

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).



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 |

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

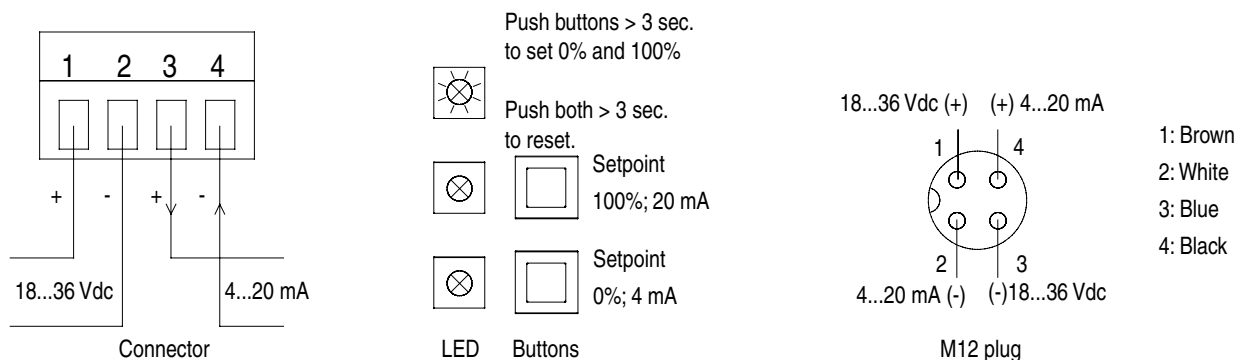
Mechanical data

| | |
|------------------------------|-------------------------------------|
| 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



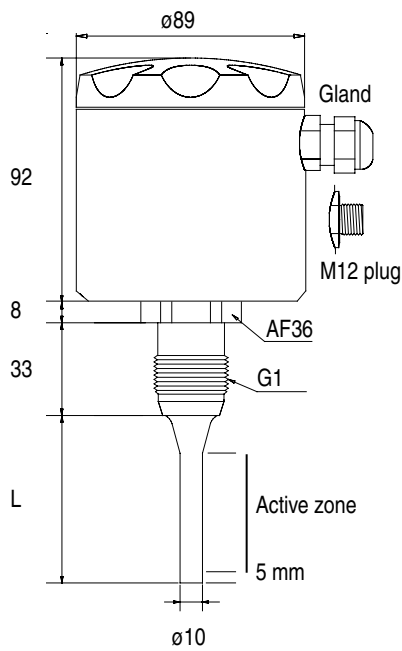
Ordering Details - LSP05X

| | | 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 | | | 2 | |
| Cable Length (version LSP055 and LSP056 only) | | 11'...13' digit | | |
| Length in cm (Min. 100 cm - max. 500 cm) | | | | XXX |

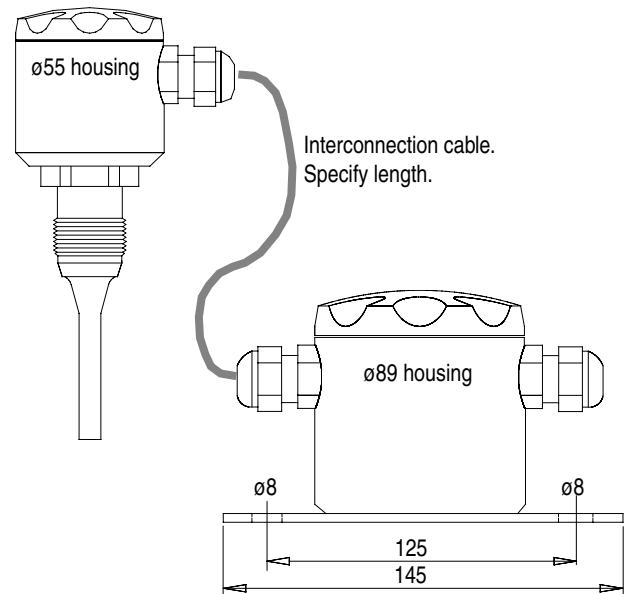
3.1 material certificate, type number 5509-227

Dimensional Drawings

[mm]



LSP050/LSP051 - integrated electronics

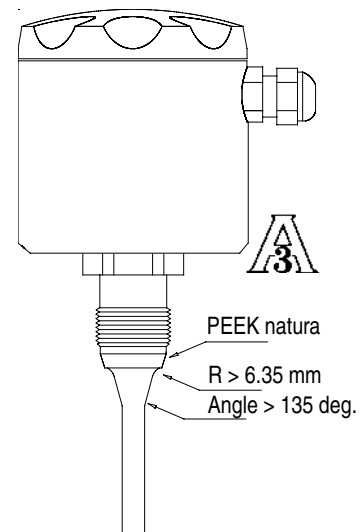


LSP055/LSP056 - separate electronics

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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