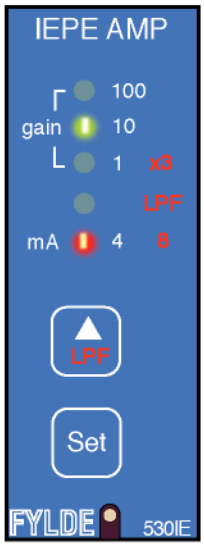
FYLDE MODULAR INSTRUMENTATION

FE-530-IE
IEPE Amplifier



Front panel shown actual size

- Bandwidth exceeds 100kHz*
- Otional RS232 control with TEDS.
- 3 IEPE current settings.
- 8 pole Low Pass filter.
- IEPE line fault monitoring.

*Gains up to x30. x100 typ. 70kHz.

The FE-530-IE is a high performance IEPE amplifier for conditioning piezo transducers having built-in low impedance buffering, commonly referred to as Integrated Electronic Piezo Electric.

The module provides front panel control for signal gain, IEPE current and Low Pass filter selection. Additionally, a health monitor checks transducer bias and any fault condition is indicated.

Front panel controls can be disabled as this module also provides an option for remote control via RS232. A TEDS (Transducer Electronic Data Sheet) option can be specified.

Switching IEPE current off enables the amplifier to be used as a high bandwidth, low noise differential AC coupled amplifier for other AC signal sources.

Power requirement is 200-250V AC or alternatively 100-120 V AC. 12V D.C. powered modules are also available.

The module is mechanically and electrically compatible with other FYLDE modules and with FYLDE 2U racks and instrument cases.

Description

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The module provides front panel control for signal gain, IEPE current and Low Pass filter selection. Additionally, a health monitor checks transducer bias and any fault condition is indicated. The amplifier is fully differential and features a unique ground earth loop rejector for applications in which the transducer is non-isolated.

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Specification

IEPE Supply	Settings	4mA, 8mA and off.	
Amplifier	Gain Settings	x1, x3, x10, x30, x100, x300 ±0.1% typ. ±0.2% max.	
	Stability	0.02% / °C.	
	Input impedance	1MΩ balanced differential.	
	Input remote return	Reduces ground loop noise when transducers are non-isolated.	
	Noise	4μV RMS RTI.	Note 1
	CMR	>60dB on maximum sensitivity.	
	Bandwidth	<0.25Hz to >100kHz (-3dB).	Note 2
Filter	Low Pass	Butterworth 8 pole (-48db/octave roll-off). Programmable by plug-in resistor network in the range 20Hz to 20kHz.	
	High Pass	Butterworth 2 pole (-12db/octave roll-off). Programmable by plug-in resistor network in the range 0.25Hz to 100Hz.	
Output	Direct	±10V @ ±5mA, 1Ω impedance.	Note 3
Control	Indicators	Front panel indication of Gain, IEPE setting, LP filter setting, IEPE line health.	
Programming	Option	Remote setting of Gain, IEPE supply, LP filter setting via RS232 TEDs option.	
Temperature	Storage / Operating	-20°C to 75°C / 0 - 40°C.	
Dimensions	Fylde 'blue panel' (2u)	Panel 2.75" x 1" wide (70 x 25mm), depth 7.7". Wt.6oz (150gm).	
Housing	FE-PE2, PE4, PE8	2, 4 or 8 channels maximum respectively.	
	FE-PE17(RK)	16 channels maximum.	
Power Supply	FE-PE2/4 case	100-120V OR 200-250V (50/60Hz) OR 12V DC option.	
	FE-PE8/17 case	As above, and additionally 100-120V & 200-250V .	

Notes

1. Referred To Input, gain x300 90% occurrences, measurement bandwidth 100 kHz.
2. x1 to x30. x100, x300 70kHz typ.
3. Module only backplane connectors and EMC filter.

Spec correct as of July 2010. May be revised without notice.