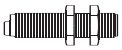
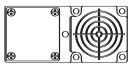
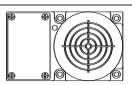
# Selection tables: Inductive proximity switches

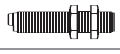
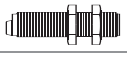
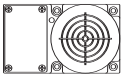
## Models and voltage variants

| Cylindrical models | Dimensions [mm] | Reference | 2-wire AC | 2-wire DC | 3-wire DC | 4-wire DC | AC/DC |
|---|---|---|---|---|---|---|---|
|  | Ø 4 | IFL(-N-) ...-4-... | | | Page 2-19 | | |
|  | Ø 6.5 | IFL(-N-) ...-6,5-... | | | Page 2-20 | | |
|  | Ø 20 | IFL ...-200-... | Page 2-3 | | | Page 2-50 | |
|  | Ø 40 | IFL ...-400-... | Page 2-3 | | | Page 2-51 | |

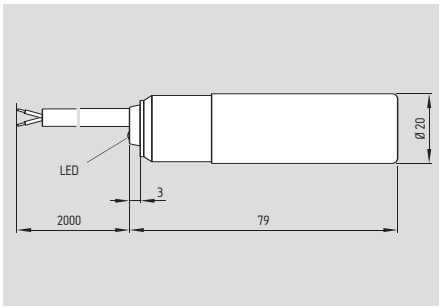
| Threaded models | Dimensions [mm] | Reference | 2-wire AC | 2-wire DC | 3-wire DC | 4-wire DC | AC/DC |
|---|---|---|---|---|---|---|---|
|  | M 8 | IFL(-N-) ...-8-... | | | Page 2-22 | | |
|  | M 12 | IFL(-N-) ...-12(0)-... | Page 2-4 | | Page 2-25 | | |
|  | M 18 | IFL(-N-) ...-18(0)-... | Page 2-7 | Page 2-16 | Page 2-36 | Page 2-52 | Page 2-59 |
|  | M 30 | IFL ...-30(0)-... | Page 2-10 | Page 2-16 | Page 2-44 | Page 2-54 | |

| Rectangular models | Dimensions [mm] | Reference | 2-wire AC | 2-wire DC | 3-wire DC | 4-wire DC | AC/DC |
|---|---|---|---|---|---|---|---|
|  | 40 x 25 x 12 | IFL ...-250-... | Page 2-12 | Page 2-17 | Page 2-48 | | |
|  | 40 x 26 x 26 | IFL ...-255-... | | | | Page 2-55 | |
|  | 88 x 25 x 13 | IFL ...-310-... | Page 2-13 | | | | |
|  | 36.5 x 36.5 x 36.5 | IFL ...-333E-... | Page 2-13 | | | Page 2-56 | |
|  | 112 x 40 x 40 | IFL ...- 333-... | Page 2-14 | Page 2-17 | | Page 2-56 | Page 2-59 |
|  | 120 x 55 x 40 | IFL ...-384-... | Page 2-14 | Page 2-18 | | Page 2-57 | |
|  | 135 x 80 x 40 | IFL ...-385-... | Page 2-15 | | | Page 2-57 | |

## Sensors with increased temperature resistance

| Models | Dimensions [mm] | Reference | 2-wire AC | 2-wire DC | 3-wire DC | 4-wire DC | AC/DC |
|---|---|---|---|---|---|---|---|
|  | M 18 | IFL …-18L-…-2130 | | | Page 2-41 | | |
|  | M 30 | IFL 15-30L-…-2130 | | | Page 2-46 | | |
|  | M 30 | IFL …-30L-…-1766 | | | | Page 2-54 | |
|  | M 30 | IFL …-30-…T-1310 | Page 2-11 | | | | |
|  | 135 x 80 x 40 | IFL 50-385-…-2130 | | | | Page 2-58 | |

## IFL Ø 20 mm



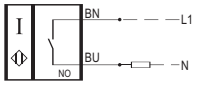

- Thermoplastic enclosure
- Design Ø 20 mm
- Cable
- AC 2-wire
- Clamp H 20 is included in delivery, see accessories

### Technical data

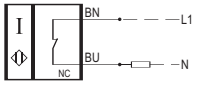
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 20:<br>thermoplastic |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |

### Contact variants

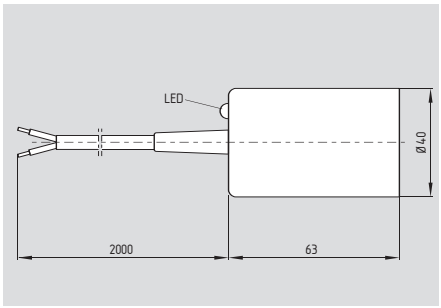
**IFL 10-200-10**




**IFL 10-200-01**




## IFL Ø 40 mm



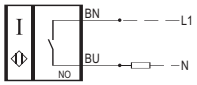

- Thermoplastic enclosure
- Design Ø 40 mm
- Cable with strain relief
- AC 2-wire
- Clamp H 40 is included in delivery, see accessories

### Technical data

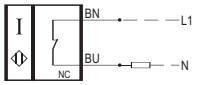
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 20 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request:<br>Short-circuit and overload-proof<br>(ordering suffix -1522) Ie = max. 150 mA,<br>Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 40:<br>thermoplastic |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m, with strain relief |

### Contact variants

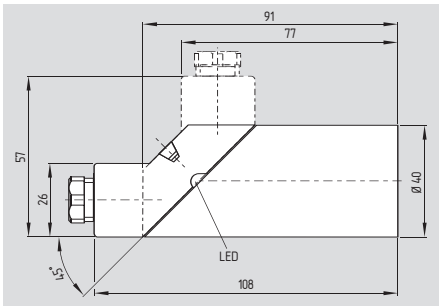
**IFL 20-400-10T**




**IFL 20-400-01T**

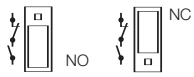


## IFL Ø 40 mm




- Thermoplastic enclosure
- Design Ø 40 mm
- Wiring compartment
- AC 2-wire
- Clamp H 40 is included in delivery, see accessories

Programmable by repositioning the plug-in jumper at the terminal screws

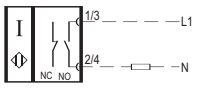



### Technical data

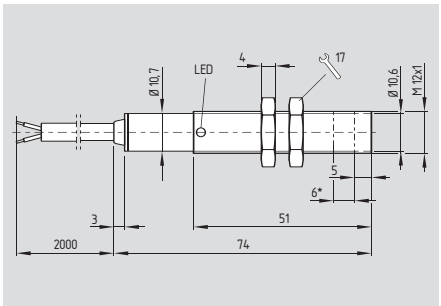
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 20 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request: Short-circuit and overload-proof (ordering suffix -1522) Ie = max. 150 mA, Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 65 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 40: thermoplastic |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entry M16 x 1.5 |

### Contact variants

**IFL 20-400-10/01**




## IFL M 12



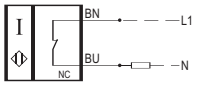

- Metal enclosure
- Design M 12 x 1
- Cable
- AC 2-wire

### Technical data

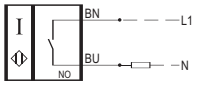
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

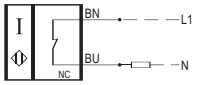
**IFL 2-12-01**



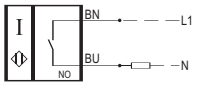

**IFL 2-12-10**



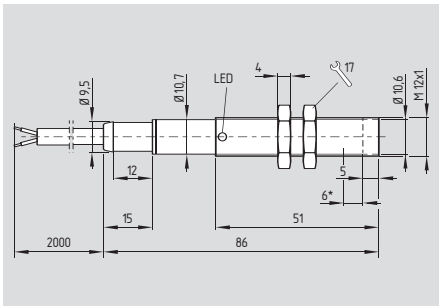

**IFL 4-12-01**




**IFL 4-12-10**



## IFL M 12



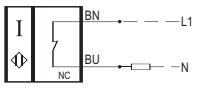

- Metal enclosure
- Design M 12 x 1
- Cable with strain relief
- AC 2-wire

## Technical data

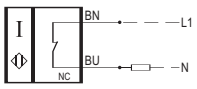
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

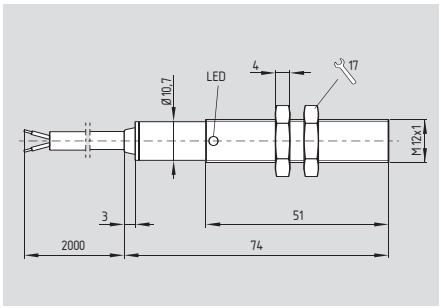
**IFL 2-12-01T**



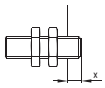

**IFL 4-12-01T**




## IFL M 12




- Metal enclosure
- Design M 12 x 1
- Cable
- AC 2-wire
- High switching distance
- Quasi-embeddable
  (steel: x ≥ 2.4 mm
  other metal: x ≥ 1.2 mm)

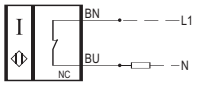



## Technical data

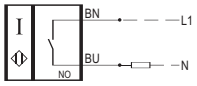
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, quasi-embeddable<br>(steel: x ≥ 2.4 mm<br>other metal: x ≥ 1.2 mm) |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

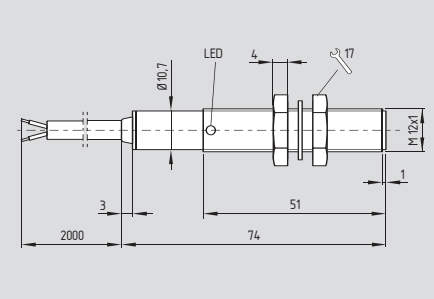
**IFL 4B-12-01**




**IFL 4B-12-10**



## IFL M 12



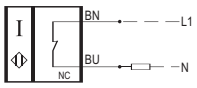

- Thermoplastic enclosure
- Design M 12 x 1
- Cable
- AC 2-wire

## Technical data

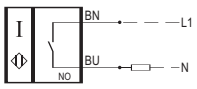
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 17 max. 90 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

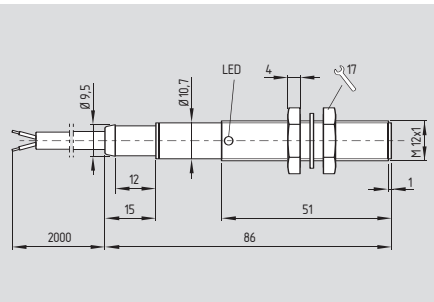
**IFL 4-120-01**




**IFL 4-120-10**




## IFL M 12



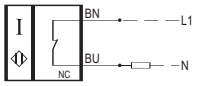

- Thermoplastic enclosure
- Design M 12 x 1
- Cable with strain relief
- AC 2-wire

## Technical data

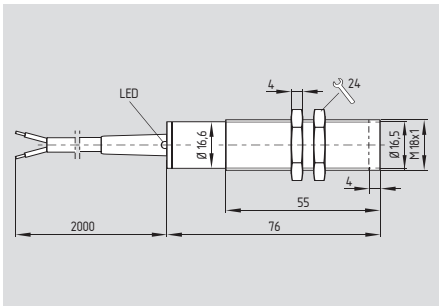
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 17 max. 90 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 4-120-01T**



## IFL M 18



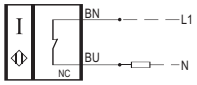

- Metal enclosure
- Design M 18 x 1
- Cable
- AC 2-wire

## Technical data

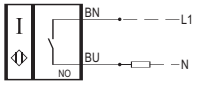
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

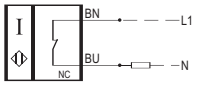
**IFL 5-18-01**



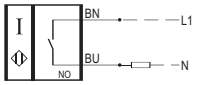

**IFL 5-18-10**



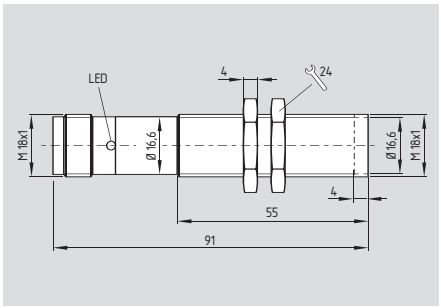

**IFL 8-18-01**




**IFL 8-18-10**




## IFL M 18



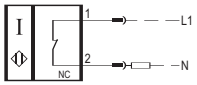

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- AC 2-wire

## Technical data

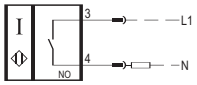
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | plug-in connector M18 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

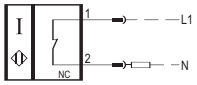
**IFL 5-18-01ST**



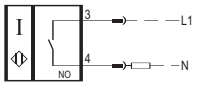

**IFL 5-18-10ST**



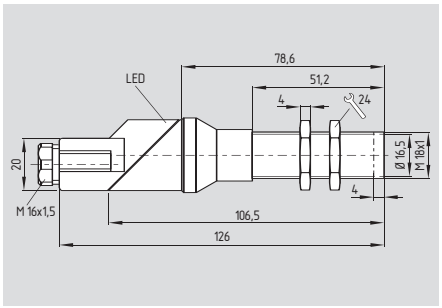

**IFL 8-18-01ST**




**IFL 8-18-10ST**



## IFL M 18




- Metal enclosure
- Design M 18 x 1
- Wiring compartment
- AC 2-wire

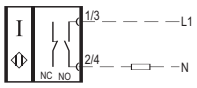
Programmable by repositioning the plug-in jumper at the terminal screws


## Technical data

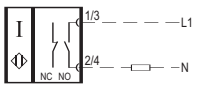
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

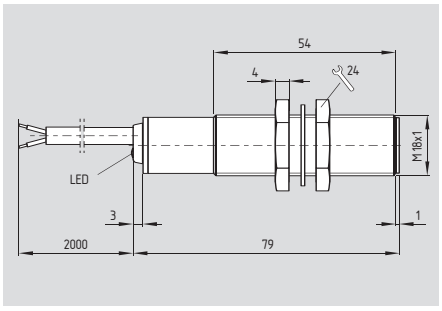
**IFL 5-18-10/01**




**IFL 8-18-10/01**




## IFL M 18



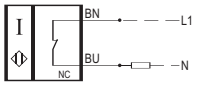

- Thermoplastic enclosure
- Design M 18 x 1
- Cable
- AC 2-wire

## Technical data

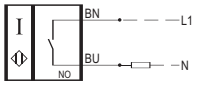
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact or B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

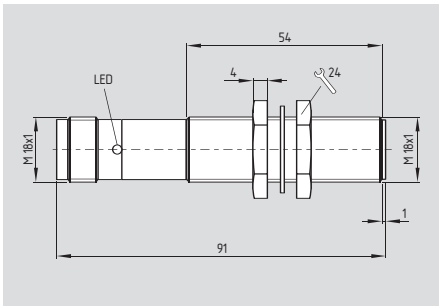
**IFL 10-180-01**




**IFL 10-180-10**



## IFL M 18



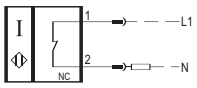

- Thermoplastic enclosure
- Design M 18 x 1
- Plug-in connector
- AC 2-wire

## Technical data

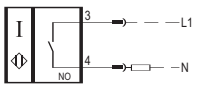
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | plug-in connector M18 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

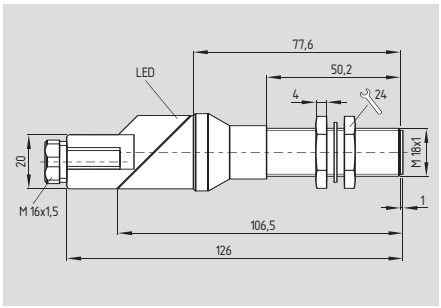
**IFL 10-180-01ST**




**IFL 10-180-10ST**

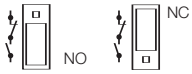



## IFL M 18




- Thermoplastic enclosure
- Design M 18 x 1
- Wiring compartment
- AC 2-wire

Programmable by repositioning the plug-in jumper at the terminal screws

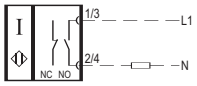



## Technical data

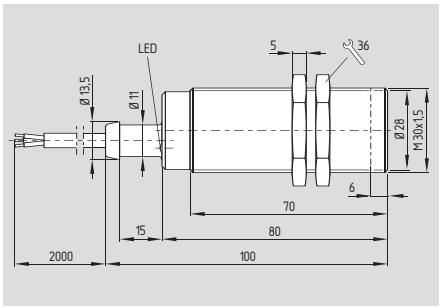
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact<br>(Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | Terminal screws<br>for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 10-180-10/01**



