

# SG1

## Cable Actuated Sensor Voltage Divider Output Signal

**Compact Mid-Range String Pot | Absolute Position**  
**80, 120-inch Stroke Range Options**  
**Polycarbonate Enclosure | IP67**

### Specifications

<b>Stroke Range options</b>	80 inches (2032 mm), 120 inches (3048 mm)
<b>Output Signal</b>	Voltage divider (potentiometric)
<b>Accuracy</b>	.35% FS
<b>Repeatability</b>	.05% FS
<b>Resolution</b>	Essentially infinite
<b>Measuring Cable</b>	.019-inch dia. nylon-coated stainless steel
<b>Maximum Acceleration</b>	10 g
<b>Measuring Cable Tension</b>	9 oz. (2,5 N) ±30%
<b>Sensor</b>	Plastic-hybrid precision potentiometer
<b>Input Resistance</b>	10K ohms, ±10%
<b>Power Rating, Watts</b>	2.0 at 70°F
<b>Recommended Maximum Input Voltage</b>	30 V (AC/DC)
<b>Output Signal Change Over Full Stroke Range</b>	94% ±4% of V(+in)
<b>Cycle Life</b>	≥250,000
<b>Electrical Connection</b>	see ordering information
<b>Enclosure</b>	glass-filled polycarbonate
<b>Environmental</b>	IP 50, IP67 (M12 connector & pigtail options)
<b>Operating Temperature</b>	-40° to 160° F (-40° to 70° C)
<b>Weight, 80-inch (not including bracket)</b>	.6 lbs. (272 g)
<b>Weight, 120-inch (not including bracket)</b>	1 lb. (453 g)

The SG1 provides absolute linear position up to a 10-ft. stroke range. Constructed with a rugged polycarbonate body, this model is available in an 80-inch or 120-inch stroke range and offers optional IP67 protection for wet or outdoor installations and an M12 connector for easy installation.

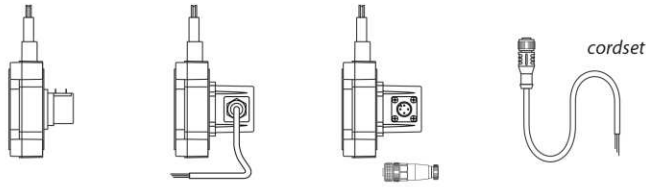
The SG1 uses a precision high-cycle plastic hybrid potentiometer and an extremely durable spring-loaded stainless steel measuring cable to provide an accurate reliable position feedback signal over the entire stroke. With its slim design and versatile mounting bracket, the SG1 has been designed to fit into small spaces. For the OEM customer, custom mounting hardware and electrical connections are available.



# SG1

## Voltage Divider Output Signal

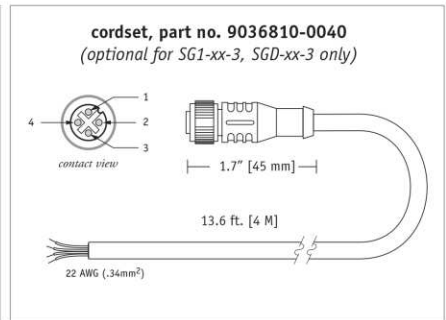
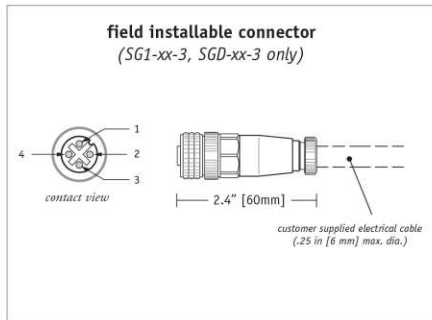
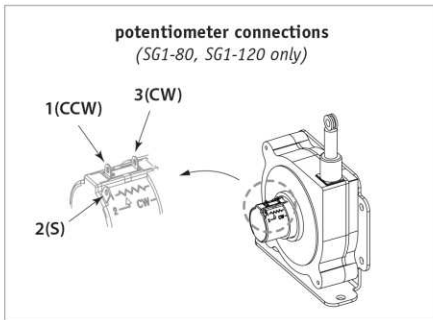
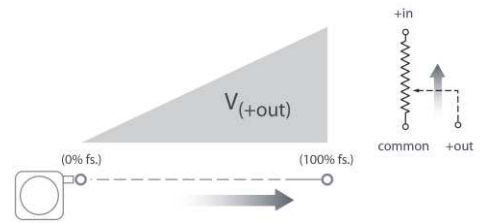
### Electrical Connection



