



Linear Position Transducer HLT 1000-R2

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.

On the basis of this non-contact and wear-free measurement system, HYDAC offers a version in pressure-resistant stainless steel housing for complete integration in hydraulic cylinders.

The different output signals (analogue/CANopen) 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 main areas of application are in mobile hydraulics.

Special features:

- High accuracy, e.g. $\leq \pm 0.05\%$ FS for CANopen
- 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 .. 2500 mm		
Measured variable	Distance, position, speed		
Mechanical connection	Cylinder-integrated		
Housing	Stainl. steel: pressure resistance 450 bar		
Output data			
Signal output	Current:	4 .. 20 mA or 20 .. 4 mA	
	Voltage:	0 .. 10 V or 10 .. 0 V 0.25 .. 4.75 V or 4.75 .. 0.25 V	
		CANopen	
Measuring accuracy			
	Analogue	CANopen	
Resolution	12 bit min. 0.1 mm	0.1 mm	
Non-linearity	$\leq \pm 0.05\%$ FS	$\leq \pm 0.05\%$ FS	
Hysteresis	$\leq \pm 0.1$ mm	$\leq \pm 0.1$ mm	
Repeatability	$\leq \pm 0.1$ mm	$\leq \pm 0.1$ mm	
Temperature coefficient	$\leq \pm 0.01\%$ FS / °C	$\leq \pm 0.003\%$ FS / °C	
Installation position and travel speed			
Optional			
Environmental conditions			
Operating temperature range	-40 .. +85 °C		
Relative humidity	90 %, non-condensing		
Storage temperature range	-40 .. +85 °C, dry		
Vibration resistance to			
DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 20 g		
at 5 kHz	≤ 15 g		
Shock resistance to	≤ 50 g		
DIN EN 60068-2-2 (11 ms)			
CE mark	EN 61000-6-1 / 2 / 3 / 4		
EMC			
- Emitted interference	DIN EN 61000-6-3		
- Interference resistance	DIN EN 61000-6-2		
Housing /	Stainless steel, pressure-resistant		
Protection class to IEC 60529 ¹⁾	IP 67		
Other data			
Electrical connection ¹⁾	Flying leads Separate male panel mount connection M12x1		
Supply voltage	12 .. 30 V DC		
Current consumption without load	max. 100 mA		
Weight	Depends on length		

Note: Reverse polarity protection of the supply voltage and excess voltage protection are provided.

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

¹⁾ Other versions are possible.

Model code:

Mobile **HLT 1 1 0 0 - R2 - XXX - XXX - XXXX - 000**

Design/Geometry type

1 = Rod

Mechanical connection

R2 = Cylinder-integrated

Electrical connection

Cable output

K01 = Flying lead, length 1 m

K02 = Flying lead, length 2 m

K05 = Flying lead, length 5 m

K10 = Flying lead, length 10 m

Separate male panel mount connection M12x1

(4 pole for signal output analogue

5 pole for signal output CANopen)

L06 = 60 mm cable length

L18 = 180 mm cable length

L24 = 240 mm cable length

Signal output

C01 = Analogue 4 .. 20 mA, 3 conductor

C02 = Analogue 20 .. 4 mA, 3 conductor

B01 = Analogue 0 .. 10 V

B02 = Analogue 10 .. 0 V

G01 = Analogue 0.25 .. 4.75 V

G02 = Analogue 4.75 .. 0.25 V

CAN = CANopen

Measuring range in mm (50 to 2500 mm)

Example

0150 = 150 mm

Modification

000 = Standard

Notes:

Special models on request. On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Items supplied:

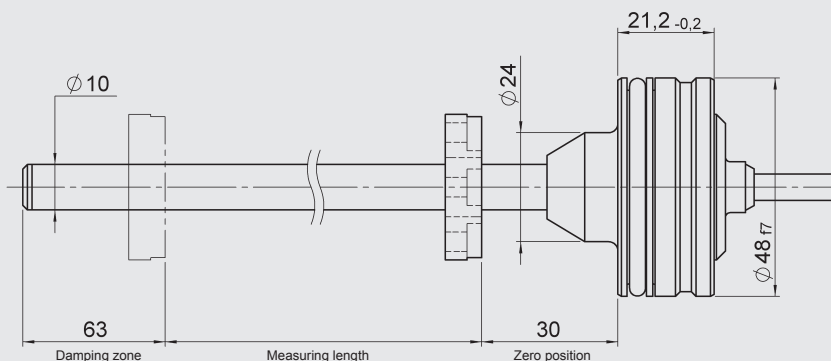
- HLT 1100-R2
- Installation instructions German/English
- HLT 1100 CD incl. case

Accessories:

Appropriate accessories, such as position magnets, etc. can be found in the Accessories section of the Electronics brochure.

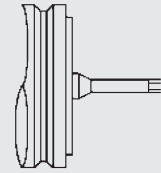
The recommended position magnet ZBL MR33, part no. 6084207, must be ordered separately.

Dimensions:



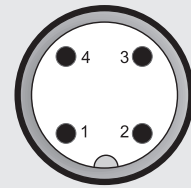
Pin connections:

Cable outlet



Core	Analogue	CANopen
brown	+U _B	+U _B
white	0 V	0 V
green	Analogue	CAN_L
yellow	n.c.	CAN_H

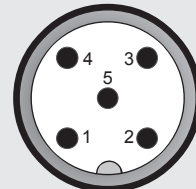
M12x1, 4 pole



Pin

1	+U _B
2	n.c.
3	0 V
4	Signal

M12x1, 5 pole



Pin	Signal	Description
1	n.c.	
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 and operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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