



# EP2-EtherCAT

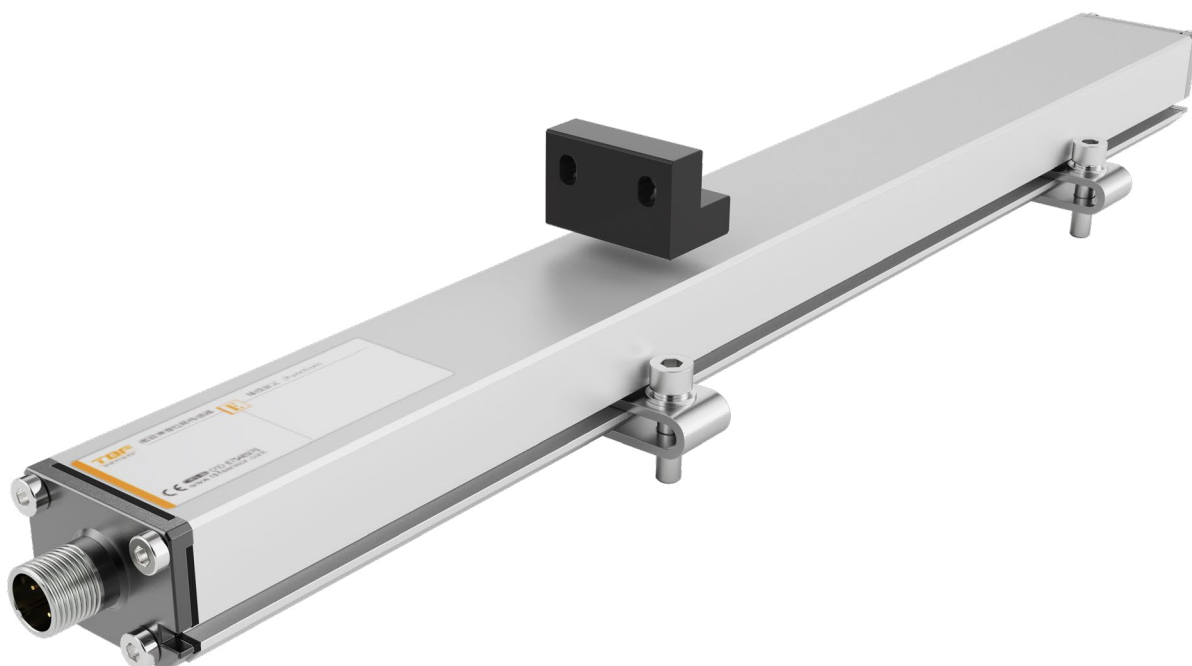
EP2-Series

Data Sheet

Ethernet header	Ethernet Data				FCS
	EtherCAT header				
14Byte	11bit	1bit	4bit	44*~1498Byte	4bit
Ethernet header	Length	Res.	Type	1...n Datagrams	FCS

↑

- + Easily installed: integrated design, no protruding electronics housing
- + Linear measurement, absolute value output
- + Easy to use: standard signal output, maintenance free
- + Resolution highest up to 2µm
- + Widely applicated in forging, building materials, rubber and plastic machinery and other fields



