

# BI15-CP40-VP4X2/S97

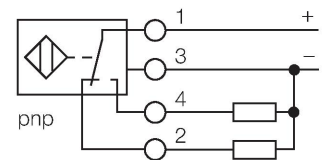
## Inductive Sensor – With Extended Temperature Range



### Features

- Rectangular, height 40 mm
- Variable orientation of active face in 9 directions
- Plastic, PBT-GF30-V0
- High luminance corner LEDs
- Optimum view on supply voltage and switching state from any position
- Temperatures up to -40 °C
- DC 4-wire, 10...65 VDC
- Changeover contact, PNP output
- Terminal chamber

### Wiring diagram



### Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit. Special versions are available for ambient temperatures between -60°C and +250°C.

### Technical data

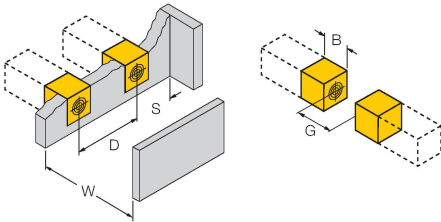
|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI15-CP40-VP4X2/S97                                 |
| ID                                     | 15058                                               |
| <b>General data</b>                    |                                                     |
| Rated switching distance               | 15 mm                                               |
| Mounting conditions                    | Flush                                               |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm                         |
| Correction factors                     | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeat accuracy                        | $\leq 2$ % of full scale                            |
| Temperature drift                      | $\leq \pm 10$ %                                     |
|                                        | $\leq \pm 20$ %, $\leq -25$ °C                      |
| Hysteresis                             | 3...15 %                                            |
| <b>Electrical data</b>                 |                                                     |
| Operating voltage $U_B$                | 10...65 VDC                                         |
| Ripple $U_{ss}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 200$ mA                                       |
| No-load current                        | $\leq 15$ mA                                        |
| Residual current                       | $\leq 0.1$ mA                                       |
| Isolation test voltage                 | 0.5 kV                                              |
| Short-circuit protection               | yes/Cyclic                                          |
| Voltage drop at $I_o$                  | $\leq 1.8$ V                                        |
| Wire break/reverse polarity protection | yes/Complete                                        |
| Output function                        | 4-wire, Complementary contact, PNP                  |
| Switching frequency                    | 0.15 kHz                                            |
| <b>Mechanical data</b>                 |                                                     |
| Design                                 | Rectangular, CP40                                   |
| Dimensions                             | 114 x 40 x 40 mm                                    |

Technical data

|                          |                                            |
|--------------------------|--------------------------------------------|
| Housing material         | Plastic, PBT-GF30-V0, Black                |
| Active area material     | Plastic, PBT-GF30-V0, yellow               |
| Electrical connection    | Terminal chamber                           |
| Clamping ability         | ≤ 2.5 mm²                                  |
| Environmental conditions |                                            |
| Ambient temperature      | -40...+70 °C                               |
| Vibration resistance     | 55 Hz (1 mm)                               |
| Shock resistance         | 30 g (11 ms)                               |
| Protection class         | IP67                                       |
| MTTF                     | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication      | 2 × LEDs, Green                            |
| Switching state          | 2 × LEDs, Yellow                           |

Mounting instructions

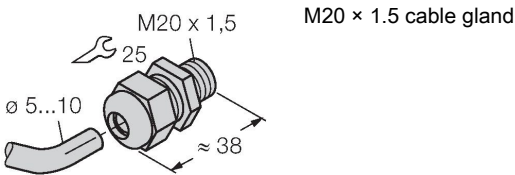
Mounting instructions/Description



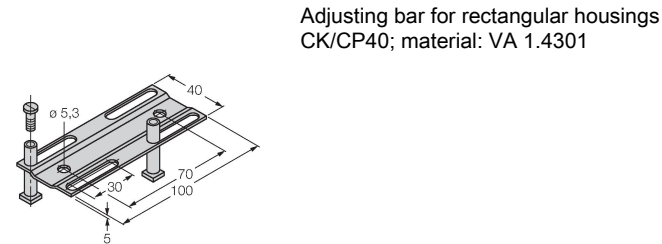
|                     |        |
|---------------------|--------|
| Distance D          | 2 x B  |
| Distance W          | 3 x Sn |
| Distance S          | 1 x B  |
| Distance G          | 6 x Sn |
| Width active area B | 40 mm  |

Accessories

|                      |         |
|----------------------|---------|
| STRM M20X1.5 SCHWARZ | 6965902 |
|----------------------|---------|



|           |       |
|-----------|-------|
| JS025/037 | 69429 |
|-----------|-------|



**BSS-CP40****6901318**

Mounting clamp for rectangular  
 housings 40 x 40 mm; material:  
 Polypropylene

