Linear Position Transmitter
HLT 2500-F1

Magnetostrictive | **For external mount** | **Resolution 1 µm**

Profibus

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 Profibus version, the measured value is digitised and made available to the field bus system via the Profibus protocol.

The HLT 2500-F1 is primarily used in stationary applications, especially when a partially integrated solution in hydraulic cylinders is not possible.

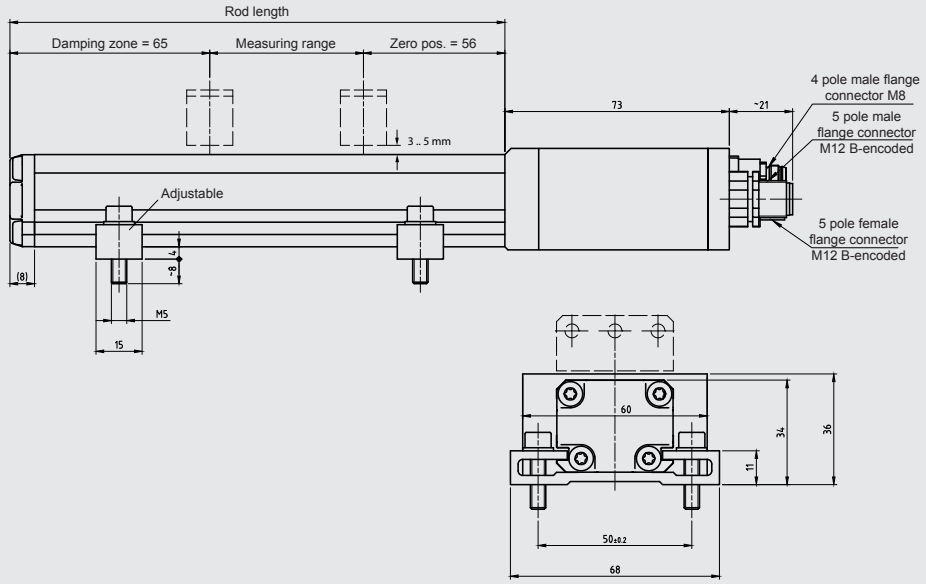
Technical data:

Input data		
Measuring ranges	50 .. 4000 mm	
Model	Flat profile, without magnet guidance	
Housing	Aluminium	
Output data		
Output signal	Profibus	
Resolution	0.001 mm	
Non-linearity	± 0.1 mm ± 0.15 mm	(measuring range ≤ 1500 mm) (measuring range > 1500 mm)
Hysteresis	0.02 mm 0.1 mm	(measuring range ≤ 1500 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: 1.0 ms ≤ 2.0 m: 2.0 ms ≤ 2.5 m: 2.5 ms > 2.5 m: 3.0 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 [1)]	IP 65	
Installation position	No restrictions	
Protocol data for Profibus		
Profibus DP V0	IEC 61158, IEC 61784	
PNO encoder profile	Class 1 and 2	
Transmission rate parameter	9.6 .. 12000 kbit/s	
Other data		
Supply voltage	24 V DC -20 .. +10 %	
Residual ripple of supply voltage	≤ 250 mV_{PP}	
Current consumption without output	< 150 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 (**F**ull **S**cale) = relative to complete measuring range

[1)] With mounted mating connector in corresponding protection class

Dimensions:



Model code:

HLT 2 5 0 0 – F1 – P61 – F41 – XXXX – 000

Design / geometry type
5 = profile

Model
F1 = flat profile, without magnet guidance

Electrical connection
P61 = female M12x1, 5 pole + male M12x1, 5 pole
+ male M8, 4 pole

Output signal
F41 = Profibus

Measuring range in mm (50 .. 4000 mm)
Example
0150 = 150 mm

Modification
000 = standard

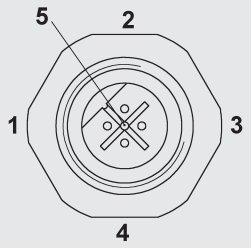
Accessories: (not supplied with instrument)

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.

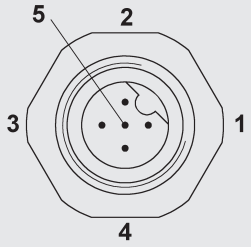
Pin connections:

Female M12x1, 5 pole, B-encoded



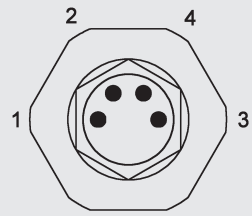
Pin	Profibus_OUT
1	VP, +5 V DC
2	Profibus, Data A
3	0 V
4	Profibus, Data B
5	n.c.
screw connection	Shield/housing

Male M12x1, 5 pole, B-encoded



Pin	Profibus_IN
1	n.c.
2	Profibus, Data A
3	n.c.
4	Profibus, Data B
5	n.c.
screw connection	Shield/housing

Male M8x1, 4 pole



Pin	Profibus_IN
1	$+U_B$
2	n.c.
3	0 V
4	n.c.

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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