USA MANUFACTURER CE

No Magnet Required!

For use in:
Hydraulic and Pneumatic Cylinders
Mobile Hydraulic Equipment

MR-7 Series
LVIT Linear Position Sensor

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 rang of motion of the cylinder rod.

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:

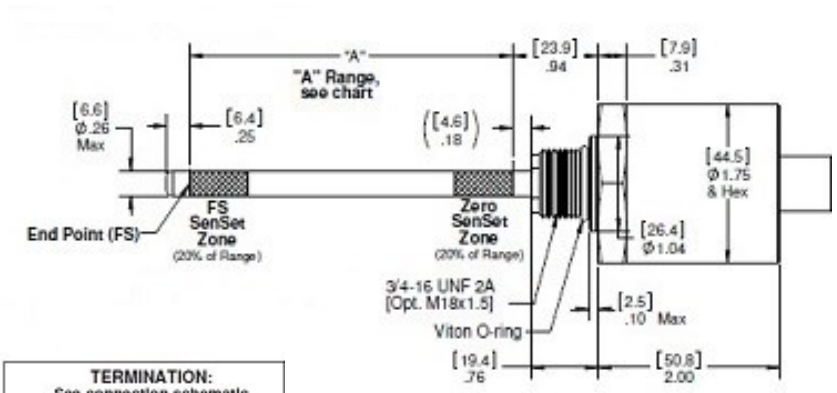
Analog I/Os:	0-5 or 0.5-4.5 V output with 8-30 V input, 35 mA max. 0-10 V output with 12-30 V input, 35 mA max. 4-20 mA (3-wire) output with 18-30 V input, 60 mA max. (75 C max.)
FS Measuring Ranges:	0-25 mm to 0-900 mm (1 to 36 inches) Full Scale (nominal)
Linearity Error:	± 0.15% of FSO (Full Scale Output) 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

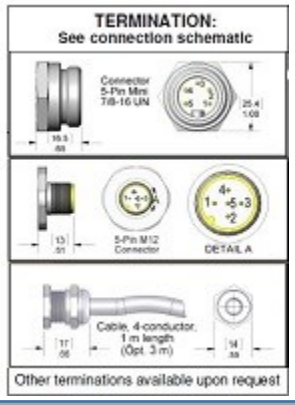
ALLIANCE SENSORS GROUP
A DIVISION OF H.G. SCHAEVITZ LLC

V2.0 Rev. 04052021

MR-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	**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	Body Diameter	Range, Metric	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**- 0.5-4.5 VDC	**A**- Aluminum	**08**- 8 (25-100 ranges)	**AL**- Aluminum
	I- Current		(25 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
			250-500		**03**- 5-pin mini 7/8	**10**- 0-10 VDC		**11**- 11 (225-900 ranges)	**CS**- Carbon Steel
			(50 mm increments)			**11**- 10-0 VDC			**SS**- Stainless Steel
			600-900			**20**- 4-20 mA			
			(150 mm increments)			**21**- 20-4 mA			
						50- 0-5 V			
						51- 5-0 V			

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

V2.0 Rev. 04052021