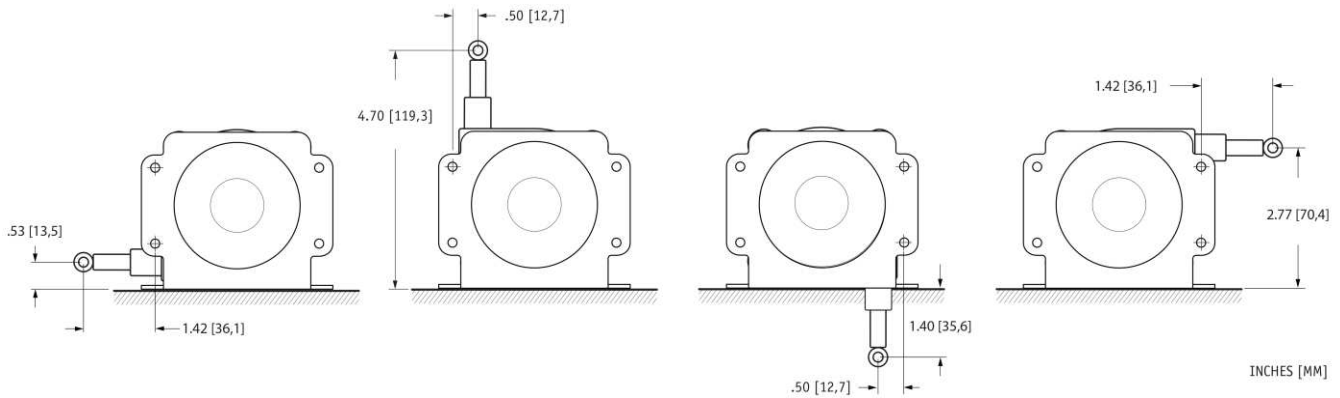
signals	terminal	colorcode	pin*	pin - colorcode*
<b>+in</b>	3 (cw)	red	1	1 - brown
<b>common</b>	1 (ccw)	black	2	2 - white
<b>+out</b>	2 (s)	green	3	3 - blue

\*note: connector pin 4 and the black wire on the cordset are NOT used.

