



Linear Position Transmitter HLT 2500-F1

Magnetostrictive

For external mount

Resolution 1 µm

CANopen



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 CANopen version, the measured value is digitised and made available to the CAN field bus system via the CANopen protocol. The instrument parameters can be viewed and configured by the user via the CANopen object directory using standard CAN software.

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

Technical data:

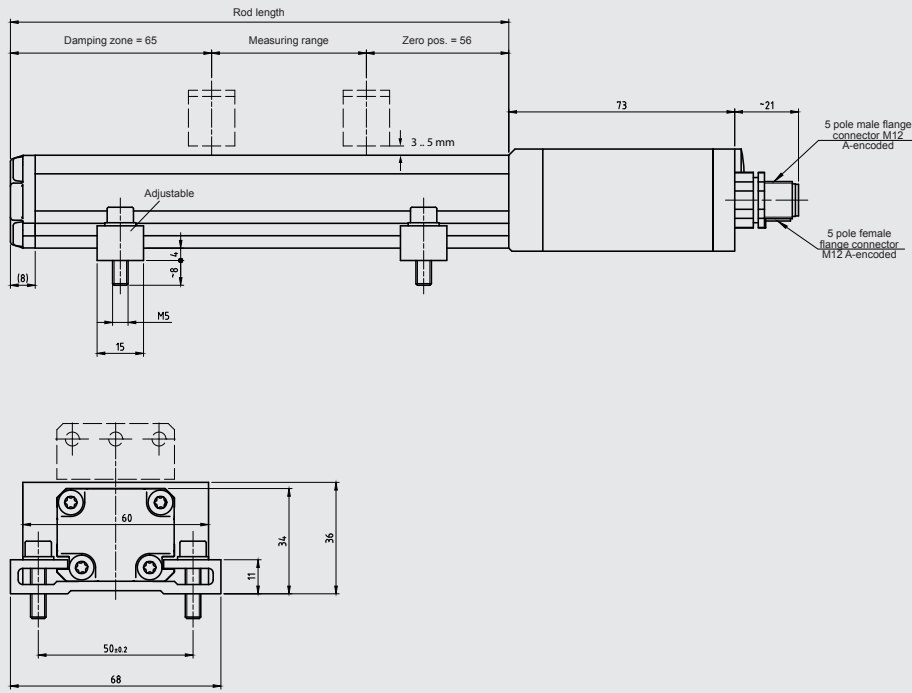
Input data	
Measuring ranges	50 .. 4000 mm
Model	Flat profile, without magnet guidance
Housing	Aluminium
Output data	
Output signal	CANopen
Resolution	0.001 mm
Non-linearity	± 0.15 mm (measuring range ≤ 1500 mm) ± 0.2 mm (measuring range > 1500 mm)
Hysteresis	≤ 0.1 mm
Repeatability	≤ 0.005 mm - ≤ 0.05 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 CANopen	
Bus connection	ISO 11898-1, ISO 11898-2
CAN Specification 2.0 A	11-bit identifier
Device profile for encoder	CiA DS406
Layer Setting Services, LSS	CiA DS305
Layer Management Services, LMT	CiA DS205-1, DS205-2
Baud rates	800, 1000 kbit/s
Transmission services	
- PDO	Measured value as 32 bit and float
- Transfer	synchronous, asynchronous, cyclical
Node ID/baud rate	Adjustable via LSS
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 (Full Scale) = relative to complete measuring range

¹⁾ With mounted mating connector in corresponding protection class

Dimensions:



Model code:

HLT 2 5 0 0 - F1 - C61 - F11 - XXXX - 000

Design / geometry type

5 = profile

Model

F1 = flat profile, without magnet guidance

Electrical connection

C61 = female M12x1, 5 pole + male M12x1, 5 pole

Output signal

F11 = CANopen

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

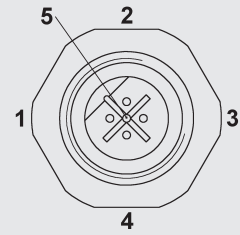
ZBL mounting kit

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.

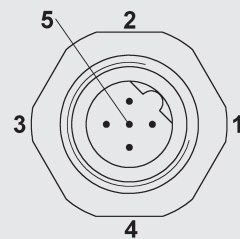
Pin connections:

Female M12x1, 5 pole, A-encoded



Pin	CANopen_OUT	
1	Housing	Shield/housing
2	+U _B	Supply +
3	0 V	Supply -
4	CAN_H	Bus line dominant high
5	CAN_L	Bus line dominant low

Male M12x1, 5 pole, A-encoded



Pin	CANopen_IN	
1	Housing	Shield/housing
2	+U _B	Supply +
3	0 V	Supply -
4	CAN_H	Bus line dominant high
5	CAN_L	Bus line dominant low

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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