



Use with:

Oil and Gas E&P Equipment
Industrial and Mobile Hydraulics
Off-road and Construction Vehicles



**NO MAGNET
REQUIRED!**

MHP-7 Series

LVIT Linear Position Sensor

Specifically designed for position feedback of hydraulic and pneumatic cylinders

The MHP-7 Series LVIT (Linear Variable Inductance Transducer) Position Sensors from Alliance Sensors Group were designed to be installed into the rear endcap of hydraulic cylinders having a female o-ring port. Their 1-inch hex aluminum or stainless steel housings are ideal for operation up to 5000 psig (350 bar) in high pressure mobile hydraulic systems, factory automation machinery, or oil and gas exploration equipment.

The MHP-7 series sensors are based on a proprietary contactless sensing technology with a good stroke-to-length ratio. They employ a 7 mm diameter sealed inductive probe inserted into a gun-drilled hole in the cylinder rod to measure its position rather than using a ring magnet or a potentiometer's contact spool. They are offered in full scale ranges from 25 to 600 mm (1 to 24 inches), with a wide variety of analog I/Os, and either connector or cable terminations. The MHP-7 is also offered with ASG's proprietary SenSet™ feature whereby a sensor's analog output can be easily adjusted in the field after installation to match the range of motion of the cylinder rod.

Additional information can be found at www.alliancesensors.com.

Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Senses cylinder rod... **NO MAGNET REQUIRED**
- 1-inch hex aluminum or stainless steel housing
- Easily adapts to existing cylinder designs
- Contactless sensing for long sensor life
- Proprietary SenSet™ for field adjustable range scaling

Specifications:

Analog I/Os	0 – 5 V or 0.5 – 4.5 V output with 8 – 30 V input, 35 mA max. 0 – 10 V output with 12 – 30 V input, 35 mA max. 4 – 20 mA (3-wire) output with 18 – 30 V input, 60 mA max. (75 C max.)
Measuring Ranges	0-25 mm to 0-600 mm (1 to 24 inches) Full Scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% of FSO max.
Resolution	0.025% of FSO
Update Rate	300 Hz nominal
Operating Temperature	-20 to 85 C (-40 C to 105 C Extended Range)
Temperature Coefficient	≤±0.015% of FS/deg C
Operating Pressure	5000 psig (350 bar) max operating, 7500 psig (520 bar) proof
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p
Shock	1000g, 11 msec
Terminations	IEC IP-67
Humidity	95% RH, non-condensing

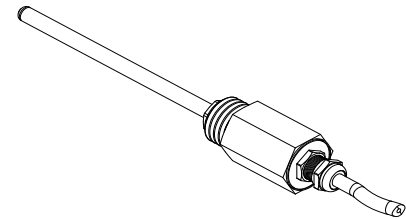
MHP-7 Series



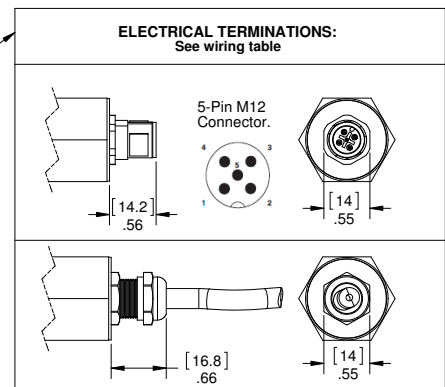
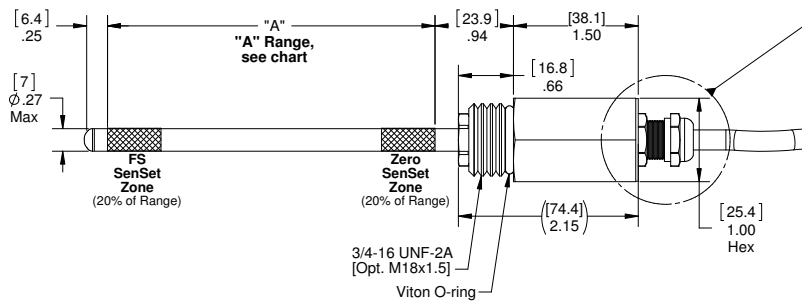
Nominal Range	Dim. "A" In. [mm]
25 mm	1.0 [25.4]
50 mm	2.0 [50.8]
75 mm	3.0 [76.2]
100 mm	4.0 [101.6]
125 mm	5.0 [127.0]
150 mm	6.0 [152.4]
200 mm	8.0 [203.2]
250 mm	10.0 [254.0]

Nominal Range	Dim. "A" In. [mm]
300 mm	12.0 [304.8]
350 mm	14.0 [355.6]
400 mm	16.0 [406.4]
450 mm	18.0 [457.2]
500 mm	20.0 [508.0]
600 mm	24.0 [609.6]
750 mm	30.0 [762.0]
900 mm	36.0 [914.4]

Wiring Table		
I/O Function	Pin	Cable Color
+ Power Input	1	Red
Ground	2	Black
Voltage output	3	Green
Current output	4	Green
SenSet™	5	White



Ordering Guide	
Model	Output
MHPE	Voltage
MHPI	Current



Ordering Information

Series	Output Type	Probe Dia.	Range (mm)	Port Thread	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
MHP	X-	X-	XXX-	XX-	XX-	XX-	X	XX-	XX
	E - Voltage	7 - 7 mm	025 - 250	08 - 3/4-16	00 - 1 m cable	05 - 0.5 to 4.5 V	A - Alumimun	08 - 8 (25-100 ranges)	AL - Aluminum
	I - Current		(25 mm increments)	18 - M18	01 - 5-pin M12	06 - 4.5 to 0.5 V	S - 300 Series SS	95 - 9.5 (125-200 ranges)	AS - Alloy Steel
				22 - M22	03 - 5-pin mini 7/8	10 - 0 to 10.0 V		11 - 11 (250-900 ranges)	CS - Carbon Steel
			250 - 600			11 - 10.0 to 0 V			SS - Stainless Steel
			(50 mm increments)			20 - 4 to 20 mA			
						21 - 20 to 4 mA			
			600 - 900			50 - 0 to 5 V			
			(150 mm increment)			51 - 5 to 0 V			

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