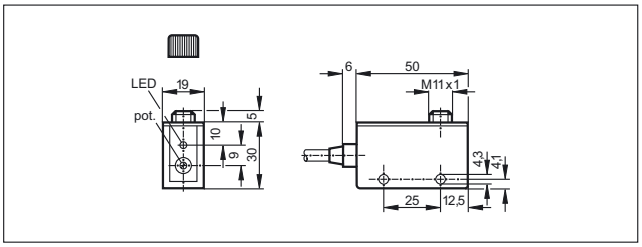


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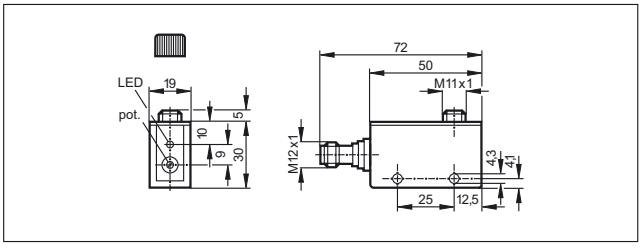


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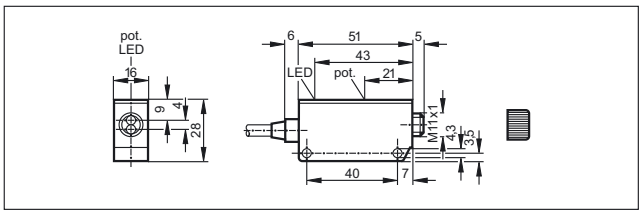


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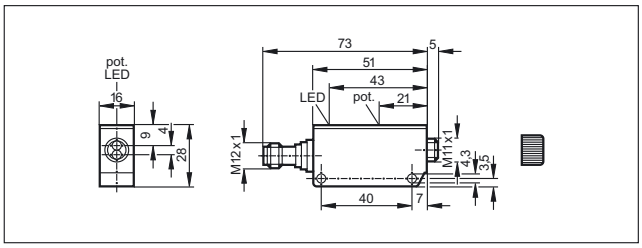


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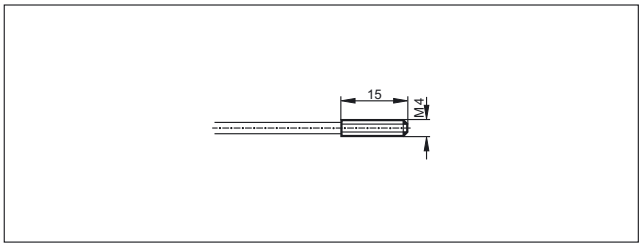


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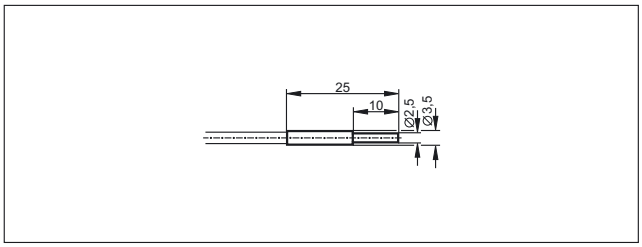


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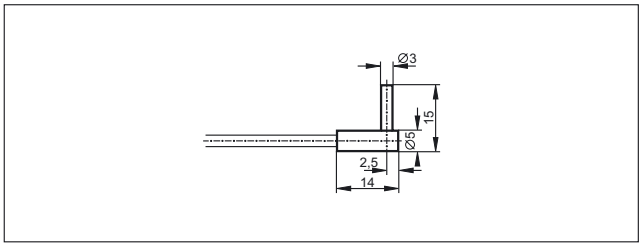


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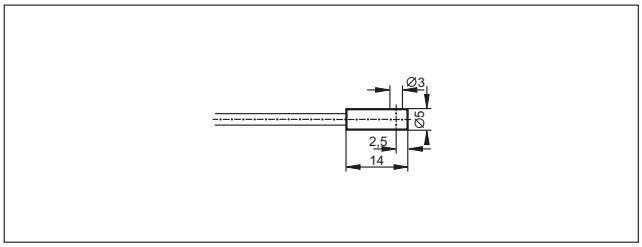
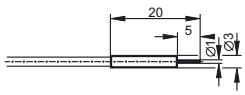




**Scale drawings / drawing no. – CAD download: www.ifm.com**

**42**

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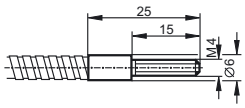


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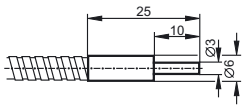


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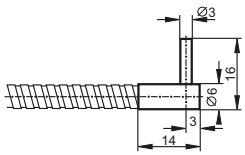


