

LSM Level Switch

Wetted parts in acid-proof, stainless steel or PEEK

Compact, food compatible, hygienic design

Precise switching point without calibration

Process temperature -20...140°C

Measures alternating media

Not influenced by foam

LED level monitor

Maintenance free



Description

The LSM limit switch is used for level detection and dry run protection.

An electromagnetic wave is radiated to the media and the run-time of the reflected signal is measured. This signal is based on the di-electric value of the media and well defined for most medias.

The measurement is precise and unaffected by the mounting position, formation, foam, turbulence, bubbles and condensate.

The LSM measures liquids such as water and beer as well as viscous, sticky fluids, such as honey, yoghurt and toothpaste. Even some dry medias can be measured.

The LSM is ideal for CIP and SIP measurements.

For non-aqueous (low di-electric value) medias a special model is available.

An updated detailed applications list is available at www.bourdon-haenni.com.

Hygienic installation is possible with the comprehensive range of accessories. Please refer to the specific data sheet "Accessories".



Technical Data

Sensor

Radiated signal	100...140 MHz
Process connection	G1/2 hygienic, M12 hygienic
Insulating material	PEEK

Mechanical data

Housing	Stainless Steel, W1.4301/AISI 304
Process connection	Stainless Steel, W1.4404/AISI 316 L
Protection class	IP67
Media pressure	Max. 16 bar
Process temperature	-20...140°C
Amb. temperature	-20...60°C
Installation	Any position
Adapters	Refer to "Accessories" data sheet

Electrical connection

Cable gland M16	Plast
Plug M12	Nickel-plated brass

EMC data

Immunity	EN 61000-6-2
Emission	EN 50081-1

Electrical data

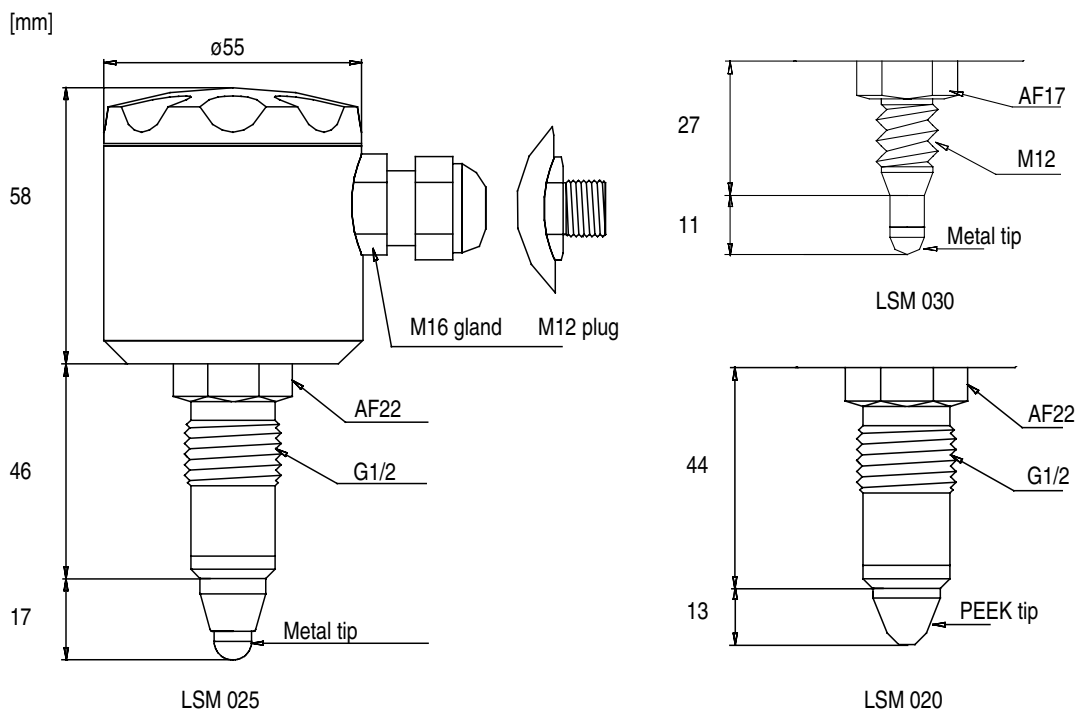
Output (active)	Max. 50 mA, short-circuit proof
Output polarity	See drawing
Power supply	18...36 Vdc, 70 mA max.
Damping	0.1/1.0 sec. (jumper)
Hysteresis	± 1 mm
Repeatability	± 2 mm

