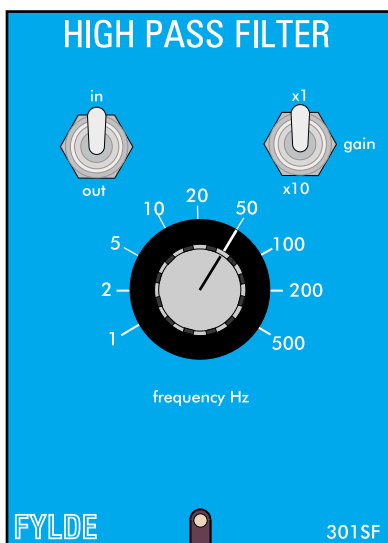


FE-301-AF/SF Active Filter



The FE-301-AF is a versatile active filter module.

Filters of from 2 to 8 poles may be realised using Butterworth, Bessel or Chebyshev type response in high-pass or low-pass form.

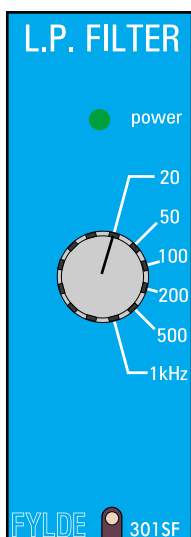
In addition it is possible to provide an input buffer for filters of less than 8 poles. The buffer may be differential or single ended and, depending on requirements, may be equipped with switched gain. In a similar way, output stages of lower order filters may be given switched or fixed gain.

The filter may be built with a 1" or 2" wide front panel depending on switching requirement and up to 9 ranges may be provided. A filter in/out switch is optional.

The filters provide a standard $\pm 10V$ output Frequency tolerance is typically 1% and passband phase match 1° .

Modules are individually mains or optionally 12V DC powered using the FE-605-DCC in place of each individual mains transformer.

Modules are plug compatible with amplifiers and housings are available for individual units or multi-channel systems.



For use with signals from :-

GENERAL INSTRUMENTATION

*

CHARGE AMPLIFIERS

*

NOISE MEASUREMENT SYSTEMS

General Description

The FE-301-AF or FE-301-SF is a general purpose active filter module in the Fylde range of blue panelled signal conditioning modules. The FE-301-SF provides up to 6 cut off frequencies selected using a front panel rotary switch, and the FE-301-AF has a fixed response without front panel control. These modules are built to order, and a 2, 4, 6, or 8 pole filter in either high or low-pass form may be produced. Butterworth (maximally flat) Bessel (linear phase) or Chebyshev (maximum roll-off) may be configured as requested. The input may be single ended or differential and gain may also be specified. Unity gain, and differential input are standard.

The module may be specified as mains or DC energised (DC via FE-605-DCC).

General Specification

GAIN	passband	Unity \pm 0.01dB
INPUT	impedance	1M Ω for buffered input.
	coupling	DC or AC for input buffer.
	offset	<1mV.
OUTPUT	voltage	\pm 10V 10mA maximum.
	impedance	<1 Ω
	noise	<1mV RMS.
FREQUENCY	range	DC to greater than 50kHz, but switched ranges are usually limited to 3 decades.
	accuracy	typically 1%, passband phase match typically 1°
RESPONSE	type	Butterworth, Bessel or Chebyshev to order. High pass or Low pass.
	roll off	2 pole (-12 dB/octave, -40dB/decade) 4 pole (-24 dB/octave, -80dB/decade) 6 pole (-36 dB/octave, -120dB/decade) 8 pole (-48 dB/octave, -160dB/decade)
TEMPERATURE	range (ambient)	0 - 50°C operating.
POWER SUPPLY	requirement	200 - 250 50/60 Hz 100 - 120 50/60 Hz 12V dc to order at extra cost.
DIMENSIONS	front panel	2.75" x 1" wide (66 x 25 mm)
	depth	8" overall (200mm)
WEIGHT	approx.	220 g
CONNECTOR		25 way edge connector, 0.1" pitch.
HOUSING		PE2 : up to 2 channels in this case style. PE4 : up to 4 channels or 2 channels and monitor unit. PE8 : up to 8 channels or 6 channels and monitor unit. PE17 : up to 17 channels or 14 channels and monitor unit. PE8 and PE17 are 2U high cases which may be ordered for rack mounting

NOTE Contact with the factory is advisable in order that the precise nature of customer requirements may be discussed. This specification is intended to show the normal limits and the basic concept of Fylde modular filter units. Filter modules may be mixed with other modules in any system.