XAM

- **In-line Voltage Amplifier**
- **Small dimensions**
- **Cable Gland or Connector Output**

DESCRIPTION

Measurement Specialties, Inc. offers comprehensive measurement solutions including electronic signal conditioning and display units.

The XAM is a miniature in-line amplifier that adapts to most Wheatstone bridge based sensors (fitted with semiconductor or metal gauges).

Power supply is unipolar on the XAM-MV, which accepts 10 to 30 V unregulated voltage with outputs up to 10.5 V. The bipolar version XAM-BV requires ±12 to ±18 V regulated and stabilized supply with a maximum signal output of ±10.5 V. The zero can be adjusted within 20% of the dynamic range by a potentiometer, externally accessible. The gain is usually factory set, but a gain set potentiometer allows individual fine adjustments.

When used with metal gauge fitted sensors (or semiconductor gauges in a half bridge configuration) a shunt calibration resistance can be built into the amplifier to be easily set by the end user. The standard version is supplied with a miniature connector on the sensor's side of the amplifier to facilitate installation. With its rugged and compact housing the XAM is designed for on-board applications.

FEATURES

- ±10.5 V Amplified Voltage Output
- Unipolar or Bipolar Power Supply / Output
- Zero and Gain Adjust Potentiometer
- Connector and / or Sealed Cable Output

APPLICATIONS

- Suited for Wheatstone Bridge Sensors
- For on board sensor installation
- Laboratory and Research

PERFORMANCE SPECIFICATIONS

Ambient Temperature: 20±1ºC (unless otherwise specified)

General Characteristics

Dimensions	15mm [.59 in]
Material	Aluminum Alloy
Connections	Miniature connector and cable gland
Operating Temperature	-10°C to 70°C [14 to 158°F]
Storage Temperature	-20°C to 80°C [-4 to 176°F]
Wiring	Shielded cable to power supply (version CP) or sensor (version PC) Standard length 2 m (6.5 ft)

Amplifier Performance

Gain G	10 to 1000 ±5 %
Gain Adjust Potentiometer	± 20 %
Frequency Response (-3dB)	20kHz@G=10, 4kHz @ G=100, 400Hz @ G=1000

Electrical characteristics-MV (unipolar)

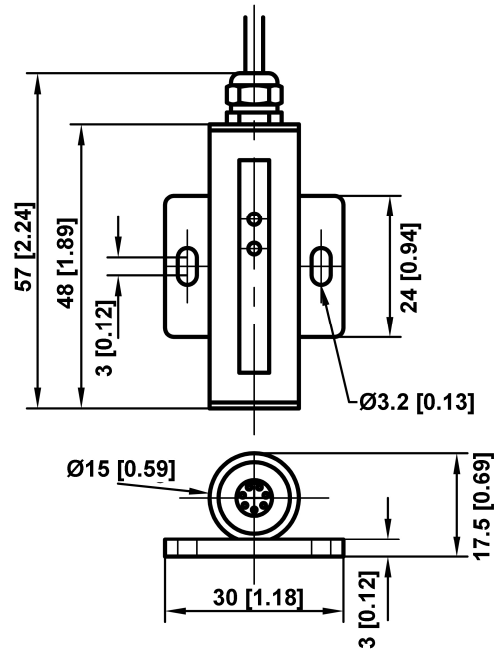
Power Required (Vin)	10 to 30 Vdc	15 to 30 Vdc
Output Signal (Vout)	0.5 V to 5.5 V max	0.5 V to 10.5 V max
Sensor Supply Voltage (Function of Vin)	5 V max. Vin=10Vmin	10 V max. Vin=15 V min
Exit Voltage Drift	100 ppm /°C	
Zero Offset Minimum	0.5V	
Zero Adjust	To 20% of Vout	
Gain Adjust	± 5 % of nominal gain	
Input Impedance	1GΩ	
Output Impedance	10Ω	
Output Current	5 mA max	
Current Consumption	Depending on connected sensor	
Common Mode Ratio Rejection	> 95dB min	
Input Protection	Reverse polarity protected	
Average Input Offset Drift	5µ V /°C	

