

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

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

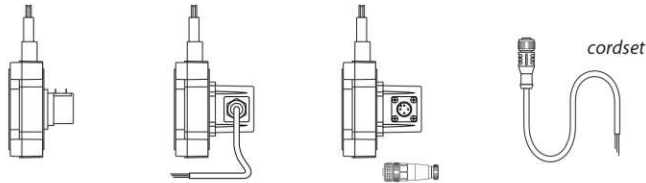
The SG1 uses a precision high-cycle plastic hybrid potentiometer and an extremely durable spring-loaded stainless steel measuring cable to provide an accurate reliable position feedback signal over the entire stroke. With its slim design and versatile mounting bracket, the SG1 has been designed to fit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



SG1

Voltage Divider Output Signal

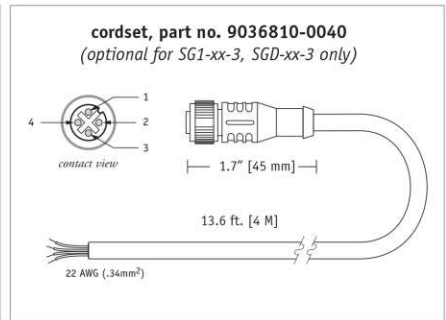
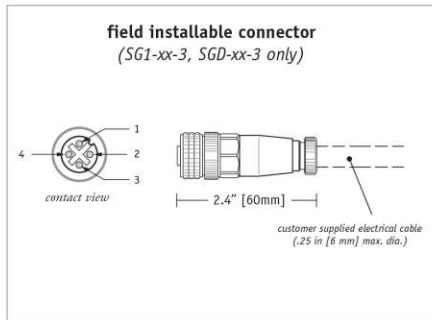
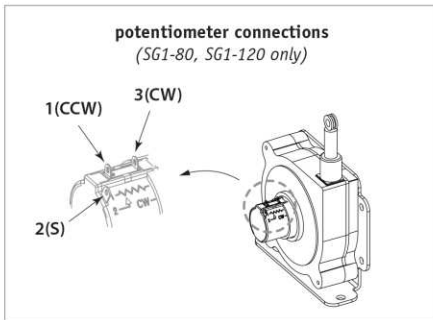
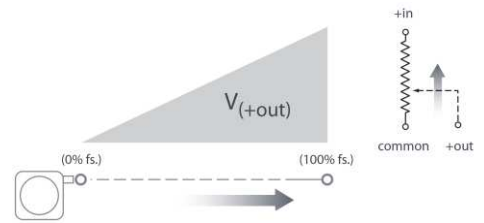
Electrical Connection



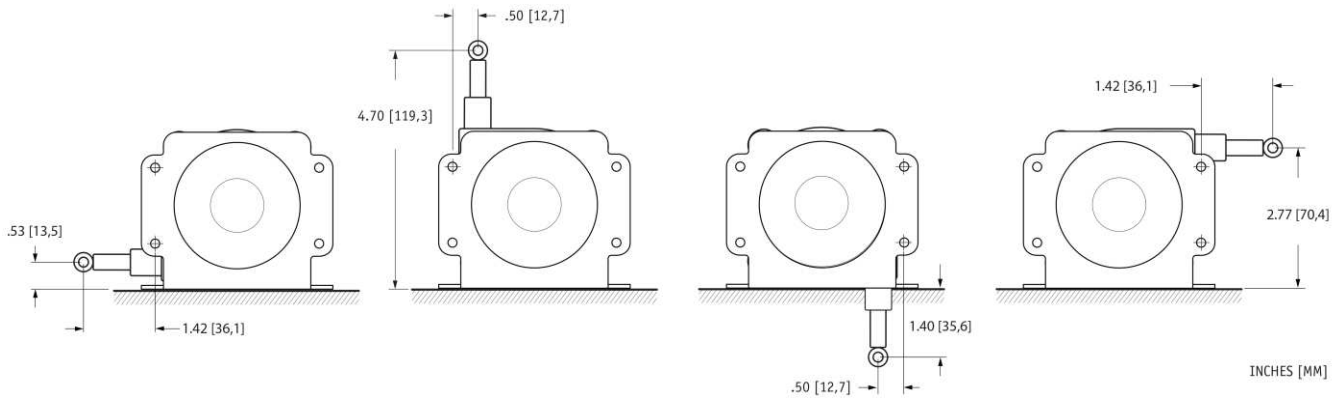
signals	terminal	colorcode	pin*	pin - colorcode*
+in	3 (cw)	red	1	1 - brown
common	1 (ccw)	black	2	2 - white
+out	2 (s)	green	3	3 - blue

