

# Magnetostrictive Linear Position Sensor

Inside cylinder Profibus DP

L5 - AXXX-13



## Features

- Status LEDs for indicating operating status and diagnostics
- Modular design, easy repairing

## Profile

- Robust, oil resistance
- Absolute position output, without zero operation
- Contactless sensing with highest durability
- High resolution, upto 1  $\mu\text{m}$  / can be set via GSD file
- Design of low power consumption, reduce the temperature drift
- Nod address and resolution can be programmed

- Linearity deviation  $< \pm 0.01\%$  rated length
- Repeatability  $< \pm 0.001\%$  rated length

## Parameter of measurement

Measuring Length	25~7600mm
Output	Profibus-DP (EN - 50 170)
Baud rate	12Mbit/s
Resolution	1 $\mu\text{m}$ / Can be modified via GSD file
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. $< 1\text{m}$ )    1.0ms (1m $<$ F.S. $< 2\text{m}$ ) 2.0ms (2m $<$ F.S. $< 4\text{m}$ )    4.0ms (4m $<$ F.S. $< 7.6\text{m}$ )

## Electrical characteristics

Connection	Dual M16 or Dual M12+M8 Connector
Voltage	24VDC (-15 / +20%)
Current	$< 50\text{mA}$ (Depend on Measuring range)
Polarity protection*	Max. -30VDC
Overvoltage protection*	Max. 36VDC
Electric strength	500V (DC ground to machine ground)
Error indicator	Red and Green LED indicator

\* Max. 5mins

## Wiring

Dual M16Connector

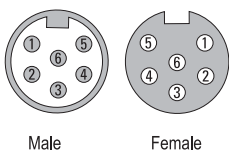
Signal	Ub	GND	A(Bus)	B(Bus)	DGND*	VP*
M16, 6 Pin Connector	5	6	1	2	3	4

Dual M12Connector+M8Connector

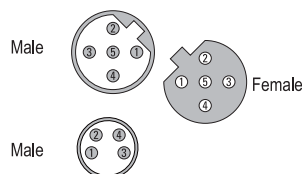
Signal	Ub	GND	A(Bus)	B(Bus)	DGND*	VP*
M12, 5 Pin DP Connector	—	—	2	4	3	1
M8, 4 Pin power Connector	1	3	—	—	—	—

\* DGND and VP Only available for terminal

Dual M16, 6 pins Pin top view (sensor)



Dual M12Connector+M8Connector Pin top view (sensor)



## Design & Material

Sensor head	Aluminium alloy
Sensor stroke	304LStainless
Mounting holder	304LStainless

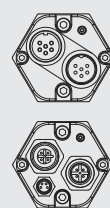
## Installation & Accessories

Installation direction	Any orientation
Installation	Threaded flange M18 $\times$ 1.5 or on demand
Magnet	Ring MagnetsL5-0000-ACRI-0001, Not included in delivery
Antimagnetical Spacer	Antimagnetical SpacerL5-0000-ACMT-0001, Not included in delivery
Connector	Dual M16Connector, Not included in delivery: Male E1-2106-0110; Female E1-2206-0100 or Dual M12+M8Connector, Not included in delivery: M12Male E1-1105-0112 M12Female E1-1205-0102 M8 Female E1-6204-0010
Terminal resistance	M16 E1-PDP0-TR01 M12 E1-PDP0-TR00

## Operation condition

Magnet speed	Any
Operating temperature	-40 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$
Humidity/Dew point	R.H.90%, No Condensation
Temperature coefficient	$< 30\text{ppm}/^{\circ}\text{C}$
Protection Level	IP67
Pressure rating	35MPa (Continuously) / 70MPa (Peak value)

