

D-Series Inclinometer



Dual Axis Inclinometer

Measurement Range $\pm 5^\circ$, 15° , 30°

DESCRIPTION

D-Series Inclinometer features Measurement Specialties' new generation of proprietary tilt sensing technology. Insensitive to humidity and stray capacitance, this differential conductive sensor provides excellent zero repeatability and hysteresis free resolution.

The D-Series is housed in a robust IP-67 rated aluminum can. Unlike typical glass vial electrolytic sensors, the rugged hermetically sealed SMT ceramic sensors employed in the D-Series are designed to withstand the extreme shock and vibration normally associated with factory floor environments. Individual sensors for each axis provide maximum accuracy while minimizing cross-axis errors. A microprocessor is used to correct tempco and linearity errors for optimal accuracy over the full operating temperature range.

FEATURES

- ◆ Rugged Sensing Technology
- ◆ Standard RS-232 Comms.
- ◆ Linearized Analog & Digital Output
- ◆ Excellent Cost/Performance Ratio
- ◆ Easy Sytsem Integration
- ◆ CE-approved for Europe

APPLICATIONS

- ◆ Medical Coach Leveling
- ◆ Mobile Weighing Systems
- ◆ Man/Material Lifts
- ◆ Machine Leveling
- ◆ Tower Crane Overload Protection
- ◆ Road Paving Equipment
- ◆ Satellite Up-Link Vehicle Leveling

OPTIONS

- ◆ Voltage, Current PWM or Switch Outputs
- ◆ 2-Meter Straight Mating Cable Assy.
- ◆ 2-Meter Right Angle Mating Cable Assy.

IP67
Rated

Each inclinometer is supplied with a calibration certificate indicating the performance of the individual unit purchased.



The D-Series inclinometers are supplied in three factory calibrated ranges of $\pm 5^\circ$, $\pm 15^\circ$ and $\pm 30^\circ$ degrees. Application software is supplied which allows the user to perform custom calibrations. Baud rate, sampling rate and zero are also programmable utilizing the supplied software. Output options include analog, digital or switching signals.

The D-Series is designed to meet all European Union EMI, ESD and RFI standards for industrial environments.

TECHNICAL DATA

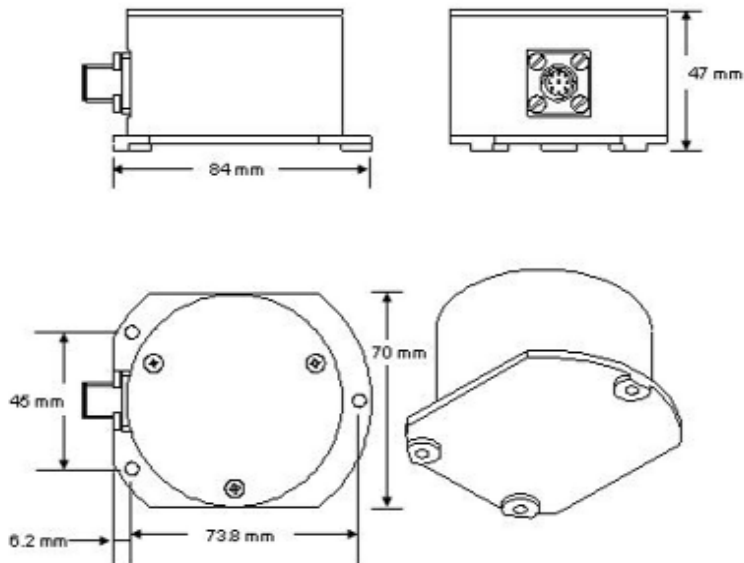
Measurement axis (x-y)	2
Measurement Range	$\pm 5^\circ$, 15° , 30°
Resolution	0.001°
Frequency Response	2Hz
Baud Rate	9.6 to 115 kBaud
Transfer Rate	1 to 25 Hz
Offset drift	0.05°
Cross sensitivity	1.4 %/[FS]
Power supply	10 to 30VDC
Operating temperature range	-40 to +85°C
Shock & Vibration	to EN 60068-2-6,27
CE (EMC)	to EN 61000-6-2,4
Storage temperature range	-40 to +85°C
Protection class	IP 67
Housing	Aluminum
Weight	290 g

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performance specifications

Model Number	Part #	Range	Accuracy			Output			
			Digital	Analog	PWM	RS232	Switch	.5 to 4.5 VDC	4-20mA
DMG 5-PW ROHS	G-NSDMG-014	+/-5degs	.03degs		1kHz 20-80%	X			
DMG 5-V ROHS	G-NSDMG-015	+/-5degs	.03degs	.04degs		X		X	
DMG 5-S ROHS	G-NSDMG-016	+/-5degs	.03degs			X	.1deg step		
DMG 5-I ROHS	G-NSDMG-017	+/-5degs	.03degs	.04degs		X			X
DMG 15-PW ROHS	G-NSDMG-018	+/-15degs	.1degs		1kHz 20-80%	X			
DMG 15-V ROHS	G-NSDMG-019	+/-15degs	.1degs	.15degs		X		X	
DMG 15-S ROHS	G-NSDMG-020	+/-15degs	.1degs			X	.1deg step		
DMG 15-I ROHS	G-NSDMG-021	+/-15degs	.1degs	.15degs		X			X
DMG 30-PW ROHS	G-NSDMG-022	+/-30degs	.2degs		1kHz 20-80%	X			
DMG 30-V ROHS	G-NSDMG-023	+/-30degs	.2degs	.3degs		X		X	
DMG 30-S ROHS	G-NSDMG-024	+/-30degs	.2degs			X	.1deg step		
DMG 30-I ROHS	G-NSDMG-025	+/-30degs	.2degs	.3degs		X			X

dimensions



cable options

2m connecting cable with straight plug

2m connecting cable with right angle plug

electrical connections

Name	Description	Type	Cable scheme
1	VDC positive power supply + 10...+30VDC	supply	white
2	RxD Rx serial signal RS 232	input	brown
3	TxD Tx serial signal RS 232	output	green
4	GND ground	supply	yellow
5	XOut X-axis output	output	grey
6	SGND signal ground	supply	pink
7	YOut Y-axis output	output	blue
8	NC NC	n.c.	red