

LSP 05X Potentiometric Level Transmitter

Wetted parts in acid-proof, stainless steel and PEEK

Compact, food compatible, hygienic design

3A approved / FDA and EHEDG compliant

Process temperature -20...140°C

Defined empty registration

LED level monitor

Unaffected by strong adhesive media

Configurable measuring range



Description

The level measuring device LSP05X utilises the potentiometric measurement principle and can be used in all medias that have a minimum conductivity of 50 $\mu\text{S}/\text{cm}$.

From the low resistive measuring rod a high frequent current is fed through the media to the tank wall. The voltage between the tip of the rod and the tank wall is measured. This output voltage is proportional to the tank filling level.

The measurement is unaffected by temperature and adhesive media.

The instrument is ideal for measurements in small wessels with tough, pasty or strong adhesive media, such as ketchup, honey, and toothpaste. The integrated electronics provide a 4...20 mA output.

The LSP has automatic recognition of top/bottom mounting position. Even angled installation is possible. In a non-conductive tank such as a plastic tank a reference rod must be installed.

Please observe that a non-linear conductivity in the media will affect the accuracy of the measurement.

A version with separate rod sensor and electronics is available for applications where the ambient temperature at the measuring point exceeds 60°C. Due to the high temperature limit the LSP050 is well suitable for CIP and SIP processes.

The hygienic installation is guaranteed by using one of the hygienic weld-in sleeves. (Please refer to the separate data sheet).



Baumer

Technical Data

Sensor

Principle	Potentiometric, low resistive
Insulating material	PEEK
Media conductivity	Min. 50 µS/cm
Min. span	50 mm, configurable by push buttons

Electrical Connection

Cable gland M16	Plast
Plug M12	Nickel-plated brass or stainless steel

Process Connection

Integrated	G1 hygienic (special welding part)
Adapters	Refer to "Accessories" data sheet

EMC data

Immunity	EN 61326
Emission	EN 61326

Disposal of product and packing

According to national laws or by returning to Baumer

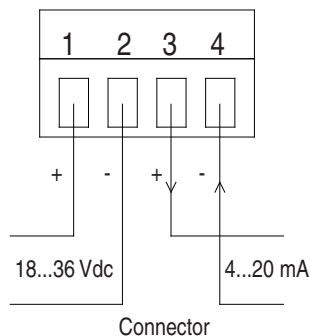
Mechanical data

Housing	Stainless Steel, W1.4301/AISI 304
Process conn. and rod	Stainless Steel, W1.4404/AISI 316 L
Process temperature	-20...140°C
Amb. temperature	-20...60°C (LSP050)
Amb. temperature	-20...100°C (LSP055)
Protection class	IP67
Media pressure	Max. 16 bar
Vibrations	IEC 68-2-6, GL test2
Installation	Automatic top/bottom recognition
Approval	3A

Electrical data

Resolution, input	15 bits
Output	4...20 mA, load max. 500 Ohm
Accuracy	± 0.5%
Power supply	18...36 Vdc, 200 mA max.
Status signal, empty	2.4 mA
Status signal, full	21.6 mA
Repeatability	± 0.1% of max. rod length
Response time	T ₆₆ 10 msec.

Electrical Installation



Push buttons > 3 sec.
to set 0% and 100%



Push both > 3 sec.
to reset.



Setpoint
100%; 20 mA

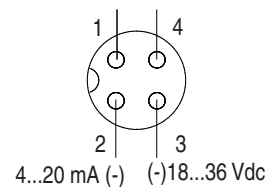


Setpoint
0%; 4 mA



LED Buttons

18...36 Vdc (+) (+) 4...20 mA



1: Brown
2: White
3: Blue
4: Black

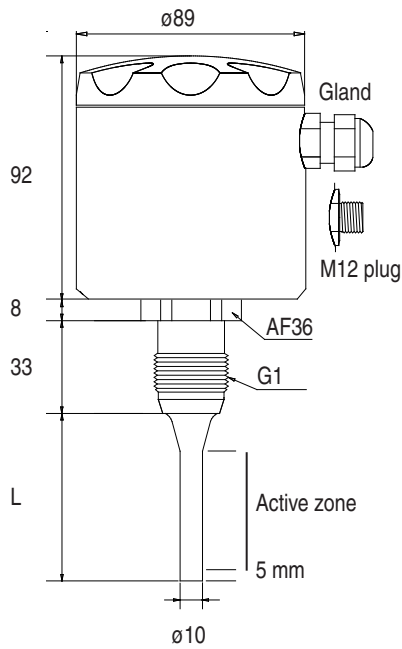
Ordering Details - LSP05X

		LSP-05x . xxx . x . xxx		
Type	Approval	6' digit		
Compact version - integrated electronics		0		
Compact version - integrated electronics	3A	1		
Split version - separate electronics		5		
Split version - separate electronics	3A	6		
Rod Length		7'...9' digit		
Length in cm (Min. 20 cm - max. 300 cm)			xxx	
Gland		10' digit		
Cable gland, M16				1
Plug, M12, nickel plated brass				2
Plug, M12, stainless steel				3
Cable Length (version LSP055 and LSP056 only)		11'...13' digit		
Length in cm (Min. 100 cm - max. 500 cm)				xxx

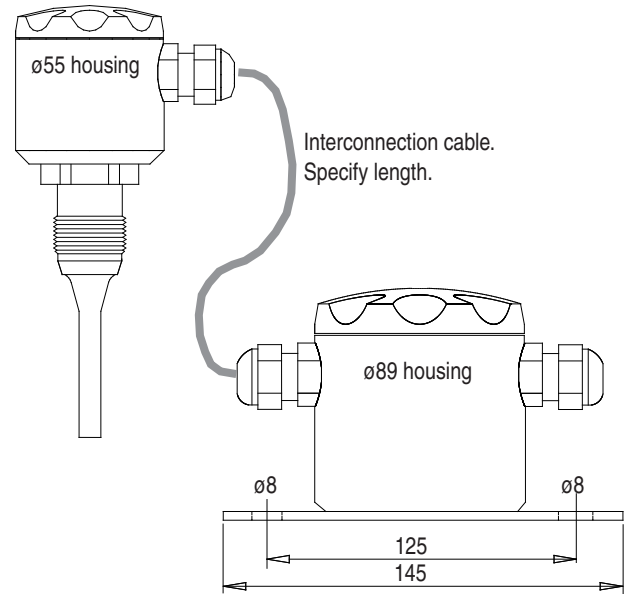
3.1 material certificate, type number 5509-227

Dimensional Drawings

[mm]



LSP050/LSP051 - integrated electronics

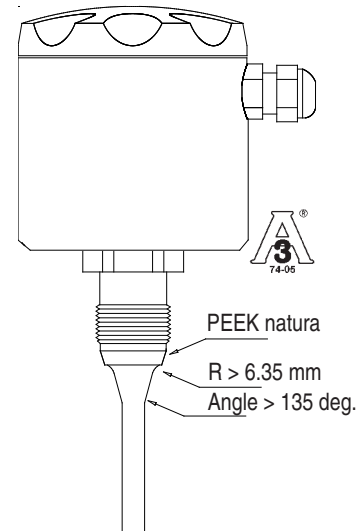


LSP055/LSP056 - separate electronics

3A Approval

The LSP 051 and LSP 056 are approved by 3A providing it is mounted in a 3A approved counter part and installed according to the guidelines given in the installation manual.

The 3A approved products fulfill the FDA demands and follow the EHEDG guidelines regarding design, materials and finishing. Refer to the 3A marked counter parts in the data sheet "Accessories".



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