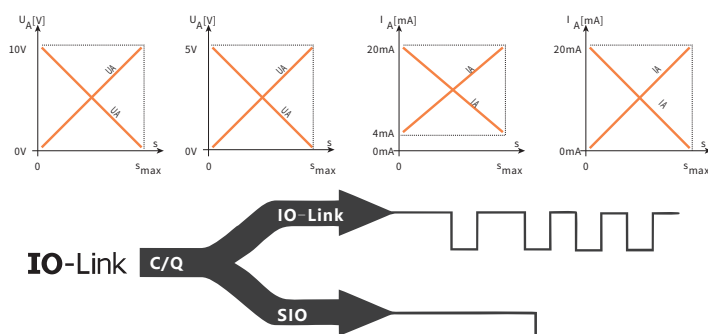




GR-Analog(+IO-Link)

GR - External Aluminum Housing -type sensor



- + Easy to install: push-pull rod type, quick installation
- + Linear measurement, absolute value output without zeroing
- + Easy to use, standard single output, maintenance-free
- + High resolution: resolution up to $1\mu\text{m}$
- + Widely used: printing, papermaking, rubber and plastic machinery and other fields
- + Output Analog+IO-Link



Document Number:
GR-AIO (V1.1)-EN

www.tbfsensor.com

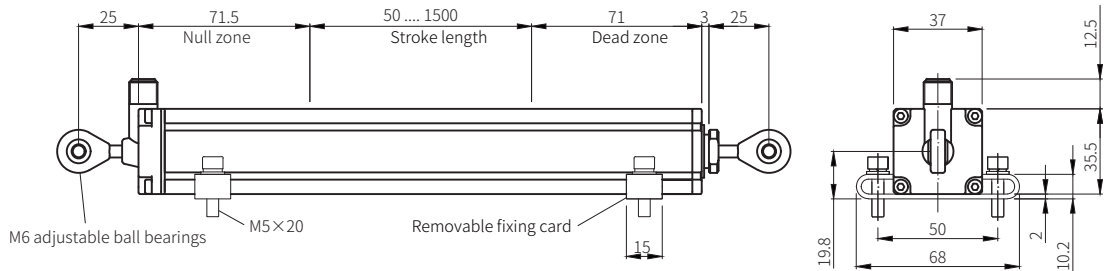
TECHNICAL PARAMETER

Input									
Measured data	Position								
Measurement range	50mm...1500mm								
Output									
Voltage	0...10VDC, 10...0VDC, 0...5VDC, 5...0VDC (Controller min. load impedance >5K Ω)+IO-Link								
Current	4...20mA, 20...4mA, 0...20mA, 20...0mA (min./max. load 0/750 Ω)+IO-Link								
Transmission rate (IO-Link)	<table border="1"> <thead> <tr> <th>Rate(bit/s)</th> <th>4800</th> <th>38400</th> <th>230400</th> </tr> </thead> <tbody> <tr> <td>Port</td> <td>COM1</td> <td>COM2</td> <td>COM3*</td> </tr> </tbody> </table>	Rate(bit/s)	4800	38400	230400	Port	COM1	COM2	COM3*
Rate(bit/s)	4800	38400	230400						
Port	COM1	COM2	COM3*						
Resolution									
Position resolution	<table border="1"> <thead> <tr> <th>Analog</th> <th>16 bit D/A(internal resolution 1μm)</th> </tr> </thead> <tbody> <tr> <td>IO-Link</td> <td>1/2/5*/10/20/50/100μm</td> </tr> </tbody> </table>	Analog	16 bit D/A(internal resolution 1 μ m)	IO-Link	1/2/5*/10/20/50/100 μ m				
Analog	16 bit D/A(internal resolution 1 μ m)								
IO-Link	1/2/5*/10/20/50/100 μ m								
None-Linearity	< $\pm 0.02\%$ F.S. (min. $\pm 50\mu$ m)								
Repeatability	< $\pm 0.005\%$ F.S. (min. $\pm 20\mu$ m)								
Update time	<table border="1"> <thead> <tr> <th>Stroke length</th> <th>≤ 1200mm</th> <th>≤ 1500mm</th> </tr> </thead> <tbody> <tr> <td>Update time</td> <td>0.5ms</td> <td>1ms</td> </tr> </tbody> </table>	Stroke length	≤ 1200 mm	≤ 1500 mm	Update time	0.5ms	1ms		
Stroke length	≤ 1200 mm	≤ 1500 mm							
Update time	0.5ms	1ms							
Temperature coefficient	< 30ppm/ $^{\circ}$ C								
Mounting									
Mounting position	Any								
Installation type	M6 ball bearings, Removable fixing card								
Design/Material									
Sensor shell	Aluminum alloy								
Push-pull rods	Aluminum alloy								
Electrical connection									
Wiring connection	Straight out cable or aviation plug								
Operating voltage	+24VDC (-15/+20%)								
Polarity protection	Up to -36VDC								
Overvoltage protection	Up to +36VDC								
Power consumption	< 70mA (varies with range size)								
Insulation strength	500 VDC (DC ground to machine ground)								
Operating conditions									
Magnet movement speed	≤ 5 m/s								
Operating temperature	-40...85 $^{\circ}$ C								
Humidity	90 % relative humidity, no condensation								
Ingress protection	IP65								
Shock	100 g (single shock) IEC standard 60068-2-27								
Vibration	5g/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								

