

# D-Series Inclinometer



- Dual axis inclinometer
- Measurement range  $\pm 5^\circ$   $\pm 15^\circ$  and  $\pm 30^\circ$
- High accuracy
- Digital and analogue output signal
- CANopen
- CE approved

## DESCRIPTION

The **D-series** of conductive inclinometers offers modern SMD- technology in an environmentally protected and robust aluminium housing. The inclinometer achieves high accuracy over a wide temperature range. The fast microcontroller works with a linearization and temperature compensation routines. This full calibrated inclinometer is available with digital output RS 232 and analogue voltage output 0.5 up to 4.5 V or current output 4...20mA or PWM output or switch output signals. Furthermore is inclinometer is available with an CANopen interface.

## FEATURES

- High accuracy
- Robust metal housing, IP Class 67/68
- High resolution
- EMC protected
- CE approved
- Rugged M12 male connector
- Programmable digital filtering to minimized influences from shock and vibration
- Programmable zero point, baud rate, output rate

## APPLICATIONS

- Building control
- Road construction machines
- Wind power
- Weighing systems
- Mobile and stationary cranes
- Hydraulic leveling
- Platform leveling
- Drilling machines

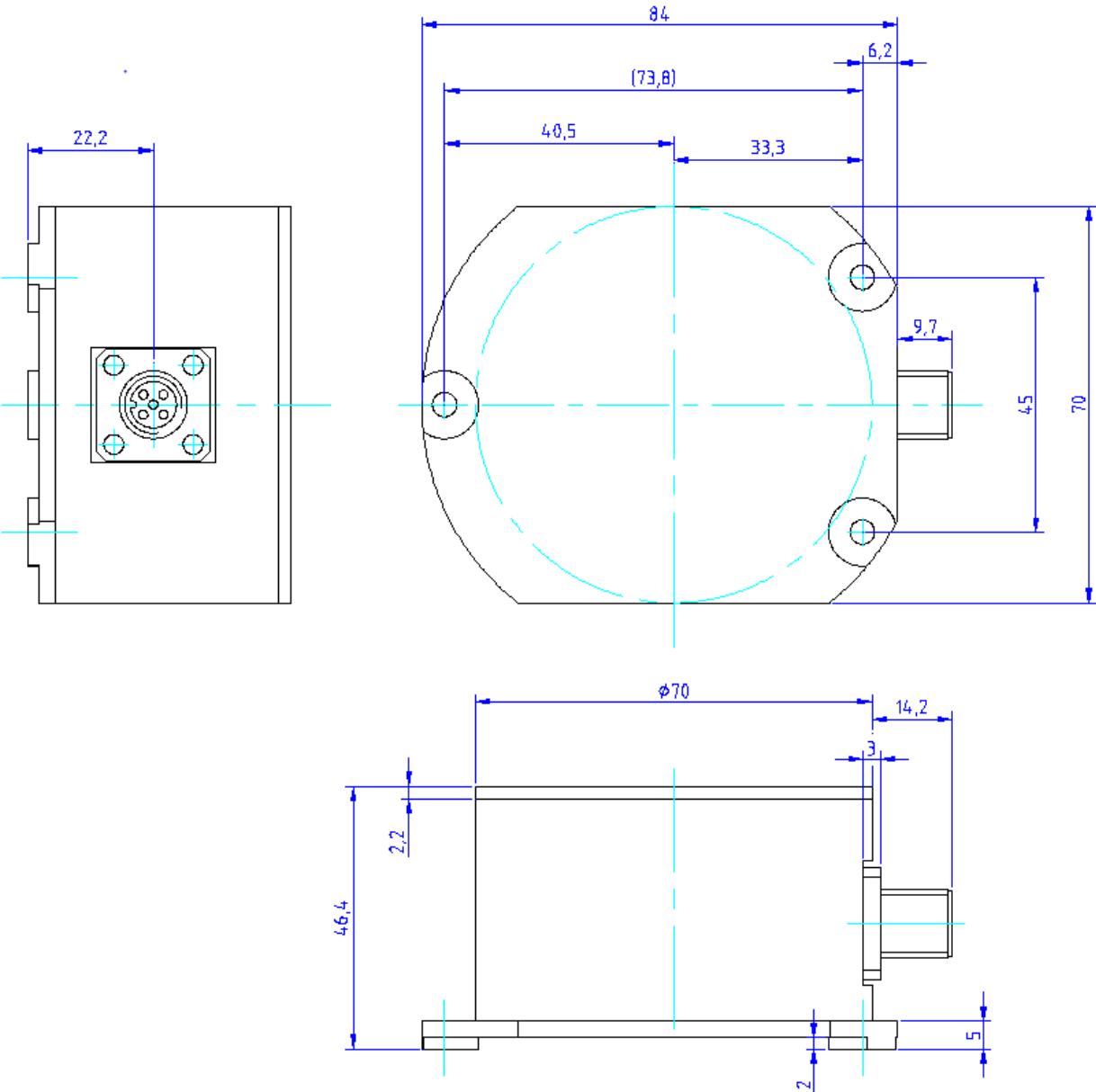
# D-Series Inclinometer

## PERFORMANCE SPECS

	Conditions	Min	Type	Max	Unit
Measurement range		-5 (-15,-30)		+5(+15,+30)	°
Resolution		0.001		0.005	°
Accuracy,digital,analogue (absolute)	Ta = +25°C		0.04		°
Accuracy,digital,analogue (absolute)	Ta = -40°C ...+85°C		0.15	(0.3,0.8)	°
Offset temperature drift error	Ta = -40°C...+85°C		0.06		°
Noise RMS			0.001		°
Frequence responce			2	3	Hz
Power supply		10		30	VDC
Operation temperature range		-40		+85	°C
Storage temperature range		-40		+85	°C
Weight			290		g
Dimensions	W x D x H		84 x 70 x 46		mm
<b>Unit with RS 232 interface and analogue output signal</b>					
Transmission rate, programmable		0.1	10	16	Hz
Baud rate, programmable		2.4	9.6	57.6	kB
Current output		20		4	mA
Voltage output		0.5		4.5	V
PWM output	1 KHz	20		80	%
Switch output,programmable	Step		0.1		°
Current consumption			30	40	mA
<b>Unit with CANopen interface</b>					
Baud rate, programmable		0.02	0.25	1	MBaud
Code	Binary				-
Interface	CAN according to CAL				-
Current consumption			50	90	mA

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## DIMENSIONS [MM]

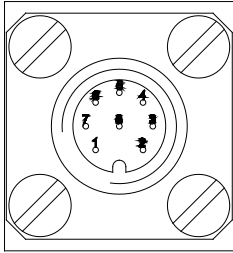


