

MR-7 Series

LVIT Linear Position Sensors



Lower cost, more robust alternative to magnetostrictive sensors

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.

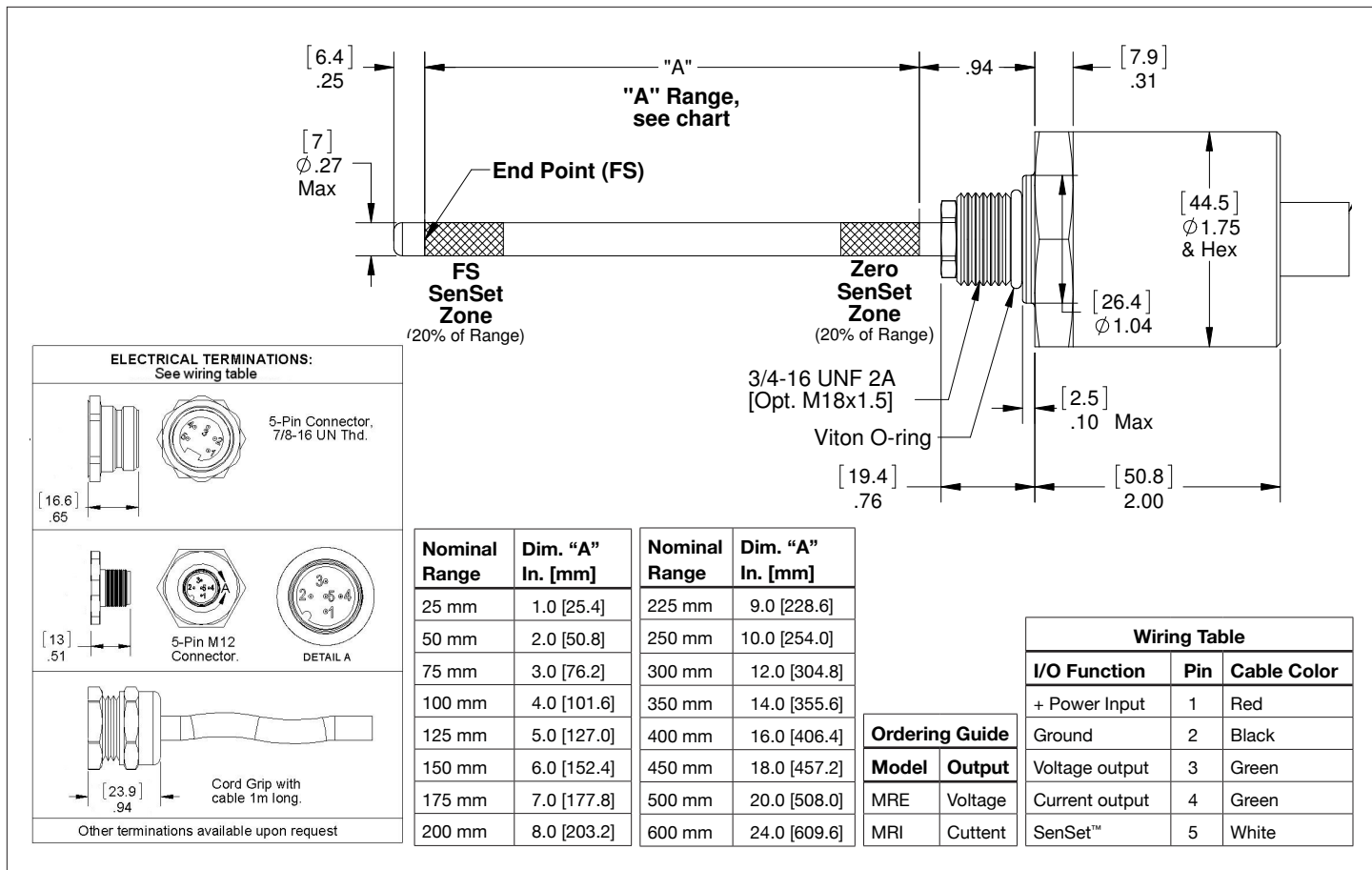
Features:

- 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 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 inches to 24 inches) (nominal)
Linearity Error	±0.15% of FSO (Full Scale Output) typical, ±0.25% max
Resolution	0.025% of FSO
Update Rate	300 Hz nominal
Operating Temperature	-20 C to 85 C (-40 C to 105 C Extended 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

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Ordering information:

Series	Output	Probe Dia.	Range (mm)	Port Thread	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
MR	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 - Aluminum	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
					03 - 5-pin mini 7/8	10 - 0 to 10.0 V		11 - 11 (225-600 ranges)	CS - Carbon Steel
			250 - 500			11 - 10.0 to 0 V			SS - Stainless Steel
			(50 mm increments)			20 - 4 to 20 mA			
						21 - 20 to 4 mA			
			500 - 600			50 - 0 to 5 V			
			(100 mm increment)			51 - 5 to 0 V			

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