Potentiometer Linear Position Sensors LSR-33P Series

Overview

The ProSense LSR-33P series offers easy installation with fixing brackets. This series is available in 30 to 1,000mm stroke measurement with an infinite resolution and IP65 protection rating. The LSR-33P series linear position sensors offer similar form factors as competitors and are available at a less expensive cost.

Features

- Fixed slide
- 30 to 1,000mm stroke measurement
- IP65 protection rating
- Easy installation with fixing brackets
- Mounting hardware and connectors (LSR33-ACC-KIT) included

LSR-33P-0030-A5-C1

Potentiometer Linear Position Sensors LSR-33P Series Selection Chart

Part Number	Price	Action	Resistance	Useful Stroke (US) mm [in]	Mechanical Stroke (MS) mm [in]	Linearity	Housing Size	Drawing Link	Weight kg [lb]
LSR-33P-0030-A5-C1	$06db0:	Fixed slide	5kΩ	30 [1.18]	34 [1.33]	+/- 0.5%	33 x 33 x 110mm body	PDF	0.22 [0.48]
LSR-33P-0050-A5-C1	$06db1:			50 [1.97]	54 [2.12]	+/- 0.5%	33 x 33 x 130mm body	PDF	0.25 [0.55]
LSR-33P-0100-B5-C1	$06db7:			100 [3.94]	104 [4.09]	+/- 0.2%	33 x 33 x 180mm body	PDF	0.35 [0.77]
LSR-33P-0130-C5-C1	$06db8:			130 [5.12]	134 [5.27]	+/- 0.1%	33 x 33 x 210mm body	PDF	0.45 [0.99]
LSR-33P-0150-C5-C1	$06dbe:			150 [5.91]	154 [6.06]	+/- 0.1%	33 x 33 x 230mm body	PDF	0.5 [1.1]
LSR-33P-0200-C5-C1	$06da_:			200 [7.87]	204 [8.03]	+/- 0.1%	33 x 33 x 280mm body	PDF	0.6 [1.32]
LSR-33P-0250-D5-C1	$06da#:			250 [9.84]	254 [10.00]	+/- 0.05%	33 x 33 x 330mm body	PDF	0.7 [1.54]
LSR-33P-0300-D5-C1	$;06da!:			300 [11.81]	304 [11.97]	+/- 0.05%	33 x 33 x 380mm body	PDF	0.8 [1.76]
LSR-33P-0350-D5-C1	$06da?:			350 [13.77]	354 [13.93]	+/- 0.05%	33 x 33 x 430mm body	PDF	0.9 [1.98]
LSR-33P-0400-D5-C1	$;06da,:			400 [15.75]	404 [15.90]	+/- 0.05%	33 x 33 x 480mm body	PDF	1.0 [2.2]
LSR-33P-0450-D5-C1	$06db2:			450 [17.71]	454 [17.87]	+/- 0.05%	33 x 33 x 530mm body	PDF	1.1 [2.42]
LSR-33P-0500-D5-C1	$06db3:			500 [19.69]	504 [19.84]	+/- 0.05%	33 x 33 x 580mm body	PDF	1.2 [2.64]
LSR-33P-0550-D5-C1	$06db4:			550 [21.65]	554 [21.81]	+/- 0.05%	33 x 33 x 630mm body	PDF	1.3 [2.86]
LSR-33P-0600-D5-C1	$06db5:			600 [23.62]	604 [23.77]	+/- 0.05%	33 x 33 x 680mm body	PDF	1.4 [3.08]
LSR-33P-0650-D10-C1	$06db6:		10kΩ	650 [25.59]	654 [25.74]	+/- 0.05%	33 x 33 x 730mm body	PDF	1.5 [3.3]
LSR-33P-0700-D10-C1	$06db9:			700 [27.56]	704 [27.71]	+/- 0.05%	33 x 33 x 780mm body	PDF	1.6 [3.52]
LSR-33P-0750-D10-C1	$06dba:			750 [29.53]	754 [29.68]	+/- 0.05%	33 x 33 x 830mm body	PDF	1.7 [3.74]
LSR-33P-0800-D10-C1	$06dbb:			800 [31.50]	804 [31.65]	+/- 0.05%	33 x 33 x 880mm body	PDF	1.8 [3.96]
LSR-33P-0850-D10-C1	$06dbc:			850 [33.46]	854 [33.62]	+/- 0.05%	33 x 33 x 930mm body	PDF	1.9 [4.18]
LSR-33P-0900-D10-C1	$06dbd:			900 [35.43]	904 [35.59]	+/- 0.05%	33 x 33 x 980mm body	PDF	2.0 [4.4]
LSR-33P-1000-D10-C1	$;06dbf:			1000 [39.37]	1004 [39.52]	+/- 0.05%	33 x 33 x 1080mm body	PDF	2.1 [4.84]

Potentiometer Linear Position Sensors Accessory Kit

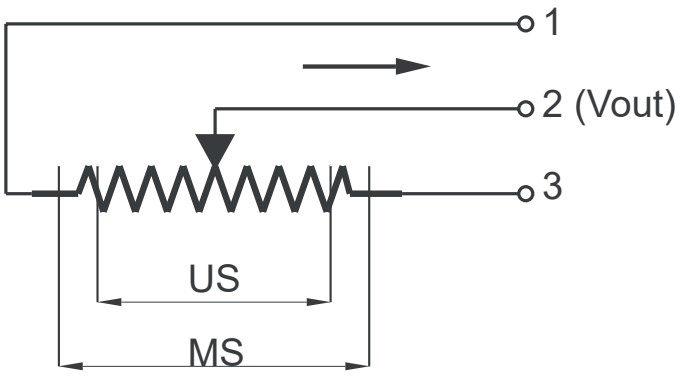
Part Number	Price	Drawing Link	Description
LSR33-ACC-KIT	$6gdc:	PDF	ProSense mounting hardware, replacement. For use with ProSense LSR-33P Linear Potentiometers.

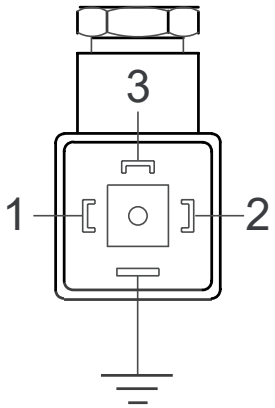
LSR33-ACC-KIT

Potentiometer Linear Position Sensors LSR-33P Series

Potentiometer Linear Position Sensors LSR-33P Series Specifications	
Repeatability	0.01 mm [0.0004 in]
Resolution	Infinite
Permissible Applied Voltage	28VDC max.
Resistance Tolerance	±20%
Load Resistance	100kΩ min.
Displacement Speed	< 5m/s
Mechanical Life	100 million movement
Displacement Force	3.5N (typical) IP60 version, 15N (typical) IP65 version
Vibration (According to EN 60068-2-6)	5-2000 Hz, 200m/s² (20g) 2h 30min each axis (x,y,z)
Shock (According to EN 60068-2-2:2007)	11ms. (x,y,z axis) 500 m/s² (50g)
Recommended Wiper Current	< 1µA
Operating Temperature	-20 to 80°C [-4 to 176°F]
Storage Temperature	-30 to 90°C [-22 to 194°F]
Case Material	Anodized aluminum
Rod Material	Stainless steel AISI 303
Rod Diameter	Ø6 mm
Cap Material	ABS plastic
Head Type	M6
Connection	18mm DIN 43650 Form A
Mounting	Brackets with adjustable distance between centers, or with M5 screw ISO4017-DIN933
Agency Approval	CE

Electrical Connections





When choosing a transducer, it is important to remember that different strokes exist:

- Mechanical Stroke (MS): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (US): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

Potentiometer Linear Position Sensors LSRS-33P Series

Overview

The ProSense LSRS-33P series offers rodless slide action. This series is available in 400 to 1,250mm stroke measurement with an infinite resolution and IP40 protection rating. The LSRS-33P series linear position sensors offer similar form factors as competitors and are available at a less expensive cost.

Features

- 400 to 1250mm stroke measurement
- Rodless slide action
- Channel mount
- 18mm DIN 43650 Form A connection
- IP40 protection rating
- Mounting hardware and connectors (LSRS33-ACC-KIT) included

LSRS-33P-0400-D5-C1

Potentiometer Linear Position Sensors LSRS-33P Series Selection Chart

Part Number	Price	Action	Resistance	Useful Stroke (US) mm [in]	Mechanical Stroke (MS) mm [in]	Linearity	Housing Size	Drawing Link	Weight kg [lb]
LSRS-33P-0400-D5-C1	$06dbg:	Rodless slide	5kΩ	400 [15.75]	404 [15.90]	+/- 0.05%	33 x 33 x 558mm body	PDF	1.2 [2.64]
LSRS-33P-0450-D5-C1	$06dbh:			450 [17.71]	454 [17.87]	+/- 0.05%	33 x 33 x 608mm body	PDF	1.3 [2.86]
LSRS-33P-0500-D5-C1	$-06dbi:			500 [19.69]	504 [19.84]	+/- 0.05%	33 x 33 x 658mm body	PDF	1.4 [3.08]
LSRS-33P-0550-D5-C1	$-06dbj:			550 [21.65]	554 [21.81]	+/- 0.05%	33 x 33 x 708mm body	PDF	1.5 [3.3]
LSRS-33P-0600-D5-C1	$06dbk:			600 [23.62]	604 [23.77]	+/- 0.05%	33 x 33 x 758mm body	PDF	1.6 [3.52]
LSRS-33P-0650-D10-C1	$-06dbl:		10kΩ	650 [25.59]	654 [25.74]	+/- 0.05%	33 x 33 x 808mm body	PDF	1.7 [3.74]
LSRS-33P-0700-D10-C1	$06dbn:			700 [27.56]	704 [27.71]	+/- 0.05%	33 x 33 x 858mm body	PDF	1.8 [3.96]
LSRS-33P-0750-D10-C1	$06dbo:			750 [29.53]	754 [29.68]	+/- 0.05%	33 x 33 x 908mm body	PDF	1.9 [4.18]
LSRS-33P-0800-D10-C1	$06dbp:			800 [31.50]	804 [31.65]	+/- 0.05%	33 x 33 x 958mm body	PDF	2.0 [4.4]
LSRS-33P-0850-D10-C1	$06dbq:			850 [33.46]	854 [33.62]	+/- 0.05%	33 x 33 x 1008mm body	PDF	2.1 [4.62]
LSRS-33P-0900-D10-C1	$06dbs:			900 [35.43]	904 [35.59]	+/- 0.05%	33 x 33 x 1058mm body	PDF	2.2 [4.84]
LSRS-33P-1000-D10-C1	$06dg1:			1000 [39.37]	1004 [39.52]	+/- 0.05%	33 x 33 x 1158mm body	PDF	2.4 [5.28]
LSRS-33P-1250-D20-C1	$06dbu:		20kΩ	1250 [49.21]	1254 [49.37]	+/- 0.05%	33 x 33 x 1408mm body	PDF	2.9 [6.38]

Potentiometer Linear Position Sensors Accessory Kit

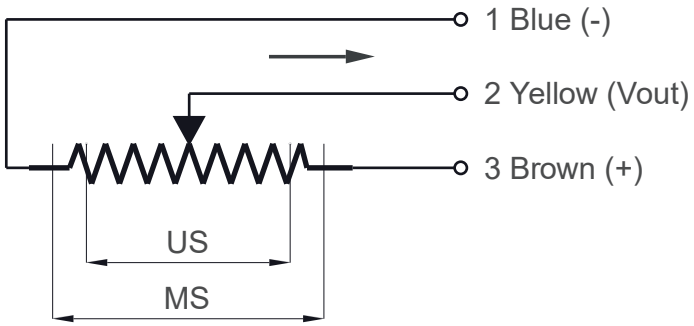
Part Number	Price	Drawing Link	Description
LSRS33-ACC-KIT	$6gdd:	PDF	ProSense mounting hardware, replacement. For use with ProSense LSRS-33P Linear Potentiometers.

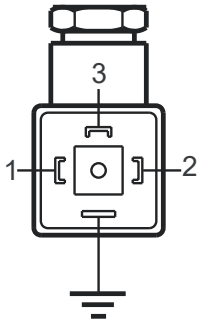
LSRS33-ACC-KIT

Potentiometer Linear Position Sensors LSRS-33P Series

Potentiometer Linear Position Sensors LSRS-33P Series Specifications	
Repeatability	0.01 mm [0.0004 in]
Permissible Applied Voltage	28VDC max.
Displacement Speed	< 1.5m/s
Mechanical Life	100 million movement
Displacement Force	3.5N (typical) IP60 version, 15N (typical) IP65 version
Vibration (According to EN 60068-2-6)	5-2000 Hz, 200m/s² (20g) 2h 30min each axis (x,y,z)
Shock (According to EN 60068-2-2:2007)	11ms. (x,y,z axis) 500 m/s² (50g)
Resistance Tolerance	±20%
Load Resistance	100 KΩ min.
Recommended Wiper Current	<1 µA
Operating Temperature	-20 to 80°C [-4 to 176°F]
Storage Temperature	-30 to 90°C [-22 to 194°F]
Case Material	Anodized aluminum
Connection	18mm DIN 43650 Form A
Mounting	Brackets with adjustable distance between centers, or with M5 screw ISO4017-DIN933
Agency Approval	CE

Electrical Connections





When choosing a transducer, it is important to remember that different strokes exist:

- Mechanical Stroke (MS): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (US): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

Potentiometer Linear Position Sensors LCR-38P Series

Overview

The ProSense LCR-38P series offers pivoting slide action. This series is available in 50 to 375mm stroke measurement with an infinite resolution and IP65 protection rating. The LCR-38P series linear position sensors offer similar form factors as competitors and are available at a less expensive cost.

Features

- 50 to 375mm stroke measurement
- Pivoting slide action
- IP65 protection rating
- Mounting hardware and connectors (LCR38-ACC-KIT) included

LCR-38P-0050-A5-C1

Potentiometer Linear Position Sensors LCR-38P Series Selection Chart

Part Number	Price	Action	Resistance	Useful Stroke (US) mm [in]	Mechanical Stroke (MS) mm [in]	Linearity	Housing Size	Drawing Link	Weight kg [lb]
LCR-38P-0050-A5-C1	$06dbv:	Pivoting slide	5kΩ	50 [1.97]	54 [2.12]	+/- 0.5%	38mm diameter x 153mm body	PDF	0.4 [0.88]
LCR-38P-0100-B5-C1	$06dbx:			100 [3.94]	104 [4.09]	+/- 0.2%	38mm diameter x 203mm body	PDF	0.5 [1.1]
LCR-38P-0125-B5-C1	$06dby:			125 [4.92]	129 [5.07]	+/- 0.2%	38mm diameter x 228mm body	PDF	0.55 [1.21]
LCR-38P-0130-C5-C1	$06dbz:			130 [5.12]	134 [5.27]	+/- 0.1%	38mm diameter x 233mm body	PDF	0.58 [1.27]
LCR-38P-0150-C5-C1	$;06db]:			150 [5.91]	154 [6.06]	+/- 0.1%	38mm diameter x 253mm body	PDF	0.6 [1.32]
LCR-38P-0175-C5-C1	$;06db[:			175 [6.88]	179 [7.04]	+/- 0.1%	38mm diameter x 278mm body	PDF	0.65 [1.43]
LCR-38P-0200-C5-C1	$06db_:			200 [7.87]	204 [8.03]	+/- 0.1%	38mm diameter x 303mm body	PDF	0.7 [1.54]
LCR-38P-0225-D5-C1	$06db#:			225 [8.85]	229 [9.01]	+/- 0.05%	38mm diameter x 328mm body	PDF	0.76 [1.67]
LCR-38P-0250-D5-C1	$;06db!:			250 [9.84]	254 [10.00]	+/- 0.05%	38mm diameter x 353mm body	PDF	0.8 [1.76]
LCR-38P-0275-D5-C1	$06db?:			275 [10.82]	279 [10.98]	+/- 0.05%	38mm diameter x 378mm body	PDF	0.85 [1.87]
LCR-38P-0300-D5-C1	$;06db,:			300 [11.81]	304 [11.97]	+/- 0.05%	38mm diameter x 403mm body	PDF	0.9 [1.98]
LCR-38P-0325-D5-C1	$06dc0:			325 [12.79]	329 [12.95]	+/- 0.05%	38mm diameter x 428mm body	PDF	0.95 [2.09]
LCR-38P-0350-D5-C1	$06dc1:			350 [13.77]	354 [13.93]	+/- 0.05%	38mm diameter x 453mm body	PDF	1.0 [2.2]
LCR-38P-0375-D5-C1	$06dc2:			375 [14.76]	379 [14.92]	+/- 0.05%	38mm diameter x 478mm body	PDF	1.05 [2.31]

Potentiometer Linear Position Sensors Accessory Kit

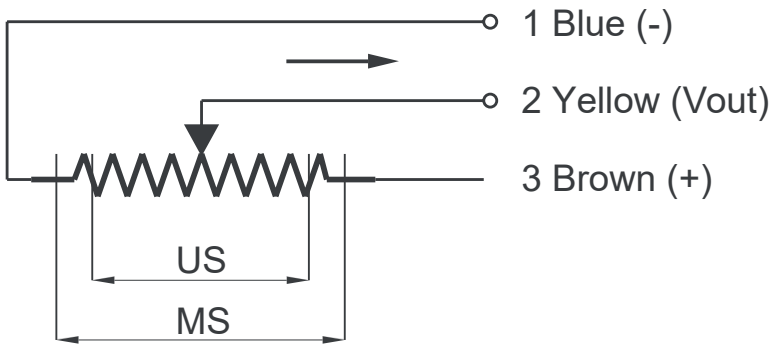
Part Number	Price	Drawing Link	Description
LCR38-ACC-KIT	$6gde:	PDF	ProSense mounting hardware, replacement. For use with ProSense LCR-38P Linear Potentiometers.