## IFL M 30



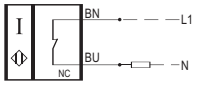

- Metal enclosure
- Design M 30 x 1.5
- Cable with strain relief
- AC 2-wire

## Technical data

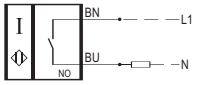
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request:<br>Short-circuit and overload-proof<br>(ordering suffix -1522) Ie = max. 150 mA,<br>Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

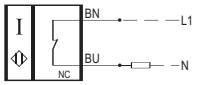
**IFL 10-30-01T**



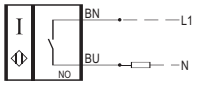

**IFL 10-30-10T**



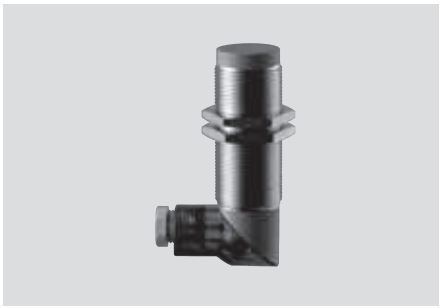

**IFL 15-30-01T**

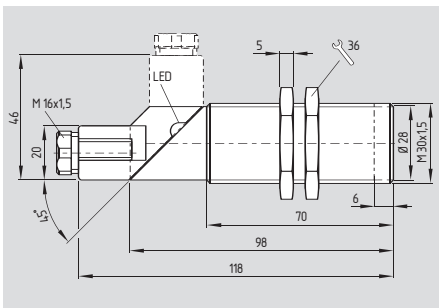



**IFL 15-30-10T**



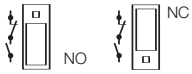

## IFL M 30






- Metal enclosure
- Design M 30 x 1.5
- Wiring compartment
- AC 2-wire

Programmable by repositioning the plug-in jumper at the terminal screws

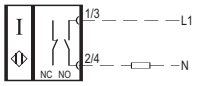



## Technical data

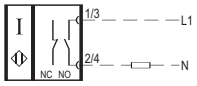
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact<br>(Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request:<br>Short-circuit and overload-proof<br>(ordering suffix -1522) Ie = max. 150 mA,<br>Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

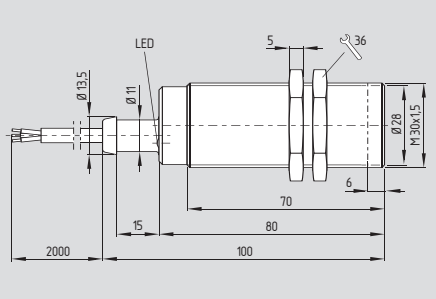
**IFL 10-30-10/01**




**IFL 15-30-10/01**



## IFL M 30




- Metal enclosure
- Design M 30 x 1.5
- Cable with strain relief
- AC 2-wire
- Max. + 110 °C (230 °F)

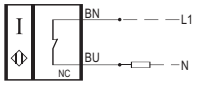
LED may become defective when operated above 90 °C. Operation of the switch, however, is not affected.

## Technical data

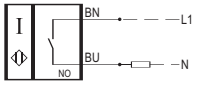
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 90 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | ≤ 70 °C: max. 200 mA<br>> 70 °C: max. 50 mA |
| $I_r$: | 5 mA (220 V) |
| $U_d$: | approx. 8 V |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | 0 °C ... + 110 °C (dry heat) |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | silicone cable 2 x 0.5 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

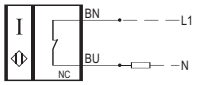
**IFL 10-30-01T-1310**



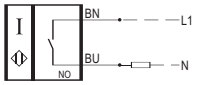

**IFL 10-30-10T-1310**



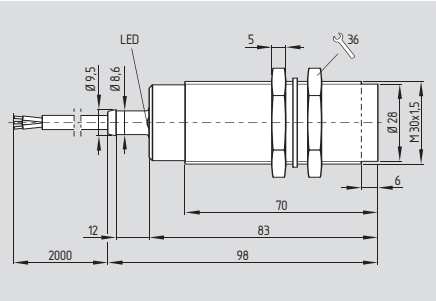

**IFL 15-30-01T-1310**




**IFL 15-30-10T-1310**




## IFL M 30



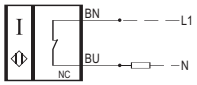

- Thermoplastic enclosure
- Design M 30 x 1.5
- Cable with strain relief
- AC 2-wire

## Technical data

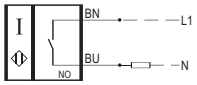
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request:<br>Short-circuit and overload-proof<br>(ordering suffix -1522) Ie = max. 150 mA,<br>Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

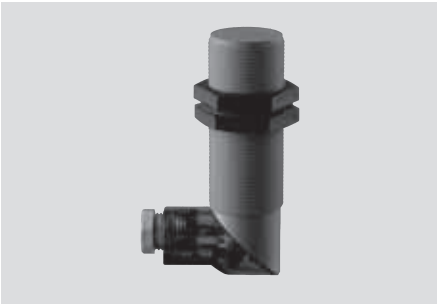
**IFL 15-300-01T**

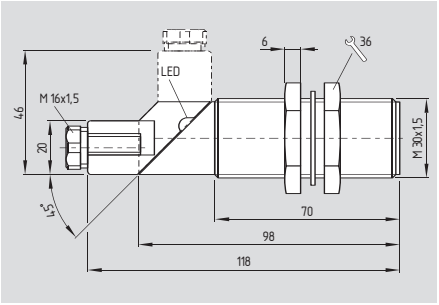



**IFL 15-300-10T**



## IFL M 30






- Thermoplastic enclosure
- Design M 30 x 1.5
- Wiring compartment
- AC 2-wire

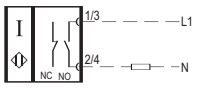
Programmable by repositioning the plug-in jumper at the terminal screws


### Technical data

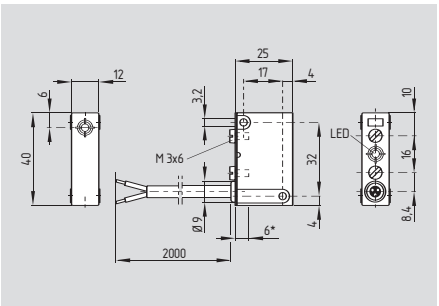
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request: Short-circuit and overload-proof (ordering suffix -1522) Ie = max. 150 mA, Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12) washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

**IFL 15-300-10/01**




## IFL 40 x 25 x 12 mm




- Thermoplastic enclosure
- Rectangular design 250 (40 x 25 x 12 mm)
- Cable
- AC 2-wire

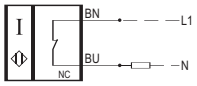
[1] Switches can be mounted adjacent to each other without interference.

### Technical data

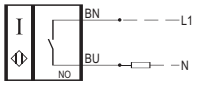
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP), with 2 screws M3 x 6 for rear mounting |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |

### Contact variants

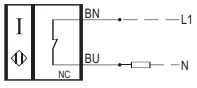
**IFL 2-250-01** [1]



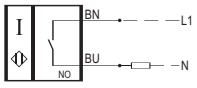

**IFL 2-250-10** [1]



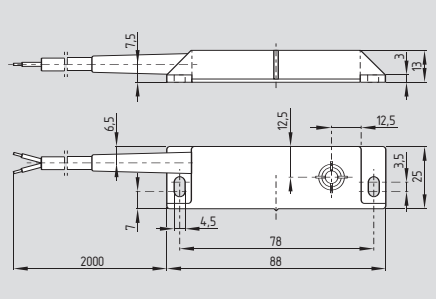

**IFL 4-250-01**




**IFL 4-250-10**



## IFL 88 x 25 x 13 mm



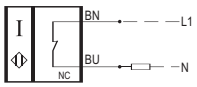

- Thermoplastic enclosure
- Rectangular design 310 (88 x 25 x 13 mm)
- Cable
- AC 2-wire

### Technical data

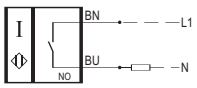
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, on metal mountable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 200 mA |
| $I_m$: | 8 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 3.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |

### Contact variants

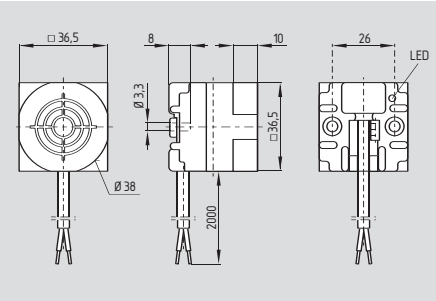
**IFL 4-310-01**




**IFL 4-310-10**




## IFL 36.5 x 36.5 x 36.5 mm



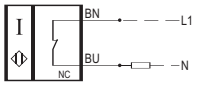

- Thermoplastic enclosure
- Rectangular design 333E (36.5 x 36.5 x 36.5 mm)
- Cable
- AC 2-wire
- Mounting bracket HWE-1 to simplify mounting available

### Technical data

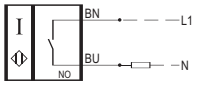
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 15-...: 16.5 mm, embeddable<br>IFL 20-...: 21.5 mm, non-embeddable<br>(36.5 x 36.5 mm opening) |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V<br>(250 V/200 mA) |
| Protection circuit: | inductive interference protection |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP) |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |

### Contact variants

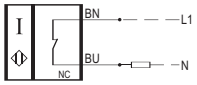
**IFL 15-333E-01**



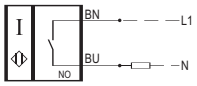

**IFL 15-333E-10**



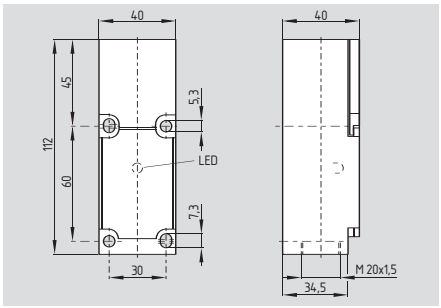

**IFL 20-333E-01**




**IFL 20-333E-10**



## IFL 112 x 40 x 40 mm




- Thermoplastic enclosure
- Rectangular design 333 (112 x 40 x 40 mm)
- Wiring compartment
- AC 2-wire

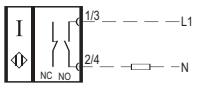
By repositioning the switch five different actuating directions can be selected. The selected actuating direction can be marked with a sticker.

## Technical data

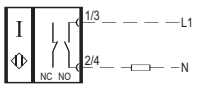
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 15-...: 15 mm, embeddable<br>IFL 20-...: 20 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request: Short-circuit and overload-proof (ordering suffix -1522) Ie = max. 150 mA, Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 65 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP)<br>cover: Luran |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entry M20 x 1.5 |

## Contact variants

**IFL 15-333-10/01**

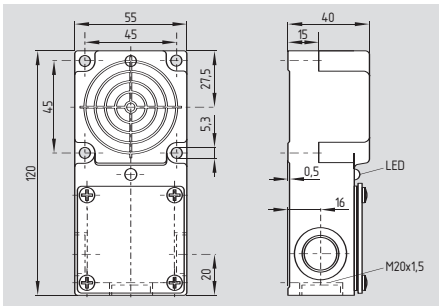



**IFL 20-333-10/01**




Programmable by repositioning the plug-in jumper at the terminal screws


## IFL 120 x 55 x 40 mm



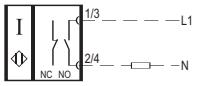

- Thermoplastic enclosure
- Rectangular design 384 (120 x 55 x 40 mm)
- Wiring compartment
- AC 2-wire

## Technical data

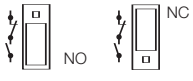
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 30 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request: Short-circuit and overload-proof (ordering suffix -1522) Ie = max. 150 mA, Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entries 3 x M20 x 1.5 (break-out) |

## Contact variants

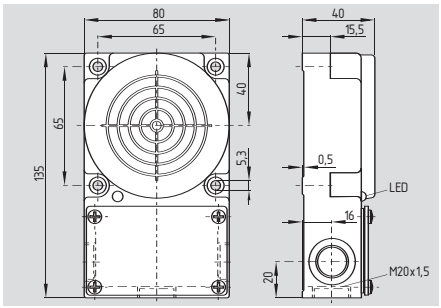
**IFL 30-384-10/01**




Programmable by repositioning the plug-in jumper at the terminal screws



## IFL 135 x 80 x 40 mm



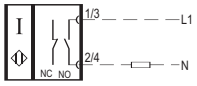

- Thermoplastic enclosure
- Rectangular design 385 (135 x 80 x 40 mm)
- Wiring compartment
- AC 2-wire
- Mounting bracket HW 385-1 to simplify mounting available

## Technical data

| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 50 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | F: 2-wire AC |
| $U_b$: | 15 ... 250 VAC |
| Rated supply frequency: | 45 ... 65 Hz |
| $I_e$: | 500 mA |
| $I_m$: | 10 mA |
| $I_r$: | 1 mA |
| $U_d$: | approx. 4.5 V (250 V/200 mA) |
| Protection circuit: | inductive interference protection, on request: Short-circuit and overload-proof (ordering suffix -1522) Ie = max. 150 mA, Ud = approx. 7.5 V (150 mA) |
| $U_{imp}$: | 4 kV |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 10 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entries 3 x M20 x 1.5 (break-out) |

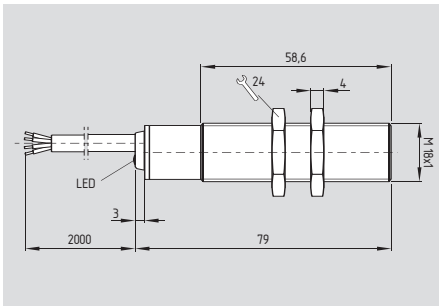
## Contact variants

**IFL 50-385-10/01**




Programmable by repositioning the plug-in jumper at the terminal screws

## IFL M 18



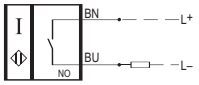

- Metal enclosure
- Design M 18 x 1
- Cable
- DC 2-wire

## Technical data

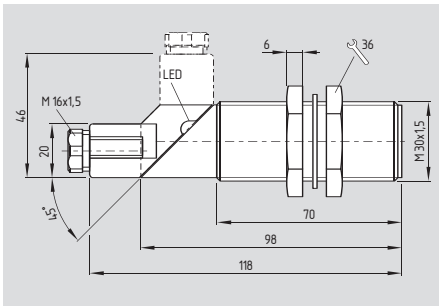
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 5 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | D: 2-wire DC |
| $U_b$: | 10 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_m$: | 5 mA |
| $I_r$: | approx. 0.5 mA |
| $U_d$: | ≤ 6 V (200 mA)<br>≤ 5.5 V (100 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 500 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 5-18L-10D**

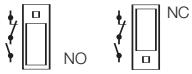



## IFL M 30




- Thermoplastic enclosure
- Design M 30 x 1.5
- Wiring compartment
- DC 2-wire

Programmable by repositioning the plug-in jumper at the terminal screws

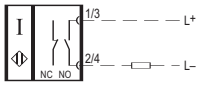



## Technical data

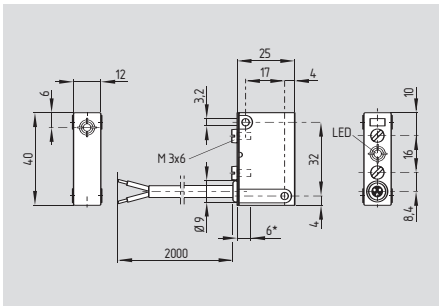
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | D: 2-wire DC |
| $U_b$: | 10 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_m$: | 5 mA |
| $I_r$: | approx. 0.5 mA |
| $U_d$: | ≤ 6 V (200 mA)<br>≤ 5.5 V (100 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 15-300-10/01D**



## IFL 40 x 25 x 12 mm



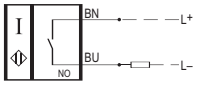

- Thermoplastic enclosure
- Rectangular design 250 (40 x 25 x 12 mm)
- Cable
- DC 2-wire

### Technical data

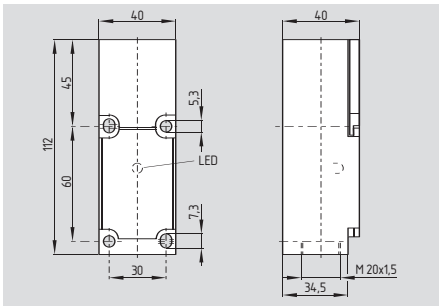
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | D: 2-wire DC |
| $U_b$: | 10 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_m$: | 5 mA |
| $I_r$: | approx. 0.5 mA |
| $U_d$: | ≤ 6 V (200 mA)<br>≤ 5.5 V (100 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 1 kHz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP),<br>with 2 screws M3 x 6<br>for rear mounting |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |

### Contact variants

**IFL 4-250-10D**




## IFL 112 x 40 x 40 mm




- Thermoplastic enclosure
- Rectangular design 333 (112 x 40 x 40 mm)
- Wiring compartment
- DC 2-wire

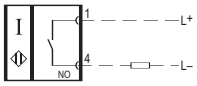
By repositioning the switch five different actuating directions can be selected. The selected actuating direction can be marked with a sticker.