# D-Series Inclinometer

## PINNING - UNIT WITH RS 232 INTERFACE AND ANALOGUE OUTPUT

Pin	Name	Description	Type	Color schema <sup>(1)</sup>
1	+Ub	positive power supply +10...+30VDC	supply	white
2	RxD	Rx serial signal RS 232	input	brown
3	TxD	Tx serial signal RS232	output	green
4	GND	negative power supply, 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	nc	nc

(1) by using a Measurement Specialties cable



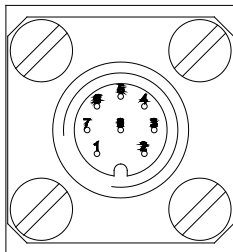
Front view of housing connector inclinometer

For more details please use the product specification / application note / instruction manual.

## PINNING – UNIT WITH CANOPEN INTERFACE

Pin	Name	Description	Type	Color schema <sup>(1)</sup>
1	+Ub	positive power supply +10...+30VDC	supply	white
2	NC	nc	nc	brown
3	NC	nc	nc	green
4	GND	negative power supply, ground	supply	yellow
5	CANout	CAN Low	output	grey
6	CANgnd	CAN Ground	supply	pink
7	CANout	CAN High	output	blue
8	NC	nc	nc	nc

(1) by using a Measurement Specialties cable



Front view of housing connector inclinometer

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## ORDERING INFORMATION

PART NUMBERING	UNIT	SHORT DESCRIPTION
G-NSDMG-015	NS-5/DMG2-U	Range +/-5°, Vcc 10...30VDC, output RS232, voltage
G-NSDMG-017	NS-5/DMG2-I	Range +/-5°, Vcc 10...30VDC, output RS232, current
G-NSDMG-014	NS-5/DMG2-PWM	Range +/-5°, Vcc 10...30VDC, output RS232, PWM
G-NSDMG-016	NS-5/DMG2-S	Range +/-5°, Vcc 10...30VDC, output RS232, switch
G-NSDMG-030	NS-5/DMG2-CXD	Range +/-5°, Vcc 10...30VDC, output CANopen
G-NSDMG-019	NS-15/DMG2-U	Range +/-15°, Vcc 10...30VDC, output RS232, voltage
G-NSDMG-021	NS-15/DMG2-I	Range +/-15°, Vcc 10...30VDC, output RS232, current
G-NSDMG-018	NS-15/DMG2-PWM	Range +/-15°, Vcc 10...30VDC, output RS232, PWM
G-NSDMG-020	NS-15/DMG2-S	Range +/-15°, Vcc 10...30VDC, output RS232, switch
G-NSDMG-031	NS-15/DMG2-CXG	Range +/-15°, Vcc 10...30VDC, output CANopen
G-NSDMG-023	NS-30/DMG2-U	Range +/-30°, Vcc 10...30VDC, output RS232, voltage
G-NSDMG-025	NS-30/DMG2-I	Range +/-30°, Vcc 10...30VDC, output RS232, current
G-NSDMG-022	NS-30/DMG2-PWM	Range +/-30°, Vcc 10...30VDC, output RS232, PWM
G-NSDMG-024	NS-30/DMG2-S	Range +/-30°, Vcc 10...30VDC, output RS232, switch
G-NSDMG-032	NS-30/DMG2-CXN	Range +/-30°, Vcc 10...30VDC, output CANopen

### Accessories

G-NSMIS-036	Connector	Connector, straight, 713-series
G-NSMIS-013	Connector	Connector, angle 90°, 713-series
G-NSMIS-008	Connection	2 m cable, straight connector 763-series
G-NSMIS-009	Connection	2 m cable, angle 90° connector 763-series

Other cable length on request