



6.1 General purpose level switches

| Type | HLS-15 | LMS-Ha2 | LMS-Ha1 |
|--------------|--|---|--|
| Function | SPDT | SPDT | SPDT |
| System | Reed switch bi-stabile | Reed switch bi-stabile | Micro switch |
| Max. rating | 2,5A / 60W / 60VA | 0,8A / 60W / 40VA | 2A / 40W / 100VA |
| Voltage | 10 – 230 V | 10 – 230 V | 10 – 230 V |
| Temp. rating | -25 ... +95°C | -40... + 180°C | -50 ... +380°C |
| Lifetime | 1 x 10 ⁹ | 1x 10 ⁸ | 1 x 10 ⁷ |
| Enclosure | IP 66 / 67 and IP 68 | IP 65 | IP 67 |
| Connection | 5 meter cable PVC | M16 cable gland | M16 cable gland |
| Dimensions | 65 x 25 x 15 mm | 100 x 75 x 40 mm | 95 x 65 x 54 mm |
| Material | Engineered Resin | Aluminium housing | AlSi housing |
| Options | Temperature till 130°C | | M20 cable gland |
| |  |  |  |

6.2 Intrinsic safe level switches (Ex i)



| Type | HLS-25i |  | LMS-Ha1E |
|--------------|--|---|--|
| Function | SPDT |  | SPDT |
| System | Reed switch bi-stabile |  | Micro switch |
| Max. rating | 250mA / 1.3W / 1.3VA | | 0,5A / 20W / 30VA |
| Voltage | 10 – 30 V | | 10 – 24 V |
| Temp. rating | -25 ... +100°C | | -50 ... +380°C |
| Lifetime | 1 x 10 ⁹ | | 1 x 10 ⁷ |
| Enclosure | IP 66 / 67 and IP 68 | | IP 67 |
| Connection | 5 meter cable PVC | | M20 cable gland (blue) |
| Dimensions | 80 x 25 x 20 mm | | 95 x 65 x 54 mm |
| Material | SS 316 housing | | AlSi housing |
| Approval | II 1 GD Exia IIC T6 Ga II 1 GD Exia IIC T85°C IP66/67 Da | | Ex i “simple apparatus“ |
| Option | | | M16 cable gland (blue) |
| |  | |  |

6.2 Flameproof level switches (Ex d)

| Type | HLS-25d |  | LMS-HaD |  |
|--------------|--|---|--|---|
| Function | SPDT |  | SPDT |  |
| System | Reed switch bi-stabile |  | Micro switch |  |
| Max. rating | 2.5A / 60W / 45VA | | 2A / 40W / 100VA | |
| Voltage | 10 – 230 V | | 10 – 230 V | |
| Temp. rating | -25 ... +100°C | | -40 ... + 380°C | |
| Lifetime | 1 x 10 ⁹ | | 1 x 10 ⁷ | |
| Enclosure | IP 66 / 67 and IP 68 | | IP 66 / 67 and IP 68 | |
| Connection | 5 meter cable PVC | | ¾" NPT or M20x1,5 max 1,5 mm ² | |
| Dimensions | 90 x 25 x 20 mm | | 130 x 130 x 90 mm | |
| Material | SS 316 housing | | Aluminium housing | |
| Approval | II 2 GD Exd IIC T6 Gb II 2 GD Ex tb IIIC T85°C Db | | II 2G Ex d IIC T3..T4 Gb, II 2D Ex tb IIIC T135°C..T200°C Db | |
| Option | | | SS 316 Housing 2x SPDT | |
| |  | |  | |

7. Reedchain for an analog output signal

By using a reedchain it is possible to become a 4-20 mA signal. The reedchain is standard mounted on the complete length of the magnetic level gauge.

| Design | Standard | Ex i | Ex d |
|------------------|---|--|---|
| | |  |  |
| Transmitter | “SMART” type | “SMART” type | “SMART” type |
| Approval | | II 1G Ex ia II C T4..T6 | II 2G Ex db IIC T5..T1 Gb II 2D Ex tb T100°C..T350°C |
| Supply | 8 – 35 VDC | 8 – 30 VDC | 8 – 30 VDC |
| Temperature | -50 ... +350°C | -50 ... +350°C | -50 ... +350°C |
| Accuracy | ± 5 mm | ± 5 mm | ± 5 mm |
| Material pipe | SS 316 L | SS 316 L | SS 316 L |
| Max. length | 5,5 meter | 5,5 meter | 5,5 meter |
| Material housing | ABS or Aluminium | Aluminium or SS | Aluminium or SS316 |
| Enclosure | IP 67 | IP 67 | IP 66 / 67 and IP 68 |
| Connection | M16 x 1,5 | M20 x 1,5 | ¾” NPT, M20x1.5 |
| Output | 4 – 20 mA / 2 wire | 4 – 20 mA / 2 wire | 4 – 20 mA / 2 wire |
| Action | Reversible std. D.A. | Reversible std. D.A. | Reversible std. D.A. |
| Options | High accuracy (± 2.5 or ± 1 mm) M16x1,5; M20x1,5; ½” NPT; ¾” NPT connections HART Enclosure IP 68 PROFIBUS FIELDBUS SS 316 housing Housing with LCD display (also optical) Output signal (Ohm or V) | | |