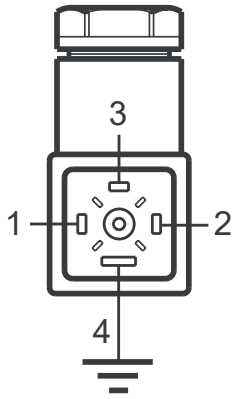
LCR38-ACC-KIT

ProSense® Potentiometer Linear Position Sensors LCR-38P Series

Potentiometer Linear Position Sensors LCR-38P Series Specifications	
Repeatability	0.01 mm [0.0004 in]
Permissible Applied Voltage	28VDC max.
Mechanical Life	100 million movement
Displacement Speed	<5m/s
Vibration (According to EN 60068-2-6)	5-2000 Hz, 200m/s² (20g) 2h 30min each axis (x,y,z)
Shock (According to EN 60068-2-2:2007)	500m/s² (50g), 11ms. (x,y,z axis)
Resistance Tolerance	±20%
Load Resistance	100KΩ min.
Recommended Wiper Current	<1 µA
Operating Temperature	-20 to 80°C [-4 to 176°F]
Storage Temperature	-30 to 90°C [-22 to 194°F]
Case Material	Anodized aluminum
Rod Material	Stainless steel
Rod Diameter	Ø10 mm
Mechanical Fixing	Ball joints on both sides
Cap Material	ABS plastic
Connection	8mm DIN 43650 Form C
Agency Approval	CE

Electrical Connections





When choosing a transducer, it is important to remember that different strokes exist:

- Mechanical Stroke (MS): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (US): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

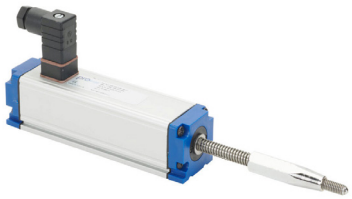
Potentiometer Linear Position Sensors LSSR-33P Series

Overview

The ProSense LSSR-33P series offers spring loaded slide action. This series is available in 30 to 150mm stroke measurement with an infinite resolution and IP54 protection rating. The LSSR-33P series linear position sensors offer similar form factors as competitors and are available at a less expensive cost.

Features

- 30 to 150mm stroke measurement
- Spring-loaded slide action
- Channel mount
- 8mm DIN 43650 Form C connection
- IP54 protection rating
- Mounting hardware and connectors (LSSR33-ACC-KIT) included



LSSR-33P-0030-A5-C2

Potentiometer Linear Position Sensors LSSR-33P Series Selection Chart

Part Number	Price	Action	Resistance	Useful Stroke (US) mm [in]	Mechanical Stroke (MS) mm [in]	Linearity	Housing Size	Drawing Link	Weight kg [lb]
LSSR-33P-0030-A5-C2	$06dc3:	Spring-loaded slide	5kΩ	30 [1.18]	34 [1.33]	+/- 0.5%	33 x 33 x 127mm body	PDF	0.22 [0.48]
LSSR-33P-0050-A5-C2	$06dc4:			50 [1.97]	54 [2.12]	+/- 0.5%	33 x 33 x 147mm body	PDF	0.25 [0.55]
LSSR-33P-0075-A5-C2	$06dc5:			75 [2.95]	79 [3.11]	+/- 0.5%	33 x 33 x 172mm body	PDF	0.30 [0.66]
LSSR-33P-0100-B5-C2	$06dc6:			100 [3.94]	104 [4.09]	+/- 0.2%	33 x 33 x 197mm body	PDF	0.35 [0.77]
LSSR-33P-0150-C5-C2	$06dc7:			150 [5.91]	154 [6.06]	+/- 0.1%	33 x 33 x 247mm body	PDF	0.45 [0.99]

Potentiometer Linear Position Sensors Accessory Kit

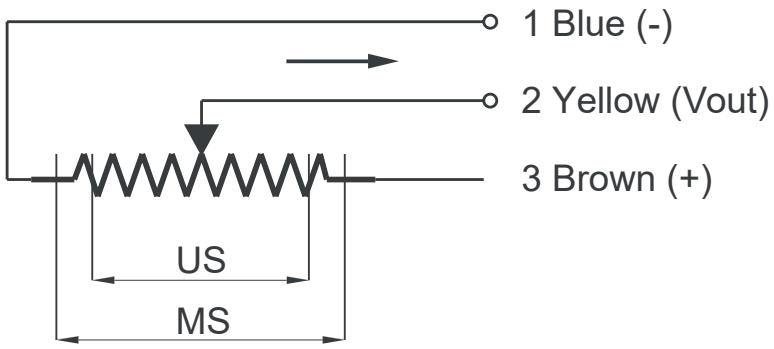
Part Number	Price	Drawing Link	Description
LSSR33-ACC-KIT	$;6gdf:	PDF	ProSense mounting hardware, replacement. For use with ProSense LSSR-33P Linear Potentiometers.

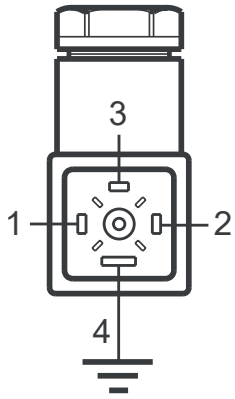
LSSR33-ACC-KIT

Potentiometer Linear Position Sensors LSSR-33P Series

Potentiometer Linear Position Sensors LSSR-33P Series Specifications	
Repeatability	0.01 mm [0.0004 in]
Permissible Applied Voltage	28VDC max.
Displacement Speed	< 5m/s
Mechanical Life	50 million movement
Vibration (According to EN 60068-2-6)	3.5N (typical) IP60 version, 15N (typical) IP65 version
Shock (According to EN 60068-2-2:2007)	5-2000 Hz, 200m/s² (20g) 2h 30min each axis (x,y,z)
Resistance Tolerance	±20%
Load Resistance	100KΩ min.
Recommended Wiper Current	<1 µA
Operating Temperature	-20 to 80°C [-4 to 176°F]
Storage Temperature	-30 to 90°C [-22 to 194°F]
Case Material	Anodized aluminum
Rod Material	Stainless steel AISI 303
Rod Diameter	Ø6 mm
Mechanical Fixing	Variable brackets
Cap Material	ABS plastic
Connection	8mm DIN 43650 Form C
Mounting	Brackets with adjustable distance between centers, or with M5 screw ISO4017-DIN933
Agency Approval	CE

Electrical Connections





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- Mechanical Stroke (MS): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (US): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

Potentiometer Linear Position Sensors LCR-18P Series

Overview

The ProSense LCR-18P series offers pivoting slide action. This series is available in 10 to 400mm stroke measurement with an infinite resolution and IP65 protection rating. The LCR-18P series linear position sensors offer similar form factors as competitors and are available at a less expensive cost.

Features

- Pivoting slide
- 10 to 400mm stroke measurement
- Pigtail connection
- IP65 protection rating

LCR-18P-0010-A2-1A

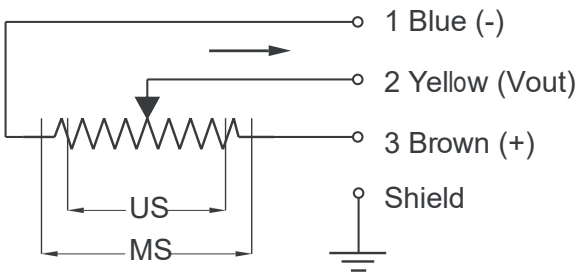
Potentiometer Linear Position Sensors LCR-18P Series Selection Chart

Part Number	Price	Action	Resistance	Useful Stroke (US) mm [in]	Mechanical Stroke (MS) mm [in]	Linearity	Housing Size	Drawing Link	Weight kg [lb]
LCR-18P-0010-A2-1A	$06dc8:	Pivoting slide	2kΩ	10 [0.39]	13 [0.51]	+/- 0.5%	18mm diameter x 58mm body	PDF	0.17 [0.37]
LCR-18P-0025-A2-1A	$06dc9:			25 [0.98]	28 [1.10]	+/- 0.5%	18mm diameter x 73mm body	PDF	0.19 [0.41]
LCR-18P-0050-A2-1A	$06dca:			50 [1.97]	53 [2.08]	+/- 0.5%	18mm diameter x 98mm body	PDF	0.21 [0.46]
LCR-18P-0075-B5-1A	$06dcb:		5kΩ	75 [2.95]	78 [3.07]	+/- 0.2%	18mm diameter x 123mm body	PDF	0.23 [0.50]
LCR-18P-0100-B5-1A	$06dcc:			100 [3.94]	103 [4.05]	+/- 0.2%	18mm diameter x 148mm body	PDF	0.25 [0.55]
LCR-18P-0125-B5-1A	$06dcd:			125 [4.92]	128 [5.03]	+/- 0.2%	18mm diameter x 173mm body	PDF	0.27 [0.59]
LCR-18P-0150-C5-1A	$06dce:			150 [5.91]	153 [6.02]	+/- 0.1%	18mm diameter x 198mm body	PDF	0.29 [0.63]
LCR-18P-0175-C5-1A	$;06dcf:			175 [6.88]	178 [7.00]	+/- 0.1%	18mm diameter x 223mm body	PDF	0.31 [0.68]
LCR-18P-0200-C5-1A	$06dcg:			200 [7.87]	203 [7.99]	+/- 0.1%	18mm diameter x 248mm body	PDF	0.33 [0.72]
LCR-18P-0250-D5-1A	$06dch:			250[9.84]	253 [9.97]	+/- 0.05%	18mm diameter x 298mm body	PDF	0.37 [0.81]
LCR-18P-0300-D5-1A	$-06dci:			300 [11.81]	303 [11.92]	+/- 0.05%	18mm diameter x 348mm body	PDF	0.41 [0.90]
LCR-18P-0350-D5-1A	$-06dcj:			350 [13.77]	353 [13.90]	+/- 0.05%	18mm diameter x 398mm body	PDF	0.45 [0.99]
LCR-18P-0400-D5-1A	$06dck:			400 [15.75]	403 [15.87]	+/- 0.05%	18mm diameter x 448mm body	PDF	0.49 [1.07]

Potentiometer Linear Position Sensors LCR-18P Series

Potentiometer Linear Position Sensors LCR-18P Series Specifications	
Repeatability	0.01 mm [0.0004 in]
Permissible Applied Voltage	28VDC max.
Displacement Speed	< 5m/s
Mechanical Life	100 million movement
Vibration (According to EN 60068-2-6)	3.5N (typical) IP60 version, 15N (typical) IP65 version
Shock (According to EN 60068-2-2:2007)	5-2000 Hz, 200m/s² (20g) 2h 30min each axis (x,y,z)
Resistance Tolerance	±20%
Load Resistance	100KΩ min.
Recommended Wiper Current	<1 µA
Operating Temperature	-20 to 80°C [-4 to 176°F]
Storage Temperature	-30 to 90°C [-22 to 194°F]
Case Material	Anodized aluminum
Rod Material	Stainless steel
Rod Diameter	Ø5 mm
Mechanical Fixing	Ball joints on both sides
Electrical Connections	3.2ft/1m, pigtail
Agency Approval	CE

Electrical Connections



When choosing a transducer, it is important to remember that different strokes exist:

- Mechanical Stroke (MS): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (US): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

GEFRAN
BEYOND TECHNOLOGY

LT Series Linear Potentiometers

Features

- Excellent reliability under all conditions
- Suitable for use in applications with heavy vibration
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Mounting grooves provide a good alternative to fastening with brackets
- Typical applications include plastic injection presses, vertical presses, and many other types of processing machinery
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

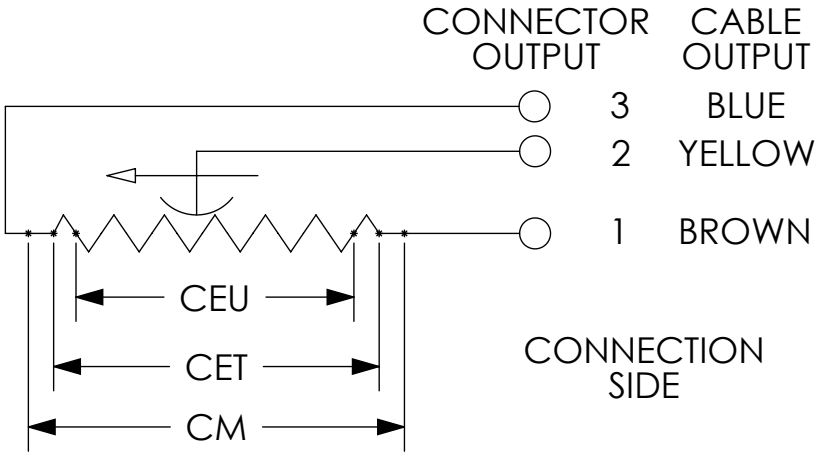
LT Series Linear Potentiometers Selection Chart

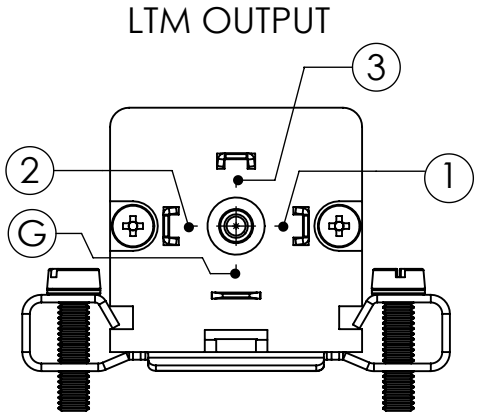
Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]
LT-M-0050-S-L	$-04jnk:	PDF	50 [1.97]	53 [2.09]	5KΩ	59 [2.32]	113 [4.45]
LT-M-0075-S-L	$--04jnl:	PDF	75 [2.95]	78 [3.07]	5KΩ	84 [3.31]	138 [5.43]
LT-M-0100-S-L	$-04jnn:	PDF	100 [3.94]	103 [4.06]	5KΩ	109 [4.29]	163 [6.42]
LT-M-0130-S-L	$-04jno:	PDF	130 [5.12]	133 [5.24]	5KΩ	139 [5.47]	193 [7.60]
LT-M-0150-S-L	$-04jnp:	PDF	150 [5.91]	153 [6.02]	5KΩ	159 [6.26]	213 [8.39]
LT-M-0175-S-L	$;-04jnf:	PDF	175 [6.89]	178 [7.01]	5KΩ	184 [7.24]	238 [9.37]
LT-M-0200-S-L	$-04jng:	PDF	200 [7.87]	204 [8.03]	5KΩ	210 [8.27]	264 [10.39]
LT-M-0250-S-L	$-04jnh:	PDF	250 [9.84]	254 [10.00]	5KΩ	260 [10.24]	314 [12.36]
LT-M-0300-S-L	$--04jni:	PDF	300 [11.81]	304 [11.97]	5KΩ	310 [12.20]	364 [14.33]
LT-M-0400-S-L	$--04jnj:	PDF	400 [15.75]	406 [15.98]	5KΩ	412 [16.22]	466 [18.35]

LT Series Linear Potentiometers Specifications

Independent Linearity (Within CEU)	± 0.05%
Resolution	Infinite
Repeatability	0.01 mm [0.0004 in]
Electrical Connections	4 pole connector DIN43650
Displacement Speed	Standard ≤ 10 m/s [32.81 ft/s]
Protection Level	IP60
Life	> 25x106 strokes or > 100x106 maneuvers, whichever is less (within CEU)
Displacement Force	3.5 N (typical) IP60 version, 15N (typical) IP65 version
Vibrations	5-2000 Hz: Amax=0.75 mm [0.03 in], amax=20g
Shock	50g, 11ms
Acceleration	200 m/s2 max (20g)
Tolerance on Resistance	±20%
Recommended Cursor Current	< 0.1 µA
Maximum Cursor Current	10mA
Maximum Applicable Voltage	60V
Electrical Isolation	> 100MΩ at 500V=, 1bar, 2s
Dielectric Strength	< 100µA at 500V~, 50Hz, 2s, 1bar
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	3W
Thermal Coefficient of Resistance	-200 to +200 ppm/°C typical
Actual Temperature Coefficient of Output Voltage	≤ 5 ppm/°C typical
Working Temperature	-30 to +100°C [-22 to +212°F]
Storage Temperature	-50 to +120°C [-58 to 248°F]
Case Material	Anodized aluminum, Nylon 66
Shaft Material	Stainless steel AISI 303
Mounting	Brackets with adjustable distance between centers, or with M5 screw ISO4017-DIN933

Electrical Connections





When choosing a transducer, it is important to remember that three different strokes exist:

- Mechanical Stroke (CM): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (CEU): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Theoretical Electrical Stroke (CET): Stroke expressed in mm or angular degrees between the electrical zero (Vout=0) and the electrical limit switch (Vout=Vs), which physically is equal to the distance between the silver pitches at the ends of the resistive track.

Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

GEFRAN
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PC Series Linear Potentiometers With Cylindrical Case

Features

- Designed with mechanical strength to handle demanding applications
- 10mm [0.39 in] diameter rod, large steel joints, and reinforced structure are ideal for metalworking, woodworking and ceramics applications
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Self-aligning and weight-bearing rod eyes permit assembly with free movement of the transducer axle
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

CE

PC Series Linear Potentiometers Selection Chart

Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]	Minimum Distance Between Rod Eyes (B) mm [in]
PC-M-0050-L	$-04jnq:	PDF	50 [1.97]	53 [2.09]	5KΩ	59 [2.32]	180.5 [7.11]	227
PC-M-0100-L	$-04jns:	PDF	100 [3.94]	103 [4.06]	5KΩ	109 [4.29]	230.5 [9.07]	227
PC-M-0125-L	$;-04jnt:	PDF	130 [5.12]	133 [5.24]	5KΩ	139 [5.47]	260.5 [10.26]	307
PC-M-0150-L	$-04jnu:	PDF	150 [5.91]	153 [6.02]	5KΩ	159 [6.26]	280.5 [11.04]	327
PC-M-0175-L	$-04jnv:	PDF	175 [6.89]	178 [7.01]	5KΩ	184 [7.24]	305.5 [12.03]	352
PC-M-0200-L	$-04jnx:	PDF	200 [7.87]	204 [8.03]	5KΩ	210 [8.27]	331.5 [13.05]	378
PC-M-0225-L	$-04jny:	PDF	225 [8.86]	229 [9.02]	5KΩ	235 [9.25]	356.5 [14.04]	403
PC-M-0275-L	$-04jnz:	PDF	275 [10.83]	279 [10.98]	5KΩ	285 [11.22]	406.5 [16.00]	453
PC-M-0300-L	$;-04jn]:	PDF	300 [11.81]	304 [11.97	5KΩ	310 [12.20]	431.5 16.00]	478

PC Series Linear Potentiometers Specifications

Independent Linearity (Within CEU)	± 0.05%
Resolution	Infinite
Repeatability	0.01 mm [0.0004 in]
Electrical Connections	4 pole connector DIN43650
Displacement Speed	Standard ≤ 10 m/s [32.81 ft/s]
Protection Level	IP65
Life	> 25x106 strokes or > 100x106 operations, whichever is less (within CEU)
Displacement Force	≤15N
Vibrations	5-2000 Hz: Amax=0.75 mm [0.03 in], amax=20g
Shock	50g, 11ms
Acceleration	–
Tolerance on Resistance	±20%
Recommended Cursor Current	< 0.1 µA
Maximum Cursor Current	10mA
Maximum Applicable Voltage	60V
Electrical Isolation	>100MΩ at 500V=, 1bar, 2s
Dielectric Strength	< 100µA at 500V~, 50Hz, 2s, 1bar
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	3W
Thermal Coefficient of Resistance	–
Actual Temperature Coefficient of Output Voltage	≤ 1.5 ppm/°C
Working Temperature	-30 to +100°C [-22 to +212°F]
Storage Temperature	-50 to +120°C [-58 to 248°F]
Case Material	Anodized aluminum, Nylon 66
Shaft Material	Stainless steel AISI 303
Mounting	Two self-loading and self-aligning rod eyes

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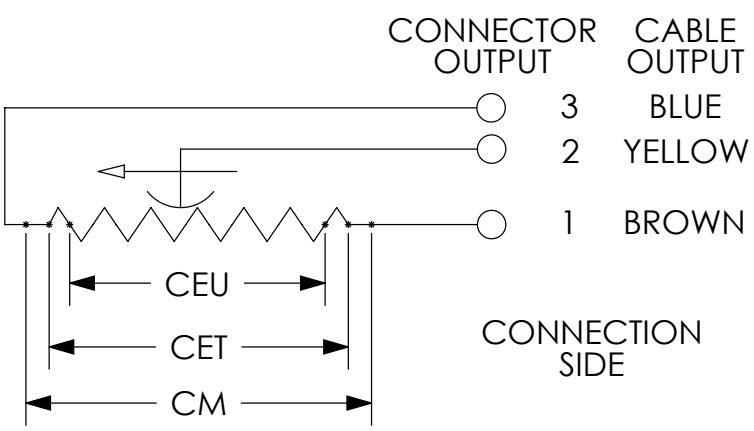
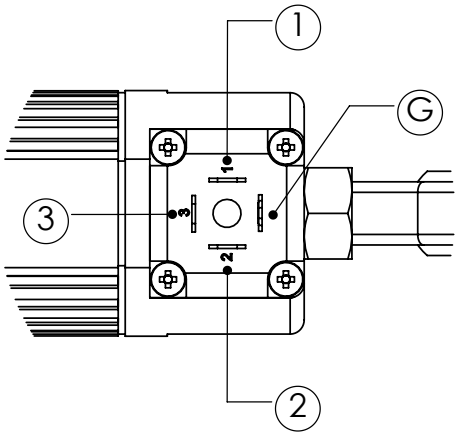
BEYOND TECHNOLOGY

PC Series Linear Potentiometers With Cylindrical Case

Electrical Connections



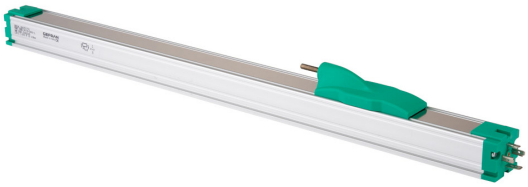


When choosing a transducer, it is important to remember that three different strokes exist:

- Mechanical Stroke (CM): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (CEU): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Theoretical Electrical Stroke (CET): Stroke expressed in mm or angular degrees between the electrical zero (Vout=0) and the electrical limit switch (Vout=Vs), which physically is equal to the distance between the silver pitches at the ends of the resistive track.

Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

PK Series Rodless Linear Potentiometers



Features

- Excellent reliability under all conditions
- Mechanical linkage joint (M5 thread) takes up play
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Mounting grooves provide a good alternative to fastening with brackets
- Typical applications include plastic injection presses, vertical presses, and many other types of processing machinery
- Grade of protection: IP40
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

CE

PK Series Rodless Linear Potentiometers Selection Chart

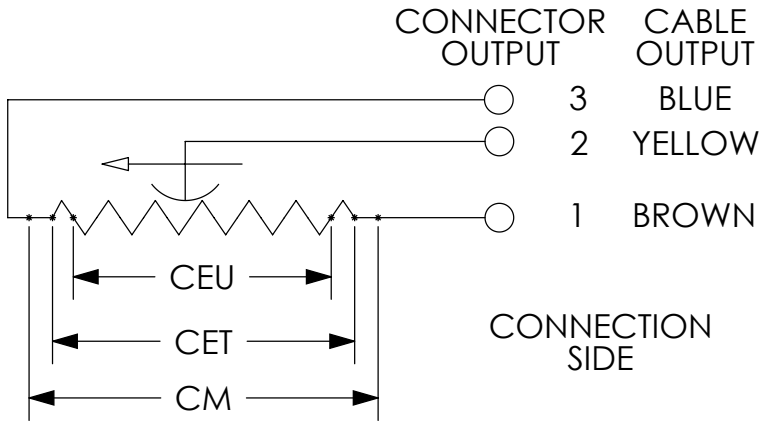
Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]
PK-M-0400-L	$;-04jn[:	PDF	400 [15.75]	406 [15.98]	10KΩ	416 [16.38]	556 [21.89]
PK-M-0500-L	$-04jn_:	PDF	500 [19.69]	509 [20.04]	10KΩ	519 [20.43]	659 [25.94]
PK-M-0600-L	$-04jn#:	PDF	600 [23.62]	611 [24.06]	10KΩ	621 [24.45]	761 [29.96]
PK-M-0700-L	$;-04jn!:	PDF	700 [27.56]	713 [28.07]	10KΩ	723 [28.46]	863 [33.98]
PK-M-0800-L	$-04jn?:	PDF	800 [31.50]	815 [32.09]	10KΩ	825 [32.48]	965 [37.99]
PK-M-0900-L	$;-04jn,:	PDF	900 [35.43]	915 [36.02]	10KΩ	925 [36.42]	1065 [41.93]
PK-M-1000-L	$-04jo0:	PDF	1000 [39.37]	1017 [40.04]	10KΩ	1027 [40.43]	1167 [45.94]

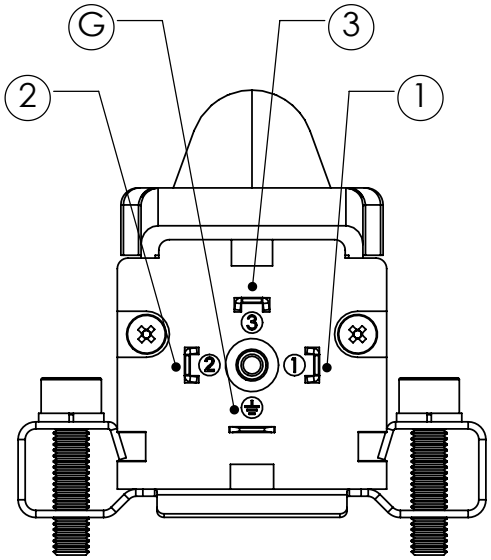
PK Series Rodless Linear Potentiometers Specifications

Independent Linearity (Within CEU)	± 0.05%
Resolution	Infinite
Repeatability	0.01 mm [0.0004 in]
Electrical Connections	4 pole connector DIN43650
Displacement Speed	Standard ≤ 10 m/s [32.81 ft/s]
Protection Level	IP40
Life	–
Displacement Force	≤ 1.2 N
Vibrations	5-2000 Hz: Amax=0.75 mm [0.03 in], amax=20g
Shock	50g, 11ms
Acceleration	200 m/s2 max (20g)
Tolerance on Resistance	±20%
Recommended Cursor Current	< 0.1 µA
Maximum Cursor Current	10mA
Maximum Applicable Voltage	60V
Electrical Isolation	>100MΩ at 500V=, 1bar, 2s
Dielectric Strength	< 100µA at 500V~, 50Hz, 2s, 1bar
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	3W
Thermal Coefficient of Resistance	-200 to +200 ppm/°C typical
Actual Temperature Coefficient of Output Voltage	≤ 5 ppm/°C typical
Working Temperature	-30 to +100°C [-22 to +212°F]
Storage Temperature	-50 to +120°C [-58 to 248°F]
Case Material	Anodized aluminum, Nylon 66
Shaft Material	Stainless steel AISI 303
Mounting	Brackets with variable longitudinal axis with M6 screw ISO4017-DIN933

PK Series Rodless Linear Potentiometers

Electrical Connections





When choosing a transducer, it is important to remember that three different strokes exist:

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- Theoretical Electrical Stroke (CET): Stroke expressed in mm or angular degrees between the electrical zero (Vout=0) and the electrical limit switch (Vout=Vs), which physically is equal to the distance between the silver pitches at the ends of the resistive track.

Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

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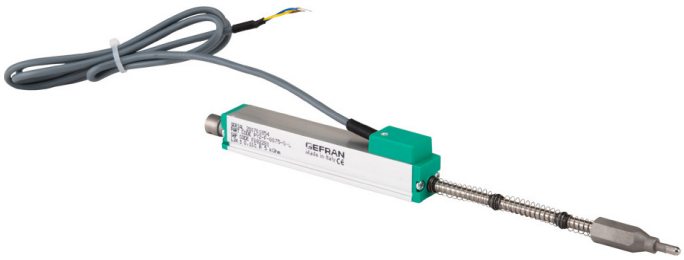
PY2 Series Linear Potentiometers With Ball Tip



Features

- Excellent reliability under all conditions
- Mechanical linkage joint (M5 thread) takes up play
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Mounting grooves provide a good alternative to fastening with brackets
- Typical applications include plastic injection presses, vertical presses, and many other types of processing machinery
- Grade of protection: IP40
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

CE

PY2 Series Linear Potentiometers Selection Chart

Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]	Tip Length (B) mm [in]	Total Length (C) mm [in]	Mechanical Stop (Quote) (D) mm [in]
PY2-F-0010-S-L	$-04jo1:	PDF	10 [0.39]	11 [0.43]	1KΩ	15 [0.59]	48 [1.89]	32 [1.26]	108 [4.25]	–
PY2-F-0025-S-L	$-04jo2:	PDF	25 [0.98]	26 [1.02]	1KΩ	30 [1.18]	63 [2.48]	32 [1.26]	138 [5.43]	–
PY2-F-0050-S-L	$-04jo3:	PDF	50 [1.97]	51 [2.01]	5KΩ	55 [2.16]	88 [3.46]	40 [1.57]	196 [7.72]	–
PY2-F-0075-S-L	$-04jo4:	PDF	76 [2.99]	76 [2.99]	5KΩ	81 [3.19]	114 [4.49]	40 [1.57]	251 [9.88]	5 [0.20]
PY2-F-0100-S-L	$-04jo5:	PDF	101 [3.98]	101 [3.98]	5KΩ	106 [4.17]	139 [5.47]	40 [1.57]	307 [12.09]	11 [0.43]

PY2 Series Linear Potentiometers Specifications

Model PY2-F-xxxx-S-L	0010	0025	0050	0075	0100
Independent Linearity (Within CEU)	± 0.3%	± 0.2%	± 0.1%	± 0.1%	± 0.1%
Resolution	Infinite				
Repeatability	–				
Electrical Connections (LTM)	PVC, 1m [3.28 ft] 3-wire axial cable, 24AWG [0.25 mm^2]				
Displacement Speed	Standard ≤ 10 m/s [32.81 ft/s]				
Protection Level	IP40				
Life	> $25x10^6$ strokes or > $100x10^6$ maneuvers, whichever is less (within CEU)				
Displacement Force	≤ 4N				
Vibrations	5-2000 Hz: Amax=0.75 mm [0.03 in], amax=20g				
Shock	50g, 11ms				
Acceleration	–				
Tolerance on Resistance	±20%				
Recommended Cursor Current	< 0.1 µA				
Maximum Cursor Current	10mA				
Maximum Applicable Voltage	14V	25V	60V	60V	60V
Electrical Isolation	>100MΩ at 500V=, 1bar, 2s				
Dielectric Strength	< 100µA at 500V~, 50Hz, 2s, 1bar				
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	0.2 W	0.6 W	1.2 W	1.8 W	2.4 W
Thermal Coefficient of Resistance	-200 to +200 ppm/°C				
Actual Temperature Coefficient of Output Voltage	≤ 1.5 ppm/°C				
Working Temperature	-30 to +100°C [-22 to +212°F]				
Storage Temperature	-50 to +120°C [-58 to 248°F]				
Case Material	Anodized aluminum, Nylon 66				
Shaft Material	Stainless steel AISI 303				
Mounting	Brackets with variable longitudinal axis				

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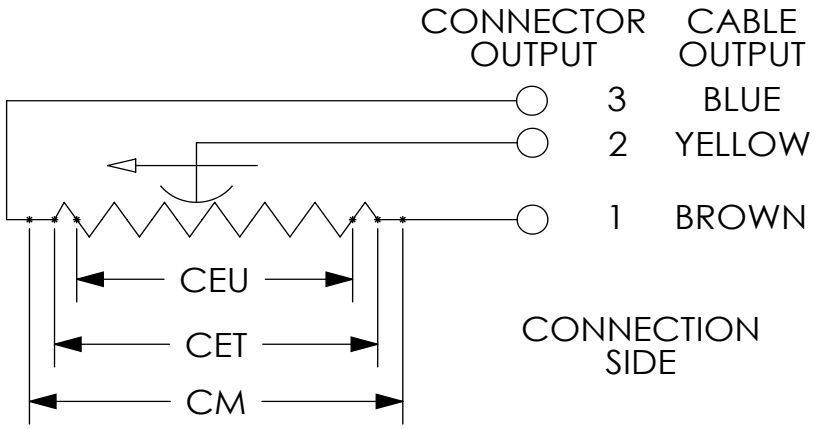
PY2 Series Linear Potentiometers With Ball Tip

Electrical Connections



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Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

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PZ12 Series Linear Potentiometers With Cylindrical Case

Features

- Half-inch-diameter cylindrical housing
- Multiple mounting options (brackets, rod eyes or flange) enhance versatility for a wide range of applications
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Ideal for applications such as wood and glass working, finishing machinery, and car test benches
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

