



For use in:
 Oil and GAS E&P Equipment
 Industrial and Mobile Hydraulics
 Off-road and construction vehicles

MHP-7 Series

LVIT Linear Position Sensor

NO MAGNET
 REQUIRED!

More Sensor for Less

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 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:

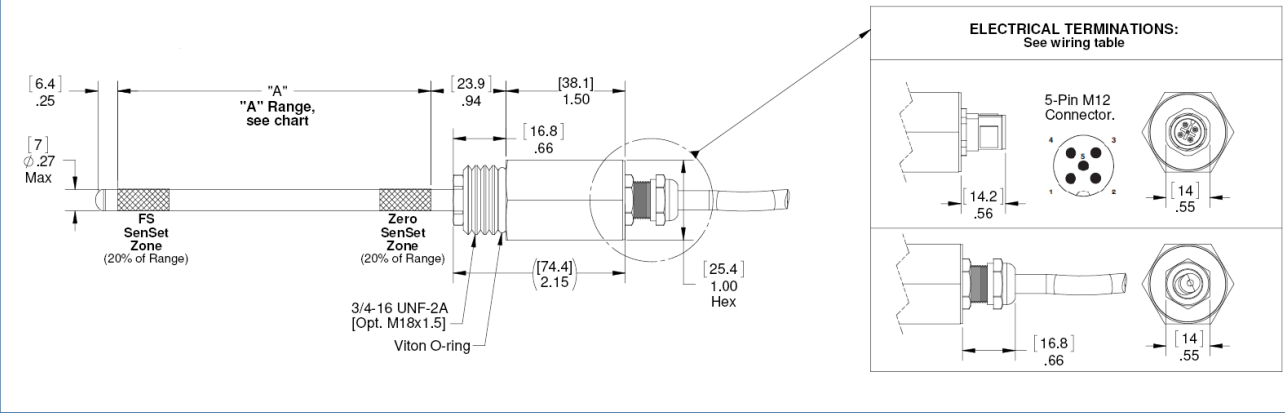
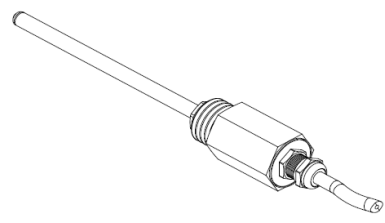
Analog I/Os	0-5 V or 0.5—4.5 V output with 8 -30 V input, 35 mA max. 0-10 V output with 12—30 V input, 35 mA max. 4-20 mA (3-wire) output with 18-30 V input, 60 mA max (75 C max).
Measuring Ranges	0-25 mm to 0-600 mm (1 to 24 inches) Full Scale (nominal)
Linearity Error	<± 0.15% of FSO typical, ± 0.25% of FSO max
Resolution	0.025% of FSO
Update Rate	300 Hz nominal
Operating Temperature	-20 to 85 C (-40 to 105 C extended temperature 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	1000 g, 11 msec
Terminations	IEC IP-67
Humidity	95% RH, non-condensing

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MHP-7 Series



Unit Length Table		Unit Length Table		Wiring Table		
Nominal Range	Dim. "A" In. [mm]	Nominal Range	Dim. "A" In. [mm]	I/O Function	Pin	Cable Color
25 mm	1.0 [25.4]	300 mm	12.0 [304.8]	+ Power input	1	Red
50 mm	2.0 [50.8]	350mm	14.0 [355.6]	Ground	2	Black
75 mm	3.0 [76.2]	400 mm	16.0 [406.4]	Voltage output	3	Green
100 mm	4.0 [101.6]	450 mm	18.0 [457.2]	Current output	4	Green
125 mm	5.0 [127.0]	500 mm	20.0 [508.0]	SenSet™	5	White
150 mm	6.0 [152.4]	600 mm	24.0 [609.6]			
200 mm	8.0 [203.2]	750 mm	30.0 [762.0]			
250 mm	10.0 [254.0]	900 mm	36.0 [914.4]			



Ordering Information:

Series	Output Type	Body Diameter	Range, Metric	Port Thread	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
MHP	X-	XX-	XXX-	XX-	XX-	XX-	X-	XX-	XX-
	E- Voltage	7- 7 mm	025-25 (25 mm increments)	08- 3/4-16	00- 1-m cable	05- 0.5-4.5 VDC	A- Aluminum	08- 8 (25-100 ranges)	AL- Aluminum
	I- Current		250-600 (50 mm increments)	18- M18	01- 5-pin M12	06- 4.5-0.5 VDC	S- 300 Series SS	95- 9.5 (125-200 ranges)	AS- Alloy Steel
			600-900 (150 mm increments)	22- M22	03- 5-pin mini 7/8	10- 0-10 VDC		11- 11 (225-600 ranges)	CS- Carbon Steel
						11- 10-0 VDC			SS- Stainless Steel
						20- 4-20 mA			
						21- 20-4 mA			
						50- 0-5 V			
						51- 5-0 V			

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