

ALLIANCE SENSORS GROUP

A DIVISION OF H.G. SCHAEVITZ LLC



Product E-Catalog

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LR-19 Series

LVIT Linear Position Sensor

Long Lasting, Contactless, Inductive Sensors

The LR-19 series LVIT (Linear Variable Inductance Transducer) position sensors by Alliance Sensors Group are contactless devices designed for factory automation and a variety of industrial and commercial applications such as motor sport vehicles, automotive testing, solar cell positioners, wind turbine prop pitch and brake position, and packing equipment. With their compact device, superior performance, and excellent stroke-to-length ratio, the LR-19 sensors are ideal for both industrial testing, laboratories, and OEM applications.

LR-19 series sensors are offered in 6 full scale ranges from 25 to 200 mm (1 to 8 inches). Operating from a variety of DC voltages, these sensors offer a choice of four analog outputs and all include ASG’s proprietary SenSet™ field calibration feature. LR-19 series products are available with axial cable or connector terminations, or with radial exiting cable and two swivel rod eye ends for easy installation.

The LR series also include a larger body version, the LR-27, for those applications needing a heavier duty unit. Additional information can be found at www.alliancesensors.com.

Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation
- Excellent stroke-to-length ratio
- 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 Range	25 mm to 200 mm (1 to 8 inches) full scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% max.
Resolution	0.025% of FS
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
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p
Shock	1000 g, 11 ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing

For use in:

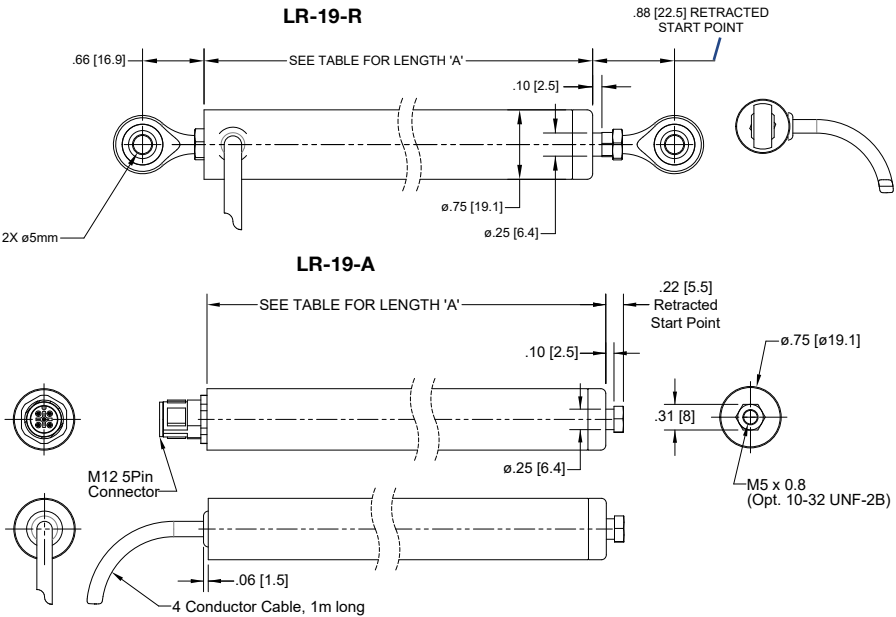
PV Solar Cell Positioner
Wind Energy Systems
Packaging Machinery
Motorsport Vehicles
Automotive Testing
Factory Automation
OEM Test Stands

LR-19 Series



Wiring Table		
Function	Pin	Cable Color
DC power input	1	Red
Ground	2	Black
LRE voltage output	3	Green
LRI current output	4	Green
SenSet™	5	White

Unit Length Table	
Linear Range	Length “A”
1.0 inch [25 mm]	3.74 inches [95.0 mm]
2.0 inches [50 mm]	4.74 inches [120.4 mm]
3.0 inches [75 mm]	5.74 inches [145.8 mm]
4.0 inches [100 mm]	6.74 inches [171.2 mm]
6.0 inches [150 mm]	8.74 inches [222.0 mm]
8.0 inches [200 mm]	10.74 inches [272.8 mm]



Ordering Information:

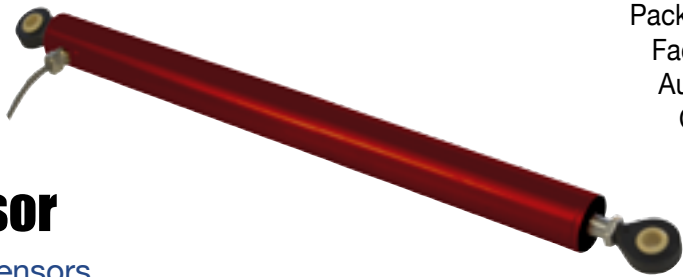
Series	Output	Housing Diameter	Range (mm)	Electrical Termination		Output	Housing Material
				Axial or Radial	Termination		
LR	X-	XX-	XXX-	X-	XX-	XX-	X-
	E - Voltage	19 - 19mm	025	A - Axial	00 - 1 m cable	05 - 0.5 to 4.5 V	A - Aluminum
	I - Current		050	R - Radial (cable only)	01 - 5-pin M12	06 - 4.5 to 0.5 V	S - 300 Series
			075			10 - 0 to 10.0 V	
			100			11 - 10.0 to 0 V	
			150			20 - 4 to 20 mA	
			200			21 - 20 to 4 mA	
						50 - 0 to 5 V	
						51 - 5 to 0 V	



LR-27 Series

LVIT Linear Position Sensor

Long Lasting, Contactless, Inductive Sensors



For Use in:
Packaging Machinery
Factory Automation
Automotive Testing
OEM Test Stands

Alliance Sensor Group's LR-27 series LVIT (Linear Variable Inductance Transducer) contactless position sensors are heavy duty contactless devices designed for factory automation systems and a variety of industrial and commercial applications such as solar cell positioners, wind turbine prop pitch and brakes, chute or gate positioners on off-road or agri-vehicles, and packaging machinery. The modular design, high end performance, and excellent stroke-to-length ratio make the LR-27 sensors an ideal choice for in-plant or mobile equipment OEMs.

LR-27 series sensors are currently offered in 5 full scale ranges from 50 mm to 200 mm (2 to 8 inches). Operated from a variety of DC voltages, these sensors offer a choice of four analog outputs and include ASG's proprietary SenSet™ field recalibration feature. LR-27 products are available with either a radial exiting cable and two spherical rod eye ends with axial cable or connector terminations.

The LR series also include a smaller body version, the LR-19, for applications where a reduced body envelope is required or the LRL-27 for longer strokes lengths up to 450 mm. Additional information can be found at www.alliancesensors.com.

Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents wearout from dithering or cycling
- Excellent stroke-to-length ratio
- 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	50 mm to 200 mm (2 to 8 inches) full scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% max.
Resolution	0.025% of FS
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
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p
Shock	1000 g, 11 ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing

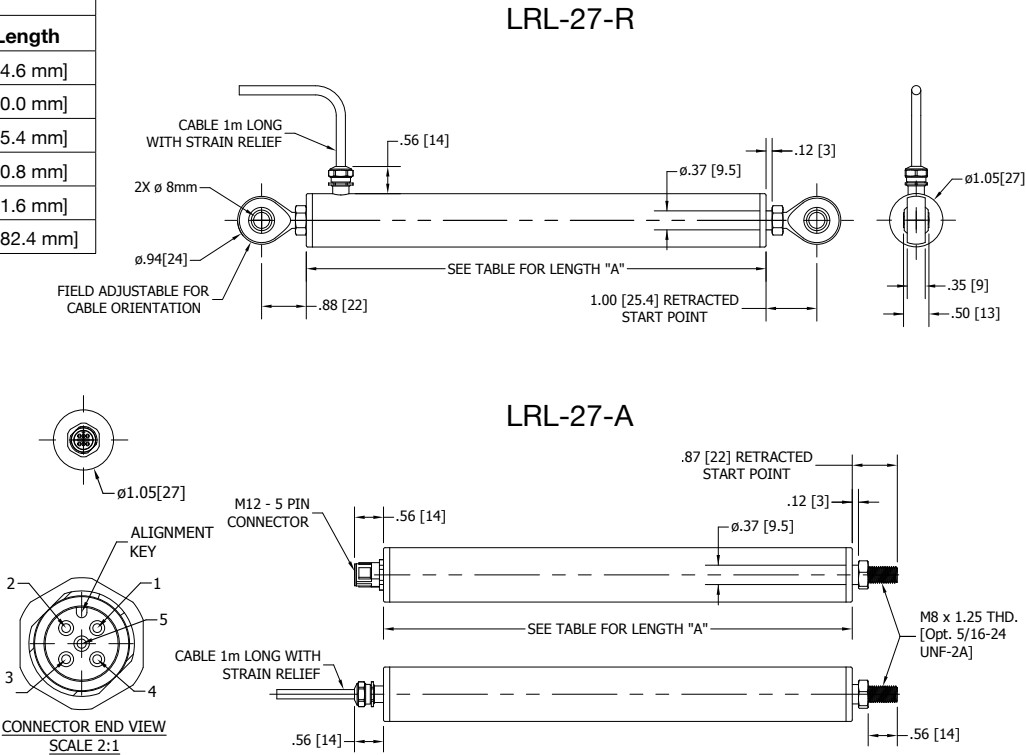
LR-27 Series



Unit Length Table		
Nominal Range		"A" Body Length
1.0 inch [25 mm]		4.12 inches [104.6 mm]
2.0 inches [50 mm]		5.12 inches [130.0 mm]
3.0 inches [75 mm]		6.12 inches [155.4 mm]
4.0 inches [100 mm]		7.12 inches [180.8 mm]
6.0 inches [150 mm]		9.12 inches [231.6 mm]
8.0 inches [200 mm]		11.12 inches [282.4 mm]

Wiring Table - LR-27-A		
Function	M-12 Pin	Cable Color
+ Power input	1	Red
Ground	2	Black
Voltage output	3	Green
Current output	4	Green
SenSet™	5	White

Wiring Table - LR-27-R	
Function	Cable Color
+ Power input	Red
Ground	Black
Analog output	Green
SenSet™	White



Ordering information:

Series	Output	Housing Diameter	Range (mm)	Electrical Terminal		Output	Housing Material
				Axial or Radial	Termination		
LR	X-	XX-	XXX-	X-	XX-	XX-	X
	E - Voltage	27 - 27 mm	050	A - Axial	00 - 1 m cable	05 - 0.5 to 4.5 V	A - Aluminum
	I - Current		075	R - Radial (cable only)	01 - 5-pin M12	06 - 4.5 to 0.5 V	S - 300 Series SS
			100			10 - 0 to 10.0 V	
			150			11 - 10.0 to 0 V	
			200			20 - 4 to 20 mA	
						21 - 20 to 4 mA	
						50 - 0 to 5 V	
						51 - 5 to 0 V	



LRL-27 Series

LVIT Linear Position Sensor for Extended Ranges

Long Lasting, Contactless, Inductive Sensors

Alliance Sensor Group’s LRL-27 series LVIT (Linear Variable Inductance Transducer) contactless position sensors complement the LR series devices with extended ranges up to 18 inches (450 mm) in a compact package. These sensors are designed for use in factory automation systems and a wide variety of industrial and commercial applications. Cost effective high-end performance and excellent stroke-to-length ratios make these sensors ideal choices for practically any industrial application.

LRL-27 sensors are offered in 5 nominal ranges from 250 to 450 mm (10 to 18 inches). Operated from a variety of DC voltages, these sensors offer a user a choice of four analog outputs and include ASG’s proprietary Sen-Set™ field adjustable range scaling feature. LRL-27 products are available with either a radial exiting cable and two spherical rod eye ends with axial cable or connector terminations.

The LR series also include a smaller body version, the LR-19, for applications where a reduced body envelope is required or the LR-27 for shorter stroke lengths from 50 to 200 mm. Additional information can be found at www.alliancesensors.com.

Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation
- Excellent stroke-to-length ratio
- 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	250 mm to 450 mm (10 to 18 inches) full scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% max.
Resolution	0.025% of FS
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
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p
Shock	1000 g, 11 ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing

For Use in:
Packaging Machinery
Chute/Gate Position
Factory Automation
Automotive Testing



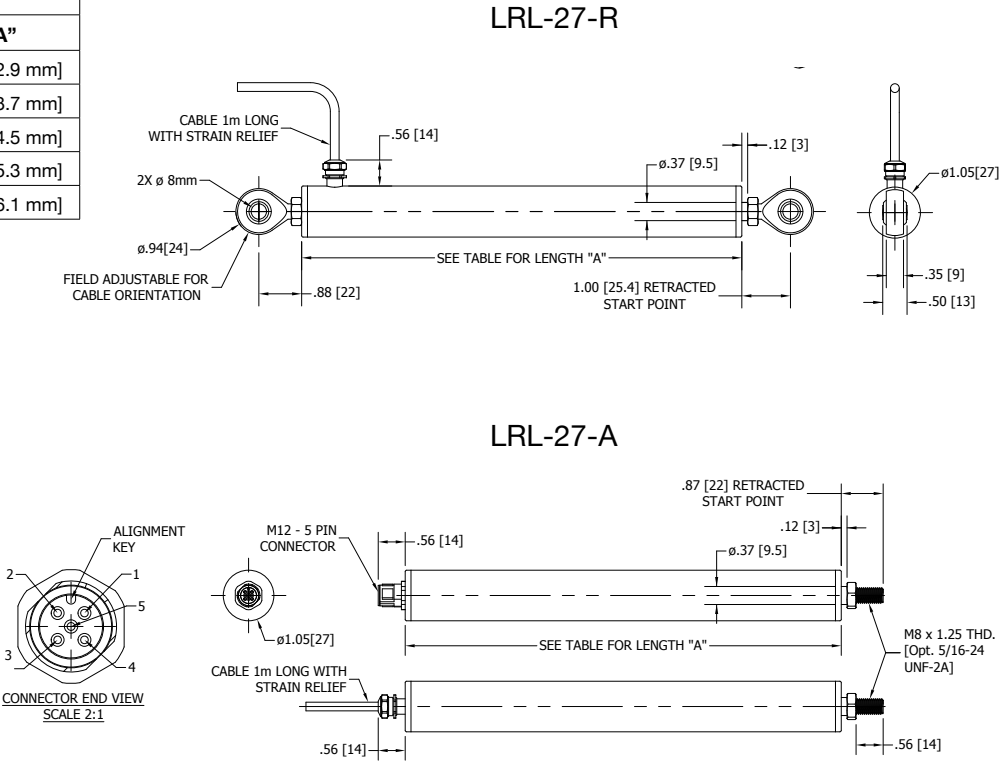
LRL-27 Series



Unit Length Table	
Linear Range	Length "A"
10.0 inches [250 mm]	13.50 inches [342.9 mm]
12.0 inches [300 mm]	15.50 inches [393.7 mm]
14.0 inches [350 mm]	17.50 inches [444.5 mm]
16.0 inches [400 mm]	19.50 inches [495.3 mm]
18.0 inches [450 mm]	21.50 inches [546.1 mm]