Electrical Characteristics- BV (Bipolar)

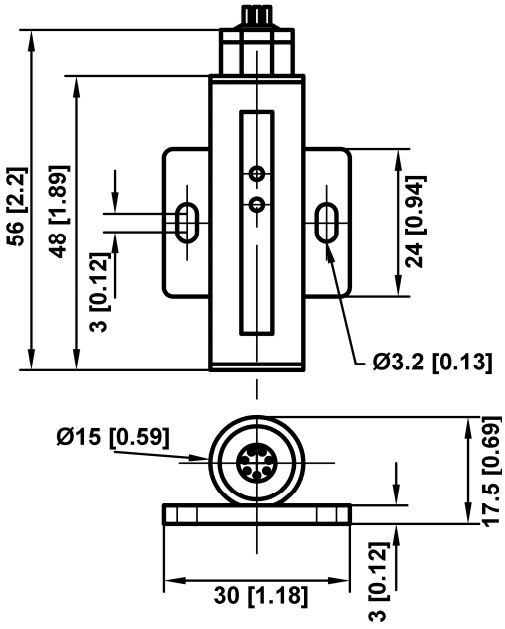
Power Required (Vin)	±12 to ±18 V	± 15 to ± 18 V
	Regulated and stabilized	regulated and stabilized
Output Signal (Vout)	±7.5 V max	±10.5 V max
Sensor Supply Voltage (function of Vin)	7 V max Vin=± 12 V min	10 V max. Vin=± 15 V min
Exit Voltage Drift	100 ppm /°C	
Zero Offset	0 V	
Zero Adjust	To 20% of Vout	
Gain Adjust	± 5 % of nominal gain	
Input Impedance	1G Ω	
Output Impedance	10 Ω	
Output Current	5 mA max	
Current Consumption	Depending on connected sensor	
Common Mode Ratio Rejection	>95 dB min	
Input Protection	Reverse Polarity Protected	
Average Input Offset Drift	5 µV/°C	

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)

XAM-CP



XAM-CC

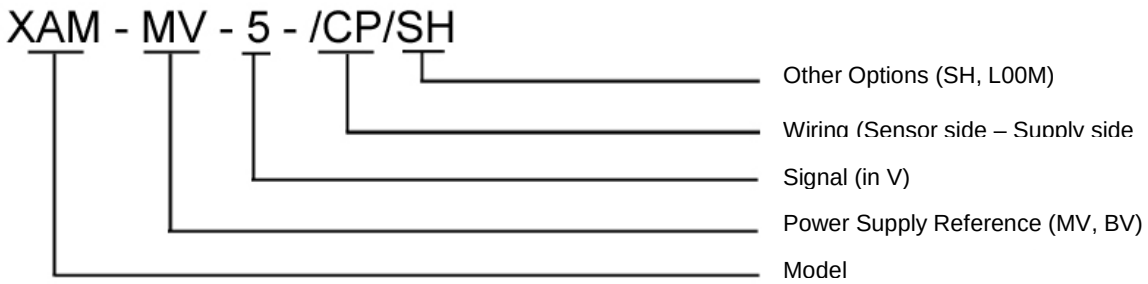


XAM

OPTIONS

MV	: Unipolar Tension
BV	: Bipolar tension
1-10	: 1 to 10 V (MV Model)
± 1 to ± 10V	: BV Model
CP	: Connector (to sensor) /Cable gland (to power supply)
CC	: Connector / Connector
PP	: Cable gland / Cable gland
PC	: Cable gland (to sensor) / Connector (to power supply)
SH	: Shunt Calibration
L00M	: Special cable length, replace “00” with total length in meters

ORDERING INFO



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