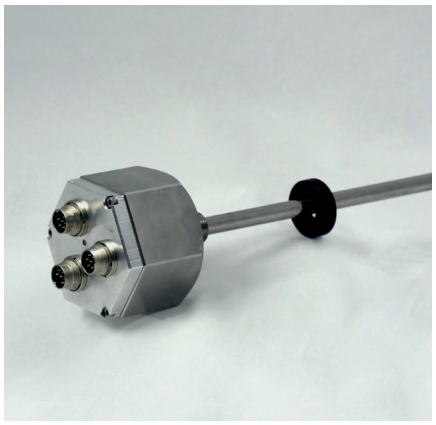


# Linear Position Transmitter
## HLT 2102 / HLT 2103

**Magnetostrictive** | **For partial integration** | **Resolution 0.04 mm**

Double or triple redundancy
Analogue



## Description:

The linear position transmitters with a multi-redundant measuring system HLT 2102 (double redundancy) and HLT 2103 (triple redundancy) were particularly designed for applications where access to the built-in measuring systems is extremely difficult, which increases the requirements for the availability and the safety of the system.

The measuring systems HLT 2102 and HLT 2103 are designed with 2 or 3 independent sensor elements which enables separate utilisation of each element or use in safety circuits, for example as a system with double or triple redundancy.

The linear position sensors are available for measuring ranges up to 2 m. The measured values are given out via an analogue output signal. External set inputs for the analogue start point and end point offer an additional possibility of a customised adjustment.

The main fields of application for the HLT 2102 and HLT 2103 are, for example, general positioning tasks in stationary hydraulics, as a partially integrated solution in hydraulic cylinders.

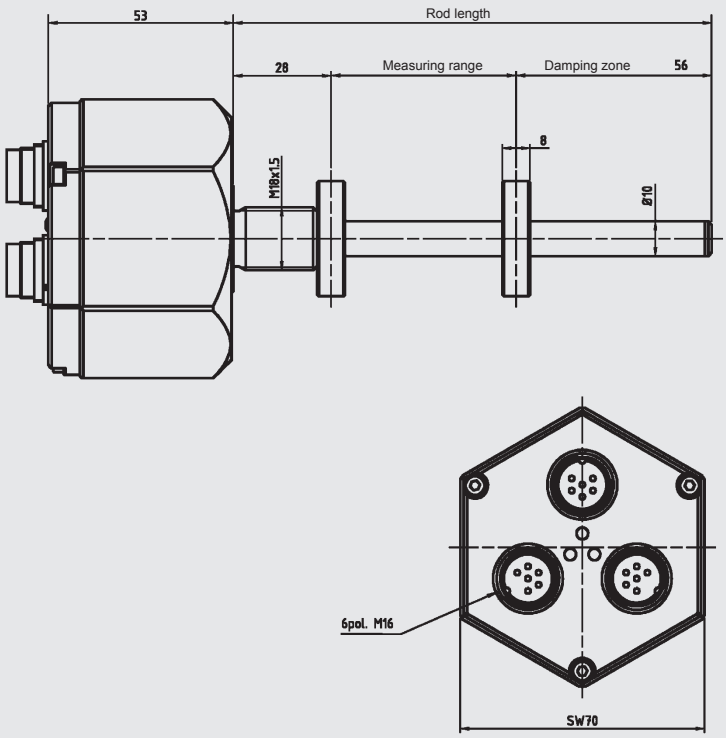
## Technical data:

| | |
|---|---|
| **Input data** | |
| Measuring ranges [1] | 50 .. 2000 mm |
| Model | Rod with M18x1.5 screw-in flange<br>acc. to ISO 6149<br>Operating pressure: ≤ 600 bar<br>Peak pressure acc. to DIN EN ISO 19879: 750 bar |
| Tightening torque, recommended | 50 Nm |
| Material | Rod: Stainless steel 1.4571<br>Housing: Stainless steel 1.4301 |
| **Output data** | |
| Output signal, permitted load resistance | 4 .. 20 mA or 0 .. 20 mA, load resist.: 200 .. 500 Ω |
| Resolution | 16 bit; 0.04 mm |
| Non-linearity | ± 0.10 mm (measuring range ≤ 1500 mm)<br>± 0.15 mm (measuring range > 1500 mm) |
| Hysteresis | ± 0.02 mm (measuring range ≤ 1500 mm)<br>± 0.1 mm (measuring range > 1500 mm) |
| Repeatability | 0.04 mm |
| Temperature coefficient | ≤ ± 0.004 % FS / °C |
| Sampling rate | Depending on length:<br>1.5 ms (measuring range ≤ 500 mm)<br>3.0 ms (measuring range 500 .. 2000 mm)<br>4.5 ms (measuring range > 2000 mm) |
| **Environmental conditions** | |
| Operating temperature range | 0 .. +70 °C, optionally -20 .. +70 °C |
| Storage temperature range | -30 .. +85 °C |
| CE mark | EN 61000-6-1 / 2 / 3 / 4 |
| Vibration resistance acc. to DIN EN 60068-2-6 at 50 .. 2000 Hz | ≤ 10 g |
| Shock resistance acc. to DIN EN 60068-2-27 (11 ms) | ≤ 100 g |
| Protection class acc. to DIN EN 60529 [2] | IP 65 |
| Installation position | No restrictions |
| **Other data** | |
| Supply voltage | 24 V DC ± 10 % |
| Residual ripple of supply voltage | ≤ 250 $mV_{pp}$ |
| Current consumption without output | ≤ 100 mA per channel |
| Weight | Depending on length:<br>50 mm: ~ 800 g<br>2000 mm: ~1400 g |

Note: Reverse polarity protection of the supply voltage, overvoltage and short circuit protection are provided.
**FS** (**F**ull **S**cale) = relative to complete measuring range

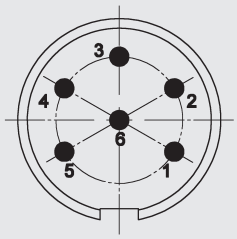
[1] Other measuring lengths on request.
[2] With mounted mating connector in corresponding protection class

## Dimensions:




## Pin connections:

M16x1, 6 pole




| Pin | (each connector) |
|---|---|
| 1 | Signal |
| 2 | 0 V (analogue output) |
| 3 | Set input start point |
| 4 | Set input end point |
| 5 | $+U_B$ |
| 6 | 0 V |

## Model code:

**HLT 2 1 0 X – R1 – M06 – XXX – XXXX – 000**

**Design / geometry type**
1 = rod

**Output variants**
2 = double redundancy
3 = triple redundancy

**Model**
R1 = rod with M18x1.5 screw-in flange

**Electrical connection**
M06 = male M16, 6 pole

**Output signal**
C01 = analogue 4 .. 20 mA, 3-conductor
E01 = analogue 0 .. 20 mA, 3-conductor

**Measuring range in mm** (50 .. 2000 mm in steps of 50 mm)
Example
0150 = 150 mm

**Modification**
000 = standard

**Accessories available**: (not supplied with instrument)

| | | |
|---|---|---|
| ZBL MR33 | position magnet | part no.: 6084207 |
| ZBL MR22 | position magnet | part no.: 6084453 |
| ZBL MR17.4 | position magnet | part no.: 6119372 |

More detailed information on accessories as well as on further accessories, such as intermediate rings and mating connectors, can be found in the Accessories brochure.

## Note:

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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