BCT – Types and Features

	Ident no.	Type code	Construction	Push button	Output
	2101100	BCT5-S18-UP6X2T-H1151	S18	yes	PNP
	2101200	BCT5-S18-UN6X2T-H1151		yes	NPN
	2101300	BCT5-S18-UP6X2-H1151		–	PNP
	2101400	BCT5-S18-UN6X2-H1151		–	NPN
	2101500	BCT10-S30-UP6X2T-H1151	S30	yes	PNP
	2101600	BCT10-S30-UN6X2T-H1151		yes	NPN
	2101700	BCT10-S30-UP6X2-H1151		–	PNP
	2101800	BCT10-S30-UN6X2-H1151		–	NPN

The sensors in the BCT family can each be set up as normally closed/normally open contacts

Accessories

	Type code	Description
	TX1-Q20L60	Teach-adapter for parameterization
	RKC 4.5T-2/TEL	Connection cable, M12 female, straight, 5-pin cable length: 2 m Material: PVC, black, cULus approval
	WKC 4.5T-2/TEL	Connection cable, M12 female, angled, 5-pin cable length: 2 m Material: PVC, black, cULus approval

	S18	S30
Rated switching distance (flush)	5 mm	10 mm
Rated switching distance (non-flush)	7.5 mm	15 mm
Assured operating distance	≤ (0.75 x Sn) mm	
Ambient temperature	-25…+70°C	
Operating voltage	10…30 VDC	
Switching frequency	10 Hz	
Output function	5-wire, programmable, IO-Link, PNP (UP), NPN (UN), IO-Link	
Short-circuit protection	yes, cyclic	
Wire breakage/reverse polarity protection	Yes, complete	
Threaded barrel design	M18 x 1	M30 x 1
Housing material	Plastic, PA 12-GF30, PEI	
Admissible pressure on front cap	≤ 6 bar	≤ 3 bar
IP Rating	IP67	
Display switching status	2-color, LED (green/yellow)	

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BCT
Capacitive Sensors with IO-Link

BCT – Capacitive Sensors with IO-Link

In industrial automation, capacitive sensors are used to detect a variety of media and are most frequently used for monitoring the fill levels of liquids or bulk goods. In the plastics, packaging, and chemical industries, as well as in mobile work machines – Turck's BCT sensors reliably detect all solids, liquids, metals, and non-metals, even through non-metallic materials and container walls.

The new BCT series from Turck with IO-Link reduces the time and expense required to adjust switching points and increases the usability of the measured signals with a digitized 12-bit process value.

Simplified commissioning

The switching states of the BCT sensors can be optionally taught-in via the integrated push buttons, a teach-in adapter or the IO-Link interface. Parameterization is particularly efficient when done via IO-Link, since the parameters are set using self-explanatory standard commands with which the optimum working point of the sensor is calculated and output as 12-bit process value. Parameterization faster, more accurate and incorrect settings are avoided. If specific adjustments are required, all settings can be adjusted using the IO-Link interface.

A Switching Signal with Added Value

The digitized process value makes quantitative representation of medium detection possible, which means the smallest deviations from the parameters can be identified with precision. Changes in the measurement conditions or different media can be identified reliably. This is especially advantageous in processes with frequent changes in media, because the sensor only needs to be set once for each media. Using IO-Link, all settings for change in media can be transmitted centrally without the need to recalibrate the device.

IO-Link

Maximum flexibility
The IO-Link enables central parameter settings even if the sensor is not accessible. Digital data transmission is based on a 24 V signal, thereby eliminating the need for shielded cables and grounding for the transmission of analog signals.

Improved process reliability
The 12-bit process value resolution provides detailed information about the measuring process, which – in addition to the extremely dense housing and particular high EMC resistance – makes a differentiated system diagnosis possible and therefore reliably ensures process security.

Reliable measurement results
The sensors in the BCT range are not disturbed by deposits and conductive films on the container walls. Besides wetting compensation, the sensors are also fitted with a special filter that conceals adhesive deposits on the container wall and prevents the switching point from drifting.

Increased plant availability
The integrated monitoring of internal temperature and voltage provides an insight into the thermal load of the sensor and can provide an indication of its probability of failure. This enables you to intervene immediately when critical values are reached, before the damage leads to costly plant downtimes.