



**For use in:**  
 Subsea valves and cylinders  
 Oil and gas exploration  
 PBOF environments

No Magnet



# SS-7 Series

## LVIT Linear Position Sensor for Subsea

Specifically Designed for Subsea High Pressure PBOF Environments—No Magnet Required!

The SS-7 series LVIT (Linear Variable Inductance Transducer) position sensors by Alliance Sensors Group have been designed to give cylinder position feedback in subsea environments with depths up to 12,000 ft or in a PBOF (pressure balanced oil filled) chamber. Ideal for oil and gas exploration, blow out preventers, ROVs, and relief valves.

The SS-7 requires no magnet, has very good stroke-to-length ratio, and is based on a proprietary contactless inductive sensing technology that employs a 7 mm diameter probe inserted into a target tube mounted inside of a gun drilled hole in the cylinder. The 1-inch diameter, 316 stainless steel housing comes with a subsea connector. They are offered in ranges from 25 to 900 mm (1 to 36 inches) full scale with a wide variety of analog I/Os. The SS-7 sensors are also offered with 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.

### Features:

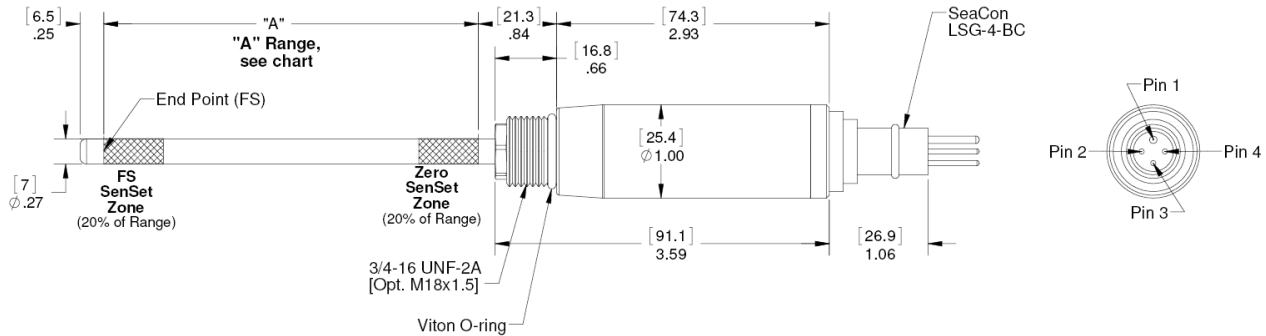
- LVIT Technology™ (Linear Variable Inductance Transducer)
- Operational to 12,000 ft depth or 5,200 psig (350 bar)
- Contactless sensing for long sensing life
- Proprietary SenSet™ field adjustable range scaling

### 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).
FS Measuring Ranges	25 mm to 900 mm (1 to 36 inches) Full Scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% of FSO max.
Resolution	0.025% of FSO
Bandwidth	300 Hz nominal
Operating Temperature	-40 to 105 C (4 - 20 mA I/O: -40 to 75 C)
Temperature Coefficient	±0.015% of FS/deg C
Operating Pressure	5000 psig max. (350 bar)
Vibration	5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p
Shock	1000 g, 11 msec

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Unit Length Table

Nominal Range	Length "A" in. [mm]	Nominal Range	Length "A" in. [mm]
25 mm	1.0 [25.4]	225 mm	9.0 [228.6]
50 mm	2.0 [50.8]	250 mm	10.0 [254.0]
75 mm	3.0 [76.2]	300 mm	12.0 [304.8]
100 mm	4.0 [101.6]	350 mm	14.0 [355.6]
125 mm	5.0 [127.0]	400 mm	16.0 [406.4]
150 mm	6.0 [152.4]	450 mm	18.0 [457.2]
175 mm	7.0 [177.8]	500 mm	20.0 [508.0]
200 mm	8.0 [203.2]	600 mm	24.0 [609.6]

Wiring Table	
Function	Pin
DC power input	1
Ground	2
Analog output	3
SenSet™	4

## Ordering Information:

Series	Output Type	Probe Diameter	Range, Metric	Port Thread	Termination	Output	Housing Material
SS	X-	XX-	XXX-	X-	XX-	XX-	X-
	E- Voltage	7- 7 mm	025-250 mm (25 mm increments)	08- 3/4-16UNF 18-M18 x 1.5	06-MacArtney MCBH4M	03- 0-3 VDC 04- 3-0 VDC	S- 316 SS
	I- Current		250-500 mm (50 mm increments)			05- 0.5-4.5 VDC 06- 4.5-0.5 VDC	
			500-600 mm (100 mm increments)			10- 0-10 VDC 11- 10-0 VDC	
						20- 4-20 mA 21- 20-4 mA	
						50- 0-5 VDC 51- 5-0 VDC	

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