Description

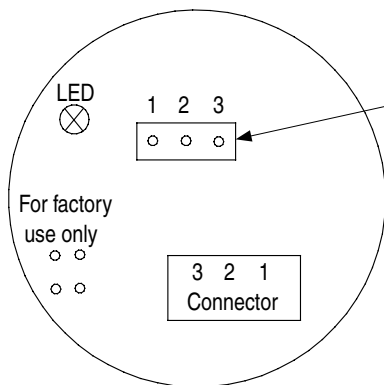
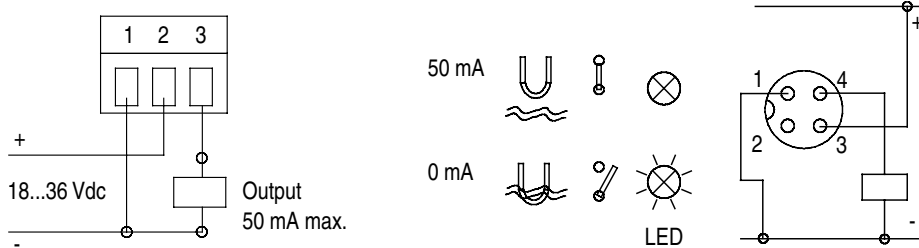
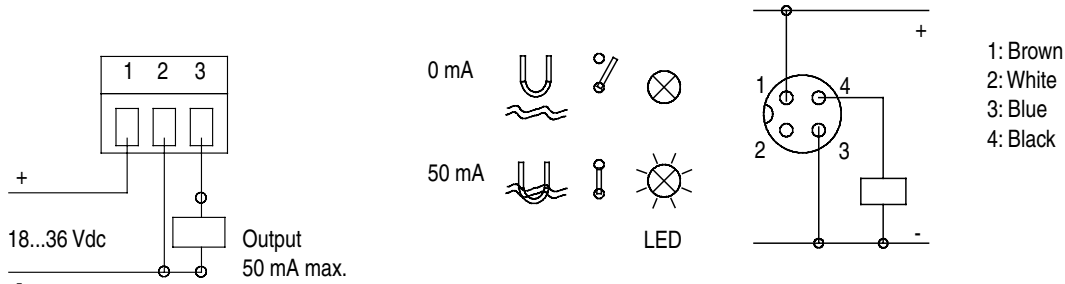
A high frequency signal sweep is radiated from the sensor tip into the tank. The media will act as a capacitor. This will, together with the coil in the sensor head, form an acceptor circuit thus creating the switch point signal.

Excessive foam or other adhesive parts of the media will form a permanent capacitor, which might disturb the measurement. Setting the jumper according to the table will compensate for this influence. Further a damping can be activated in case of a fluctuating media level, e.g. during tank filling.

Dimensional Drawings



Electrical Installation



Jumper	Sensitivity
Open	High
2 + 3	Low
1 + 2	Low

Jumper Settings and Recommended Applications

Type	Jumper Setting	DK Value	Foam Immunity	Response Time [s]	Recommended Application Media Type
LSM020	1-2	>22	Yes	1	Aqueous, fat content <10%
	2-3	>22	Yes	0.1	Aqueous, fat content <10%
	No	>22	No	0,1	Aqueous, fat content <85%
LSM025	1-2	>30	Yes	1	Aqueous, fat content <1% or carbohydrate >10%
	2-3	>30	Yes	0.1	Aqueous, fat content <1% or carbohydrate >10%
	No	>22	No	0.1	Aqueous, fat content <20% or carbohydrate >10%
LSM025xS	1-2	<10	Yes	1	Organic solvent, fat and oil. Dry media.
	2-3	<10	Yes	0.1	Organic solvent, fat and oil. Dry media.
	No	<27	No	0.1	Organic solvent, fat and oil. Dry media.
LSM030	1-2	>28	Yes	1	Aqueous, fat content <10%
	2-3	>28	Yes	0.1	Aqueous, fat content <10%
	No	>22	No	0.1	Aqueous, fat content <20%
LSM030xS	1-2	<12	Yes	1	Organic solvent, fat and oil. Dry media.
	2-3	<12	Yes	0.1	Organic solvent, fat and oil. Dry media.
	No	<21	No	0.1	Organic solvent, fat and oil. Dry media.

The DK values in the above table are valid for liquid medias only.
Please refer to the applications list at www.bourdon-haenni.com.

Ordering Details - LSM 0xx

		LSM 0xx x (x)	
Process Connection		5'...6' digit	
G1/2, PEEK tip		20	
G1/2, PEEK + metal tip		25	
M12, PEEK + metal tip		30	
Electrical Connection		7' digit	
Cable gland, M16		1	
Plug, M12		2	
Media		(8' digit)	
Aqueous media			Not specified
Non-Aqueous media - Not valid for model LSM020			S

3.1.b material certificate, type number **5509-227**

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