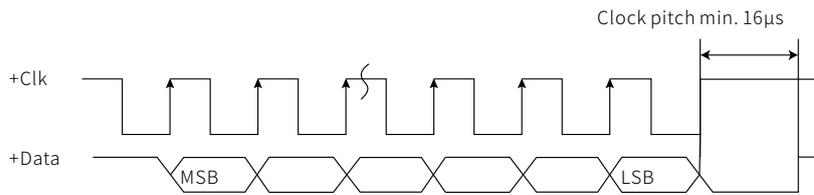


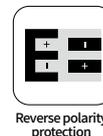
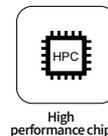
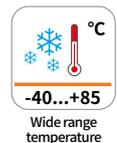
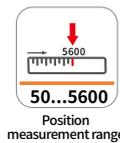


# GP2-SSI

## GP2-Series Data Sheet



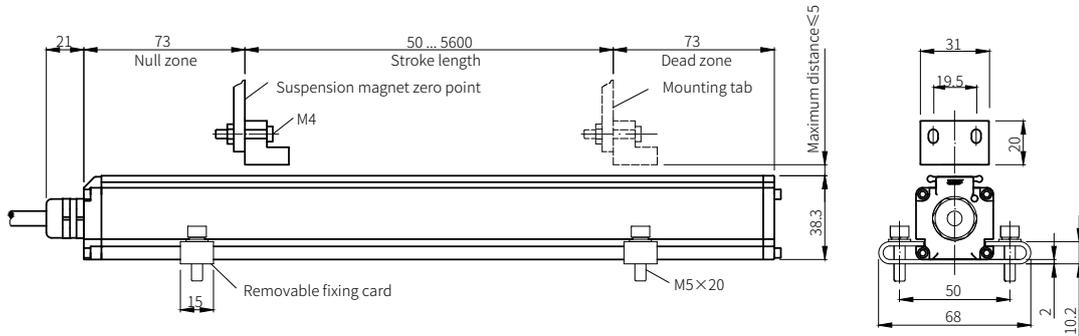
- + Updated new generation: stronger performance
- + Easily installed: integrated design, no protruding electronics housing
- + Standard SSI signal can directly replace the encoder
- + Widely applied in forging, building materials, rubber and plastic machinery and other fields



<b>Input</b>	Measured data	Position												
	Measurement range	50mm...5600mm												
<b>Output</b>	Interface	SSI synchronous serial interface												
	Data format	Binary or gray code												
	Data length	8...32 bit												
	Data speed	70kBd...1MBd depending on cable length: <table border="1"> <tr> <td>Cable length (m)</td> <td>&lt; 3</td> <td>&lt; 50</td> <td>&lt; 100</td> <td>&lt; 200</td> <td>≤ 400</td> </tr> <tr> <td>Baud rate (kBd)</td> <td>1000</td> <td>&lt; 400</td> <td>&lt; 300</td> <td>&lt; 200</td> <td>&lt; 100</td> </tr> </table>	Cable length (m)	< 3	< 50	< 100	< 200	≤ 400	Baud rate (kBd)	1000	< 400	< 300	< 200	< 100
	Cable length (m)	< 3	< 50	< 100	< 200	≤ 400								
	Baud rate (kBd)	1000	< 400	< 300	< 200	< 100								
Update frequency	<table border="1"> <tr> <td>Stroke length (mm)</td> <td>&lt; 300</td> <td>&lt; 750</td> <td>&lt; 1000</td> <td>&lt; 2000</td> <td>≤ 5600</td> </tr> <tr> <td>Update frequency (kHz)</td> <td>3.7</td> <td>3.0</td> <td>2.3</td> <td>1.2</td> <td>0.5</td> </tr> </table>	Stroke length (mm)	< 300	< 750	< 1000	< 2000	≤ 5600	Update frequency (kHz)	3.7	3.0	2.3	1.2	0.5	
Stroke length (mm)	< 300	< 750	< 1000	< 2000	≤ 5600									
Update frequency (kHz)	3.7	3.0	2.3	1.2	0.5									
<b>Resolution</b>	Resolution	0.5/1/2/5/10/20/50/100μm												
	None-Linearity	< ±0.02%F.S. (min. ±50μm)												
	Repeatability	< ±0.005%F.S. (min. ±20μm)												
	Temperature coefficient	< 30ppm/°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	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)												
	Dielectric strength	500 VDC (DC ground to machine ground)												
<b>Operating conditions</b>	Magnet velocity	Slider magnet ≤ 10m/s; suspension magnet, any.												
	Operating temperature	-40...85°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												
ITEM	CATEGORY	PARAMETER												

**Straight out cable**

GP2- \_\_\_\_ - **RP** \_\_\_\_ - \_\_\_\_  
 GP2- \_\_\_\_ - **RT** \_\_\_\_ - \_\_\_\_

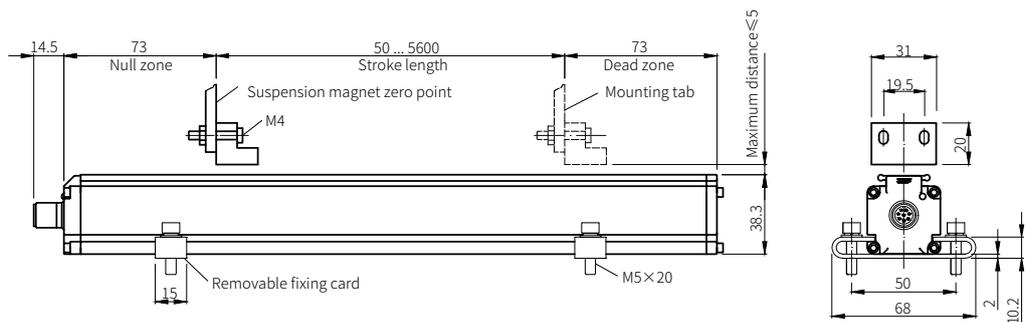


**FUNCTION**

Color	● Brown	○ White	● Yellow	● Green	● Gray*	● Pink*
Function	24VDC -15/+20%	0 VDC(GND)	Clock+	Clock-	Data-	Data+

