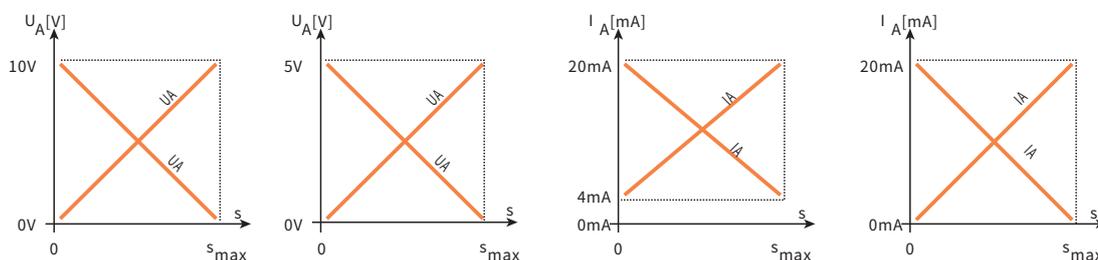




GA-Analog

GA-pressure resistant outer tube



- + Compact structure: flat structure design, flange mounting, suitable for use inside U-shaped and other space-limited hydraulic cylinder
- + Durust: fully enclosed design with maximum IP68 protection
- + Linear displacement, absolute value output
- + Easy to use, standard signal output, maintenance-free
- + Maximum durability, continuous non-contact
- + Full scale adjustable, 100% adjustable zero and full scale



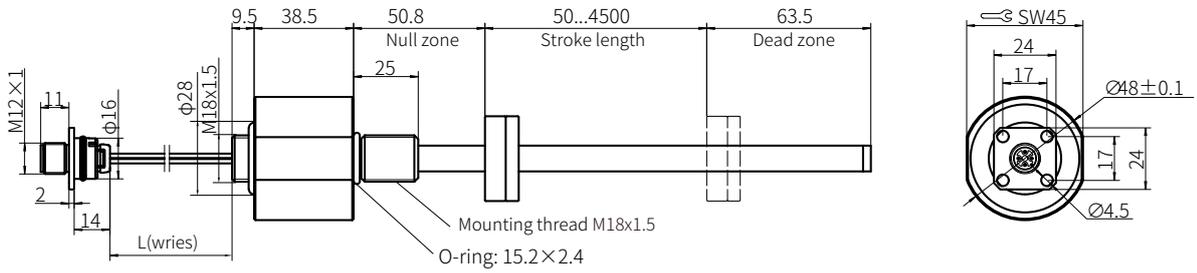
Document Number:
GA-A(V1.1)-EN

TECHNICAL PARAMETER

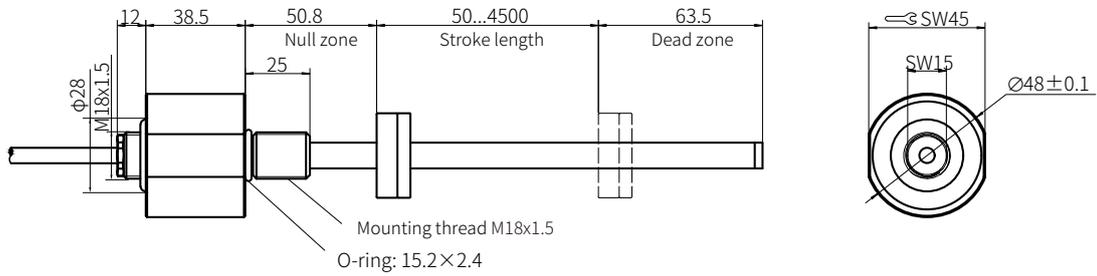
Input									
Measured data	Position								
Measurement range	50mm...4500mm								
Output									
Voltage	0...10VDC, 10...0VDC, 0...5VDC, 5...0VDC (Controller min. load impedance >5K Ω)								
Current	4...20mA, 20...4mA, 0...20mA, 20...0mA (min./max. load 0/750 Ω)								
Resolution									
Position resolution	16 bit D/A								
None-Linearity	< $\pm 0.05\%$ F.S. (min. $\pm 50\mu\text{m}$)								
Repeatability	< $\pm 0.005\%$ F.S. (min. $\pm 20\mu\text{m}$)								
Update time	<table border="1"> <thead> <tr> <th>Stroke length</th> <th>$\leq 1200\text{mm}$</th> <th>$\leq 2400\text{mm}$</th> <th>$\leq 4800\text{mm}$</th> </tr> </thead> <tbody> <tr> <td>Update time</td> <td>0.5ms</td> <td>1ms</td> <td>2ms</td> </tr> </tbody> </table>	Stroke length	$\leq 1200\text{mm}$	$\leq 2400\text{mm}$	$\leq 4800\text{mm}$	Update time	0.5ms	1ms	2ms
Stroke length	$\leq 1200\text{mm}$	$\leq 2400\text{mm}$	$\leq 4800\text{mm}$						
Update time	0.5ms	1ms	2ms						
Temperature coefficient	< 30ppm/ $^{\circ}\text{C}$								
Mounting									
Mounting position	Any								
Thread	Metric M18x1.5								
Design/Material									
Electronics housing	Stainless steel 304								
Measuring rod	Stainless steel 304, 316L								
Magnet	Standard magnet								
Operating pressure ratings	35MPa (continuous) ,70MPa (peak)								
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	< 50mA (varies with range size)								
Dielectric strength	500 VDC (DC ground to machine ground)								
Operating conditions									
Magnet velocity	Any								
Operating temperature	-40...85 $^{\circ}\text{C}$								
Humidity	90 % relative humidity, no condensation								
Ingress protection	IP68								
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

