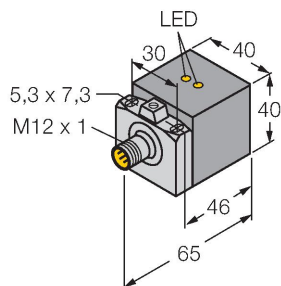


# BI20U-CA40-AP6X2-H1141/S1590 W/BS2.0

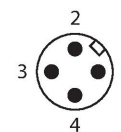
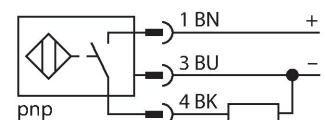
## Inductive Sensor – With WeldGuard™ Coating



### Features

- Rectangular, height 40 mm
- Variable orientation of active face in 5 directions
- Sensor housing GD-ALSI 12
- Active face PA6-GF30
- Factor 1 for all metals
- Protection class IP67
- Resistant to magnetic fields
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

### 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. Turck WeldGuard sensors are equipped with a thin coating made of thermosetting plastic. This high-tech coating is resistant to abrasion and withstands mechanical stress, as occurring for example in welding systems.

### Technical data

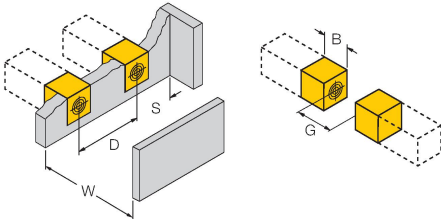
|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Type                                   | BI20U-CA40-AP6X2-H1141/S1590 W/BS2.0     |
| ID                                     | 1627297                                  |
| Special version                        | S1590 Corresponds to: WeldGuard™ coating |
| <b>General data</b>                    |                                          |
| Rated switching distance               | 20 mm                                    |
| Mounting conditions                    | Flush                                    |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm              |
| Repeat accuracy                        | $\leq 2 \%$ of full scale                |
| Temperature drift                      | $\leq \pm 10 \%$                         |
| Hysteresis                             | 3...15 %                                 |
| <b>Electrical data</b>                 |                                          |
| Operating voltage $U_B$                | 10...30 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                        | 3-wire, NO contact, PNP                  |
| DC field stability                     | 300 mT                                   |
| AC field stability                     | 300 mT <sub>ss</sub>                     |
| Insulation class                       | □                                        |
| Switching frequency                    | 0.25 kHz                                 |

Technical data

| Mechanical data          |                                                     |
|--------------------------|-----------------------------------------------------|
| Design                   | Rectangular, CA40                                   |
| Dimensions               | 65 x 40 x 40 mm                                     |
|                          | variable orientation of active face in 5 directions |
| Housing material         | Metal, GD-ALSi 12                                   |
| Active area material     | Plastic, PA6-GF30, black                            |
| Electrical connection    | Connector, M12 × 1                                  |
| Environmental conditions |                                                     |
| Ambient temperature      | 0...+70 °C                                          |
| Vibration resistance     | 55 Hz (1 mm)                                        |
| Shock resistance         | 30 g (11 ms)                                        |
| Protection class         | IP67                                                |
| Power-on indication      | LED, Green                                          |
| Switching state          | LED, Yellow                                         |
| Included in delivery     | BS2.0-CK40                                          |

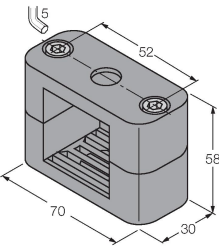
Mounting instructions

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<br>B | 40 mm  |

Accessories

|                                                                                     |         |
|-------------------------------------------------------------------------------------|---------|
| BSS-CP40                                                                            | 6901318 |
|  |         |
| Mounting clamp for rectangular housings 40 x 40 mm; material: Polypropylene         |         |