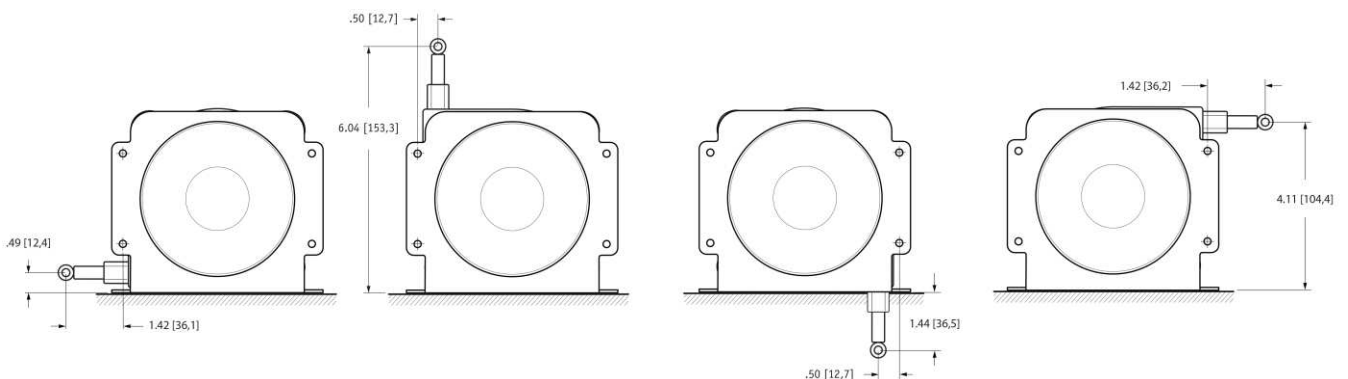
### Output Signal



### Mounting Options (SG1-80, SG1-80-2, SG1-80-3):



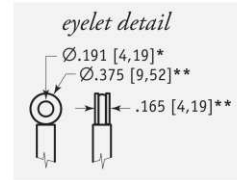
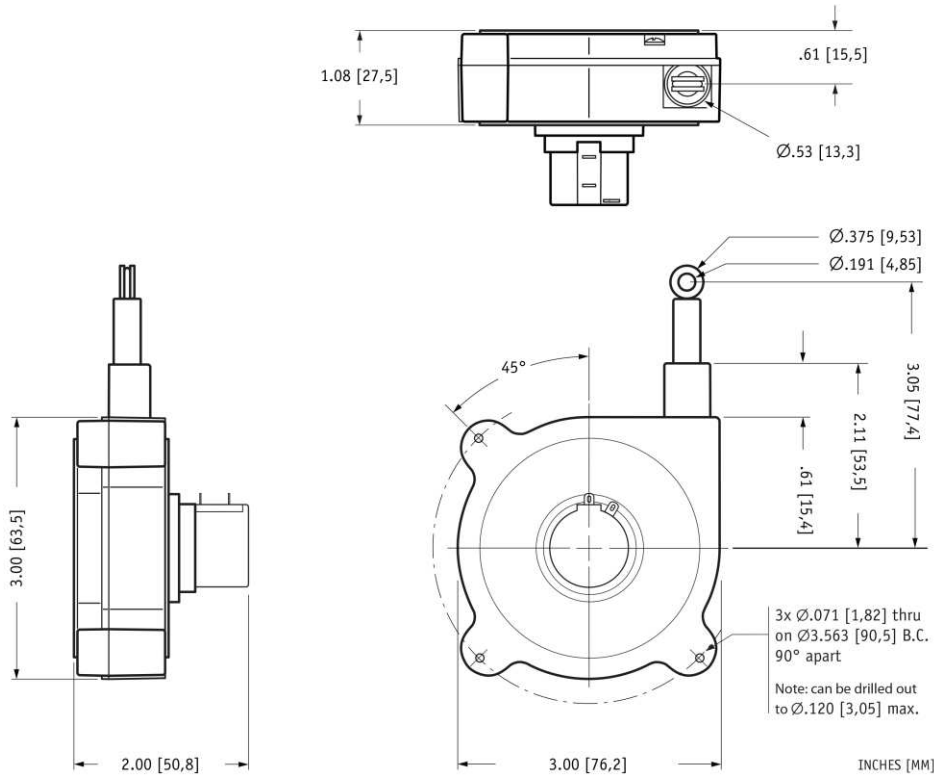
### Mounting Options (SG1-120, SG1-120-2, SG1-120-3):



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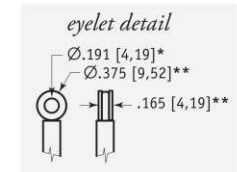
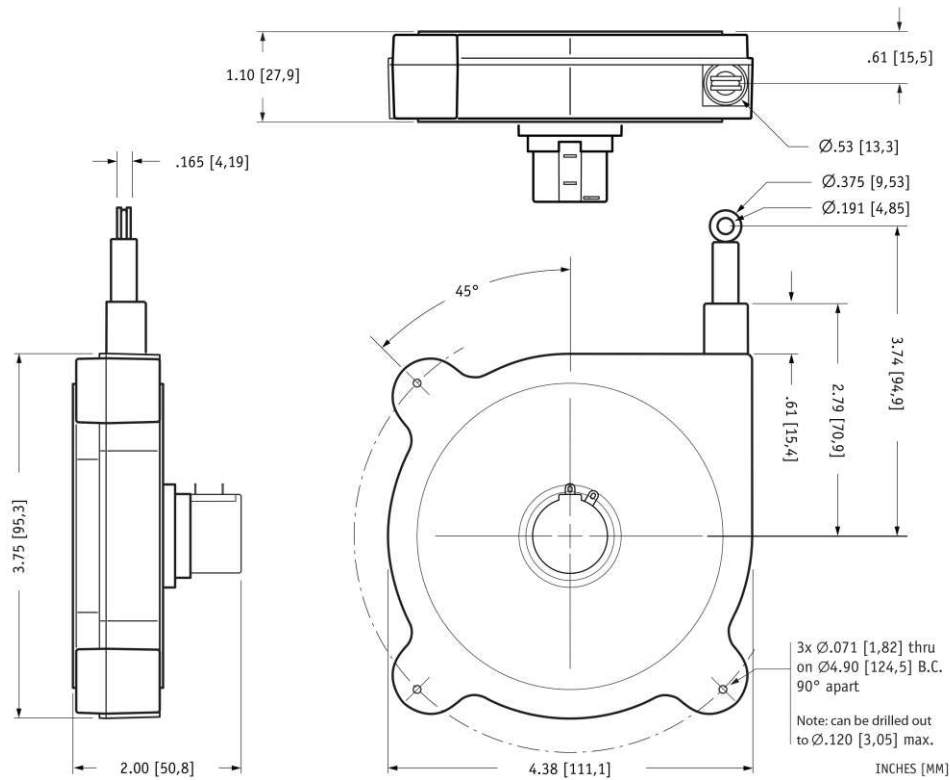
Voltage Divider Output Signal

