

# 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](http://www.alliancesensors.com).

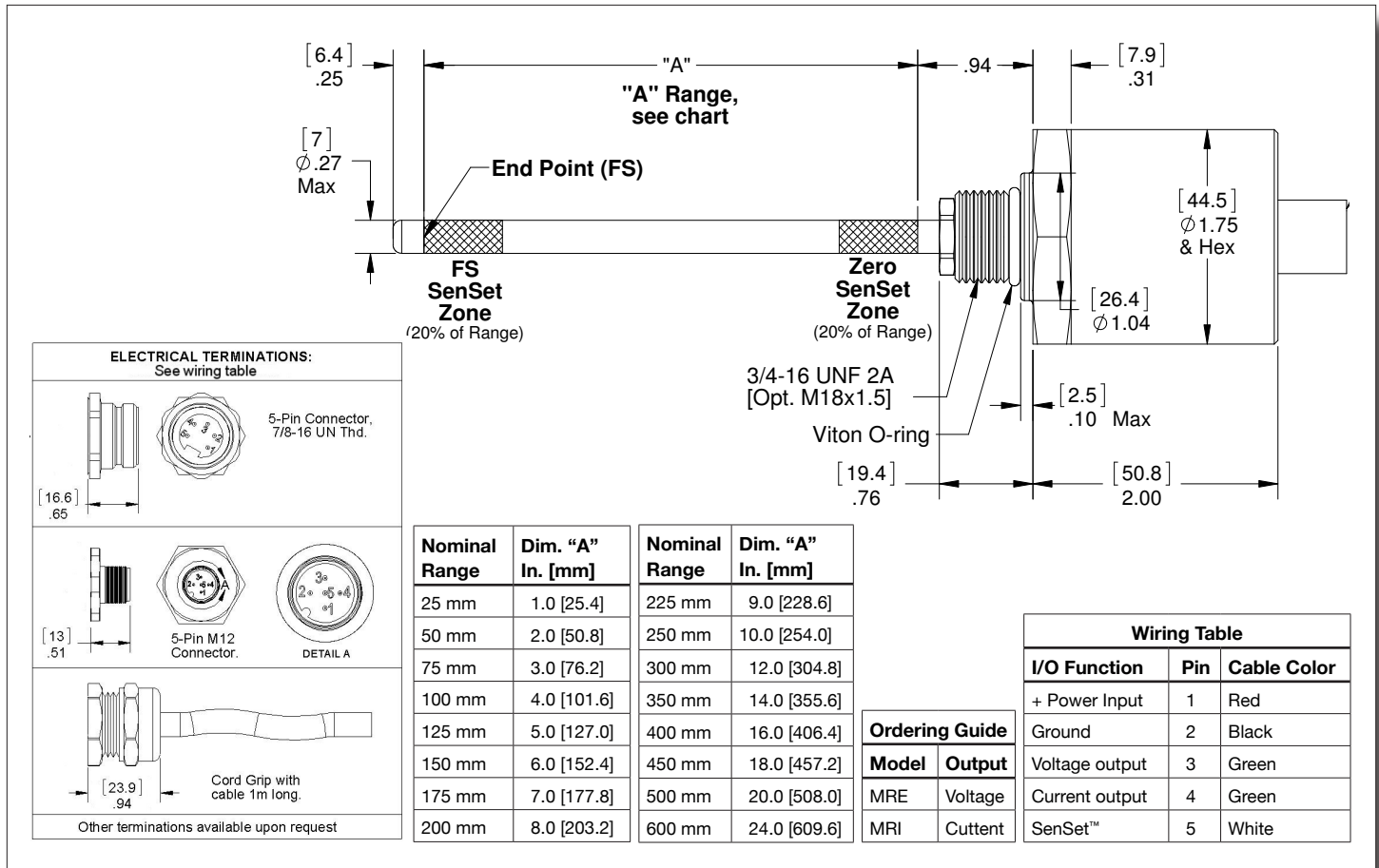
### Features:

- 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:

Analogue 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

# MR-7 Series



## Ordering information:

Series	Output	Probe Dia.	Range (mm)	Port Thread	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
<b>MR</b>	<b>X-</b>	<b>X-</b>	<b>XXX-</b>	<b>XX-</b>	<b>XX-</b>	<b>XX-</b>	<b>X</b>	<b>XX-</b>	<b>XX</b>
	<b>E - Voltage</b>	<b>7 - 7 mm</b>	<b>025 - 250</b>	<b>08 - 3/4-16</b>	<b>00 - 1-m cable</b>	<b>05 - 0.5 to 4.5 V</b>	<b>A - Aluminum</b>	<b>08 - 8 (25-100 ranges)</b>	<b>AL - Aluminum</b>
	<b>I - Current</b>		(25 mm increments)	<b>18 - M18</b>	<b>01 - 5-pin M12</b>	<b>06 - 4.5 to 0.5 V</b>	<b>S - 300 Series SS</b>	<b>95 - 9.5 (125-200 ranges)</b>	<b>AS - Alloy Steel</b>
					<b>03 - 5-pin mini 7/8</b>	<b>10 - 0 to 10.0 V</b>		<b>11 - 11 (225-600 ranges)</b>	<b>CS - Carbon Steel</b>
			<b>250 - 500</b>			<b>11 - 10.0 to 0 V</b>			<b>SS - Stainless Steel</b>
			(50 mm increments)			<b>20 - 4 to 20 mA</b>			
						<b>21 - 20 to 4 mA</b>			
			<b>500 - 600</b>			<b>50 - 0 to 5 V</b>			
			(100 mm increment)			<b>51 - 5 to 0 V</b>			

**ALLIANCE SENSORS GROUP**  
A DIVISION OF H.G. SCHAEVITZ LLC

Alliance Sensors Group  
102 Commerce Drive, Unit 8  
Moorestown, New Jersey 08057 USA  
Ph: 856-727-0250  
www.alliancesensors.com  
info@alliancesensors.com

**DISTRIBUTOR / DISTRIBUIDOR**

Brazil and South America / Brasil e América do Sul



**Address / Endereço:**

Rua Sete de Setembro, 2656  
13560-181 - São Carlos - SP  
Brazil / Brasil

**Phone / Telefone:**

+55 (16) 3371-0112  
+55 (16) 3372-7800

**Internet:**

[www.metrolog.net](http://www.metrolog.net)  
[metrolog@metrolog.net](mailto:metrolog@metrolog.net)

**ALLIANCE SENSORS GROUP**  
A DIVISION OF H.G. SCHAEVITZ LLC

Alliance Sensors Group  
102 Commerce Drive, Unit 8  
Moorestown, New Jersey 08057 USA  
Ph: 856-727-0250  
[www.alliancesensors.com](http://www.alliancesensors.com)  
[info@alliancesensors.com](mailto:info@alliancesensors.com)