



## Linear Position Transmitter HLT 2500-F1

Magnetostrictive

For external mount

Resolution 50 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 flat profile housing version in aluminium.

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

The HLT 2500-F1 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	Flat profile, without magnet guidance
Housing	Aluminium
Output data	
Output signal	SSI
Resolution	0.05 mm <sup>1)</sup>
Non-linearity	± 0.15 mm (measuring range ≤ 1500 mm) ± 0.2 mm (measuring range > 1500 mm)
Hysteresis	≤ 0.1 mm
Repeatability	≤ 0.05 mm - ≤ 0.5 mm (depends on length)
Temperature coefficient	≤ ± 0.0015 % FS / °C
Sampling rate	Depending on length: ≤ 1.0 m: 1.0 ms ≤ 2.0 m: 1.5 ms ≤ 3.0 m: 2.0 ms > 3.0 m: 2.5 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>2)</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: 100 mm: 550 g 4000 mm: 4000 g

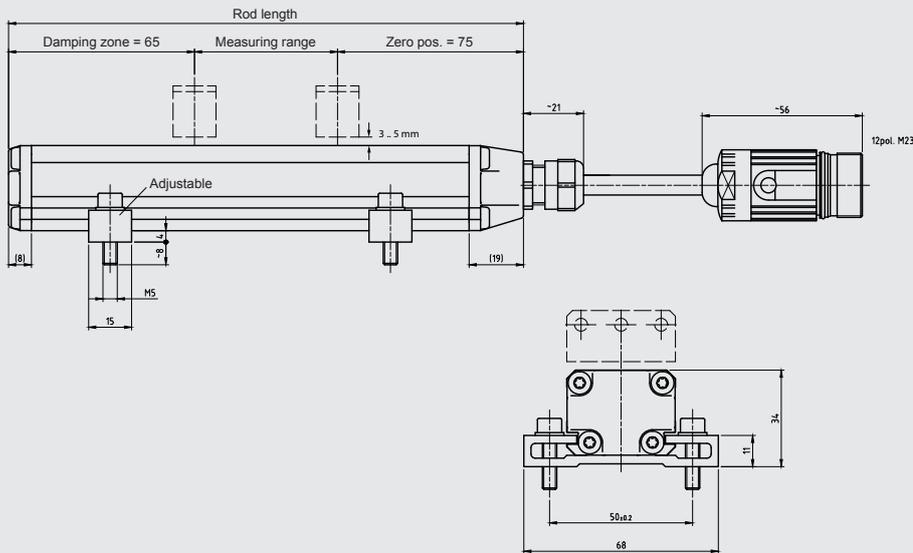
Note: Reverse polarity protection of the supply voltage, overvoltage and short circuit protection are provided.

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

<sup>1)</sup> Other models on request.

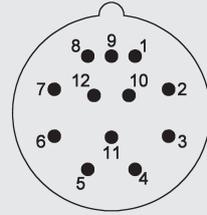
<sup>2)</sup> With mounted mating connector in corresponding protection class

## Dimensions:



## 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

## Model code:

**HLT 2 5 0 0 - F1 - S01 - S16 - XXXX - XXX - XXX - 000**

### Design / geometry type

5 = profile

### Model

F1 = flat profile, without magnet guidance

### Electrical connection

S01 = separate CONTACT male,  
12 pole with 1 m cable

### 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

050 = 50 µm

100 = 100 µm

150 = 150 µm

200 = 200 µm

### Modification

000 = standard

### Accessories: (not supplied with instrument)

ZBL MU38-18 position magnet

part no.: 6084456

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.

## 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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