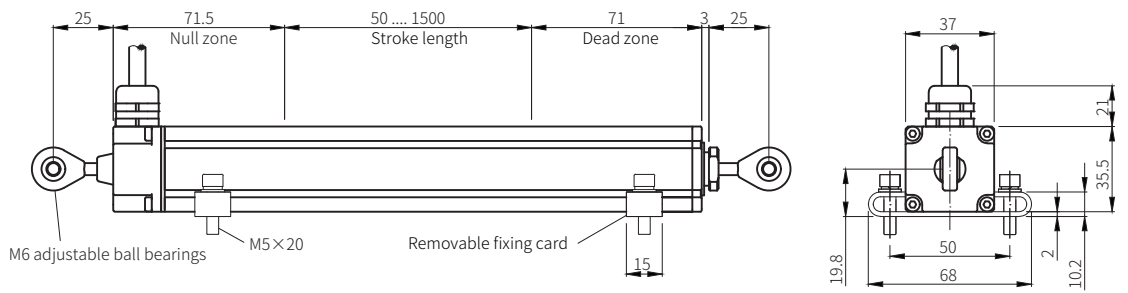
Note: “*” as default

TECHNICAL DRAWING

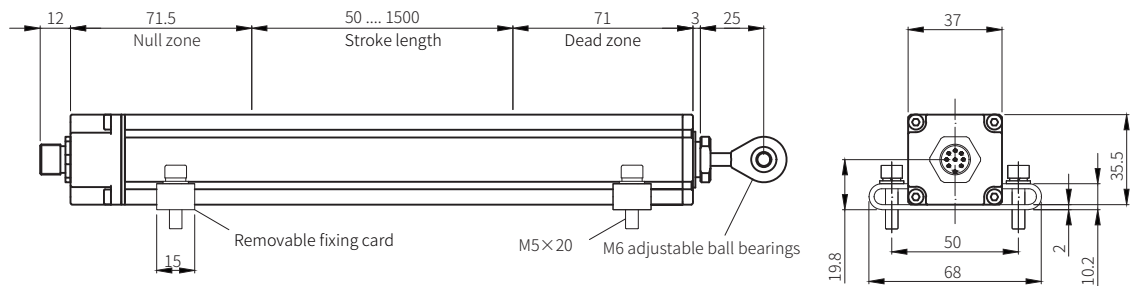
Radial outlet, 8 pin M12 connector



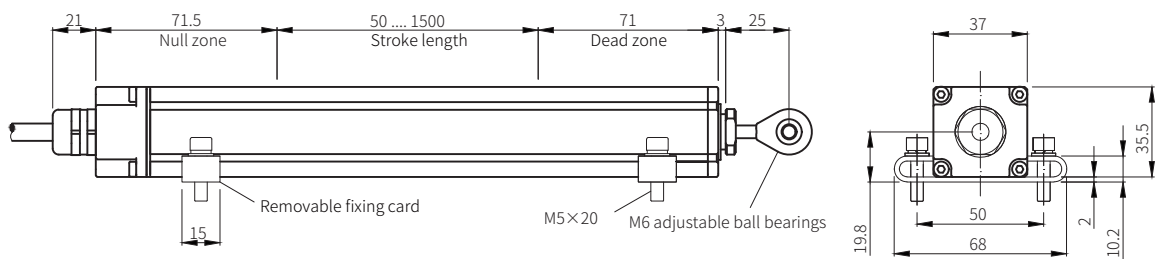
Radial outlet, Straight out cable



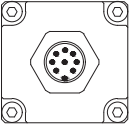
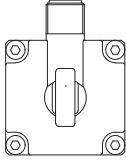

Axial outlet, 8 pin M12 connector

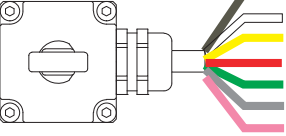
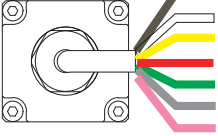


Axial outlet, Straight out cable



Wiring

5 pin M12 connector			PIN	Function
			1	SGND 2*
			2	SGND 1
			3	Signal output 2*
			4	C/Q(communication line)
			5	Signal output 1
			6	GND
			7	+24VDC(-15/+20%)
			8	NC

Side outgoing cable	Straight out cable	Color	Function
		Brown	+24VDC(-15/+20%)
		White	GND
		Yellow	SGND 1
		Red	C/Q(communication line)
		Green	Signal output 1
		Gray	SGND 2 *
		Pink	Signal output 2 *

"*"adaptable for dual output signal connection

ORDER CODE

GR - - - - M- - - -	Outgoing direction	Stroke length	Connection type	Output (Output Code)
R	Radial	0050...1500mm	RP/T_ _	Straight out _ _m high performance /high temperature cable
A	Axial	(5mm increments)	D812	8 pin M12 connector

(If the cable length is less than two digits, add zeros in front.)

Analog Output Code		[1][2][3]-[4] [5][6]		