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

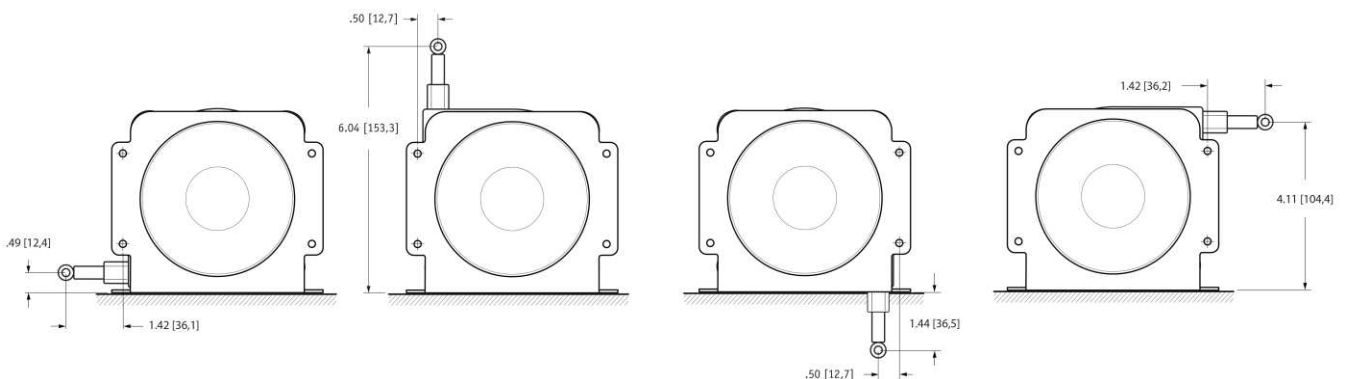
Output Signal



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



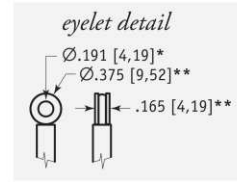
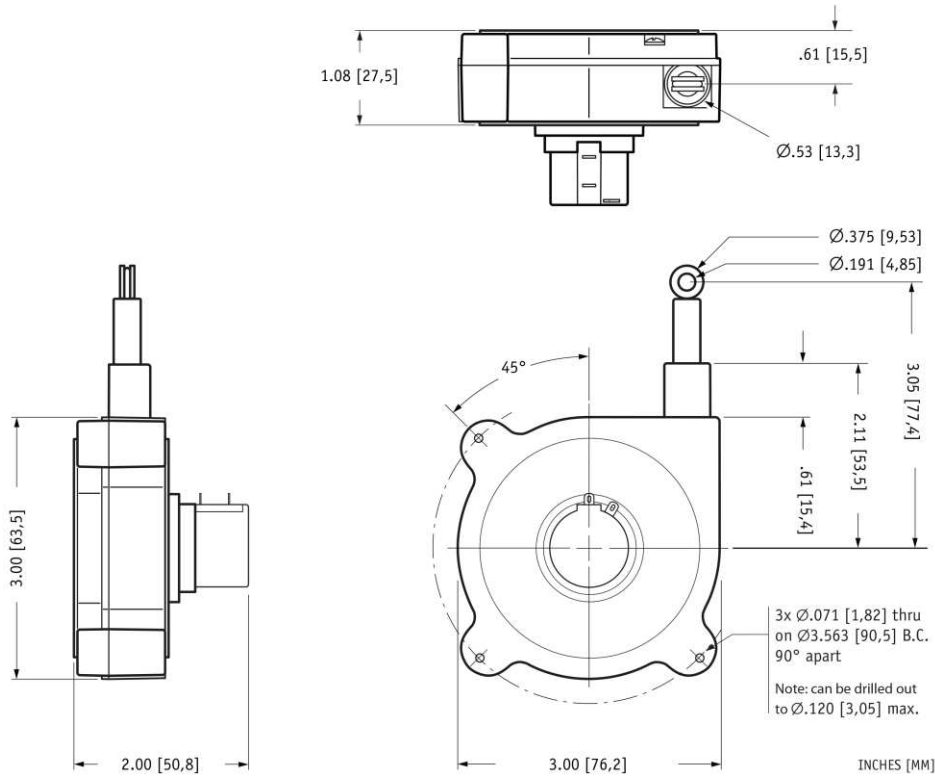
Mounting Options (SG1-120, SG1-120-2, SG1-120-3):