PZ12 Series Linear Potentiometers Selection Chart

Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance (CET)	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]	Recommended Distance Between Brackets (B) mm [in]	Minimum Distance Between Rod Eyes (C) mm [in]
PZ12-F-xxxx-L Flange Mount Models									
PZ12-F-0025-L	$-04jo6:	PDF	25 [0.98]	26 [1.02]	1KΩ	30 [1.18]	74.5 [2.93]	–	–
PZ12-F-0050-L	$-04jo7:	PDF	50 [1.97]	51 [2.01]	2KΩ	55 [2.17]	99.5 [3.92]	–	–
PZ12-F-0075-L	$-04jo8:	PDF	75 [2.95]	76 [2.99]	3KΩ	80 [3.15]	124.5 [4.90]	–	–
PZ12-F-0100-L	$-04jo9:	PDF	100 [3.94]	101 [3.98]	4KΩ	105 [4.13]	149.5 [5.89]	–	–
PZ12-F-0200-L	$-04joa:	PDF	200 [7.87]	201 [7.91]	8KΩ	205 [8.07]	249.5 [9.82]	–	–
PZ12-A-xxxx-L Rod Eyes Mount Models									
PZ12-A-0025-L	$-04job:	PDF	25 [0.98]	26 [1.02]	1KΩ	30 [1.18]	102 [4.02]	–	153 [6.02]
PZ12-A-0050-L	$-04joc:	PDF	50 [1.97]	51 [2.01]	2KΩ	55 [2.17]	127 [5.00]	–	178 [7.01]
PZ12-A-0075-L	$-04jod:	PDF	75 [2.95]	76 [2.99]	3KΩ	80 [3.15]	152 [5.98]	–	203 [7.99]
PZ12-A-0100-L	$-04joe:	PDF	100 [3.94]	101 [3.98]	4KΩ	105 [4.13]	177 [6.97]	–	228 [8.98]
PZ12-A-0200-L	$;-04jof:	PDF	200 [7.87]	201 [7.91]	8KΩ	205 [8.07]	277 [10.91]	–	328 [12.91]
PZ12-S-xxxx-L Clamp Brackets Mount Models									
PZ12-S-0025-L	$-04jog:	PDF	25 [0.98]	26 [1.02]	1KΩ	30 [1.18]	74.5 [2.93]	42 [1.65]	–
PZ12-S-0050-L	$-04joh:	PDF	50 [1.97]	51 [2.01]	2KΩ	55 [2.17]	99.5 [3.92]	67 [2.64]	–
PZ12-S-0075-L	$--04joi:	PDF	75 [2.95]	76 [2.99]	3KΩ	80 [3.15]	124.5 [4.90]	92 [3.62]	–
PZ12-S-0100-L	$--04joj:	PDF	100 [3.94]	101 [3.98]	4KΩ	105 [4.13]	149.5 [5.89]	117 [4.61]	–
PZ12-S-0200-L	$-04jok:	PDF	200 [7.87]	201 [7.91]	8KΩ	205 [8.07]	249.5 [9.82]	217 [8.54]	–

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PZ12 Series Linear Potentiometers With Cylindrical Case

PZ12 Series Linear Potentiometers Specifications					
Model PZ12-x-xxxx-L	***0025***	***0050***	***0075***	***0100***	***0200***
Independent Linearity (Within CEU)	± 0.2%	± 0.1%	± 0.1%	± 0.1%	± 0.05%
Resolution	Infinite				
Repeatability	–				
Electrical Connections	PVC, 1m [3.28 ft] 3-wire axial cable, 24AWG (0.25 mm^2)				
Displacement Speed	Standard ≤ 10 m/s [32.81 ft/s]				
Protection Level	IP60				
Life	> 25x106 strokes or > 100x106 maneuvers, whichever is less (within CEU)				
Displacement Force	≤ 0.5 N				
Vibrations	5-2000 Hz: Amax=0.75 mm [0.03 in], amax=20g				
Shock	50g, 11ms				
Acceleration	–				
Tolerance on Resistance	±20%				
Recommended Cursor Current	< 0.1 µA				
Maximum Cursor Current	10mA				
Maximum Applicable Voltage	20V	40V	60V	60V	60V
Electrical Isolation	>100MΩ at 500V=, 1bar, 2s				
Dielectric Strength	< 100µA at 500V~, 50Hz, 2s, 1bar				
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	0.5 W	1W	1.5 W	2W	3W
Thermal Coefficient of Resistance	-200 to +200 ppm/°C				
Actual Temperature Coefficient of Output Voltage	≤ 1.5 ppm/°C				
Working Temperature	-30 to +100°C [-22 to +212°F]				
Storage Temperature	-50 to +120°C [-58 to 248°F]				
Case Material	Anodized aluminum, Nylon 66				
Shaft Material	Stainless steel AISI 303				
Mounting	Brackets, self-aligning rod eyes, or flange				

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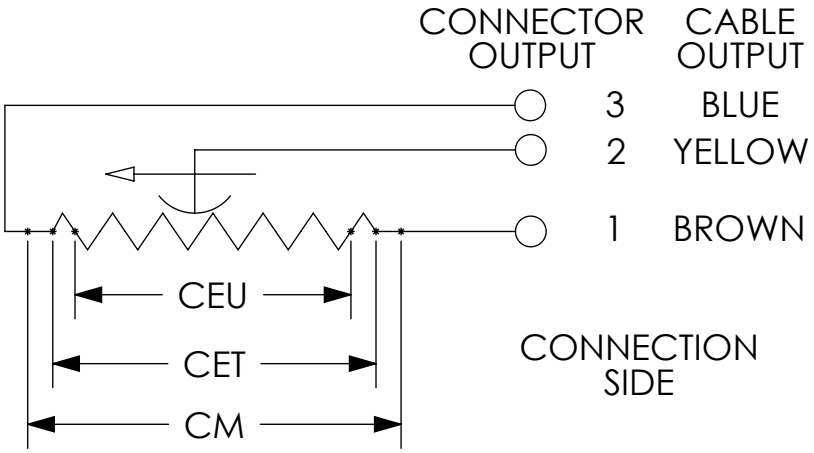
PZ12 Series Linear Potentiometers With Cylindrical Case

Electrical Connections



When choosing a transducer, it is important to remember that three different strokes exist:

- Mechanical Stroke (CM): The actual shift that the transducer's cursor (wiper) is able to make.
- Useful Electrical Stroke (CEU): The part of the mechanical stroke in which transducer linearity is guaranteed.
- Theoretical Electrical Stroke (CET): Stroke expressed in mm or angular degrees between the electrical zero (Vout=0) and the electrical limit switch (Vout=Vs), which physically is equal to the distance between the silver pitches at the ends of the resistive track.

Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

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PZ34 Series Linear Potentiometers With Cylindrical Case

Features

- PZ34 models feature a 0.75 in [19.05 mm] cylindrical housing
- Rod eye mounting system adds versatility for a wide range of applications
- Designed for easy installation thanks to an absence of electrical signal variation in output
- Ideal for applications such as wood and glass working, finishing machinery, and car test benches
- All potentiometers are individually tested at the manufacturer, and an individualized Linearity Error Chart is included with each unit

PZ34 Series Linear Potentiometers Selection Chart

Part Number	Price	Drawing Link	Useful Electrical Stroke (CEU) mm [in]	Theoretical Electrical Stroke (CET) mm [in]	Resistance (CET)	Mechanical Stroke (CM) mm [in]	Case Length (A) mm [in]	Minimum Distance Between Rod Eyes (C) mm [in]
PZ34-A-0025-L	$--04jol:	PDF	25 [0.98]	26 [1.02]	1KΩ	30 [1.18]	110 [4.33]	163 [6.42]
PZ34-A-0050-L	$-04jon:	PDF	50 [1.97]	51 [2.01]	2KΩ	55 [2.17]	135 [5.31]	188 [7.40]
PZ34-A-0075-L	$-04joo:	PDF	75 [2.95]	76 [2.99]	3KΩ	80 [3.15]	160 [6.30]	213 [8.39]
PZ34-A-0100-L	$-04jop:	PDF	100 [3.94]	101 [3.98]	4KΩ	105 [4.13]	185 [7.28]	238 [9.37]
PZ34-A-0125-L	$-04joq:	PDF	125 [4.92]	126 [4.96]	5KΩ	130 [5.12]	210 [8.27]	263 [10.35
PZ34-A-0150-L	$-04jos:	PDF	150 [5.91]	151 [5.94]	6KΩ	155 [6.10]	235 [9.25]	288 [11.34]
PZ34-A-0200-L	$;-04jot:	PDF	200 [7.87]	201 [7.91]	7KΩ	205 [8.07]	285 [11.22]	338 [13.31]
PZ34-A-0250-L	$-04jou:	PDF	250 [9.84]	251 [9.88]	8KΩ	255 [10.04]	335 [13.19]	388 [15.28]

PZ34 Series Linear Potentiometers Specifications

Model PZ34-A-xxxx-L	0025	0050	0075	0100	0125	0150	0200	0250
Independent Linearity (Within CEU)	± 0.2%	± 0.1%	± 0.1%	± 0.1%	± 0.05%	± 0.05%	± 0.05%	± 0.05%
Resolution	Infinite							
Repeatability	–							
Electrical Connections	PVC, 1m [3.28 ft] 3-wire axial cable, 24AWG (0.25 mm^2)							
Displacement Speed	≤ 10 m/s [32.81 ft/s]							
Protection Level	IP60							
Life	> 25x106 strokes or > 100x106 maneuvers, whichever is less (within CEU)							
Displacement Force	≤ 0.5 N							
Vibrations	5-2000 Hz: Amax=0.75 mm [0.03 in], amax=20g							
Shock	50g, 11ms							
Acceleration	–							
Tolerance on Resistance	±20%							
Recommended Cursor Current	< 0.1 µA							
Maximum Cursor Current	10mA							
Maximum Applicable Voltage	20V	40V	60V	60V	60V	60V	60V	60V
Electrical Isolation	>100MΩ at 500V=, 1bar, 2s							
Dielectric Strength	< 100µA at 500V~, 50Hz, 2s, 1bar							
Dissipation at 40 °C [104 °F] (0W at 120 °C [248 °F])	0.8 W	1.6 W	2.6 W	3W	3W	3W	3W	3W
Thermal Coefficient of Resistance	–							
Actual Temperature Coefficient of Output Voltage	≤ 1.5 ppm/°C							
Working Temperature	-30 to +100°C [-22 to +212°F]							
Storage Temperature	-50 to +120°C [-58 to 248°F]							
Case Material	Anodized aluminum, Nylon 66							
Shaft Material	Stainless steel AISI 303							
Mounting	Self-aligning rod eyes							

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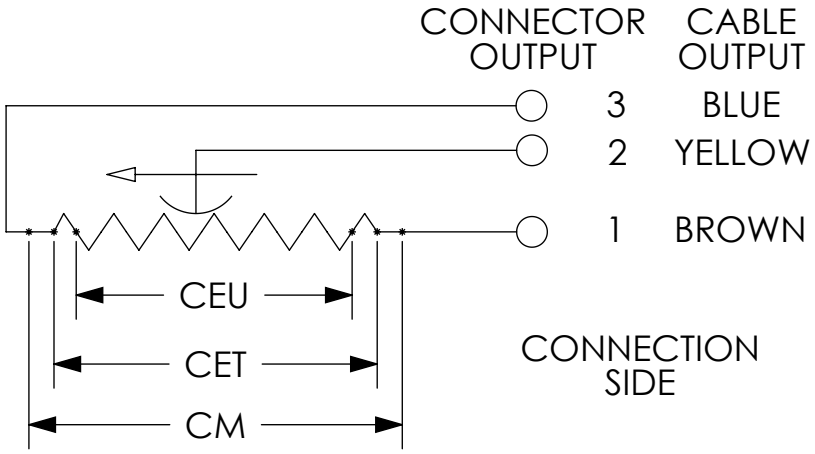
PZ34 Series Linear Potentiometers With Cylindrical Case

Electrical Connections



When choosing a transducer, it is important to remember that three different strokes exist:

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- Theoretical Electrical Stroke (CET): Stroke expressed in mm or angular degrees between the electrical zero (Vout=0) and the electrical limit switch (Vout=Vs), which physically is equal to the distance between the silver pitches at the ends of the resistive track.

Therefore, when designing an application, you should choose a transducer with a useful electrical stroke that is equal to or greater than the maximum displacement carried out by the moving part.

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Linear Potentiometer Accessories

Connectors For Gefran Linear Potentiometers				
Part Number	*Price*	*Drawing Link*	*Description*	*Number of Poles*
CON006-1KJ	$-4jov:	PDF	Gefran field wireable connector, 18mm DIN 43650 Form A, 90-degree cable entry, 4-pole. For use with Gefran LT, PK and WPG linear position sensors.	4
CON008-1KJ	$;-4jo[:	PDF	Gefran field wireable connector, 9.4mm DIN 43650 Form C, 90-degree cable entry, 4-pole. For use with Gefran PC series potentiometers.	4

CON006-1KJ

CON008-1KJ

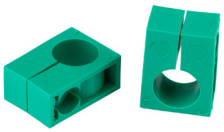
Mounting Brackets and Accessories For Gefran Linear Potentiometers		
Part Number	*Price*	*Description*
PKIT009-1KJ	$-4jox:	Gefran mounting brackets, for use with Gefran LT Series potentiometers.
PKIT015-1KJ	$-4joy:	Gefran rod eye joint accessory, for use with Gefran LT Series potentiometers.
PKIT059-1KJ	$-4joz:	Gefran mounting brackets, for use with 100 to 900mm Gefran PK Series potentiometers.
PKIT061-1KJ	$;-4jo]:	Gefran mounting brackets, for use with 1000 to 2000mm Gefran PK Series potentiometers.
STA074-1KJ	$-4jo_:	Gefran mounting brackets, for use with Gefran PZ12-S Series potentiometers.

PKIT009-1KJ

PKIT015-1KJ

PKIT059-1KJ

PKIT061-1KJ



STA074-1KJ

GEFRAN BEYOND TECHNOLOGY

WPG Series Magnetostrictive Linear Position Sensor Slides

Overview

The WPG series are contactless linear position transducer with magnetostrictive technology for longer lifetime.

The absence of electrical contact on the cursor eliminates all wear and almost guarantees an infinite life.

The performance gained from EMC immunity makes the WPG series suitable for use in industrial environments where electromagnetic interferences are present.

MAGNETOSTRICTIVE HYPERWAVE uses the magnetic characteristic and micro-elastic deformation of the primary element to pinpoint the exact position of the cursor.

Features

- Strokes from 50 to 500mm
- Purchase cursor separately
- Analog output represents direct measurement of displacement
- Working temperature: -20 to +75°C [-4 to +167°F]
- IP67 protection
- Power supply 24VDC ±20%
- Electromagnetic compatibility EMC 2014/30/EU

HYPERWAVE
HIGH-PERFORMANCE MAGNETOSTRICTIVE TECHNOLOGY

WPG-A-M-0100-E

CE

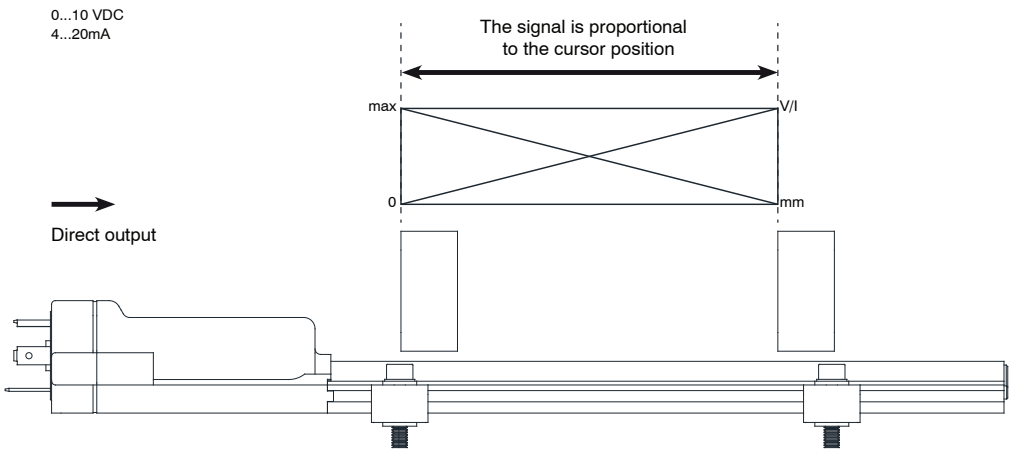
WPG Series Magnetostrictive Linear Position Sensor Slides Chart

Part Number	Price	Drawing Link	Stroke	Output	Connection	Housing Material
WPG-A-M-0050-E	$-056i5:	PDF	50mm	4-20 mA	18mm DIN 43650 Form A(CON006-1KJ)	anodized aluminum
WPG-A-M-0050-N	$-056i6:	PDF	50mm	0-10 VDC		
WPG-A-M-0100-E	$-056i7:	PDF	100mm	4-20 mA		
WPG-A-M-0100-N	$-056i8:	PDF	100mm	0-10 VDC		
WPG-A-M-0150-E	$-056i9:	PDF	150mm	4-20 mA		
WPG-A-M-0150-N	$-056ia:	PDF	150mm	0-10 VDC		
WPG-A-M-0200-E	$-056ib:	PDF	200mm	4-20 mA		
WPG-A-M-0200-N	$-056ic:	PDF	200mm	0-10 VDC		
WPG-A-M-0250-E	$-056id:	PDF	250mm	4-20 mA		
WPG-A-M-0250-N	$-056ie:	PDF	250mm	0-10 VDC		
WPG-A-M-0300-E	$;-056if:	PDF	300mm	4-20 mA		
WPG-A-M-0300-N	$-056ig:	PDF	300mm	0-10 VDC		
WPG-A-M-0400-E	$-056ih:	PDF	400mm	4-20 mA		
WPG-A-M-0400-N	$--056ii:	PDF	400mm	0-10 VDC		
WPG-A-M-0500-E	$--056ij:	PDF	500mm	4-20 mA		
WPG-A-M-0500-N	$-056ik:	PDF	500mm	0-10 VDC		

Purchase cursor and mounting brackets separately

ANALOG OUTPUT

The WPG-A magnetostrictive transducers provide a direct voltage or current analog output proportional to the magnetic cursor's position.
Since the output is direct, no signal electronic processing is required if interfaced with controllers or measurement instruments.



