MODEL 140A INLINE AMPLIFIER

- **Low Noise Inline Amplifier**
- **User Selectable Gain Settings**
- **Small Rugged Package**
- **Includes Auto-Zero Function**

The Model 140A is a remote in-line DC amplifier designed to be used with bridge-type mV output transducers. The amplifier features five user selectable gain settings with a gain accuracy of ±0.5% and offers a wide bandwidth to 100kHz. The model 140A offers a unique patented auto-zero function that allows the operator to zero the transducer offset voltage to within ±1.5mV either remotely or by pressing the on-board push button at the user's command, usually right before the taking of data. This feature removes any offset drift from the sensor for a more accurate measurement.

APPLICATIONS

- Pressure and Level Indication
- Static Acceleration Testing
- Instrumentation Labs
- Load Monitoring
- Strain Measurement

FEATURES

- Interface with mV Output Sensors
- ±1.5mV Auto-Zero Function
- x10, x25, x50, x100 & x200 Gain Settings
- Wide Bandwidth to 100kHz
- 5 to 30Vdc Excitation Voltage

US Patent No. 8.823,364 B2 applies

PERFORMANCE SPECIFICATIONS

All values are typical at ±24°C and 12Vdc excitation unless otherwise stated. TE reserves the right to update and change these specifications without notice.

PARAMETERS

DYNAMIC	
Input Type	Differential
Input Range (V)	0.5 to (Vexc – 0.6), each input referenced to ground
User Selectable Gain Settings	x10, x25, x50, x100, x200
Bandwidth (-3dB)	DC to 100kHz
Noise (µVrms/√Hz)	0.03 RTI + 2 RTO
Zero Output After Auto-Zero Actuation[1]	±1.5mV, referenced to 2.5V reference out
Input Range Limit for Auto-Zero Function	±10Volts/gain

ELECTRICAL	
Excitation Voltage (Vdc)	5 to 30
Reverse Polarity Protection	-20V, on excitation line
Quiescent Current (mA)	15
Reference Out (Vdc)	2.5 ±0.05, referenced to ground
Output Voltage Limit (Vpk)	±2, referenced to 2.5V reference out
Gain Accuracy (%)	0.5
Output Impedance (Ω)	<50
Insulation Resistance (MΩ)	>100 @ 50Vdc

ENVIRONMENTAL	
Operating Temperature (°C)	-20 to +70
Storage Temperature (°C)	-20 to +70
Environmental Protection	IP50, Silicone Potted
Vibration (g)	20 pk from 50Hz to 2000Hz
Shock (g)	2000 pk with 3.6ms Haversine pulse

PHYSICAL	
Case Material	Anodized Aluminum
Electrical Connector, Input	Binder Connector P/N 09-0478-00-07 (mates with Binder Connector P/N 99-0421-10-07)
Electrical Connector, Output	Binder Connector P/N 09-0098-00-05 (mates with Binder Connector P/N 99-0413-10-05)
Weight (grams)	34

[1] Auto-zero can be actuated using pushbutton or grounding remote auto-zero pin for minimum 2 sec. Multiple actuations may be required to achieve the ±1.5mV limit.
[2] Supply Out: 5.00 ±0.10 Vdc, <150 mamps current source, >5.2 Vdc excitation required.
[3] Excitation and common ground are direct connections from instrumentation end to transducer end.

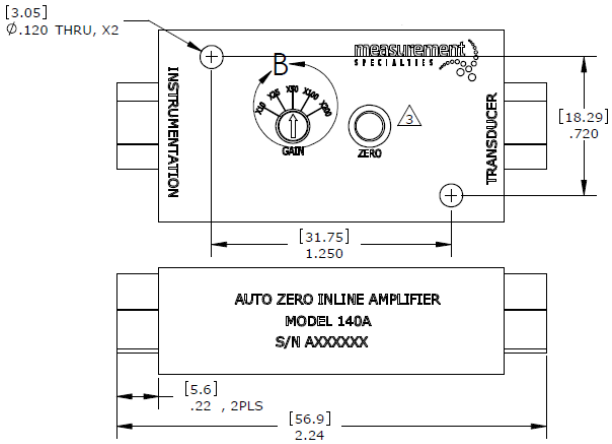
SUPPLIED ACCESSORIES

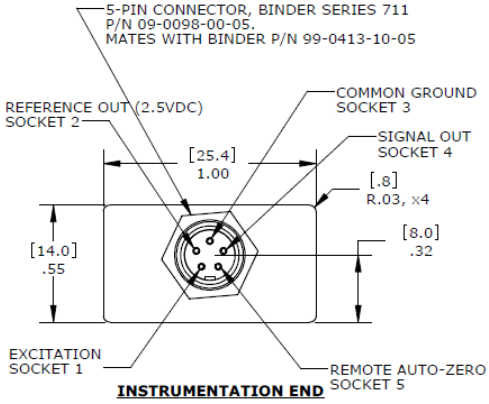
AC-G04393 1x Mating Connector Plug (Binder Connector P/N 99-0413-10-05)
AC-G05314 1x Mating Connector Plug (Binder Connector P/N 99-0421-10-07)

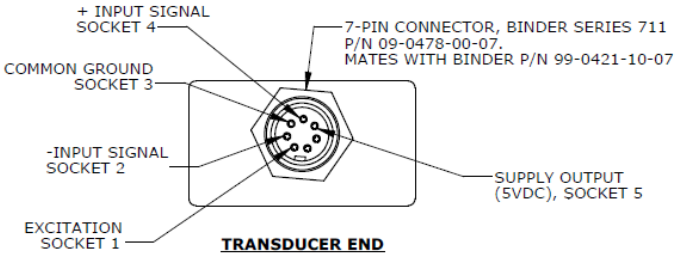
OPTIONAL ACCESSORIES

379-XXX Cable Assembly, 5x #30 AWG, (XXX designates length in inches, 10ft standard)

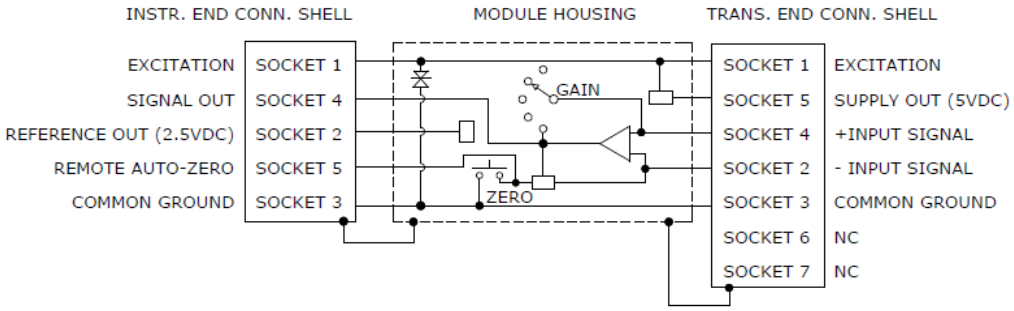
DIMENSIONS







SCHEMATIC



ORDERING INFORMATION

Part Number
140A