### Technical data

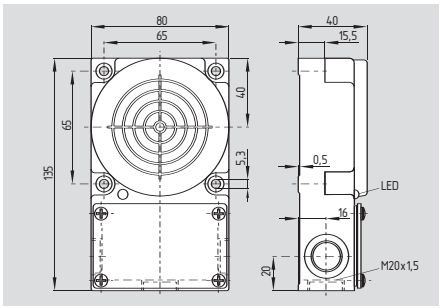
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 20 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | D: 2-wire DC |
| $U_b$: | 15 ... 150 VDC |
| $I_e$: | 200 mA |
| $I_m$: | 5 mA |
| $I_r$: | approx. 1 mA |
| $U_d$: | approx. 8.5 V<br>(200 mA) |
| Protection circuit: | wrong polarity<br>and inductive<br>interference protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 40 Hz |
| Protection class: | IP 65 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP)<br>cover: Luran |
| Connection: | Terminal screws with<br>self-lifting pressure clamps<br>for max. 2 x 1.5 mm²,<br>with cable entry M20 x 1.5 |

### Contact variants

**IFL 20-333-10D**



## IFL 135 x 80 x 40 mm




- Thermoplastic enclosure
- Rectangular design 385 (135 x 80 x 40 mm)
- Wiring compartment
- DC 2-wire
- Mounting bracket HW 385-1 to simplify mounting available

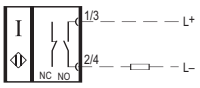
Programmable by repositioning the plug-in jumper at the terminal screws


## Technical data

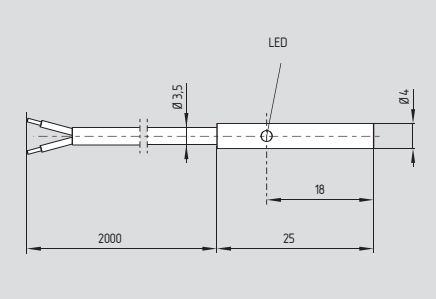
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 50 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | D: 2-wire DC |
| $U_b$: | 10 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_m$: | 5 mA |
| $I_r$: | approx. 0.5 mA |
| $U_d$: | ≤ 6 V (200 mA)<br>≤ 5.5 V (100 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 50 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entries 3 x M20 x 1.5 (break-out) |

## Contact variants

**IFL 50-385-10/01D**



## IFL Ø 4 mm



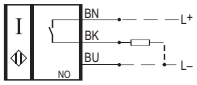

- Metal enclosure
- Design Ø 4 mm
- Cable
- DC 3-wire

## Technical data

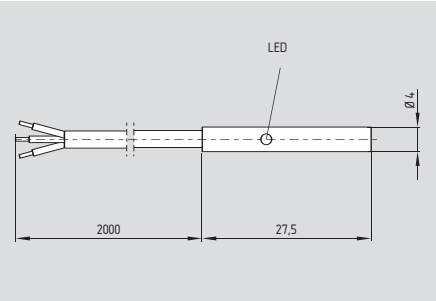
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 0.8 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | < 10 mA |
| $U_d$: | approx. 2 V (200 mA) |
| Protection circuit: | suppressed switch-on fault impulse, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | 5000 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | stainless steel |
| Connection: | cable PUR 3 x 0.14 mm², length 2 m |

## Contact variants

**IFL-N-0,8-4-10P**




## IFL Ø 4 mm



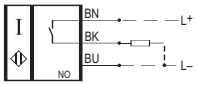

- Metal enclosure
- Design Ø 4 mm
- Cable
- DC 3-wire
- Clamp H 4 is included in delivery, see accessories

## Technical data

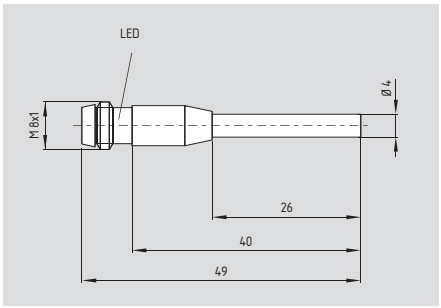
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 0.8 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 7 ... 35 VDC |
| $I_e$: | 100 mA |
| $I_0$: | < 2.5 mA |
| $U_d$: | ≤ 2 V (100 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection (pulsed) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 1 kHz |
| Protection class: | IP 65 to EN 60529 |
| Material: | housing: stainless steel and clamp H 4: thermoplastic |
| Connection: | cable LiYY 3 x 0.14 mm², length 2 m |

## Contact variants

**IFL 0,8-4-10P**



## IFL Ø 4 mm



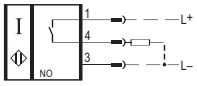

- Metal enclosure
- Design Ø 4 mm
- Plug-in connector
- DC 3-wire
- Clamp H 4 is included in delivery, see accessories

### Technical data

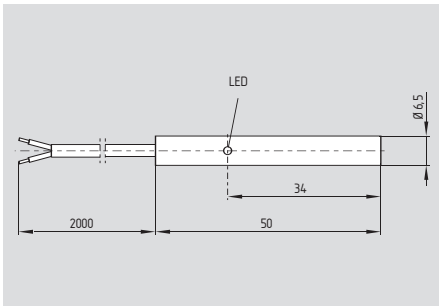
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 0.8 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 7 ... 35 VDC |
| $I_e$: | 100 mA |
| $I_0$: | < 2.5 mA |
| $U_d$: | ≤ 2 V (100 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection (pulsed) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 1 kHz |
| Protection class: | IP 65 to EN 60529 |
| Material: | housing: stainless steel and clamp H 4: thermoplastic |
| Connection: | plug-in connector M8 x 1, Ø = 6.5 mm |

### Contact variants

**IFL 0,8-4-10ST2P**




## IFL Ø 6.5 mm



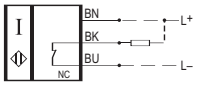

- Metal enclosure
- Design Ø 6.5 mm
- Cable
- DC 3-wire

### Technical data

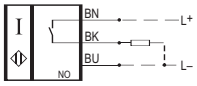
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 1.5 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 1500 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | stainless steel |
| Connection: | cable PUR 3 x 0.25 mm², length 2 m |

### Contact variants

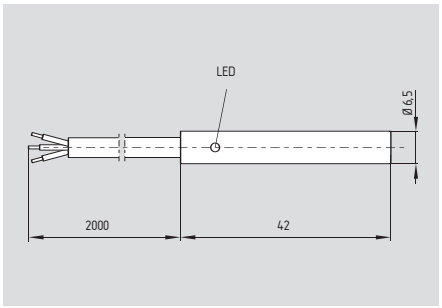
**IFL-N-2-6,5M-10N**




**IFL-N-2-6,5M-10P**



## IFL Ø 6.5 mm



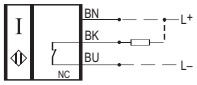

- Metal enclosure
- Design Ø 6.5 mm
- Cable
- DC 3-wire
- Clamp H 6.5 is included in delivery, see accessories

## Technical data

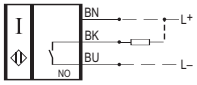
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.4 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 3 kHz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing: nickel plated brass<br>clamp H 6.5: thermoplastic |
| Connection: | cable LiYY 3 x 0.14 mm², length 2 m |

## Contact variants

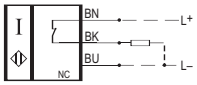
**IFL 2-6,5M-01N**



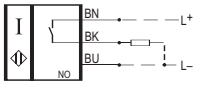

**IFL 2-6,5M-10N**



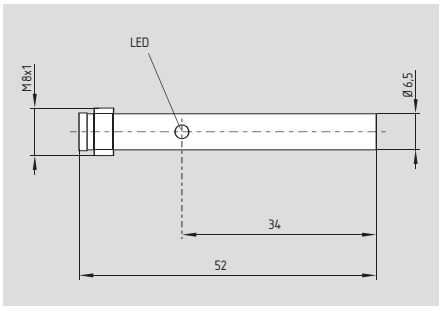

**IFL 2-6,5M-01P**




**IFL 2-6,5M-10P**




## IFL Ø 6.5 mm



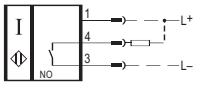

- Metal enclosure
- Design Ø 6.5 mm
- Plug-in connector
- DC 3-wire

## Technical data

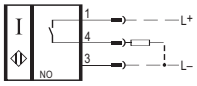
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 1.5 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 1500 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | stainless steel |
| Connection: | plug-in connector<br>M8 x 1, Ø = 6.5 mm |

## Contact variants

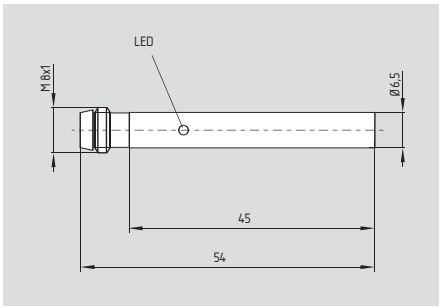
**IFL-N-2-6,5M-10ST2N**




**IFL-N-2-6,5M-10ST2P**



## IFL Ø 6.5 mm



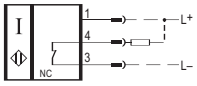

- Metal enclosure
- Design Ø 6.5 mm
- Plug-in connector
- DC 3-wire
- Clamp H 6.5 is included in delivery, see accessories

### Technical data

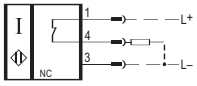
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.4 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 3 kHz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing: nickel plated brass<br>clamp H 6.5: thermoplastic |
| Connection: | plug-in connector<br>M8 x 1, Ø = 6.5 mm |

### Contact variants

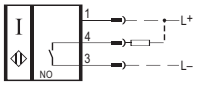
**IFL 2-6,5M-01ST2N**



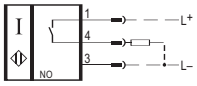

**IFL 2-6,5M-01ST2P**



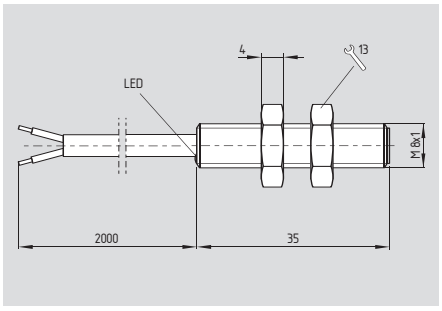

**IFL 2-6,5M-10ST2N**




**IFL 2-6,5M-10ST2P**




## IFL M 8



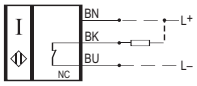

- Metal enclosure
- Design M 8 x 1
- Cable
- DC 3-wire

### Technical data

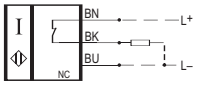
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 600 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | stainless steel |
| Connection: | cable PUR 3 x 0.25 mm², length 2 m |

### Contact variants

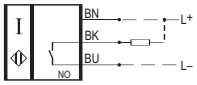
**IFL-N-2-8M-01N**



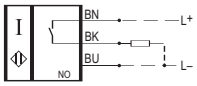

**IFL-N-2-8M-01P**



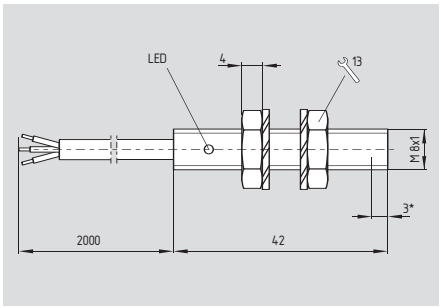

**IFL-N-2-8M-10N**




**IFL-N-2-8M-10P**



## IFL M 8



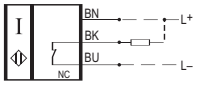

- Metal enclosure
- Design M 8 x 1
- Cable
- DC 3-wire

## Technical data

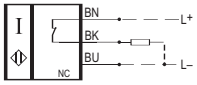
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.4 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 3 kHz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 13 max. 600 Ncm<br>* May not be charged in this area! |
| Connection: | cable LiYY 3 x 0.14 mm², length 2 m |

## Contact variants

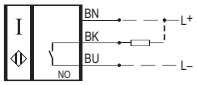
**IFL 2-8M-01N**



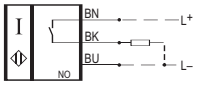

**IFL 2-8M-01P**



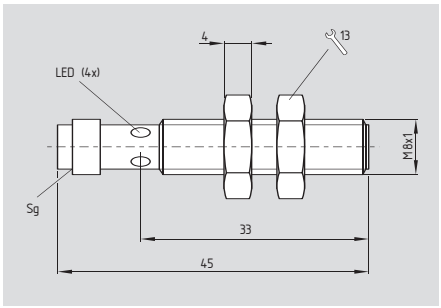

**IFL 2-8M-10N**




**IFL 2-8M-10P**




## IFL M 8



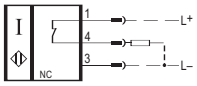

- Metal enclosure
- Design M 8 x 1
- Plug-in connector
- DC 3-wire

## Technical data

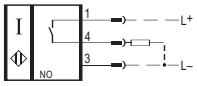
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 600 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | stainless steel |
| Connection: | plug-in connector<br>M8 x 1, Ø = 6.5 mm |

## Contact variants

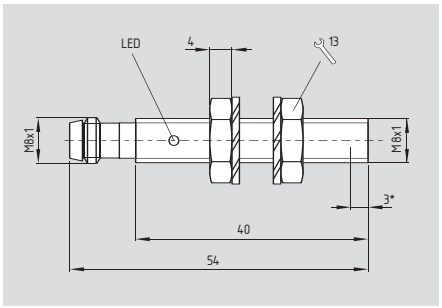
**IFL-N-2-8M-01ST2P**




**IFL-N-2-8M-10ST2P**



## IFL M 8



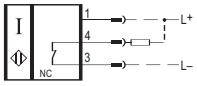

- Metal enclosure
- Design M 8 x 1
- Plug-in connector
- DC 3-wire

## Technical data

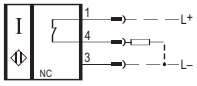
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.4 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 3 kHz |
| Protection class: | IP 67 to EN 60529 (only with screw-on plug) |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 13 max. 600 Ncm<br>* May not be charged in this area! |
| Connection: | plug-in connector<br>M8 x 1, Ø = 6.5 mm |

