

Sensor

Radiated signal	100...180 MHz
Process connection	G 1/2", ISO 228/1
Sensor tip	PEEK
Housing	1.4404/AISI 316L, 1.4301/AISI 304 (BLS11)
Ambient temperature	-40 to +85 °C (BLS 20: -40 to +70°C)
Operating temperature	-40 to +115 °C (BLS 20: -40 to +85°C)
Enclosure	IP67 (IEC 529)
Nominal pressure	Max. 100 bar
Vibrations	IEC 60068-2-6, GL test2
Installation	Any position

Electrical connection

Cable	5 meter, 4 wire (BLS 20)
Plug M12	Plastic

Electrical data

Power supply	12...30 VDC, 35 mA max.
Damping	0...10 s, Factory setting 0.1 s
Power-up time	< 2 s
Hysteresis	± 1 mm
Repeatability	± 1 mm
Reaction time	0.1 s (100 ms)

Ex-Approval

Ex-marking	Ex ia IIC T5, ATEX II 1G (BLS 30)
Supply range	24...30 VDC
Temperature class	T1...T5: -40 < T _{amb} < 74 °C
Ex-marking	Ex ta IIIC Da, ATEX II 1D (BLS 40)
Supply range	12.5...30 VDC
Temperature class	T100 °C: -40 < T _{amb} < 85 °C
Ex-marking	Ex nA II T5, ATEX II 3G (BLS 50)
Supply range	12.5...30 VDC
Temperature class	T1...T5: -40 < T _{amb} < 85 °C

EMC data


Immunity & Emission	EN 61326:2006
Internal inductivity	L _i ≤ 10 µH
Internal capacity	C _i ≤ 43 nF
Barrier data	U _i < 30 VDC, I _i < 0.1 A, P _i < 0.75 W

Output

Output (active)	Max. 20 mA, short-circuit and high-temperature protected
Output type	PNP
Output polarity	NO and NC
Active "High"	PNP, (VDC -1.5 V) ± 0.5 V, R _{load} 10 kOhm
Off leak current	± 100 µA max.

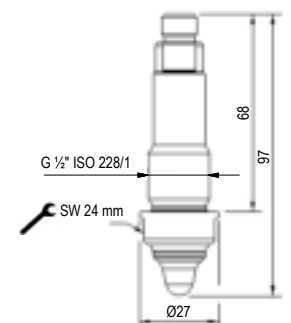
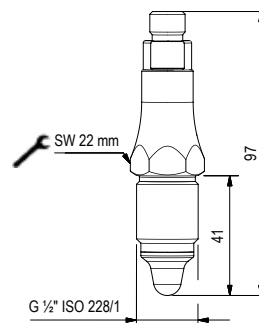
For the detection of liquids and granular solids with a DK (ε) value ≥ 2.5. The sensor detects the level in tanks and pipes independent of its mounting position. It can also be used for media separation and to protect pumps from dry run. A blue LED indicates the output status.



Types 10, 11,
Types 30, 40, 50 



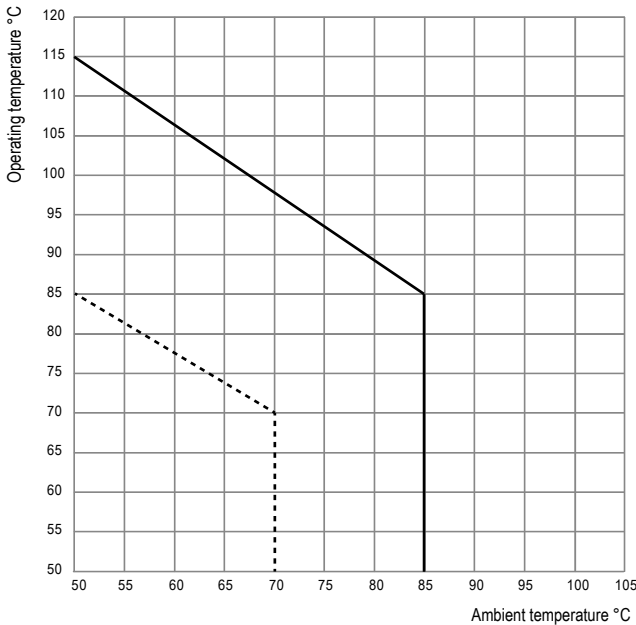
Type 20



Conformity of standards

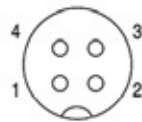
BLS Level Sensors are in acc. with the standards:
EN 60079-0:2012
EN 60079-11:2012
EN 60079-15:2010
EN 60079-26:2007
EN 60079-31:2009
EMC Immunity acc. to EN 61326:2006
EMC Emission acc. to EN 61326:2006

Process temperature vs. ambient temperature



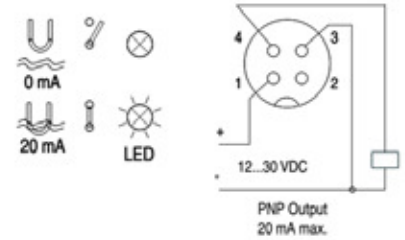
— BLS 10, 11
 ····· BLS 20
 Level Sensor type BLS 20 with 5 m cable
 max. ambient temp. = 70 °C
 max. operating temp. = 85°C

Electrical connection

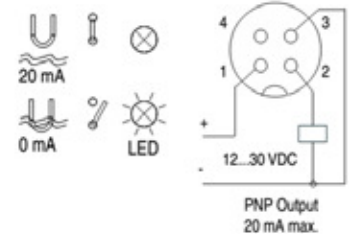


Function	M12 plug	Cable
+ VDC	1	Brown
NC	2	White
- VDC	3	Blue
NO	4	Black

Normally open (NO)



Normally closed (NC)



Typical applications

- Level detection for storage tanks, containers and pipelines.
- Detection of different media.
- Protecting pumps from running dry.

BLS Level Sensor for DK-values (ϵ) ≥ 2.5 i.e. for almost all liquides, bulk goods, foams, sticky, pasty or high or low viscosity.

