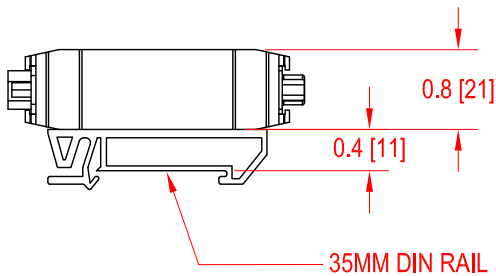
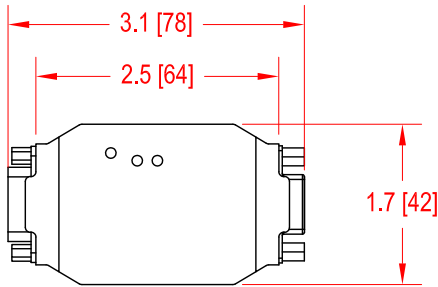


FUTEK MODEL CSG110 (JM-2AD)
STOCK # FSH01449

DIN RAIL MOUNT AMPLIFIER MODULE
±10 VDC, 0-20 mA OUTPUTS
DC POWERED, UNIVERSAL STRAIN GAGE SIGNAL CONDITIONER

Drawing Number: FI1045-F

INCH [mm] | R.O.= Rated Output

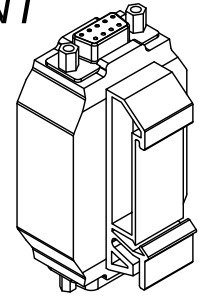
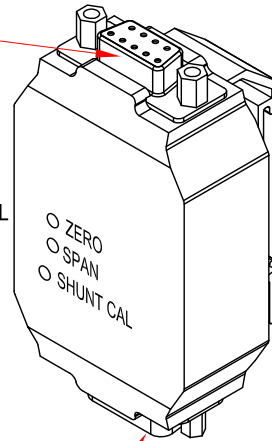


FEMALE DB 9

PIN #	WIRING CODE
1	+EXC / +SENSE *
2	+SIGNAL
3	-SIGNAL
4	-EXCITATION
5	SHIELD
7	-SENSE *

USED WITH 6 WIRE SYSTEM
 *SENSE CONNECTION OPTIONAL

CE COMPLIANT



MALE DB 9

PIN #	WIRING CODE	CABLE COLOR CODE
9	+12 TO 24 VDC	RED
8	SIGNAL OUT (VOLTAGE)	GREEN
7	RETURN (VOLTAGE)	ORANGE
6	GROUND (POWER)	BLACK
2	RETURN (CURRENT)	BLUE
1	SIGNAL OUT (CURRENT)	WHITE

Features

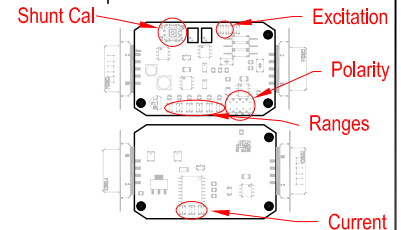
- Bipolar Output, Differential Input
- ± 5 or ± 10 VDC Solder Jumper Selectable Outputs
- 4-20, 0-20, 5-25 mA Solder Jumper Selectable Outputs
- Bridge Excitation 5 or 10 VDC
- Ranges: 0.5, 1.0, 1.5, 2.0, 3.0, 4.0 mV/V (Solder Jumper)
- Interchangeable Socket Mounted 60.4KΩ Shunt Cal
- Externally Accessible Shunt Cal Activation Button
- Internal Span and Offset Adjust Resistor Locations
- Sensor Polarity Reversal Jumpers
- Weight: 1.4 oz [40 g]

Environment

Parameter	Min	Typ	Max	Unit
Operating Temperature †	32		158	°F
	0		70	°C
Storage Temperature	-40		185	°F
	-40		85	°C
Relative Humidity: 95% at 100 °F [39 °C]				
IP Rating IP31				

Notes

1. Adjusting Zero Will Not Affect Calibration.
2. Adjusting Span Will Affect Calibration.
3. Power Supply Must Source 150mA minimum.
4. Carefully Remove Cover To Access Selection Solder Jumpers.



† Wider Range Available

* Specified at 10 VDC Output, 2mV/V range with 350 ohm bridge.
 Default settings @ 2mV/V, 10 VDC excitation and ± 10 VDC Output unless otherwise specified.
 RO Stands For Rated Output.

Electrical Specifications

Parameter	Min	Typ	Max	Unit
Power Supply	12		24	VDC
Input Current	110			mA
Output Impedance (voltage)	1200			Ohms
Output Impedance (current)			500	Ohms
Sensor Impedance	120			Ohms
Frequency Response -3db BW		1000		Hz
Common Mode Rejection Ratio	107			dB
Noise			60	mV p-p
Output Span Range	-20		4.5	% of RO*
Output Zero Range	-7.2		7.2	% of RO*
Nonlinearity	Gain			
	1	±0.0003	±0.0020	% of FSR
	10	±0.0005	±0.0040	% of FSR
	100	±0.0005	±0.0040	% of FSR
	500	±0.0044	±0.0088	% of FSR
	1000	±0.0020	±0.0200	% of FSR

Accessories And Options

Description	Stock Number
28 AWG 6 Conductor 5 ft Long Cable w/ DB9 Female (Included)	FSH01077
DB9 Male With Housing (Included)	FSH01075
28 AWG, 4 Conductor 5 ft Long Cable with DB9 Male	FSH01129
DB9 Male with Screw Terminal Blocks (Sensor Side - Figure 1.)	FSH02236
DB9 Female with Screw Terminal Blocks (Output Side)	FSH02237
3KHz -3db Frequency Response	QSH00425
5KHz -3db Frequency Response	QSH00501
11KHz -3db Frequency Response	QSH00602

Figure 1.

