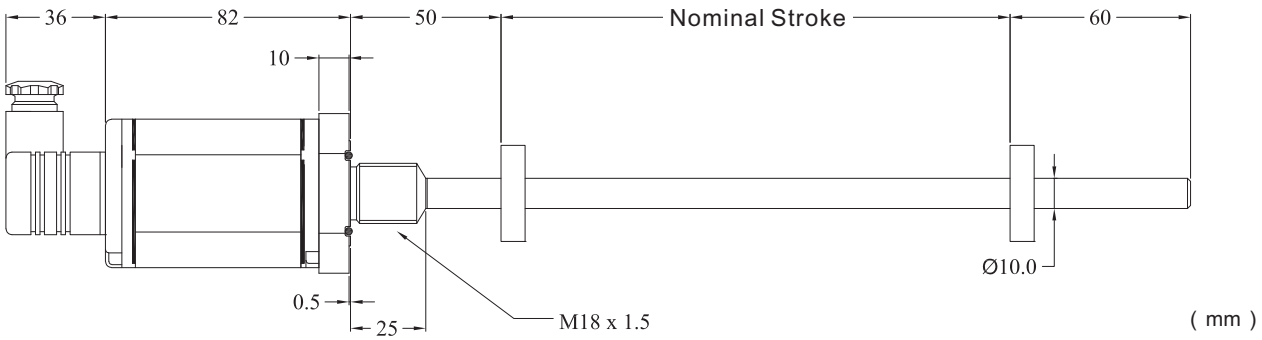
The 17 series non-contact absolute position transducer is specially designed for hydraulic cylinder to provide precise, direct and absolute position feedback. Hydraulic body is made by stainless steel; it can be inserted directly into hydraulic cylinder. Electronic component and hydraulic body are modular design which can be detached easily.

The transducer is rated for IP65 which offers full protection against outside agents for use in harsh environments with high contamination and presence of dust. The connector is common for use in hydraulic device and easy for field connection. Besides for hydraulic system, it is also suitable for machine installation. The absence of electrical contact eliminates all wear and guarantees almost unlimited mechanical life expectancy.

Specifications

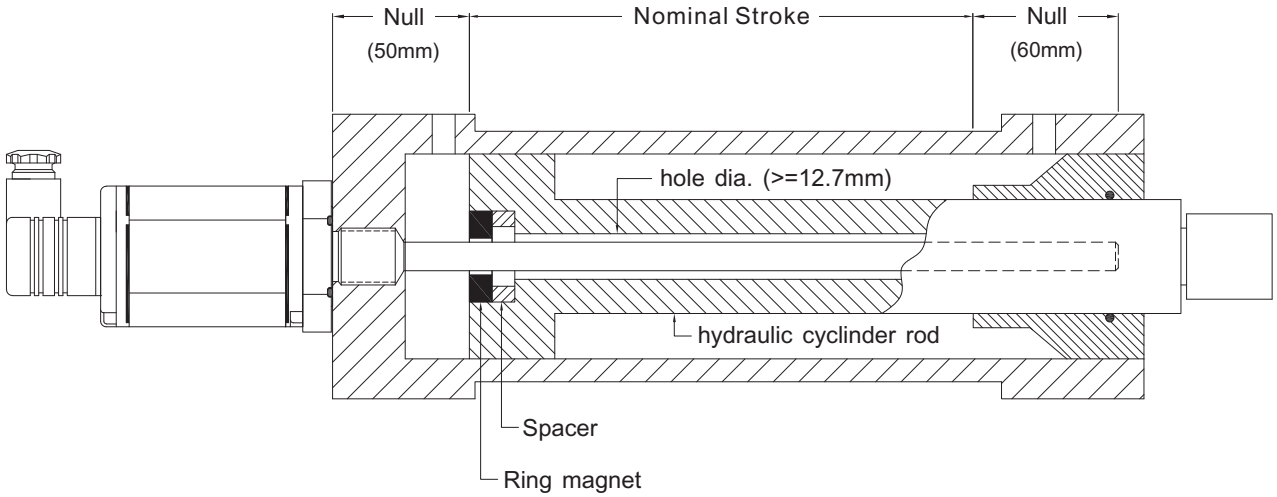
Order Code	170	171	172	174	175	173
Output	0-10V 10-0V	0-20mA	20-0mA	4-20mA	20-4mA	Start/Stop
Measurement Type	Linear displacement					
Resolution	Infinite, restricted by output ripple					0.1 / 0.01 / 0.005mm
Input Voltage	+24Vdc (20.4 - 28.8Vdc)					
Input Protection	Polarity protection up to -30Vdc, Over voltage protection up to 36Vdc					
Current Consumption	50-140mA (stroke range dependent)					
Dielectric Strength	500Vdc (DC ground to machine ground)					
Repeatability	< ±0.005% of full scale					
Non-Linearity	< ±0.02% of full scale (minimum ±90µm)					
Update Time	0.5 ms up to 1200 mm / 1.0 ms up to 2500 mm					
Operation Temp.	-40 to 75°C, Humility 90% non-condensing					
Sealing	IP65 (with 4 pin connector) / IP67 (with D60 and M12 connectors)					
Vibration Rating	15g / 10-2000Hz / IEC standard 68-2-6					
Shock Rating	100g single hit per IEC standard 68-2-27					
EMC	Emission EN 61000-6-3, Immunity EN 61000-6-2					
	EN 61000-4-2/3/4/6					
Pressure Rating	350 bar / 600 bar peak					
Mounting	M18 x 1.5					
Housing Material	Anodized aluminum sensor cartridge, Stainless steel tube and flange, Plastic cartridge cover					