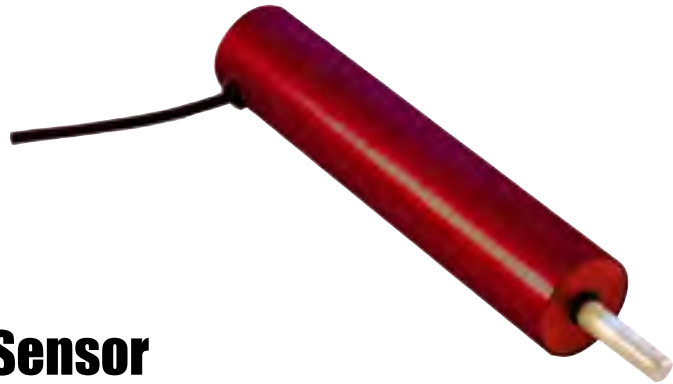
Wiring Table - LRL-27-A		
Function	M-12 Pin	Cable Color
+ Power input	1	Red
Ground	2	Black
Voltage output	3	Green
Current output	4	Green
SenSet™	5	White

Wiring Table - LRL-27-R	
Function	Cable Color
+ Power input	Red
Ground	Black
Analog output	Green
SenSet™	White



Ordering information:

Series	Output	Housing Diameter	Range (mm)	Electrical Terminal		Output	Housing Material
				Axial or Radial	Termination		
LRL	X-	XX-	XXX-	X-	XX-	XX-	X
	E - Voltage	27 - 27 mm	250	A - Axial	00 - 1 m cable	05 - 0.5 to 4.5 V	A - Aluminum
	I - Current		300	R - Radial (cable only)	01 - 5-pin M12	06 - 4.5 to 0.5 V	S - 300 Series SS
			350			10 - 0 to 10.0 V	
			400			11 - 10.0 to 0 V	
			450			20 - 4 to 20 mA	
						21 - 20 to 4 mA	
						50 - 0 to 5 V	
						51 - 5 to 0 V	



For use in:
Hydraulic Cylinders
Automation Systems
Assembly Machinery
Packaging Equipment

LZ-25 Series

LVIT Linear Position Sensor

Through-bore LVIT Linear Position Sensor with superior stroke-to-body-length ratio

The LZ-25 Series of LVIT (Linear Variable Inductance Transducer) position sensors are contactless devices designed for frictionless measurement in factory automation or assembly machinery applications where space is a premium, as well as for external mounting on hydraulic cylinders to sense rod position. The LVIT is offered in nominal full scale ranges from 50 to 900 mm (2 to 36 inches) with an excellent stroke-to-length ratio, so that the sensor's overall length is only 38 mm (1.5 inches) longer than the linear range of the unit. The sensor has a 25.4 mm (1 inch) outside diameter aluminum or optional stainless steel body with a 1m radial cable for I/O connections. The 7.5 mm (0.295 inch) diameter through-bore of an LZ-25 provides clearance for its 6.35 mm (0.25 inch) diameter moving rod, which is made of the same material as its housing. This through-bore feature also means that the sensor is not subject to damage from typical mechanical overstroking.

Additional information can be found at www.alliancesensors.com.

Features

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation...frictionless measurement
- Excellent stroke-to-body-length ratio
- Through-bore design
- Proprietary SenSet™ field adjustable range scaling

Specifications

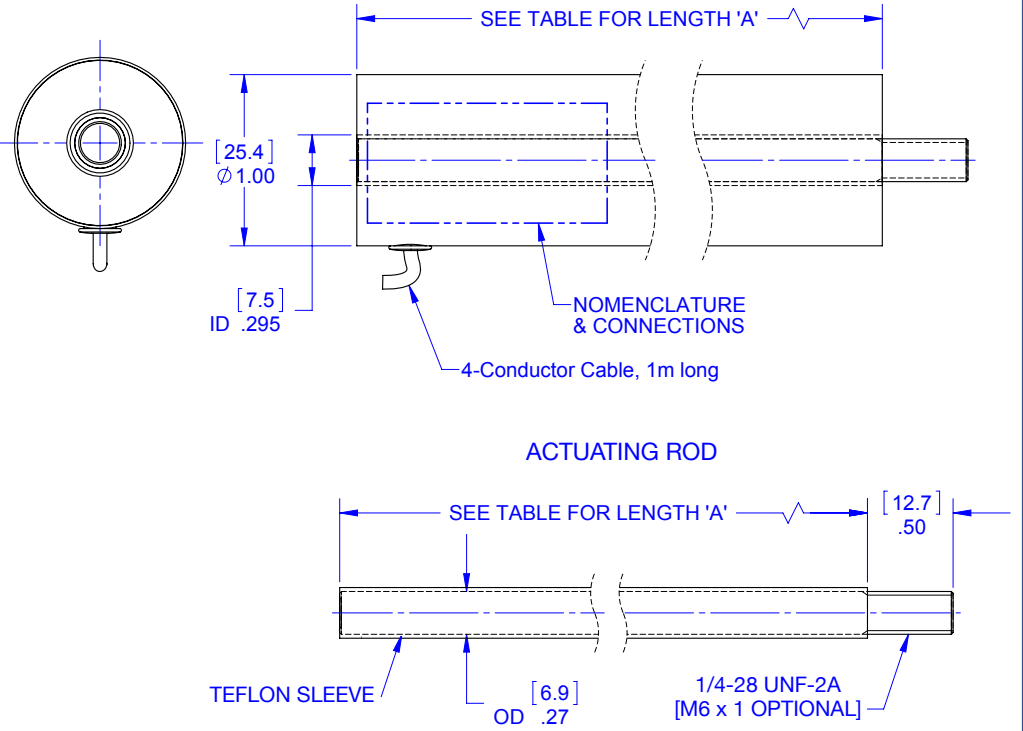
Analogue I/Os	0 – 5 V or 0.5 – 4.5 V DC output; 8 – 30 V input, 35 mA max, 0 – 10 V DC output; 12 – 30 V input, 35 mA max 4 – 20 mA (3-wire) output; 18 – 30 V input, 60 mA max. (75 C max)
Measuring Ranges	50 to 900 mm (2 to 36 inches) full scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% max.
Resolution	0.025% of FS
Update Rate	300 Hz nominal
Operating Temperature	-20 to 85 C (-40 to 105 C Extended Range)
Temperature Coefficient	≤±0.015% of FS/C
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



LZ-25 Series

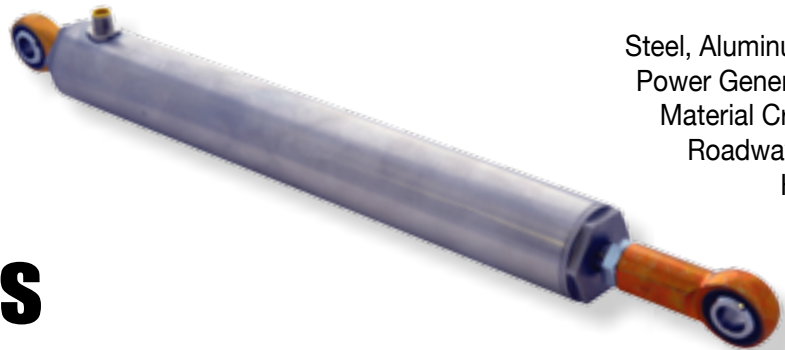
LZ-25 Connection Table	
I/O Function	Cable Color
+ Power Input	Red
Ground	Black
Analog output	Green
SenSet™	White

LZ-25 Range Table		
Nominal Range		Length "A"
Inches	mm	Inches [mm]
2.0	50	3.00 [76.2]
4.0	100	5.00 [127.0]
6.0	150	7.00 [177.8]
8.0	200	9.25 [235.0]
10.0	250	11.25 [285.8]
12.0	300	13.25 [336.6]
15.0	375	16.50 [419.1]
18.0	450	19.50 [495.3]
24.0	600	25.50 [647.7]
30.0	750	31.50 [800.1]
36.0	900	37.50 [952.5]



Ordering information:

Series	Output	Housing Diameter	Range (mm)	Electrical Termination		Output	Housing/Rod Material
				Radial	Termination		
LZ	X-	XX-	XXX-	X-	XX-	XX-	X-
	E - Voltage	25 - 25 mm	050 - 300	R - Radial	00 - 1 m cable	05 - 0.5 to 4.5 V	A - Aluminum
	I - Current		(50 mm increments)			06 - 4.5 to 0.5 V	S - 300 Series SS
						10 - 0 to 10.0 V	
			300 - 450			11 - 10.0 to 0 V	
			(75 mm increments)			20 - 4 to 20 mA	
						21 - 20 to 4 mA	
			450 - 900			50 - 0 to 5 V	
			(150 mm increments)			51 - 5 to 0 V	



For use in:
Steel, Aluminum, and Paper Mills
Power Generation Steam Valves
Material Creep Measurements
Roadway/Bridge Expansion
Hydro Power Plants

LV-45 Series

LVIT Linear Position Sensor

Designed Specifically for Heavy Duty Industrial and Civil Engineering Applications

Alliance Sensors Group LV-45 series LVIT (Linear Variable Inductance Transducer) position sensors are specifically targeted for measuring applications requiring rugged devices, whether measuring position of steam turbine valves, mounted in a paper mill head box or calendar roll stand, or operating outdoors fastened to a bridge or structure. LV-45 sensors use a contactless inductive technology that allows them to replace other technology sensors like potentiometers and DC LVDTs in most applications. With a simple coil design, a captive connecting rod, and a thick walled housing, the sensors are both shorter and more robust than their DC-LVDT counter parts while operating over a wider temperature range, so they can withstand the vibration and shock levels found in mills and power plants, as well as the temperature and humidity found in outdoor applications. Once a sensor has been installed, ASG's SenSet™ range adjustment process permits a user to match the sensor's zero and full scale output to the workpiece's actual range of motion.

Additional information can be found at www.alliancesensors.com

Features:

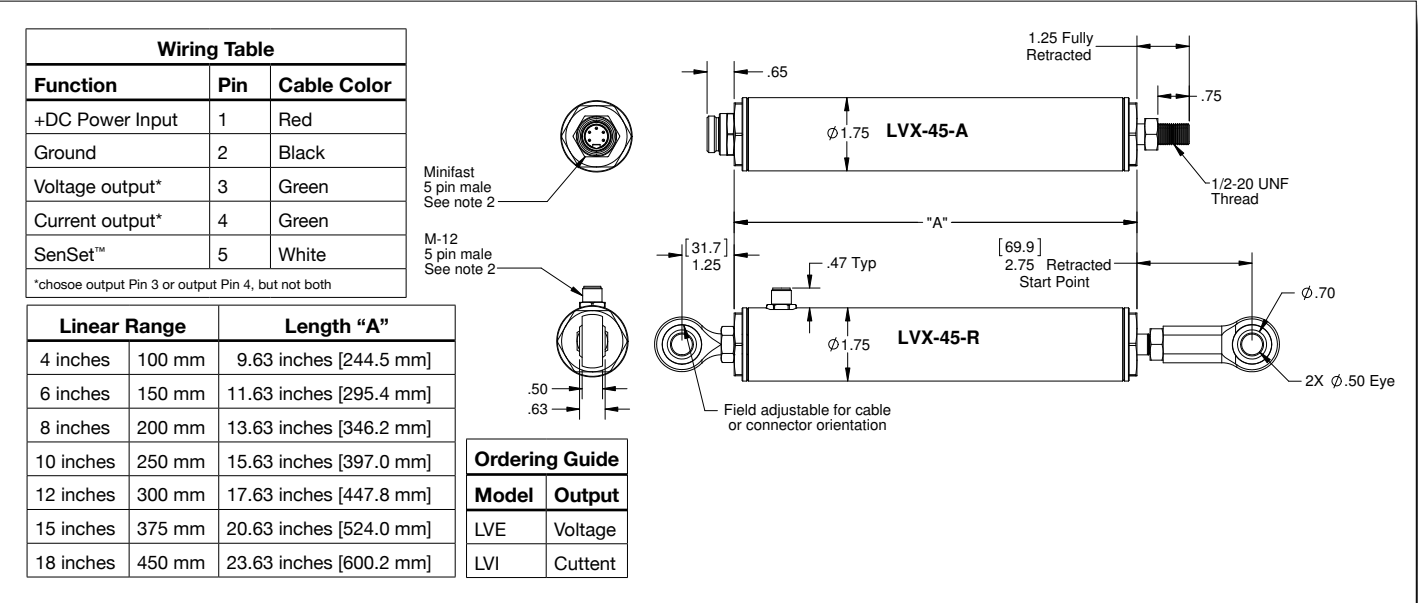
- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation
- Excellent stroke to length ratio
- Proprietary SenSet™ field adjustable range scaling

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 Range	100 mm to 450 mm (4 to 18 inches) full scale (nominal)
Linearity Error	±0.15% of Full Scale Output (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 range)
Temperature Coefficient	≤±0.015% of FS/deg C
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p
Shock	1000 g, 11 ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing



LV-45 Series



Axial M-12 Connector
(Standard)



Radial Connector
with Rod Eye End



1/2-20 Threaded End
(Standard)



Rod Eye End



Ordering information:

Series	Output	Housing Diameter	Range (mm)	Electrical Termination		Output	Housing Material
				Axial or Radial	Termination		
LV	X-	XX-	XXX-	X-	XX-	XX	X-
	E- Voltage	45- 45 mm	100	A- Axial	00- 1 m cable	05- 0.5 to 4.5 V	A- Aluminum
	I- Current		150	R- Radial	01- 5-pin M12	06- 4.5 to 0.5 V	S- 300 Series SS
			200		03- 5-pin mini 7/8 (axial only)	10- 0 to 10.0 V	
			250			11- 10.0 to 0 V	
			300			20- 4 to 20 mA	
			375			21- 20 to 4 mA	
			450			50- 0 to 5 V	
						51- 5 to 0 V	



LRS-18 Series

Spring Loaded LVIT Linear Position Sensor

Long Lasting, Contactless, Inductive Sensors

The LRS-18 series of LVIT (Linear Variable Inductance Transducer) spring loaded position sensors by Alliance Sensors Group are contactless devices designed for dimension or position measuring applications in factory automation and in various industrial and commercial applications such as automotive testing, mil/aero test stands, robotic arms, and packaging equipment, where the sensing element cannot be attached to the object being measured. LRS-18s are offered in full scale ranges from 12.5 to 100 mm (0.5 to 4.0 inches) with excellent resolution and high stroke-to-body-length ratios. The maximum tip force on the item being measured is 1 pound. LRS-18 sensors have a 19 mm (0.75 inch) diameter aluminum or stainless steel body with an M18 x 1 thread and come with two hex jam nuts for easy installation in place of an 18 mm analog prox sensor. These sensors use a 0.25 inch diameter probe equipped with an AGD No. 9 contact tip, and are offered with either an axial cable or a connector. Operating from a variety of DC voltages, the sensors are available with a choice of four analog outputs and they all include ASG's proprietary SenSet™ field calibration feature.

