SR1E

Cable Actuated Sensor
Industrial • Incremental Encoder

Linear Position up to 175 inches (3 meters)

0-125, 0-175 inch Full Stroke Range Options

Designed for Outdoor & IP67 environments

In Stock for Quick Delivery!

175-inch model shown

6″ [152 mm]

4″ [100 mm]

4.75″ [120 mm]

The SR1E is rugged, low-cost, high performance string pot built to withstand wet environments and outdoor applications. Designed for construction equipment and factory use, the SR1E is the perfect low-cost solution for OEM and stocking distributors.

At the heart of this sensor is a robust incremental encoder that delivers a linear resolution of 101 pulses per inch. The SR1E ships with an industry standard push-pull encoder driver that can be powered by 5-30 VDC. (Other resolutions and complimentary channels are available, please consult factory). Each sensor ships with a 4-pin, field installable, M12 connector and an additional 13 ft. (4 m) cordset is also available. Just like the rest of our SR1 series, the SR1E is in stock for quick delivery.

Specifications

|	
Full Stroke Range, SR1E-125	125 inches (3175 mm)
Full Stroke Range, SR1E-175	175 inches (4445 mm)
Output Signal	incremental encoder
Resolution	101 ±2 pulses per inch
Accuracy	± .1% FS.
Repeatability	± .05% FS.
Input Voltage	5-30 VDC
Input Current	100 mA max., no load
Sensor	incremental encoder
Output Driver Type	push-pull (note: Vin = Vout)
Output Driver Current	20 mA max., source/sink
Maximum Velocity	80 inches (2 meters) per second
Maximum Acceleration	10 g (retraction)
Measuring Cable Tension	23 oz. (6,4 N) ±30%
Enclosure	polycarbonate
Measuring Cable	.034-inch dia. nylon-coated stainless
Electrical Connection	M12 Connector (mating plug included)
Environmental Suitability	NEMA 6, IP67
Operating Temperature	-4° to 185° F (-20° to 85° C)
Weight	2.5 lbs. (1.3 Kg)

Output Signal

*channel A*

channel B

$V_{out} = V_{in}$ V_{out} 0
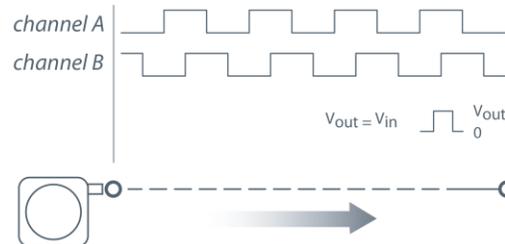
Consult factory for alternate resolution and differential output signals.

Electrical Connection

Field Installable Connector

contact view
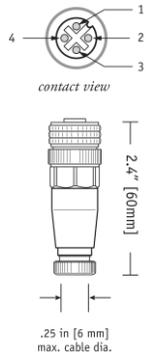
pin	signal
1	5...30 VDC
2	common
3	channel A
4	channel B

2.4" [60mm]

.25 in [6 mm]
max. cable dia.

Cord Set Connections

contact view
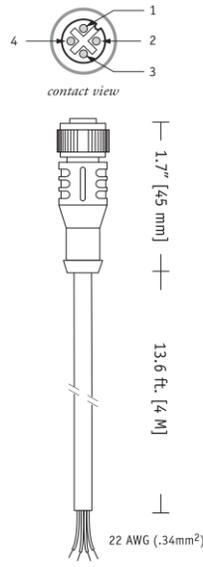
pin	conductor	signal
1	brown	5...30 VDC
2	white	common
3	blue	channel A
4	black	channel B

1.7" [45 mm]

13.6 ft [4 M]

22 AWG (.34mm^2)

cable specifications	
length:	13 ft. (4m)
wire size:	22 AWG (.34mm^2)
cable material:	PVC
cable color:	gray

Cable Exit Direction Options

see fig. 1

see fig. 3
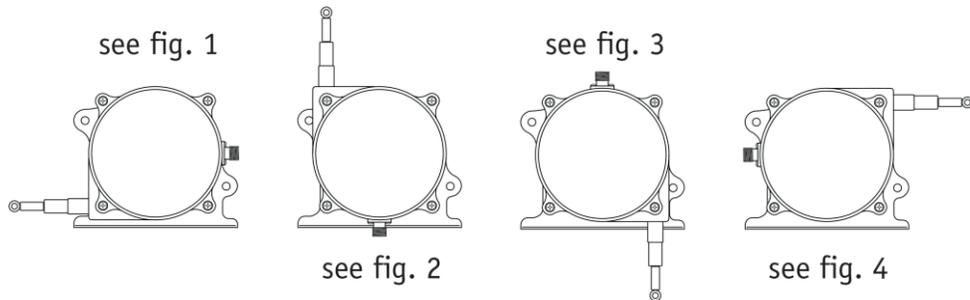
see fig. 2

see fig. 4

Changing the Cable Exit

Changing Measuring Cable Exit

To change the direction of the measuring cable, remove the 4 mounting bracket screws and rotate bracket to one of four available positions. See figures 1 - 4 on the following pages for mounting dimensions.