Dimension

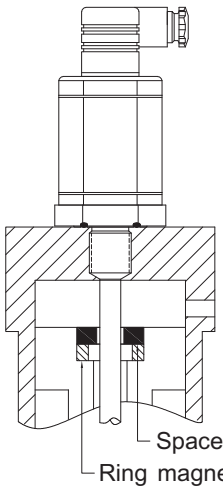


(mm)

Installation



Magnet installation

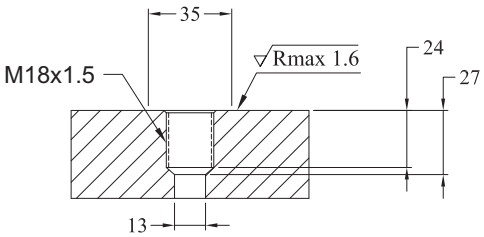


Remarks:

Mounting screw must be made of non-magnetizable materials. If cylinder is made of magnetizable materials, ring spacer must be installed

Mounting surface requirement

Minimum diameter of mounting surface



Installation hole must be perpendicular with mounting surface and center with sensor rod.

Order Code

1 7 X X X X X X X X

Output

0 = 0-10Vdc and 10-0Vdc
1 = 0-20mA
2 = 20-0mA
3 = Start/Stop
4 = 4-20mA
5 = 20-4mA

Connector (Voltage / Current)

0 = 4 pins connector (IP65)
3 = 4 pins connector (IP67)
4 = 5 pins M12 connector (not include 5 pins female connector)
8 = Cable outlet (P.A4 to select cable length)
9 = D60 armor sensor cartridge

Connector (Start/Stop)

0 = 4 pins connector (IP65, in use with module)
6 = 8 pins M12 connector (not include M12 female connector)
9 = D60 armor sensor cartridge

Mounting thread

2 = M18 x 1.5

Magnet Type (P.A1)

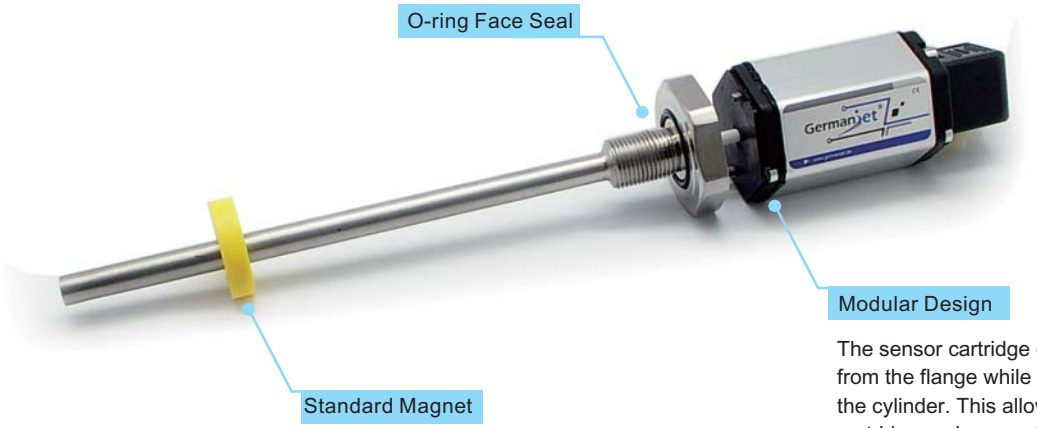
1 = Dia. 33mm ring
2 = Dia. 25mm ring
3 = Floating ball
4 = Dia. 60mm ring
5 = Dia. 32mm ring

Stroke Length

0075, 0100, 0125, 0150, 0175, 0200, 0225
0250, 0275, 0300, 0325, 0350, 0375, 0400
0425, 0450, (25mm increment after and up to 2500mm)

Sensor cartridge replacment

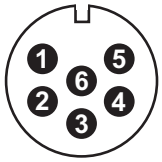
O-ring face seal provide an ease of machining on the machine.



