

Magnetostrictive Linear Position Sensor

Inside Cylinder Analog Output **L5-AXX-XXXX-1A**



Profile

- Robust, oil resistance
- Absolute position output, without zero operation
- Contactless sensing with highest durability
- High resolution, analog output 16 bit D/A, unlimited resolution
- Design of low power consumption, reduce the temperature drift
- Starting point, end point and range can be programmed

CE  **Analog**

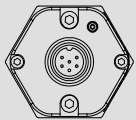
Features

- Status LEDs for indicating operating status and diagnostics
- Modular design, easy repairing
- Linearity deviation $< \pm 0.01\%$ rated length
- Repeatability $< \pm 0.001\%$ rated length

Parameter of measurement	
Stroke length	25~7600mm
Analog	0~20mA (Min./Max.Load:0/500Ω)
	4~20mA (Min./Max.Load:0/500Ω)
	0~10V (Min.Load>5kΩ)
	-10~+10V (Min.Load>5kΩ)
Resolution	16 bit D/A
Linearity	$< \pm 0.01\%$ F.S. (Min. $\pm 50\mu\text{m}$)
Repeatability	$< \pm 0.001\%$ F.S. (Min. $\pm 1\mu\text{m}$)
Update time	0.5ms (F.S. < 1m) 1.0ms (1m < F.S. < 2m)
	2.0ms (2m < F.S. < 4m) 4.0ms (4m < F.S. < 7.6m)
Electrical characteristics	
Connection	Cable or M16, 6 pin connector
Voltage	24VDC (-15%/+20%)
Current	< 50mA (depend on measuring range)
Polarity protection*	Max. -30VDC
Overvoltage protection*	Max. 36VDC
Electric strength	500V (DC ground to machine ground)
Error indicator	Red Green LED indicator

*Max. 5mins

Sensor diagnostic display



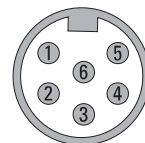
Indicator	description
Green ON	normal function
Green Flash	programming mode
Red Flash	magnet out of measuring range
Red ON	magnet not detected or damaged magnet

Wiring

Signal	Ub	GND	Analog Output	Signal GND	(+)Comm	(-)Comm
Cable(color)	Brown	White	Gray	Pink	Yellow	Green
M16, 6 pin connector	5	6	1	2	3	4

Design & Material	
Sensor electronics housing	Aluminum alloy
Sensor rod	304L Stainless
Sensor flange	304L Stainless
Installation & Accessories	
Mounting position	Any orientation
Installation	Threaded flange M18×1.5 or on demand
Magnet	L5-0000-ACRI-0001, not included in delivery
	L5-0000-ACRI-0004, not included in delivery
Antimagnetic spacer	L5-0000-ACMT-0001, not included in delivery
Connector	E1-2206-0100, not included in delivery
Operation condition	
Magnet speed	Any
Operating temperature	-40 °C ~ +85 °C
Humidity	R.H.90%, No condensation
Temperature coefficient	< 30ppm/°C
Protection level	IP67
Operating pressure	35MPa (continuously)/70MPa (peak value)
Shock test	150g/11ms, IEC60068-2-27
Vibration test	15g/10...2000Hz, IEC60068-2-6
	excluding resonant frequencies

M16, 6 pins Pin top view (sensor)



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Inside Cylinder Analog Output

L5-AXX-XXXX-1A

**Ordering example
Inside Cylinder**

L5 - AXX - 0100 - 1A15 - XXXX0PX - X

z a b c d e f g

z Series

A01 = 46mm inside cylinder
A02 = 44mm inside cylinder

a Measuring range

0100 = 100mm
.....
Max.7600 mm
in 5-mm increments

b Output

1A = Analog Output

c Operation Voltage

1 = 24 VDC

d Wiring

5 = M16, 6 pin connector
PXX = Standard cable outlet, XX meters*
TXX = High temperature cable,XX meters**

e Output

V010 = 0~10V Output
V011 = 10~0V Output
A010 = 4~20mA Output
A011 = 20~4mA Output
V020 = -10~+10V Output
V021 = +10~-10V Output
A020 = 0~20mA Output
A021 = 20~0mA Output

f Magnet

0 = L5-0000-ACRI-0001 ¹⁾
1 = L5-0000-ACRI-0004 ²⁾

g Blind Area(Bignning+End)

S = 50.8 + 63.5 (mm) ³⁾
B = 29 + 60 (mm) ⁴⁾
M = 29 + 60 (mm) ³⁾ Custom circuit

*temperature range of standard cable:-30...70 °C

**temperature range of high temperature cable:-20...180 °C

Explanation: If you need other cables, please consult the technicians from HL.