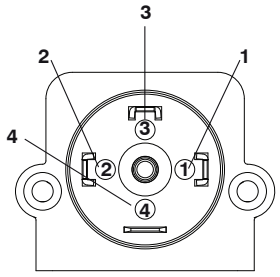
WPG Series Magnetostrictive Linear Position Sensor Slides

WPG Series Magnetostrictive Linear Position Sensor Slides Specifications	
Sampling Time	1ms
Independent Linearity ±%FS	stroke: 50 to 250mm with sliding cursors ≤ ± 0.150 mm stroke > 250mm with sliding cursors ≤ ± 0.04% F.S. (Min. ± 0.090 mm)
Repeatability (mm)	≤ 0.01 (Typical)
Hysteresis (mm)	≤ 0.02 (Typical)
Displacement Speed	≤ 10 m/s
Resolution	INFINITE (only limited by the electrical noise max 5 mVpp)
Operating Temperature	-20 to +75°C [-4 to +167°F]
Storage Temperature	-40 to +100°C [-40 to +212°F]
Temperature Coefficient	≤ 0.01% f.s. /°C (min. 0.015 mm/°C
Vibration (DIN IEC68T2-6)	12g/10…2000 Hz
Shock (DIN IEC68T2-27)	100g-11ms - single shock
Electromagnetic Compatibility	EMC 2014/30/EU
Terminations	See wiring diagrams
Connection	18mm DIN 43650 Form A, CON006-1KJ
Protection	IP67

WPG Series Magnetostrictive Linear Position Sensor Slides Electrical Data		
Series	***-N models***	***-E models***
Output Signal	0 to 10V	4 to 20mA
Nominal Power Supply	24VDC ± 20%	
Max. Power Ripple	1VDC	
Typical Current Consumption	35mA	60mA
Output Load	≥10KΩ	50 to 500Ω
Max. Output Value	12V	30mA
Output Signal in Absence of Cursor	10.5 V	21mA
Electrical Isolation (*)	500V	
Protection Against Polarity Inversion	Yes	
Protection Against Overvoltage	Yes	
Protection Against Power Supply in Output	Yes	

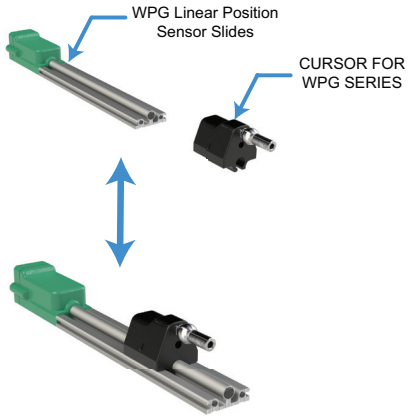
(*) Includes a 31V 1.7J voltage suppressor

Wiring Diagram



Wiring Table	
Pin 1	Power Supply -
Pin 2	Direct Output
Pin 3	Power Supply +
Pin 4	Shield

Cursor Assembly



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WPP Series Magnetostrictive Linear Position Sensor Slides

Overview

The WPP series are contactless linear position transducers with HYPERWAVE magnetostrictive technology.

The absence of electrical contact on the cursor eliminates all wear and almost guarantees an infinite life.

The WPP series also has a high resistance to vibrations and mechanical shocks, ideal for use in a harsh industrial environment.

MAGNETOSTRICTIVE HYPERWAVE uses the magnetic characteristic and micro-elastic deformation of the primary element to pinpoint the exact position of the cursor.

Features

- Optimized mechanical structure
- Strokes from 50 to 500mm
- Purchase cursor separately
- Dual analog outputs (voltage or current options) represent direct and inverse measurement of displacement
- Power supply 24VDC ±20%
- Resistance to vibration (DIN IEC68T2/6 12g)
- IP67 protection
- Working temperature: -30 to +75°C [-22 to +167° F]
- High performance in terms of environmental IP protection and EMC immunity

HYPERWAVE
HIGH-PERFORMANCE MAGNETOSTRICTIVE TECHNOLOGY

WPP-A-H-0100-E

CE

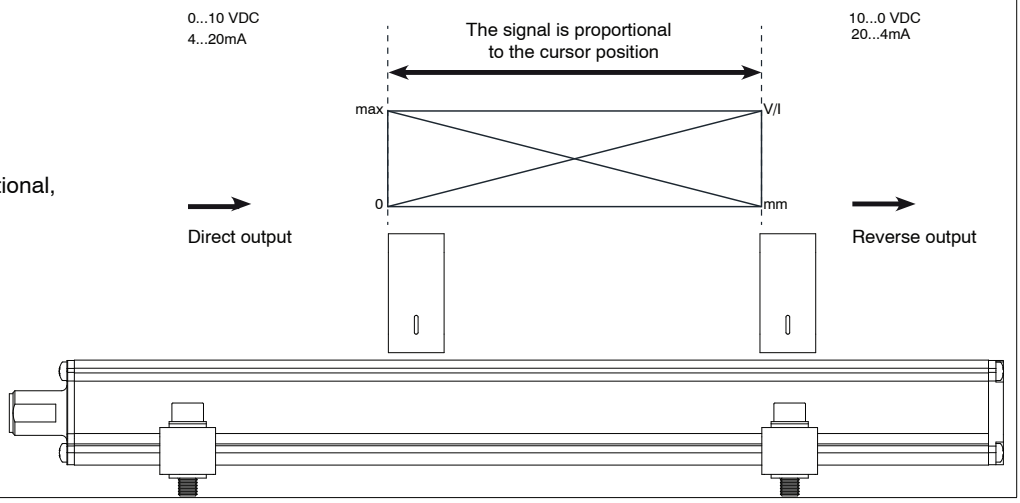
WPP Series Magnetostrictive Linear Position Sensor Slides Chart

Part Number	Price	Drawing Link	Stroke	Output	Connection	Housing Material
WPP-A-H-0050-E	$--056il:	PDF	50mm	4-20 and 20-4 mA	8-pin M12 quick-disconnect	anodized aluminum
WPP-A-H-0050-N	$-056in:	PDF	50mm	0-10 and 10-0 VDC		
WPP-A-H-0100-E	$-056io:	PDF	100mm	4-20 and 20-4 mA		
WPP-A-H-0100-N	$-056ip:	PDF	100mm	0-10 and 10-0 VDC		
WPP-A-H-0150-E	$-056iq:	PDF	150mm	4-20 and 20-4 mA		
WPP-A-H-0150-N	$-056is:	PDF	150mm	0-10 and 10-0 VDC		
WPP-A-H-0200-E	$;-056it:	PDF	200mm	4-20 and 20-4 mA		
WPP-A-H-0200-N	$-056iu:	PDF	200mm	0-10 and 10-0 VDC		
WPP-A-H-0250-E	$-056iv:	PDF	250mm	4-20 and 20-4 mA		
WPP-A-H-0250-N	$-056ix:	PDF	250mm	0-10 and 10-0 VDC		
WPP-A-H-0300-E	$-056iy:	PDF	300mm	4-20 and 20-4 mA		
WPP-A-H-0300-N	$-056iz:	PDF	300mm	0-10 and 10-0 VDC		
WPP-A-H-0400-E	$;-056i]:	PDF	400mm	4-20 and 20-4 mA		
WPP-A-H-0400-N	$;-056i[:	PDF	400mm	0-10 and 10-0 VDC		
WPP-A-H-0500-E	$-056i_:	PDF	500mm	4-20 and 20-4 mA		
WPP-A-H-0500-N	$-056i#:	PDF	500mm	0-10 and 10-0 VDC		

Purchase cursor and mounting brackets separately.

ANALOG OUTPUT

The WPP-A magnetostrictive transducers provide a direct and reverse voltage or current analog output proportional to the magnetic cursor's position. Since the outputs are proportional, no signal electronic processing is required if interfaced with controllers or measurement instruments.



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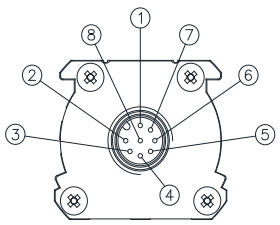
WPP Series Magnetostrictive Linear Position Sensor Slides

WPP Series Magnetostrictive Linear Position Sensor Slides Specifications	
Sampling Time	50-300mm Stroke 0.5; 400-500mm Stroke 1
Independent Linearity ±%FS	Typical: ≤ ± 0,02 % FS (min ± 0.060 mm) with sliding cursor max: ≤ ± 0,02 % FS with floating cursor at a distance between 2 and 5mm max: ≤ ± 0,04 % FS with floating cursor at a distance between 5 and 7mm
Repeatability (mm)	≤ 0.01 (limited by the resolution of the output value)
Hysteresis (mm)	≤ 0.02 (limited by the resolution of the output value)
Displacement Speed	≤ 10 m/s
Resolution	16 bit (max electrical noise 5 mVpp)
Operating Temperature	-30 to +75°C [-22 to +167° F]
Storage Temperature	-40 to +100°C [-40 to 212°F]
Temperature Coefficient	0.005% F.S. / °C
Vibration (DIN IEC68T2-6)	12g/10…2000 Hz
Shock (DIN IEC68T2-27)	100g-11 ms - single shock
Electromagnetic Compatibility	EMC 2014/30/EU
Terminations	See wiring diagrams
Connection	8-pin M12 quick-disconnect
Protection	IP67

WPP Series Magnetostrictive Linear Position Sensor Slides Electrical Data		
Series	***-N models***	***-E models***
Output Signal	0 to 10V	4 to 20mA
Nominal Power Supply	24VDC ± 20%	
Max. Power Ripple	1Vpp	
Max. Consumption	70mA	90mA
Max. Output Load	5kΩ	< 500Ω
Max. Output Noise	< 5mVpp	< 5mVpp
Max. Output Value	12V	30mA
Alarm Output Value	10.5 V	21mA
Electrical Isolation (*)	500V (*)	
Protection Against Polarity Inversion	Yes	
Protection Against Overvoltage	Yes	
Protection Against Power Supply in Output	Yes	

(*) Includes a 30V 0.4 J voltage suppressor

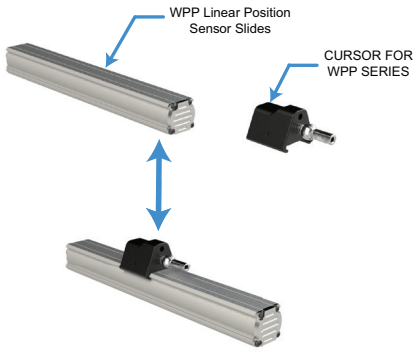
Wiring Diagram



Wiring Table	
Pin 1	OV Output Cursor 1
Pin 2	OV Output Cursor 1
Pin 3	Invert Output Cursor 1
Pin 4	No Connection
Pin 5	Output Cursor 1
Pin 6	Power Supply -
Pin 7	Power Supply +
Pin 8	No Connection

Note: The transducer case must be grounded with the cable sheathing on the control system side only.

Cursor Assembly



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WPG and WPP Series Accessories

PCUR220-1KJ

PCUR221-1KJ

PCUR222-1KJ

WPG Series Cursors

Part Number	Price	Description	Drawing Link
PCUR220-1KJ	$-56j5:	Gefran cursor, 5mm axial joint low process connection, slide mount. For use with Gefran WPG series magnetostrictive sensors.	PDF
PCUR221-1KJ	$-56j6:	Gefran cursor, 5mm axial joint high process connection, slide mount. For use with Gefran WPG series magnetostrictive sensors.	PDF
PCUR222-1KJ	$-56j7:	Gefran cursor, 5mm axial joint process connection, slide mount. For use with Gefran WPG series magnetostrictive sensors.	PDF

PCUR210-1KJ

PCUR211-1KJ

PCUR212-1KJ

WPP Series Cursors

Part Number	Price	Description	Drawing Link
PCUR210-1KJ	$-56j2:	Gefran cursor, 5mm axial joint low process connection, slide mount. For use with Gefran WPP series magnetostrictive sensors.	PDF
PCUR211-1KJ	$-56j3:	Gefran cursor, 5mm axial joint high process connection, slide mount. For use with Gefran WPP series magnetostrictive sensors.	PDF
PCUR212-1KJ	$-56j4:	Gefran cursor, 5mm axial joint process connection, slide mount. For use with Gefran WPP series magnetostrictive sensors.	PDF

WPG and WPP Series Cursor Floating Mount

Part Number	Price	Description	Drawing Link
PCUR202-1KJ	$-56j1:	Gefran cursor, floating mount. For use with Gefran WPG and WPP series magnetostrictive sensors.	PDF

PCUR202-1KJ

WPG Series Mounting Brackets

Part Number	Price	Description	Drawing Link
PKIT590-1KJ	$;-56i,:	Gefran mounting brackets, 42.5mm hole spacing. For use with Gefran WPG series magnetostrictive sensors.	PDF
PKIT591-1KJ	$-56j0:	Gefran mounting brackets, 50mm hole spacing. For use with Gefran WPG series magnetostrictive sensors.	PDF

PKIT590-1KJ

WPP Mounting Brackets

Part Number	Price	Description	Drawing Link
PKIT090-1KJ	$;-56i!:	Gefran mounting brackets, 42.5mm hole spacing. For use with Gefran WPP series magnetostrictive sensors.	PDF
PKIT091-1KJ	$-56i?:	Gefran mounting brackets, 50mm hole spacing. For use with Gefran WPP series magnetostrictive sensors.	PDF

PKIT090-1KJ

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

GHSE19/GHI19 Spring-Loaded LVIT Linear Position Sensors

GHSE19-050A-02-10S

Low cost, compact, high performance gauging probes

The GHSE-19/GHSI-19 series of LVIT (Linear Variable Inductance Transducer) spring-loaded position sensors by Alliance Sensors Group are contactless devices designed for dimension measurements. They are suitable for use in a variety of settings where the sensing element cannot be attached to the object being measured. Typical applications include the following:

- Quality Assurance (QA) labs
- Position measuring applications in factory automation systems
- Industrial and commercial applications such as automotive testing, mil/aero test stands, robotic arms, and packaging equipment

GHSE-19/GHSI-19 Linear Variable Inductance Transducers are offered in nominal full scale ranges from 0.25 to 4.0 in [6.35 to 101.6 mm] with excellent resolution and high stroke-to-body-length ratios. The maximum tip contact force applied to the item being measured is 1lbf [0.454 kgf].

GHSE-19/GHSI-19 sensors have a 0.75 in [19mm] diameter stainless steel body with a 1/2-20 UNF-2A thread 1.5 in [38mm] long with two 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 PT02A-10-6P connector. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20 mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

Features

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

CE

GHSE19/GHSI19 Series Spring-Loaded LVIT Linear Position Sensors Selection Chart

Part Number	Price	Drawing Link	Nominal Range (in [mm])	Body Length (in [mm])	Spring Rate (lbf/in [kgf/cm])	Maximum Force (lbf [kgf])
0-10 V models						
GHSE19-006A-02-10S	$-04j6h:	PDF	0.25 [6.35]	3.50 [88.9]	0.75 [0.134]	0.9 [0.41]
GHSE19-013A-02-10S	$--04j6i:	PDF	0.5 [12.7]	3.50 [88.9]	0.75 [0.134]	0.9 [0.41]
GHSE19-025A-02-10S	$--04j6j:	PDF	1.0 [25.4]	4.00 [101.6]	0.75 [0.134]	0.9 [0.41]
GHSE19-050A-02-10S	$-04j6k:	PDF	2.0 [50.8]	5.08 [129.0]	0.43 [0.077]	1.0 [0.45]
GHSE19-075A-02-10S	$--04j6l:	PDF	3.0 [76.2]	6.16 [156.5]	0.30 [0.054]	1.0 [0.45]
GHSE19-100A-02-10S	$-04j6c:	PDF	4.0 [101.6]	7.25 [184.1]	0.23 [0.041]	1.0 [0.45]
4-20mA models						
GHSI19-006A-02-20S	$-04j6d:	PDF	0.25 [6.35]	3.50 [88.9]	0.75 [0.134]	0.9 [0.41]
GHSI19-013A-02-20S	$-04j6e:	PDF	0.5 [12.7]	3.50 [88.9]	0.75 [0.134]	0.9 [0.41]
GHSI19-025A-02-20S	$;-04j6f:	PDF	1.0 [25.4]	4.00 [101.6]	0.75 [0.134]	0.9 [0.41]
GHSI19-050A-02-20S	$-04j6g:	PDF	2.0 [50.8]	5.08 [129.0]	0.43 [0.077]	1.0 [0.45]
GHSI19-075A-02-20S	$-04j6n:	PDF	3.0 [76.2]	6.16 [156.5]	0.30 [0.054]	1.0 [0.45]
GHSI19-100A-02-20S	$-04j6o:	PDF	4.0 [101.6]	7.25 [184.1]	0.23 [0.041]	1.0 [0.45]

1. NOTE: All GHSI and GHSE models require PT06A-10-6S-SR connector and user-supplied cable

GHSE19/GHSI19 Series Spring-Loaded LVIT Linear Position Sensors Specifications

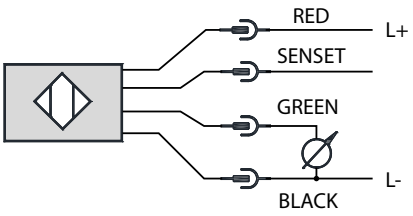
Analog I/Os	0-10VDC output with 12-30VDC power source; 4-20 mA (3-wire) output with 18-30VDC power source, 60mA max, 167°F [75°C] max
Measuring Ranges	0.25 to 4.0 in [6.35 to 101.6 mm] full scale (nominal)
Linearity Error	±0.15% of full scale output (FSO) typical, ±0.25% max
Resolution	0.025% of full scale
Operating Temperature	GSHE19 (0-10V models) -40 to +221°F [-40 to +105°C] GSHI19 (4-20mA models): -4 to 185°F [-20 to +85°C]
Temperature Coefficient	±0.015% of FS/K
Vibration	5-20Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	Alliance Sensors Group connector, PT06A-10-6S-SR, 6-pin, solder, straight cable entry.

