

Strain Gauge Analog Amplifier with Differential Output



FEATURES

- Differential Input, Differential Output
- Ultra low noise output
- Up to 50 kHz bandwidth
- ±5 or ±10 VDC Outputs
- Bridge Excitation: 5 or 10 VDC (DIP Switch)
- Ranges: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 10.0 mV/V (DIP Switch)
- 256 Selectable Shunt Combinations: $30k\Omega$, 43.7k Ω , 60.4k Ω , 87.6k Ω , 100k Ω , 150k Ω , $300k\Omega$, $432k\Omega$ (DIP Switch)
- 5 Selectable Bandwidths (DIP Switch)
- Externally Accessible Shunt Cal Activation
- Internal Span and Offset Potentiometers
- Sensor Polarity Reversal DIP Switch

IMPORTANT NOTE: DO NOT CONNECT **DEVICE TO POWER SUPPLY WHEN** POWER SUPPLY IS ALREADY ON.

OUTPUT IS DIFFERENTIAL. DO NOT CONNECT +/- VOUT TO A GROUND. DOING SO CAN CAUSE DAMAGE.

PARAMETER	MIN.	TYP.	MAX.	UNIT	
Power Supply	12.5		26	VDC	
Current Consumption		100		mA	
Load Impedance	250k			Ohm	
Sensor Impedance	350		5000	Ohm	
Bandwidth (Setting 1)		100		Hz	
Bandwidth (Setting 2)		1000		Hz	
Bandwidth (Setting 3)		10000¹		Hz	
Bandwidth (Setting 4)		25000²		Hz	
Bandwidth (Setting 5)		50000³		Hz	
Common Mode Rejection Ratio	120			dB	
Noise		2		mVp-p	
Output Span range	-10		10	% of FSR	
Output Zero range	-10		10	% of FSR	
Gain Drift with Temperature	-25	Х	25	PPM of FS	
Nonlinearity	-0.01	х	0.01	% of FSR	
Zero Drift with Temperature	-25	Х	25	PPM of FS	
Operating Temperature	32 [0]		158 [70]	°F [°C]	
Storage Temperature	-40 [-40]		185 [85]	°F [°C]	
Relative Humidity		95% at 100 [39]		°F [°C]	
PHYSICAL FEATURES					
Material	Stainless steel	cover with aluminu	m body fastened	d by magnets	
Protection	IP50				
Weight (approx.)	0.24 lb (109 g)				
Power	LED Indicator				
CONFORMITY					
RoHS	2011/65/EU				
CE		13; EN55011:2009 ation for Aerospac			

¹ Only for Sensitivity of 1.0 mV/V or Greater

Sensor Solution Source

 $\mathsf{Load} \cdot \mathsf{Torque} \cdot \mathsf{Pressure} \cdot \mathsf{Multi-Axis} \cdot \mathsf{Calibration} \cdot \mathsf{Instruments} \cdot \mathsf{Software}$















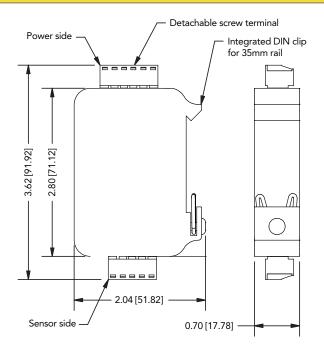


 $^{^{2}}$ Only for Sensitivity of 1.5 mV/V or Greater

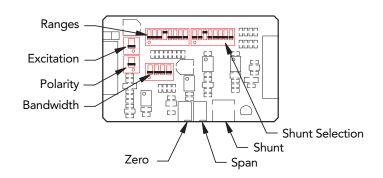
³ Only for Sensitivity of 2.0 mV/V or Greater

Model IAA300 2

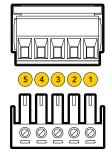
DIMENSIONS inches [mm]



DIP SWITCHES CONFIGURATION



SENSOR SIDE PIN # WIRING CODE 1 **SHIELD** 2 + EXCITATION4 3 + SIGNAL 4 - SIGNAL 5 - EXCITATION⁴

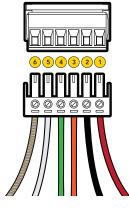


⁴ For 6 wire sensors, connect +SENSE to +EXCITATION and -SENSE to -EXCITATION.

Note: Sensor cable shield connections should be grounded on one end, either the sensor side or the IAA sensor input side, to avoid potential ground loops.

SCREW TERMINAL CONNECTIONS (POWER SIDE)

•	- /				
PIN#	WIRING CODE		COLOR		
1	+Vin	Power Supply	Red		
2	Gnd	Power Ground	Black		
3	Shunt	Remote Connection	Orange		
4	+Vout	Positive Output Connection	Green		
5	–Vout	Negative Output Connection	White		
6	Shield	Braided Cable Shielding	N/A		



Note: Gray screw terminals used for IAA300. Troubleshooting tips can be found within the IAA Series Quick Start Guide.

Visit www.futek.com/iaa/support.aspx to find the IAA Series Quick Start Guide, full product manual, wirinf layout, and gain settings.

Drawing Number: FI1397-B

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