Additional information can be found at www.alliancesensors.com.

Features:

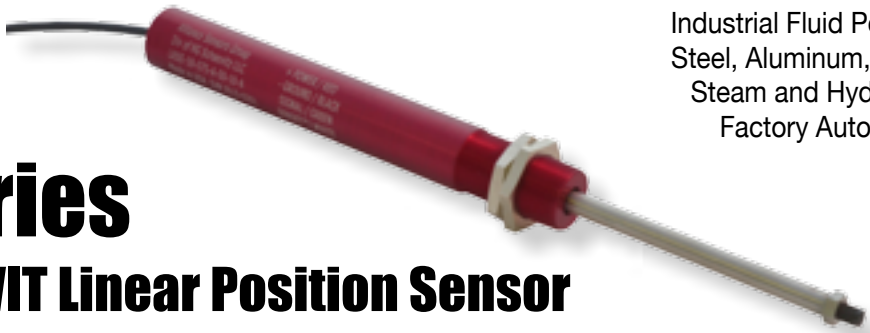
- Spring loaded LVIT Technology™ (Linear Variable Inductance Transducer)
- Ranges from 0.5 to 4.0 inches (12.5 to 100 mm)
- Contactless operation prevents internal wearout from dithering or rapid cycling
- Excellent stroke-to-body-length ratio
- Proprietary SenSet™ field adjustable range scaling

Specifications:

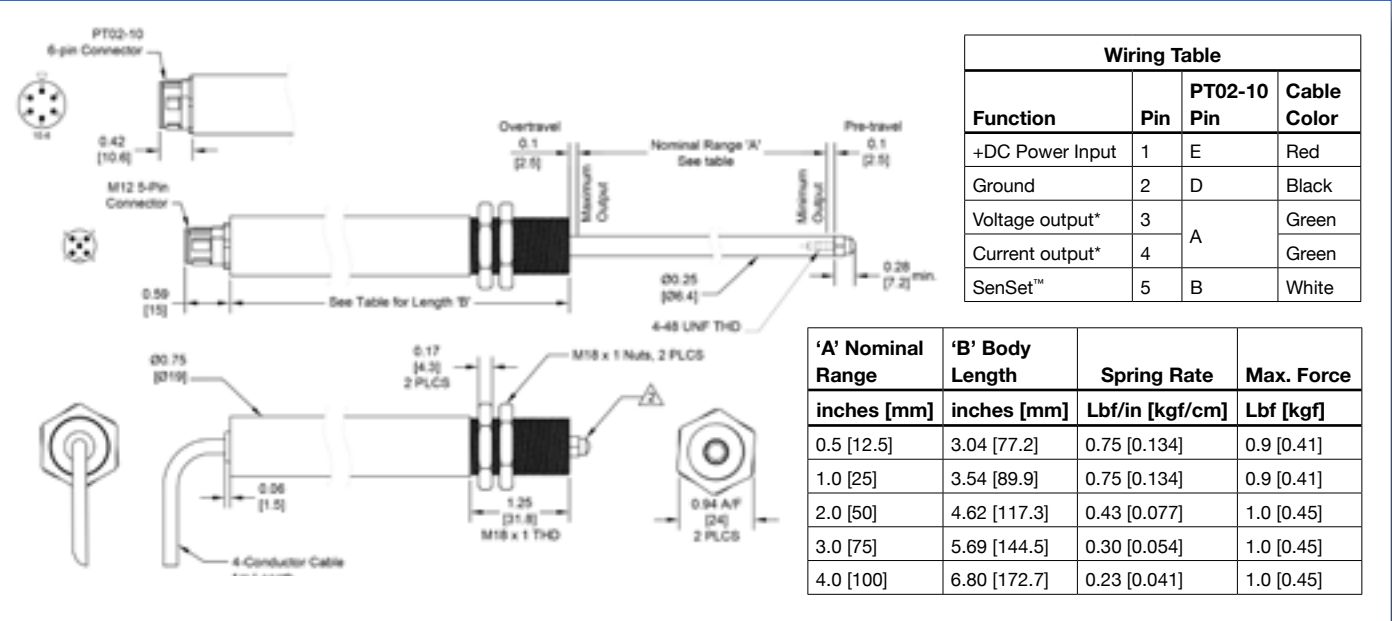
Analog I/Os	0 - 5 V or 0.5 - 4.5 V DC output with 8 - 30 V input, 35 mA max. 0 - 10 V DC output with 12 - 30 V input, 35 mA max. 4 - 20 mA (3-wire) output with 18 - 30 V input, 60 mA max. (75 C max.)
Measuring Ranges	12.5 mm to 100 mm (0.5 to 4.0 inches) full scale
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% max.
Resolution	0.025% of FS
Operating Temperature	-20 to 85 C (-40 to 105 C Extended Range)
Temperature Coefficient	≤±0.015% of FS/K
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

For use in:

Industrial Fluid Power Equipment
Steel, Aluminum, and Paper Mills
Steam and Hydro Power Plants
Factory Automation Systems



LRS-18 Series



Ordering Information

Series	Output	Housing Thread	Range (mm)	Electrical Termination		Output	Housing Material
				Axial or Radial	Termination		
LRS	X-	XX-	XXX-	X-	XX-	XX	X-
	E- Voltage	18- M18	013 (12.7 mm)	A- Axial	00- 1 m cable	05 - 0.5-4.5 VDC	A- Aluminum
	I- Current		025		01- 5-pin M12	06 - 4.5-0.5 VDC	S- 300 Series SS
			050		02- 6-pin PT02	10 - 0-10 VDC	
			075		03- 3 m cable	11 - 10-0 VDC	
			100			20 - 4-20 mA	
						21 - 20-4 mA	
						50 - 0-5 VDC	
						51 - 5-0 VDC	

Off The Shelf Connection Solutions



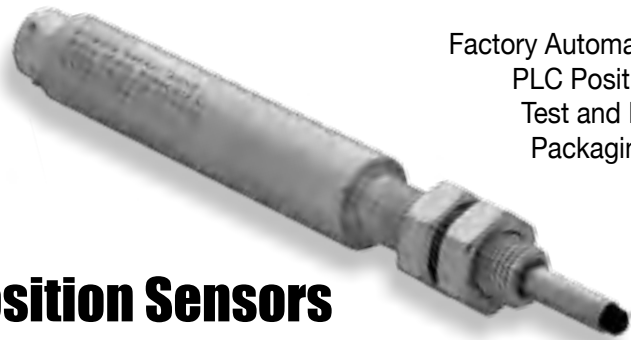
Standard ADG Contact Tip



Industry Standard M18 x 1 Threads



Industry Standard Connectors and Cable Options



Use for:
Factory Automation Systems
PLC Position Feedback
Test and Measurement
Packaging Equipment

GHS-19 Series

Spring-Loaded LVIT Linear Position Sensors

Low Cost, Compact, High Performance Gaging Probes

The GHS-19 series of LVIT (Linear Variable Inductive Transducer) spring-loaded position sensors by Alliance Sensors Group are contactless devices designed for dimension measurements in QA labs, or position measuring applications in factory automation systems and in various industrial and commercial applications such as automotive testing, mil/aero test stands, robotic arms, and packaging equipment, where the sensing element cannot be attached to the object being measured. GHS-19s are offered in nominal full scale ranges from 13 to 100 mm (0.5 to 4.0 inches) with excellent resolution and high stroke-to-body-length ratios. The maximum tip contact force on the item being measured is 1 pound.

GHS-19 sensors have a 0.75 inch (19 mm) diameter aluminum or stainless steel body with a 1/2-20 UNF 2A thread 1.5 inches (38 mm) long with two 19 mm (0.75 inch) hex jam nuts for drop-in installation in place of a spring-loaded DC LVDT gage head. These sensors utilize a probe equipped with a No. 9 contact tip, and are offered with a PT02-10-6P connector. Operating from a variety of DC voltages, these sensors are available with a choice of one of four analog outputs. They all include ASG's proprietary SenSet™ field calibration feature.

Additional information can be found at www.alliancesensors.com.

Features:

- Spring-loaded LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wearout from dithering or rapid cycling
- Excellent stroke-to-body-length ratio
- Proprietary SenSet™ Field Adjustable Range Scaling

Specifications:

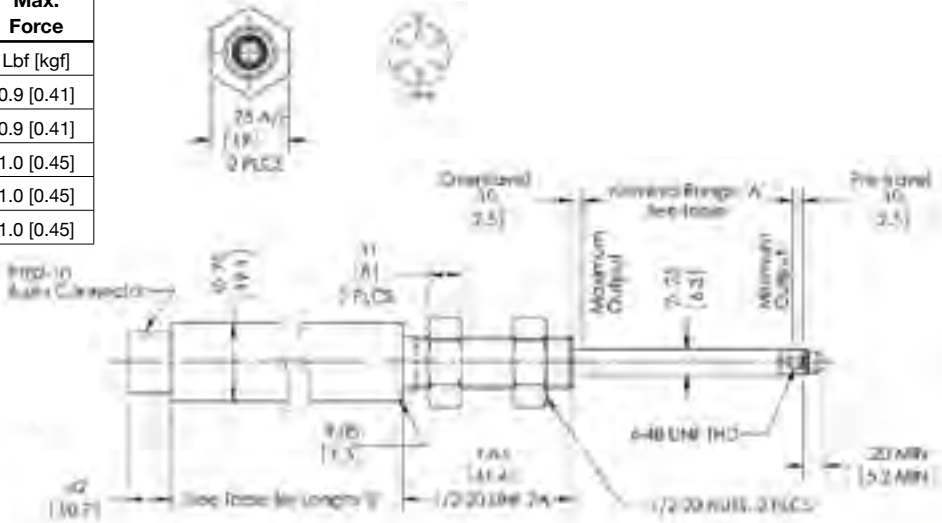
Analog I/Os	0 - 5 or 0.5 - 4.5 VDC output with 8 - 30 VDC input, 35 mA max. 0 - 10 VDC output with 12 - 30 VDC input, 35 mA max. 4 - 20 mA (3-wire) output with 18 - 30 VDC input, 60 mA max. (75 C max.)
Measuring Ranges	13 mm to 100 mm (0.5 to 4.0 inches) full scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% max.
Resolution	0.025% of FS
Operating Temperature	-20 to 85 C (-40 to 105 C Extended Range)
Temperature Coefficient	±0.015% of FS/K
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



GHS-19 Series

'A' Nominal Range	'B' Body Length	Spring Rate	Max. Force
inches [mm]	inches [mm]	Lbf/in [kgf/cm]	Lbf [kgf]
0.5 [12.7]	3.50 [88.9]	0.75 [0.134]	0.9 [0.41]
1.0 [25.4]	4.00 [101.6]	0.75 [0.134]	0.9 [0.41]
2.0 [50.8]	5.08 [129.0]	0.43 [0.077]	1.0 [0.45]
3.0 [76.2]	6.16 [156.5]	0.30 [0.054]	1.0 [0.45]
4.0 [101.6]	7.25 [184.1]	0.23 [0.041]	1.0 [0.45]

Wiring Table	
I/O Function	PT02-10 Pin
+DC Power Input	E
Common Ground	D
Voltage Output	A
Current Output	
SenSet™	B



Series	Output	Housing Diameter	Range (mm)	Electrical Termination		Output	Housing Material
				Axial or Radial	Connection		
GHS	X-	XX-	XXX-	X-	XX-	XX	X-
	E- Voltage	19- 19 mm	013 (12.7 mm)	A- Axial	02- 6-pin PT02	05- 0.5 to 4.5 V	A- Aluminum
	I- Current		025			06- 4.5 to 0.5 V	S- 300 Series SS
			050			10- 0 to 10.0 V	
			075			11- 10.0 to 0 V	
			100			20- 4 to 20 mA	
						21- 20 to 4 mA	
						50- 0 to 5 V	
						51- 5 to 0 V	



MHP-7 Series

LVIT Linear Position Sensor

Specifically designed for position feedback of hydraulic and pneumatic cylinders

The MHP-7 Series LVIT (Linear Variable Inductance Transducer) Position Sensors from Alliance Sensors Group were designed to be installed into the rear endcap of hydraulic cylinders having a female o-ring port. Their 1-inch hex aluminum or stainless steel housings are ideal for operation up to 5000 psig (350 bar) in high pressure mobile hydraulic systems, factory automation machinery, or oil and gas exploration equipment.

The MHP-7 series sensors are based on a proprietary contactless sensing technology with a good stroke-to-length ratio. They employ a 7 mm diameter sealed inductive probe inserted into a gun-drilled hole in the cylinder rod to measure its position rather than using a ring magnet or a potentiometer's contact spool. They are offered in full scale ranges from 25 to 600 mm (1 to 24 inches), with a wide variety of analog I/Os, and either connector or cable terminations. The MHP-7 is 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.

Additional information can be found at www.alliancesensors.com.

Features:

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Senses cylinder rod... **NO MAGNET REQUIRED**
- 1-inch hex aluminum or stainless steel housing
- Easily adapts to existing cylinder designs
- Contactless sensing for long sensor life
- Proprietary SenSet™ for 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 to 24 inches) Full Scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% of FSO max.
Resolution	0.025% of FSO
Update Rate	300 Hz nominal
Operating Temperature	-20 to 85 C (-40 C to 105 C Extended 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	1000g, 11 msec
Terminations	IEC IP-67
Humidity	95% RH, non-condensing

Use with:

Oil and Gas E&P Equipment
Industrial and Mobile Hydraulics
Off-road and Construction Vehicles



NO MAGNET
REQUIRED!

