

# DUAL AXIS INCLINOMETER

## DAS-XX-MA

### PROFILE

The inclinometer working principle is based on a micro machined silicon capacitive transducer (developed with MEMS technology). Output signal from the sensing element, coming as a duty-cycle modulated waveform with carrying frequency of 100 Hz, is acquired by a micro processing unit. The microprocessor provides continuous sampling of X and Y axes every 25 ms and gives as an output the angular information after performing Arcsine (X,Y) calculation.

The sensor is temperature-compensated and provides analogue 12 bit data output for angular value coming from axis X and Y. Also RS-232-TTL communication is available for temperature and X,Y axis inclination values.

This dual axis inclinometer was developed to satisfy the technological, assembling, maintenance needs of automotive wheel-testing machines ensuring a high degree of stability over time.

### Main characteristics

- Measuring range From  $\pm 10^\circ$  To  $\pm 45^\circ$
- Supply Voltage 7 to 30 VDC
- Temperature compensated range  $0^\circ\text{C}$  to  $60^\circ\text{C}$
- New MEMS sensor
- Low power consumption
- High resistance to mechanical shocks;
- Digital or analogue input;
- No trimmers used for settings;
- Auto zero function;
- Extremely low cross sensitivity;
- Option 5VDC regulated
- Option RS232 Output



### Electrical and mechanical data

	DAS-10-MA $\pm 10^\circ$	DAS-20-MA $\pm 20^\circ$	DAS-30-MA $\pm 30^\circ$	DAS-45-MA $\pm 45^\circ$
Angle range	$\pm 10$ ( FS $20^\circ$ )	$\pm 20$ ( FS $40^\circ$ )	$\pm 30$ ( FS $60^\circ$ )	$\pm 45$ ( FS $90^\circ$ )
Zero based linearity % FS	$\pm 0.2$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$ Linearizzata con microprocessore
Conformity	$\pm 0,5$ FS	$\pm 0,5$ FS	$\pm 0,5$ FS	$\pm 0,5$ FS
Resolution	<0.01	0.01°	0.015°	0.02°
Sensitivity	200 mV /°	100 mV /°	66.66 mV /°	45,51 mV /°
Frequency Response	0.3	0.3	0.3	0.3

### Ordering specification

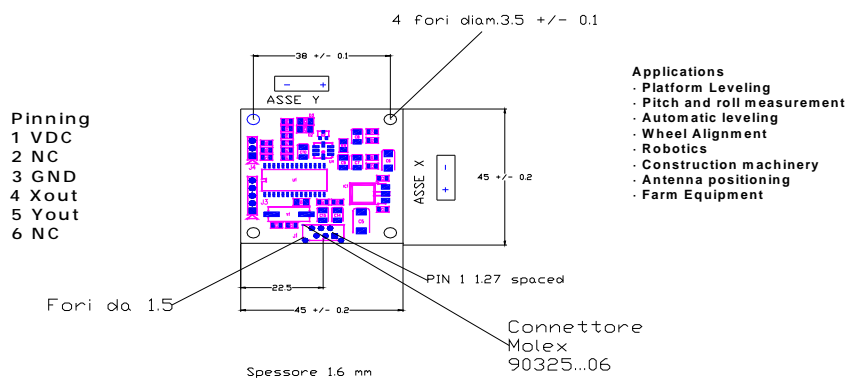
1. DAS-XX-MA ( supply 7-30 VDC output 0.5 4,5 Volt)
2. DAS-XX-MA-RS232 ( supply 7-30 VDC output RS232 )
3. DAS-XX-MA-5V ( supply 5 VDC stabilized output 0.5 4,5 Volt)
4. DAS-XX-MA-5V-RS232 ( supply 5 VDC stabilized output RS232 )

North Europe Office:

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## TECHNICAL SPECIFICATIONS

DAS-XX-MA		
Measuring range	°	10 ° to 45 °
Power supply	Volt	7 to 24 volt 5 VDC ± 50 mV stabilized ( opzional)
Y-X out zero	Volt	2.5 V +/- 50mV
Output	Volt	0,5----4,5 Volt RS232 TTL opzional
Linearity	% FS	Funzione del Fondoscala
Precision	% FS	Funzione del fondoscala
Resolution	°	Funzione del modello
Insulation Resistance	Mohm	> 100 Mohm @500Vdc
Temperature compensated Range	° C	0°C to 60°C opzional – 20 °C + 80° C
Stocking Temperature	° C	-40 .....+ 80 °C
Frequency Response	sec	0.3 ( factory calibrated )
Zero temperature drift T 0- 60	°	< 0.10
Temperature Sensitivity drift T 0 -60	°	< 0.1
Cross axis error	% FS	<0, 5 % at max tilt
Shock resistance	MIL- STD 202 E 213 B	1000 g
Vibration resistance	MIL STD 202E 204 C	20 g ( 10 to 2000 Hertz)
Dimensions	mm .	45mmX45mm
Wheight	gr	25gr



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