SG1

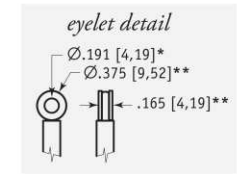
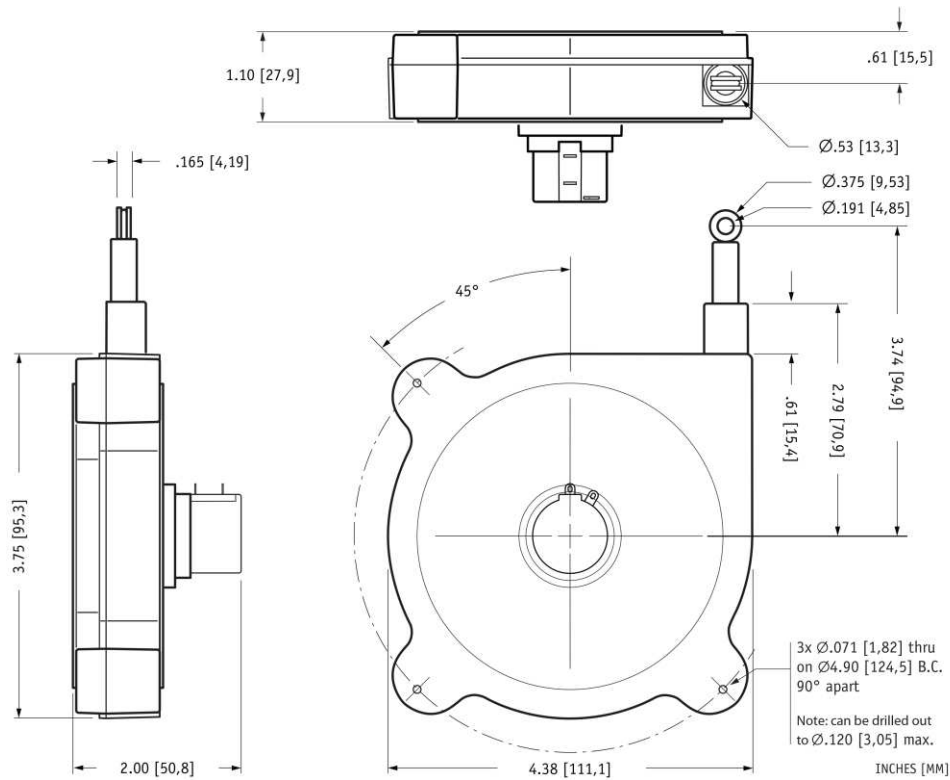
Voltage Divider Output Signal

SG1-80 w/o Mounting Bracket:



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

SG1-120 w/o Mounting Bracket:

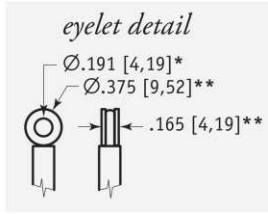


*tolerance = +.005 -.001 [+13 -.03]
**tolerance = +.005 -.005 [+13 -.13]

