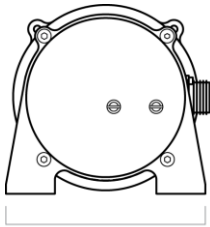
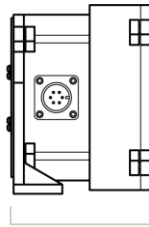




CE



5.4" [137 mm]



3.7" [95 mm]

# IT9101

## Inclinometer • Voltage Divider

**Measuring Range Options from 0-105° to 0-240°**  
**Aluminum or Stainless Steel Enclosure Options**  
**Perfect for Water Management/ Tainter Gate Position**  
**IP68 • NEMA 6 Protection**

### General

<b>Available Full Stroke Ranges</b>	0-105 to 0-240 degrees
<b>Enclosure Material Options</b>	powder-painted aluminum or stainless steel
<b>Sensor</b>	plastic-hybrid precision potentiometer
<b>Electrical Connector</b>	MS3102E-14S-6P
<b>Mating Plug (included)</b>	MS3106E-14S-6S
<b>Weight, Aluminum (Stainless Steel) Enclosure</b>	5 lbs. (10 lbs.) max.

### Electrical

<b>Output Signal</b>	voltage divider (potentiometer)
<b>Input Resistance</b>	1000 $\Omega$ ( $\pm 10\%$ )
<b>Recommended Maximum Input Voltage</b>	30 V (AC/DC)
<b>Full Scale Output Signal Change (Vdc)</b>	92% $\pm$ 6% of input voltage

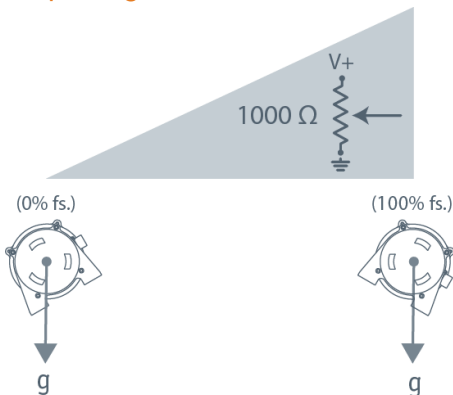
### Environmental

<b>Enclosure</b>	NEMA 4/4X/6, IP 67/68
<b>Operating Temperature</b>	-30° to 200°F (-34° to 90°C)
<b>Vibration</b>	up to 10 g to 2000 Hz maximum

The model IT9101 is a rugged and simple device which provides a voltage divider feedback signal for incline position up to 240 degrees. The heart of the IT9101 is a magnetically-damped pendulum coupled to a conductive plastic precision potentiometer.

A highly linear relationship between inclination and the output signal is maintained over the full range of the IT9101.