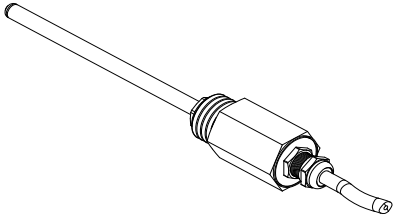
MHP-7 Series



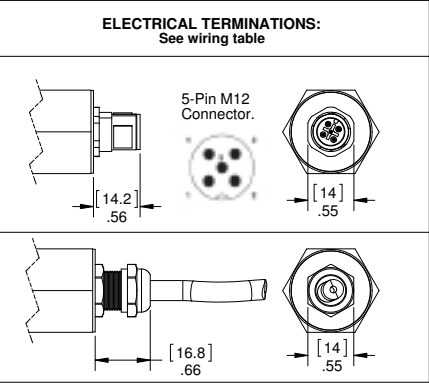
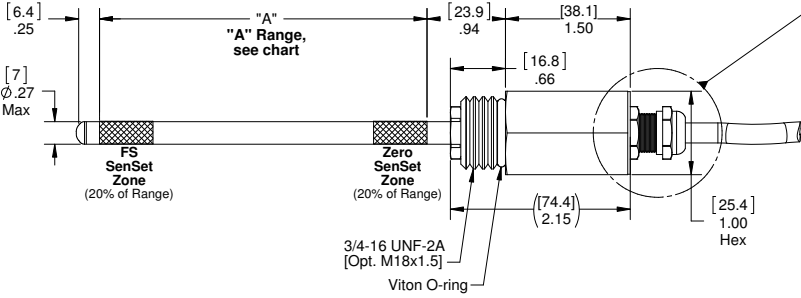
Nominal Range	Dim. "A" In. [mm]
25 mm	1.0 [25.4]
50 mm	2.0 [50.8]
75 mm	3.0 [76.2]
100 mm	4.0 [101.6]
125 mm	5.0 [127.0]
150 mm	6.0 [152.4]
200 mm	8.0 [203.2]
250 mm	10.0 [254.0]

Nominal Range	Dim. "A" In. [mm]
300 mm	12.0 [304.8]
350 mm	14.0 [355.6]
400 mm	16.0 [406.4]
450 mm	18.0 [457.2]
500 mm	20.0 [508.0]
600 mm	24.0 [609.6]
750 mm	30.0 [762.0]
900 mm	36.0 [914.4]

Wiring Table		
I/O Function	Pin	Cable Color
+ Power Input	1	Red
Ground	2	Black
Voltage output	3	Green
Current output	4	Green
SenSet™	5	White



Ordering Guide	
Model	Output
MHPE	Voltage
MHPI	Cuttent



Ordering Information

Series	Output Type	Probe Dia.	Range (mm)	Port Thread	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
MHP	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 - Alumimun	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
				22 - M22	03 - 5-pin mini 7/8	10 - 0 to 10.0 V		11 - 11 (250-900 ranges)	CS - Carbon Steel
			250 - 600			11 - 10.0 to 0 V			SS - Stainless Steel
			(50 mm increments)			20 - 4 to 20 mA			
						21 - 20 to 4 mA			
			600 - 900			50 - 0 to 5 V			
			(150 mm increment)			51 - 5 to 0 V			

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.

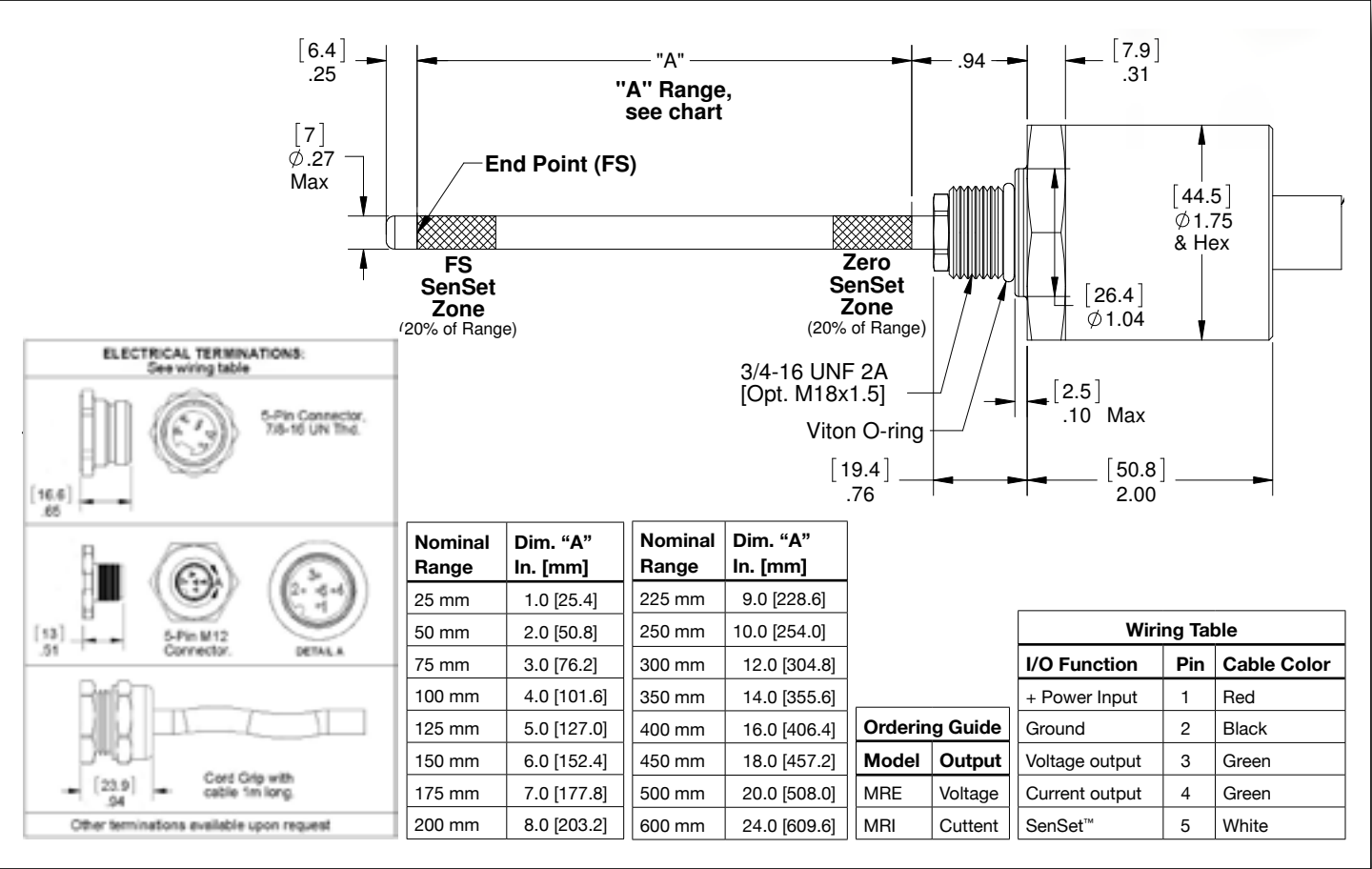
Additional information can be found at www.alliancesensors.com.

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



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			



ME-7 Series

LVIT Linear Position Sensor

Lower cost, more robust alternative to magnetostrictive sensors

The ME-7 Series LVIT (Linear Variable Inductance Transducer) Position Sensors from Alliance Sensors Group has been designed as an alternative to magnetostrictive sensors and has more robust construction and a lower cost of ownership. The unit can be embedded into the end cap of industrial or mobile hydraulic cylinders and pneumatic actuators. These ME-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 ME-7 has a 1.89 inch (48 mm) diameter sensor head with an o-ring and back up ring in a groove, so it can be mounted in the same cavity in the cylinder cap and locked in with radial set screws just like a magnetostrictive sensor. Because they are contactless, ME-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 ME-7 sensor can withstand much greater shock and vibrations than other technologies. A very useful element of the ME-7 sensors is ASG’s proprietary SenSet™ feature whereby a sensor’s analog output can be 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)
- Senses cylinder rod... **NO MAGNET REQUIRED**
- Easily adapts to existing cylinder designs
- Contactless sensing for long sensor life
- Proprietary SenSet™ for 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 to 24 inches) Full Scale (nominal)
- Linearity Error** ±0.15% of Full Scale Output (FSO) typical, ±0.25% of FSO max.
- Resolution** 0.025% of FSO
- Update Rate** 300 Hz nominal
- Operating Temperature** -20 to 85 C (-40 C to 105 C Extended 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** 1000g, 11 msec
- Terminations** IEC IP-67
- Humidity** 95% RH, non-condensing

For use in:
Hydraulic and Pneumatic Cylinders
Mobile Hydraulic Equipment



NO MAGNET
REQUIRED!

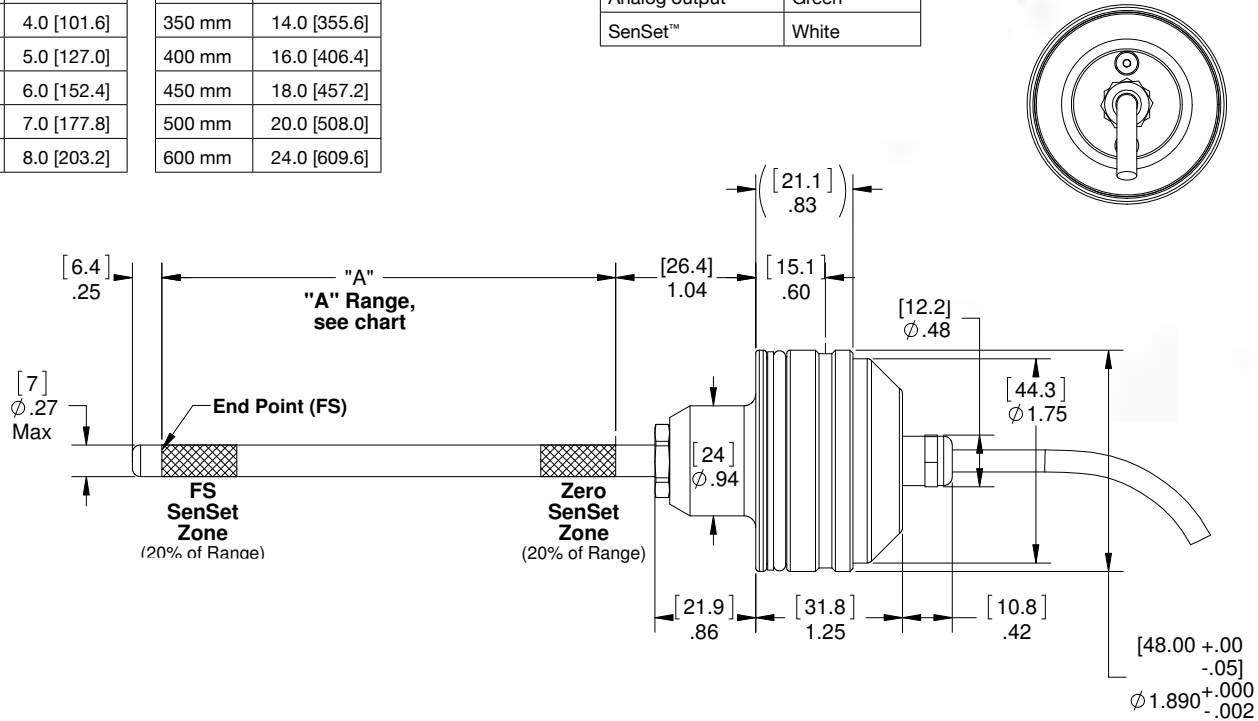
ME-7 Series



Nominal Range	Dim. "A" In. [mm]	Nominal Range	Dim. "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]

Ordering Guide	
Model	Output
MEE	Voltage
MEI	Cuttent

Wiring Table	
I/OFunction	Cable Color
Power input	Red
Ground	Black
Analog output	Green
SenSet™	White



Ordering information:

Series	Output	Probe Dia.	Range (mm)	Body Diameter	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
ME	X-	X-	XXX-	XX-	XX-	XX-	X	XX-	XX
	E -Voltage	7 -7 mm	025 - 300	48 - 48 mm	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)		01 - 1 foot cable	06 - 4.5 to 0.5 V	S - 300 Series SS	95 - 9.5 (125-200 ranges)	AS - Alloy Steel
						10 - 0 to 10.0 V		11 - 11 (225-600 ranges)	CS - Carbon Steel
			300 - 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			



For use in:
Subsea Valves and Cylinders
Oil and Gas Exploration
PBOF Environments

SS-7 Series

LVIT Linear Position Sensor for Subsea

Specifically designed for Subsea High Pressure PBOF Environments with No Magnet Required!!

The SS-7 series LVIT (Linear Variable Inductance Transducer) Position Sensors from 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. For oil and gas exploration, blow out preventers, ROVs, and relief valves.

The SS-7 requires no magnet and is based on a proprietary contactless inductive sensing technology that employs a 7 mm diameter probe with a with good stroke to length ratio to save space and a gun drilled hole in the cylinder rod. The SS housing 1-inch diameter 316 stainless steel and comes standard with a LSG-4-BC connector. They are offered in ranges from 25 to 600 mm (1 to 24 inches) full scale with a wide variety of analog I/Os. 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.

Additional information can be found at www.alliancesensors.com.

Features:

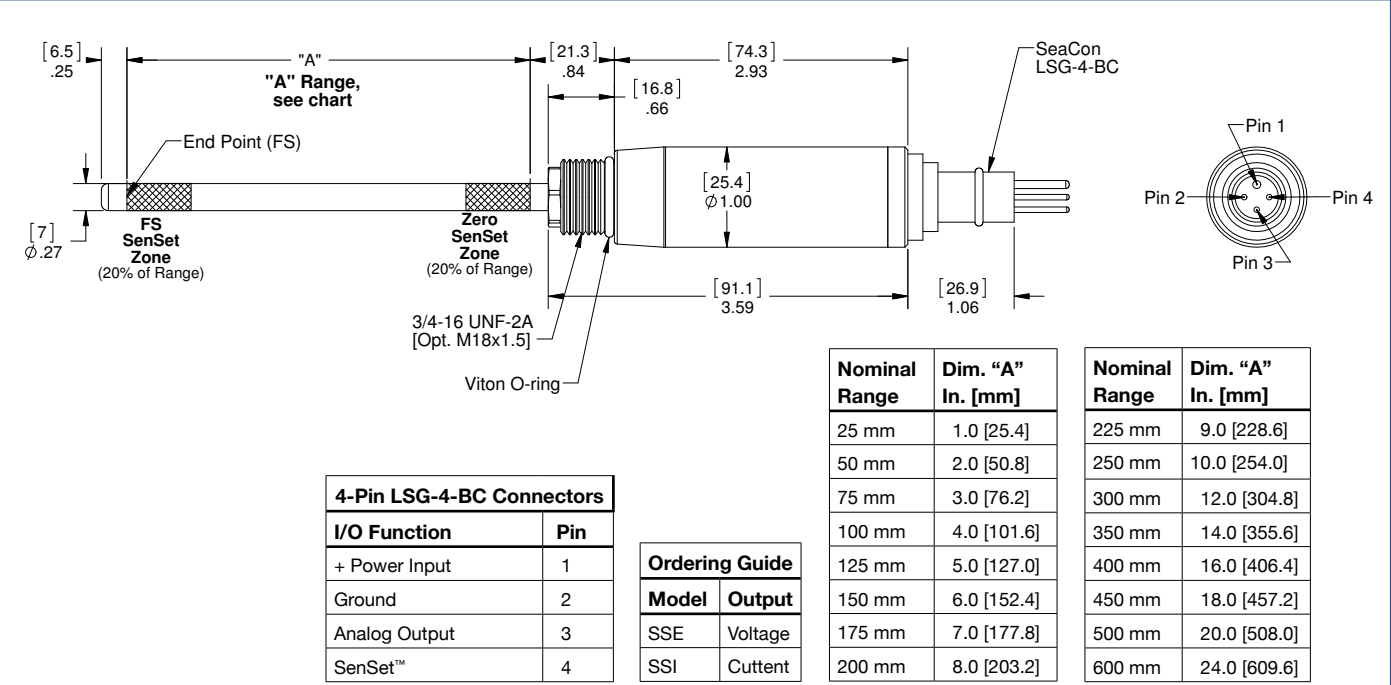
- LVIT Technology™ (Linear Variable Inductance Transducer)
- Operational to 12,000 ft depth or 5200 psig (350 bar)
- Senses cylinder rod...no magnet required
- Contactless sensing for long sensing life
- Proprietary SenSet™ field adjustable range scaling

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.)
Measuring Ranges	25 mm to 600 mm (1 to 24 inches) Full Scale (nominal)
Linearity Error	±0.15% of Full Scale Output (FSO) typical, ±0.25% of FSO max.
Resolution	0.025% of FSO
Update Rate	300 Hz nominal
Operating Temperature	-20 to 85 C (-40 C to 105 C Extended Range)
Temperature Coefficient	≤±0.015% of FS/deg C
Operating Pressure	5200 psig max. (350 bar)
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p
Shock	1000g, 11 msec

NO MAGNET
REQUIRED!