[1] System	[2] Resolution	[3] Output	[4][5] Current/Voltage	[6] Magnet
L +IO-Link (COM3)	1 5µm*	1 Position	A0 4...20mA (forward) V0 0...10V (forward)	1 one magnet
	2 2µm	2 Position and speed*	A1 20...4mA (reverse) V1 10...0V (reverse)	
	3 10µm	(Speed : µm/s)	A2 0...20mA (forward) V2 0...5V (forward)	
	4 50µm		A3 20...0mA (reverse) V3 5...0V (reverse)	
	5 100µm			
	7 20µm			
	8 1µm			

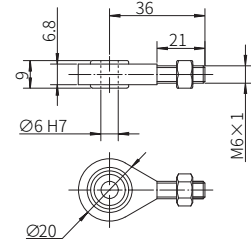
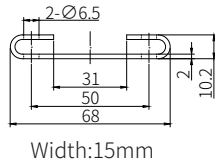
Note: Forward, data grows larger when the magnet is distant from the electronics housing;
Reverse, data grows larger when the magnet approaches the electronics housing.

Model selection	Model: GR-R-0600M-D812-L11-A01
	Explanation: GR type , Radial outlet, stroke length 600mm, 8pin M12 aviation plug, Interface Analog+IO-Link, IO-Link resolution 5µm, position measurement, analog output of 4..20mA (forward), single magnet.

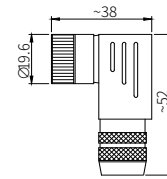
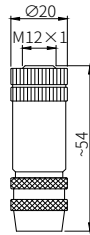


ACCESSORIES

Analog(+IO-Link)



Name	Removable fixing card	M6 fish eyeball head bearing
Order code	11-1009	11-1007



名称	8 孔 M12 母接头	8 孔 M12 母接头 (90 度直角)
端面图		
外壳材料		
适配线径	8~10mm	6~8mm
终端	螺纹连接	
订购代码	18-5004 (母)	18-5005 (母)

■ For more customizable products, please contact us.

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