GHSE19/GHI19 Spring-Loaded LVIT Linear Position Sensors

Connector

Connector for GHSx Linear Position Sensors		
Part Number	***Price***	***Description***
PT06A-10-6S-SR	$;-4j7t:	Alliance Sensors connector, PT0 6-pin solder, straight cable entry, 6-pole. For use with GHSx linear position sensors.

Wiring Diagram



Wiring Table	
+DC Power Input	E
Common Ground	D
Analog Output	A
SenSet™	B

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LRSE18/LRSI18 LVIT Linear Position Sensors

LRSE18-050A-00-10A

Low cost, compact, high performance gauging probes

The LRSE-18/LRSI-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 where the sensing element cannot be attached to the object being measured. Typical applications include the following:

- Automotive testing
- Robotic arms
- Packaging equipment
- Mil/aero test stands

LRSE-18/LRSI-18 Linear Variable Inductance Transducers are offered in full scale ranges from 0.5 to 4.0 in [12.7 to 101.6 mm] with excellent resolution and high stroke-to-body-length ratios. The maximum tip force on the item being measured is 1lbf [0.454 kgf].

LRSE-18/LRSI-18 series sensors have a 0.75 in [19mm] diameter aluminum or stainless steel body with an M18x1 thread. These sensors are supplied with two hex jam nuts for easy installation.

These sensors use a 0.25 in [6.35 mm] diameter probe equipped with an AGD No. 9 contact tip and are offered with an axial cable. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20 mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

Features

- Spring loaded LVIT Technology™ (Linear Variable Inductance Transducer)
- Ranges from 0.5 to 4.0 in [12.7 to 101.6 mm]
- Contactless operation prevents internal wear out from dithering or rapid cycling
- Excellent stroke-to-body-length ratio
- Proprietary SenSet™ field adjustable range scaling

LRSE18/LRSI18 Series Linear Position Sensors Selection Chart

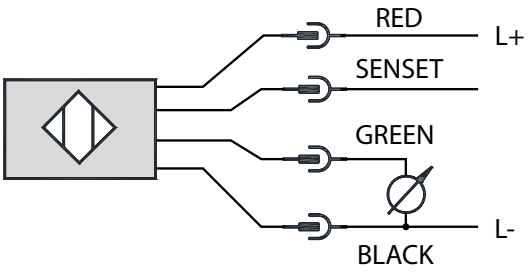
Part Number	Price	Drawing Link	Nominal Range (in [mm])	Body Length (in [mm])	Spring Rate (lbf/in [kgf/cm])	Maximum Force (lbf [kgf])
0-10V models						
LRSE18-013A-00-10A	$-04j6p:	PDF	0.5 [12.7]	3.04 {77.2]	0.75 [0.134]	0.9 [0.41]
LRSE18-025A-00-10A	$-04j6q:	PDF	1.0 [25.4]	3.54 [89.9]	0.75 [0.134]	0.9 [0.41]
LRSE18-050A-00-10A	$-04j6s:	PDF	2.0 [50.8]	4.62 [117.3]	0.43 [0.077]	1.0 [0.45]
LRSE18-075A-00-10A	$;-04j6t:	PDF	3.0 [76.2]	5.69 [144.5]	0.30 [0.054]	1.0 [0.45]
LRSE18-100A-00-10A	$-04j6u:	PDF	4.0 [101.6]	6.80 [172.7]	0.23 [0.041]	1.0 [0.45]
4-20mA models						
LRSI18-013A-00-20A	$-04j6v:	PDF	0.5 [12.7]	3.04 [77.2]	0.75 [0.134]	0.9 [0.41]
LRSI18-025A-00-20A	$-04j6x:	PDF	1.0 [25.4]	3.54 [89.9]	0.75 [0.134]	0.9 [0.41]
LRSI18-050A-00-20A	$-04j6y:	PDF	2.0 [50.8]	4.62 [117.3]	0.43 [0.077]	1.0 [0.45]
LRSI18-075A-00-20A	$-04j6z:	PDF	3.0 [76.2]	5.69 [144.5]	0.30 [0.054]	1.0 [0.45]
LRSI18-100A-00-20A	$;-04j6]:	PDF	4.0 [101.6]	6.80 [172.7]	0.23 [0.041]	1.0 [0.45]

LRSE18/LRSI18 Series Linear Position Sensors Specifications

Analog I/Os	0-10VDC output with 12-30V power source, 35mA max; 4-20mA (3-wire) output with 18-30V power source, 60mA max, 167°F [75°C] max
Measuring Ranges	0.5 to 4.0 in [12.7 to 101.6 mm] full scale
Linearity Error	±0.15% of full scale output (FSO) typical, ±0.25% max
Resolution	0.025% of full scale
Operating Temperature	-4 to 185°F [-20 to +85°C]; -40 to +221°F [-40 to +105°C] extended range
Temperature Coefficient	±0.015% of FS/K
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	1M, PUR, 4 conductor, 24AWG

LRSE18/LRSI18 LVIT Linear Position Sensors

Wiring Diagram



Wiring Table	
Function	***Cable Color***
+DC Power Input	Red
Common Ground	Black
Analog Output	Green
SenSet™	White

ALLIANCE SENSORS GROUP
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LRE19/LRI19 LVIT Linear Position Sensors

LRE19-100R-00-10A

Low cost, compact, high performance linear position sensors

The LRE-19/LRI-19 series of inductive linear position sensors by Alliance Sensors Group are contactless devices designed for factory automation and a variety of industrial or commercial applications. Typical applications include the following:

- Motor sport vehicles
- Automotive testing
- Solar cell positioning
- Wind turbine, prop pitch and brake positioning
- Packaging equipment

With their compact design and excellent stroke-to-length ratio, LR-19 series sensors are ideal for industrial testing laboratories and OEM applications.

LRE-19/LRI-19 series sensors are offered in 6 full scale ranges from 1 to 8 in [25.4 to 203.2 mm]. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

LRE-19/LRI-19 series products are available with a radial exiting cable and two swivel rod eye ends for easy installation.

The LRE-19/LRI-19 series also includes a larger body version, the LRE-27/LRI-27, for those applications needing a heavier duty unit.

Features

- Contactless operation prevents internal wear-out from dithering or rapid cycling
- Excellent stroke-to-length ratio
- 0.75 in [19mm] diameter anodized aluminum housing sealed to IP-67
- Radial cable exit version comes with swivel rod eye ends

LRE19/LRI19 Series Linear Position Sensors Selection Chart

Part Number	Price	Drawing Link	Nominal Range (in [mm])	Body Length (in [mm])
0-10V models				
LRE19-025R-00-10A	$;-04j6[:	PDF	1.0 [25.4]	3.40 [86.3]
LRE19-050R-00-10A	$-04j6_:	PDF	2.0 [50.8]	4.40 [111.8]
LRE19-075R-00-10A	$-04j6#:	PDF	3.0 [76.2]	5.40 [138.1]
LRE19-100R-00-10A	$;-04j6!:	PDF	4.0 [101.6]	6.40 [162.5]
LRE19-150R-00-10A	$-04j6?:	PDF	6.0 [152.4]	8.40 [213.3]
LRE19-200R-00-10A	$;-04j6,:	PDF	8.0 [203.2]	10.40 [264.1]
4-20mA models				
LRI19-025R-00-20A	$-04j70:	PDF	1.0 [25.4]	3.40 [86.3]
LRI19-050R-00-20A	$-04j71:	PDF	2.0 [50.8]	4.40 [111.8]
LRI19-075R-00-20A	$-04j72:	PDF	3.0 [76.2]	5.40 [138.1]
LRI19-100R-00-20A	$-04j73:	PDF	4.0 [101.6]	6.40 [162.5]
LRI19-150R-00-20A	$-04j74:	PDF	6.0 [152.4]	8.40 [213.3]
LRI19-200R-00-20A	$-04j75:	PDF	8.0 [203.2]	10.40 [264.1]

LRE19/LRI19 Series Linear Position Sensors Specifications

Analog I/Os	0-10V output with 12-30V power source, 35mA max; 4-20 mA (3-wire) output with 18-30V power source, 60mA max, 167°F [75°C] max
Measuring Ranges	1 to 8 in [25.4 to 203.2 mm]
Linearity Error	≤ ±0.15% of FSO
Resolution	0.025% of FS
Bandwidth	300Hz update rate (nominal)
Operating Temperature	-4 to 185°F [-20 to +85°C]; -40 to +221°F [-40 to +105°C] extended range
Temperature Coefficient	±0.015% of FS/K
Vibration	5-20Hz, 0.5 in peak-to-peak; 20-2000Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	1M, PUR, 4 conductor, 24AWG

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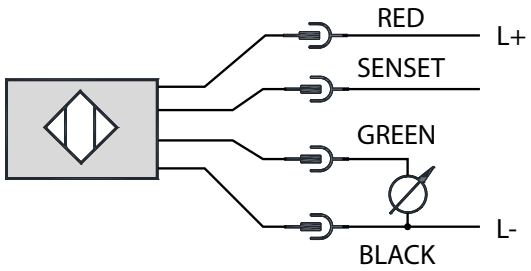
LRE19/LRI19 LVIT Linear Position Sensors

Wiring Diagram



Wiring Table	
Function	***Cable Color***
+DC Power Input	Red
Common Ground	Black
Analog Output	Green
SenSet™	White

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LRE27/LRI27 LVIT Linear Position Sensors

LRE27-075R-00-10A

Low cost, compact, high performance linear position sensors

The LRE-27/LRI-27 series of LVIT (Linear Variable Inductance Transducer) by Alliance Sensor Group are heavy duty contactless position sensors for factory automation systems and a variety of industrial and commercial uses. Typical applications include the following:

- Solar cell positioners
- Wind turbine prop pitch and brakes
- Chute or gate positioners for off-road or agri-vehicles
- Packaging machinery

The modular design and excellent stroke-to-length ratio make LRE-27/LRI-27 sensors an ideal choice for in-plant or mobile equipment OEMs.

LRE-27/LRI-27 series sensors are currently offered in 5 full-scale ranges from 1 to 6 in [25.4 to 152.4 mm]. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20 mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

LRE-27/LRI-27 products are available with a radial exiting cable and two spherical rod eye ends.

The LR series also include a smaller body version, the LRE-19/LRI-19, for applications where a reduced body envelope is required as well as the LRLE-27/LRLI-27 (for longer strokes lengths up to 18 in [457.2 mm]).

Features

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wear-out from dithering or rapid cycling
- Excellent stroke-to-length ratio
- Proprietary Senset™ field adjustable range scaling

LRE27/LRI27 Series Linear Position Sensors Selection Chart

Part Number	Price	Drawing Link	Nominal Range (in [mm])	Body Length (in [mm])
0-10V models				
LRE27-025R-00-10A	$-04j76:	PDF	1.0 [25.4]	4.12 [104.6]
LRE27-050R-00-10A	$-04j77:	PDF	2.0 [50.8]	5.12 [130.0]
LRE27-075R-00-10A	$-04j78:	PDF	3.0 [76.2]	6.12 [155.4]
LRE27-100R-00-10A	$-04j79:	PDF	4.0 [101.6]	7.12 [180.8]
LRE27-150R-00-10A	$-04j7a:	PDF	6.0 [152.4]	9.12 [231.6]
4-20mA models				
LRI27-025R-00-20A	$-04j7b:	PDF	1.0 [25.4]	4.12 [104.6]
LRI27-050R-00-20A	$-04j7c:	PDF	2.0 [50.8]	5.12 [130.0]
LRI27-075R-00-20A	$-04j7d:	PDF	3.0 [76.2]	6.12 [155.4]
LRI27-100R-00-20A	$-04j7e:	PDF	4.0 [101.6]	7.12 [180.8]
LRI27-150R-00-20A	$;-04j7f:	PDF	6.0 [152.4]	9.12 [231.6]

LRE27/LRI27 Series Linear Position Sensors Specifications

Analog I/Os	0-10V output with 12-30V power source, 35mA max; 4-20 mA (3-wire) output with 18-30V power source, 60mA max, 167°F [75°C] max
Measuring Ranges	1 to 6 in [25.4 to 152.4 mm] full scale (nominal)
Linearity Error	≤ ±0.15% of FSO
Resolution	0.025% of FS
Update Rate	300Hz nominal
Operating Temperature	-4 to 185°F [-20 to +85°C]; -40 to +221°F [-40 to +105°C] extended range
Temperature Coefficient	≤ ±0.015% of FS/°C
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	1M, PUR, 4 conductor, 24AWG

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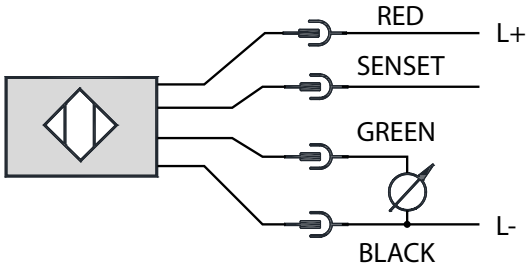
LRE27/LRI27 LVIT Linear Position Sensors

Wiring Diagram



Wiring Table	
Function	***Cable Color***
+DC Power Input	Red
Common Ground	Black
Analog Output	Green
SenSet™	White

ALLIANCE SENSORS GROUP
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LRLE27/LRLI27 LVIT Linear Position Sensors

LRLE27-400R-00-10A

Low cost, compact, high performance linear position sensors

Alliance Sensor Group's LRLE-27/LRLI-27 series of LVIT (Linear Variable Inductance Transducer) contactless position sensors complements the LR series devices with extended ranges up to 18in [450mm] 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.

LRLE-27/LRLI-27 sensors are offered in six nominal ranges from 8 to 18 in [203.2 to 457.2 mm]. Operating from a variety of DC voltages, models are available with either 0-10 V or 4-20 mA output (see table below). All include ASG's proprietary SenSet™ field calibration feature.

LRLE-27/LRLI-27 products are available with a radial exiting cable and two spherical rod eye ends.

The LRLE-27/LRLI-27 series also includes smaller body versions, the LRE-19/LRI-19. Those versions are suitable for use in applications where a reduced body envelope is required. Use the LRE-27/LRI-27 for shorter stroke lengths from 2 to 6 in [50.8 to 152.4 mm].

Features

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wear-out from dithering or rapid cycling
- Excellent stroke-to-length ratio
- Proprietary Senset™ field adjustable range scaling

CE

LRLE27/LRLI27 Series Linear Position Sensors Selection Chart

Part Number	Price	Drawing Link	Nominal Range (in [mm])	Body Length (Dimension A) (in [mm])
0-10V models				
LRLE27-200R-00-10A	$-04j7g:	PDF	8.0 [203.2]	11.50 [292.1]
LRLE27-250R-00-10A	$-04j7h:	PDF	10.0 [254.0]	13.50 [342.9]
LRLE27-300R-00-10A	$--04j7i:	PDF	12.0 [304.8]	15.50 [393.7]
LRLE27-350R-00-10A	$--04j7j:	PDF	14.0 [355.6]	17.50 [444.5]
LRLE27-400R-00-10A	$-04j7k:	PDF	16.0 [406.2]	19.50 [495.3]
LRLE27-450R-00-10A	$;--004j7l:	PDF	18.0 [457.2]	21.50 [546.1]
4-20mA models				
LRLI27-200R-00-20A	$-04j7n:	PDF	8.0 [203.2]	11.50 [292.1]
LRLI27-250R-00-20A	$-04j7o:	PDF	10.0 [254.0]	13.50 [342.9]
LRLI27-300R-00-20A	$-04j7p:	PDF	12.0 [304.8]	15.50 [393.7]
LRLI27-350R-00-20A	$-04j7q:	PDF	14.0 [355.6]	17.50 [444.5]
LRLI27-400R-00-20A	$-04j7s:	PDF	16.0 [406.2]	19.50 [495.3]
LRLI27-450R-00-20A	$;-004j7u:	PDF	18.0 [457.2]	21.50 [546.1]

LRLE-27/LRLI-27 Series Linear Position Sensors Specifications

Analog I/Os	0-10V output with 12-30V power source, 35mA max; 4-20 mA (3-wire) output with 18-30V power source, 60mA max, 167°F [75°C] max
Measuring Ranges	8 to 18 in [203.2 to 457.2 mm] full scale (nominal)
Linearity Error	≤ ±0.15% of Full Scale Output (FSO) typical, ±0.25% max
Resolution	0.025% of FS
Update Rate	300Hz nominal
Operating Temperature	-4 to 185°F [-20 to +85°C]; -40 to +221°F [-40 to +105°C] extended range
Temperature Coefficient	≤ ±0.015% of FS/°C
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	1M, PUR, 4 conductor, 24AWG

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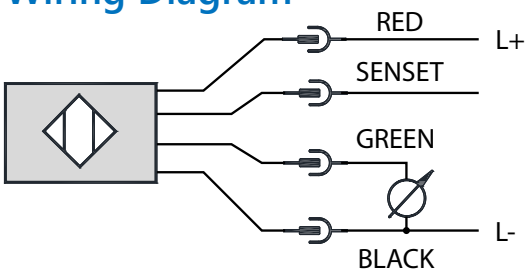
LRLE27/LRLI27 LVIT Linear Position Sensors

Wiring Diagram



Wiring Table	
Function	***Cable Color***
+DC Power Input	Red
Common Ground	Black
Analog Output	Green
SenSet™	White

ALLIANCE SENSORS GROUP
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LVE45/LVI45 LVIT Inductive Linear Position Sensors

LVE45-100R-01-10S

The LV45 series LVIT (Linear Variable Inductance Transducer) position sensors are designed for heavy-duty industrial measuring applications that require rugged devices. Typical applications include the following:

- Steel, aluminum, and paper mills
- Power generation steam valves
- Material creep measurements
- Roadway/bridge expansion
- Hydro power plants

LV45 sensors use a contactless inductive technology that allows them to replace other types of technology sensors like potentiometers and DC LVDTs in most applications. With a simple coil design, a captive 1/2 inch diameter connecting rod with 1/2-20 male thread, a stainless steel thick-walled housing, and a radial M12 connection, the sensors are shorter and more robust than their DC-LVDT counterparts. With a wider temperature range, LV45 sensors can withstand the vibration and shock levels found in mills and power plants as well as the temperature and humidity found in outdoor applications.

