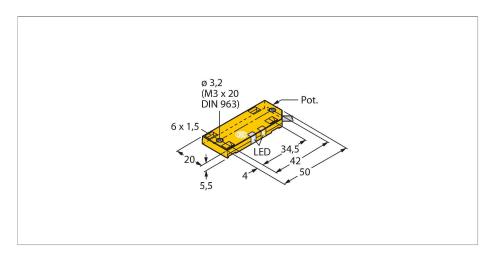
# BC10-QF5.5-AN6X2 Capacitive Sensor





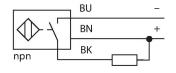
#### Technical data

ID   2620121     Rated switching distance (flush)   10 mm     Rated switching distance (non-flush)   10 mm     Secured operating distance   ≤ (0.72 × Sn) mm     Hysteresis   120 %     Repeat accuracy   ≤ 2 % of full scale     Ambient temperature   -25+70 °C     Electrical data     Operating voltage U <sub>B</sub>   30 VDC     Ripple U <sub>ss</sub>   ≤ 10 % U <sub>Bruss</sub>     DC rated operating current I <sub>s</sub>   ≤ 200 mA     No-load current   ≤ 15 mA     Residual current   ≤ 0.1 mA     Switching frequency   0.1 kHz     Oscillation frequency   According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz     Isolation test voltage   0.5 kV     Output function   3-wire, NO contact, NPN     Short-circuit protection   yes/Cyclic     Voltage drop at I <sub>s</sub>   ≤ 1.8 V     Wire break/reverse polarity protection   yes/Complete     Tests/approvals   UL     UL registration number   E210608     Mechanical data     Design   Rectangular, QF5,5	Туре	BC10-QF5.5-AN6X2
Rated switching distance (non-flush)  Secured operating distance ≤ (0.72 × Sn) mm  Hysteresis 120 %  Repeat accuracy ≤ 2 % of full scale  Ambient temperature -25+70 °C  Electrical data  Operating voltage U <sub>n</sub> 30 VDC  Ripple U <sub>ss</sub> ≤ 10 % U <sub>bmax</sub> DC rated operating current I <sub>e</sub> ≤ 200 mA  No-load current ≤ 15 mA  Residual current ≤ 0.1 mA  Switching frequency 0.1 kHz  Oscillation frequency According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz  Isolation test voltage 0.5 kV  Output function 3-wire, NO contact, NPN  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>e</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Tests/approvals  Approvals UL  UL registration number E210608  Mechanical data	ID	2620121
Secured operating distance       ≤ (0.72 × Sn) mm         Hysteresis       120 %         Repeat accuracy       ≤ 2 % of full scale         Ambient temperature       -25+70 °C         Electrical data       Operating voltage U₀       30 VDC         Ripple U₃₀       ≤ 10 % U₂₅ых         DC rated operating current I₀       ≤ 200 mA         No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data	Rated switching distance (flush)	10 mm
Hysteresis  Repeat accuracy  Separated accuracy  Ambient temperature  -25+70 °C  Electrical data  Operating voltage U <sub>B</sub> Simple U <sub>SS</sub> DC rated operating current I <sub>B</sub> No-load current  Switching frequency  Oscillation frequency  Oscillation test voltage  Output function  Short-circuit protection  Tests/approvals  Approvals  Mechanical data  120 %  120 %  Separated of full scale  -25+70 °C  Electrical data  30 VDC  810 V U <sub>Bmax</sub> 510 % U <sub>Bmax</sub> 510 M U  510 MA  8200 mA  8400 MA  8400 According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz  9: 0.12.0 MHz  120 MHz  1.	Rated switching distance (non-flush)	10 mm
Repeat accuracy ≤ 2 % of full scale  Ambient temperature -25+70 °C  Electrical data  Operating voltage U <sub>B</sub> 30 VDC  Ripple U <sub>B</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>B</sub> ≤ 200 mA  No-load current ≤ 15 mA  Residual current ≤ 0.1 mA  Switching frequency 0.1 kHz  Oscillation frequency According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz  Isolation test voltage 0.5 kV  Output function 3-wire, NO contact, NPN  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>B</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Tests/approvals  Approvals UL  UL registration number E210608  Mechanical data	Secured operating distance	≤ (0.72 × Sn) mm
Ambient temperature  -25+70 °C  Electrical data  Operating voltage U <sub>s</sub> Sipple U <sub>ss</sub> DC rated operating current I <sub>s</sub> No-load current  ≤ 15 mA  Residual current  Switching frequency  Oscillation frequency  Oscillation test voltage  Output function  Short-circuit protection  Voltage drop at I <sub>s</sub> Vire break/reverse polarity protection  Tests/approvals  Mechanical data  30 VDC  30 VDC  ADD VIS MEN  AD VIS MEN  ADD VIS MEN  ADD VIS MEN  ADD VIS MEN  ADD VIS MEN  AD	Hysteresis	120 %
Electrical data  Operating voltage U <sub>8</sub> Ripple U <sub>ss</sub> S 10 % U <sub>Bmax</sub> DC rated operating current I <sub>6</sub> Solution frequency  Output function  Short-circuit protection  Voltage drop at I <sub>6</sub> Voltage drop at I <sub>8</sub> Approvals  Mechanical data  30 VDC  30 VDC  \$30 VDC  \$40 V U <sub>Bmax</sub> \$400 mA  \$4	Repeat accuracy	≤ 2 % of full scale
Operating voltage U <sub>B</sub> 30 VDC         Ripple U <sub>SS</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>B</sub> ≤ 200 mA         No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I <sub>B</sub> ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data	Ambient temperature	-25+70 °C
Ripple Uss       ≤ 10 % Usmax         DC rated operating current Ie       ≤ 200 mA         No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at Ie       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data	Electrical data	
DC rated operating current I₀       ≤ 200 mA         No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data	Operating voltage U <sub>B</sub>	30 VDC
No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data	Ripple U <sub>ss</sub>	≤ 10 % U <sub>Bmax</sub>
Residual current       ≤ 0.1 mA         Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data       Mechanical data	DC rated operating current I <sub>o</sub>	≤ 200 mA
Switching frequency       0.1 kHz         Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data       Mechanical data	No-load current	≤ 15 mA
Oscillation frequency       According to EN 60947-5-2, 8.2.6.2 Table 9: 0.12.0 MHz         Isolation test voltage       0.5 kV         Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I <sub>e</sub> ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data	Residual current	≤ 0.1 mA
9: 0.12.0 MHz  Isolation test voltage  0.5 kV  Output function  3-wire, NO contact, NPN  Short-circuit protection  Voltage drop at I₀ ≤ 1.8 V  Wire break/reverse polarity protection  Tests/approvals  Approvals  UL  UL registration number  E210608  Mechanical data	Switching frequency	0.1 kHz
Output function       3-wire, NO contact, NPN         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Tests/approvals       UL         UL registration number       E210608         Mechanical data       Mechanical data	Oscillation frequency	
Short-circuit protection yes/Cyclic  Voltage drop at I <sub>e</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Tests/approvals  Approvals  UL  UL registration number E210608  Mechanical data	Isolation test voltage	0.5 kV
Voltage drop at I₀ ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Tests/approvals  Approvals  UL  UL registration number E210608  Mechanical data	Output function	3-wire, NO contact, NPN
Wire break/reverse polarity protection yes/Complete  Tests/approvals  Approvals  UL  UL registration number  E210608  Mechanical data	Short-circuit protection	yes/Cyclic
Tests/approvals  Approvals  UL  UL registration number  E210608  Mechanical data	Voltage drop at I <sub>e</sub>	≤ 1.8 V
Approvals UL  UL registration number E210608  Mechanical data	Wire break/reverse polarity protection	yes/Complete
UL registration number E210608  Mechanical data	Tests/approvals	
Mechanical data	Approvals	UL
	UL registration number	E210608
Design Rectangular, QF5,5	Mechanical data	
	Design	Rectangular, QF5,5