The 44mm outer shell is a new product and has a good delivery schedule.

It is recommended to choose it as the priority.

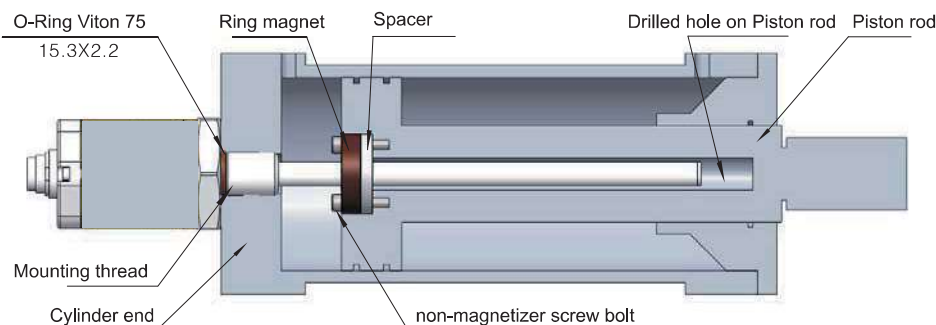
¹⁾The magnet L5-0000-ACRI-0001 needs to be equipped with an antimagnetic spacer L5-0000-ACMT-0001.

²⁾The magnet L5-0000-ACRI-0004 does not require an antimagnetic spacer.

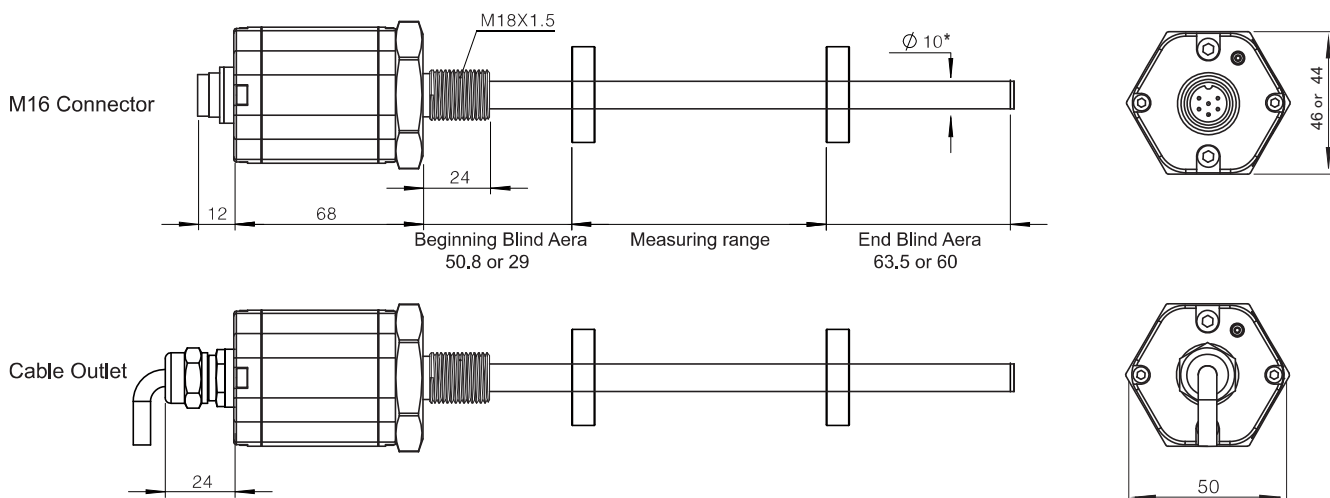
³⁾This blind zone is compatible with the magnet L5-0000-ACRI-0001 and L5-0000-ACRI-0004.

⁴⁾This blind zone is only compatible with the magnet L5-0000-ACRI-0004, which can be used to replace the Balluff's magnet.

Installation



Dimensions



Note: L5 series product compression rod can be easily separated from the electronic head(two M4x59 screw), which can be quickly replaced without pressure relief, and the rod can be permanently a part of the cylinder.

*Pressure tube can be customized 7mm and 12mm directly, please consult the sales of Heinlanz.