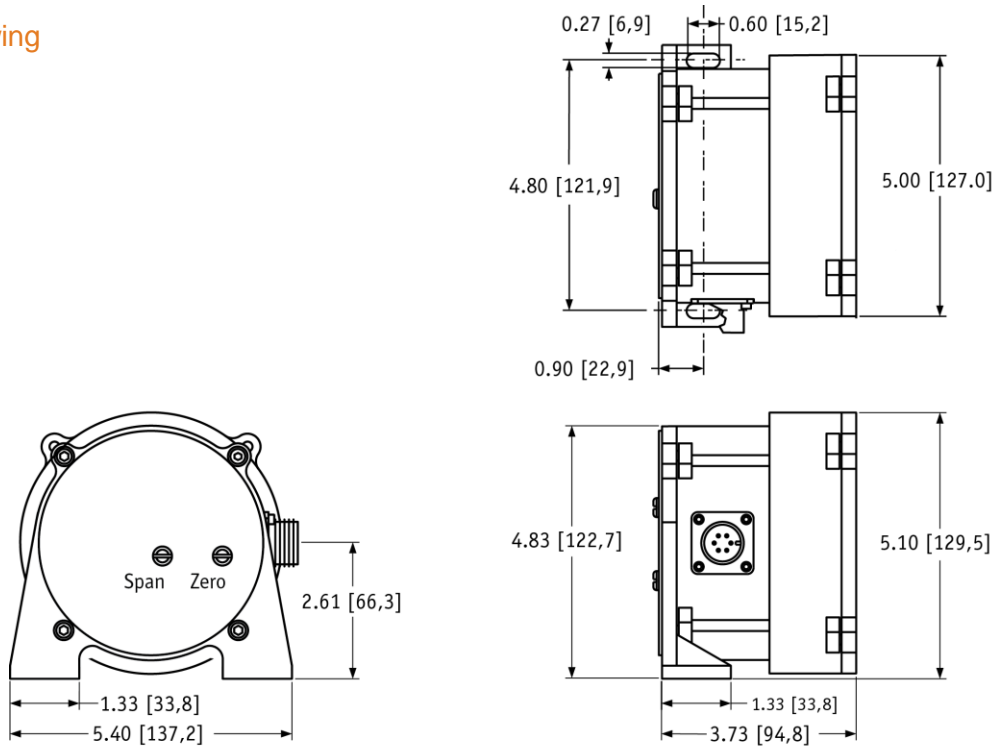
### Output Signal



# IT9101

Inclinometer • Voltage Divider

## Outline Drawing



DIMENSIONS ARE IN INCHES [MM]  
tolerances are ±0.02 in. [±0,5 mm] unless otherwise noted

## Ordering Information

Model Number:

**IT9101** -      -      -      -      **1** -      -      -     

*order code:*            **CW**            **CCW**            **A**    **B**    **C**    **D**

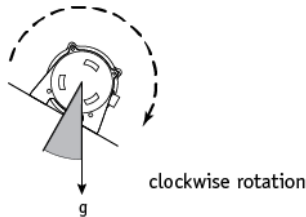
Sample Model Number:

**IT9101 - 060 - 120 - 1110**

- |            |                             |                         |                         |
|------------|-----------------------------|-------------------------|-------------------------|
| <b>CW</b>  | clockwise rotation:         | 60°                     | } total rotation = 180° |
| <b>CCW</b> | counter-clockwise rotation: | 120°                    |                         |
| <b>A</b>   | enclosure:                  | aluminum                |                         |
| <b>C</b>   | electrical connection:      | 6-pin plastic connector |                         |
| <b>D</b>   | magnetic dampening:         | yes                     |                         |

Full Clockwise Rotation:

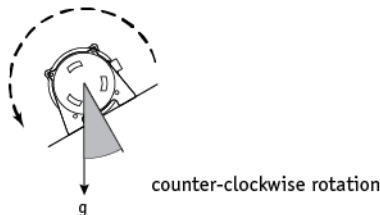
<b>CW</b>	<i>order code:</i>	<b>000</b>	<b>015</b>	<b>030</b>	<b>045</b>	<b>060</b>	<b>075</b>	<b>090</b>	<b>105</b>	<b>120</b>
		0°	15°	30°	45°	60°	75°	90°	105°	120°



**Important--**  
the sum of the Clockwise and Counter-Clockwise Rotations must be in the range of 105° to 240°

Full Counter-Clockwise Rotation:

<b>CCW</b>	<i>order code:</i>	<b>000</b>	<b>015</b>	<b>030</b>	<b>045</b>	<b>060</b>	<b>075</b>	<b>090</b>	<b>105</b>	<b>120</b>
		0°	15°	30°	45°	60°	75°	90°	105°	120°



**Important--**  
the sum of the Clockwise and Counter-Clockwise Rotations must be in the range of 105° to 240°

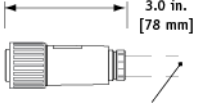
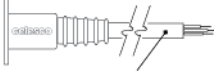

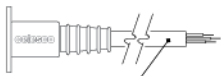
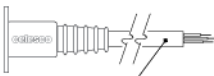
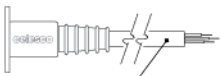