#### **Features**

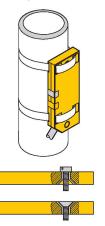
- Rectangular, height 5.5 mm
- Large active face, marked for correct installation
- ■Plastic, PP
- Fine adjustment via potentiometer
- ■DC 3-wire, 10...30 VDC
- ■NO contact, NPN output
- Cable connection

### Wiring diagram



## Functional principle

Capacitive proximity switches are designed for non-contact and wear-free detection of electrically conductive as well as non-conductive metal objects.

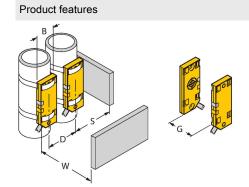




### Technical data

Dimensions	54 x 20.3 x 5.5 mm
Housing material	Plastic, PP
Active area material	PP
Electrical connection	Cable
Cable quality	Ø 3 mm, Lif9Y-11Y, PUR, 2 m
Core cross-section	3 x 0.14 mm²
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	1080 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow
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## Mounting instructions



Distance D	40 mm
Distance W	30 mm
Distance S	30 mm
Distance G	60 mm
Diameter active area B	Ø 20 mm

The given minimum distances have been checked against the standard switching distance.

Should the sensitivity of the sensors be changed via potentiometer, the data sheet specifications no longer apply.