



Inclinometer

- ▼ Measurement Range up to 270°
- ▼ Voltage Divider (Potentiometer) Output
- ▼ Precision Potentiometric Output

CE

Specification Summary:

GENERAL

Available Full Stroke Ranges	0-45 to 0-270 degrees
Weight	11 lb. typical
Enclosure Material	aluminum (stainless steel available)
Sensor	precision potentiometer
Electrical Connector	MS3102E-14S-6P
Mating Plug (included)	MS3106E-14S-6S

ELECTRICAL

Output Signal	voltage divider (potentiometer)
Input Resistance	5K ohms ($\pm 10\%$)
Recommended Maximum Input Voltage	30 V(AC or DC)
Output Signal Change Over Measurement Range	94% $\pm 3\%$ of input voltage

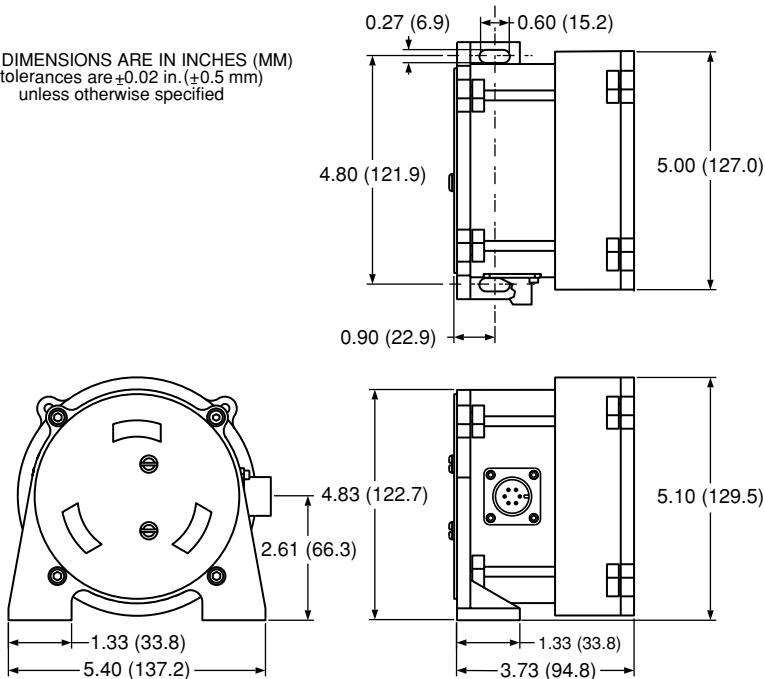
PERFORMANCE

Accuracy*, with Dampening Option**	$\pm 2\%$ full stroke
Accuracy*, w/o Dampening Option**	$\pm 1\%$ full stroke
Resolution	essentially infinite
Zero and Span Adjustment Range	2:1 turndown
..... *--when plane of pendulum motion parallel to plane of rotation within $\pm 3^\circ$ **--refer to order code, back page

ENVIRONMENTAL

Operating Temperature	-30° F to 200°F
Environmental Suitability	indoor/outdoor
Operating Humidity, Splash	NEMA 6 /IP67
Vibration	up to 10 G's to 2000 Hz

DIMENSIONS ARE IN INCHES (MM)
tolerances are ± 0.02 in. (± 0.5 mm)
unless otherwise specified



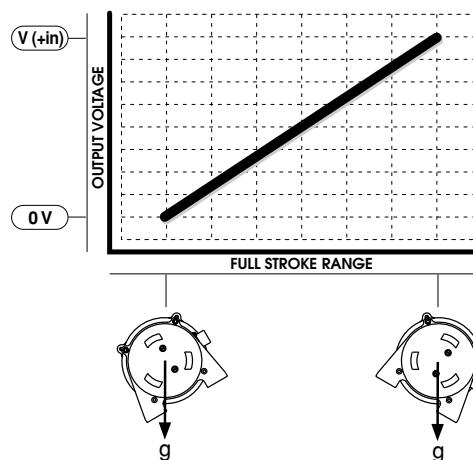
IT9101



The model IT9101 is a rugged and simple device which provides a voltage diveder 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.

The IT9101 is easy to use: simply attach it to the object of measurement and install two wires for the current loop.