The sensor cartridge can be removed from the flange while still installed in the cylinder. This allows quick sensor cartridge replacement without the loss of hydraulic pressure.

A wide selection of ring magnet to choose from.

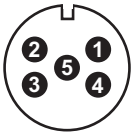
Wiring



	Voltage	Current	Start/Stop
1	0-10V output	Signal output	Stop (-)
2	Pin 1 DC Gnd.	Signal Gnd	Stop (+)
3	10-0V output	N.C.	Start (+)
4	Pin 3 DC Gnd.	N.C.	Start (-)
5	+24 Vdc	+24 Vdc	+24 Vdc
6	0 Vdc	0 Vdc	0 Vdc

D60 connector
(View toward sensor pins)

	Cable	Voltage	Current
1	Black	0-10V Output	Signal Output
2	White	Pin 1 DC Gnd	Signal Gnd
3	Yellow	10-0V Output	N.C.
4	Green	Pin 3 DC Gnd	N.C.
5	Red	+24 Vdc	+24 Vdc
6	Blue	0 Vdc	0 Vdc



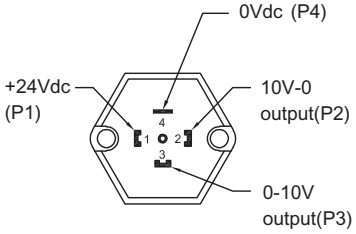
	Voltage	Current
1	+24Vdc	+24Vdc
2	0-10V output	Signal output
3	0 Vdc	0 Vdc
4	10-0V output	N.C.
5	DC Gnd	Signal Gnd

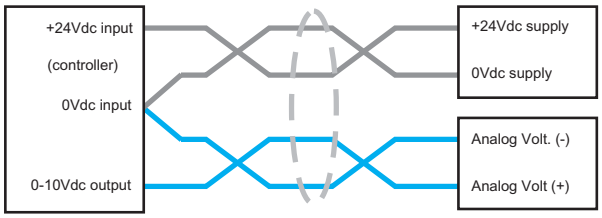
5 pins M12 connector
(View toward sensor pins)

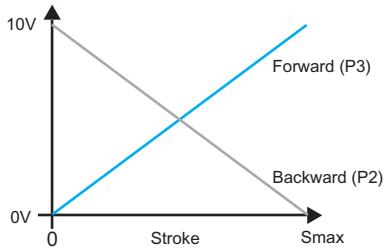
	Start /Stop
1	Start (+)
2	Start (-)
3	Stop (+)
4	Stop (-)
5	N.C.
6	N.C.
7	+24 Vdc
8	0Vdc

8 pins M12
(View toward sensor pins)

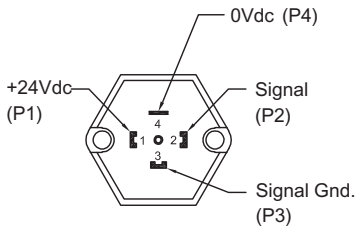
Analog voltage output

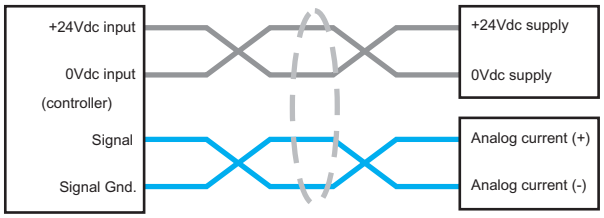


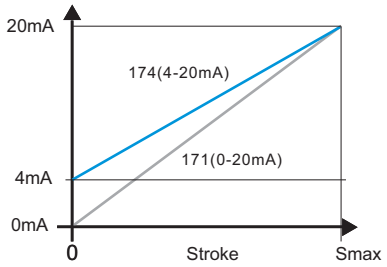




Analog current output







Start/Stop digital output