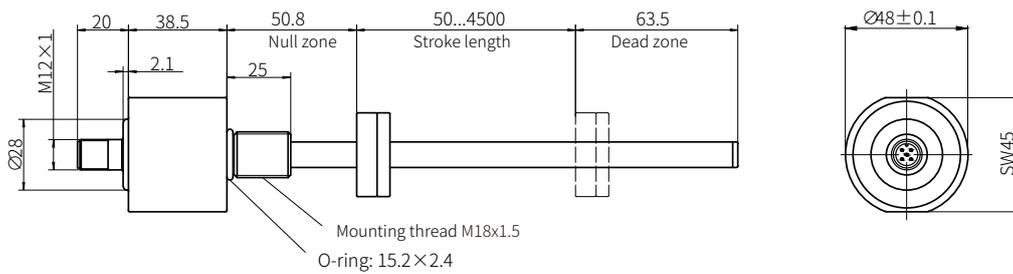
4 PIN M12 connector



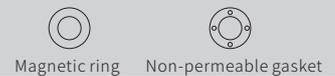
Straight out cable



5 PIN M12 connector



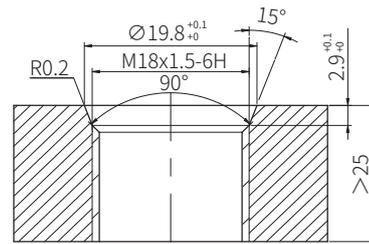
For selection of supporting magnetic rings and non-permeable gaskets, please refer to the attachment for details.



MECHANICAL MOUNTING DIAGRAM

Thread fixation

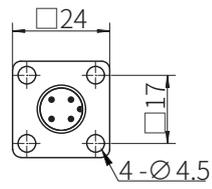
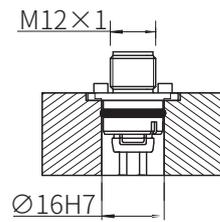
GA series built-in pressure resistant outer tube sensors are equipped with metric M18x1.5 threads to be fixed.



Metric M18x1.5, reference to the hole size

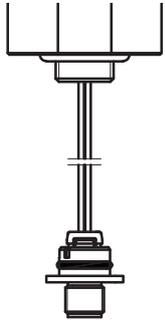
M12 connector

3 single wires, 0.5mm²



Wiring

4 Pin M12 connector



DG (1-3-4)wiring



View on sensor

4 pin M12 connector

PIN	Color	Function
1	Brown	+24VDC (-15/+20%)
2	-	NC
3	White	GND
4	Gray	Signal output

DH (1-2-3)wiring

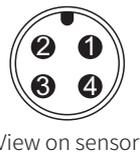


View on sensor

4 pin M12 connector

PIN	Color	Function
1	Brown	+24VDC (-15/+20%)
2	Green	Signal output
3	White	GND
4	-	NC

DE (2-3-4)wiring

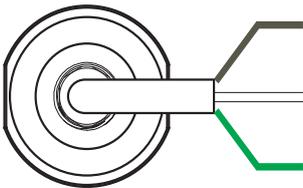


View on sensor

4 pin M12 connector

PIN	Color	Function
1	-	NC
2	Green	+24VDC (-15/+20%)
3	White	GND
4	Gray	Signal output

