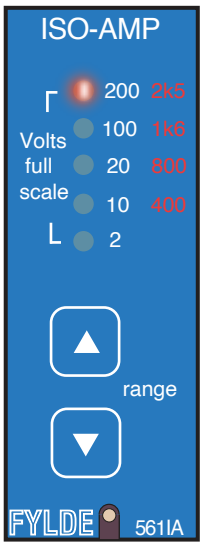
FYLDE MODULAR INSTRUMENTATION

FE-561-IA Isolation Amplifier



Front panel shown actual size

The FE-561-IA is a high voltage isolation amplifier for front end use when hazardous inputs must be measured.

The amplifier comprises a low noise, low drift input stage with differential characteristics, a high performance isolation stage and a filter with buffered voltage output.

Voltage isolation is 1500V RMS.

There are 9 input ranges with a maximum of 2500V pk (1800V RMS sinewave).

The amplifier is exceptionally easy to use and is fully protected on all ranges to 3kV DC or RMS continuous, and up to 5kV pk (5s).

Maximum Bandwidth is 200kHz.

Power Line Monitoring

Ground Loop Elimination

Current Shunt Measurements

Data Acquisition or Oscilloscope front end

Applications include power line monitoring including high side current shunts, ground loop elimination and as a protected front end for data acquisition systems recorders and oscilloscopes.

Two sizes of enclosure are available :-
FE-PE8 for up to 8 amplifiers.
FE-PE17 for up to 16 amplifiers.

Power source is either 115 or 230V 50/60Hz

Introduction

The FE-561-IA Isolation Amplifier is a module for a Fylde enclosure. It provides 1500 V RMS working isolation voltage or 2.1 kV peak for continuous DC Voltage Isolation. It has a bandwidth set by a plug-in resistor network. Unless otherwise stated, the specification is for a 2.2 kΩ resistor network which sets 150 kHz -3 dB bandwidth.

Isolation	Working Voltage	Max 1500 V RMS or 2.1 kV peak DC
	Withstand Voltage (100% tested)	5 kV pk for 5s
	Capacitance	15 pF
	Resistance	> 15 x 10^9 Ω
	Isolation Mode Rejection	> 150 dB (DC to 60 Hz) Inputs Shorted Together.
	Leakage Current	< 2 µA RMS at 230 V RMS 50 Hz
Gain	Selectable Settings	÷250 (2500 V FS), ÷160, ÷80, ÷40, ÷20, ÷10, x1, x10 (1V FS)
	Linearity	±0.02% Full Scale
	Accuracy	±0.1% of gain setting
	Temperature Coefficient	< 0.01% / °C
	Stability	< 0.1% Change over 12 months.
Frequency Response	8 Pole Butterworth Low Pass Filter	
	1 kΩ Resistor Pack	-3 dB: 200 kHz, -5%: 75 kHz, -1%: 40 kHz
	2.2kΩ Resistor Pack (Standard)	-3 dB: 150 kHz, -5%: 65 kHz, -1%: 30 kHz
	4.7 kΩ Resistor Pack	-3 dB: 70 kHz, -5%: 34 kHz, -1%: 15 kHz
Transient Response	10 V pulse	(x 1 Gain, 1kΩ resistor pack): 3 µs pulse width :10V peak output response. 1 µs pulse width :5V peak output response.
Input	Maximum	2.5kV peak (sine) or 2kV DC continuous
	Withstand	3kV pk continuous or 2.5kV DC 2 minutes
	Protection rating	CAT III 600V, CAT IV 300V
	Impedance	>2.5M Ω
Output	Range	±10 V minimum
	Current	± 10 mA
	Offset Temperature Coefficient	< 15 µV/°C max
	Noise	15 mV pk-k at Gain x10, 500 kHz measurement bandwidth.
Limit Detection	Minimum pulse width	6 µs
Remote Control		See Specification for FE-507-IF module.
Environment	Operating Temperature	0 – 50 °C
Power Supply	Options:	230 V AC, 110 V AC, 9-36 V DC, 12V DC
Physical	Dimensions / weight	panel 2.75” x 1”, overall depth 8.2” / 200gm
Enclosures	Options:	2 modules fit FE-PE2. 4 modules fit FE-PE4 8 modules fit FE-PE8. Up to 16 in FE-PE17(RK) RK= Rack Mount
EMC	EN 61326-1:2013 and EN 61326-2-1:2013	
Safety	EN 61010-1:2010	