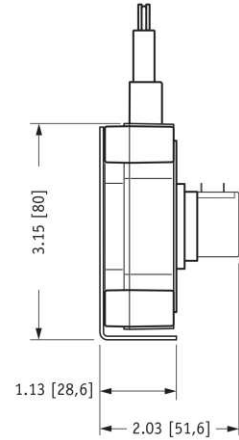
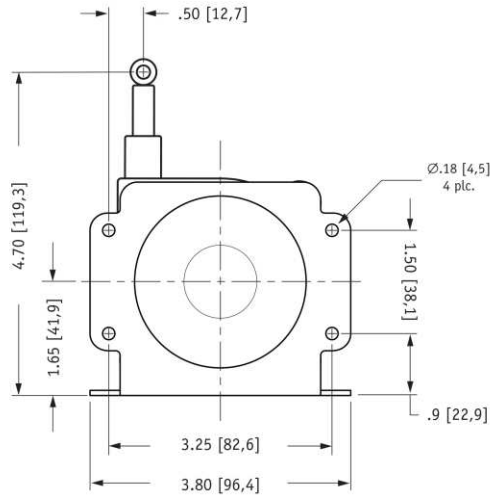
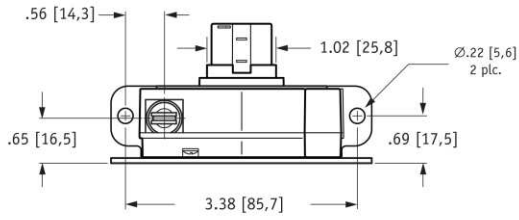
SG1

Voltage Divider Output Signal

SG1-80 w/ Mounting Bracket:

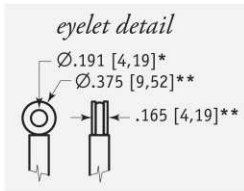


*tolerance = +.005 -.001 [+0.13 -.03]
**tolerance = +.005 -.005 [+0.13 -.13]

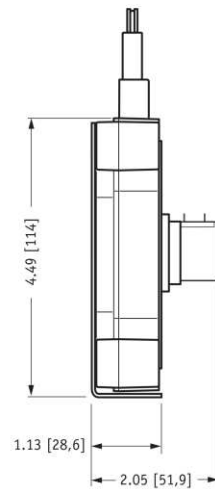
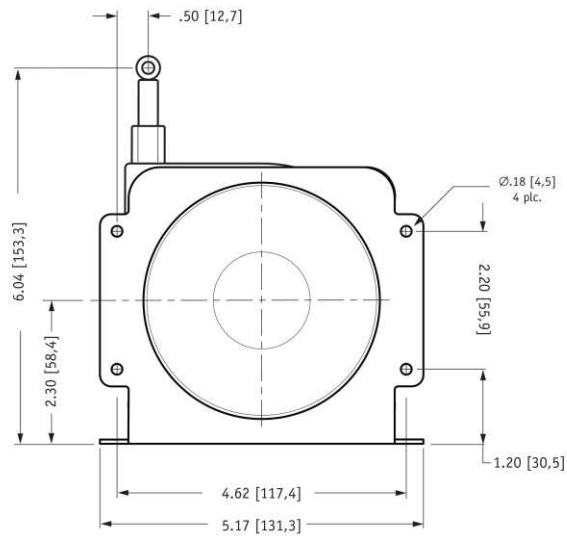
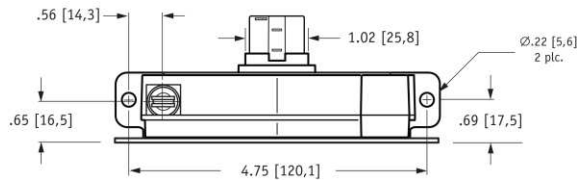


INCHES [MM]

SG1-120 w/ Mounting Bracket:



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

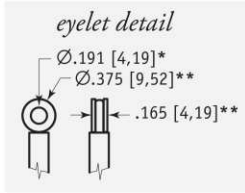


INCHES [MM]