# IT9101

Inclinometer • Voltage Divider

## Enclosure Material

<b>A</b> <i>order code:</i>	<b>1</b> powder-painted aluminum	<b>2</b> 303 stainless steel
-----------------------------	-------------------------------------	---------------------------------

## Electrical Connection:

<b>C</b> <i>order code:</i>	<b>1</b> 6-pin plastic connector w/mating plug <b>IP 67, NEMA 4X**, 6</b>  1/2 - 5/16" [14 - 8 mm] cable dia. 16 AWG max conductor size connector: MS3102E-14S-6P mating plug: MS3106E-14S-6S	<b>2</b> 10-ft. [3 M] waterproof cable <b>IP 67, NEMA 4X**, 6</b>  10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTOW	<b>4</b> 25-ft. [7.5 M] instrumentation cable <b>IP 67, NEMA 6</b>  25 ft. x 0.2-in. dia. [7.5 M x 5 mm dia.] 24 AWG, shielded																												
<b>C</b> <i>order code:</i>	<b>5</b> 100-ft. [30 M] waterproof cable <b>IP 67, NEMA 4X**, 6</b>  100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTOW	<b>6</b> 10-ft. [3 M] <b>pressure tested*</b> waterproof cable <b>IP 68, NEMA 4X**, 6P</b>  10 ft. x 0.4-in. dia. [3 M x 10 mm dia.] 18 AWG, type SJTOW	<b>7</b> 100-ft. [30 M] <b>pressure tested*</b> waterproof cable <b>IP 68, NEMA 4X**, 6P</b>  100 ft. x 0.4-in. dia. [30 M x 10 mm dia.] 18 AWG, type SJTOW																												
	<b>6-pin Mating Plug</b> <table border="1"> <tr> <th>pin</th> <th>signal</th> </tr> <tr> <td>A</td> <td>+ in</td> </tr> <tr> <td>B</td> <td>common</td> </tr> <tr> <td>C</td> <td>+ out</td> </tr> <tr> <td>D</td> <td>-</td> </tr> </table>  <i>contact view</i>	pin	signal	A	+ in	B	common	C	+ out	D	-	<b>Waterproof Cable</b> <table border="1"> <tr> <th>color code</th> <th>signal</th> </tr> <tr> <td>WHITE</td> <td>+ in</td> </tr> <tr> <td>BLACK</td> <td>common</td> </tr> <tr> <td>GREEN</td> <td>+ out</td> </tr> </table>	color code	signal	WHITE	+ in	BLACK	common	GREEN	+ out	<b>Instrumentation Cable</b> <table border="1"> <tr> <th>color code</th> <th>signal</th> </tr> <tr> <td>RED</td> <td>+ in</td> </tr> <tr> <td>BLACK</td> <td>common</td> </tr> <tr> <td>GREEN</td> <td>+ out</td> </tr> <tr> <td>WHITE</td> <td>-</td> </tr> </table>	color code	signal	RED	+ in	BLACK	common	GREEN	+ out	WHITE	-
pin	signal																														
A	+ in																														
B	common																														
C	+ out																														
D	-																														
color code	signal																														
WHITE	+ in																														
BLACK	common																														
GREEN	+ out																														
color code	signal																														
RED	+ in																														
BLACK	common																														
GREEN	+ out																														
WHITE	-																														

\*-Test pressure: 100 feet [30 meters] H<sub>2</sub>O (40 PSID) Test Medium: Air; Duration: 2 hours. \*\*-applies to stainless steel enclosure only.

## Dampening Option:

<b>D</b> <i>order code:</i>	<b>0</b> with magnetic dampening	<b>1</b> without magnetic dampening
-----------------------------	-------------------------------------	--

## NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity company  
20630 Plummer Street  
Chatsworth, CA 91311  
Tel +1 800 423 5483  
Tel +1 818 701 2750  
Fax +1 818 701 2799  
info@celesco.com

## TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, 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.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.

IT9101 12/01/2015