## Contact variants

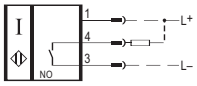
**IFL 2-8M-01ST2N**



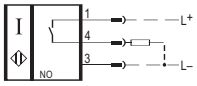

**IFL 2-8M-01ST2P**



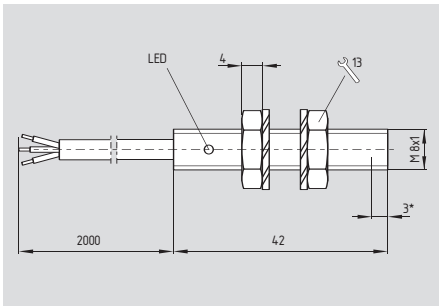

**IFL 2-8M-10ST2N**



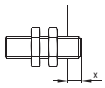

**IFL 2-8M-10ST2P**




## IFL M 8




- Metal enclosure
- Design M 8 x 1
- Cable
- DC 3-wire
- High switching distance
- Quasi-embeddable (x = 0.6 mm)

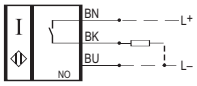



## Technical data

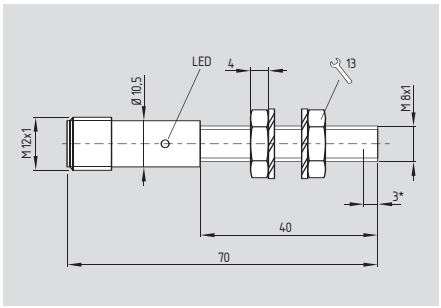
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 3 mm, quasi-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 1.7 mA (10 V)<br>approx. 4 mA (24 V)<br>approx. 5 mA (30 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 10 °C ... + 70 °C |
| Switching frequency f: | approx. 1500 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 13 max. 600 Ncm<br>* May not be charged in this area! |
| Connection: | cable LiYY 3 x 0.14 $mm^2$,<br>length 2 m |

## Contact variants

**IFL 3B-8M-10P**



## IFL M 8



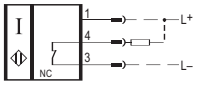

- Metal enclosure
- Design M 8 x 1
- Plug-in connector
- DC 3-wire

### Technical data

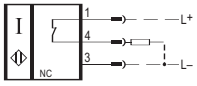
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.4 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 3 kHz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 13 max. 600 Ncm |
| Connection: | Plug-in connector M12 x 1 |

### Contact variants

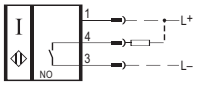
**IFL 2-8-01STN**



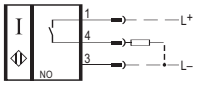

**IFL 2-8-01STP**



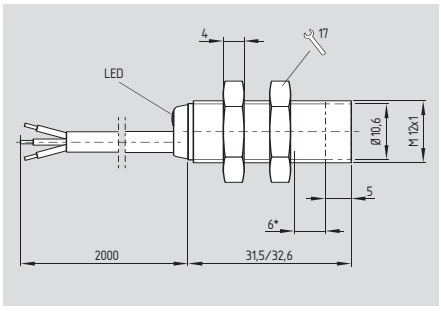

**IFL 2-8-10STN**




**IFL 2-8-10STP**




## IFL M 12



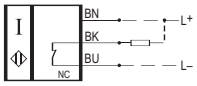

- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

### Technical data

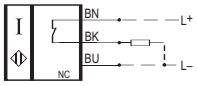
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz<br>(embeddable);<br>P: approx. 500 Hz,<br>N: approx. 330 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | cable LiYY 3 x 0.14 $mm^2$,<br>length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

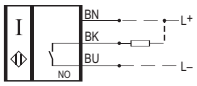
**IFL 2-12M-01N**
**IFL 4-12M-01N**



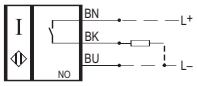

**IFL 2-12M-01P**
**IFL 4-12M-01P**



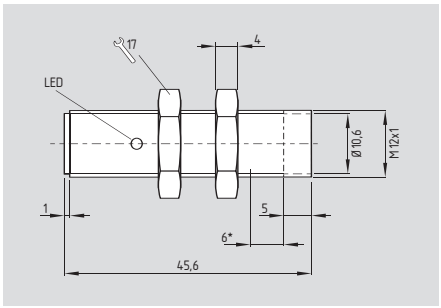

**IFL 2-12M-10N**
**IFL 4-12M-10N**




**IFL 2-12M-10P**
**IFL 4-12M-10P**



## IFL M 12



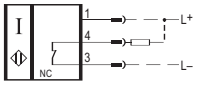

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

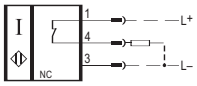
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz<br>(embeddable);<br>P: approx. 500 Hz,<br>N: approx. 330 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

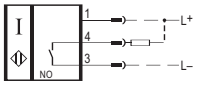
**IFL 2-12M-01STN**
**IFL 4-12M-01STN**



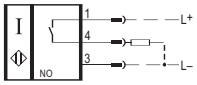

**IFL 2-12M-01STP**
**IFL 4-12M-01STP**



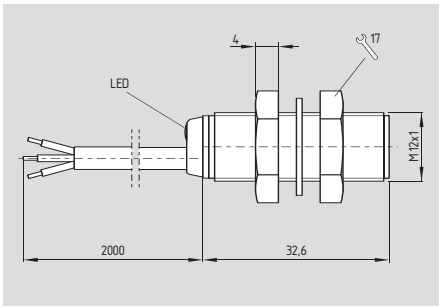

**IFL 2-12M-10STN**
**IFL 4-12M-10STN**




**IFL 2-12M-10STP**
**IFL 4-12M-10STP**




## IFL M 12



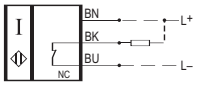

- Thermoplastic enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

## Technical data

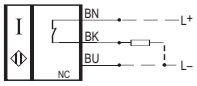
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 17 max. 90 Ncm |
| Connection: | cable LiYY 3 x 0.14 $mm^2$,<br>length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

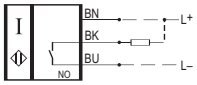
**IFL 4-120M-01N**



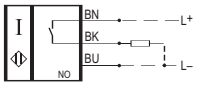

**IFL 4-120M-01P**



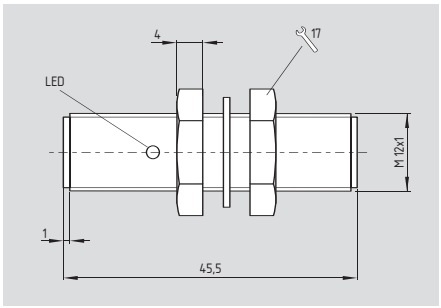

**IFL 4-120M-10N**




**IFL 4-120M-10P**



## IFL M 12



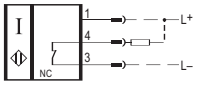

- Thermoplastic enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

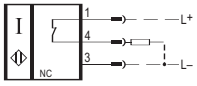
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 17 max. 90 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

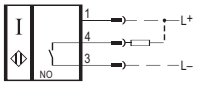
**IFL 4-120M-01STN**



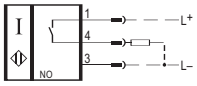

**IFL 4-120M-01STP**



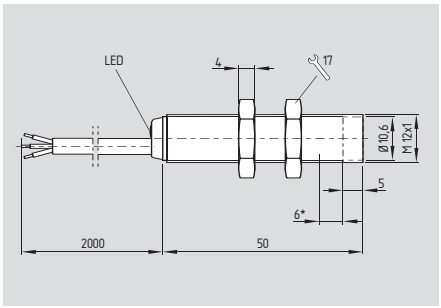

**IFL 4-120M-10STN**




**IFL 4-120M-10STP**




## IFL M 12



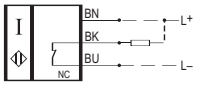

- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

## Technical data

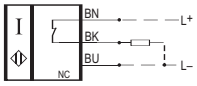
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz<br>(embeddable);<br>P: approx. 500 Hz,<br>N: approx. 330 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | cable LiYY 3 x 0.14 $mm^2$,<br>length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

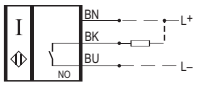
**IFL 2-12-01N**
**IFL 4-12-01N**



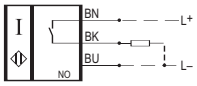

**IFL 2-12-01P**
**IFL 4-12-01P**



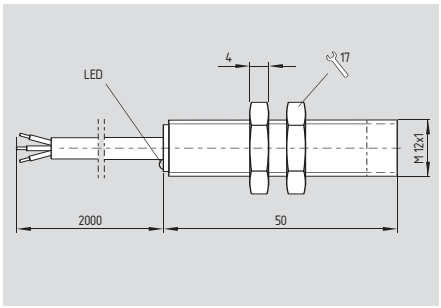

**IFL 2-12-10N**
**IFL 4-12-10N**




**IFL 2-12-10P**
**IFL 4-12-10P**



## IFL M 12



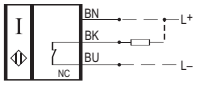

- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

## Technical data

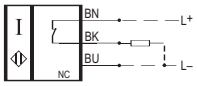
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 1200 Hz (embeddable)<br>approx. 800 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Connection: | cable PUR 3 x 0.25 mm², length 2 m |

## Contact variants

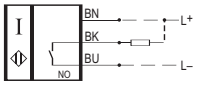
**IFL-N-2-12-01N**
**IFL-N-4-12-01N**



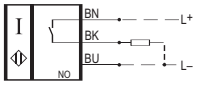

**IFL-N-2-12-01P**
**IFL-N-4-12-01P**



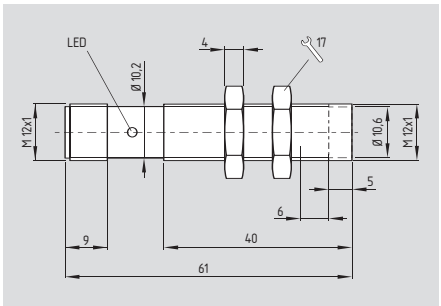

**IFL-N-2-12-10N**
**IFL-N-4-12-10N**




**IFL-N-2-12-10P**
**IFL-N-4-12-10P**




## IFL M 12



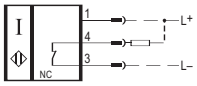

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

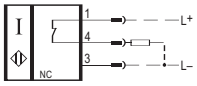
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

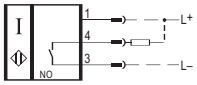
**IFL 2-12-01STN**



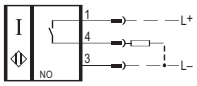

**IFL 2-12-01STP**



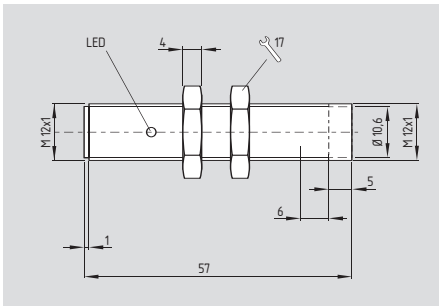

**IFL 2-12-10STN**




**IFL 2-12-10STP**



## IFL M 12



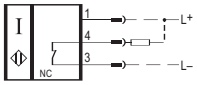

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

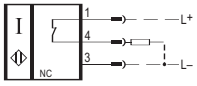
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 500 Hz,<br>N: approx. 330 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

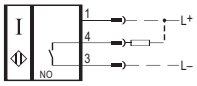
**IFL 4-12-01STN**



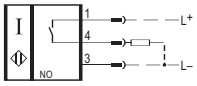

**IFL 4-12-01STP**



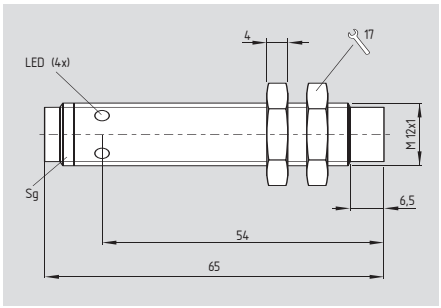

**IFL 4-12-10STN**




**IFL 4-12-10STP**




## IFL M 12



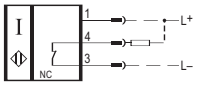

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

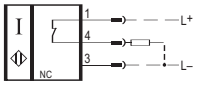
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on<br>fault impulse, wire-breakage<br>monitoring, wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 1200 Hz<br>(embeddable)<br>approx. 800 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Connection: | Plug-in connector M12 x 1 |

## Contact variants

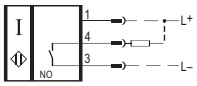
**IFL-N-2-12-01STN**
**IFL-N-4-12-01STN**



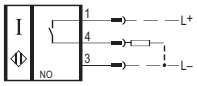

**IFL-N-2-12-01STP**
**IFL-N-4-12-01STP**



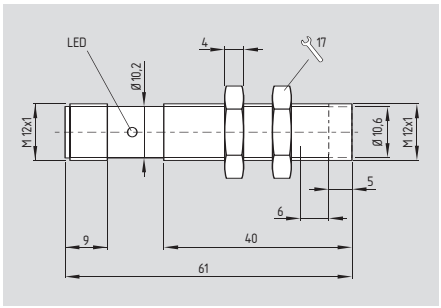

**IFL-N-2-12-10STN**
**IFL-N-4-12-10STN**




**IFL-N-2-12-10STP**
**IFL-N-4-12-10STP**



## IFL M 12



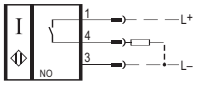

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire
- Stainless steel

## Technical data

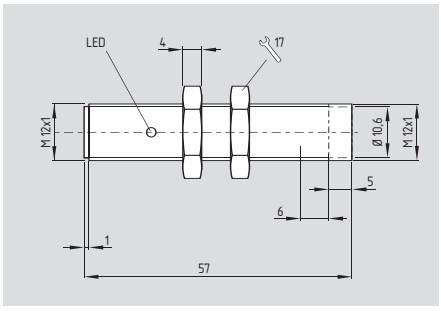
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 1 kHz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: stainless steel |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 2-12-10STP-2033**




## IFL M 12



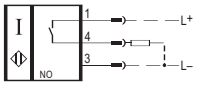

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire
- Stainless steel

## Technical data

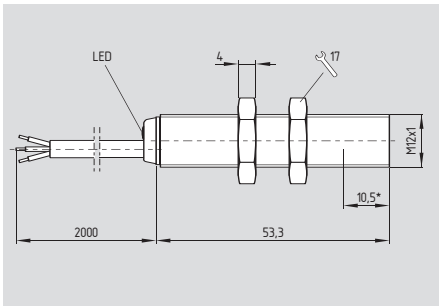
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 500 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: stainless steel |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

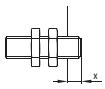
**IFL 4-12-10STP-2033**



## IFL M 12




- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire
- High switching distance
- Quasi-embeddable
  (steel: x ≥ 2.4 mm
  other metal: x ≥ 1.2 mm)

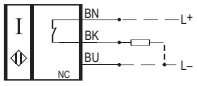



## Technical data

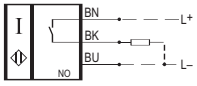
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, quasi-embeddable<br>(steel: x ≥ 2.4 mm<br>other metal: x ≥ 1.2 mm) |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 5 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 0.5 mA (24 V) |
| $U_d$: | approx. 1.3 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection (pulsed) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 600 Hz<br>(NO contact)<br>approx. 550 Hz<br>(NC contact) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | cable LiYY 3 x 0.14 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

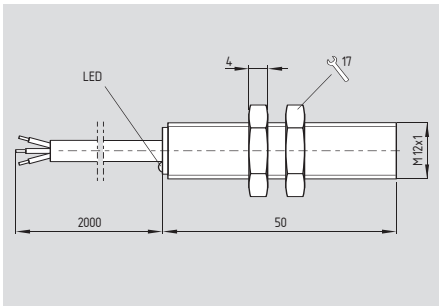
**IFL 4B-12-01PK1**




**IFL 4B-12-10PK1**




## IFL M 12



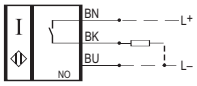

- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire
- High switching distance