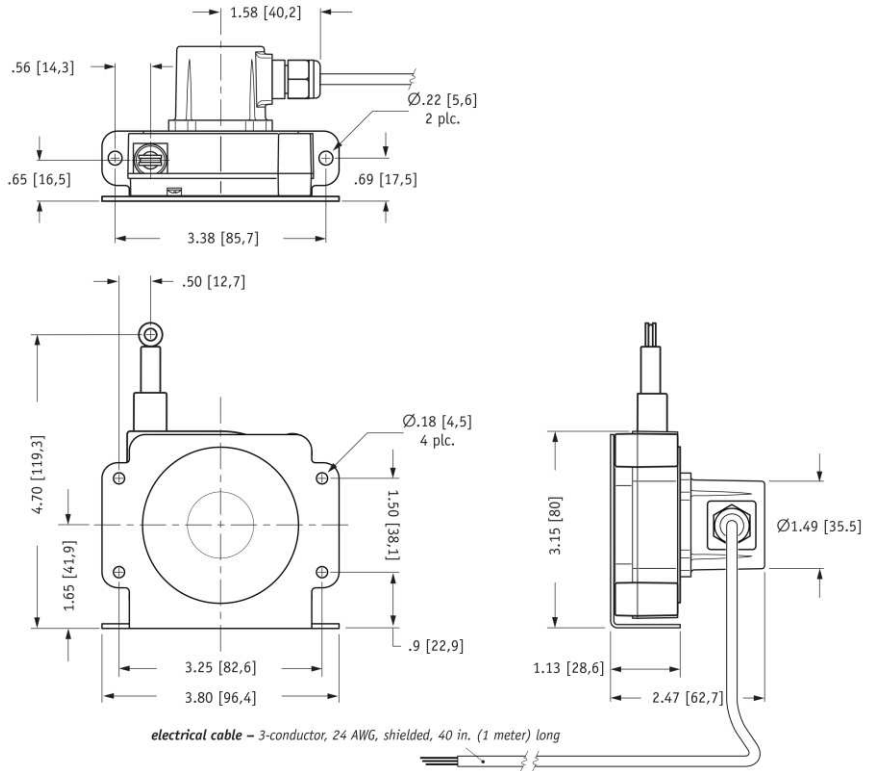
SG1

Voltage Divider Output Signal

SG1-80-2 w/ Mounting Bracket:

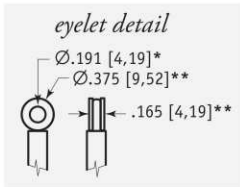


*tolerance = +.005 -.001 [+13 -.03]
**tolerance = +.005 -.005 [+13 -.13]