SS-7 Series



Ordering information:

Series	Output Type	Probe Dia.	Range (mm)	Port Thread	Termination	Output	Housing Material	Bore Size (mm)	Bore Material
SS	X-	X-	XXX-	XX-	XX-	XX-	X	XX-	XX
	E -Voltage	7 -7 mm	025 - 250	08 - 3/4-16 UNF	04 - Seacon LSG-4-BC	03 - 0-3 V DC	S - 316 SS	08 - 8	AS - Alloy Steel
	I - Current		(25 mm increments)	18 - M18 x 1.5		04 - 3-0 V DC		95 - 9.5	SS - Stainless Steel
						05 - 0.5-4.5 V DC		11 - 11	
			250 - 500			06 - 4.5-0.5 V DC			
			(50 mm increments)			10 - 0-10.0 V DC			
						11 - 10.0-0 V DC			
			500 - 600			20 - 4-20 mA			
			(100 mm increment)			21 - 20-4 mA			
						50 - 0-5 V DC			
						51 - 5-0 V DC			



PG Series

LVDT Linear Sensors

Specifically Designed and Engineered for Applications
in Power Generating Steam Turbine Control Systems



For use with:
Interceptor Valves
Governor Valves
Throttle Valves
Bypass Valves
Stop Valves

Alliance Sensors PG Series LVDT linear position sensors are designed and engineered specifically for steam turbine valve position control system applications in electric power plants. Many of the features incorporated in the design were actually requested by power generation controls engineers. PG sensor models include the PGHD Heavy Duty LVDT and the PGSD Super Duty LVDT. Both PG versions are available on special order as mild radiation resistant for operation in BWR nuclear power plants.

The PG Series LVDT linear sensors are heavy duty, from the wire connection terminal block inside an IP-68 sealed heavy wall housing to the 3/8 inch outside diameter core rod in which the LVDT core is encased so that it can never vibrate loose or break off. A pair of double contact shaft seals for the core rod keep dirt and water out of the sensor's bore. An in-line ball joint coupling on the core connecting rod to take up minor installation misalignment is optionally available, along with other installation hardware such as hold-down clamps, threaded core extension rods, swivel rod eye ends, and mounting flanges. Electrical connections utilize a screw-clamp terminal block for 24 to 14 AWG wires that feed through a 3/4 inch conduit hub outfitted with a 1/2 inch conduit adapter. User-installable connectors are available.

Features

- Core is enclosed in 3/8 inch (9.5 mm) diameter rod... cannot vibrate loose or break off
- Dual redundant double contact shaft seals keep contaminants out of LVDT's bore
- Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B)/(A+B) systems
- Operates to 350°F (175 C) with over-temperature indicator built in
- Screw clamp terminal block accepts 24 to 14 AWG wires
- 2 year warranty... twice the industry standard

Electrical Specifications:

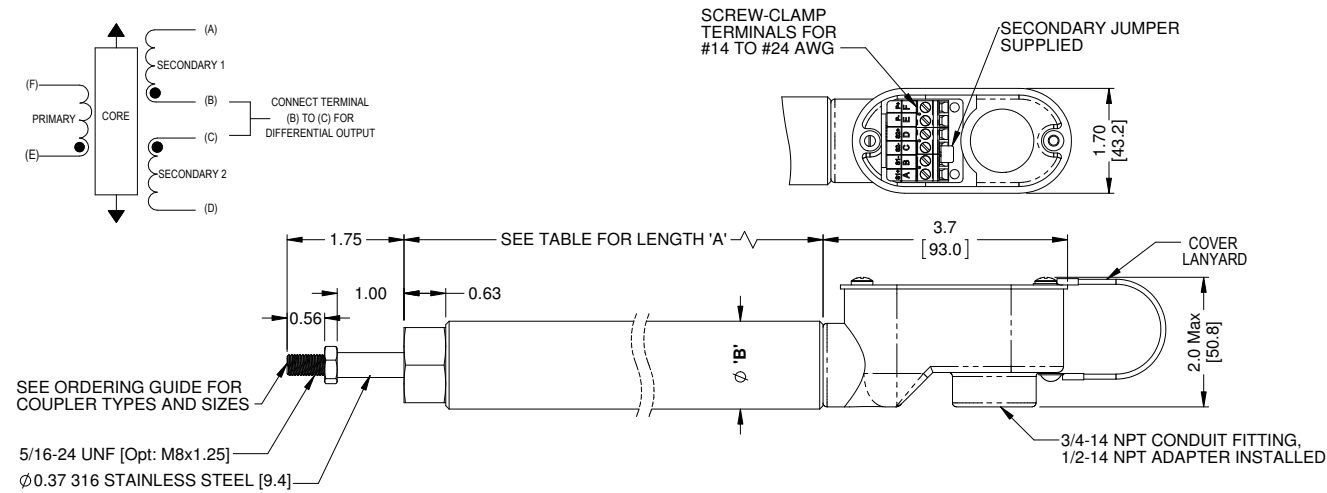
- Excitation Frequency:** 3 kHz nominal
Excitation Voltage: 3 V ACrms nominal
Full Scale Output: 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries with 3 Vrms excitation; sum of secondaries output is constant over range for ratiometric (S1-S2)/(S1+S2) operation
- Linearity Error:** ±0.3% of FSO nominal, ±0.5% of FSO max
Operating Temperature: -40 to 175 C (-40 to 350 °F)
Temperature Coefficient: ≤ 0.025% FSO/degree C
Shock: 1000 g, 11 msec
Vibration: 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

ALLIANCE SENSORS GROUP
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PG Series



Model	Body Diameter 'B'	Model Number	Linear Range	Body Length 'A'	
PGHD	1.05 INCHES [26.7 MM]	PGXX-0203	3.00 INCHES	6.50 INCHES	165.1 MM
PGSD	1.32 INCHES [33.5 MM]	PGXX-0406	6.00 INCHES	10.25 INCHES	260.4 MM
		PGXX-0609	9.00 INCHES	13.25 INCHES	336.6 MM
		PGXX-0912	12.00 INCHES	17.25 INCHES	438.2 MM
		PGXX-1215	15.00 INCHES	21.25 INCHES	539.8 MM

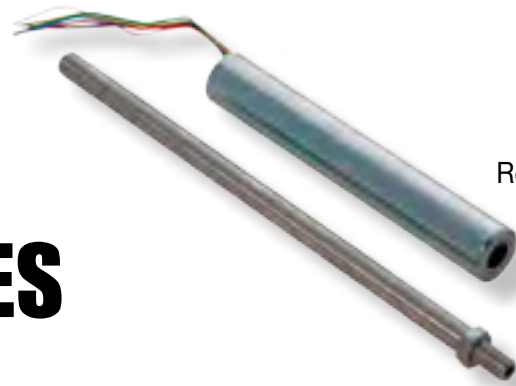


Ordering information:

Model	Version	Operating Range	Coupler Type	Rod Coupler Size *
PG	XX-	XXXX-	XX	(XX)
	HD Heavy Duty	0203 2 to 3 inches	BJ Ball Joint	3S 10-32 UNF, 1/2 inch deep
	SD Super Duty	0406 4 to 6 inches	RN Rigid Nut	4S 1/4-28 UNF, 1/2 inch deep
		0609 6 to 9 inches		5S 5/16-24 UNF, 1/2 inch deep
		0912 9 to 12 inches		6S 3/8-24 UNF, 1/2 inch deep
		1215 12 to 15 inches		6L 3/8-24, 3/4 inch deep (default)
				8M M8 x 1.25, 14 mm deep
				10M M10 x 1.5, 14 mm deep
				* No size callout gets 6L default

ALLIANCE SENSORS GROUP
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info@alliancesensors.com



Use with:
Tool and Die Presses
Power Turbine Valves
Injection Molding Machines
Roller Gap for Steel and Aluminum Mills

LA-21-A SERIES

AC LVDT

Linear position feedback for typical industrialized applications and environments

The LA-21-A series AC LVDTs offers the robust designs for which Alliance Sensors Group is known in typical industrial packages, with full ranges from 3 inches (75 mm) to 15 inches (375 mm). They are supplied in a zinc-plated-steel 0.805 inch (20.5 mm) diameter housing with 4-inch (100 mm) stripped-and-tinned axial leads. Each LVDT's core is enclosed in a 3/8 inch (9.5 mm) diameter extension rod from which it cannot break loose and has a 5/16-24 UNF or M8 X 1.25 male thread for easy attachment.

LA-21-A AC-LVDTs are ideal for stamping or drawing press die opening, injection molding machine platen position, process valve controls, and roller gap feedback in steel or aluminum mills. Mated with ASG's SC-100 industrial LVT DIN-rail-mountable analog output signal conditioner, and LA-21-A LVDT becomes an ideal solution for typical industrial applications requiring rugged, accurate position sensors.

Features:

- Mildly Radiation Resistant
- Stock ranges from 3 inches to 15 inches (75 mm to 375 mm) Full Scale
- Core totally enclosed in 3/8 inch (9.5 mm) diameter core extension rod
- Environmentally sealed to IP68

Specifications:

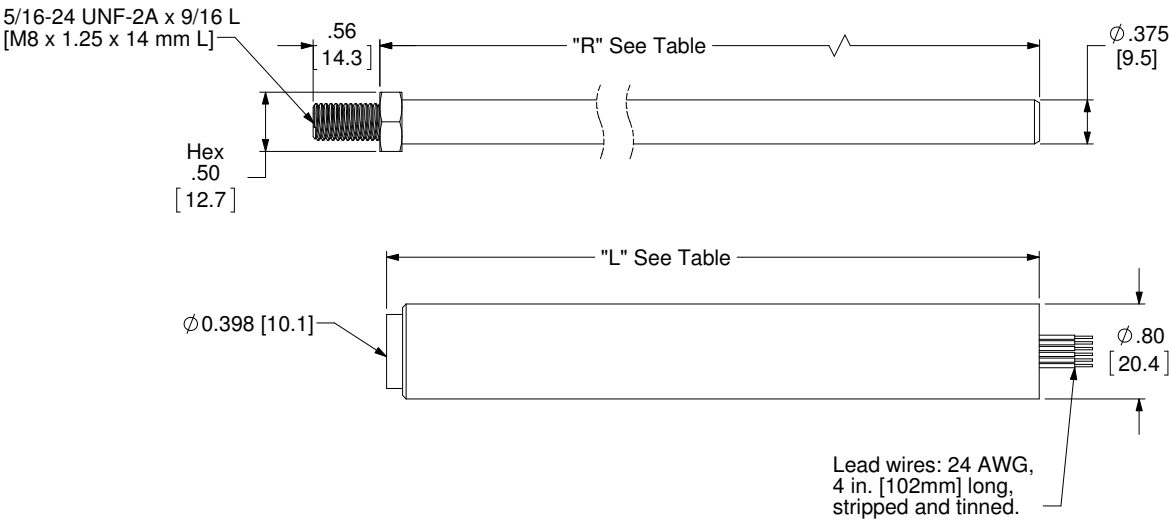
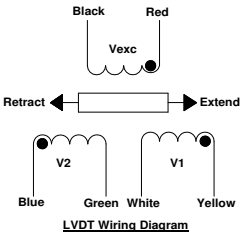
Available Full Ranges	0 to 3, 6, 9, 12, or 15 inches (0 to 75, 150, 225, 300, and 375 mm)
Excitation Frequency	3 kHz nominal
Excitation Voltage	3 V ACrms nominal
Full Scale Output	0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries (ref: 3 Vrms excitation); sum of secondaries output is constant over range for ratio-metric (S1-S2)/(S1+S2) operation
Linearity Error	±0.3% of FSO
Operating Temperature	-40 to 150 C (-40 to 350°F)
Temperature Coefficient	≤ ±0.025% FSO/degree K
Humidity	95% RH non-condensing
Shock	1000g, 11 msec
Vibration	5-20 Hz 0.5 inch p-p; 20-2000 Hz 4.2 g p-p

LA-21-A SERIES

Ordering Information:

Series	Range inches	Termination
LA-21-A	XX-	XX-
	03 - 3"	04 - 4" leads
	06 - 6"	
	09 - 9"	
	12 - 12"	
	15 - 15"	

LVDT Model	Range Inches [mm]	Sensitivity		“L” (Body) inches [mm]	“R” (Core) inches [mm]
		mV/V/inch	mV/V/mm		
LA-21-03	±1.5 [±38]	200	7.87	5.50 [140]	8.25 [208]
LA-21-06	±3.0 [±76]	100	3.98	9.25 [235]	12.00 [303]
LA-21-09	±4.5 [±114]	67	2.64	12.25 [311]	15.00 [380]
LA-21-12	±6.0 [±152]	50	1.97	16.25 [413]	19.00 [481]
LA-21-15	±7.5 [±190]	40	1.57	20.25 [511]	23.00 [583]





LA-25-R Series

LVDT Linear Position Sensors

Designed Specifically for Power Generation and Harsh Industrial Environments

Alliance Sensors Group's LA-25-R series of AC-LVDT linear position sensors have been designed for use in steel, aluminum, and paper mills; fluid power systems; and steam or hydro power plants. These heavy duty sensors use a thick wall aluminum housing (stainless steel available) with an open bore and radial terminations that include a cable in a cord grip, a heavy duty industrial connector, or an optional high temperature connector, with which the LA-25-R is a natural choice as a heavy duty replacement for older through-bore LVDTs with a radial connector found in some steam power plants for valve position.