Changing Electrical Connector Direction

To change the position of the electrical connector, remove the 4 rear cover screws and carefully separate rear cover from the sensor body.

Rotate the rear cover to desired position being careful to not tangle the wiring harness that runs to the connector.


Measuring Cable

Rear Cover

Mounting Bracket

Electrical Connector
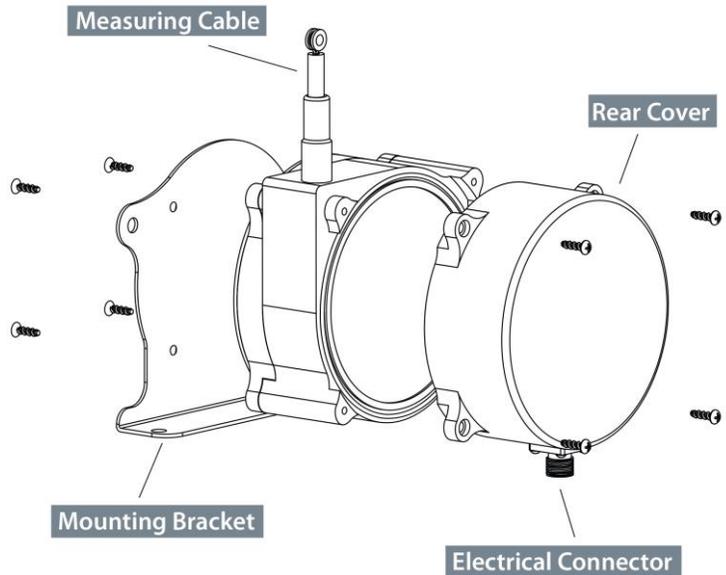
Fig. 1 - Outline Drawing (as shipped)

Model	A	B
125-inch	2.00 ±.13 [50,8 ±3,3]	2.37 ±.13 [60,22 ±3,3]
175-inch	2.87 ±.13 [72,8 ±3,2]	3.24 ±.13 [82.2 ±3,2]

Cable Guide Detail

Eyelet Detail

Ø.191 [4,85]*
Ø.375 [9,52]**

units are in **inches [mm]**   tolerances are ± .04 [1,0] unless otherwise noted

* tolerance = +.005 –.001 [+.13 –.03]
** tolerance = +.005 –.005 [+.13 –.13]
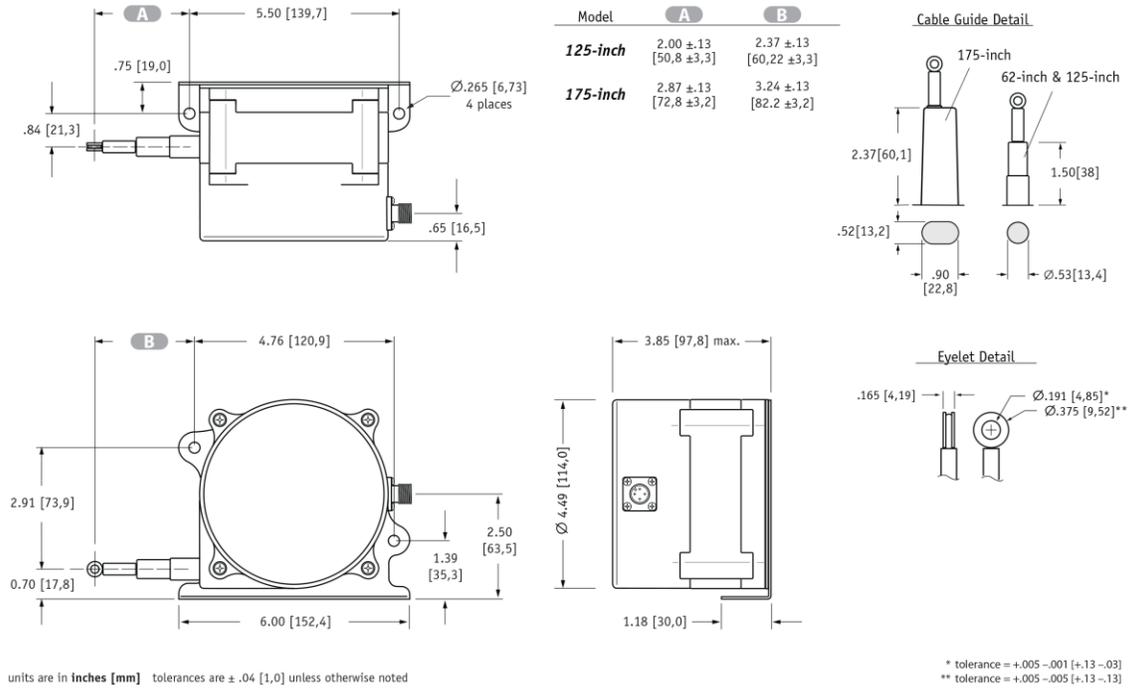
Fig. 2 - "Up" Cable Exit Direction

