

# Magnetostrictive Linear Position Sensor

Outside cylinder Profibus DP

L5 - BXXXX-13



## Profile

- Outside installation, easy to use
- Absolute position output, without zero operation
- Contactless sensing with highest durability
- High resolution, 1 µm / can be set via GSD file
- Design of low power consumption, reduce the temperature drift
- Nod address and resolution can be programmed



## Features

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

Parameter of measurement	
Measuring Length	25~3500mm
Output	Profibus-DP (EN - 50 170)
Baud rate	12Mbit/s
Resolution	1 µm / Can be modified via GSD file
Linearity	< ±0.01% F.S. (Min.±50µm)
Repeatability	< ±0.001% F.S. (Min.±1µm)
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	Double M16 or DoubleM12+M8Connector
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 and Green LED indicator

\* Max. 5mins

## Wiring

Double M16Connector

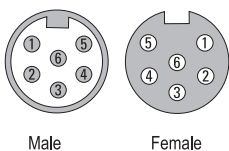
Signal	Ub	GND	A(Bus)	B(Bus)	DGND*	VP*
M16, 6 pin Connector	5	6	1	2	3	4

Double M12Connector+M8Connector

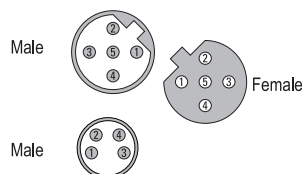
Signal	Ub	GND	A(Bus)	B(Bus)	DGND*	VP*
M12, 5 pin DPConnector	—	—	2	4	3	1
M8, 4 pin Power Connector	1	3	—	—	—	—

\* 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
Protective shell	Aluminium alloy
Mounting holder	304LStainless

Installation & Accessories	
Installation direction	Any orientation
Installation	Mounting holder, M5×20
Magnet	Round rail slide magnet L5-0000-ACMB-0003, Not included in delivery Square floating magnet L5-0000-ACMB-0001, Not included in delivery U-Magnet L5-0000-ACRI-0005, Not included in delivery
Mounting holder	L5-0000-ACMT-0002, Not included in delivery(At lease two)
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°C ~ +85°C
Humidity/Dew point	R.H.90%, No Condensation
Temperature coefficient	< 30ppm/°C
Protection Level	IP67

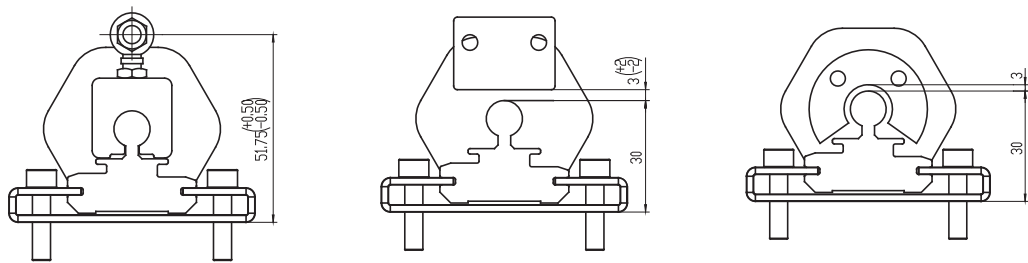
Sensor diagnostic display		
Green	Red	Description
ON	—	Normal function
—	ON	Magnet not detected or damaged magnet
—	Flash	Magnet out of measuring range
<b>Flash</b>	—	Programming mode
Flash	Flash	Communication error

# Magnetostrictive Linear Position Sensor

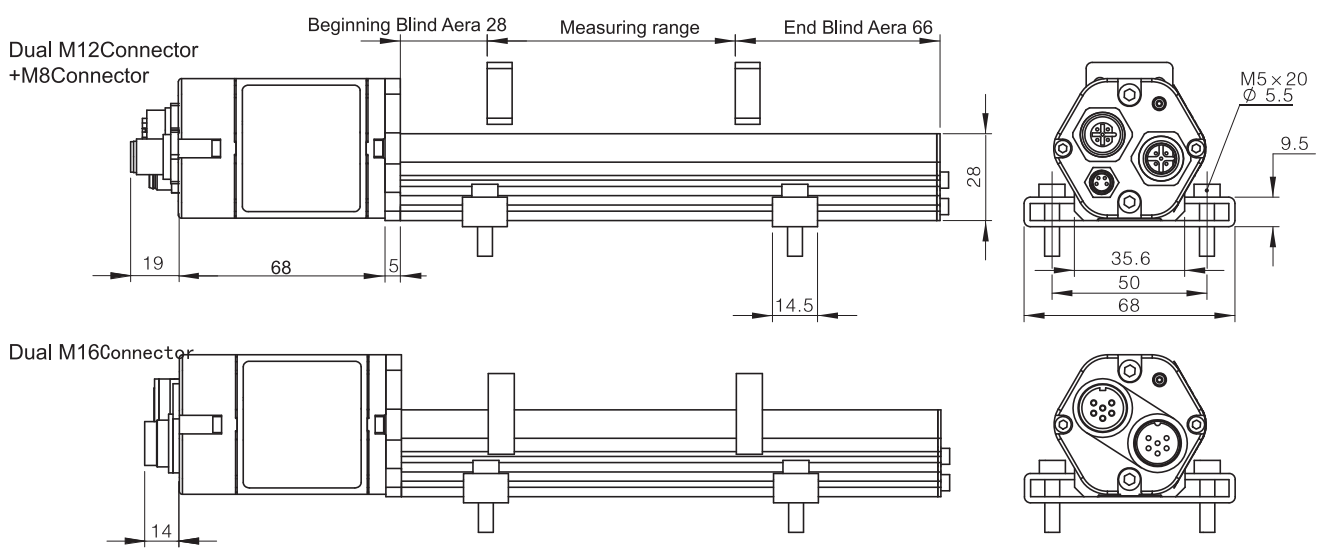
**Outside cylinder Profibus DP L5 - BXXXX-13**

Ordering example Outside Cylinder	L5 - B 1 0 0 0 - 1 3 1 6 - XXXX 1 P - S						
	a	b	c	d	e	f	g
<b>a</b> Measuring range 1000 = 1000 mm ..... Max.3500 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 Area (Bignning+End) S = 28 + 66 (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: Position measurement is via floating magnets travelling along the sensing rod without any mechanical contact.  
 Square floating magnet : Max.Horizontal offset upto ±3mm, Max.Vertical distance upto 5mm