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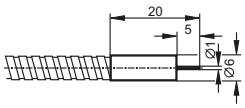
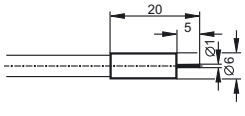



**47**

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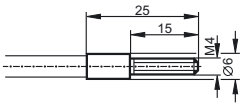


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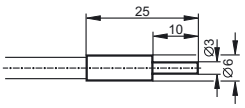


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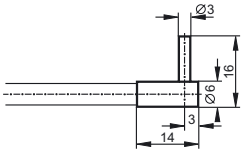


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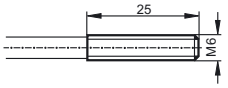


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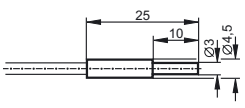


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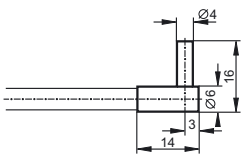
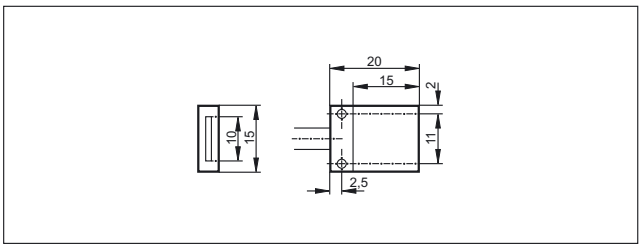


**Scale drawings / drawing no. – CAD download: www.ifm.com**

**54**

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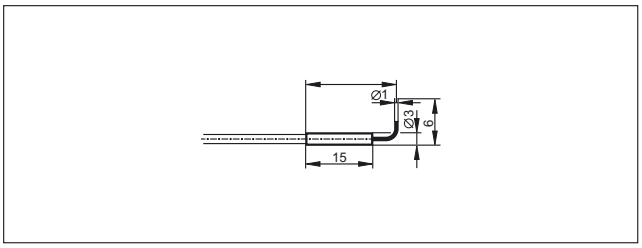


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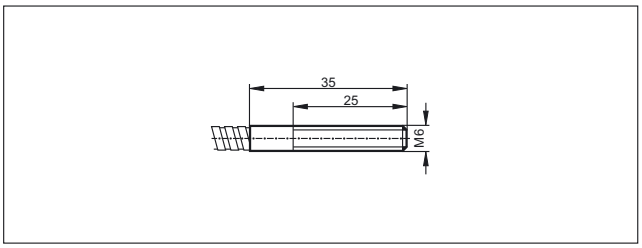


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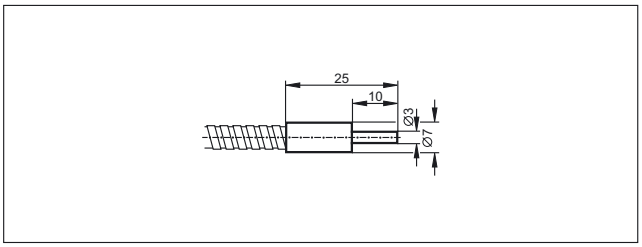


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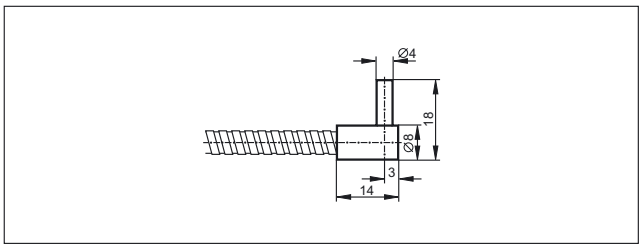


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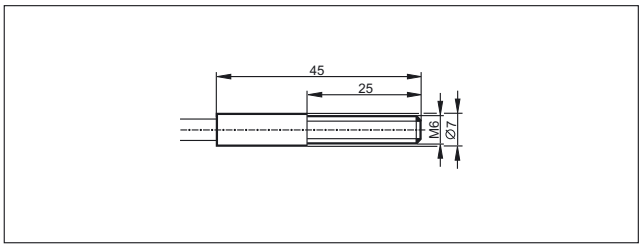


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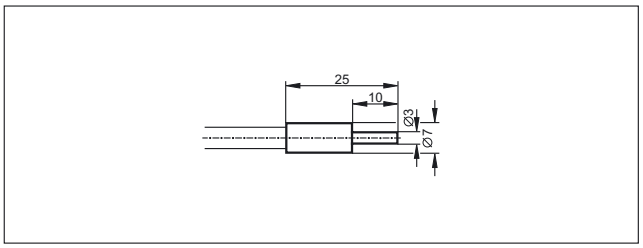


**61**