Features

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation
- Excellent stroke-to-body-length ratio
- Stroke ranges from 100 to 375 mm (4 to 15 inches)
- Proprietary SenSet™ field adjustable range scaling

LVE45/LVI45 LVIT Inductive Linear Position Sensors

Part Number	Price	Drawing Link	Stroke mm [in]	Body Length mm [in]	Output	Connection	Housing Material
0-10 VDC models							
LVE45-100R-01-10S	$;;005avf:	PDF	100 [4.0]	250.9 [9.88]	0-10 VDC	5-pin M12 quick-disconnect	Stainless steel
LVE45-150R-01-10S	$;005avg:	PDF	150 [6.0]	301.7 [11.88]	0-10 VDC	5-pin M12 quick-disconnect	Stainless steel
LVE45-200R-01-10S	$;005avh:	PDF	200 [8.0]	352.5 [13.88]	0-10 VDC	5-pin M12 quick-disconnect	Stainless steel
LVE45-250R-01-10S	$;-005avi:	PDF	250 [10.0]	403.3 [15.88]	0-10 VDC	5-pin M12 quick-disconnect	Stainless steel
LVE45-300R-01-10S	$;-005avj:	PDF	300 [12.0]	454.1 [17.88]	0-10 VDC	5-pin M12 quick-disconnect	Stainless steel
LVE45-375R-01-10S	$;005avk:	PDF	375 [15.0]	530.4 [20.88]	0-10 VDC	5-pin M12 quick-disconnect	Stainless steel
4-20 mA models							
LVI45-100R-01-20S	$;-005avl:	PDF	100 [4.0]	250.9 [9.88]	4-20 mA	5-pin M12 quick-disconnect	Stainless steel
LVI45-150R-01-20S	$;005avn:	PDF	150 [6.0]	301.7 [11.88]	4-20 mA	5-pin M12 quick-disconnect	Stainless steel
LVI45-200R-01-20S	$;005avo:	PDF	200 [8.0]	352.5 [13.88]	4-20 mA	5-pin M12 quick-disconnect	Stainless steel
LVI45-250R-01-20S	$;005avp:	PDF	250 [10.0]	403.3 [15.88]	4-20 mA	5-pin M12 quick-disconnect	Stainless steel
LVI45-300R-01-20S	$;005avq:	PDF	300 [12.0]	454.1 [17.88]	4-20 mA	5-pin M12 quick-disconnect	Stainless steel
LVI45-375R-01-20S	$;005avs:	PDF	375 [15.0]	530.4 [20.88]	4-20 mA	5-pin M12 quick-disconnect	Stainless steel

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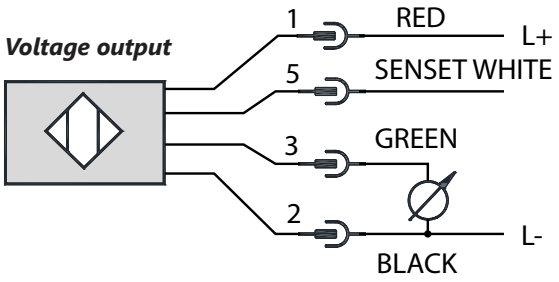
LVE45/LVI45 LVIT Inductive Linear Position Sensors

LVE45/LVI45 LVIT Inductive Linear Position Sensors Specifications	
Analog I/Os	0-10V output with 12 -30V input, 35 mA max. 4-20 mA (3-wire) output with 18-30V input, 60 mA max. [75° C max]
Measuring Ranges	100 to 450 mm [4 to 18 in] full-scale [nominal]
Linearity Error	< ± 0.15% of Full Scale Output [FSO] typical, ±0.25% max
Resolution	0.025% of FSO
Update Rate	300Hz [nominal]
Operating Temperature	Current output: -20 to +85°C; [-40 to +185°F]; Voltage output: -40 to 105°C [-40 to 221°F]
Temperature Coefficient	< ± 0.015% of FS/°C
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	5-pin M12 quick-disconnect
Mounting	rod eyes [see 2D drawing for specifications]
Agency Approval *	CE

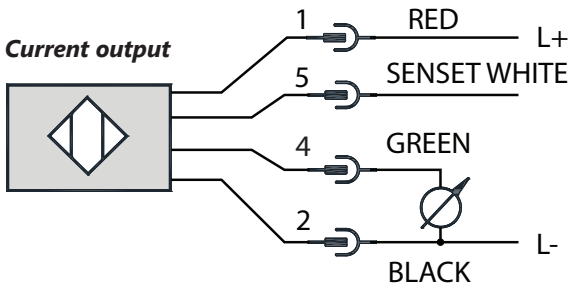
***To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.**

Wiring Diagram

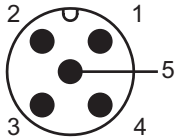


Wiring Table		
I/O Function	***Cable Color***	***PIN***
DC Power Input	Red	1
Ground	Black	2
Voltage Output	Green	3
Current Output	Green	4
SenSet™	White	5

***Shield not connected internally**



5-pin M12 Connector



ALLIANCE SENSORS GROUP
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LZE13 LVIT Inductive Linear Position Sensors

LZE13-100A-00-10S

The LZE13 series of LVIT (Linear Variable Inductance Transducer) miniature position sensors are inductive, contactless devices designed for use in factory automation or assembly machinery applications where space is a premium. The LVIT is offered in nominal full-scale ranges from 2.5 to 200mm [0.1 to 8 in] with an excellent stroke-to-body-length ratio. The sensor has 12.7 mm [1/2 in] outside diameter stainless steel body with a 1m [3.2 ft] cable for I/O connections. The 4.78 mm [0.188 in] diameter through-bore of an LZE13 provides clearance for its 4mm [0.157 in] diameter moving target rod with M4 thread and hex nut, 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.

Features

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wearout from dithering or rapid cycling
- Full-scale ranges from 2.5 to 200 mm [0.10 to 8.0 in]
- Through-bore design eliminates mechanical overstroking
- DC in / DC out operation with built in electronics
- For applications where size is a constraint and superior stroke-to-body-length ratio is required
- Proprietary SenSet™ field adjustable range scaling

LZE13 LVIT Inductive Linear Position Sensors

Part Number	Price	Drawing Link	Stroke mm [inch]	Body Length mm [inch]	Output	Connection m [ft]	Housing Material
LZE13-2.5A-00-10S	$05auq:	PDF	2.5 [0.10]	35.8 [1.41]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-6.4A-00-10S	$05aus:	PDF	6.4 [0.25]	35.8 [1.41]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-12.7A-00-10S	$;05aut:	PDF	12.7 [0.50]	35.8 [1.41]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-025A-00-10S	$05auu:	PDF	25 [1.0]	35.8 [1.41]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-050A-00-10S	$05auv:	PDF	50 [2.0]	61.2 [2.41]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-100A-00-10S	$05aux:	PDF	100 [4.0]	112.0 [4.41]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-150A-00-10S	$05auy:	PDF	150 [6.0]	165.1 [6.50]	0 - 10 VDC	1 [3.2]	Stainless steel
LZE13-200A-00-10S	$05auz:	PDF	200 [8.0]	215.9 [8.50]	0 - 10 VDC	1 [3.2]	Stainless steel

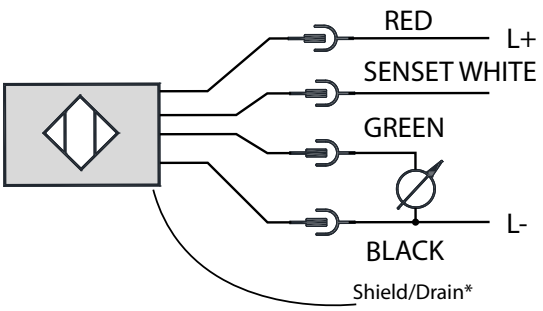
LZE13 LVIT Inductive Linear Position Sensor Specifications

Analog I/Os	0-10 VDC output; 12-30V input, 35mA max
Measuring Ranges	2.5 to 200 mm [0.1 to 8 in]
Linearity Error	± 0.15% of Full Scale Output (FSO) typical, ±0.25% FSO max
Resolution	0.025% of FSO
Bandwidth	300Hz nominal
Operating Temperature	-20 to +105°C [-40 to +221°F]
Temperature Coefficient	≤ 0.015% of FSO/K
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	1m [3.2 ft] cable, 316L stainless steel 28 AWG
Mounting	M4 x 0.7 [mount for target rod]
Agency Approval *	CE

***To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.**

LZE13 LVIT Inductive Linear Position Sensors

Wiring Diagram



*Shield not connected internally

Wiring Table	
I/O Function	***Cable Color***
+ Power Input	Red
Ground	Black
Analog Output	Green
SenSet™	White
Shield/Drain *	Shield

***Shield not connected internally**

ALLIANCE SENSORS GROUP
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LZE19/LZI19 LVIT Inductive Linear Position Sensors

LZE19-100A-00-10S

The LZ19 Series of LVIT (Linear Variable Inductance Transducer) position sensors are contactless devices designed for use in factory automation or assembly machinery applications where space is a premium, as well as for external mounting on pneumatic cylinders to sense rod position. The LVIT is offered in nominal full scale ranges from 2.5 to 375 mm [0.10 to 15 in] with an excellent stroke to-body-length ratio The sensor has a 19mm [3/4 in] outside diameter stainless steel body with a 1m [3.2 ft] axial cable for I/O connections. The 6mm [0.236 in] diameter through-bore of an LZ-19 provides clearance for its 5.2 mm [0.200 in]) diameter, PVDF-sheathed 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.

Features

- LVIT Technology™ (Linear Variable Inductance Transducer)
- Contactless operation prevents internal wearout from dithering or rapid cycling
- Full-scale ranges from 2.5 to 375 mm [0.10 to 15 in]
- Through-bore design eliminates mechanical overstroking
- DC in / DC out operation with built in electronics
- For applications requiring superior stroke-to-body-length ratio
- Proprietary SenSet™ field adjustable range scaling

LZE19/LZI19 LVIT Inductive Linear Position Sensors							
Part Number	**Price**	**Drawing Link**	**Stroke mm [in]**	**Body Length mm [in]**	**Output**	**Connection m [ft]**	**Housing Material**
0-10 VDC models							
LZE19-2.5A-00-10S	$;05au]:	PDF	2.5 [0.10]	35.0 [1.38]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-6.4A-00-10S	$;05au[:	PDF	6.4 [0.25]	35.0 [1.38]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-12.7A-00-10S	$05au_:	PDF	12.7 [0.50]	35.0 [1.38]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-025A-00-10S	$05au#:	PDF	25 [1.0]	35.0 [1.38]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-050A-00-10S	$;05au!:	PDF	50 [2.0]	60.5 [2.38]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-100A-00-10S	$05au?:	PDF	100 [4.0]	111.1 [4.38]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-150A-00-10S	$;05au,:	PDF	150 [6.0]	165.1 [6.50]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-200A-00-10S	$05av0:	PDF	200 [8.0]	215.9 [8.50]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-250A-00-10S	$05av1:	PDF	250 [10.0]	266.7 [10.50]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-300A-00-10S	$05av2:	PDF	300 [12.0]	317.5 [12.50]	0-10 VDC	1 [3.2]	Stainless steel
LZE19-375A-00-10S	$05av3:	PDF	375 [15.0]	400.0 [15.75]	0-10 VDC	1 [3.2]	Stainless steel
4-20 mA models							
LZI19-2.5A-00-20S	$05av4:	PDF	2.5 [0.10]	35.0 [1.38]	4-20 mA	1 [3.2]	Stainless steel
LZI19-6.4A-00-20S	$05av5:	PDF	6.4 [0.25]	35.0 [1.38]	4-20 mA	1 [3.2]	Stainless steel
LZI19-12.7A-00-20S	$05av6:	PDF	12.7 [0.50]	35.0 [1.38]	4-20 mA	1 [3.2]	Stainless steel
LZI19-025A-00-20S	$05av7:	PDF	25 [1.0]	35.0 [1.38]	4-20 mA	1 [3.2]	Stainless steel
LZI19-050A-00-20S	$05av8:	PDF	50 [2.0]	60.5 [2.38]	4-20 mA	1 [3.2]	Stainless steel
LZI19-100A-00-20S	$05av9:	PDF	100 [4.0]	111.1 [4.38]	4-20 mA	1 [3.2]	Stainless steel
LZI19-150A-00-20S	$05ava:	PDF	150 [6.0]	165.1 [6.50]	4-20 mA	1 [3.2]	Stainless steel
LZI19-200A-00-20S	$05avb:	PDF	200 [8.0]	215.9 [8.50]	4-20 mA	1 [3.2]	Stainless steel
LZI19-250A-00-20S	$05avc:	PDF	250 [10.0]	266.7 [10.50]	4-20 mA	1 [3.2]	Stainless steel
LZI19-300A-00-20S	$05avd:	PDF	300 [12.0]	317.5 [12.50]	4-20 mA	1 [3.2]	Stainless steel
LZI19-375A-00-20S	$05ave:	PDF	375 [15.0]	400.0 [15.75]	4-20 mA	1 [3.2]	Stainless steel

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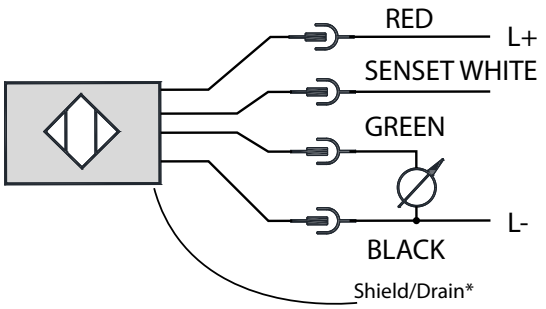
LZE19/LZI19 LVIT Inductive Linear Position Sensors

LZE19/LZI19 LVIT Inductive Linear Position Sensor Specifications	
Analog I/Os	0–10 VDC output; 12–30V input, 35 mA max 4 – 20 mA (3-wire) output; 18–30V input, 60 mA max. [75° C max]
Measuring Ranges	2.5 to 750 mm [0.100 to 30 in] full scale
Linearity Error	≤ ± 0.15% of Full Scale Output (FSO) typical, ±0.25% max
Resolution	0.025% of FS
Update Rate	300Hz nominal
Operating Temperature	Current output: -20 to +85°C; [-40 to +185°F]; Voltage output: -40 to 105°C [-40 to 221°F]
Temperature Coefficient	≤ ± 0.015% of FS/C
Vibration	5-20 Hz, 0.5 in peak-to-peak; 20-2000 Hz, 4.2 g peak-to-peak
Shock	1000g, 11ms
Terminations	IEC IP-67
Humidity	95% RH, non-condensing
Connection	1m [3.2 ft] cable, PUR, 28AWG
Mounting	M5 x 0.8 [mount for target rod]
Agency Approval *	CE

***To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.**

Wiring Diagram



*Shield not connected internally

Wiring Table	
I/O Function	***Cable Color***
+ Power Input	Red
Ground	Black
Analog Output	Green
SenSet™	White
Shield/Drain *	Shield

***Shield not connected internally**

GEFRAN
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GIB Inclination Sensors

Single/Dual Axis Entry-Level Tilt Sensors (Z/XY)

GIB-XY-015-V-2A

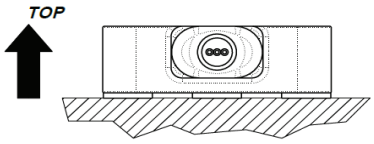
Overview

The entry- level tilt sensors offer a space-saving, high performance, and easy installation. Along with a high IP protection level, resistance to shock and vibration, and high electromagnetic compatibility, this product is suitable for mobile hydraulics applications, agricultural machines, construction machines and material handling equipment.

