

DUAL AXIS INCLINOMETER $\pm 10^\circ$.. 15° DAS-XX-MX (automotive wheel-alignment type)

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.

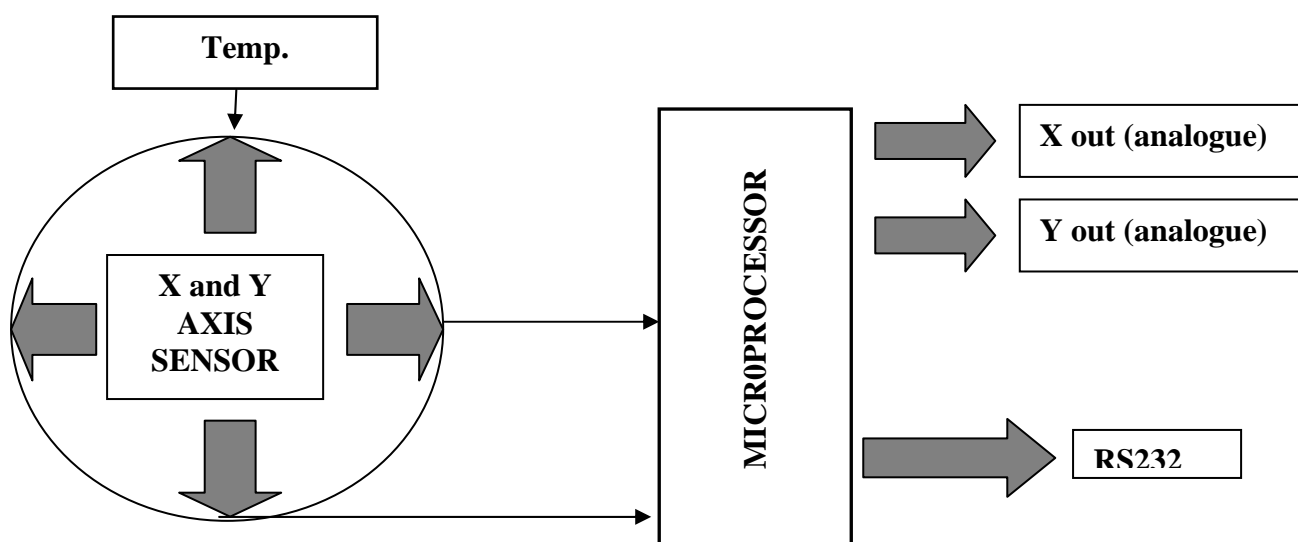
This dual axis inclinometer was developed to satisfy the technological, assembling, maintenance needs of automotive wheel-testing machines ensuring a high degree of stability over time.

Main Characteristics

- Meas. Range from $\pm 10^\circ$ to $\pm 15^\circ$;
- Input Voltage form 8 to 24 VDC;
- Temp. compensation range from 0°C to 60°C ;
- capacitive sensor based on MEMS technology;
- 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

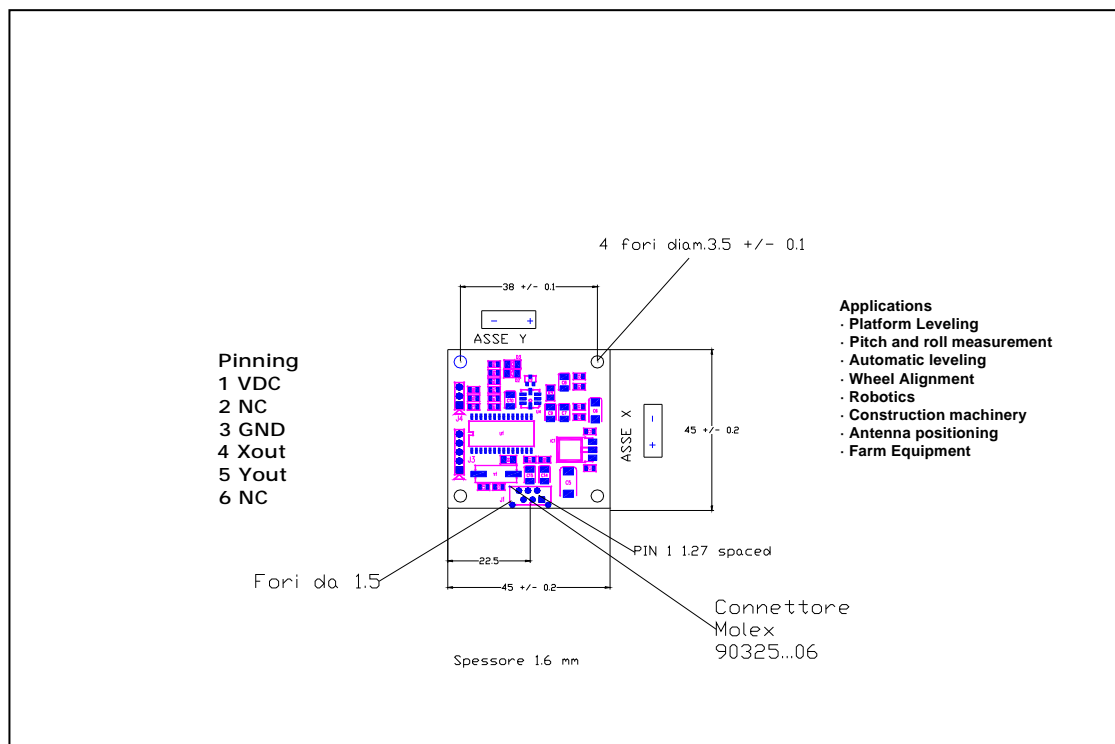


BLOCK DIAGRAM



Technical specifications

DAS-10-MX , DAS-15-MX (automotive wheel-alignment type)		
Meas range	°	+/- 10 to ± 15 °
Input Voltage	Volt	7 to 24 volt
Y-X out zero	Volt	2.5 V +/- 50mV
Sensibility	mV	200 mV / ° (10 ° type) 133 mV / ° (15 ° type)
Linearity	% FS	< 0.3 max %
Precision	range from – 3 ° to + 3 ° range from – 10° to + 10°	0.02 0.06 max
Risoluzione	°	0,005 ° (10 ° type) 0,007 (15° type)
Insulating resistance	Mohm	> 100 Mohm @500Vdc
Compensated temperature range	° C	0°C to 60°C
Stocking temeprature	° C	-40+ 80 °C
Frequency response	s	0.3 (factory calibrated)
Zero drift (T from 0° to 60°)	°	< 0.10
Temperature Sensivity drift (T from 0° to 60°)	°	< 0.1
Cross axis error	% FS	<0, 5 % at max tilt
Shock resistance	According MIL- STD 202 E 213 B	1000 g
Vibration resistance	According MIL STD 202E 204 C	20 g (10 to 2000 Hertz)
Dimensions	mm	45mmX45mm
Weight	G	25g



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