



## Linear Position Transmitter HLT 2500-L2

Magnetostrictive

For external mount

Resolution 1 µm



Synchronous serial interface

### Description:

The sensor works on the principle of magnetostriction.

This measuring principle determines with high accuracy the position, distance and/or speed and is based on elapsed time measurement.

Utilising this non-contact and wear-free measuring system, HYDAC offers a version in an aluminium profile housing with external measuring slide or with a sliding magnet for positioning by the operator.

In the version with synchronous serial interface, the measured value is made available via synchronous and symmetrical clock and data signals.

The HLT 2500-L2 is primarily used in stationary applications, especially when a partially integrated solution in hydraulic cylinders is not possible.

### Technical data:

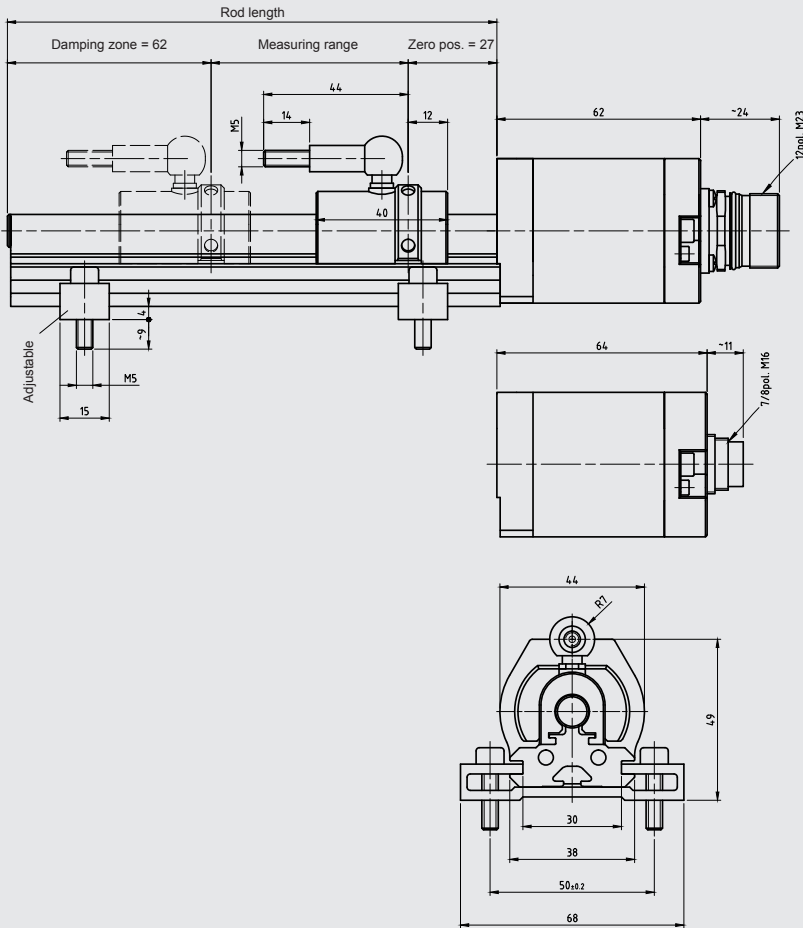
Input data	
Measuring ranges	50 .. 4000 mm
Model	Profile, with top magnet guidance joint
Housing	Measuring body: Aluminium
Output data	
Output signal	SSI
Resolution	0.001 mm
Non-linearity	± 0.1 mm (measuring range ≤ 1500 mm) ± 0.15 mm (measuring range > 1500 mm)
Hysteresis	0.02 mm (measuring range ≤ 1500 mm) 0.1 mm (measuring range > 1500 mm)
Repeatability	≤ 0.005 mm - ≤ 0.05 mm (depends on length)
Temperature coefficient	≤ ± 0.0015 % FS / °C
Sampling rate	Depending on length: ≤ 1.0 m: 0.50 ms ≤ 1.5 m: 0.75 ms ≤ 2.0 m: 1.00 ms > 2.0 m: 2.00 ms
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 / half sine)	≤ 100 g
Protection class acc. to DIN EN 60529 <sup>1)</sup>	IP 65
Installation position	No restrictions
Relevant data for SSI	
SSI clock input	Optocoupler
SSI data output	RS-422, 2-wire
SSI clock frequency	95 .. 1000 kHz
SSI monotime, typical	20 µs
Other data	
Supply voltage	24 V DC -20 .. + 10 %
Residual ripple of supply voltage	≤ 250 mV <sub>PP</sub>
Current consumption without output	< 250 mA
Weight	Depending on length: 50 mm: 450 g 4000 mm: 4150 g

