MAS10

High Precision Signal Conditioner

Features

- Excellent Linearity, High input impedance
- Compatible with most load cells, pressure sensors, torque transducers, displacement and other transducers with strain gauge outputs
- Selectable outputs of ±10V, 0/10V ,±5V, 4/20mA
- Zero Suppression up to ±100%

Options

- Broadband response -3dB at 5kHz (standard is 100Hz)
- Strain gauge option accepts Full-,Half- or Quarter-Bridge including 3 wire configuration, 120Ω or 350Ω
- Shunt Calibration
- Custom Setup and Configuration

Applications

- Torque, Force and Load Cells
- Pressure Transducers
- Level and Flow transducers
- Strain Gage option for stress Analysis
- Force/ Pressure Verification Systems
- Indicators, Recorders, Control Systems
- Scales and Weighing Systems
- High Speed Data Collection Systems

Description

The standard MAS10 signal conditioner combines a regulated excitation power supply with low level amplifier providing both voltage and current outputs. The strain gauge option adds bridge completion for ¼ and ½ bridge inputs suitable for stress analysis. The MAS10 features high stability, suitable for most industrial and research applications.

Excitation is regulated over a broad range for compatibility with miniature sensors as well as commonly available pressure, force, torque and acceleration transducers. Excitation current is sufficient to drive up to four 350Ω load cells in multi-load cell applications.

All inputs and outputs are surge-protected for factory and field installations. Gain is set by links (7 combinations) plus continuous adjustment for best stability over the wide dynamic range of inputs and outputs provided by MAS10. Other available features are:

- Optional shunt calibration provides a quick check of integrity of the transducer, its wiring, and gain setting.
- Strain gauge option, adds bridge completion for ¼ and ½ including 3 wire quarter bridge configuration for both 120Ω (providing maximum 5V excitation for sensor) and 350Ω (providing 10V excitation for sensor) strain gauges. Most sensitive range has full scale of 600micro-strain (10V excitation).
- Custom set-up to customer requirement; specify input, output and excitation level at time of order for MeasureX laboratory calibration.

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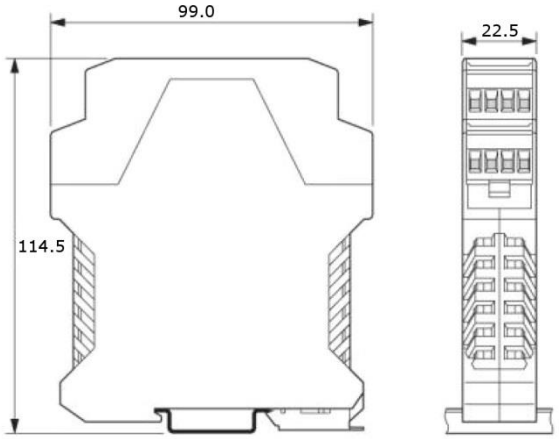
High Precision Signal Conditioner

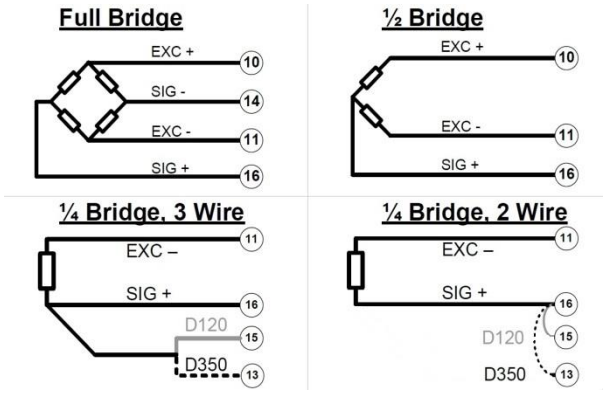
Technical Specifications

- **Supply voltage:** 24V
- **Power consumption:** ≤ 2W
- **Amplifier input range:** 3mV to 100mV, 0.3mV/V (at 10VDC excitation) to 10mV/V
- **Input impedance:** ≥100MΩ
- **Input CMRR:** -100dB @ 50Hz
- **Output range:** 0-10V, ±5V, ±10V and 4-20mA
- **Voltage output source impedance:** <100 Ω
- **Current loop compliance:** up to 600Ω at nominal supply
- **Linearity:** 0.01% FS
- **Excitation:** 1.25V to 10V (110mA max)
- **Excitation stability:** 5ppm/°C
- **Zero range:** up to ±100% continuously adjustable
- **Zero stability:** < 25ppm of FS/°C
- **Gain range:** x 100 to x 3300 link selectable
- **Span adjustment:** In 7 overlapping ranges
- **Span stability:** < 25ppm /°C at unity gain
- **Bandwidth:** DC to 100Hz (-3dB)
- **Output noise:** ≤ 5mVp (referred to output)
- **Broadband optional:** -3dB at 5kHz
- **Operation temperature:** 0 to 70°C
- **Operation humidity:** <90%- non-condensing
- **Dimension (H x W x D):** 114.5 x 99.0 x 22.5mm
- **Weight:** 120g
- **Protection:** Polarity protection for supply input

Drawing and Connections



Dimensions of the electronic housing



Terminal connections for different configuration options

Ordering Code

MAS10				
Voltage Output Range	**±10V, 0/10V, ±5V,0/5V, 4/20mA**			
	Bridge Input			
	T (Transducers / Full Bridge)	(Additional strain gauge ½ and ¼ bridge completion)		
		S350 (350Ω)	**S120** (120Ω)	
		Bandwidth		
		100Hz	**5kHz**	
			Shunt Calibration Pushbutton	
			N (No)	**Y** (Yes)
MAS10	**±10V**	**T**	**100Hz**	**N**

Note: *All specifications are subject to change without prior notice*
Note: *Custom Pre-configuration is available upon your requirement.*

Ver. 5.8-18/09

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