## SG1-80 w/o Mounting Bracket:



\*tolerance = +.005 -.001 [+13 -.03]  
\*\*tolerance = +.005 -.005 [+13 -.13]

## SG1-120 w/o Mounting Bracket:

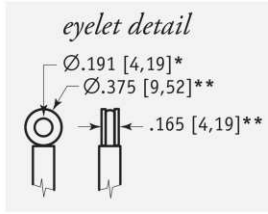


\*tolerance = +.005 -.001 [+13 -.03]  
\*\*tolerance = +.005 -.005 [+13 -.13]

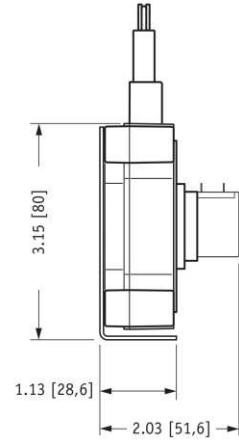
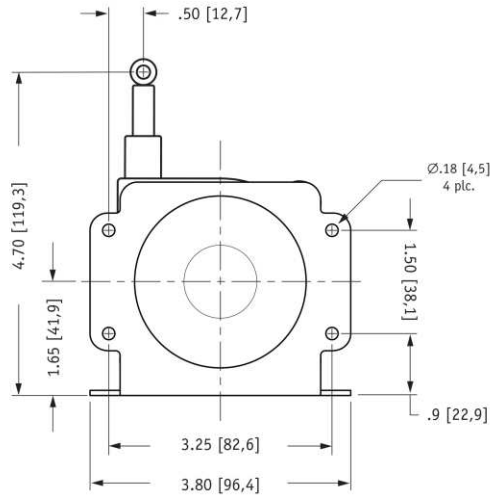
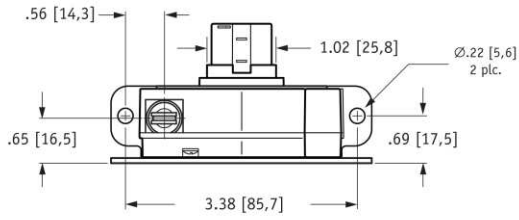
# SG1

Voltage Divider Output Signal

## SG1-80 w/ Mounting Bracket:

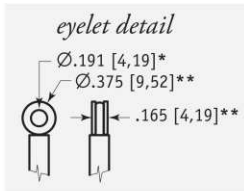


\*tolerance = +.005 -.001 [+0.13 -.03]  
\*\*tolerance = +.005 -.005 [+0.13 -.13]

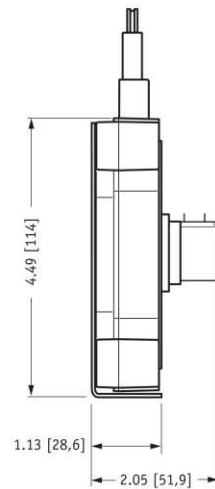
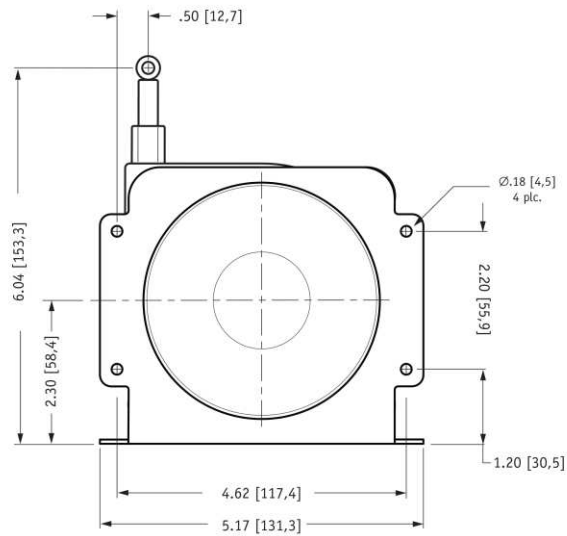
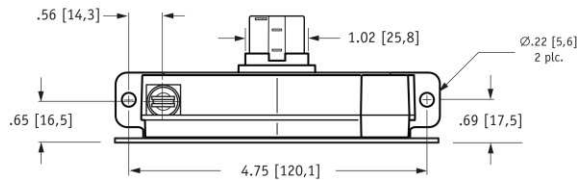