The core of the LA-25-R is enclosed in a 3/8 inch diameter stainless steel connecting rod assembly from which it can never break loose, and which has a male threaded end for connection to a user's workpiece or many optional end pieces available from ASG. Because it has an open bore, an LA-25-R has no shaft seal around the operating rod, but it still has an internal stop for the fully retracted core rod to facilitate mechanical setup.

The LA-25-R series LVDT are ideal for roller gap measurement, head box feedback, control valve shaft position, and hydraulic actuator position feedback. They have the ruggedness to withstand the harsh environments in steam power plants; paper, steel, and aluminum mills; industrial fluid power systems; and hydroelectric plants, and can survive industrial wash downs and equipment cleaning operations. Mated with an Alliance Sensors' model SC-100 DIN-rail-mounting LVDT signal conditioner, an LA-25-R LVDT based system becomes an ideal solution for almost any heavy industrial position measuring applications. For power plant applications, an ASG model S1A is the recommended DIN-rail-mounting LVDT signal conditioner to use with an LA-25-R series LVDT.

Standard Features

- Stock ranges from 3 inches to 15 inches (75 mm to 375 mm) Full Scale
- Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B/A+B) systems
- 5/16-24 or 8 mm male threaded shaft end
- Core totally enclosed in 3/8 inch (9.5 mm) diameter core extension rod
- Open bore for easy cleanout
- Continuous operation to 250 °F (120 C)
- Environmentally sealed to IEC IP-68

Options

- Stainless steel body
- Alternate termination connectors, including one for 350 °F (175 C) operation
- Mild radiation resistant version for nuclear power plants (30 Mrads for 40 years)
- Mounting hardware including flanges, single hole mounting kits, swivel rod eye ends, ball joints, extension rods, holddown clamps, and tie bars for dual-mounted LVDTs

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



For use in:
Steel, Aluminum, and Paper Mills
Industrial Fluid Power Systems
Steam and Hydro Power Plants
Factory Automation Systems

LA-25-R Series



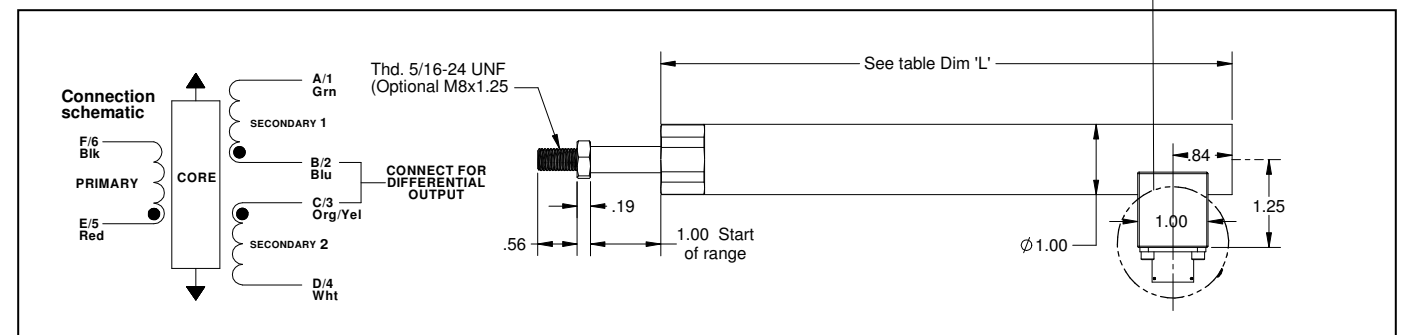
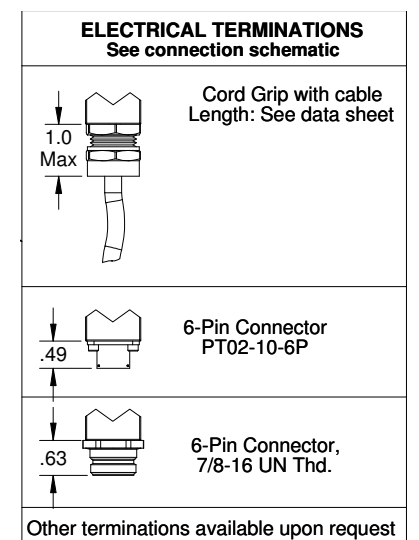
Electrical Specifications:

- Available FS ranges: 0 to 3, 6, 9, 12, or 15 inches (0 to 75, 150, 225, 300, or 375 mm)
- Excitation Frequency: 3 kHz nominal
- Excitation Voltage: 3 V ACrms nominal
- Full Scale Output: 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries (ref: 3 Vrms excitation); sum of secondaries output is constant over range for ratio-metric (S1-S2)/(S1+S2) operation
- Linearity Error: $\leq \pm 0.3\%$ of FSO
- Operating Temperature: -40 to 120 C (-40 to 250 °F)
- Temperature Coefficient: $\leq 0.025\%$ FSO/degree C
- Humidity: 95% RH non-condensing
- Shock: 1000 g, 11 msec
- Vibration: 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

Ordering information:

Series	Range inches	Termination
LA-25-R-	XX-	XX-
	03 - 3"	00- cord grip with 1 m cable
	06 - 6"	03- 6-pin Turck minifast connector
	09 - 9"	
	12 - 12"	
	15 - 15"	

LA-25-R-XX Configurations					
LA-25-R-XX	-03	-06	-09	-12	-15
Dim 'L'	8.12"L	11.87"L	14.87"L	18.87"L	22.87"L



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info@alliancesensors.com



LA-25-A Series

LVDT Linear Position Sensors

Specifically Designed for Harsh Industrial Environments



For use in:
Steam and Hydroelectric Power Plants
Industrial Fluid Power Equipment
LVDT Linear Position Sensors
Factory Automation Systems

Alliance Sensors Group LA-25-A series LVDT linear position sensors are designed to handle extreme industrial environments. This robust linear sensor has a thick wall aluminum housing (also available in stainless steel), a core enclosed inside of the core extension rod assembly that cannot break loose, while offering a sturdy male thread for easy mechanical connection, and a pair of double contact shaft seals to keep fluids and solid contaminants out of its bore. The sensor’s electrical termination includes the choice of an axial connector or a cord grip with a cable.

An LA-25-A LVDT is ideal for roller gap positioning, head box feedback, process valve displacement, and actuator position feedback with the durability to withstand the harsh environments found in steam and hydro power plants; paper, steel, and aluminum mills; and industrial automation and fluid power systems. It can operate in such hostile factory environments as lubricant mist, cutting oil spray, and airborne grit or dust, and it survives typical industrial steam cleaning and wash downs. Mated with ASG’s SC-100 industrial LVDT DIN-rail-mountable signal conditioner, the LA-25-A LVDT becomes an ideal solution for heavy duty industrial applications requiring position sensing. For operating an LA-25-A as a steam valve position sensor in a power plant, ASG’s model S1A signal conditioner, which is designed specifically for that application, is recommended.

Standard Features

- Stock ranges from 3 inches to 15 inches (75 mm to 375 mm) Full Scale
 - Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B/A+B) systems
 - Core totally enclosed in 3/8 inch (9.5 mm) diameter core extension rod
- Two double contact shaft seals keep out contaminants
 - 5/16-24 or 8 mm male threaded shaft end
 - Continuous operation to 250 °F (120 C)
 - Environmentally sealed to IEC IP-68

Options

- Stainless steel body
 - Alternate termination connectors, including one for 350 °F (175 C) operation
 - Mild radiation resistant version for nuclear power plants (30 Mrads for 40 years)
 - Auxiliary shaft seals
 - Mounting hardware including flanges, single hole
- mounting kits, swivel rod eye ends, ball joints, extension rods, holddown clamps, and tie bars for dual-mounted LVDTs



LA-25-A Series

Electrical Specifications:

- Available FS ranges: 0 to 3, 6, 9, 12, or 15 inches (0 to 75, 150, 225, 300, or 375 mm)

Excitation Frequency: 3 kHz nominal

Excitation Voltage: 3 V ACrms nominal

Full Scale Output: 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries (ref: 3 Vrms excitation); sum of secondaries output is constant over range for ratio-metric (S1-S2)/(S1+S2) operation
- Linearity Error: $\leq \pm 0.3\%$ of FSO

Operating Temperature: -40 to 120 C (-40 to 250 °F)

Temperature Coefficient: $\leq 0.025\%$ FSO/degree C

Humidity: 95% RH non-condensing

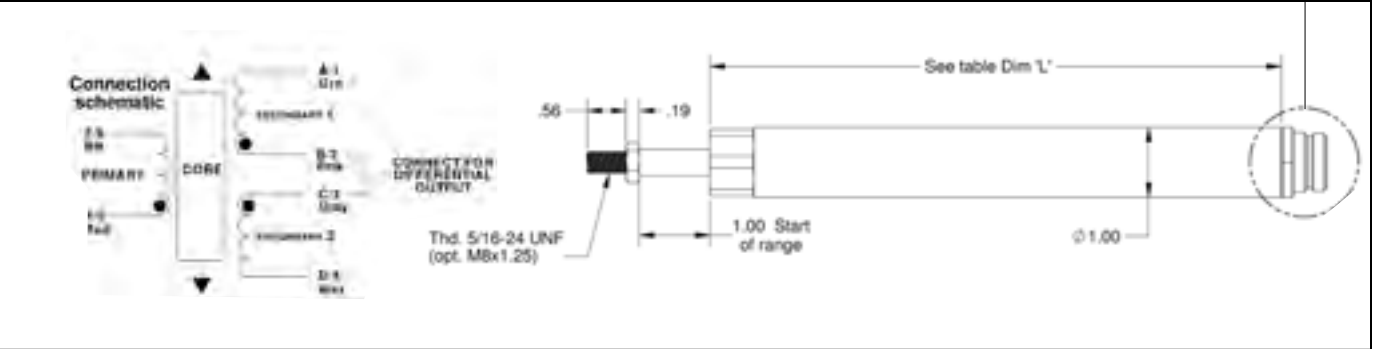
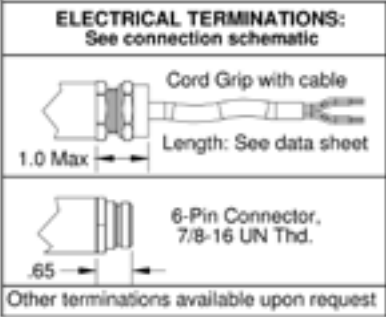
Shock: 1000 g, 11 msec

Vibration: 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

Ordering information:

Series	Range inches	Termination
LA-25-A-	XX-	XX-
	03 - 3"	00- cord grip with 1 m cable
	06 - 6"	03- cord grip with 3 m cable
	09 - 9"	05- 6-pin Turck minifast connector
	12 - 12"	
	15 - 15"	

LA-25-A-XX Configurations					
LA-25-A-XX	-03	-06	-09	-12	-15
Dim 'L'	8.12"L	11.87"L	14.87"L	18.87"L	22.87"L





LA-27-R Series

LVDT Linear Position Sensors

Designed Specifically for Power Generation and Harsh Industrial Environments

Alliance Sensors Group's LA-27-R series of AC-LVDT linear position sensors have been designed for use in steel, aluminum, and paper mills; fluid power systems; and steam or hydro power plants. These heavy duty sensors use a thick wall aluminum housing (stainless steel available) with an open bore and radial terminations that include a cable in a cord grip, a heavy duty industrial connector, or an optional high temperature connector, with which the LA-27-R is a natural choice as a heavy duty replacement for older through-bore LVDTs with a radial connector found in some steam power plants for valve position.

The core of the LA-27-R is enclosed in a 3/8 inch diameter stainless steel connecting rod assembly from which it can never break loose, and which has a male threaded end for connection to a user's workpiece or many optional end pieces available from ASG. Because it has an open bore, an LA-27-R has no shaft seal around the operating rod, but it still has an internal stop for the fully retracted core rod to facilitate mechanical setup.

The LA-27-R series LVDT are ideal for roller gap measurement, head box feedback, control valve shaft position, and hydraulic actuator position feedback. They have the ruggedness to withstand the harsh environments in steam power plants; paper, steel, and aluminum mills; industrial fluid power systems; and hydroelectric plants, and can survive industrial wash downs and equipment cleaning operations. Mated with an Alliance Sensors' model SC-100 DIN-rail-mounting LVDT signal conditioner, an LA-27-R LVDT based system becomes an ideal solution for almost any heavy industrial position measuring applications. For power plant applications, an ASG model S1A is the recommended DIN-rail-mounting LVDT signal conditioner to use with an LA-27-R series LVDT.

Standard Features

- Stock ranges from 3 inches to 15 inches (75 mm to 375 mm) Full Scale
- Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B/A+B) systems
- 5/16-24 or 8 mm male threaded shaft end
- Core totally enclosed in 3/8 inch (9.5 mm) diameter core extension rod
- Open bore for easy cleanout
- Continuous operation to 250 °F (120 C)
- Environmentally sealed to IEC IP-68

Options

- Stainless steel body
- Alternate termination connectors, including one for 350 °F (175 C) operation
- Mild radiation resistant version for nuclear power plants (30 Mrads for 40 years)
- Mounting hardware including flanges, single hole mounting kits, swivel rod eye ends, ball joints, extension rods, holddown clamps, and tie bars for dual-mounted LVDTs

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For use in:
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Steam and Hydro Power Plants
Factory Automation Systems

LA-27-R Series



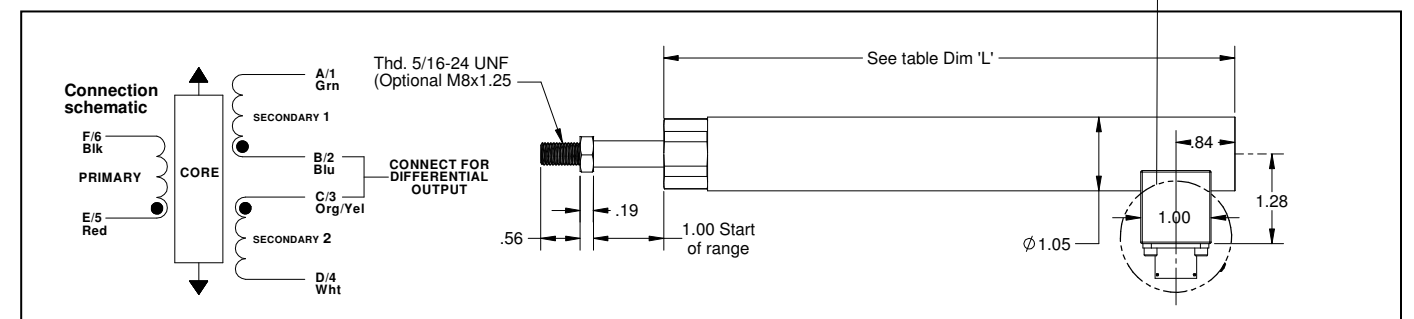
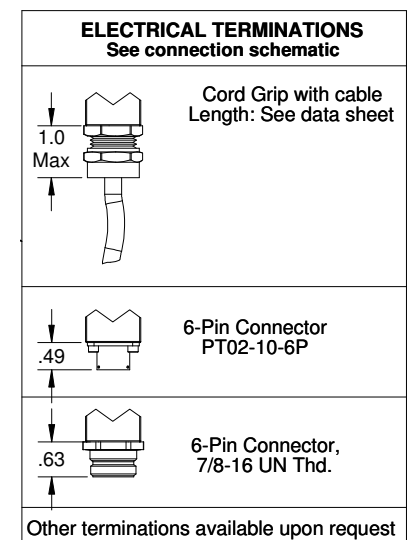
Electrical Specifications:

