Linear Position Transducer Flat Housing Design

HLT 2500-F1

Description:

The sensor works on the principle of magnetostriction.

The measuring principle determines with a high degree of accuracy the position, distance and/or a velocity signal based on elapsed time.

Utilizing this non-contact and wear-free measuring system, HYDAC offers a flat housing version in aluminum.

The different output signals (analog/ digital) facilitate the connection of all HYDAC ELECTRONIC GMBH measurement and control devices as well as connection to standard evaluation systems (e.g. also to PLC controls).

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

Special features:

- Accuracy ≤ ± 0.05 % FS B.F.S.L.
- Very robust housing
- High resistance to shock and vibration
- Excellent EMC characteristics
- Non-contact and wear-free
- Persuasive price / performance ratio

Technical data:

Input data	
Measuring ranges	50 .. 4000 mm
Measured variable	Distance, position, speed
Mechanical connection	Flat housing
Housing	Aluminum
Output data	
Signal output analog	Current: 4 .. 20 mA or 20 ... 4 mA Voltage: 0 .. 10 V or 10 .. 0 V
Signal output digital	Profibus, CANopen, Device Net, SSI, EtherCAT
Measuring accuracy	
Resolution	max. 0.005 mm, 16 bit
Non-linearity	± 0.1 mm to 1,500 mm ± 0.15 mm > 1,500 mm
Repeatability	≤ 0.005 mm - ≤ 0.05 mm (length-dependent)
Temperature coefficient	< 0.0024 % FS / °F (analog) < 0.0009 % FS / °F (digital)
Installation position and travel speed	No restrictions
Environmental conditions	
Operating temperature range	32 .. +158 °F
Relative humidity	98 %, non-condensing
Storage temperature range	-22 .. +185 °F, dry
Vibration resistance to DIN EN 60068-2-6 at 50 .. 2000 Hz	≤ 10 g
Shock resistance to DIN EN 60068-2-27	≤ 100 g / 11 ms / half sine
CE mark	EN 61000-6-1 / 2 / 3 / 4
EMC - Emitted interference - Interference resistance	 DIN EN 61000-6-3 DIN EN 61000-6-2
Housing / Protection class to IEC 60529	Aluminum / IP 65[1)]
Other data	
Electrical connection	
- Analog	- Flying lead, length 1 m[1)] - Male M16, 6 pole - Male M16, 8 pole
- CANopen, Device Net	Female M12x1, 5 pole + male M12x1, 5 pole
- Profibus	Female M12x1, 5 pole + male M12x1, 5 pole + male M8, 4 pole
- Synchronous Serial Interface	CONTACT male, 12 pole
- EtherCAT	2 female M12x1, 4 pole + male M8, 4 pole.
Supply voltage	24 V DC ± 10 %
Current consumption without load	< 250 mA
Weight	Depends on length

Note: Reverse polarity protection of the supply voltage and excess voltage protection are provided.
FS (**F**ull **S**cale) = relative to the complete measuring range
[1)] Other versions are possible.

Model code:

Stationary HLT 2 5 0 0 – F1 – XXX – XXX – XXXX – 000

Design/Geometry type
5 = Profile

Mechanical connection
F1 = Flat housing

Electrical connection
Signal output analog
K01 = Flying lead, length 1 m
M06 = Male M16, 6 pole
M08 = Male M16, 8 pole
Signal output CANopen, Device Net
C61 = Female M12x1, 5 pole + male M12x1, 5 pole
Signal output Profibus
P61 = Female M12x1, 5 pole + male M12x1, 5 pole + male M8, 4 pole
Signal output Synchronous Serial Interface
S01 = CONTACT male, 12 pole
Signal output EtherCAT
E51 = 2 female M12x1, 4 pole + male M8, 4 pole

Signal output
C01 = Analog 4 .. 20 mA, 3 conductor
C02 = Analog 20 .. 4 mA, 3 conductor
B01 = Analog 0 .. 10 V
B02 = Analog 10 .. 0 V
ETC = EtherCAT
SSI = Synchronous Serial Interface
CAN = CANopen
PRO = Profibus
DVN = Device Net