## Technical data

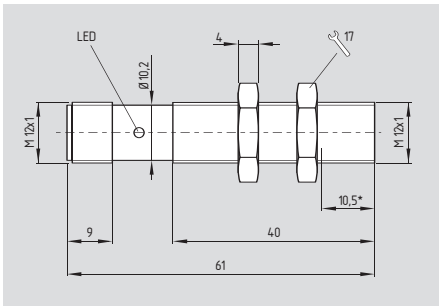
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on<br>fault impulse, wire-breakage<br>monitoring, wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Connection: | cable PUR 3 x 0.25 mm², length 2 m |

## Contact variants

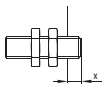
**IFL-N-4B-12-10PK1**



## IFL M 12




- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire
- High switching distance
- Quasi-embeddable
  (steel: x ≥ 2.4 mm
  other metal: x ≥ 1.2 mm)

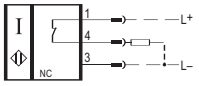



## Technical data

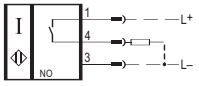
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, quasi-embeddable<br>(steel: x ≥ 2.4 mm<br>other metal: x ≥ 1.2 mm) |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 5 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 0.5 mA (24 V) |
| $U_d$: | approx. 1.3 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection (pulsed) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 600 Hz<br>(NO contact)<br>approx. 550 Hz<br>(NC contact) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

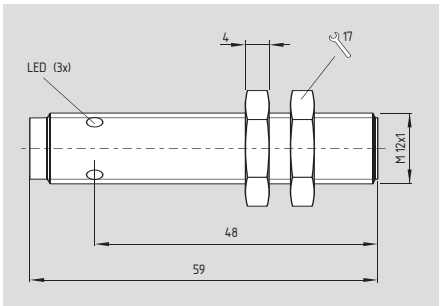
**IFL 4B-12-01STPK1**




**IFL 4B-12-10STPK1**




## IFL M 12



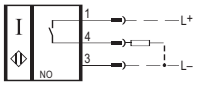

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire
- High switching distance

## Technical data

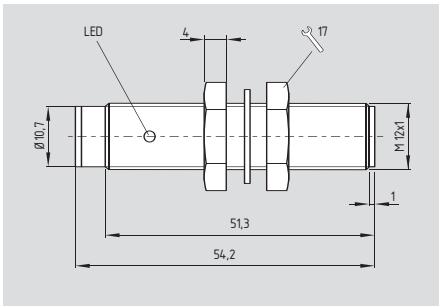
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on<br>fault impulse, wire-breakage<br>monitoring, wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Connection: | Plug-in connector M12 x 1 |

## Contact variants

**IFL-N-4B-12-10STPK1**



## IFL M 12



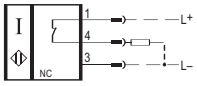

- Thermoplastic enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

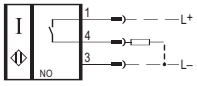
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 700 Hz,<br>N: approx. 440 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 17 max. 90 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

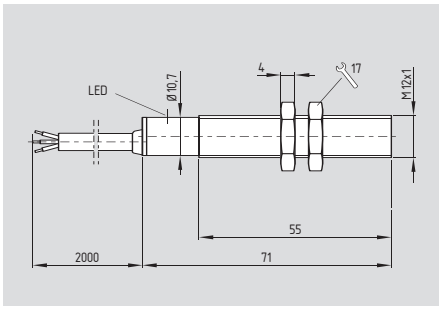
**IFL 4-120-10STN**




**IFL 4-120-10STP**




## IFL M 12



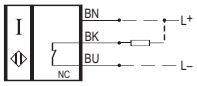

- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

## Technical data

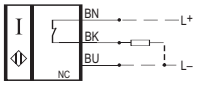
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm |
| Connection: | cable LiYY 3 x 0.34 $mm^2$, length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

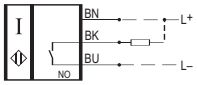
**IFL 2-12L-01N**



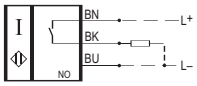

**IFL 2-12L-01P**



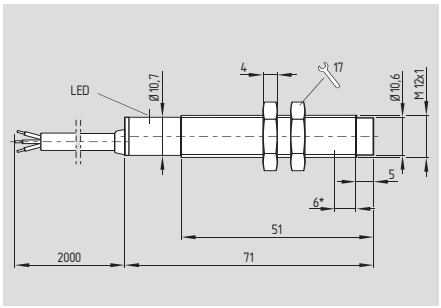

**IFL 2-12L-10N**




**IFL 2-12L-10P**



## IFL M 12



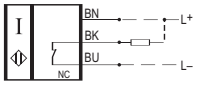

- Metal enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

## Technical data

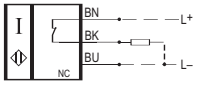
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 500 Hz,<br>N: approx. 330 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | cable LiYY 3 x 0.34 $mm^2$,<br>length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

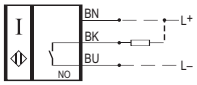
**IFL 4-12L-01N**



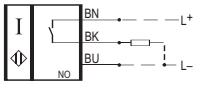

**IFL 4-12L-01P**



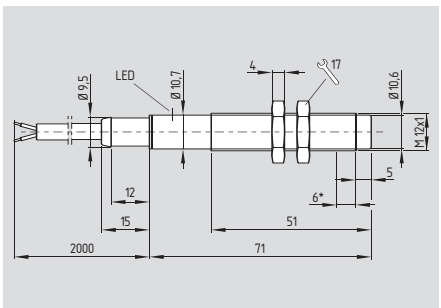

**IFL 4-12L-10N**




**IFL 4-12L-10P**




## IFL M 12



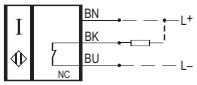

- Metal enclosure
- Design M 12 x 1
- Cable with strain relief
- DC 3-wire

## Technical data

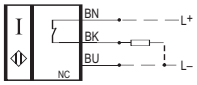
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 500 Hz,<br>N: approx. 330 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm |
| Connection: | cable LiYY 3 x 0.34 $mm^2$,<br>length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

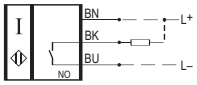
**IFL 4-12L-01TN**



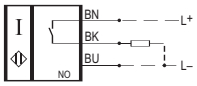

**IFL 4-12L-01TP**



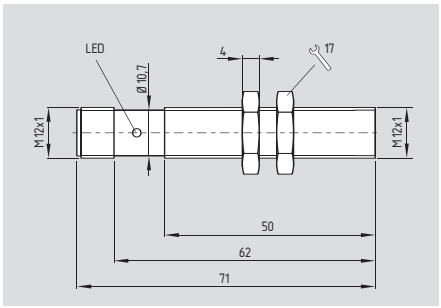

**IFL 4-12L-10TN**




**IFL 4-12L-10TP**



## IFL M 12



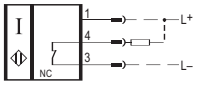

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

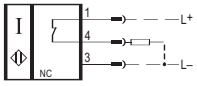
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

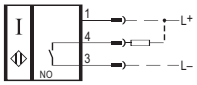
**IFL 2-12L-01STN**



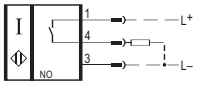

**IFL 2-12L-01STP**



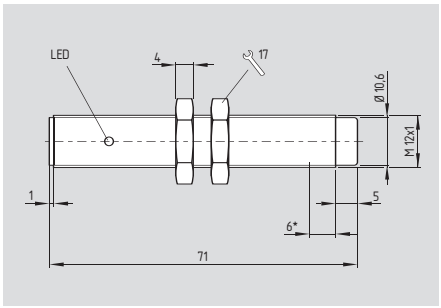

**IFL 2-12L-10STN**




**IFL 2-12L-10STP**




## IFL M 12



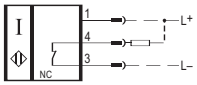

- Metal enclosure
- Design M 12 x 1
- Plug-in connector
- DC 3-wire

## Technical data

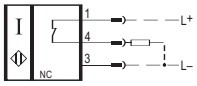
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 500 Hz,<br>N: approx. 330 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 17 max. 1500 Ncm<br>* in the shell core area: max. 500 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

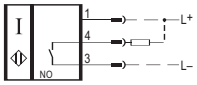
**IFL 4-12L-01STN**



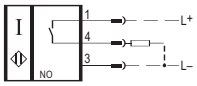

**IFL 4-12L-01STP**



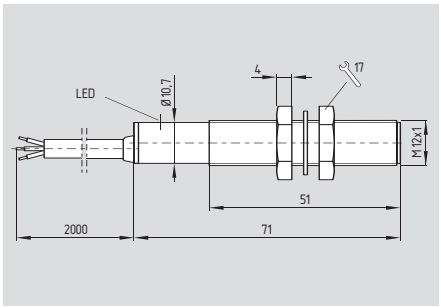

**IFL 4-12L-10STN**




**IFL 4-12L-10STP**



## IFL M 12



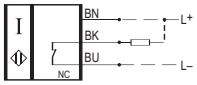

- Thermoplastic enclosure
- Design M 12 x 1
- Cable
- DC 3-wire

### Technical data

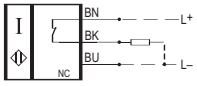
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 4 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 700 Hz,<br>N: approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 17 max. 90 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

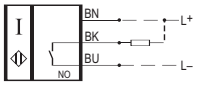
**IFL 4-120L-01N**



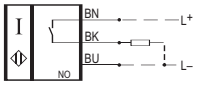

**IFL 4-120L-01P**



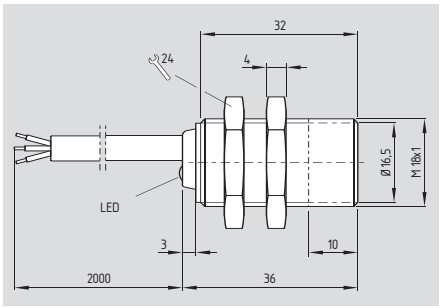

**IFL 4-120L-10N**




**IFL 4-120L-10P**




## IFL M 18



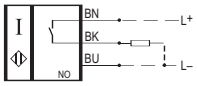

- Metal enclosure
- Design M 18 x 1
- Cable
- DC 3-wire

### Technical data

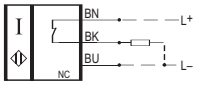
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 700 Hz (embeddable)<br>approx. 400 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

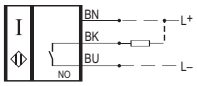
**IFL 5-18M-01N**
**IFL 8-18M-01N**



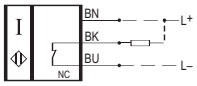

**IFL 5-18M-01P**
**IFL 8-18M-01P**



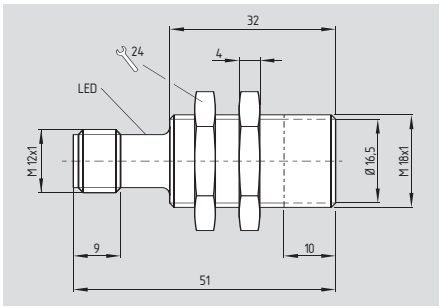

**IFL 5-18M-10N**
**IFL 8-18M-10N**




**IFL 5-18M-10P**
**IFL 8-18M-10P**



## IFL M 18



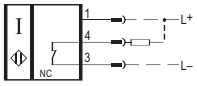

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire

## Technical data

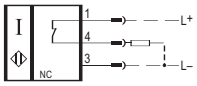
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 700 Hz<br>(embeddable)<br>approx. 400 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

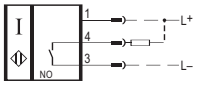
**IFL 5-18M-01STN**
**IFL 8-18M-01STN**



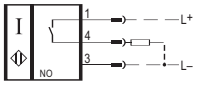

**IFL 5-18M-01STP**
**IFL 8-18M-01STP**



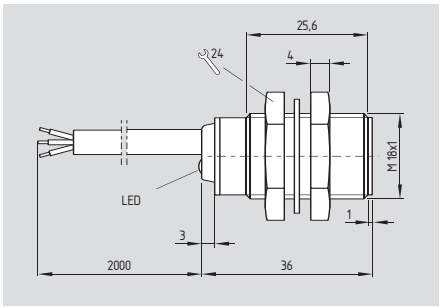

**IFL 5-18M-10STN**
**IFL 8-18M-10STN**




**IFL 5-18M-10STP**
**IFL 8-18M-10STP**




## IFL M 18



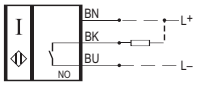

- Thermoplastic enclosure
- Design M 18 x 1
- Cable
- DC 3-wire

## Technical data

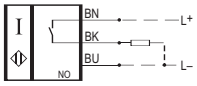
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 8 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | cable LiYY 3 x 0.34 $mm^2$,<br>length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

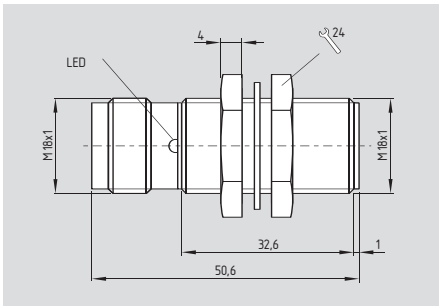
**IFL 8-180M-10N**




**IFL 8-180M-10P**



## IFL M 18



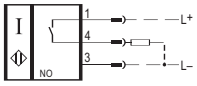

- Thermoplastic enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire

## Technical data

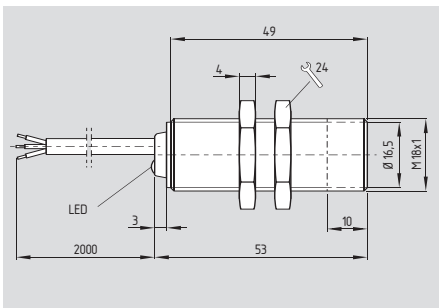
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 8 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | Plug-in connector M18 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 8-180M-10STP**




## IFL M 18



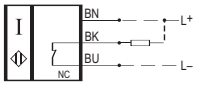

- Metal enclosure
- Design M 18 x 1
- Cable
- DC 3-wire

## Technical data

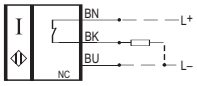
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable LiYY 3 x 0.14 $mm^2$, length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

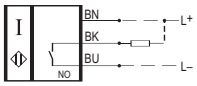
**IFL 5-18-01N**
**IFL 8-18-01N**



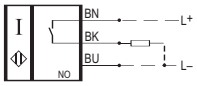

**IFL 5-18-01P**
**IFL 8-18-01P**



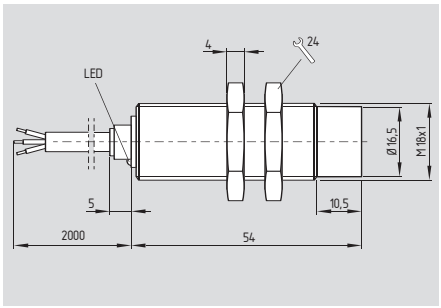

**IFL 5-18-10N**
**IFL 8-18-10N**




**IFL 5-18-10P**
**IFL 8-18-10P**



## IFL M 18



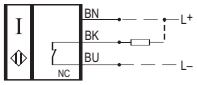

- Metal enclosure
- Design M 18 x 1
- Cable
- DC 3-wire

## Technical data

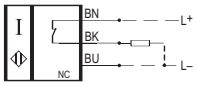
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 800 Hz (embeddable)<br>approx. 500 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Connection: | cable PUR 3 x 0.25 mm², length 2 m |