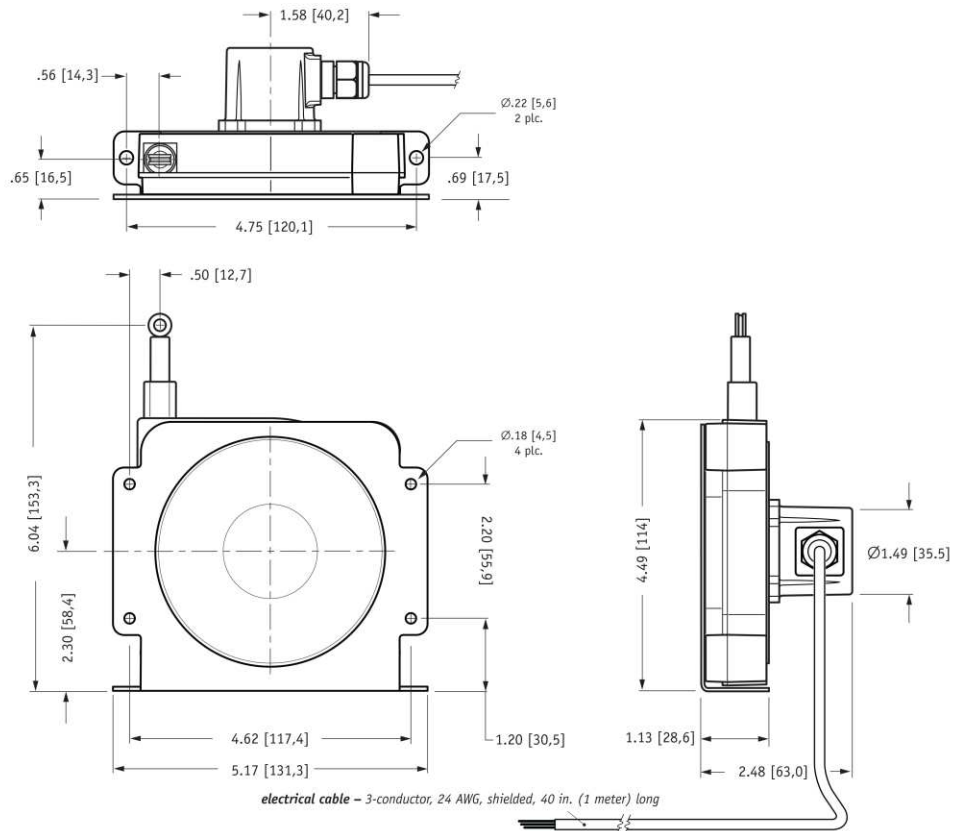


INCHES [MM]

SG1-120-2 w/ Mounting Bracket:



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

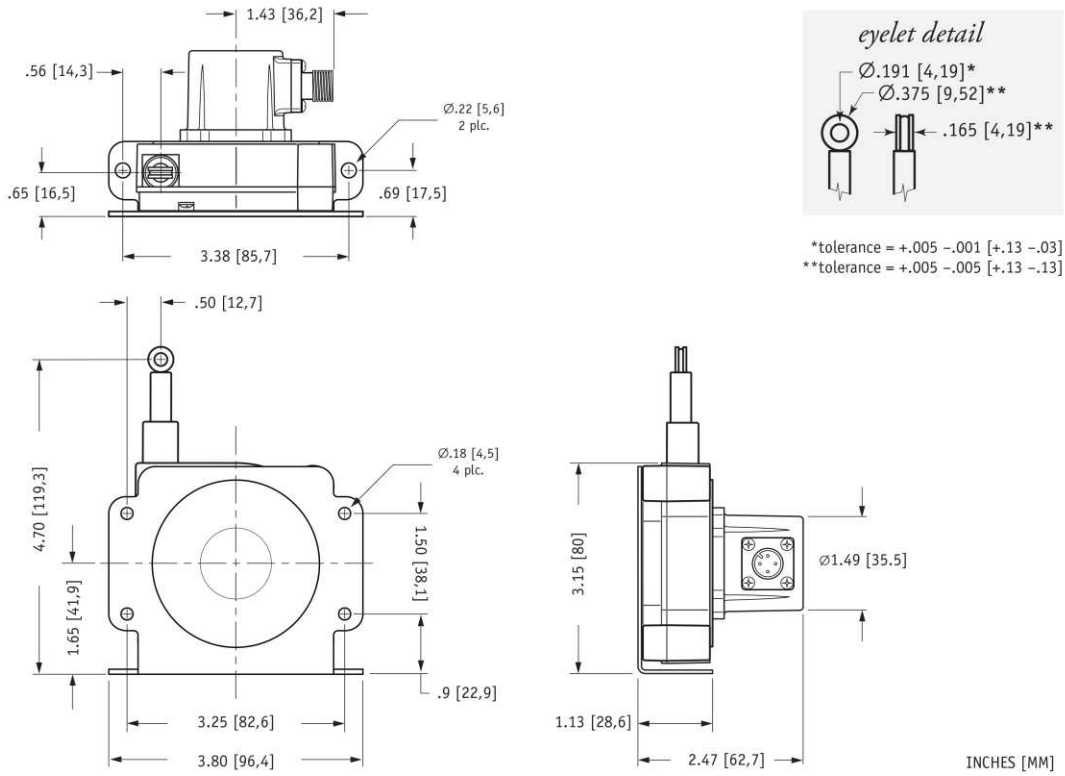


INCHES [MM]