Note: Reverse polarity protection of the supply voltage, overvoltage and short circuit protection are provided.

**FS (Full Scale)** = relative to complete measuring range

<sup>1)</sup> With mounted mating connector in corresponding protection class

## Dimensions:



## Model code:

**HLT 2 5 0 0 - L2 - XXX - S16 - XXXX - XXX - XXX - 000**

### Design / geometry type

5 = profile

### Model

L2 = profile, with top magnet guidance joint

### Electrical connection

S00 = CONTACT male, 12 pole

M07 = male M16, 7 pole

M08 = male M16, 8 pole

### Output signal

S16 = SSI

### Measuring range in mm (50 .. 4000 mm)

Example

0150 = 150 mm

### Code

B24 = binary code 24 bit

B25 = binary code 25 bit

G24 = Gray code 24 bit

G25 = Gray code 25 bit

### System resolution

001 = 1 µm

002 = 2 µm

005 = 5 µm

010 = 10 µm

100 = 100 µm

### Modification

000 = standard

### Accessories: (supplied with instrument)

ZBL MS35-39 magnet slide part no.: 6105654

### Accessories: (not supplied with instrument)

ZBL MV63 position magnet part no.: 6084454

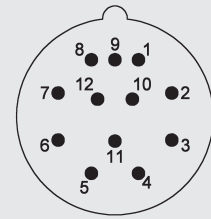
ZBL MU38-20 position magnet part no.: 6084455

ZBL mounting kit part no.: 6105653

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

## Pin connections:

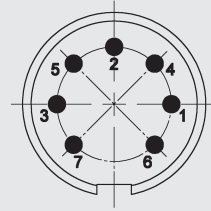
CONTACT male, 12 pole



Pin

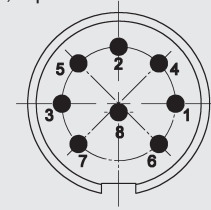
1	SSI_Clock- IN
2	SSI_Clock+ IN
3	SSI_DATA+ OUT
4	SSI_DATA- OUT
5	RS 485 + IN/OUT
6	RS 485 - IN/OUT
7	n.c.
8	Direction IN
9	Preset1_IN
10	n.c.
11	+U <sub>B</sub> IN
12	0 V IN

Male M16x1, 7 pole



Pin	Signal	Description
1	SSI_DATA- OUT	Data output -
2	SSI_DATA+ OUT	Data output +
3	SSI_Clock+ IN	Clock input +
4	SSI_Clock- IN	Clock input -
5	Supply Voltage IN	Supply voltage
6	Ground IN	Ground
7	not connected	

Male M16x1, 8 pole



Pin	Signal	Description
1	SSI_Clock+ IN	Clock input +
2	SSI_DATA+ OUT	Data output +
3	SSI_Clock- IN	Clock input -
4	Ser.Program+ _IN/OUT	Ser. programming interface RS485
5	SSI_DATA- OUT	Data output -
6	Ground IN	Ground
7	Supply Voltage IN	Supply voltage
8	Ser.Program- _IN/OUT	Ser. programming interface RS485

## 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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