

Expanded Teachable Capacitive Sensors



18 and 30 mm Versions Available

Turck is expanding its portfolio of capacitive sensors, now offering 18 mm and 30 mm capacitive barrel sensors with teachable capabilities. The new offering comes in two variants – teach by wire or teach by button.

The teach by button variant can be taught by a single press of a button, saving valuable installation and configuration time. Both present and absent media can be taught for a higher sensitivity teach. The variant without a push button can be taught either by a teach adapter or teach by wire (pin 5), which allows for a tamper-resistant installation. Each variant is available in either PNP or NPN.

The 18 mm housed version offers a 5 mm sensing range when flush mounted and

a 7.5 mm range when not flush mounted. The 30 mm housed version offers a 10 mm sensing range when flush mounted, with a sensing range of 15 mm when not flush mounted. The expanded offering can be switched between NC and NO, and provides optical programming feedback through LEDs.



About Capacitive Sensors:

Capacitive sensors utilize a non-contact sensing technology that detects a wide variety of materials. When equipped with sensitivity adjustments users can tune out certain materials such as glass or plastic, making this type of sensor a common choice for point level applications.

Features

- Teach by wire or teach by button provides enhanced programming flexibility
- Each variant is available in PNP or NPN
- 18 mm version offers 5 mm sensing range when flush mounted; 7.5 mm sensing range when non-flush mounted
- 30 mm version offers 10 mm sensing range when flush mounted; 15 mm sensing range when non-flush mounted
- Can be switched between NC and NO
- Optical programming feedback via LEDs

Overview of Types

	Ident. no.	Type code	Design Threaded barrel	Teach	Output
	2101100	BCT5-S18-UP6X2T-H1151	18mm	Button	PNP
	2101200	BCT5-S18-UN6X2T-H1151		Button	NPN
	2101300	BCT5-S18-UP6X2-H1151		Wire	PNP
	2101400	BCT5-S18-UN6X2-H1151		Wire	NPN
	2101500	BCT10-S30-UP6X2T-H1151	30mm	Button	PNP
	2101600	BCT10-S30-UN6X2T-H1151		Button	NPN
	2101700	BCT10-S30-UP6X2-H1151		Wire	PNP
	2101800	BCT10-S30-UN6X2-H1151		Wire	NPN

Characteristics	18 mm	30 mm
Rated switching distance (flush)	5 mm	10 mm
Rated switching distance (non-flush)	7.5 mm	15 mm
Assured switching distance	≤ (0.75 x S _n) mm	
Hysteresis	2 ... 20%	
Temperature drift	typ. 20 %	
Repeatability	≤ 2 % of full scale	
Ambient temperature	-25...+70°C	
Operating voltage	10...30 VDC	
Ripple	≤ 10 % U _{ss}	
DC Rated operational current	≤ 200 mA	
No-load current I ₀	≤ 15 mA	
Residual current	≤ 0.1 mA	
Switching frequency	10 Hz	
Rated insulation voltage	≤ 0.5 kV	
Output function	5-wire, programmable	PNP (UP), NPN (UN)
Short-circuit protection	yes, cyclic	
Voltage drop at I _e	≤ 2.4 V	
Wire breakage / reverse polarity protection	yes, completely	
Design threaded barrel	M18 x 1	M30 x 1
Housing material	Plastic, PA 12-GF30, PEI	
Material active face	Plastic, PA12-GF30	
Admissible pressure on front cap	≤ 6 bar	≤ 3 bar
Max. tightening torque of housing nut	2 Nm	5 Nm
Vibration resistance	55 Hz (1 mm)	
Shock resistance	30 g (11 ms)	
Protection type	IP67	
MTTF	1,080 years acc. to SN 29500, Ed. 99, 40 °C	
Switching status display	2-color LED (green / yellow)	