Electrical Output Signal:



IT9101 • Inclinometer • Potentiometric Output

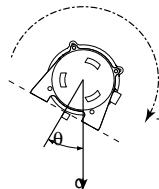
▼ Ordering Information

Model Number:

IT9101 - CW - CCW - A - B - 1 - D

Full Clockwise Rotation:

<u>CW</u> order code:	000	015	030	045	060	075	090	105	120
θ (clockwise rotation) :	0°	15°	30°	45°	60°	75°	90°	105°	120°

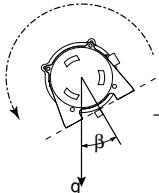


Important--

the sum of the Clockwise and Counter-Clockwise Rotations must be in the range of 45° to 270°.

Full Counter-Clockwise Rotation:

<u>CCW</u> order code:	000	015	030	045	060	075	090	105	120
β (counter-clockwise rotation) :	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 45° to 270°.

Enclosure Material:

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

Electrical Connection:

<u>C</u> order code:	1	2	4
electrical connection:	6-pin plastic connector and mating plug MS3106E-14S-6S 5/16" (8 mm) max cable dia. 16 AWG max conductor size MS3102E-14S-6P 3.2 in. (81 mm)	10 ft. waterproof cable 3-CONDUCTOR, 18 GA., TYPE SJOW-A ~0.35 in. (9 mm) dia.	25 ft. instrumentation cable MULTICONDUCTOR, 24 GA., SHIELDED ~0.2 in. (5 mm) dia.
contact view	connections	connections	connections
	A = +IN B = COMMON C = +OUT	WHT = +IN BLK = COMMON GRN = OUT	RED = +IN BLK = COMMON GRN = OUT
IP rating:	67	67, 68*	67
NEMA rating:	6, 4X**	6, 4X**	6

note: *requires factory submersion test

**applies to stainless steel enclosure only

Dampening Option:

① order code:	0	1
dampening:	with magnetic dampening	without magnetic dampening

▼ Sample Model Number

IT9101- 030 - 120 - 1 _A 1 _B 1 _C - 1 _D

Specifications: Full Clockwise Rotation: 30 degrees
Full Counter-Clockwise Rotation: 120 degrees
Enclosure Material: powder-painted aluminum
Electrical Connection: 6-pin plastic connector
Dampening: magnetic dampening



B.P. 501 - Juvigny
F - 74105 ANNEMASSE Cedex
Tél.: +33 (0)4 50 87 78 64
Fax: +33 (0)4 50 87 78 46
E-mail: info@scaime.com



SIREN 389 325 283 RCS Thonon-les-Bains

Agent

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- ▼ Measurement Range up to 240°
- ▼ 4...20 mA Output
- ▼ Rugged Industrial Applications

CE

IT9420

Specification Summary:

GENERAL

Available Full Stroke Ranges	0-45 to 0-240 degrees
Weight (aluminum enclosure)	5 lb. typical (aluminum enclosure)
Enclosure Material	aluminum (stainless steel available)
Sensor	precision potentiometer
Electrical Connector	MS3102E-14S-6P
Mating Plug (included)	MS3106E-14S-6S

ELECTRICAL

Output Signal	4 to 20 mA
Input Voltage	12 to 40 VDC (24 VDC recommended)
Circuit Protection	38 mA maximum

PERFORMANCE

Accuracy*	± 1% full stroke
Accuracy Option	± 0.5% full stroke—please contact factory
Resolution	essentially infinite
Zero and Span Adjustment Range:	
Full Stroke Ranges of 45° - 105°.....	20%
Full Stroke Ranges of 120° - 240°.....	40%

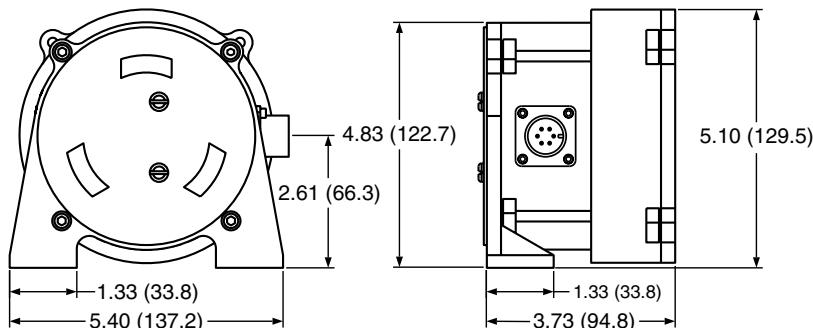
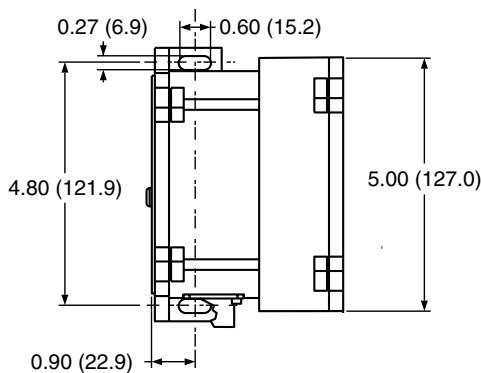
*—when plane of pendulum motion parallel to plane of rotation within ± 3°

