

For use in:
Hydraulic and Pneumatic Cylinders
Embeddable Subsea Actuators
Mobile Hydraulic Equipment

MHE-7 Series

28mm Diameter In-cylinder LVIT Inductive Position Sensors

Lower cost, more robust alternative to other embeddable sensors

The MHE-7 Series LVIT (Linear Variable Inductive Transducer) Position Sensor from Alliance Sensors Group offers more robust construction and a lower cost of ownership than other embeddable in-cylinder sensing technologies, making the MHE-7 a preferred choice cylinder users. These sensors can be embedded into the end cap of industrial or mobile hydraulic cylinders or electric linear actuators. They're based on a contactless inductive sensing technology that employs a 7- mm diameter probe with a shorter stroke-to-length ratio than most other sensing technologies. It uses a simple gun-drilled blind hole in the cylinder rod to sense the rod's position without requiring any additional targeting element(s) on the piston making for less machining, fewer parts and simplified design.

An MHE-7 has a 28 mm (1.10 inch) diameter sensor head with an O-ring and back-up ring in a groove, so it can be mounted an industry-standard 28 mm diameter cavity in the cylinder cap and locked in with radial set screws or a snap ring. Being contactless, an MHE-7 Series sensor does not wear out and has no output signal deterioration over the life of the sensor. Because it uses a simple inductive coil, an MHE-7 sensor can withstand much greater shock and vibration than other technologies. A very useful feature of an MHE-7 sensor is ASG's proprietary SenSet™ field scaling process so the sensor's analog output can be adjusted by the user after installation to precisely match the range of motion of the cylinder rod.

For more information, please go to www.alliancesensors.com.

Features:

- LVIT Technology™ (Linear Variable Inductive Transducer)
- Senses the cylinder rod itself
- Extremely robust construction
- Contactless sensing for long sensor life
- Easily adapts to existing cylinder designs
- High resolution with choice of several analog I/Os
- SenSet™ feature for field scalability of analog output

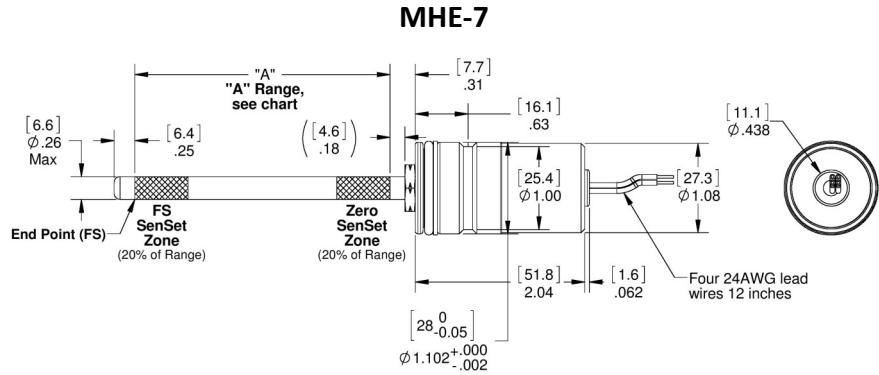
Specifications:

Analog I/Os	0-5 V or 0.5-4.5 V output, 8-30 V input, 35 mA max. 0-10 V output, 12-30 V input, 35 mA max. 4-20 mA, 3-wire sourcing output, 18-30 V input, 60 mA max (75 C max).
Measuring Ranges	0-25 to 0-900 mm (1 to 36 inches)
Linearity Error	± 0.15% of FSO typical, ± 0.25% of FSO max
Resolution	0.025% of FSO
Update Rate	300 Hz minimum
Operating Temperature	-20 to 85 C (-40 to 105 C extended temperature range)
Temperature Coefficient	± 0.15% of FSO/°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

All specifications are subject to change without notice.

MHE-7 Series

Unit Length Table	
Nominal Range	Length "A"
25 mm	1.0 inches [25.4 mm]
50 mm	2.0 inches [50.8 mm]
75 mm	3.0 inches [76.2 mm]
100 mm	4.0 inches [101.6 mm]
125 mm	5.0 inches [127.0 mm]
150 mm	6.0 inches [152.4 mm]
175 mm	7.0 inches [177.8 mm]
200 mm	8.0 inches [203.2 mm]
225 mm	9.0 inches [228.6 mm]
250 mm	10.0 inches [254.0 mm]
300 mm	12.0 inches [304.8 mm]
350 mm	14.0 inches [355.6 mm]
400 mm	16.0 inches [406.4 mm]
450 mm	18.0 inches [457.2 mm]
500 mm	20.0 inches [508.0 mm]
600 mm	24.0 inches [609.6 mm]
700 mm	28.0 inches [711.2 mm]
750 mm	30.0 inches [762.0 mm]
800 mm	32.0 inches [812.8 mm]
900 mm	36.0 inches [914.4 mm]



Wiring Table	
Function	Cable Color
Power input	Red
Ground	Black
Analog output	Green
SenSet™	White

Ordering Information:

LVIT Series	Electrical Output	Probe Diameter	Range (mm)	Housing OD	Termination	DC Output	Rod Hole Size (mm)	Housing Material
LR	X-	XX-	XXX-	XX-	X-	XX-	XX-	X-
MHE	E- Voltage	7- 7 mm	025-250 (25mm increments)	28- 28mm	00- 1m cable	05- 0.5-4.5 VDC	08- 8 (25-100 ranges)	AL- Aluminum
	I- Current				01- 12 inch leads	06- 4.5-0.5 VDC	95- 9.5 (125-200 ranges)	AS- Alloy Steel
	D- Current		250-500 (50mm increments)			10- 0-10 VDC	11- 11 (225-600 ranges)	CS- Carbon Steel
						11- 10-0 VDC		SS- Stainless Steel
			500-900 (100mm increments)			20- 4-20 mA		
						21- 20-4 mA		
						50- 0-5 VDC		
						51- 5-0 VDC		

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