## Contact variants

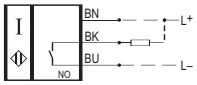
**IFL-N-5-18-01N**
**IFL-N-8-18-01N**



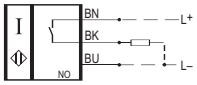

**IFL-N-5-18-01P**
**IFL-N-8-18-01P**



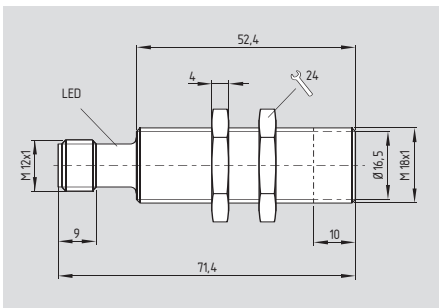

**IFL-N-5-18-10N**
**IFL-N-8-18-10N**




**IFL-N-5-18-10P**
**IFL-N-8-18-10P**




## IFL M 18



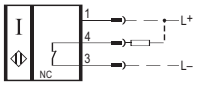

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire

## Technical data

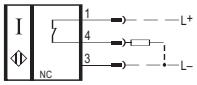
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

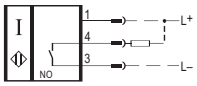
**IFL 5-18-01STN**
**IFL 8-18-01STN**



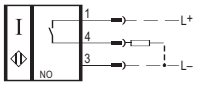

**IFL 5-18-01STP**
**IFL 8-18-01STP**



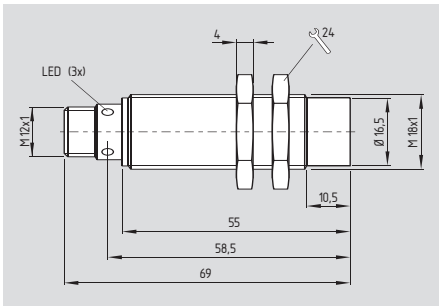

**IFL 5-18-10STN**
**IFL 8-18-10STN**




**IFL 5-18-10STP**
**IFL 8-18-10STP**



## IFL M 18



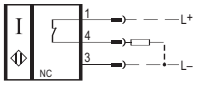

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire

## Technical data

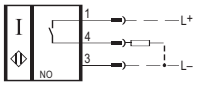
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 15 ... 34 VDC |
| $I_e$: | 200 mA (up to 50 °C)<br>150 mA (up to 85 °C) |
| $I_0$: | ≤ 17 mA (24 VDC)<br>≤ 30 mA (34 VDC) |
| $U_d$: | approx. 2.5 V |
| Protection circuit: | suppressed switch-on fault impulse, wire-breakage monitoring, wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 85 °C |
| Switching frequency f: | approx. 800 Hz (embeddable)<br>approx. 500 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Connection: | Plug-in connector M12 x 1 |

## Contact variants

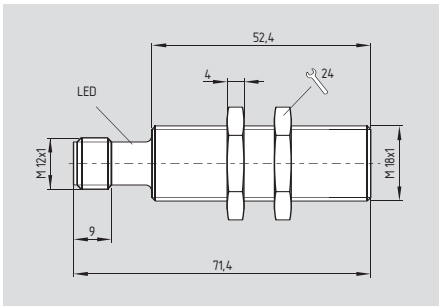
**IFL-N-5-18-01STP**
**IFL-N-8-18-01STP**




**IFL-N-5-18-10STP**
**IFL-N-8-18-10STP**




## IFL M 18



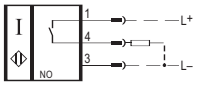

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire
- Stainless steel

## Technical data

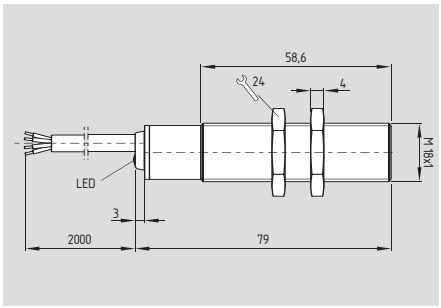
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 5 mm, embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 600 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: stainless steel |
| Tightening torque for nuts: | A/F 24 max. 5000 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 5-18-10STP-2033**



## IFL M 18



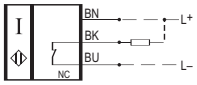

- Metal enclosure
- Design M 18 x 1
- Cable
- DC 3-wire

## Technical data

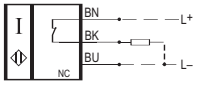
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 5 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

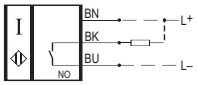
**IFL 5-18L-01N**



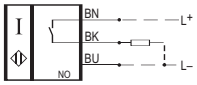

**IFL 5-18L-01P**



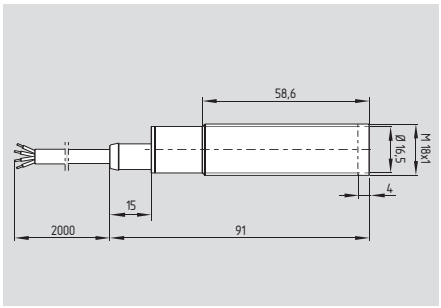

**IFL 5-18L-10N**




**IFL 5-18L-10P**




## IFL M 18



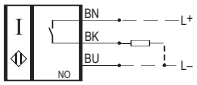

- Metal enclosure
- Design M 18 x 1
- Cable with strain relief
- DC 3-wire
- Max. + 130 °C
- Without LED
- Clamp H 18 is included in delivery, see accessories

## Technical data

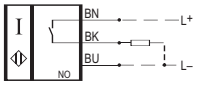
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 1.8 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity<br>and inductive<br>interference protection |
| Ambient temperature: | – 25 °C ... + 130 °C<br>(dry heat)<br>Index -2130-1: with silicon<br>cable for humid environments |
| Switching frequency f: | approx. 200 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing: nickel plated brass<br>clamp H 18: thermoplastic |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | silicone cable 155 3 x 0.34 mm², length 2 m, with strain relief |
| Note: | Normally supplied with clamp<br>(version with nuts:<br>ordering suffix -2130-2). |

## Contact variants

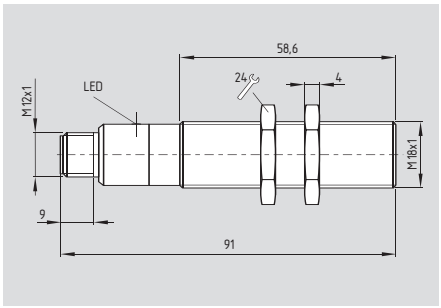
**IFL 5-18L-10TP-2130**




**IFL 8-18L-10TP-2130**



## IFL M 18



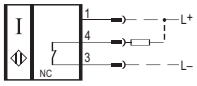

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire

## Technical data

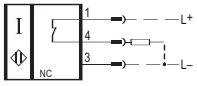
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 5 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

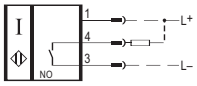
**IFL 5-18L-01STN**



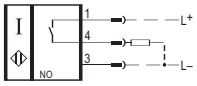

**IFL 5-18L-01STP**



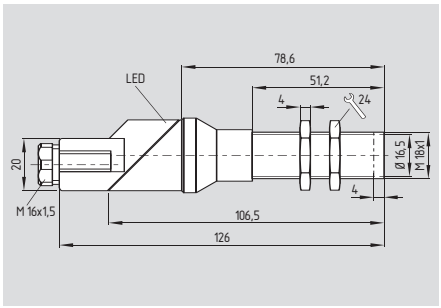

**IFL 5-18L-10STN**




**IFL 5-18L-10STP**

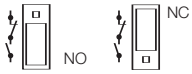



## IFL M 18




- Metal enclosure
- Design M 18 x 1
- Wiring compartment
- DC 3-wire

Programmable by repositioning the plug-in jumper at the terminal screws

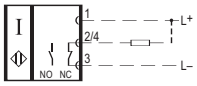



## Technical data

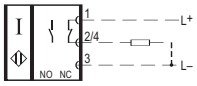
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2, VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | P: normally open contact<br>or normally closed contact<br>(Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | P: 3-wire DC, N: 3-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference protection,<br>on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 500 Hz<br>(embeddable)<br>approx. 350 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | Terminal screws<br>for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

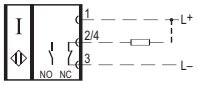
**IFL 5-18L-10/01N**



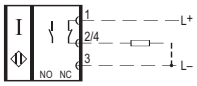

**IFL 5-18L-10/01P**



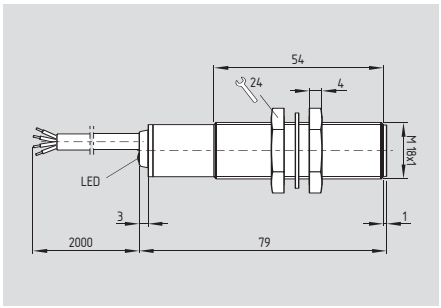

**IFL 8-18L-10/01N**




**IFL 8-18L-10/01P**



## IFL M 18



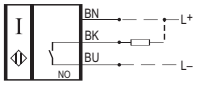

- Thermoplastic enclosure
- Design M 18 x 1
- Cable
- DC 3-wire

## Technical data

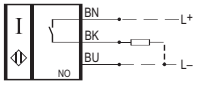
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 8 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

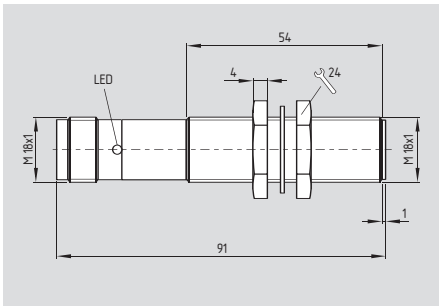
**IFL 8-180L-10N**




**IFL 8-180L-10P**




## IFL M 18



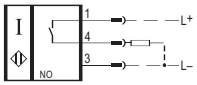

- Thermoplastic enclosure
- Design M 18 x 1
- Plug-in connector
- DC 3-wire

## Technical data

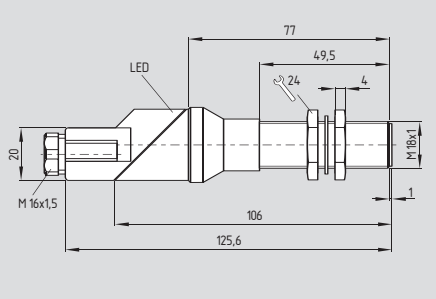
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 8 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 400 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | Plug-in connector M18 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 8-180L-10STP**



## IFL M 18




- Thermoplastic enclosure
- Design M 18 x 1
- Wiring compartment
- DC 3-wire

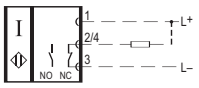
Programmable by repositioning the plug-in jumper at the terminal screws


### Technical data

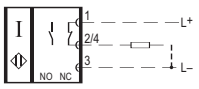
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 350 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

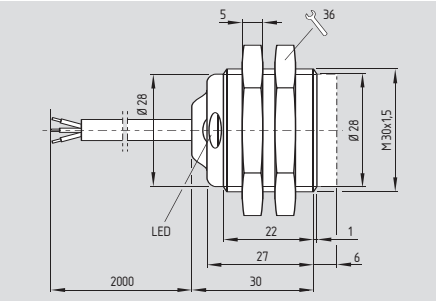
**IFL 10-180L-10/01N**




**IFL 10-180L-10/01P**




## IFL M 30



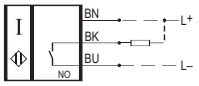

- Metal enclosure
- Design M 30 x 1.5
- Cable
- DC 3-wire

### Technical data

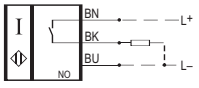
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 200 Hz (embeddable)<br>approx. 100 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

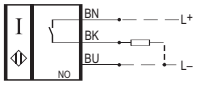
**IFL 10-30M-10N**



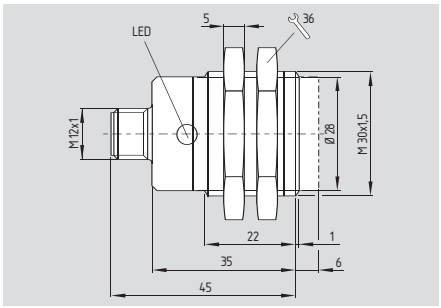

**IFL 10-30M-10P**




**IFL 15-30M-10P**



## IFL M 30



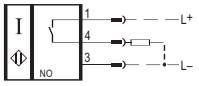

- Metal enclosure
- Design M 30 x 1.5
- Plug-in connector
- DC 3-wire

## Technical data

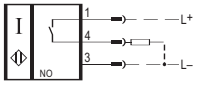
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 200 Hz<br>(embeddable)<br>approx. 100 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

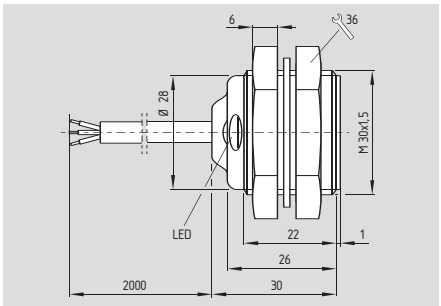
**IFL 10-30M-10ST1P**




**IFL 15-30M-10ST1P**




## IFL M 30



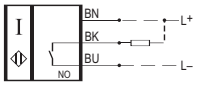

- Thermoplastic enclosure
- Design M 30 x 1.5
- Cable
- DC 3-wire

## Technical data

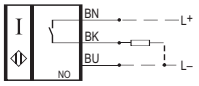
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | cable LiYY 3 x 0.34 $mm^2$,<br>length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

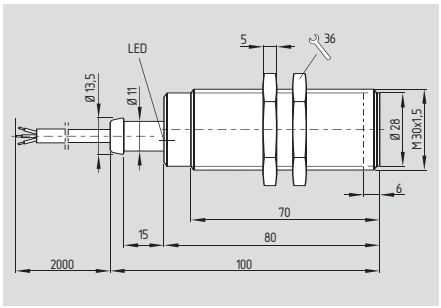
**IFL 15-300M-10N**




**IFL 15-300M-10P**



## IFL M 30



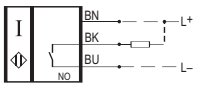

- Metal enclosure
- Design M 30 x 1.5
- Cable with strain relief
- DC 3-wire

## Technical data

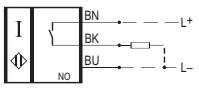
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3.5 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 200 Hz<br>(embeddable)<br>approx. 100 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

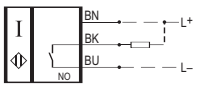
**IFL 10-30L-10TN**



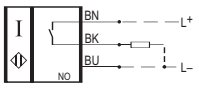

**IFL 10-30L-10TP**



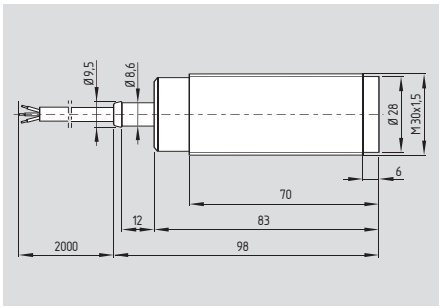

**IFL 15-30L-10TN**




**IFL 15-30L-10TP**




## IFL M 30



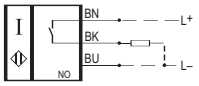

- Metal enclosure
- Design M 30 x 1.5
- Cable with strain relief
- DC 3-wire
- Max. + 130 °C
- Without LED
- Clamp H 30 is included in delivery, see accessories

## Technical data

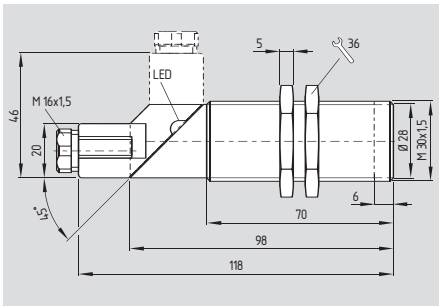
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | A: normally open contact |
| Switching output: | P: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 1.8 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity<br>and inductive<br>interference protection |
| Ambient temperature: | – 25 °C ... + 130 °C<br>(dry heat)<br>Index -2130-1: with silicon<br>cable for humid environments |
| Switching frequency f: | approx. 60 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing: nickel plated brass<br>clamp H 30: thermoplastic |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | silicone cable 155 3 x 0.34 mm², length 2 m, with strain relief |
| Note: | Normally supplied with clamp<br>(version with nuts:<br>ordering suffix -2130-2). |

