

Inclinometer

Precision Potentiometric Output

Ranges: 0-105° to 0-240°

Industrial Grade



IT9101

Specification Summary:

GENERAL

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

ELECTRICAL

Output Signal voltage divider (potentiometer)
Input Resistance 1000 Ω ($\pm 10\%$)
Recommended Maximum Input Voltage 30 V (AC/DC)
Output Signal Change Over Measurement Range 92% \pm 6% of input voltage

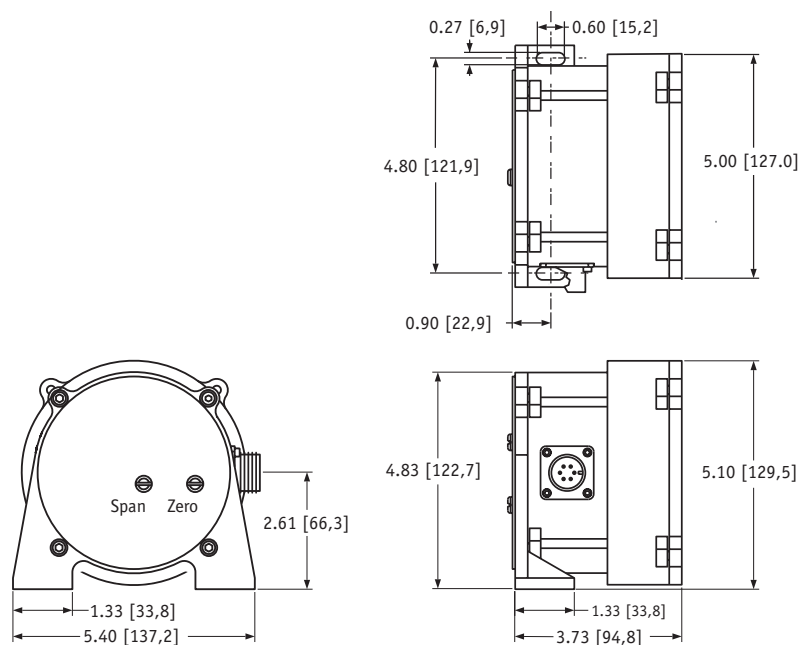
PERFORMANCE

Accuracy* $\pm 1\%$ full stroke
Accuracy Option $\pm 0.5\%$ full stroke—please contact factory
Resolution essentially infinite
*—when plane of pendulum motion parallel to plane of rotation within $\pm 3^\circ$

ENVIRONMENTAL

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

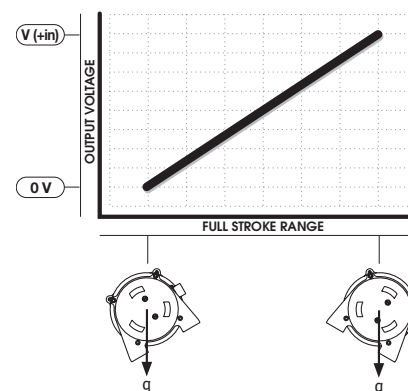
Outline Drawing



The model IT9101 is a rugged and simple device which provides a voltage divider feedback signal for incline position. 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



celesco

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Ordering Information:

Model Number:

IT9101 - CW - CCW - A B C D 1

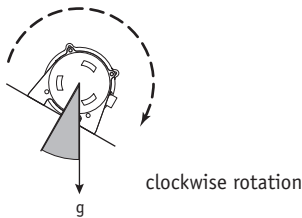
order code:

Sample Model Number:
IT9101 - 060 - 120 - 1110

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

Full Clockwise Rotation:

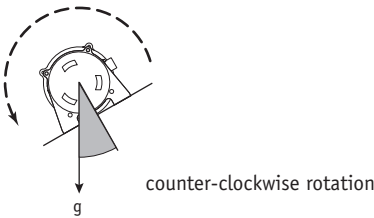
CW	<small>order code:</small>	000	015	030	045	060	075	090	105	120
		0°	15°	30°	45°	60°	75°	90°	105°	120°



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

Full Counter-Clockwise Rotation:

CCW	<small>order code:</small>	000	015	030	045	060	075	090	105	120
		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°

Enclosure Material:

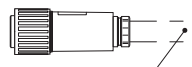
A	<small>order code:</small>	1	2
		powder-painted aluminum	303 stainless steel

Electrical Connection:

④ order code:

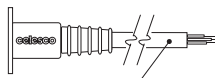
1
6-pin plastic connector
w/mating plug
IP 67, NEMA 4X, 6**

3.0 in.
[78 mm]



1/2 - 5/16" [14 - 8 mm] cable dia.
16 AWG max conductor size
connector: MS3102E-14S-6P
mating plug: MS3106E-14S-6S

2
10-ft. [3 M]
waterproof cable
IP 67, NEMA 4X, 6**



10 ft. x 0.4-in. dia.
[3 M x 10 mm dia.]
18 AWG, type SJTW

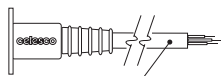
4
25-ft. [7.5 M]
instrumentation cable
IP 67, NEMA 6



25 ft. x 0.2-in. dia.
[7.5 M x 5 mm dia.]
24 AWG, shielded

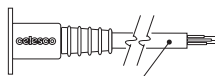
④ order code:

5
100-ft. [30 M]
waterproof cable
IP 67, NEMA 4X, 6**



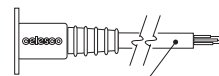
100 ft. x 0.4-in. dia.
[30 M x 10 mm dia.]
18 AWG, type SJTW

6
10-ft. [3 M]
pressure tested*
waterproof cable
IP 68, NEMA 4X, 6P**



10 ft. x 0.4-in. dia.
[3 M x 10 mm dia.]
18 AWG, type SJTW

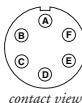
7
100-ft. [30 M]
pressure tested*
waterproof cable
IP 68, NEMA 4X, 6P**



100 ft. x 0.4-in. dia.
[30 M x 10 mm dia.]
18 AWG, type SJTW

6-pin Mating Plug

pin	signal
A	+ in
B	common
C	+ out
D	-



contact view

Waterproof Cable

color code	signal
WHITE	+ in
BLACK	common
GREEN	+ out

Instrumentation Cable

color code	signal
RED	+ in
BLACK	common
GREEN	+ out
WHITE	-

*-Test pressure: 100 feet [30 meters] H₂O (40 PSID) Test Medium: Air; Duration: 2 hours. **--applies to stainless steel enclosure only.

Dampening Option:

① order code:

0
with magnetic dampening

1
without magnetic dampening