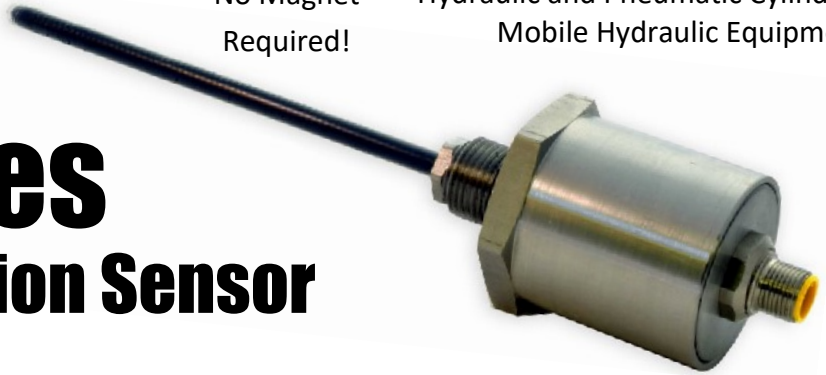


No Magnet  
Required!Hydraulic and Pneumatic Cylinders  
Mobile Hydraulic Equipment

# MR-7 Series

## LVIT Linear Position Sensor



More Sensor for Less

The MR-7 Series LVIT (Linear Variable Inductance Transducer) Position Sensors from Alliance Sensors Group has been designed as an alternative to magnetostrictive sensors that has more robust construction and a lower cost of ownership. The unit can be port mounted in industrial or mobile hydraulic cylinders and pneumatic actuators. These MR-7 Series sensors are based on a proprietary contactless inductive sensing technology that employs a 7 mm diameter probe with a shorter stroke-to-length ratio than most other technologies, and uses a gun drilled hole in the cylinder rod for sensing the rod position rather than requiring a ring magnet assembly.

An MR-7 has a 1.75 inch (44.5 mm) hex sensor head with a male o-ring port thread, so it can be mounted in the same SAE dash 8 or 18 mm o-ring port as magnetostrictive sensors. Because they are contactless, MR-7 Series sensors do not wear out and have no output signal deterioration over the life of the sensors, and because it uses an inductive coil, an MR-7 sensor can withstand much greater shock and vibrations than other technologies. One very useful element of MR-7 sensors is 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](http://www.alliancesensors.com)

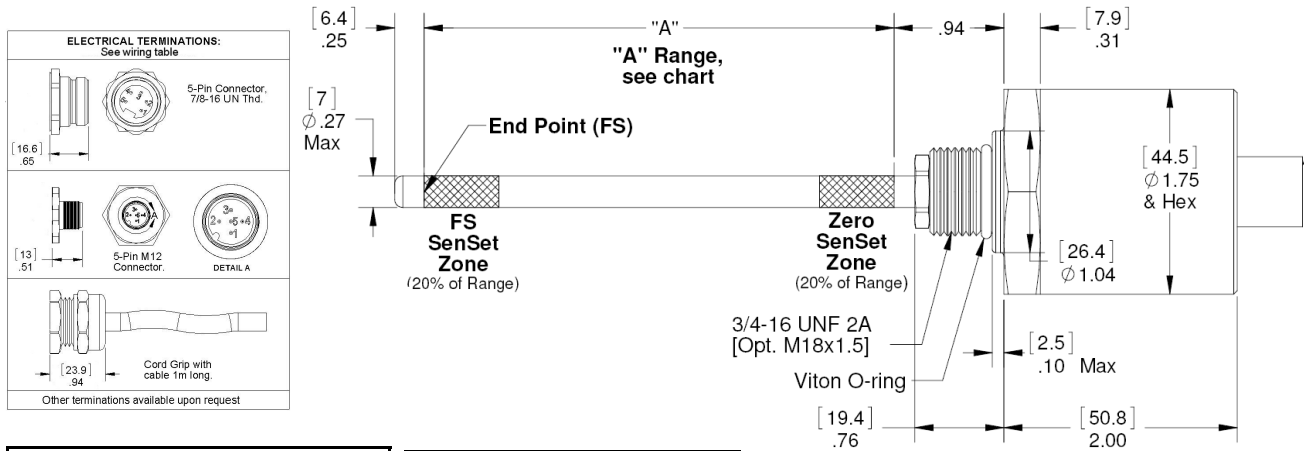
### Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Easily adapts to existing cylinder designs
- Senses cylinder rod, no need for magnet
- Contactless sensing for long sensor life
- Proprietary SenSet™ field adjustable range scaling

### Specifications:

Analog I/Os	0-5 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).
FS Measuring Ranges	0-25 mm to 0-600mm (1 inch to 24 inches)
Linearity Error	± 0.15% of FSO typical, ±0.25% 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) operating, 7500 psi (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

# MR-7 Series



Unit Length Table		200 mm	8.0 inches [200 mm]
Nominal Range	Dimension A	225 mm	9.0 inches [228.6 mm]
25 mm	1.0 inch [25 mm]	250 mm	10.0 inches [254.0 mm]
50 mm	2.0 inches [50 mm]	300 mm	12.0 inches [304.8 mm]
75 mm	3.0 inches [75 mm]	350 mm	14.0 inches [355.6 mm]
100 mm	4.0 inches [100 mm]	400 mm	16.0 inches [406.4 mm]
125 mm	5.0 inches [127.0 mm]	450 mm	18.0 inches [457.2 mm]
150 mm	6.0 inches [150 mm]	500 mm	20.0 inches [508.0 mm]
175 mm	7.0 inches [177.8 mm]	600 mm	24.0 inches [609.6 mm]

Wiring Table		
Function	Pin	Cable Color
DC power input	1	Red
Ground	2	Black
MRE Voltage output	3	Green
MRI Current output	4	Green
SenSet™	5	White

## Ordering Information:

Series	Output Type	Probe Diameter	Range, Metric	Termination Direction	Port Thread	Termination	Output	Housing Material
MR	X-	XX-	XXX-	X-	XX-	XX-	XX-	X-
MR	E- Voltage	7- 7 mm	025-250 (25 mm increments)	A- Axial	08- 3/4-16	00- 1m cable	05- 0.5 to 4.5 V	A- Aluminum
	I- Current			R- Radial	18- M18	01- 5-pin M12	06- 4.5 to 0.5 V	S- Stainless Steel
			250-500 (50 mm increments)			03- 5-pin mini 7/8	10- 0 to 10.0 V	
				500-600 (100 mm increments)				11- 10.0 to 0 V
								20- 4 to 20 mA
							21- 20 to 4 mA	
							50- 0 to 5 V	
							51- 5 to 0 V	

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