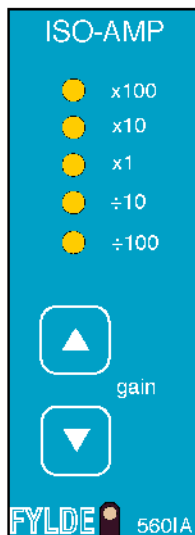


## FE-560-IA Isolation Amplifier



Front panel shown actual size

Power Line Monitoring

Ground Loop Elimination

Current Shunt Measurements

Oscilloscope front end

The FE-560-IA is an Isolation Amplifier in the FYLDE “blue panel” modular range of signal conditioning and is a general purpose isolation amplifier for front end use when hazardous voltages must be measured.

Continuous voltage isolation is up to 1500 V RMS or 2.2 kV DC\*.

Bandwidth extends to more than 200 kHz and high speed pulses down to  $3\mu\text{s}$  can be measured.

The amplifier is fully protected using advanced depletion mode FET devices and has a gain range of  $\div 100$  up to  $\times 100$ .

The amplifier features limit detection with attention grabbing indication when the signal amplitude is out of range.

The module may be housed in the “PE” range of enclosures starting with the FE-PE2 for 2 channels up to the FE-PE17 for a maximum of 16 amplifiers.

Power source is either 115 or 230V 50/60Hz and a DC power option is available.

\* May be limited by input connector choice.

Introduction

The FE-560-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 k $\Omega$  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	$> 15 \times 10^9 \Omega$
	Isolation Mode Rejection	$> 150$ dB (DC to 60 Hz) Inputs Shorted Together.
	Leakage Current	$< 2 \mu\text{A}$ RMS at 230 V RMS 50 Hz
Gain	Selectable Settings	$\pm 100$ , $\pm 10$ , x1, x10, x100
	Linearity	$\pm 0.02\%$ Full Scale
	Accuracy	$\pm 0.1\%$ of gain setting
	Temperature Coefficient	$< 0.01\%$ / $^{\circ}\text{C}$
	Stability	$< 0.1\%$ Change over 12 months.
Frequency Response	8 Pole Butterworth Low Pass Filter	
	1 k $\Omega$ Resistor Pack	-3 dB: 200 kHz, -5%: 75 kHz, -1%: 40 kHz
	2.2k $\Omega$ Resistor Pack (Standard)	-3 dB: 150 kHz, -5%: 65 kHz, -1%: 30 kHz
	4.7 k $\Omega$ Resistor Pack	-3 dB: 70 kHz, -5%: 34 kHz, -1%: 15 kHz
Transient Response	10 V pulse	(x 1 Gain, 1k $\Omega$ resistor pack):
		3 $\mu\text{s}$ pulse width :10V peak output response. 1 $\mu\text{s}$ pulse width :5V peak output response.
Input	Maximum	1000 V peak DC
	Protection	1000 V at Gains x1, x10, x100 Attenuated settings ( $\pm 100$ , $\pm 10$ ) withstand 2 kV continuous.
	Offset Temperature Coefficient	$< 1.5 \mu\text{V}/^{\circ}\text{C}$ max RTI
Output	Range	$\pm 10$ V minimum
	Current	$\pm 10$ mA
	Offset Temperature Coefficient	$< 15 \mu\text{V}/^{\circ}\text{C}$ max
	Noise	15 mV pk-k at Gain x100, 500 kHz measurement bandwidth.
Limit Detection	Minimum pulse width	6 $\mu\text{s}$
Remote Control		See Specification for FE-507-IF module.
Environment	Operating Temperature	0 – 50 $^{\circ}\text{C}$
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