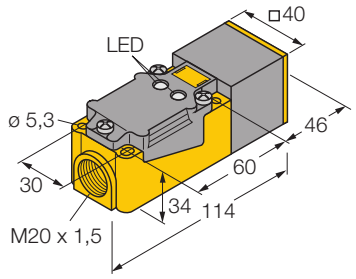
# Inductive sensor
# with extended temperature range
# Bi15-CP40-VP4X2/S100

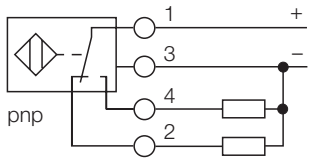
TURCK
Industrial Automation




- **rectangular, height 40 mm**
- **variable orientation of active face in 9 directions**
- **Plastic, PBT-GF30-V0**
- **for temperatures up to +100°C**
- **4-wire DC, 10…65 VDC**
- **change-over, pnp output**
- **Terminal chamber**

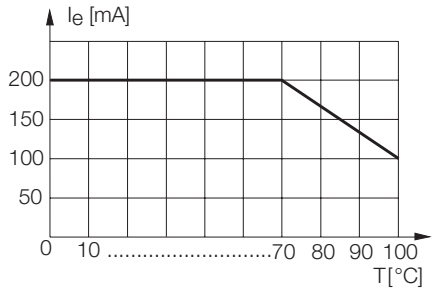
| | |
|---|---|
| **Type** | Bi15-CP40-VP4X2/S100 |
| Ident-No. | 15045 |
| **Rated operating distance Sn** | 15 mm |
| Mounting condition | flush |
| Assured sensing range | (0,81 x Sn) mm |
| Correction factors | St37 = 1, V2A ~ 0.7, Ms ~ 0.4, Al ~ 0.3 |
| Repeatability | 2 % |
| Temperature drift | ± 10 % |
| | ± 20 %, ≥ +70 °C |
| Hysteresis | 3… 15 % |
| Ambient temperature | -25…+ 100 °C |
| **Operating voltage** | 10… 65VDC |
| Residual ripple | 10 % $U_{ss}$ |
| DC rated operational current | 200 mA |
| Rated operational current | see derating curve |
| No-load current $I_0$ | 15 mA |
| Residual current | 0.1 mA |
| Rated insulation voltage | 0.5 kV |
| Short-circuit protection | yes / cyclic |
| Voltage drop at $I_e$ | 1.8V |
| Wire breakage / Reverse polarity protection | yes / complete |
| Output function | 4-wire, change-over, pnp |
| Switching frequency | 0.15 kHz |
| **Housing** | rectangular, CP40 |
| Dimensions | 114 x 40 x 40 mm |
| | variable orientation of active face in 9 directions |
| Housing material | plastic, PBT-GF30-V0, black |
| Material active face | plastic, PBT-GF30-V0, yellow |
| Connection | Terminal chamber |
| Clamping ability | 2.5mm$^2$ |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30g (11 ms) |
| Degree of protection | IP67 |
| **Operating voltage display** | LED green |
| Display switch state | LED yellow |

**Wiring diagram**




**Functional principle**
Inductive sensors are designed for wear-free and non-contact detection of metal objects. For this purpose they use a high-frequency electro-magnetic AC field that interacts with the target. With inductive sensors, this field is generated by an LC resonant circuit with a ferrite core coil. Special inductive sensors versions can be used at temperatures of -60°C up to +250°C.

**derating curve**

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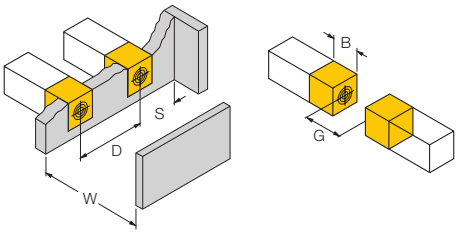
| **Mounting instructions** | minimum distances |
|---|---|
| Distance D | 2 x B |
| Distance W | 3 x Sn |
| Distance S | 1 x B |
| Distance G | 6 x Sn |

| **Width of the active face B** | 40 mm |
|---|---|

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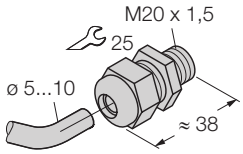
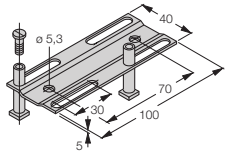
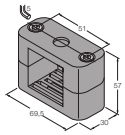
## Accessories

| Type code | Ident-No. | Short text | Dimension drawing |
|---|---|---|---|
| STRM M20X1,5 SCHWARZ | 6965902 | cable glands M20 x 1,5 |   |
| JS 025/037 | 69429 | mounting rail; material: VA 1.4301 |   |
| BSS-CP40 | 6901318 | fixing clamp; material: polypropylene |  |

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