- Available FS ranges: 0 to 3, 6, 9, 12, or 15 inches (0 to 75, 150, 225, 300, or 375 mm)
- Excitation Frequency: 3 kHz nominal
- Excitation Voltage: 3 V ACrms nominal
- Full Scale Output: 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries (ref: 3 Vrms excitation); sum of secondaries output is constant over range for ratio-metric (S1-S2)/(S1+S2) operation
- Linearity Error: $\leq \pm 0.3\%$ of FSO
- Operating Temperature: -40 to 120 C (-40 to 250 °F)
- Temperature Coefficient: $\leq 0.025\%$ FSO/degree C
- Humidity: 95% RH non-condensing
- Shock: 1000 g, 11 msec
- Vibration: 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

Ordering information:

Series	Range inches	Termination
LA-27-R-	XX-	XX-
	03 - 3"	00- cord grip with 1 m cable
	06 - 6"	03- 6-pin Turck minifast connector
	09 - 9"	
	12 - 12"	
	15 - 15"	

LA-27-R-XX Configurations					
LA-27-R-XX	-03	-06	-09	-12	-15
Dim 'L'	8.12"L	11.87"L	14.87"L	18.87"L	22.87"L



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For use in:
Steam and Hydroelectric Power Plants
Industrial Fluid Power Equipment
LVDT Linear Position Sensors
Factory Automation Systems

LA-27-A Series

LVDT Linear Position Sensors

Designed Specifically for Power Generation and Harsh Industrial Environments

Alliance Sensors Group LA-27-A series LVDT linear position sensors are designed to handle extreme industrial environments. This robust linear sensor has a thick wall aluminum housing (also available in stainless steel), a core enclosed inside of the core extension rod assembly that cannot break loose, while offering a sturdy male thread for easy mechanical connection, and a pair of double contact shaft seals to keep fluids and solid contaminants out of its bore. The sensor’s electrical termination includes the choice of an axial connector or a cord grip with a cable.

An LA-27-A LVDT is ideal for roller gap positioning, head box feedback, process valve displacement, and actuator position feedback with the durability to withstand the harsh environments found in steam and hydro power plants; paper, steel, and aluminum mills; and industrial automation and fluid power systems. It can operate in such hostile factory environments as lubricant mist, cutting oil spray, and airborne grit or dust, and it survives typical industrial steam cleaning and wash downs. Mated with ASG’s SC-100 industrial LVDT DIN-rail-mountable signal conditioner, the LA-27-A LVDT becomes an ideal solution for heavy duty industrial applications requiring position sensing. For operating an LA-27-A as a steam valve position sensor in a power plant, ASG’s model S1A signal conditioner, which is designed specifically for that application, is recommended.

Standard Features

- Stock ranges from 3 inches to 15 inches (75 mm to 375 mm) Full Scale
- Works in 3-wire, 4-wire, 5-wire, 6-wire, and ratiometric (A-B/A+B) systems
- Core totally enclosed in 3/8 inch (9.5 mm) diameter core extension rod
- Two double contact shaft seals keep out contaminants
- 5/16-24 or 8 mm male threaded shaft end
- Continuous operation to 250 °F (120 C)
- Environmentally sealed to IEC IP-68

Options

- Stainless steel body
- Alternate termination connectors, including one for 350 °F (175 C) operation
- Mild radiation resistant version for nuclear power plants (30 Mrads for 40 years)
- Auxiliary shaft seals
- Mounting hardware including flanges, single hole

mounting kits, swivel rod eye ends, ball joints, extension rods, holddown clamps, and tie bars for dual-mounted LVDTs



LA-27-A Series

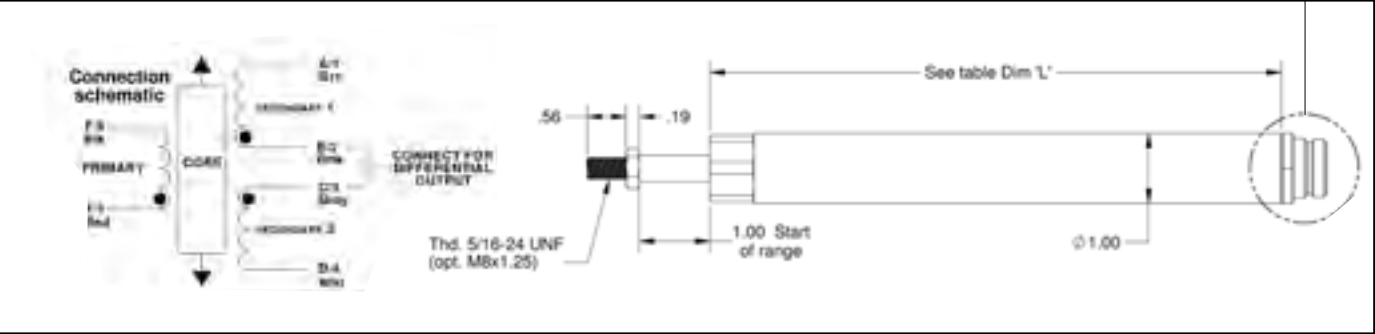
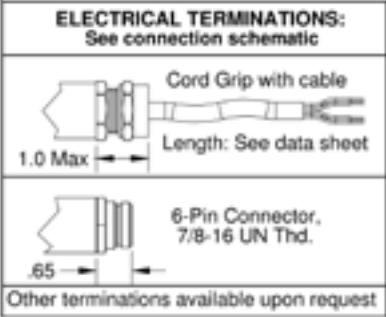
Electrical Specifications:

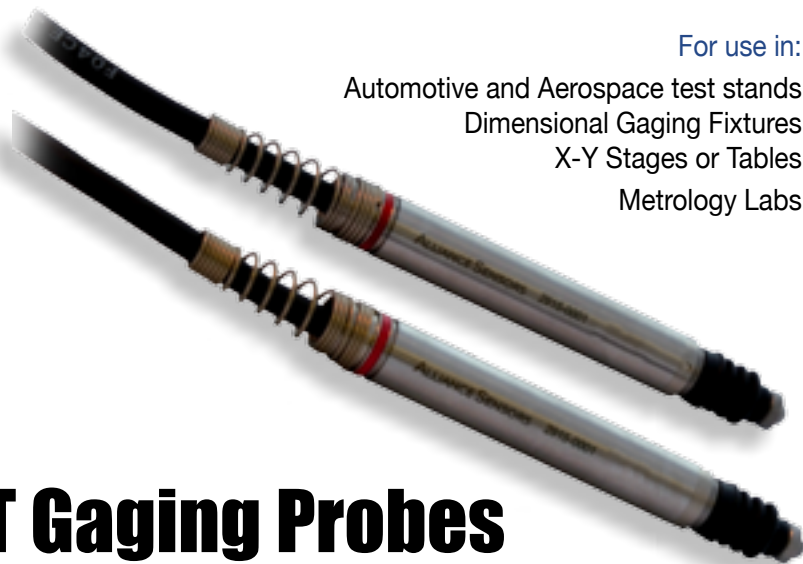
- Available FS ranges: 0 to 3, 6, 9, 12, or 15 inches (0 to 75, 150, 225, 300, or 375 mm)
- Excitation Frequency: 3 kHz nominal
- Excitation Voltage: 3 V ACrms nominal
- Full Scale Output: 0.9 V ACrms output (nom.) from differentially connected (S1-S2) secondaries (ref: 3 Vrms excitation); sum of secondaries output is constant over range for ratio-metric (S1-S2)/(S1+S2) operation
- Linearity Error: ≤±0.3% of FSO
- Operating Temperature: -40 to 120 C (-40 to 250 °F)
- Temperature Coefficient: ≤ 0.025% FSO/degree C
- Humidity: 95% RH non-condensing
- Shock: 1000 g, 11 msec
- Vibration: 5-20 Hz, 0.5 inch p-p; 20-2000 Hz, 4.2 g p-p

Ordering information:

Series	Range inches	Termination
LA-27-A-	XX-	XX-
	03 - 3"	00- cord grip with 1 m cable
	06 - 6"	03- cord grip with 3 m cable
	09 - 9"	05- 6-pin Turck minifast connector
	12 - 12"	
	15 - 15"	

LA-27-A-XX Configurations					
LA-27-A-XX	-03	-06	-09	-12	-15
Dim 'L'	8.12"L	11.87"L	14.87"L	18.87"L	22.87"L





For use in:
Automotive and Aerospace test stands
Dimensional Gaging Fixtures
X-Y Stages or Tables
Metrology Labs

DGP Series

Spring- Loaded LVDT Gaging Probes

Specifically Designed for Dimensional Gaging and Metrology

The DGP Series Dimensional Gaging Probes by Alliance Sensors Group are AC-LVDT based, spring-loaded linear position sensors designed for high precision dimensional gaging applications. Widely used in the automotive, aerospace, and medical industries for machined parts manufacture, Gage R&R, and CpK data, the DGP Series has the precision necessary to make measurements to uphold six-sigma programs.

Available in three ranges, the DGP Series spring loaded LVDT has an 8mm diameter, IP-65 rated housing that is slightly shorter than most competitive units. A light spring force of less than 1.25 lbs/inch holds the DGP probe in contact with the part but is light enough not to deform the product. Precision ground bearings and an anti-rotation pin allow the DGP to hold sub-micron repeatability and resolution. A rubber boot over the probe shaft keeps contamination out of the linear bearing.

Alliance Sensors Group offers the SC-100 DIN-rail signal conditioner for use with the DGP Series LVDT probes, permitting the user very easy push button calibration. The SC-100 excites a DGP with the proper AC voltage and frequency, and then demodulates and amplifies the DGP's AC output to produce the user's choice of several analog DC voltages or 4-20 mA current output signal.

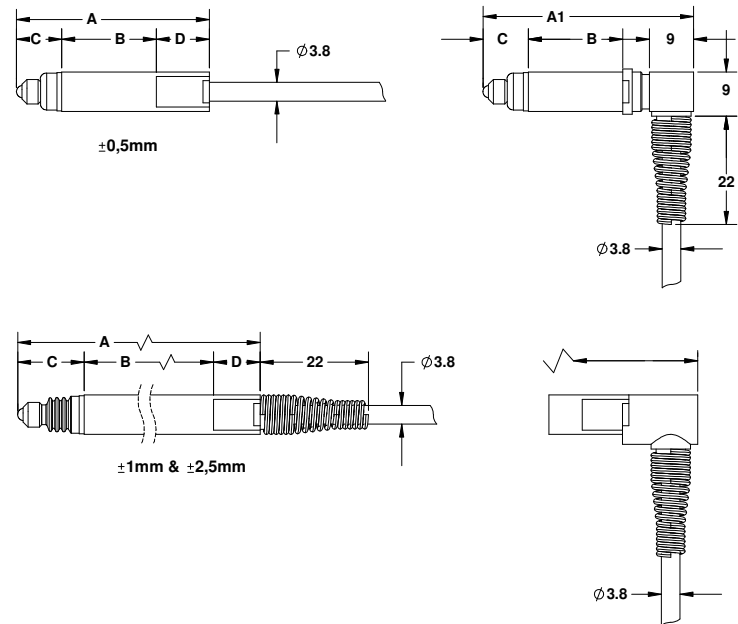
Features:

- Units available from stock in 3 measuring ranges: ± 0.5 mm, ± 1.0 mm, and ± 2.5 mm
- 8 mm diameter plain (unthreaded) body is standard
- Optional 0.375 inch threaded adapter sleeves for plain body models available from stock
- Better than 0.5 micron resolution and repeatability
- Adjustable probe pre- travel
- 2 m cable with Right Angle Exit Adapter included meets EMC standards - directive 89/336/EEC

Specifications:

Excitation Voltage: 3.5 Vrms
Excitation Freq: 7.5 kHz
Max Current: 9 mA rms
Phase Shift: <10 deg
Operating Temp: -10 to 65 C

DGP Series



DIMENSIONS	MEASURING RANGE (Standard)		
	± 0.5 mm	± 1 mm	± 2.5 mm
A	39.2	80	92.5
A1	42.8	--	--
B	19.2	57	68
C	9.2	13.5	15
D	10.8	9.5	9.5

Probe Stroke	± 5 mm	± 1.0 mm	± 2.5 mm
Probe Part Number	2915-0005	2915-0001	2915-0002
Probe Model Number	DGP-05	DGP-10	DGP-25
Pre Travel	.65 mm	1.15 mm	2.65 mm
Over Travel	> .65 mm	>1.5 mm	>3 mm
Repeatability	.15 micro	.15 micron	.2 micron
Linearity	0.30%	0.25%	0.50%
Sensitivity (mV/V/mm)	230	230	115



For use in:
Factory Automation
Robotic Motion Control
X/Y Table position feedback
Mil/aero test stands

LP-22 Series

Linear Potentiometer

Linear Potentiometer Designed specifically for the factory automation industry

The LP-22 series linear potentiometer is a cost effect solution for factory automation linear position sensing applications like robotic motion control, X-Y table position feedback, flow control valve position, suspension travel, press and die position, injection molding machines, and mil/aero test stand applications. This 3-wire resistive film sensor is available in stroke lengths from 25 to 300 mm, with a maximun linearity error of 0.1% of full scale. The sensor is provided with swivel rod eyes at each end for self-alignment and easy mounting. A 22 mm diameter anodized aluminum housing rated IP-64 protects the unit from airborne contaminants, and the sensor is rugged enough to withstand the typical shock and vibration environments of industrial shop floors.