Document Number:  
EP2-E(V2.0)-EN

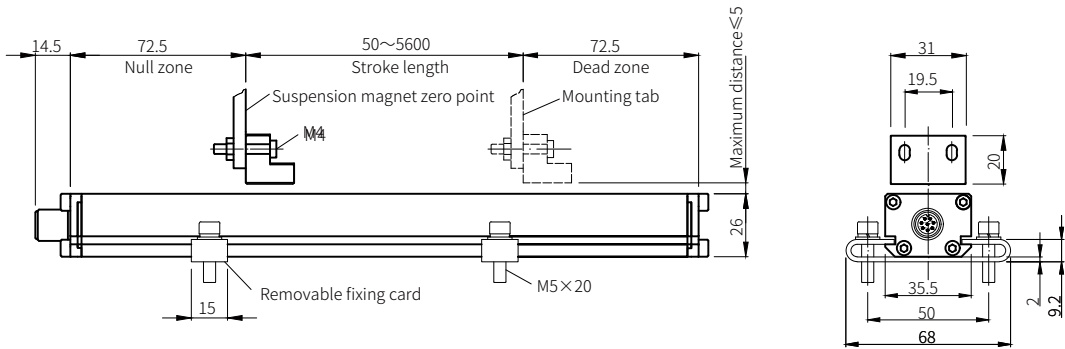
www.tbfsensor.com

## TECHNICAL PARAMETER

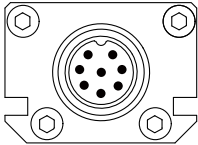

<b>Input</b>	
Measured data	Position,Velocity
Measurement range	50mm...5600mm
<b>Output</b>	
Interface	EtherCAT
Data protocol	EtherCAT 100 Base-Tx, high speed Ethernet
Transmission	Max. 100Mbit/s
<b>Resolution</b>	
Resolution	2...1000 $\mu$ m optional
None-Linearity	< $\pm 0.02\%$ F.S. (min. $\pm 50\mu$ m)
Repeatability	< $\pm 0.005\%$ F.S. (min. $\pm 20\mu$ m)
Temperature coefficient	< 30ppm/ $^{\circ}$ C
<b>Mounting</b>	
Mounting position	Any
Fixation	Removable fixing card
<b>Design/Material</b>	
Sensor cap	Aluminum alloy/Zinc alloy
Sensor profile	Aluminum alloy
<b>Electrical Connection</b>	
Wiring connection	8 pin M12 connector
Operating voltage	+24VDC(-15/+20%)
Polarity protection	Up to -36VDC
Overvoltage protection	Up to +36VDC
Power consumption	< 120mA (varies with range size)
Dielectric strength	500 VDC (DC ground to machine ground)
<b>Operating Conditions</b>	
Magnet velocity	Any
Operating temperature	-40...85 $^{\circ}$ C
Humidity	90 % relative humidity, no condensation
Ingress protection	IP67 ( when connector is fitted)/IP68 (straight out cable )
Shock	100 g (single shock) IEC standard 60068-2-27
Vibration	15g/10...2000 Hz, IEC standard 60068-2-6 (resonant frequencies excluded)
EMC	Electromagnetic emission according to EN 61000-6-3 Electromagnetic immunity according to EN 61000-6-2

# TECHNICAL DRAWING

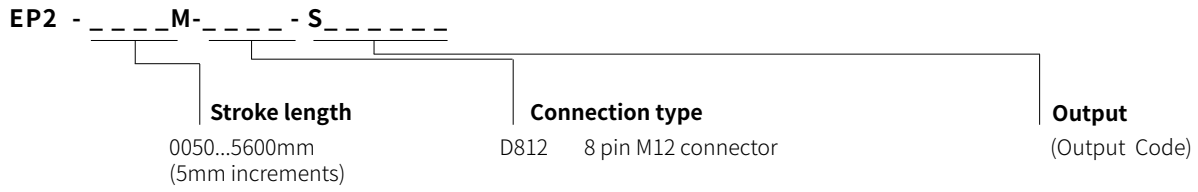
## 8 pin M12 connector



## Wiring

8 pin M12 connector	PIN	Function
	 <p>View on sensor</p>	1 TX+
		2 RX+
		3 TX-
		4 RX-
		5 +24VDC (-15/+20%)
		6 GND
		7 NC
		8 NC

## ORDER CODE



### EtherCAT Output Code E [1] [2] [3]- M [4] [5]

[1] [2] [3] Output

- 101 Position, update in high speed, 1-5 magnet
- 102 Position, 1-20 magnet
- 103 Position and velocity, update in high speed, 1-5 magnet, linear correction optional
- 105 Position and velocity, 1-20 magnet, linear correction optional

[4][5] Magnet number

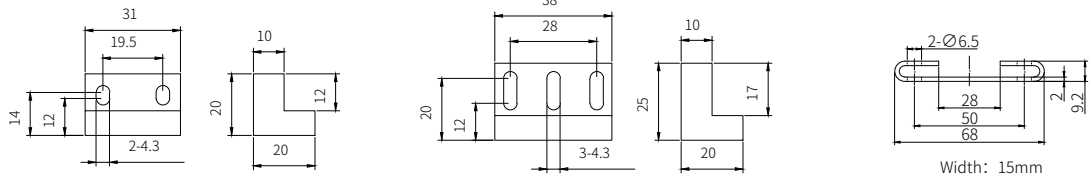
- 01 one magnet
- 02 two magnets

**Model selection** | Model: EP2-0600M-D812-E101-M01

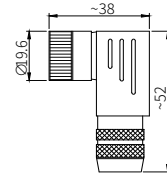
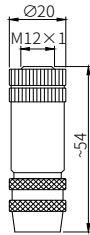
Explanation: EP2 type II generation, stroke length 600mm, 8 pin M12 aviation plug, EtherCAT Output, position, update in high speed, one magnet.



# PARTS SELECTION



Name	Suspension magnet 31x20	Suspension magnet 38x25	Removable fixing card
<b>Order code</b>	<b>12-1010</b>	<b>12-1009</b>	<b>11-1009</b>



Name	8 pin M12 female connector	8 pin M12 female connector (90 degree angle)
End view drawing		
Material	Galvanized nickel	
Fitting diameter	8...10mm	6...8mm
Connection	Threaded	
<b>Order code</b>	<b>18-5004</b>	<b>18-5005</b>

Felix-Wankel-Str.1 1.OG 85221 Dachau, Germany  
 Technical support: +49(0)1783135698  
 E-mail: info@tbfsensor.com

**TBF Electronic Technology GmbH(German branch )**

Building 6, Dazu Enterprise Bay,  
 8th yard of Liangshuihe 2nd street, BDA P.R.China  
 Tel: +86 10-67948976 67948916  
 Fax: +86 10-67948979

**Beijing Tebeifu Electronic Technology Co., Ltd.**