## Contact variants

**IFL 15-30L-10TP-2130**

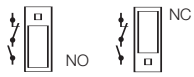


## IFL M 30




- Metal enclosure
- Design M 30 x 1.5
- Wiring compartment
- DC 3-wire

Programmable by repositioning the plug-in jumper at the terminal screws

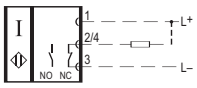



## Technical data

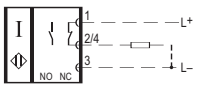
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | P: 3-wire DC, N: 3-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 200 Hz (embeddable)<br>approx. 100 Hz (non-embeddable) |
| Protection class: | IP 65 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

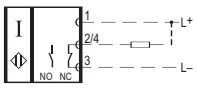
**IFL 10-30L-10/01N**



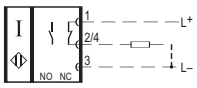

**IFL 10-30L-10/01P**



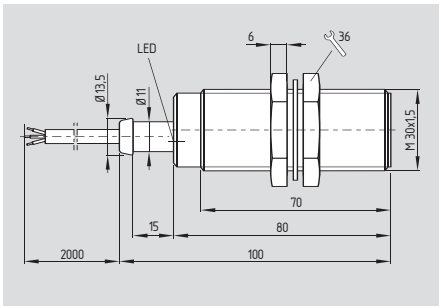

**IFL 15-30L-10/01N**




**IFL 15-30L-10/01P**




## IFL M 30



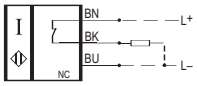

- Thermoplastic enclosure
- Design M 30 x 1.5
- Cable with strain relief
- DC 3-wire

## Technical data

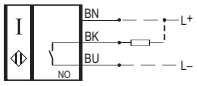
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | A: normally open contact or B: normally closed contact |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

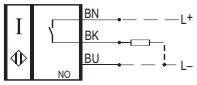
**IFL 15-300L-01TP**



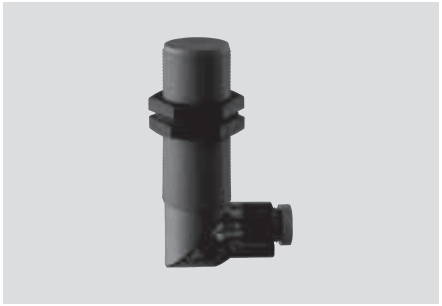

**IFL 15-300L-10TN**

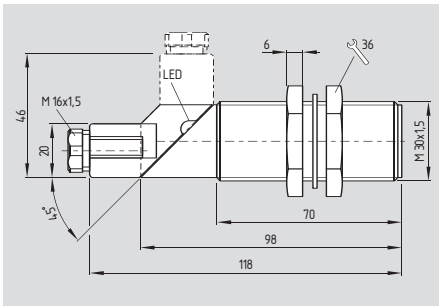



**IFL 15-300L-10TP**



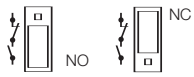
## IFL M 30






- Thermoplastic enclosure
- Design M 30 x 1.5
- Wiring compartment
- DC 3-wire

Programmable by repositioning the plug-in jumper at the terminal screws

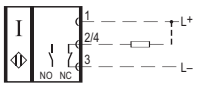



### Technical data

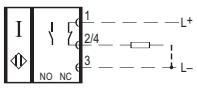
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | P: normally open contact or normally closed contact (Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts: thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | Terminal screws for max. 1.5 mm², with cable entry M16 x 1.5 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

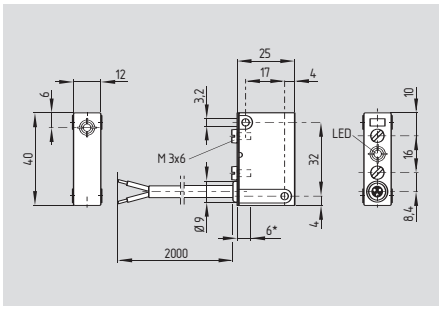
**IFL 15-300L-10/01N**




**IFL 15-300L-10/01P**




## IFL 40 x 25 x 12 mm




- Thermoplastic enclosure
- Rectangular design 250 (40 x 25 x 12 mm)
- Cable
- DC 3-wire

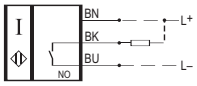
Switches can be mounted adjacent to each other without interference.

### Technical data

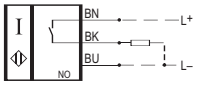
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact (on request: normally closed contact (-01) is available) |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity, inductive interference, industrial transients and short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP), with 2 screws M3 x 6 for rear mounting |
| Connection: | cable LiYY 3 x 0.34 mm², length 2 m |
| Note: | * maximum screwing depth: 6 mm |

### Contact variants

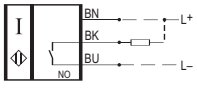
**IFL 2-250-10N**



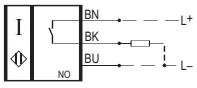

**IFL 2-250-10P**



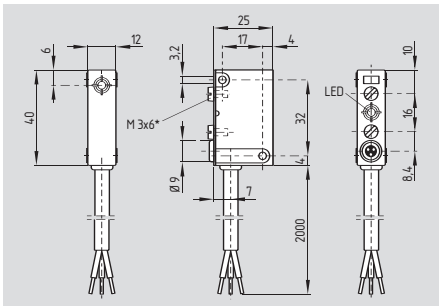

**IFL 4-250-10N**




**IFL 4-250-10P**



## IFL 40 x 25 x 12 mm



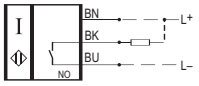

- Thermoplastic enclosure
- Rectangular design 250 (40 x 25 x 12 mm)
- Cable (sidewards)
- DC 3-wire

## Technical data

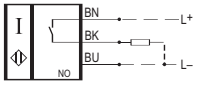
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 2-...: 2 mm, embeddable<br>IFL 4-...: 4 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>(on request: normally closed contact (-01) is available) |
| Switching output: | P: 3-wire DC<br>N: 3-wire DC |
| $U_b$: | 10 ... 30 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 3 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | P: approx. 1 kHz,<br>N: approx. 800 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP),<br>with 2 screws M3 x 6<br>for rear mounting |
| Connection: | cable LiYY 3 x 0.34 $mm^2$,<br>length 2 m |
| Note: | * maximum screwing depth: 6 mm |

## Contact variants

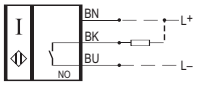
**IFL 2-250-10N-1716**



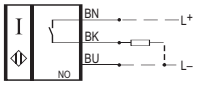

**IFL 2-250-10P-1716**



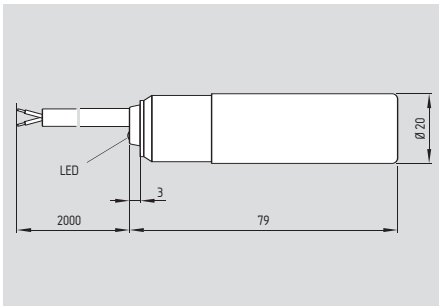

**IFL 4-250-10N-1716**




**IFL 4-250-10P-1716**



## IFL Ø 20 mm



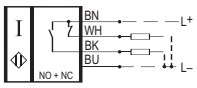

- Thermoplastic enclosure
- Design Ø 20 mm
- Cable
- DC 4-wire
- Clamp H 20 is included in delivery, see accessories

## Technical data

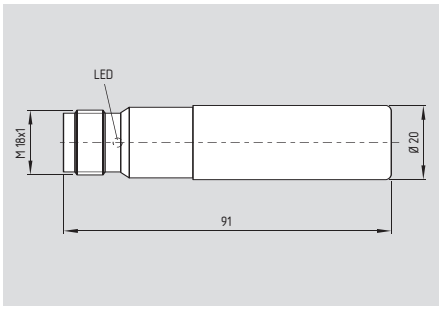
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact and B: normally closed contact (antivalent) |
| Switching output: | P: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 350 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 20: thermoplastic |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m |

## Contact variants

**IFL 10-200L-11P**




## IFL Ø 20 mm



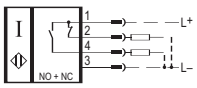

- Thermoplastic enclosure
- Design Ø 20 mm
- Plug-in connector
- DC 4-wire
- Clamp H 20 is included in delivery, see accessories

## Technical data

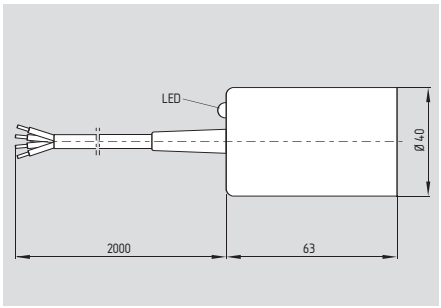
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact and B: normally closed contact (antivalent) |
| Switching output: | P: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 350 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 20: thermoplastic |
| Connection: | Plug-in connector M18 x 1 |

## Contact variants

**IFL 10-200L-11STP**



## IFL Ø 40 mm



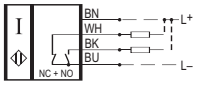

- Thermoplastic enclosure
- Design Ø 40 mm
- Cable
- DC 4-wire
- Clamp H 40 is included in delivery, see accessories

## Technical data

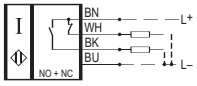
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 20 mm, non-embeddable |
| Switching element function: | A: normally open contact and B: normally closed contact (antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 40: thermoplastic |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m |

## Contact variants

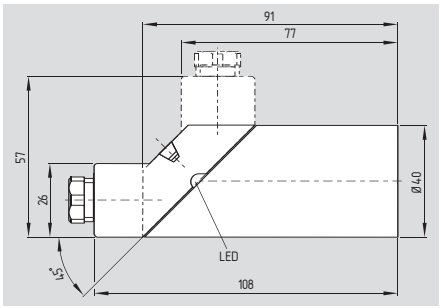
**IFL 20-400-11TN**




**IFL 20-400-11TP**




## IFL Ø 40 mm



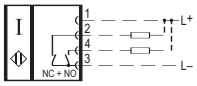

- Thermoplastic enclosure
- Design Ø 40 mm
- Wiring compartment
- DC 4-wire
- Clamp H 40 is included in delivery, see accessories

## Technical data

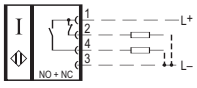
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 20 mm, non-embeddable |
| Switching element function: | A: normally open contact and B: normally closed contact (antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 65 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and clamp H 40: thermoplastic |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entry M16 x 1.5 |

## Contact variants

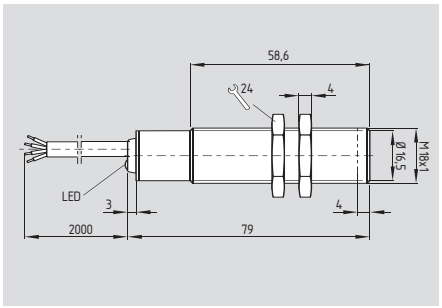
**IFL 20-400-11N**




**IFL 20-400-11P**



## IFL M 18



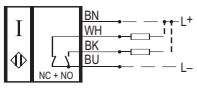

- Metal enclosure
- Design M 18 x 1
- Cable
- DC 4-wire

## Technical data

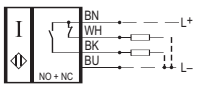
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact and B: normally closed contact (antivalent), on request also available as NO contact (-10) or NC contact (-01). |
| Switching output: | P: 4-wire DC, N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 500 Hz (embeddable)<br>approx. 350 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

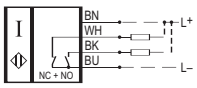
**IFL 5-18L-11N**



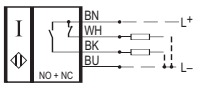

**IFL 5-18L-11P**



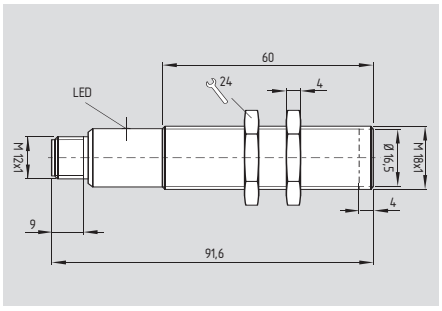

**IFL 8-18L-11N**




**IFL 8-18L-11P**




## IFL M 18



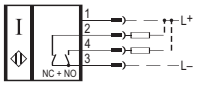

- Metal enclosure
- Design M 18 x 1
- Plug-in connector
- DC 4-wire

## Technical data

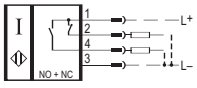
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 5-...: 5 mm, embeddable<br>IFL 8-...: 8 mm, non-embeddable |
| Switching element function: | A: normally open contact and B: normally closed contact (antivalent), on request also available as NO contact (-10) or NC contact (-01). |
| Switching output: | P: 4-wire DC, N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and inductive interference protection, on request: short-circuit and overload proof (Index -1665-1) Ie = 300 mA, Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 500 Hz (embeddable)<br>approx. 350 Hz (non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts: nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | Plug-in connector M12 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

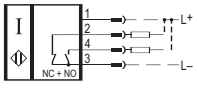
**IFL 5-18L-11STN**



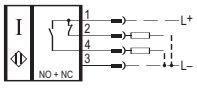

**IFL 5-18L-11STP**



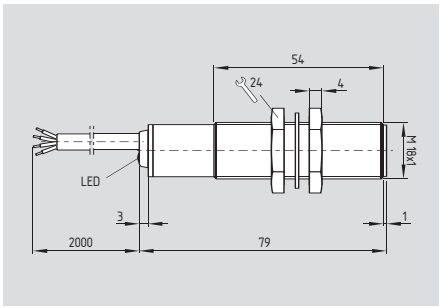

**IFL 8-18L-11STN**




**IFL 8-18L-11STP**



## IFL M 18



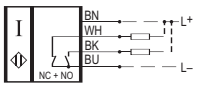

- Thermoplastic enclosure
- Design M 18 x 1
- Cable
- DC 4-wire

## Technical data

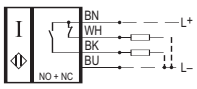
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference protection,<br>on request: short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 350 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

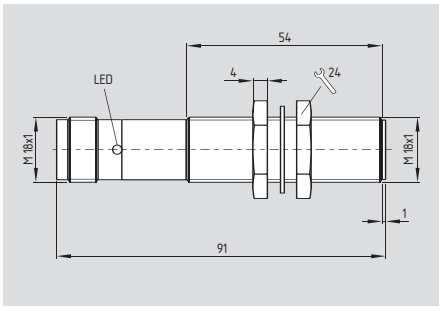
**IFL 10-180L-11N**




**IFL 10-180L-11P**




## IFL M 18



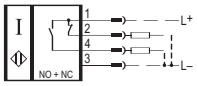

- Thermoplastic enclosure
- Design M 18 x 1
- Plug-in connector
- DC 4-wire

## Technical data

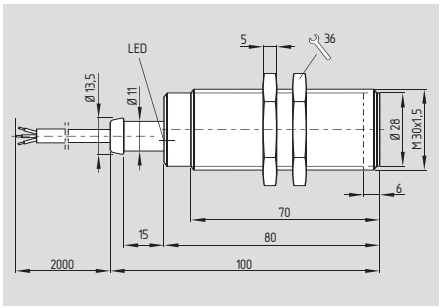
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 10 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference protection,<br>on request: short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 350 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 24 max. 300 Ncm |
| Connection: | Plug-in connector M18 x 1 |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

**IFL 10-180L-11STP**



## IFL M 30



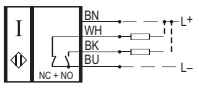

- Metal enclosure
- Design M 30 x 1.5
- Cable with strain relief
- DC 4-wire

## Technical data

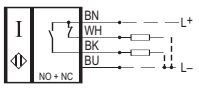
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference protection,<br>on request: short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 200 Hz<br>(embeddable)<br>approx. 100 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

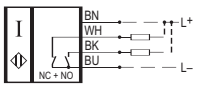
**IFL 10-30L-11TN**



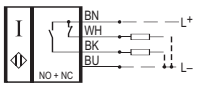

**IFL 10-30L-11TP**



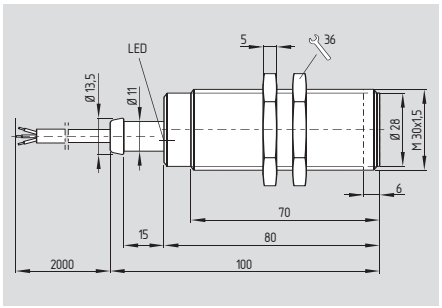

**IFL 15-30L-11TN**




**IFL 15-30L-11TP**




## IFL M 30




- Metal enclosure
- Design M 30 x 1.5
- Cable with strain relief
- DC 4-wire
- Max. + 110 °C (230 °F)

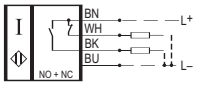
LED may become defective when operated above 90 °C. Operation of the switch, however, is not affected.

