Capacitive Sensors for Level Detection
SmartLevel, immersion sensors, DC 3-wire, M12 × 1, G½"

Flexible use: in plastic or metal

BCS capacitive immersion sensors detect levels of plastic granulates or highly conductive media with absolute reliability. Their excellent foam and build-up compensation makes them highly flexible. They can be installed in plastic or metal tanks.

Benefits

- High-quality 1.4404 (316L) stainless and PEEK housings
- Wire connection for remote teach-in
- EHEDG conformal with special approved adapters
- Media temperature up to 105 °C
- Autoclave compatible (1 h)
- IO-Link versions available
- Pressure rated to 10 bar and IP69K at the M12 connector

Applications

- Detect plastic granulates up to 105 °C
- Sense adhering foods such as yogurt, milk, beverages etc.
- Detect highly conductive acids and bases up to a value of 100 mS/cm

CE

EHEDG

Size		
Installation type		
Rated switching distance s_n		
PNP, NO		
PNP, NC		
NPN, NO		
NPN, NC		
IO-Link, PNP/NPN and NO/NC can be coded		
Supply voltage U_S		
Voltage drop U_d at I_e		
Rated insulation voltage U_i		
Output current max.		
No-load supply current I_0 max.		
Polarity reversal protected/transposition protected/short-circuit protected		
Ambient temperature T_a/media temperature		
Switching frequency f		
Output function indicator		
Degree of protection per IEC 60529		
Special properties		
Material	Housing	
	Sensing surface	
	O-ring	
Connection		

EHEDG conformal only when used with a corresponding accessory

The BCS capacitive immersion sensor reliably detects the level of a milk tank.
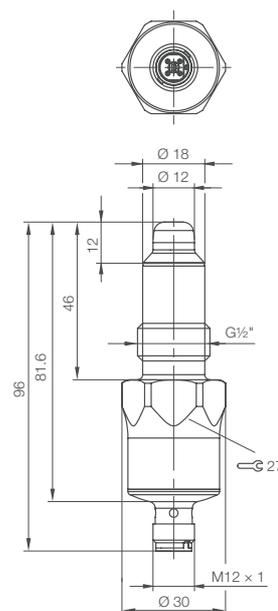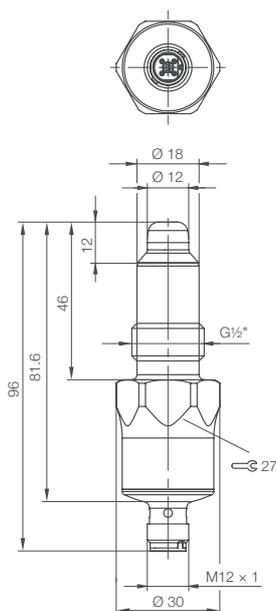
BALLUFF

Capacitive Sensors for Level Detection
SmartLevel, immersion sensors, DC 3-wire, M12 × 1, G½"

|			
G½"	G½"	G½"	G½"
Not flush	Not flush	Not flush	Not flush
Level teachable	Level teachable	Level teachable	Level teachable
BCS011F		BCS011M	
BCS011H		BCS011N	
BCS011J		BCS011P	
BCS011K		BCS011R	
	BCS011E		BCS011L
12...30 V DC	18...30 V DC	12...30 V DC	18...30 V DC
≤ 2 V	≤ 2 V	≤ 2 V	≤ 2 V
75 V DC	75 V DC	75 V DC	75 V DC
50 mA	50 mA	50 mA	50 mA
15 mA	15 mA	15 mA	15 mA
Yes/yes/yes	Yes/yes/yes	Yes/yes/yes	Yes/yes/yes
−40...+85 °C/105 °C	−40...+85 °C/105 °C	−10...+85 °C/105 °C	−10...+85 °C/105 °C
5 Hz	5 Hz	5 Hz	5 Hz
Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP68 10 bar/IP69K	IP68 10 bar/IP69K	IP68 10 bar/IP69K	IP68 10 bar/IP69K
Autoclave compatible	Autoclave compatible	Autoclave compatible	Autoclave compatible
1.4404 (316L) stainless steel	1.4404 (316L) stainless steel	1.4404 (316L) stainless steel	1.4404 (316L) stainless steel
PEEK	PEEK	PEEK	PEEK
EPDM	EPDM	FKM, oil-resistant	FKM, oil-resistant
M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin
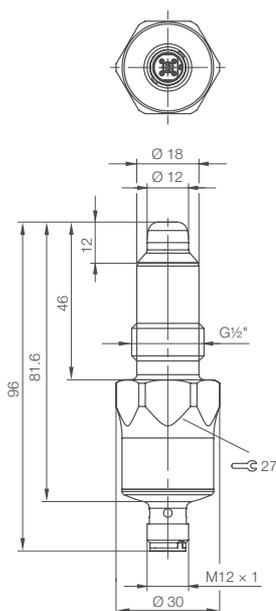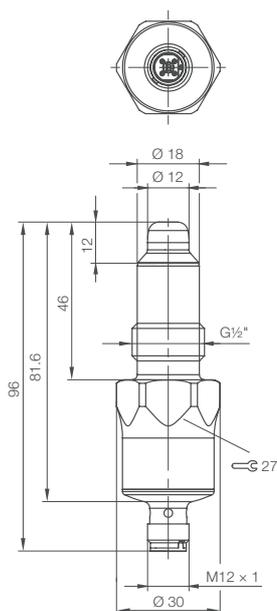
Accessories for Capacitive Sensors
Adapters for immersion sensors

