

FUTEK MODEL CSG110

ITEM # SEE CHART

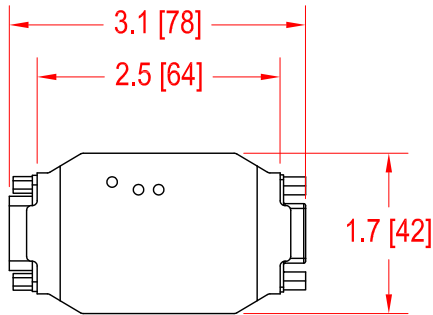
GENERAL PURPOSE DIN RAIL AMPLIFIER MODULE

DC POWERED, UNIVERSAL STRAIN GAGE SIGNAL CONDITIONER

Drawing Number: FI1045-K



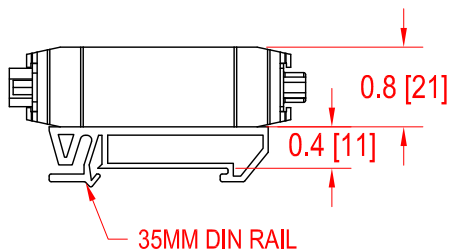
INCH [mm] | R.O.= Rated Output



FEMALE DB 9 SENSOR SIDE

PIN #	WIRING CODE
1	+EXCITATION*
2	+SIGNAL
3	-SIGNAL
4	-EXCITATION*
5	GROUND
6	GROUND
7	GROUND
8	GROUND
9	GROUND

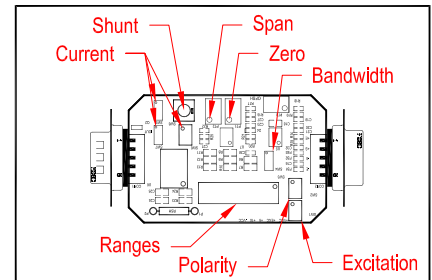
*FOR 6 WIRE SENSOR CONNECT +SENSE TO +EXCITATION AND -SENSE TO -EXCITATION OR GROUND



MALE DB 9 - POWER SIDE

PIN #	WIRING CODE	CABLE COLOR CODE
9	POWER SUPPLY	RED
8	SIGNAL OUT (VOLTAGE)	GREEN
7	GROUND	ORANGE
6	GROUND	BLACK
5	GROUND	N/A
4	GROUND	N/A
3	GROUND	N/A
2	GROUND	BLUE
1	SIGNAL OUT (CURRENT)**	WHITE

**ONLY AVAILABLE WITH CURRENT OUTPUT OPTION



Do Not Connect Device To Power Supply When Power Supply Is Already On!

Features

- Bipolar Output, Differential Input
- ± 5 or ± 10 VDC Outputs
- 0-20 mA, 4-20 mA, 0-16 mA, 5-25 mA DIP Switch Selectable Outputs
- Bridge Excitation 5 or 10 VDC
- Ranges: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 10.0 mV/V (DIP Switch)
- Interchangeable Socket Mounted 60.4K Ω Shunt Cal
- Externally Accessible Shunt Cal Activation Button
- Internal Span and Offset Adjust Resistor Locations
- Sensor Polarity Reversal DIP Switch
- Weight: 1.6 oz [45 g]

Environment

Parameter	Min	Typ	Max	Unit
Operating Temperature*	32		158	$^{\circ}$ F
	0		70	$^{\circ}$ C
Storage Temperature	-40		185	$^{\circ}$ F
	-40		85	$^{\circ}$ C
Relative Humidity: 95% at 100 $^{\circ}$ F [39 $^{\circ}$ C]				
IP Rating IP31				

* Extended Operating Temperature -40 to 29 $^{\circ}$ F [-40 to 85 $^{\circ}$ C] Available Upon Request

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 DIP Switches.

Electrical Specifications

Parameter	Min	Typ	Max	Unit
Power Supply	14 ⁽¹⁾		26	VDC
Current Dissipation ⁽²⁾		30		mA
Output Impedance (voltage)	1000			Ohms
Output Impedance (current)			500	Ohms
Sensor Impedance	100			Ohms
Bandwidth	1000		25000	Hz
Common Mode Rejection Ratio	120			dB
Noise		15		mV p-p
Output Span Range	-10		10	% of RO
Output Zero Range	-10		10	% of RO
Gain Drift With Temperature	-25	x	25	PPM of FSR
Gain Non-Linearity	-0.001	x	0.001	% of FSR
Zero Drift With Temperature	-25	x	25	PPM of FSR

Versions

Item #	Bandwidth	Output
FSH01449	1 kHz	± 5 VDC, ± 10 VDC, 0-20 mA, 4-20 mA, 0-16 mA, 5-25 mA
FSH03546	1 kHz	± 5 VDC, ± 10 VDC
QSH00602	10 kHz ⁽³⁾	± 5 VDC, ± 10 VDC, 0-20 mA, 4-20 mA, 0-16 mA, 5-25 mA
QSH01498	25 kHz ⁽⁴⁾	± 5 VDC, ± 10 VDC, 0-20 mA, 4-20 mA, 0-16 mA, 5-25 mA

Accessories And Options

Description	Item Number
26 AWG, 6 Conductor 5 ft Long Cable w/ Yellow Molded DB9 Female (Included)	FSH03219
DB9 Male With Housing (Included)	FSH01075
28 AWG, 4 Conductor 5 ft Long Cable w/ DB9 Male	FSH01129
DB9 Male with Screw Terminal Blocks (Sensor Side)	FSH02236
DB9 Female with Screw Terminal Blocks (Output Side)	FSH02237

(1) For FSH03546: Min. Power Supply is 12.5 VDC
 (2) No Load Applied (Input or Output)

(3) Only For Sensitivity Of 1 mV/V or Greater
 (4) Only For Sensitivity Of 1.5 mV/V or Greater



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