**8 pin M12 connector**

GP2- \_\_\_\_ - **D812**- \_\_\_\_



**FUNCTION**

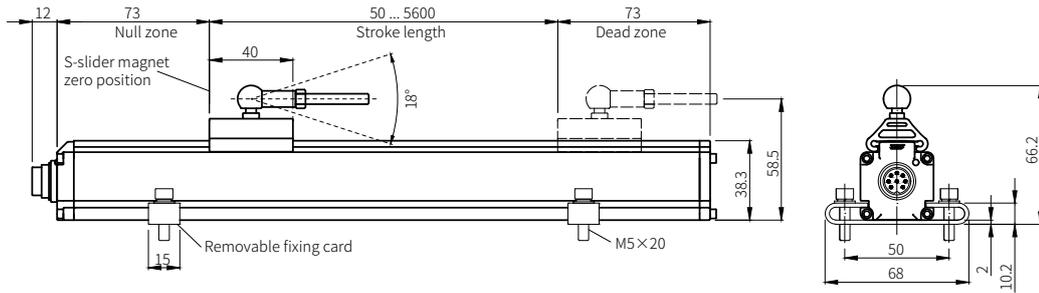
PIN-Male	1	2	3	4	5	6	7	8
Function	Clock+	Data+	Clock-	NC	Data-	0VDC (GND)	24VDC -15/+20%	NC



View on sensor

**8 pin M16 connector**

GP2- \_\_\_\_ - D816- \_\_\_\_\_



**FUNCTION**

PIN-Male	1	2	3	4	5	6	7	8
Function	Clock+	Data+	Clock-	NC	Data-	0VDC (GND)	24VDC -15/+20%	NC



View on sensor

**ORDER CODE**

TECHNOLOGY PERCEIVES THE FUTURE

**GP2 - - - M - - - S - - -**

Magnet	Stroke length	Connection type	Output
S Magnet slider joint at top	0050...5600mm (5mm increments)	RP__ Straight out __m high performance cable	(Output Code)
F Suspension magnet		RT__ Straight out __m high temperature cable (Fill in zero if less than 2 places )	
		D812 8 pin M12 connector	
		D816 8 pin M16 connector	

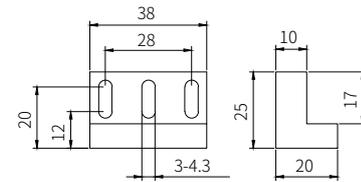
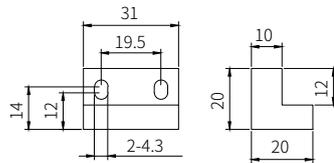
SSI Output Code		S [1][2][3][4][5][6]				
[1] Function	[2] Options	[3] Mode	[4] Data length	[5] Format	[6] Resolution	
1 Position	0 Standard	1 Forward 2 Reverse	1 25 bit 2 24 bit 3 26 bit	B Binary G Gray	1 5µm 2 10µm 3 50µm 4 100µm 5 20µm 6 2µm 7 0.1µm 8 1µm 9 0.5µm	

**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.

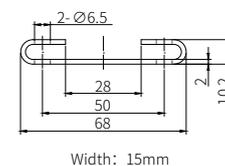
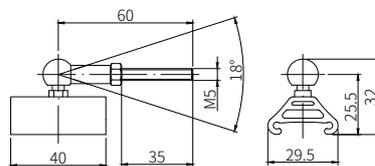
Model selection	Model: GP2-F-0600M-D812-S1011B1
	Explanation: GP2 type II generation, Suspension magnet, stroke length 600mm, 8pin M12 aviation plug, position measurement, standard, forward, asynchronous mode, 25 bit, Binary, baud rate 5µm, single magnet.

**PARTS SELECTION**

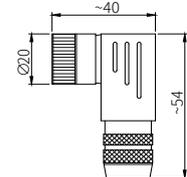
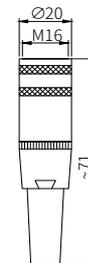
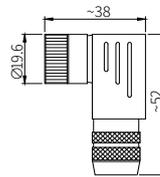
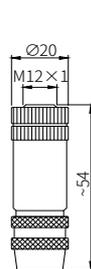
TECHNOLOGY PERCEIVES THE FUTURE



Name	Suspension magnet 31x20	Suspension magnet 38x25
Operating temperature	-40...105°C	
<b>Order code</b>	<b>12-1010</b>	<b>12-1009</b>



Name	Magnet slider S, joint at top	Removable fixing card
Operating temperature	-40...105°C	/
<b>Order code</b>	<b>12-1116</b>	<b>11-1060</b>



Name	8 pin M12 female connector	8 pin M12 female connector (90 degree angle)	8 pin M16 female connector	8 pin M16 female connector (90 degree angle)
End view drawing				
Material	Galvanized nickel			
Fitting diameter	8...10mm	6...8mm	6...9mm	6...8mm
Connection	Threaded		Welding	
<b>Order code</b>	<b>18-5004</b>	<b>18-5005</b>	<b>18-5002</b>	<b>18-5003</b>

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