

INCLINOMETER

Dual dimensional dimensional from $\pm 1^\circ$ to $\pm 90^\circ$

Features

- Fully self-contained - connect to a DC power source and a readout or control device for a complete operating system
- High-level DC output signal proportional to sine of the angle of tilt
- 4-20mA output proportional to sine of the angle of tilt
- $\pm 1^\circ$ to $\pm 90^\circ$ ranges available
- Extremely rugged, withstands 1500g shock

Applications

- Bore-hole mapping, dam and rock shifts and other geophysical, seismic and civil engineering studies
- Ballast transfer systems for offshore barges, ships and other marine applications
- Level control and calibration systems
- Pipeline levelling, setting tilt of grading machines, crane overturning-moment alarms, and other heavy duty construction control requirements
- Large machinery installation and other electronic level applications

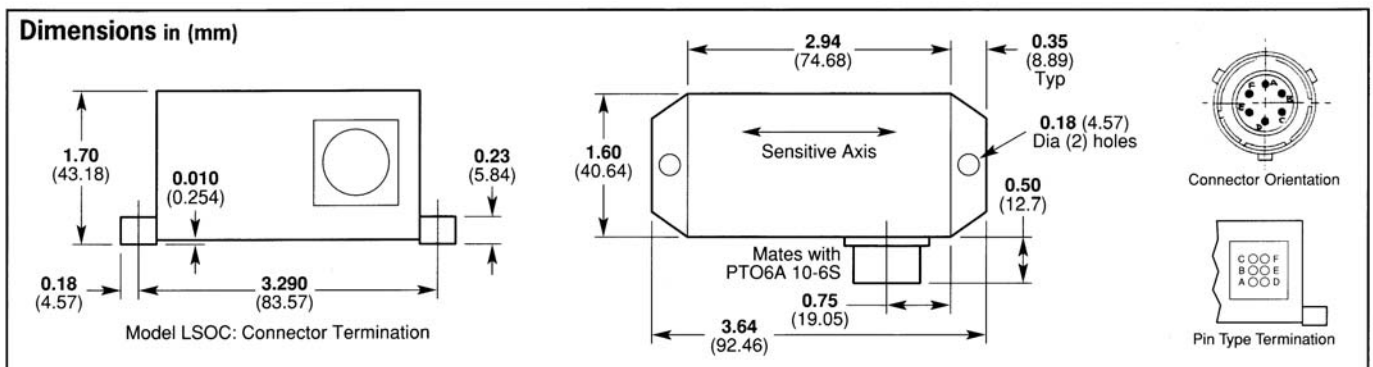


INC100 C / INC100 P

The INC100 Series is a high precision gravity referenced servo inclinometer that can be used for a wide variety of industrial and military applications. Models are available in a variety of ranges with low impedance output signal. Electrical terminations are via 6-way connector (INC100-C) or solder pins (INC100-P).

Electrical Connections

Pin A – Supply +15Vdc
 Pin B – 0V common
 Pin C – Supply - 15Vdc
 Pin D – Output
 Pin E – Not used
 Pin F – Self Test



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Environmental Characteristics

Operating Temperature Range	°C	-18 to 70
Survival Temperature Range	°C	-40 to 70
Constant Acceleration Overload	g	50
Shock Survival		1500g, 0.5msec, ½ sine
Vibration Endurance		35g rms, 20 Hz to 2000 Hz sinusoidal
Environmental Sealing		IP65
EMC Directive	EN61326: 1998	
EMC Emissions	EN55022: 1998	30 MHz to 1 GHz
EMC Immunity	EN61000-4-2: 1995 inc A1: 1998 & A2: 2001	±4 kV
	EN61000-4-3: 2002	10 V/m
	EN61000-4-4: 2004	± 1 kV
	EN61000-4-6: 1996 inc A1: 2001	3 Vrms
	EN61000-4-6: 2007	10 Vrms
	EN61000-4-8: 1994 inc A1 : 2001	30 A/m

Specifications by Range @ 20°C

Range		±1°	±3°	±14.5°	±30°	±90°
Excitation Voltage	Volts dc			±12 to ±18		
Current Consumption	mA (nom)			±15		
Full Range Output (FRO) (see note 1)	Volts dc			±5		
Output Standardisation	% FRO			±1		
Output Impedance	Ω			less than 10		
Output Noise (DC to 10kHz)	V rms (max)			0.002		
Non-Linearity (see note 2)	% FRO (max)	0.05	0.05	0.02	0.02	0.05
Non-Repeatability	% FRO (max)	0.04	0.02	0.004	0.002	0.001
Resolution	arc seconds	0.1	0.2	1.0	2.0	4.0
-3 dB Frequency	Hz	10	15	30	40	55
Sensitive Axis-to-Case Misalignment	deg (max)	±0.1	±0.15	±0.25	±0.5	±1.0
Cross-axis sensitivity (see note 3)	% FRO (max)			0.2		
Zero Offset (see note 4)	Volts dc (max)	±0.05	±0.04	±0.03	±0.02	±0.02
Thermal Zero Shift	%FRO/°C (max)	0.05	0.03	0.01	0.005	0.003
Thermal Sensitivity	%Reading/°C (max)	0.04	0.03	0.01	0.006	0.006

Notes

1. Full Range Output is defined as the full angular excursion from positive to negative, i.e. ±90° =180°
2. Non-linearity is determined by the method of least squares.
3. Cross-axis Sensitivity is the output of unit when tilted to full range angle in cross-axis.
4. Zero offset is specified under static conditions with no vibration inputs

How to Order

Specify model type with appropriate range e.g. INC100-C-14.5 – fitted with connector ±14.5° range

INC100-P-30 – fitted with solder pins ±30° range

Specify Optional Mating Electrical Connector 3CON-0009 with INC100-C if required.