SGM-PF10 Flat disc-head type

The flat structure design is suitable for U-shaped and other limited-space hydraulic cylinders. Measuring range 25-8000mm, Analog/SSI/RS485 output, 35MPa(continuous) 70MPa(peak).

Features

- **Secure and Reliable – oil- and dirt-resistant**
- **Easy to Diagnose – LED real-time status display**
- **Non-Contact Measurement – never wears**
- **Modular Design – easy replacement**
- **Absolute Position Output – no re-homing required**
- **Low-Power Design – reduces system power consumption**
- **High-Resolution 16-Bit D/A Analog Output**
- **Repeatability is better than ±0.001% of the full scale**
- **The nonlinearity is less than ±0.01% of the full scale.**

Specifications

Performance	
Measuring range	25–8000 mm
Output signal	0-20mA(max/min load 0/500Ω) / 4-20mA(max/min load 0/500Ω) / 0-10V(min. load >5KΩ) / RS485(MODBUS RTU) / SSI (on request) (on request)
Resolution	16-bit D/A
Non-linearity	＜±0.01% (min. ±50um)
Repeatability	＜±0.001% (min. ±5um)
Update time	<5ms(depending on range) / 1ms(1m<range<2m) / 2ms(2m<range<3m) / 5ms(3m<range<4m)

Operating conditions	
Magnet speed	Any
Operating temperature	-40~+85°C
Storage temperature	-55~+85°C
Humidity	90 % PR10, non-condensing
Temperature coefficient	<30ppm/°C

Protection class	IP68
Pressure rating	35Mpa(continuous) 70Mpa(peak)

Mounting	
Mounting orientation	Any
Mounting	M18*1.5 or custom
Position magnet	Ring magnet or float

Electrical	
Electrical connection	Direct cable or connector
Supply voltage	24VDC (±20%)
Current consumption	<60mA(depends on range)
Reverse-polarity protection	Max. -30VDC
Over-voltage protection	Max. 36VDC
Insulation strength	500VDC

Materials	
Sensor head	304 stainless steel
Protective tube	304 stainless steel
Mounting flange	304 stainless steel

Orderable range as listed; longer ranges and special temperature or pressure versions on request.

Electrical connection

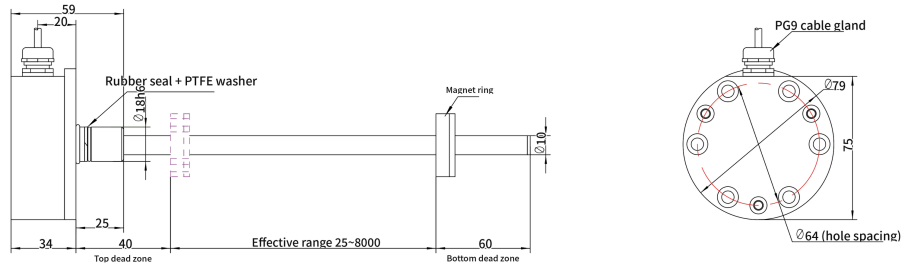
Analog connector pinout (6-pin)

1	Analog output +
2	Analog output -
3	Reserved for debugging
4	Reserved for debugging
5	Supply +
6	Supply - (GND)

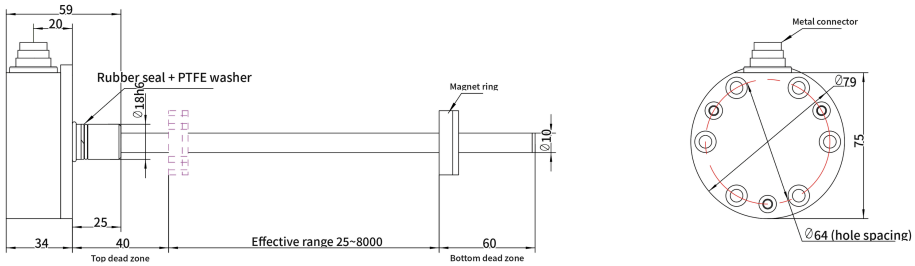
SSI connector pinout (7-pin)

1	Data (-)
2	Data (+)
3	(+) Clock
4	(-) Clock
5	Supply +
6	Supply - (GND)
7	NC, not connected

Dimensions (mm)



Technical drawing: PG9 waterproof cable gland version, side + end view



Technical drawing: metal connector version, side + end view

Range figures in drawings are illustrative; the orderable range is given in the specifications.

Ordering code

```
SGM-PF10-<mounting>-<range>-<output>-<connection>[-options]
```

Mounting	
18	M18×1.5
XX	Custom thread

Range	
00025–08000	5 digits in mm, 5 mm steps

Output	
I1F	4–20 mA, zero at rod end
I1R	4–20 mA reversed (20–4 mA), zero at head
I2F	0–20 mA, zero at rod end
I2R	0–20 mA reversed (20–0 mA), zero at head
V1F	0–10 V, zero at rod end
V1R	0–10 V reversed (10–0 V), zero at head
V2F	0–5 V, zero at rod end
V2R	0–5 V reversed (5–0 V), zero at head
R4	RS485 (Modbus RTU)
XX	Customer-specified output

Connection	
K16	M16 connector, 6-pin
C02 … C99	Direct cable, number = length in m (C02 = 2 m)
…X	Suffix X: customer-specified cable

Options	
(none)	Series standard dead zones
Z9	Customer-specified dead zones

Outputs or options listed in the specifications but not in the ordering code are available on request.

Ordering examples

SGM-PF10-18-00800-I1F-C05	800 mm, 4–20 mA, 5 m cable

Specifications are subject to change; final values are confirmed with the order.