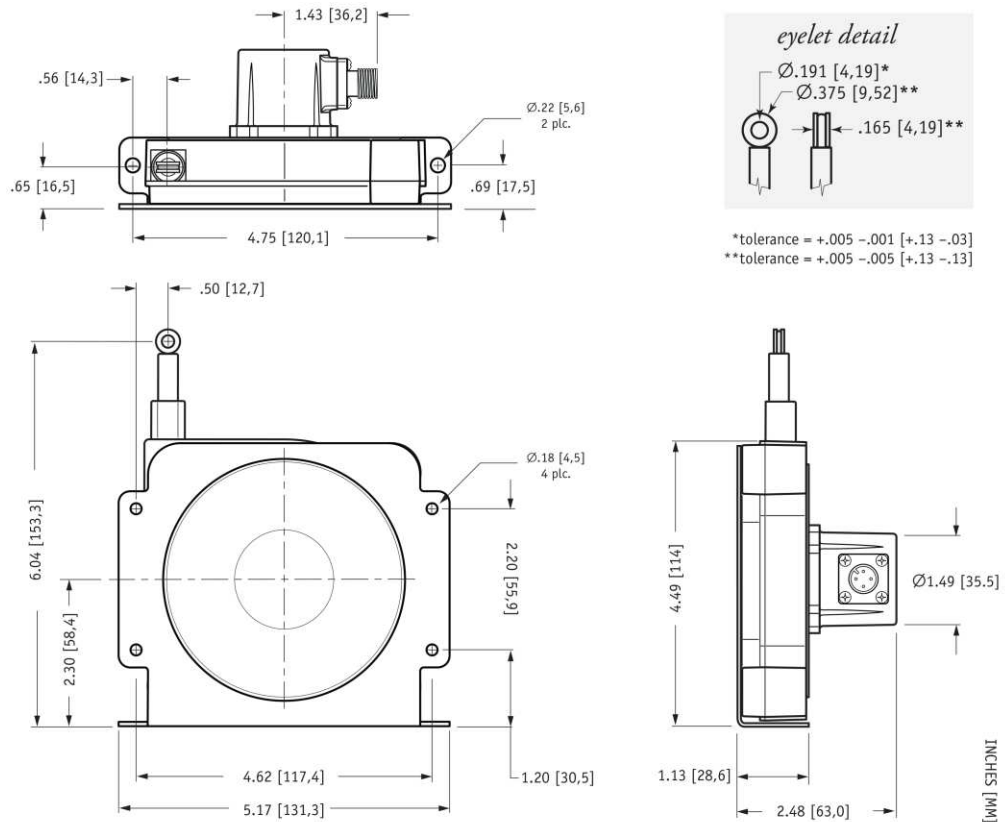
SG1

Voltage Divider Output Signal

SG1-80-3 w/ Mounting Bracket:



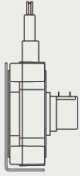

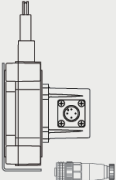

SG1-120-3 w/ Mounting Bracket:



SG1

Voltage Divider Output Signal

Ordering Information

	Part No. SG1-80 80-inch stroke range, solder terminal connection, IP50 environments, mounting bracket included	Part No. SG1-120 120-inch stroke range, solder terminal connection, IP50 environments, mounting bracket included
	Part No. SG1-80-2 80-inch stroke range, 40-inch electrical cable, IP67 environments, mounting bracket included	Part No. SG1-120-2 120-inch stroke range, 40-inch electrical cable, IP67 environments, mounting bracket included
	Part No. SG1-80-3 80-inch stroke range, M12 connector, IP67 environments, mounting bracket included	Part No. SG1-120-3 120-inch stroke range, M12 connector, IP67 environments, mounting bracket included
 4-pin M12 connector 13 ft (4 m) 22 AWG (.34mm ²)	Optional Cordset 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. 9036810-0040

[CLICK HERE >](#)
CONNECT WITH A SPECIALIST

NORTH AMERICA
Tel +1 800 522 6752

EUROPE
Tel +31 73 624 6999

ASIA
Tel +86 0400 820 6015

te.com/sensors

TE Connectivity, TE, TE Connectivity (logo) and Every Connection Counts are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2021 TE Connectivity Corporation. All Rights Reserved.

Version # 08/2023

