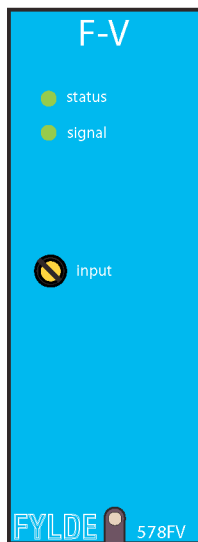


FE-578-FV

Frequency to Voltage Converter



For use with signals from :

TOOTHED WHEEL
*
OPTICAL PICKUPS
*
MAGNETIC PICKUPS

This instantaneous F-V converter accepts frequency inputs from electromagnetic or light activated sources, or from a low impedance output of other signal conditioning systems for virtually all pulse or frequency waveforms from 10mV to 30V RMS.

The frequency of the incoming signal is converted to an output voltage in the range 0-10V, requiring just one pulse of the new frequency to update the output voltage.

The full scale frequency is set using two on board decimal rotary switches, and an on board jumper selects the output span so that 00.0 V can represent 0 Hz or 90% of the selected full scale frequency.

The full scale frequency can be set between 10 Hz and 50 kHz. The lowest frequency which can be converted is 0.25 Hz.

A low noise output combined with linearity and accuracy exceeding 0.1% provides excellent analogue performance, and selecting the on board 3 pole filter provides a frequency averaging function when required.

Front panel indicators show "signal present" and "status". A front panel control can be used to adjust signal sensitivity.

12V DC transducer power and 5V TTL buffered frequency outputs are available at the module edge connector.

Power can be 115V or 230V 50/60 Hz or 12 V DC power may be specified when ordering. Enclosures for up to 16 modules are available.

Description

The FE-578-FV module consists of a Frequency to Voltage converter using a high speed technique which overcomes the long filter delay normally associated with averaging F-V methods.

The module will accept inputs from frequency pickups and preconditioned signals in the range <100mV to >30VRMS. For most frequencies an updated output is available after only one period of the incoming frequency plus 60 μ s.

Specification

INPUT	Arrangement Impedance Voltage handling	Differential input. 40k Ω (differential). > 30VRMS.
TRIGGERING	Indication Threshold	‘signal’ indicates signal present. ‘status’ indicates signal within range Front panel adjustable threshold.
F-V	Output Range selection Max Full Scale Min Full Scale Min Frequency Linearity Full Scale Accuracy Response Span selection	0.00V to +10.00 V (Full-scale) 2 digit decimal number x 10Hz or x 1kHz sets full scale frequency 50 kHz 10 Hz 0.25 Hz \pm 0.1% of full-scale \pm 0.05% (up to 10 kHz range) \pm 0.1% (up to 50 kHz range) Output follows instantaneous change of frequency in :- 1 period of new frequency. + 60 μ s to 25kHz, (100 μ s 50kHz). Span of 0V = 90% of full scale ,10V = 100% of full scale. Set by on board jumper.
FILTER	Low Pass	Ripple reduction filter 3 pole active Low Pass filter follows F-V. Set by plug in filter network. On board jumper selects filtered or unfiltered output.
OUTPUT	Impedance Offset Noise	100 Ω at the output BNC connector. \leq 5mV. < 10 mV pk-pk (10 kHz range, unfiltered output selected)
FREQUENCY OUTPUTS		TTL (5V amplitude) outputs which follow the input frequency are available at the module edge connector. When ordering with an enclosure, please specify whether these outputs are required.
TRANSDUCER SUPPLY		A 12V supply at 15 mA is available at the module edge connector. When ordering with an enclosure, please specify if this is required.
POWER SUPPLY	Module Indication	Standard : 230V or 115 V AC 50/60Hz. Option : 12V DC power. ‘status’ or ‘signal’ indicator always illuminated when module is powered.
ENVIRONMENTAL	Temperature range	0 to 40 $^{\circ}$ C.
DIMENSIONS	Presentation Front Panel PCB Enclosures	Blue Panel series, 1” wide module. 1” x 2.7”. 7.1” x 2.65” . This module requires an enclosure of type FE-PE2, FE-PE4, FE-PE8, or FE-PE17.