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

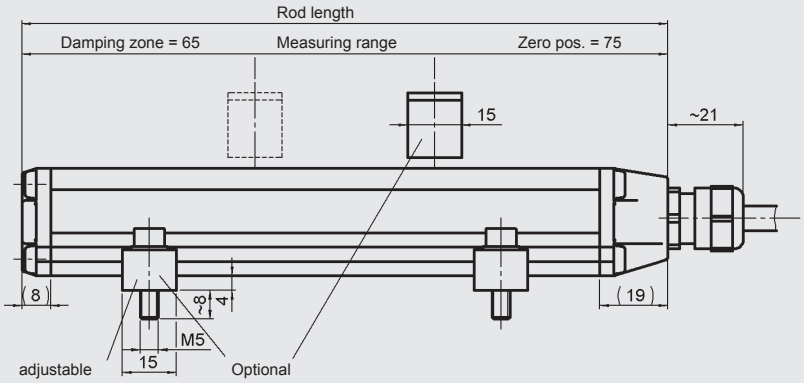
Modification
000 = Standard

Items supplied:
- HLT 2500-F1
- Installation instructions German/English
- HLT 2000 CD incl. case

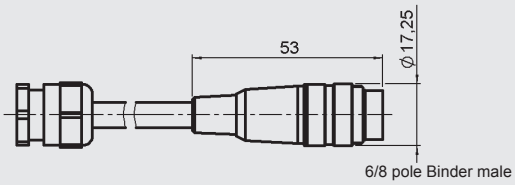
Accessories:
Appropriate accessories, such as position magnets, etc. can be found in the Accessories section of the Electronics brochure. The recommended position magnet ZBL MF 38-18, part no. 6084456, must be ordered separately.

Dimensions:

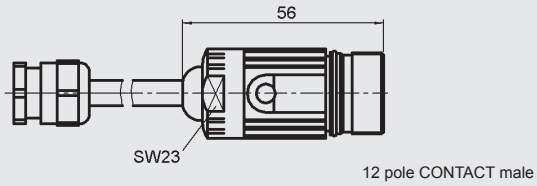
Signal output: analog (K01)



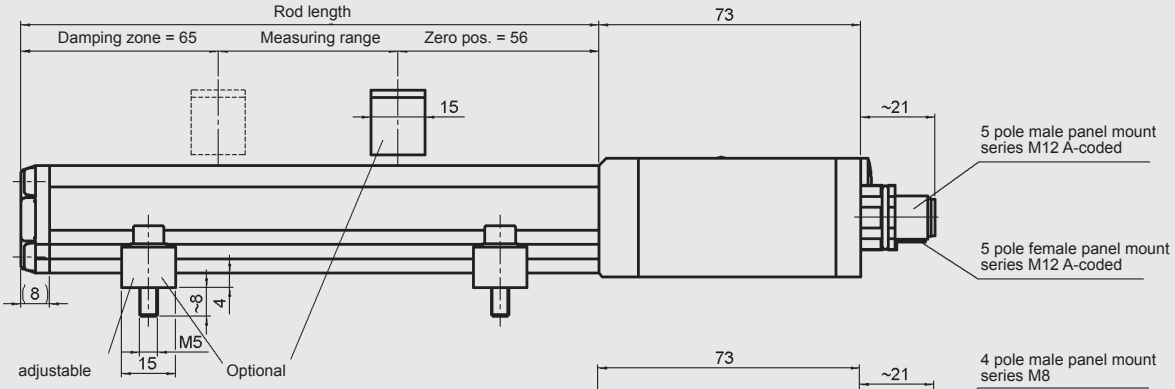
Signal output: analog (M06, M08)



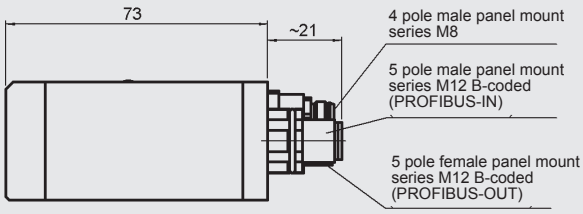
Signal output: Synchronous Serial Interface (S01):



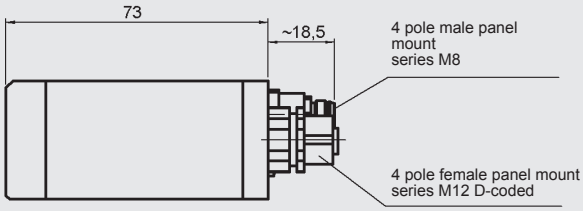
Signal output: CANopen Device Net (C61)



Signal output: Profibus (P61)



Signal output: EtherCAT (E51)



Note:

The information in this brochure relates to the operating conditions and applications described.
For applications and operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

HYDAC ELECTRONICS
90 Southland Drive.
Bethlehem, PA 18017

Telephone +1 (610) 266-0100
E-mail: electronics@hydacusa.com
Website: www.hydacusa.com