INCHES [MM]

## SG1-120 w/ Mounting Bracket:



\*tolerance = +.005 -.001 [+0.13 -.03]  
\*\*tolerance = +.005 -.005 [+0.13 -.13]

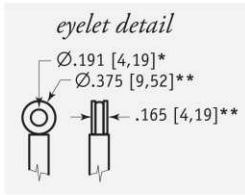


INCHES [MM]

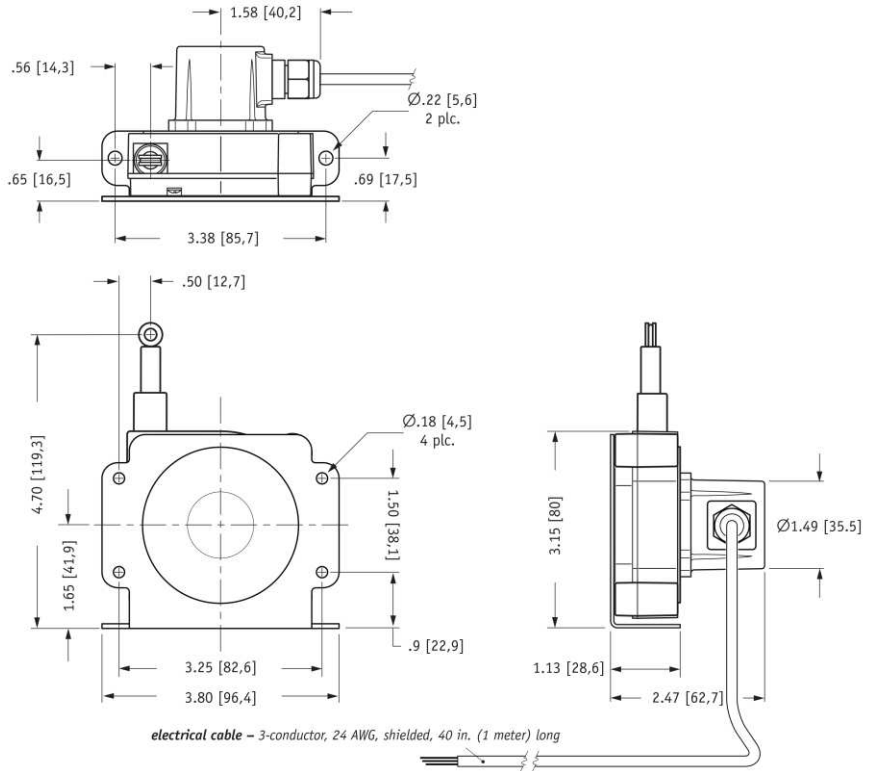
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Voltage Divider Output Signal

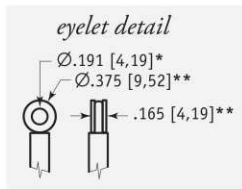
## SG1-80-2 w/ Mounting Bracket:



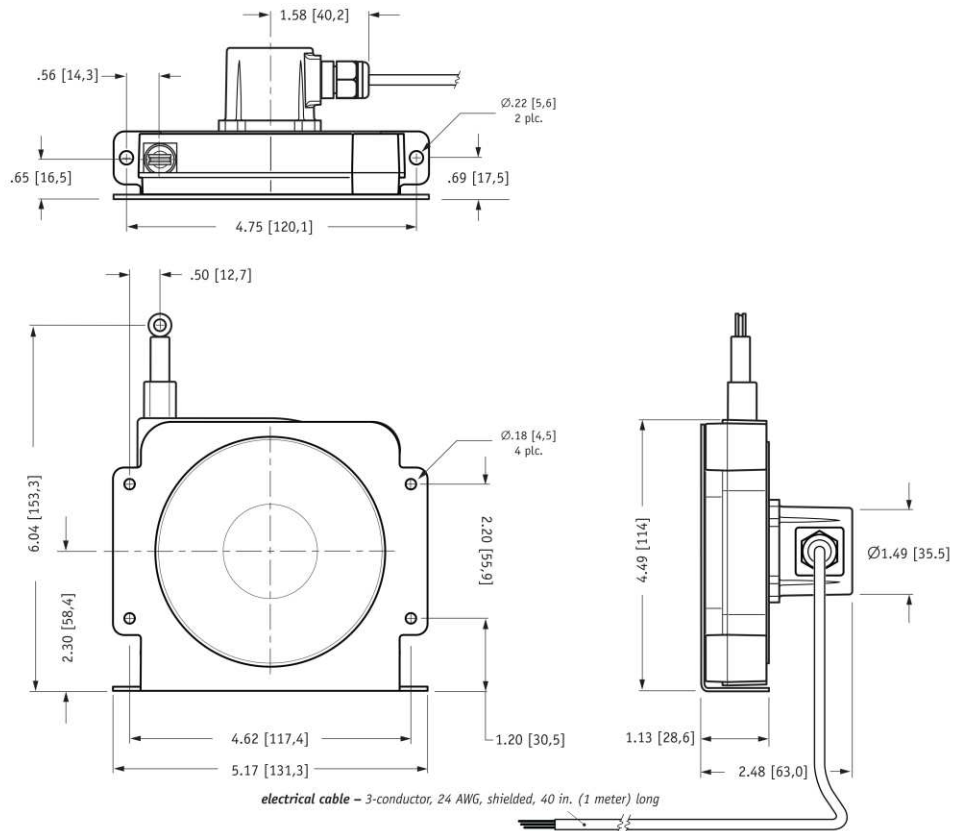
\*tolerance = +.005 -.001 [+13 -.03]  
 \*\*tolerance = +.005 -.005 [+13 -.13]



## SG1-120-2 w/ Mounting Bracket:



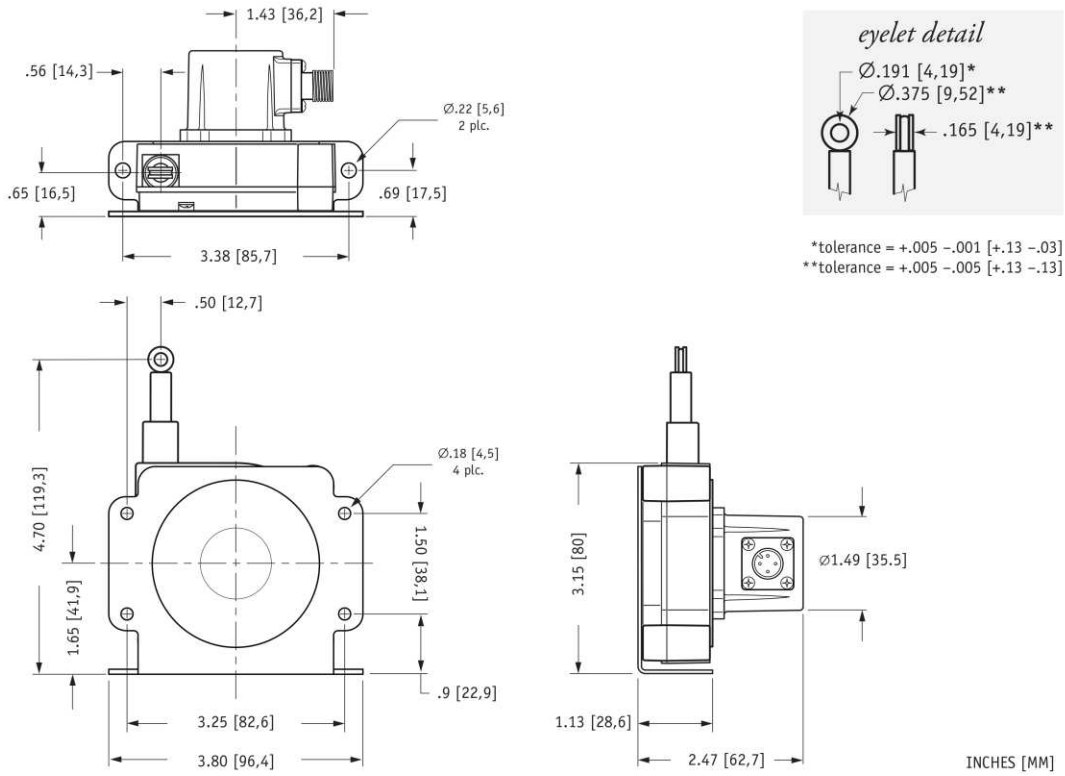
\*tolerance = +.005 -.001 [+13 -.03]  
 \*\*tolerance = +.005 -.005 [+13 -.13]