## Sensor diagnostic display



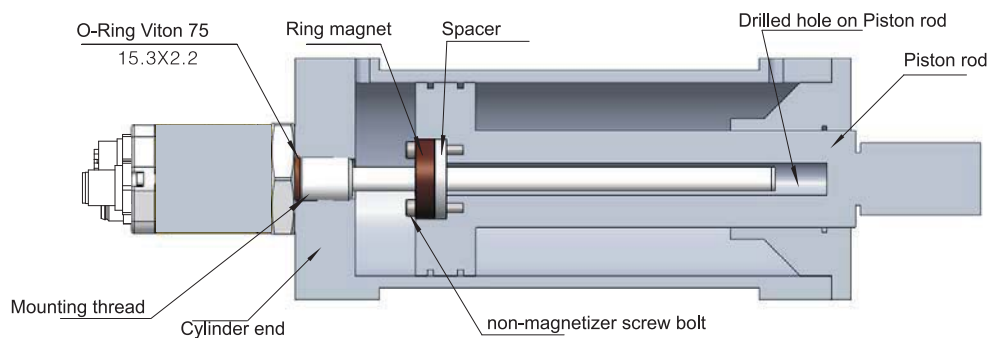
	Green	Red	Description
ON	—	—	Normal function
—	ON	—	Magnet not detected or damaged magnet
—	Flash	—	Magnet out of measuring range
<b>Flash</b>	—	—	Programming mode
Flash	Flash	—	Communication error

# Magnetostrictive Linear Position Sensor

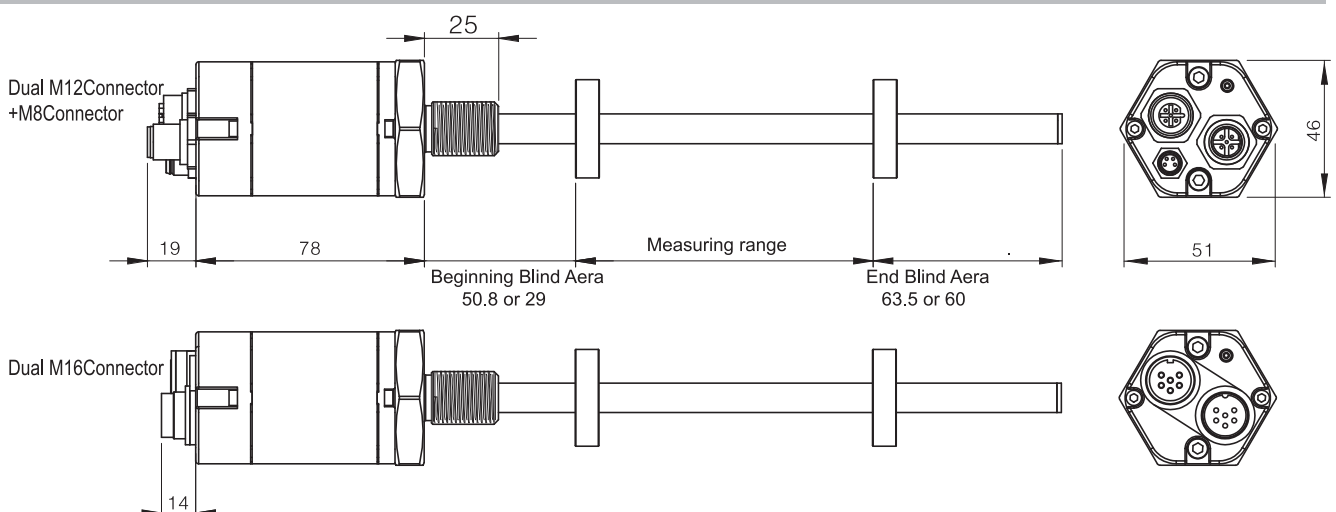
Inside cylinder Profibus DPOutput L5 - AXXXX-13

Ordering example Inside Cylinder		L5 - A 1 0 0 0 - 1 3 1 5 - XXXX 1 P - X							
		Serialize	a	b	c	d	e	f	g
<b>a</b> Measuring range 1000 = 1000 mm ..... Max.7600 mm in 5-mm increments	<b>c</b> Operation Voltage 1 = 24 VDC	<b>e</b> Magnet number P101 = 1-3Magnets, position P102 = Single Magnet, position	<b>g</b> Blind Aera (Bigning+End) S = 50.8 + 63.5 (mm) B = 29 + 60 (mm)						
<b>b</b> Output 13 = Profibus DPOutput	<b>d</b> wiring 5 = Dual M16, 6 pins Connector 6 = Dual M12, 5 pinsDPConnector+M8 power Connector	<b>f</b> Resolution (mm) 1 = 0.001, Can be modified via GSD file							

## Installation



## Dimensions



Note: L5 Serise product compression rod can be conveniently separated with the electronic head (two M4 x 59 screw), in does not leak under pressure to achieve rapid replacement, the pressure rod can become cylinder permanent sections.