**—refer to order code, back page

ENVIRONMENTAL

Operating Temperature	-30° F to 200° F
Environmental Suitability	indoor/outdoor
Operating Humidity, Splash	NEMA 6 /IP67 (NEMA 4X /IP68 optional)
Vibration	up to 10 G's to 2000 Hz

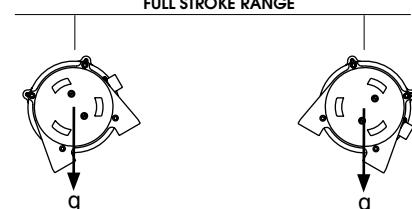
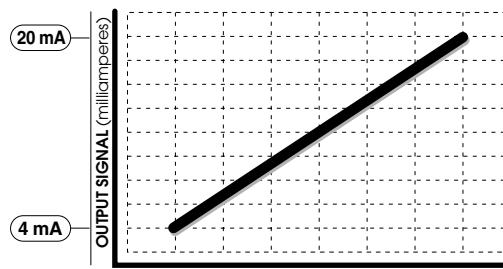
DIMENSIONS ARE IN INCHES (MM)
tolerances are ± 0.02 in. (± 0.5 mm)
unless otherwise specified



The model IT9420 is a rugged and simple device which provides a 4 to 20 mA current feedback signal for incline position. The heart of the IT9420 is a magnetically-damped pendulum coupled to a conductive plastic precision potentiometer. A highly linear relationship between inclination and a 4 to 20 mA output is maintained over the full range of the IT9420.

The IT9420 is easy to use: simply attach it to the object of measurement and install two wires for the current loop.

Electrical Output Signal:



IT9420 • Inclinometer • 4...20 mA Output

▼ Ordering Information

Model Number:

IT9420 - CW - CCW - A - B - C - D

order code:

Sample Model Number:

IT9420 - 060 - 120 - 1110

CW clockwise rotation: 60°
CCW counter-clockwise rotation: 120° } total rotation = 180°
A enclosure: aluminum
B output signal: 4 mA @ 120° CCW
C electrical connection: 20 mA @ 60° CW
D magnetic dampening: 6-pin plastic connector
yes

Full Clockwises Rotation:

<u>CW</u> order code:	000	015	030	045	060	075	090	105	120
θ (clockwise rotation):	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 45° to 240°.

Full Counter-Clockwise Rotation:

<u>CCW</u> order code:	000	015	030	045	060	075	090	105	120
β (counter-clockwise rotation):	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 45° to 240°.

Enclosure Material:

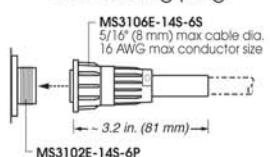
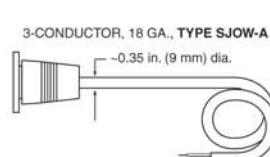
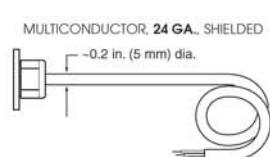
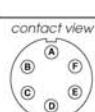
<u>A</u> order code:	1	2
enclosure material:	powder-painted aluminum	303 stainless steel

IT9420 • Rotational Transducer • 4...20 mA Output

Output Signal:

B order code: output signal configuration:	1 4...20 mA	2 20...4 mA
	 <p>full counterclockwise rotation • CCW</p>	 <p>full clockwise rotation • CW</p>

Electrical Connection:

C order code: electrical connection:	1 6-pin plastic connector and mating plug	2 10 ft. waterproof cable	4 25 ft. instrumentation cable
			
		connections A = 12...40 VDC B = 4...20 mA out D = case ground	connections White = 12...40 VDC Black = 4...20 mA out Green = case ground
IP rating:	67	67, 68*	67
NEMA rating:	6, 4X**	6, 4X**	6

note: *requires factory submersion test **applies to stainless steel enclosure only

Dampening Option:

D order code: dampening:	0 with magnetic dampening	1 without magnetic dampening
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BP 501 - Juvigny
F-74105 ANNEMASSE Cedex
Tél. +33 (0)4 50 87 78 64
Fax +33 (0)4 50 87 78 46
E-mail : info@scaime.com



SIREN 389 325 283 RCS Thonon-les-Bains

Agent

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