Model	A
125-inch	3.64 ±.13 [92,5 ±3,3]
175-inch	4.54 ±.13 [115,3 ±3,3]
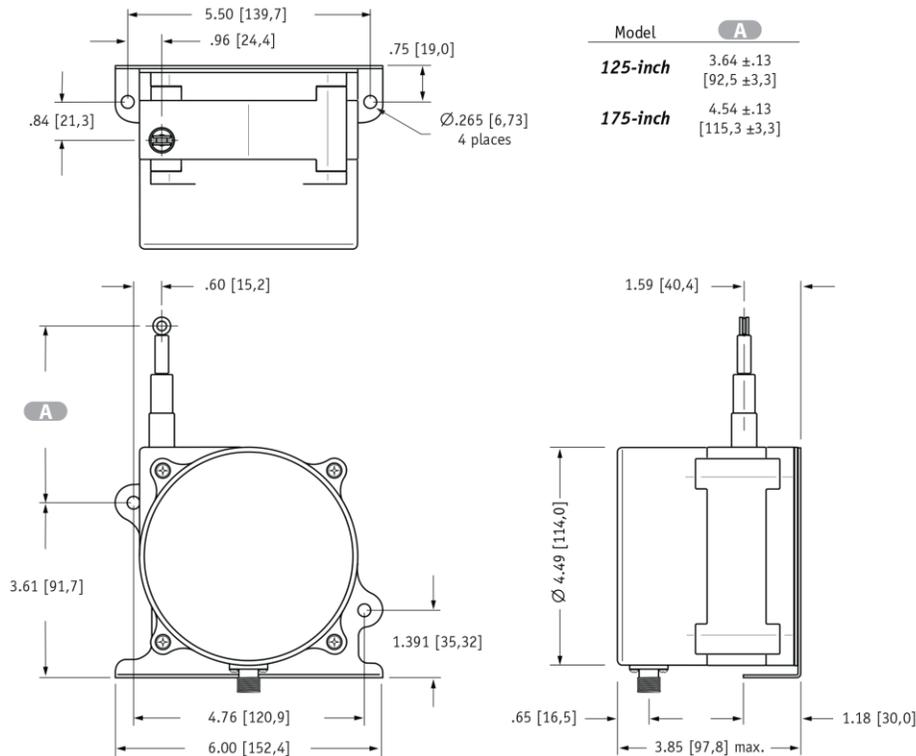
Fig. 3 - "Down" Cable Exit Direction

Model	A
125-inch	2.25 ±.13 [57,2 ±3,3]
175-inch	3.17 ±.13 [80,5 ±3,3]

5.50 [139,7]
.95 [24,1]
.75 [19,0]
.84 [21,3]
Ø.265 [6,73] 4 places

bottom cable exit location

4.76 [120,9]
3.61 [91,7]
1.39 [35,3]
A
.58 [14,7]