Straight out cable



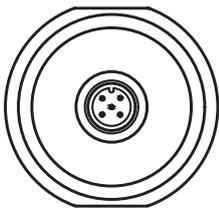
Color

Brown
White
Green

Function

+24VDC (-15/+20%)
GND
Signal output

5 Pin M12 connector



View on sensor

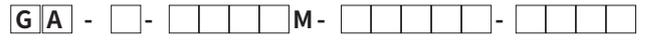
PIN

1
2
3
4
5

Function

+24VDC(-15/+20%)
Signal output
GND
-
SGND

ORDER CODE



Thread

- M Metric M18x1.5
- R Metric M18x1.5, with M4x6 thread at tail end

Stroke ____M

- 0050...4500
- M=mm (5mm increments)

Connection type

D512 5 pin M12 connector

Fill: [1] [2] [3] [4] [5]

[1] and [2]: Cable connection

- R** straight-out cable
- DG** 4 pin aviation plug, M12 (Pin definition 1-3-4)
- DH** 4 pin aviation plug, M12 (Pin definition 1-2-3)
- DE** 4 pin aviation plug, M12 (Pin definition 2-3-4)

[3]: Cable performance

- P** high performance cable
- T** high temperature cable

[4] and [5]: Cable length

- unit: meter
- Fill in zero if less than 2 places
- unit: 10millimetre
- for DG/DH/DE

Output signal mode

Fill: [1] [2] [3]

[1] and [2] : Output type and direction

- A0** 4...20mA (forward)
- A1** 20...4mA (reverse)
- A2** 0...20mA (forward)
- A3** 20...0mA (reverse)
- V0** 0...10V (forward)
- V1** 10...0V (reverse)
- V2** 0...5V (forward)
- V3** 5...0V (reverse)
- V4** 0.25...0.75V (forward)
- V5** 0.5...4.5V (forward)

[3] Ring number

- 1** one magnet ring

K=Anti-vibration program (Note: for special request, fill in last digit)

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.

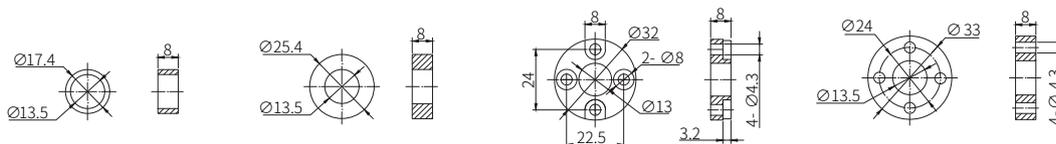
Model | GA-M-0390M-RP10-A01

Explanation: GA series pressure resistance outer tube type, mounting thread metric M18x1.5, range 390mm, straight out 10m high performance cable , 4 to 20mA current output (forward), single magnetic ring.



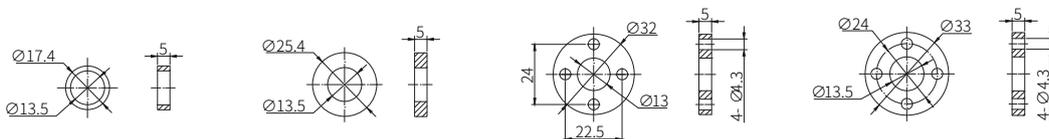
ACCESSORIES

Analog



Name	Ring magnet	Ring magnet	Ring magnet	Ring magnet
Operating temperature	-40~125°C			
Order code	12-1032	12-1019	12-1024	12-1001

Non-permeable gasket



Name	Non-permeable gasket	Non-permeable gasket	Non-permeable gasket	Non-permeable gasket
Operating temperature	-40~125°C			
Order code	12-1037	12-1021	12-1025	12-1008



Connector	5 pin M12 female connector	5 pin M12 female connector (90 degree angle)
Name	Integral cable	Integral cable
Cable	5 wire 0.25mm ² shielded cable	5 wire 0.25mm ² shielded cable
Color/Diameter	Orange/ Ø 6	Orange/ Ø 6
Plug surface	 <ul style="list-style-type: none"> 1-Brown 2-Green 3-White 4-Gray 5-Yellow 	 <ul style="list-style-type: none"> 1-Brown 2-Green 3-White 4-Gray 5-Yellow
Length	5~30M	5/10/15/20/30M
Order code	16-1035	16-1040

Building 6, Dazu Enterprise Bay,
8th yard of Liangshuihe 2nd street, BDA Beijing P.R.China

Tel: +86 10-67948976 67948916
Fax: +86 10-67948979
Technical support: +86 (0)13370126657

■ **For more customizable products,
please contact us.**

Beijing Tebeifu Electronic Technology Co., Ltd.