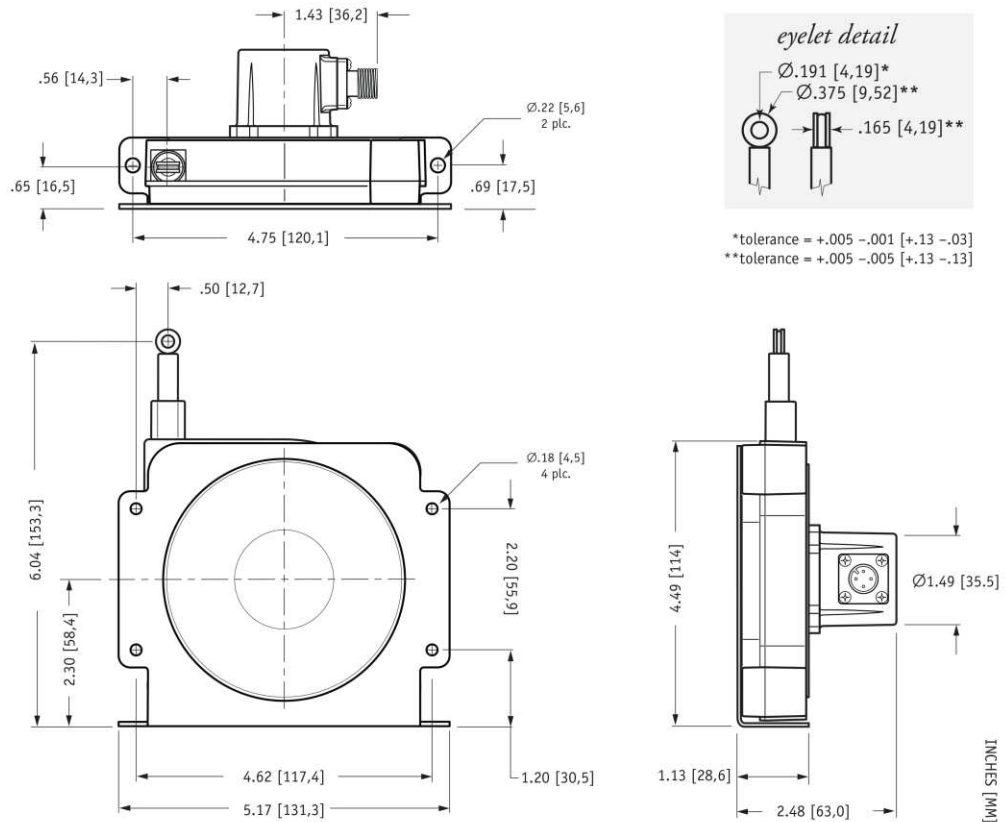
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## SG1-80-3 w/ Mounting Bracket:



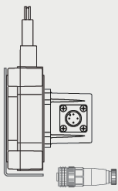
## SG1-120-3 w/ Mounting Bracket:



## SG1

### Voltage Divider Output Signal

#### Ordering Information

	Part No. <b>SG1-80</b> 80-inch stroke range, solder terminal connection, IP50 environments, mounting bracket included	Part No. <b>SG1-120</b> 120-inch stroke range, solder terminal connection, IP50 environments, mounting bracket included
	Part No. <b>SG1-80-2</b> 80-inch stroke range, 40-inch electrical cable, IP67 environments, mounting bracket included	Part No. <b>SG1-120-2</b> 120-inch stroke range, 40-inch electrical cable, IP67 environments, mounting bracket included
	Part No. <b>SG1-80-3</b> 80-inch stroke range, M12 connector, IP67 environments, mounting bracket included	Part No. <b>SG1-120-3</b> 120-inch stroke range, M12 connector, IP67 environments, mounting bracket included
 4-pin M12 connector 13 ft (4 m) 22 AWG (.34mm <sup>2</sup> )	<b>Optional Cordset</b> for short-run connections, a convenient optional 13-ft. cordset with a 4-pin M12 connector is available for the SG1-80-3 and SG1-120-3.	Part No. <b>9036810-0040</b>

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