3.85 [97,8] max.
.65 [16,5]
Ø 4.49 [114,0]
1.18 [30,0]
1.59 [40,4]
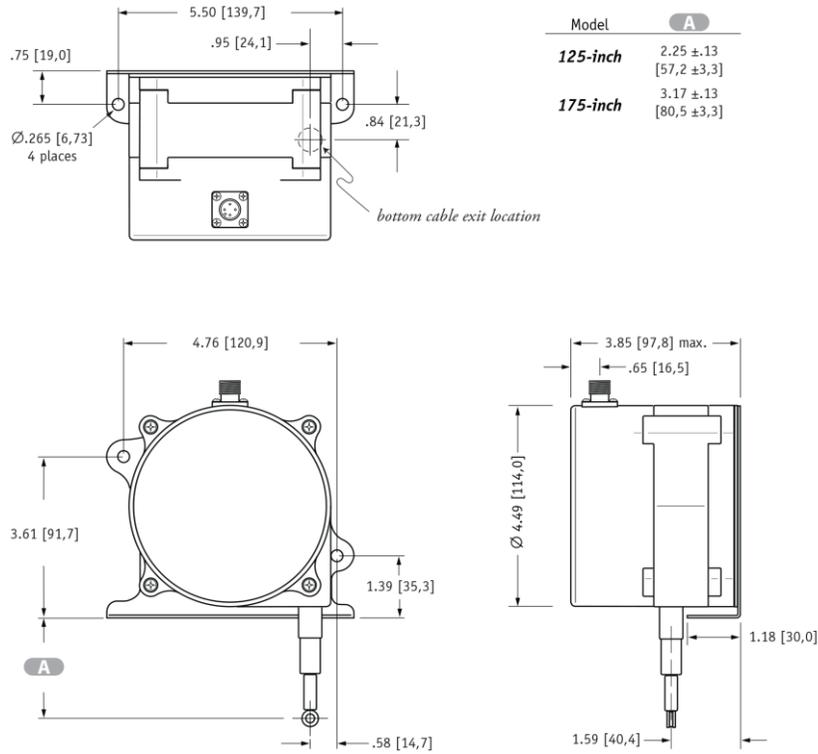
Fig. 4 - "Rear" Cable Exit Direction
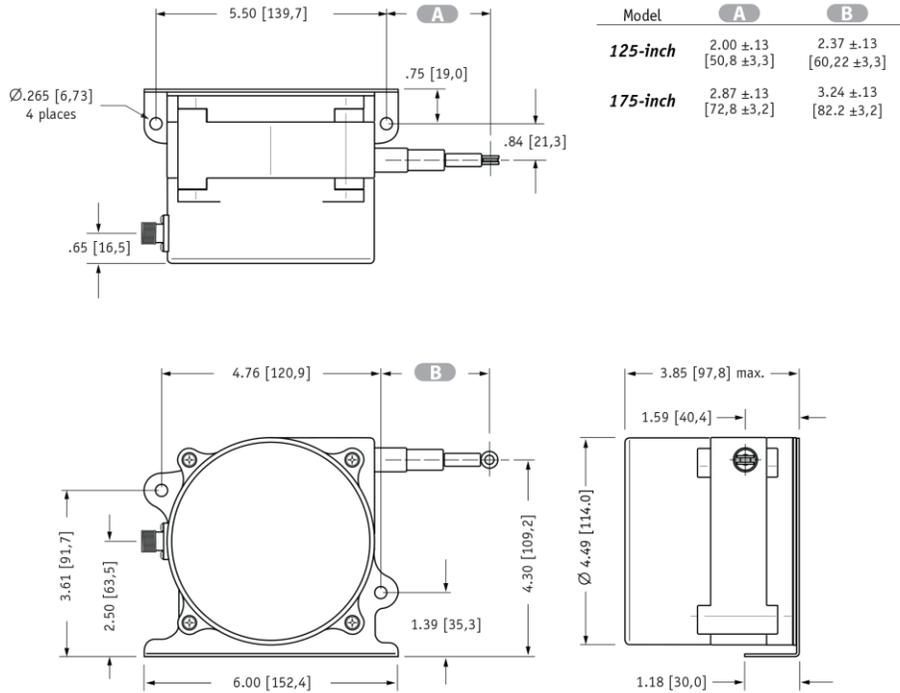
Model	A	B
125-inch	2.00 ±.13 [50,8 ±3,3]	2.37 ±.13 [60,22 ±3,3]
175-inch	2.87 ±.13 [72,8 ±3,2]	3.24 ±.13 [82.2 ±3,2]

5.50 [139,7]
A
.75 [19,0]
.84 [21,3]
Ø.265 [6,73] 4 places
.65 [16,5]

4.76 [120,9]
B
3.61 [91,7]
2.50 [63,5]
1.39 [35,3]
6.00 [152,4]

3.85 [97,8] max.
1.59 [40,4]
4.30 [109,2]
Ø 4.49 [114,0]
1.18 [30,0]

units are in **inches [mm]**   tolerances are ± .04 [1,0] unless otherwise noted

Ordering Information
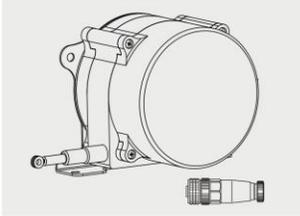
Order No.

SR1E-125

125-inch stroke range, incremental encoder output, 4-pin M12 mating plug & mounting bracket included.
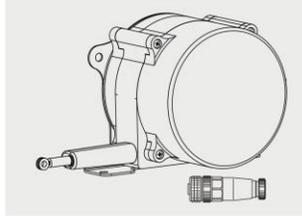
Order No.

SR1E-175

175-inch stroke range, incremental encoder output, 4-pin M12 mating plug & mounting bracket included.
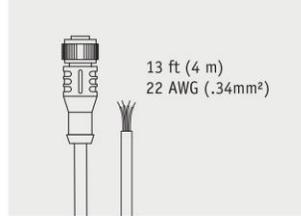
Order No.

9036810-0040

for short-run connections, optional 13-ft cordset with 4-pin M12 mating plug.

13 ft (4 m)
22 AWG (.34mm²)

NORTH AMERICA

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