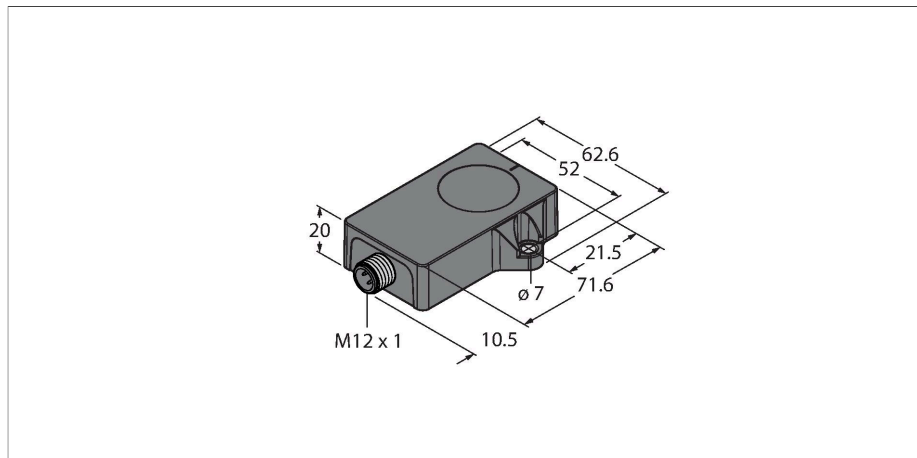


# BI20C-QR20-VP6X2-H1141

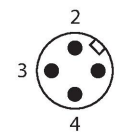
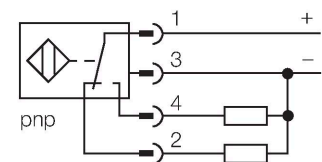
## Inductive Sensor – For Detecting Carbon Materials



### Features

- Rectangular, height 20 mm
- Active face on top
- Plastic, Ultem
- Carbon detection
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 4-wire, 10...30 VDC
- Changeover contact, PNP output
- M12 x 1 male connector

### Wiring diagram



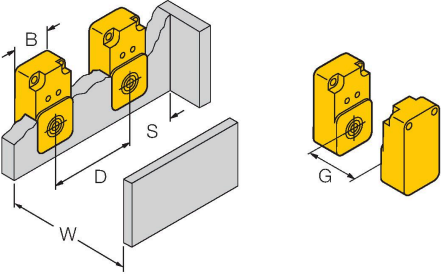
### Technical data

|   |  |
|---|--|
| Type                                      | BI20C-QR20-VP6X2-H1141   |
| ID  | 100015717  |
| <b>General data</b>                       |  |
| Rated switching distance                  | 20 mm  |
|   | The rated operating distance is based on a standard target made of steel. The operating distance may vary depending on the composition of the carbon material. |
| 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                         | 10...30 VDC  |
| Residual ripple                           | $\leq 10\% U_{ss}$   |
| DC rated operational current              | $\leq 100$ mA  |
| No-load current                           | 20 mA  |
| Residual current                          | $\leq 0.1$ mA  |
| Isolation test voltage                    | $\leq 0.5$ kV  |
| Short-circuit protection                  | yes / Cyclic   |
| Voltage drop at $I_o$                     | $\leq 1.8$ V   |
| Wire breakage/Reverse polarity protection | yes / Complete   |
| Output function                           | 4-wire, Complementary contact, PNP   |
| Switching frequency                       | 0.25 kHz   |
| <b>Mechanical data</b>                    |  |
| Design                                    | Rectangular, QR20  |
| Dimensions                                | 71.6 x 62.6 x 20 mm  |

## Technical data

|                                 |   |
|---------------------------------|---|
| Housing material                | Plastic, Ultem                            |
| Active area material            | Ultem                                     |
| Electrical connection           | Connector, M12 × 1                        |
| <b>Environmental conditions</b> |   |
| Ambient temperature             | 0...+100 °C                               |
| Vibration resistance            | 55 Hz (1 mm)                              |
| Shock resistance                | 30 g (11 ms)                              |
| Protection class                | IP68                                      |
| MTTF                            | 874 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication             | LED, Green                                |
| Switching state                 | LED, Yellow                               |

## Mounting instructions

| Mounting instructions/Description  |                   |                |
|--|-------------------|----------------|
|  | Distance D        | $1.5 \times B$ |
|  | Distance W        | $3 \times S_n$ |
|  | Distance S        | $1 \times B$   |
|  | Distance G        | $6 \times S_n$ |
|  | Width active area | 40 mm          |
|  | B                 |                |