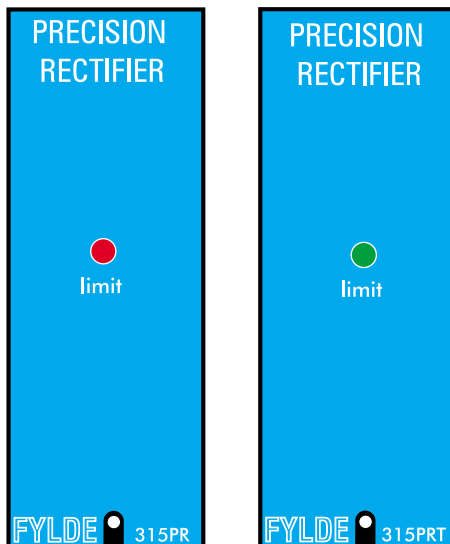


FE-315-PR (averaging) FE-315-PRT (true RMS) precision rectifiers



For use with signals from :-
 VELOCITY TRANSDUCERS
 *
 CHARGE AMPLIFIERS
 *
 NOISE MEASUREMENT SYSTEMS
 *
 POWER SYSTEMS

The Fylde Precision Rectifiers type FE-315-PR(T) are presented as 1" wide modules in 2U height. No front panel controls are fitted and the modules are generally scaled to give 1V DC out for 1V RMS input although special scaling or input gain can be provided on request.

A limit indicator shows that the rectified output is valid..

The input stage is configured as a differential amplifier which provides 60dB of CMR.

Bandwidth (0.1%) extends from 10Hz to 20kHz, with special versions on request.

FE-315-PR

The rectification technique is precision full-wave averaging, and a 3 pole output low pass filter reduces ripple.

FE-315-PRT

A true RMS integrated circuit is used providing accurate conversion for waveforms with crest factors of up to 7.

Power requirement is 200-250V AC or alternative 100-120V a.c. 50/60Hz. 12V d.c. power may be utilised by fitment of an FE-605-DCC converter.

Circuitry is earth free.

Up to 16 modules (plus power switch module) fit standard 2U PE17; 8 in an PE8 1/2 rack; 4 in a PE4 and 2 in a PE2.

A wide range of compatible amplifiers and signal conditioners is available.

SPECIFICATIONS

INPUT	Resistance	100k Ω differential (standard)
	Offset Voltage	< ± 1 mV.
	Protection	± 15 V d.c. normal or common mode, or HV transient.
	CMR	Greater than 60dB, d.c. - 1kHz.
FREQUENCY	Response	10Hz - 20kHz (-0.1%, -1%).
GAIN	Calibration	1V DC output for 1V RMS input (sinewave).
	Accuracy (PR)	$\pm 0.1\% \pm 2$ mV typ.
	Accuracy (PRT)	$\pm 0.25\% \pm 2$ mV typ.
CREST FACTOR (PRT)	Additional error	1 to 2 as specified
		3 -0.1%
		7 -1%
NOISE		<0.1% F.S.
STABILITY	Temperature	<0.01% of reading / $^{\circ}$ C
	Time (1000 hours)	<0.01% of reading.
FILTER		3 pole ripple reduction output filter. Filter normally set to reduce output ripple to <0.5% @ lowest frequency of interest.
RISE TIME	Standard filter	<0.3s (may be reduced by ripple trade-off)
OUTPUT	1	Direct voltage +10V (min. load 2k Ω).
	Impedance	Less than 1 Ω d.c. - 1kHz.
	Offset	< ± 3 mV.
	Protection	Accepts short-circuit of unlimited duration
	2	Attenuated via series and damping resistors.
Limit Indication		Normally indicates green. When peak of waveform at the rectifier exceeds ± 10 V indicator shows red for minimum of 0.5 s.
OPERATING TEMPERATURE RANGE		0-50 $^{\circ}$ C.
POWER REQUIREMENT		200-240V 50/60Hz standard. 100-120V 50/60Hz to order at no extra cost 12V d.c. to order at extra cost (FE-605-DCC fitted)
DIMENSIONS		Panel 2.75" x 1" wide (7 x 2.5cm), overall depth 8.5" (21.5cm).
CONNECTOR		25-way edge connector 0.1" (2.5mm) pitch.
WEIGHT		6.5oz (184g).
HOUSING		2, 4 or 8 or 16 channel cases.