Features

- Voltage or current analog output
- 8 models available
- 2m axial cable
- IP67/IP69K rated
- PKIT312-1QJ Magnetic Pen included with Dual Axis GIB models
- 3-year warranty

GIB Inclination Sensors							
Part Number	*Price*	*Number of Axis*	*Measuring Range*	*Accuracy*	*Output*	*Connection*	*Drawing Link*
GIB-Z-360-V-2A	$05eb_:	1	+/- 180 degrees	+/-0.5 degrees	0-10 VDC	pigtail: 6.5ft/2m	PDF
GIB-Z-360-A-2A	$05eb#:	1	+/- 180 degrees	+/-0.5 degrees	4-20 mA	pigtail: 6.5ft/2m	PDF
GIB-XY-015-V-2A	$;05eb!:	2	+/- 15 degrees	+/-0.5 degrees	0-10 VDC	pigtail: 6.5ft/2m	PDF
GIB-XY-015-A-2A	$05eb?:		+/- 15 degrees	+/-0.5 degrees	4-20 mA	pigtail: 6.5ft/2m	PDF
GIB-XY-045-V-2A	$;05eb,:	2	+/- 45 degrees	+/-0.5 degrees	0-10 VDC	pigtail: 6.5ft/2m	PDF
GIB-XY-045-A-2A	$05ebx:	2	+/- 45 degrees	+/-0.5 degrees	4-20 mA	pigtail6.5ft/2m	PDF
GIB-XY-085-V-2A	$05eby:	2	+/- 85 degrees	+/-0.5 degrees	0-10 VDC	pigtail: 6.5ft/2m	PDF
GIB-XY-085-A-2A	$05ebz:	2	+/- 85 degrees	+/-0.5 degrees	4-20 mA	pigtail: 6.5ft/2m	PDF



ANALOG CONNECTIONS DUAL AXIS X-Y

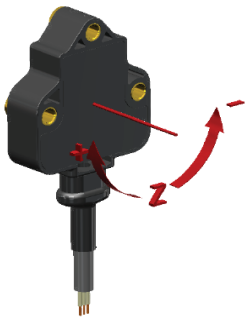
BLACK	GROUND
RED	+ SUPPLY
YELLOW	OUTPUT X
GREEN	OUTPUT Y
BLUE	n.c.
WHITE	n.c.

ANALOG CONNECTIONS SINGLE AXIS Z

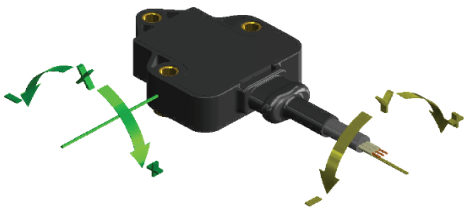
BLACK	GROUND
RED	+ SUPPLY
YELLOW	OUTPUT Z
GREEN	n.c.
BLUE	n.c.
WHITE	n.c.

ITEMS MARKED "n.c." MUST NOT BE CONNECTED

SINGLE AXIS



DUAL AXIS



GIB-XY Inclination Sensor Accessory

Accessory		
Part Number	*Price*	*Description*
PKIT312-1QJ	$5ec5:	Gefran magnetic pen, for use with Gefran GIB-XY inclination sensors.

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GIB Inclination Sensors

Specifications

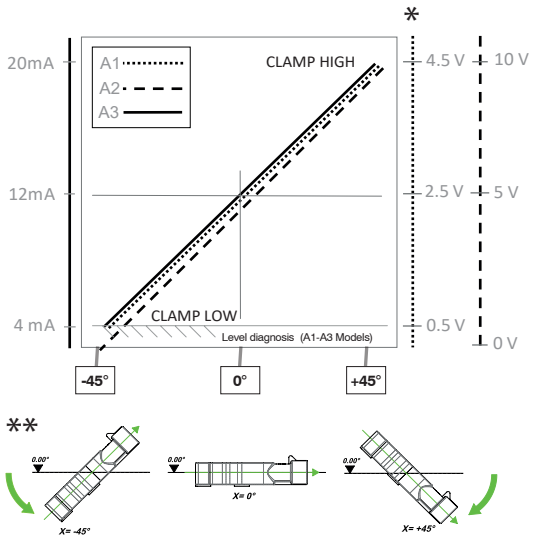
GIB Inclination Sensor Specifications	
Specification	
Measurement Range	±15° ±45° ±85° (single axis Z for analog output-dual axis XY) 360° (±180°) single axis Z only
Supply Voltage	+10 to +36 VDC
Output Signal	0-10 VDC; 4-20mA
Electrical Connections	PUR cable 22 AWG
Resolution	12 bit
Accuracy (Factory Verification @ 25 °C)	< ±0.5% FS
Response Time	~650 ms
Working Temperature	-40 to +85°C [-40 to 185°F]
Temperature Coefficient at 0-deg inclination	Typical < ±0.006 deg/°C
Long Term Repeatability	Single Axis: Typical <±0.5 deg in the range of ±180 deg Dual Axis: Typical <±0.5 deg in the range ≤ ±60 deg, ± deg otherwise
Vibrations	20g 10Hz to 2000Hz IEC 60068-2-6
Shock	Impulsive on 3 axis: 50g 11ms IEC 60068-2-27
Electromagnetic Compatibility	2014/30/EU Electromagnetic Compatibility (EMC)
IP Protection Level	IP67-IP69X
Housing Material	PBT [Polybutylene Terephthalate]
Autozero Function	Dual Axis models only
Agency Approval	CE

To obtain the latest agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

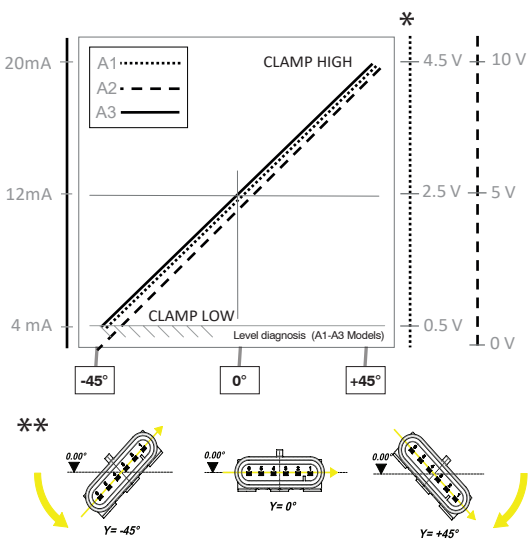
GIB Inclination Sensors

FUNCTIONS: SENSOR OUTPUT GRAPH

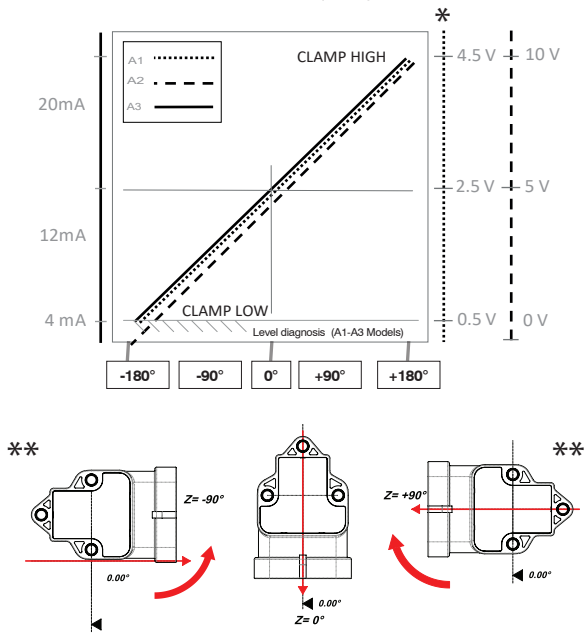
DUAL AXIS TILT SENSOR (XY) - X AXIS



DUAL AXIS TILT SENSOR (XY) - Y AXIS



SINGLE AXIS TILT SENSOR (±180°) - Z AXIS



LOAD CONDITIONS

* +0.5 VDC to +4.5 VDC output with power, +10 to 36 VDC and +0 to10 VDC output with power +11 to 36 VDC: load resistance> 100 kohm

* +0.5 VDC to +4.5 VDC output with power +5 VDC: load resistance > 100 kohm

+4 to 20mA output with power < 15 VDC up to 10 VDC: the maximum load resistance is admissible 200 ohm

+4 to 20mA output with power > 15 VDC up to 36 VDC: the maximum load resistance is admissible 500 ohm

* 0-5V models are not offered by AutomationDirect at this time.

** Rotation drawings shown with AMP Superseal 6P connections. AutomationDirect does not currently carry these models however, the cabled versions operate in the same fashion.

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GIG Inclination Sensors

Single/Dual Axis General Tilt Sensors (Z/XY)

Overview

High performance, high IP rating, resistance to shock and vibrations, and high electromagnetic compatibility make this sensor suitable for mobile hydraulic applications.

Developed to guarantee a robust, high-performance solution for applications such as agricultural vehicles, earth-moving machines, and hoisting equipment.

The GIG Inclination series offers two independent but redundant sensors and outputs to provide ultimate reliability.

Features

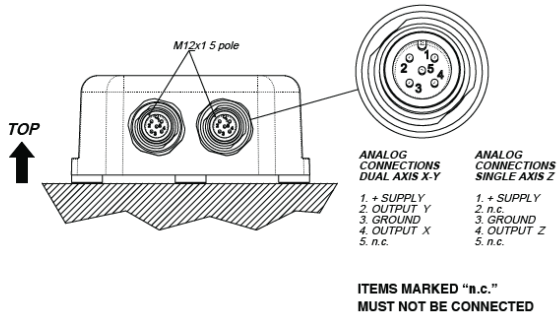
- Voltage or current analog output
- 8 models available
- M12 quick-disconnect model (purchase cable separately)
- IP67/IP69K rated
- 3-year warranty

GIG-XY-015-V-M12

3 YEAR WARRANTY

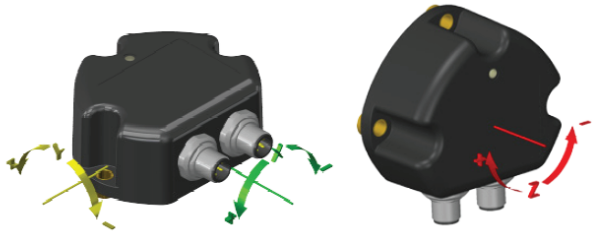
CE

GIG Inclination Sensors							
Part Number	*Price*	*Number of Axis*	*Measuring Range*	*Accuracy*	*Output*	*Connection*	*Drawing Link*
GIG-Z-360-V-M12	$;05eb]:	1	+/- 180 degrees	+/-0.5 degrees	redundant 0-10 VDC	(2) 5-pin M12 quick-disconnect	PDF
GIG-Z-360-A-M12	$;05eb[:	1	+/- 180 degrees	+/-0.5 degrees	redundant 4-20 mA	(2) 5-pin M12 quick-disconnect	PDF
GIG-XY-015-V-M12	$05ec0:	2	+/- 15 degrees	+/-0.5 degrees	redundant 0-10 VDC	(2) 5-pin M12 quick-disconnect	PDF
GIG-XY-015-A-M12	$05ec1:	2	+/- 15 degrees	+/-0.5 degrees	redundant 4-20 mA	(2) 5-pin M12 quick-disconnect	PDF
GIG-XY-045-V-M12	$05ec2:	2	+/- 45 degrees	+/-0.5 degrees	redundant 0-10 VDC	(2) 5-pin M12 quick-disconnect	PDF
GIG-XY-045-A-M12	$05ec3:	2	+/- 45 degrees	+/-0.5 degrees	redundant 4-20 mA	(2) 5-pin M12 quick-disconnect	PDF
GIG-XY-085-V-M12	$05ec4:	2	+/- 85 degrees	+/-0.5 degrees	redundant 0-10 VDC	(2) 5-pin M12 quick-disconnect	PDF
GIG-XY-085-A-M12	$05ec6:	2	+/- 85 degrees	+/-0.5 degrees	redundant 4-20 mA	(2) 5-pin M12 quick-disconnect	PDF



DUAL AXIS REDUNDANT CIRCUIT

SINGLE AXIS REDUNDANT CIRCUIT



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GIG Inclination Sensors

Specifications

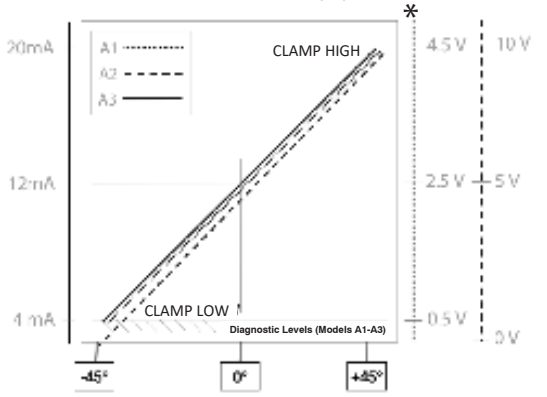
GIG Inclination Sensor Specifications	
Specification	
Measurement Range	±15° ±45° ±85° (single axis Z for analog output-dual axis XY) 360° (±180°) single axis Z only
Supply Voltage	+10 to +36 VDC
Output Signal	0-10 VDC; 4-20mA
Electrical Connections	(2) 5 Pole M12 Connector
Resolution	12 bit
Accuracy (Factory Verification @ 25°C)	< ±0.5% FS
Response Time	~650 ms
Working Temperature	-40 to +85°C [-40 to 185°F]
Temperature Coefficient at 0-deg inclination	Typical < ±0.006 deg/°C
Long Term Repeatability	Single Axis: Typical <±0.5 deg in the range of ±180 deg Dual Axis: Typical <±0.5 deg in the range ≤ ±60 deg, ± 2 deg otherwise
Vibrations	20g 10Hz to 2000Hz IEC 60068-2-6
Shock	Impulsive on 3 axis: 50g 11ms IEC 60068-2-27
Electromagnetic Compatibility	2014/30/EU Electromagnetic Compatibility (EMC)
IP Protection Level	IP67-IP69X
Housing Material	PBT [Polybutylene Terephthalate]
Agency Approval	CE

To obtain the latest agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

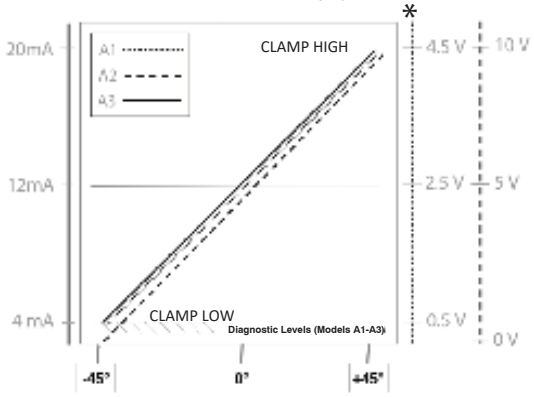
GIG Inclination Sensors

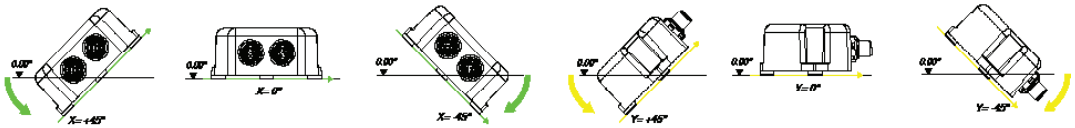
OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS

DUAL AXIS INCLINOMETER (XY) – X AXIS

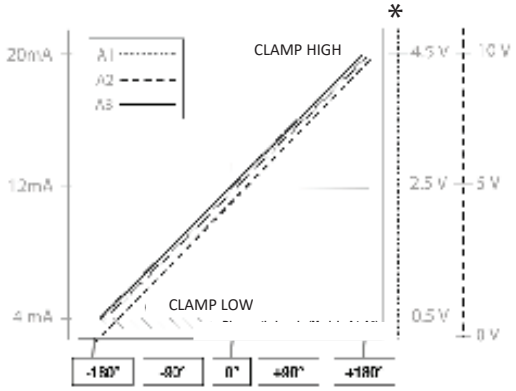


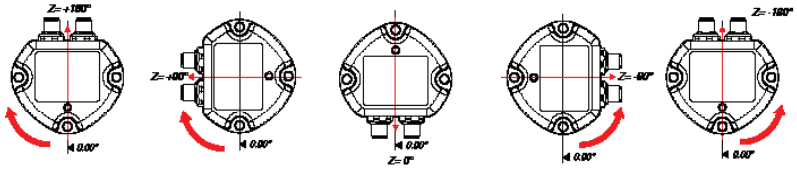
DUAL AXIS INCLINOMETER (XY) – Y AXIS





SINGLE AXIS INCLINOMETER (±180°) – Z AXIS





LOAD CONDITIONS

* +0.5 VDC to +4.5 VDC output with supply +10 to 36 VDC and +0 to 10 VDC output with supply +11 to 36 VDC: apply a load resistance > 100k ohm
* +0.5 VDC to +4.5 VDC output (with supply +5 VDC): apply a load resistance > 100k ohm
  4 to 20mA output (with supply < 15 VDC to 10 VDC): maximum allowed load resistance is 200 ohm
  4 to 20mA output (with supply > 15 VDC to 36 VDC): maximum allowed load resistance is 500 ohm

* 0-5V models are not offered by AutomationDirect at this time.