## Technical data

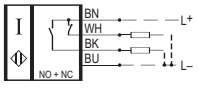
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 10-...: 10 mm, embeddable<br>IFL 15-...: 15 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1 V (200 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference protection |
| Ambient temperature: | 0 °C ... + 110 °C<br>(dry heat) |
| Switching frequency f: | approx. 150 Hz<br>(embeddable)<br>approx. 50 Hz<br>(non-embeddable) |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 36 max. 3000 Ncm |
| Connection: | silicone cable 4 x 0.25 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

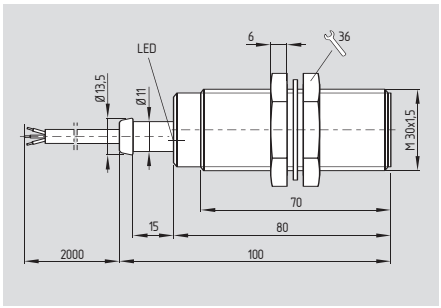
**IFL 10-30L-11TP-1766**




**IFL 15-30L-11TP-1766**



## IFL M 30



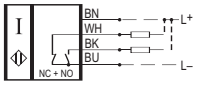

- Thermoplastic enclosure
- Design M 30 x 1.5
- Cable with strain relief
- DC 4-wire

### Technical data

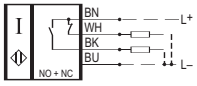
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference protection,<br>on request: short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing and nuts:<br>thermoplastic (PBTP + PA 12)<br>washer: rubber (perbunan) |
| Tightening torque for nuts: | A/F 36 max. 400 Ncm |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m, with strain relief |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

### Contact variants

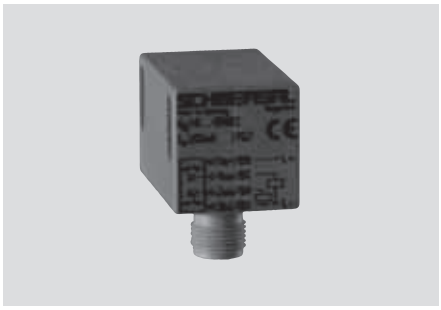
**IFL 15-300L-11TN**

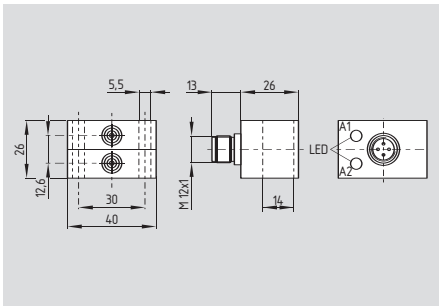



**IFL 15-300L-11TP**




## IFL 40 x 26 x 26 mm





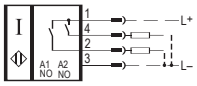

- Thermoplastic enclosure
- Rectangular design 255 (40 x 26 x 26 mm)
- Plug-in connector
- DC 4-wire

### Technical data

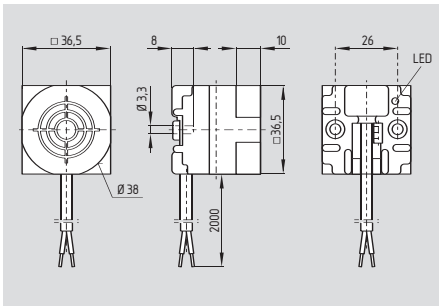
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 2 x 4 mm, non-embeddable |
| Switching element function: | A1: normally open contact<br>and A2: normally open contact |
| Switching output: | P: 4-wire DC |
| $U_b$: | 10 ... 40 VDC |
| $I_e$: | 200 mA per output |
| $I_0$: | approx. 2.7 mA (24 V) |
| $U_d$: | approx. 1.2 V (200 mA) |
| Protection circuit: | wrong polarity,<br>inductive interference,<br>industrial transients and<br>short-circuit protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 650 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic<br>(Noryl), with 2 screws<br>M5 x ... for mounting |
| Connection: | Plug-in connector M12 x 1 |

### Contact variants

**IFL 4/4-255-20STP**



## IFL 36.5 x 36.5 x 36.5 mm



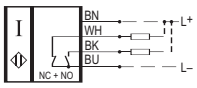

- Thermoplastic enclosure
- Rectangular design 333E (36.5 x 36.5 x 36.5 mm)
- Cable
- DC 4-wire
- Mounting bracket HWE-1 to simplify mounting available

## Technical data

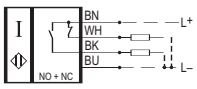
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 15-...: 15 mm, embeddable<br>IFL 20-...: 21.5 mm, non-embeddable<br>(36.5 x 36.5 mm opening) |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference<br>protection, on request:<br>short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP) |
| Connection: | cable LiYY 4 x 0.25 mm², length 2 m |

## Contact variants

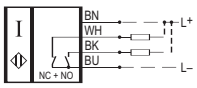
**IFL 15-333E-11N**



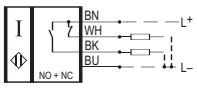

**IFL 15-333E-11P**



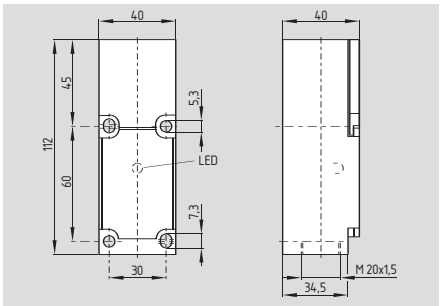

**IFL 20-333E-11N**




**IFL 20-333E-11P**




## IFL 112 x 40 x 40 mm




- Thermoplastic enclosure
- Rectangular design 333 (112 x 40 x 40 mm)
- Wiring compartment
- DC 4-wire

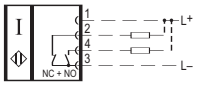
By repositioning the switch five different actuating directions can be selected. The selected actuating direction can be marked with a sticker.

## Technical data

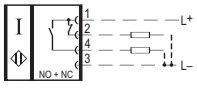
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | IFL 15-...: 15 mm, embeddable<br>IFL 20-...: 20 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference<br>protection, on request:<br>short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 100 Hz |
| Protection class: | IP 65 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP)<br>cover: Luran |
| Connection: | Terminal screws with<br>self-lifting pressure clamps<br>for max. 2 x 1.5 mm²,<br>with cable entry M20 x 1.5 |

## Contact variants

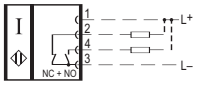
**IFL 15-333-11N**



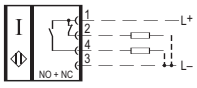

**IFL 15-333-11P**



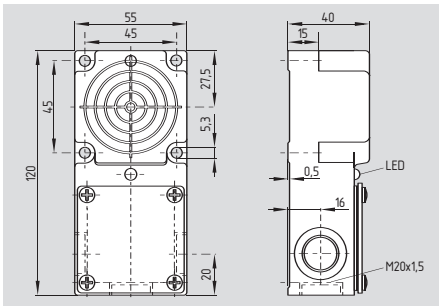

**IFL 20-333-11N**




**IFL 20-333-11P**



## IFL 120 x 55 x 40 mm



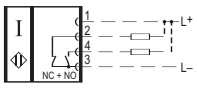

- Thermoplastic enclosure
- Rectangular design 384 (120 x 55 x 40 mm)
- Wiring compartment
- DC 4-wire

## Technical data

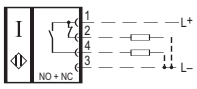
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 30 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference<br>protection, on request:<br>short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 25 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | Terminal screws with<br>self-lifting pressure clamps<br>for max. 2 x 1.5 mm², with<br>cable entries 3 x M20 x 1.5<br>(break-out) |

## Contact variants

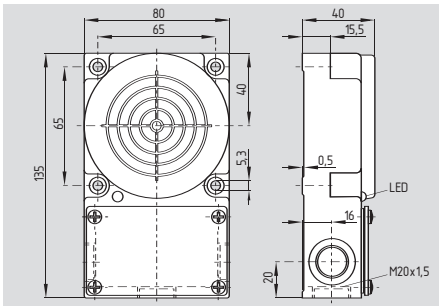
**IFL 30-384-11N**




**IFL 30-384-11P**




## IFL 135 x 80 x 40 mm



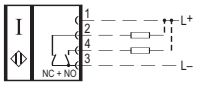

- Thermoplastic enclosure
- Rectangular design 385 (135 x 80 x 40 mm)
- Wiring compartment
- DC 4-wire
- Mounting bracket HW 385-1 to simplify mounting available

## Technical data

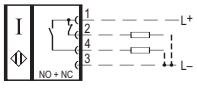
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 50 mm, non-embeddable<br>(on request: switching distance 70 mm) |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC<br>N: 4-wire DC |
| $U_b$: | 10 ... 60 VDC |
| $I_e$: | 400 mA |
| $I_0$: | approx. 5.5 mA (24 V) |
| $U_d$: | approx. 1.5 V (400 mA) |
| Protection circuit: | wrong polarity and<br>inductive interference<br>protection, on request:<br>short-circuit and overload proof<br>(Index -1665-1) Ie = 300 mA,<br>Ud = approx. 1 V (300 mA) |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 25 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | Terminal screws with<br>self-lifting pressure clamps<br>for max. 2 x 1.5 mm², with<br>cable entries 3 x M20 x 1.5<br>(break-out) |

## Contact variants

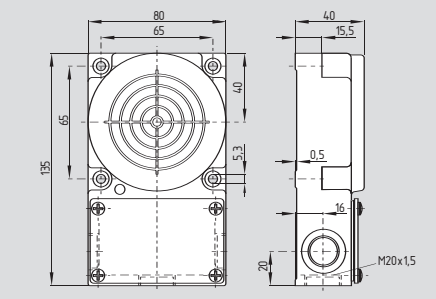
**IFL 50-385-11ZNG**




**IFL 50-385-11ZPG**



## IFL 135 x 80 x 40 mm



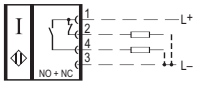

- Thermoplastic enclosure
- Rectangular design 385 (135 x 80 x 40 mm)
- Wiring compartment
- DC 4-wire
- Max. + 130 °C
- Without LED
- Mounting bracket HW 385-1 to simplify mounting available

## Technical data

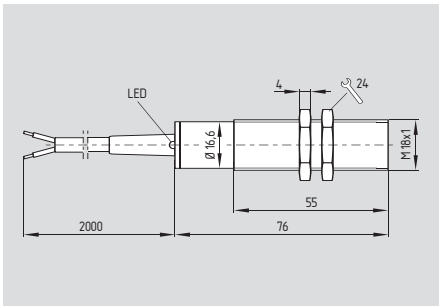
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 50 mm, non-embeddable |
| Switching element function: | A: normally open contact<br>and B: normally closed contact<br>(antivalent) |
| Switching output: | P: 4-wire DC |
| $U_b$: | 10 ... 40 VDC |
| $I_e$: | 200 mA |
| $I_0$: | approx. 4 mA (24 V) |
| $U_d$: | approx. 1.5 V (200 mA) |
| Protection circuit: | wrong polarity<br>and inductive<br>interference protection |
| Ambient temperature: | – 25 °C ... + 130 °C |
| Switching frequency f: | approx. 50 Hz |
| Protection class: | IP 67 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (Noryl) |
| Connection: | Terminal screws with<br>self-lifting pressure clamps<br>for max. 2 x 1.5 mm$^2$, with<br>cable entries 3 x M20 x 1.5<br>(break-out) |

## Contact variants

**IFL 50-385-11P-2130**



## IFL M 18



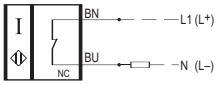

- Metal enclosure
- Design M 18 x 1
- Cable
- AC/DC 2-wire

## Technical data

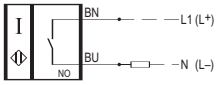
| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 5 mm, embeddable |
| Switching element function: | A: normally open contact or<br>B: normally closed contact |
| Switching output: | U: 2-wire AC/DC |
| $U_b$: | 15 ... 250 VAC/DC |
| $I_e$: | 300 mA |
| $I_0$: | approx. 0.3 mA (24 V)<br>approx. 0.5 mA (220 V) |
| $U_d$: | approx. 4 V (300 mA) |
| Protection circuit: | wrong polarity<br>and inductive<br>interference protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 15 Hz |
| Protection class: | IP 67 to EN 60529 |
| Material: | housing and nuts:<br>nickel plated brass |
| Tightening torque for nuts: | A/F 24 max. 1800 Ncm |
| Connection: | cable H03VV-F 2 x 0.5 mm², length 2 m |
| Note: | Instead of nuts, a mounting clamp can be provided (see accessories). |

## Contact variants

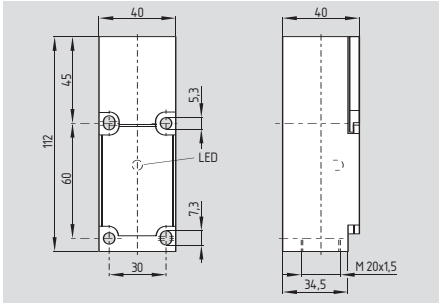
**IFL 5-18-01A**




**IFL 5-18-10A**




## IFL 112 x 40 x 40 mm




- Thermoplastic enclosure
- Rectangular design 333 (112 x 40 x 40 mm)
- Wiring compartment
- AC/DC 2-wire

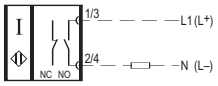
By repositioning the switch five different actuating directions can be selected. The selected actuating direction can be marked with a sticker.

## Technical data

| | |
|---|---|
| Standards: | IEC/EN 60947-5-2<br>VDE 0660-208 |
| $S_n$: | 15 mm, embeddable |
| Switching element function: | P: normally open contact<br>or normally closed contact<br>(Programmable by repositioning the plug-in jumper at the terminal screws) |
| Switching output: | U: 2-wire AC/DC |
| $U_b$: | 15 ... 250 VAC/DC |
| $I_e$: | 300 mA |
| $I_0$: | approx. 0.3 mA (24 V) |
| $U_d$: | approx. 4 V (300 mA) |
| Protection circuit: | wrong polarity<br>and inductive<br>interference protection |
| Ambient temperature: | – 25 °C ... + 70 °C |
| Switching frequency f: | approx. 15 Hz |
| Protection class: | IP 65 to EN 60529 |
| Protection class: | II, ⧈ |
| Material: | housing: thermoplastic (PBTP)<br>cover: Luran |
| Connection: | Terminal screws with self-lifting pressure clamps for max. 2 x 1.5 mm², with cable entry M20 x 1.5 |

## Contact variants

**IFL 15-333-10/01A**




Programmable by repositioning the plug-in jumper at the terminal screws