Description	Adapter	Adapter	Adapter
Version	G½" ➜ Ø 29 mm	G½" ➜ G¾"	G½" ➜ G1"
Use	for hygienic processes with BCS capacitive immersion sensor	for hygienic processes with BCS capacitive immersion sensor	for hygienic processes with BCS capacitive immersion sensor

Can be welded		**BAM0294**		
Thread-in			**BAM0292**	**BAM0293**
Dairy coupling per DIN 11851				
Tri-Clamp				
Weight		105 g	70 g	120 g
Approvals		EHEDG conformal	EHEDG conformal	EHEDG conformal
Material	Housing	1.4404 (316L) stainless steel	1.4404 (316L) stainless steel	1.4404 (316L) stainless steel
Connection	Sensor	G½"	G½"	G½"
	Process	Ø 18.5 mm	G¾"	G1"

EHEDG conformal only when used
with a corresponding sensor
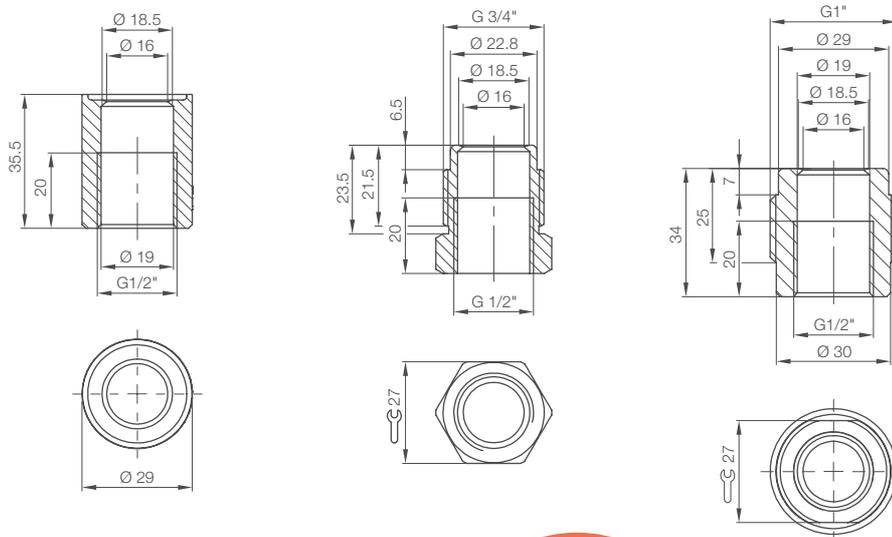
Optimal installation

The capacitive immersion sensors are to be installed in combination
with the EHEDG conformal adapters shown here. They are
approved for level detection in the European foods industry.

Benefits

- Housing stainless steel 1.4404 (316L)
- EHEDG approved when used with Balluff BCS immersion sensor
- Other special versions upon request
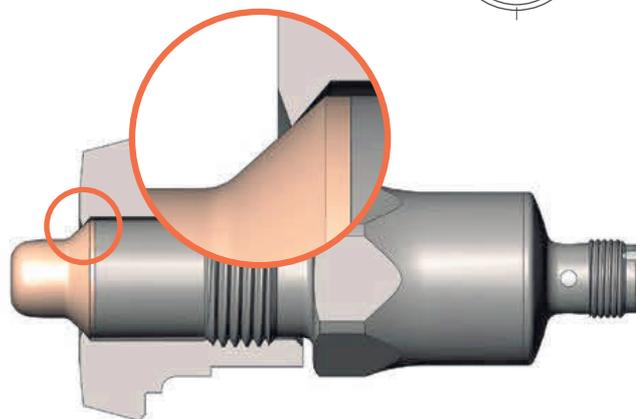
Stainless steel adapter for hygienic installation of the Balluff BCS immersion sensor.

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Adapter	Adapter	Adapter	Adapter
G½" ➔ DN25	G½" ➔ DN40	G½" ➔ Tri-Clamp Ø 50.5 mm	G½" ➔ Tri-Clamp Ø 64 mm
for hygienic processes with BCS capacitive immersion sensor	for hygienic processes with BCS capacitive immersion sensor	for hygienic processes with BCS capacitive immersion sensor	for hygienic processes with BCS capacitive immersion sensor
BAM0295	**BAM0296**		
		BAM02NT	**BAM02NU**
170 g	230 g	142 g	205 g
EHEDG conformal	EHEDG conformal	EHEDG conformal	EHEDG conformal
1.4404 (316L) stainless steel	1.4404 (316L) stainless steel	1.4404 (316L) stainless steel	1.4404 (316L) stainless steel
G½"	G½"	G½"	G½"
DN25	DN40	Tri-Clamp Ø 50.5 mm	Tri-Clamp Ø 64 mm