Features:

- Full ranges from 25 to 300 mm (1 to 12 inches)
- Self-aligning swivel rod eyes on both ends
- 1 m long, 3-conductor cable
- 22 mm OD anodized aluminum housing

Environmental Specifications:

- Operating temperature -40 to 150 C
- Temperature coefficient <1.5 ppm/°C
- Shock 50 g (IEC 68-2-29, single hit)
- Vibration 20 g (IEC 68-2-6)
- Environmental protection IEC IP-64

Performance Specifications:

- Input current ≤12 mA
- Resolution Infinite
- Output range 0 to 100% of input
- Repeatability 0.01 mm (0.0004 inch)
- Max operating speed 5 m/s

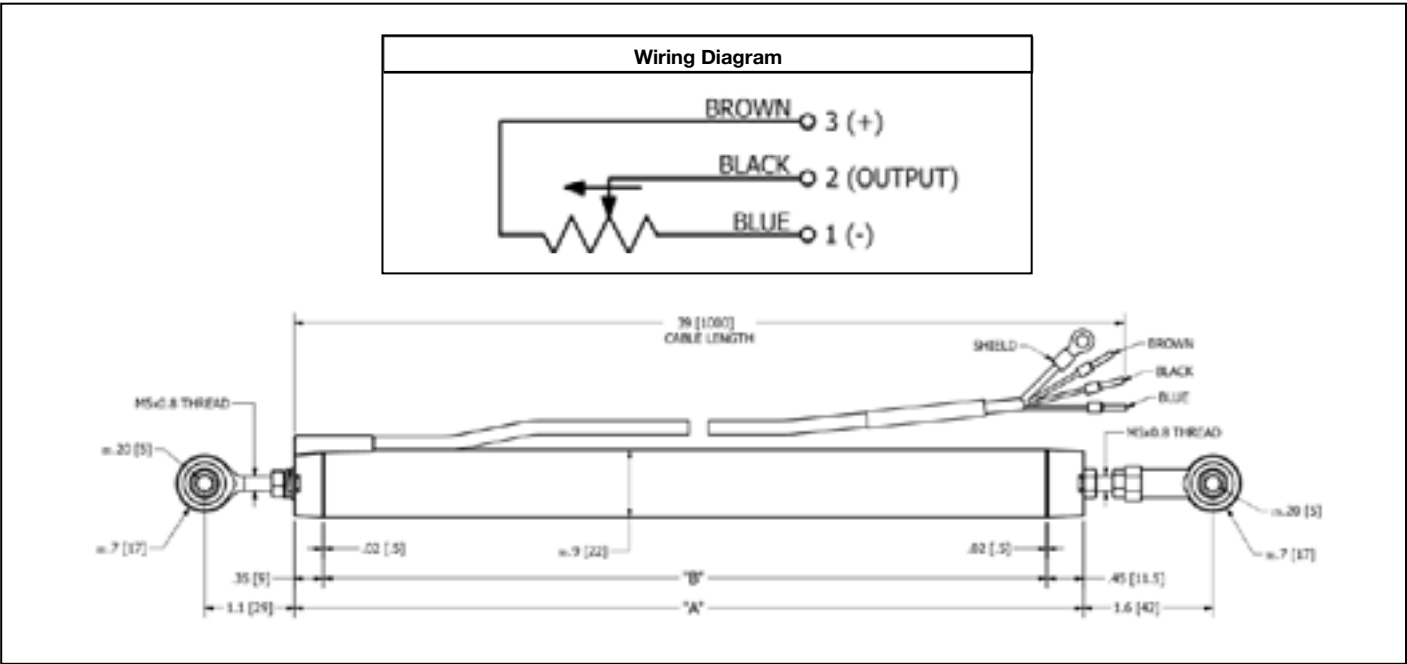
LP-22 Series



Configuration Information:

Product	LP-22-025	LP-22-050	LP-22-100	LP-22-150	LP-22-200	LP-22-250	LP-22-300
Range (mm)	25	50	100	150	200	250	300
Resistance ±10%	1 k	2 k	4 k	5 k	5 k	5 k	5 k
Max input Voltage	12	24	24	36	36	36	36
Non-linearity %FS	±0.10	±0.10	±0.08	±0.08	±0.06	±0.06	±0.06
Body length A (mm)	79	104	154	204	254	304	354
Dimension B (mm)	58	83	133	183	233	283	333
Weight (grams)	75	100	155	190	215	245	270
Rod eye c-c (mm)	139	164	214	264	314	364	414

Ordering Information:



S1A

LVDT Signal Conditioner

Advanced Smart AC-LVDT Signal Conditioner Module



Use with LVDTs for:
 Steam Valve Position Feedback
 Governor and Throttle Valves
 Interceptor and Stop Valves
 Boiler Feedwater Pumps
 Turbine Control Systems

The S1A DIN-rail-mounting smart LVDT Signal Conditioner module from Alliance Sensors Group ends the difficulties that accompany AC-LVDT setup with built-in null indicators and front panel pushbuttons to set zero and full scale output. Engineered to work with the widest range of AC-LVDTs and inductive half-bridge LVRTs, the S1A module offers a choice of 4 excitation frequencies and 8 analog outputs, operates LVDT sensors with over a 40 dB dynamic range of AC output, indicates most common system failures, and incorporates a 2-wire RS-485 digital communications port. Along with color-coded plug-in screw terminal connectors and a 2 year warranty, these are just a few of the many advanced features that make Alliance Sensors Group’s S1A module a truly superior smart LVDT signal conditioner.

Features:

- Smart setup with front panel push buttons --- no pots, no calculations
- Built-in null indication --- front panel LEDs and DC null voltage output
- Auto-mastering provides fail-safe excitation syncing for multiple units
- Self-diagnostics for LVDT failure or disconnect; open-collector output
- Half-duplex digital communications via RS-485 2-wire multi-drop bus
- Hot swapability --- setup can be saved and reloaded via RS-485 port

Specifications:

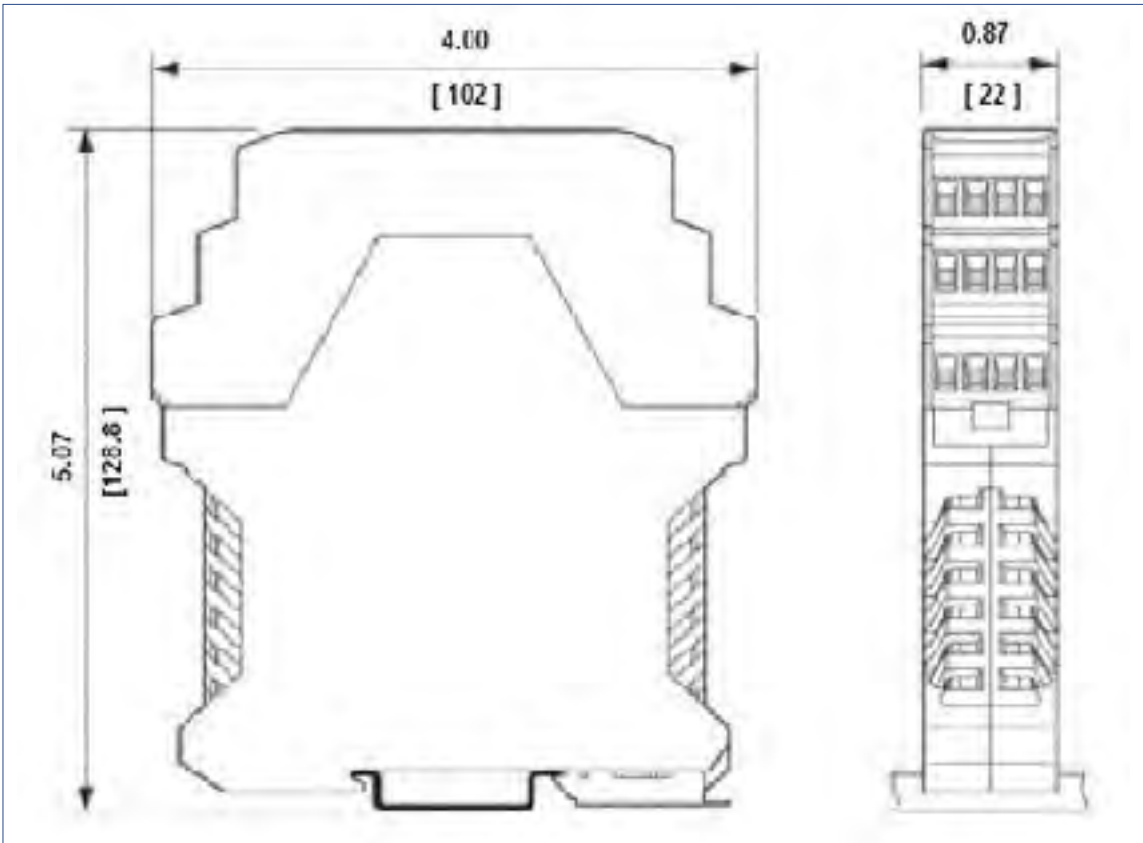
- Operating power:** +15 to +30 V DC (+24 V nominal), 60 mA max. at 24 V DC;
 +15 V DC and -15 V DC needed for ±10 V DC bipolar output
- Excitation voltage:** 3.0 Vrms (nominal) push-pull drive (factory default)
 4.5 Vrms (nominal) push-pull drive (via jumper change)
 1.5 Vrms (nom) single ended drive (for low impedance primary)
- Excitation frequencies:** 1 kHz, 3 kHz, 5 kHz, 10 kHz (nominal)
- Auto-master syncing:** Master output couples up to fifteen slave units; if master fails, new master is automatically generated for fail-safe excitation
- LVDT AC output range:** 50 mVrms to 5000 mVrms at LVDT is full scale position
- Analog DC outputs:** 0 - 5 V, 1 - 5 V, 0.5 - 4.5 V, 0.5 - 9.5 V, 0 -10 V, -10 to +10 V,
 0 -20 mA sourcing, 4 -20 mA sourcing
- Loop resistance:** 850 Ohms max. with 24 V DC supply
- Output non-linearity:** ±0.025% of Full Span Output (FSO)
- 3 dB response:** 10% (minimum) of excitation frequency (normal setting);
 10 Hz (default) user adjustable (low noise setting)
- Noise and ripple:** ≤2.5 mVrms (voltage output); ≤5 μArms (current loop output)

S1A



Specifications (cont.):

- Fault detection:** Open LVDT winding, cable disconnected, loss of excitation
- Failure indication:** Flashing LEDs; analog output out of range; open-collector switch
- Null detection:** Front panel LEDs
- Null output signal:** Up to ±3 V DC
- Operating temperature:** 0 to 75 C
- Temperature coefficient:** ±0.002% of FSO/C (combined zero and span shift)
- Zero set:** Front panel push button or RS-485 command
- Full scale set:** Front panel push button or RS-485 command
- Digital interface:** RS-485 2-wire multi-drop network, 16 addresses



Use with:
 Pencil Gaging Probe Systems
 Industrial LVDT Position Sensors
 Inductive Half-Bridge Linear Sensors
 LVDT-based Redundant Control Systems

SC-100

LVDT Signal Conditioner

Smart Industrial AC-LVDT Signal Conditioner Module



Alliance Sensors Group’s new SC-100 DIN-rail-mounting smart LVDT signal conditioner module makes setting up and calibrating an AC-LVDT installation very easy by offering built-in null indicators and front panel pushbuttons to set zero and full scale output. Engineered to work with the widest range of LVDT and inductive half-bridge linear sensors, the SC-100 module offers a choice of 4 excitation frequencies, works over a 40 dB range of full scale sensor outputs, and features 8 analog DC outputs, including a bipolar voltage output for legacy systems. Using its 2-wire RS-485 digital communications port, a user can remotely set up and operate an SC-100 module from a personal computer, and can get information for data acquisition. The very reliable SC-100 module comes with a 2-year limited warranty and offers many additional features that make it the easiest to use and best value of any industrial single channel AC-LVDT signal conditioner currently available.

Features:

- Smart calibration setup with front panel push buttons --- no pots, no calculations
- Built-in null indication --- front panel LEDs and DC null voltage output
- 2.5 kHz, 5.0 kHz, 7.5 kHz, and 10.0 kHz nominal excitation frequencies
- Fail-safe excitation syncing by auto-mastering prevents cross talk in multiple units
- Works with LVDT full scale outputs ranging from 50 mV to 5000 mV
- Half-duplex digital communications via RS-485 2-wire multi-drop bus

Specifications:

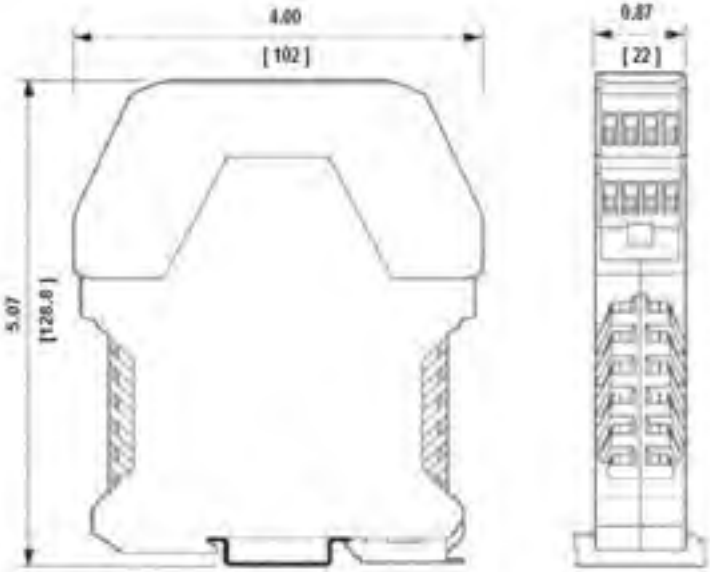
- Operating power** +15 to +30 V DC (+24 V nom.), 60 mA max. at 24 V DC;
+15 V DC and -15 V DC needed for ±10 V DC bipolar output
- Excitation voltage** 3.0 Vrms (nom.) push-pull drive (factory default)
4.5 Vrms (nom.) push-pull drive (via jumper change)
1.5 Vrms (nom) single ended drive (for low impedance primary)
- Excitation frequencies** 2.5 kHz, 5 kHz, 7.5 kHz, 10 kHz (nominal)
- Auto-master syncing** Master output couples up to fifteen slave units; if master fails, new master is automatically generated for fail-safe excitation
- LVDT AC output range** 50 mVrms to 5000 mVrms at LVDT’s full scale position
- Analog DC outputs** 0 - 5 V, 1 - 5 V, 0.5 - 4.5 V, 0.5 - 9.5 V, 0 - 10 V, -10 to +10 V,
0 - 20 mA sourcing, 4 - 20 mA sourcing
- Loop resistance** 850 Ohms max. with 24 V DC supply)
- Output non-linearity** ≤0.025% of Full Span Output (FSO)

SC-100



Specifications (cont):

- 3 dB response** 10% of excitation frequency minimum (normal setting);
10 Hz (default) user adjustable (low noise setting)
- Noise and ripple** ≤2.5 mVrms (voltage output); ≤5 μArms (current loop output)
- Null indicators** Front panel LEDs
- Null output signal** Up to ±3 V DC
- Operating temperature** -20 to 75 C
- Temperature coefficient** ±0.002% of FSO/°C (combined zero and span shift)
- Zero set** Front panel push button or RS-485 command
- Full scale set** Front panel push button or RS-485 command
- Digital interface** RS-485 2-wire multi-drop network, 16 addresses



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