



## Features

- Selectable Frequency Range
- 10 Vdc Output
- 20 mV to 10 V with AGC
- Selectable Low-pass Filter
- Full-scale Suppression Control
- X10 Output Expansion

## DESCRIPTION

The FC62 is a frequency to voltage converter plug-in module for the Validyne MC1 Module Case. It is used to convert electrical frequency signals to a proportional DC voltage. Any frequency between 50 Hz and 50 kHz may be adjusted to produce a 10 Vdc output from the FC62 by means of the ten-position range switch and the range trim control.

The input signal can be from magnetic pickups, photo cells, oscillators or any other signal source that produces a polarity change of  $\pm 15$  mV or more. The speed of response of the output signal is controlled by the six-position low-pass filter selector. For high frequency input signals, an output frequency response of up to 200 Hz may be used to measure rapid changes in input frequency.

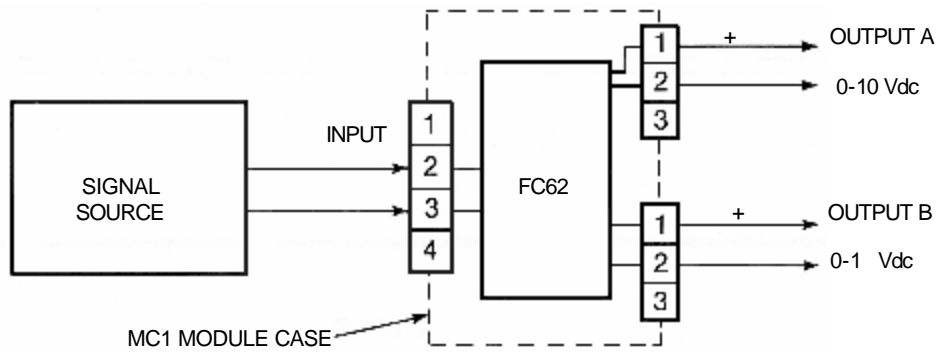
For lower input frequencies or to smooth out the response of a high frequency signal, a 0.1 Hz low-pass filter may be selected. Any output voltage up to 10V may be suppressed to zero by means of the 10-turn suppression control, to allow small changes around a fixed point to be observed. These small changes can be expanded by a factor of ten with the X10 output gain switch. In this mode a change in input frequency of  $\pm 10\%$  of range will produce a  $\pm 10$  Vdc output signal.

Input modes are selectable for AC, DC or logic (logic level or zero crossing). The FC62 may be calibrated by using the internal carrier signal or by an external source. This feature is switch selectable internally. The output of the FC62 can be monitored from the front panel test points.

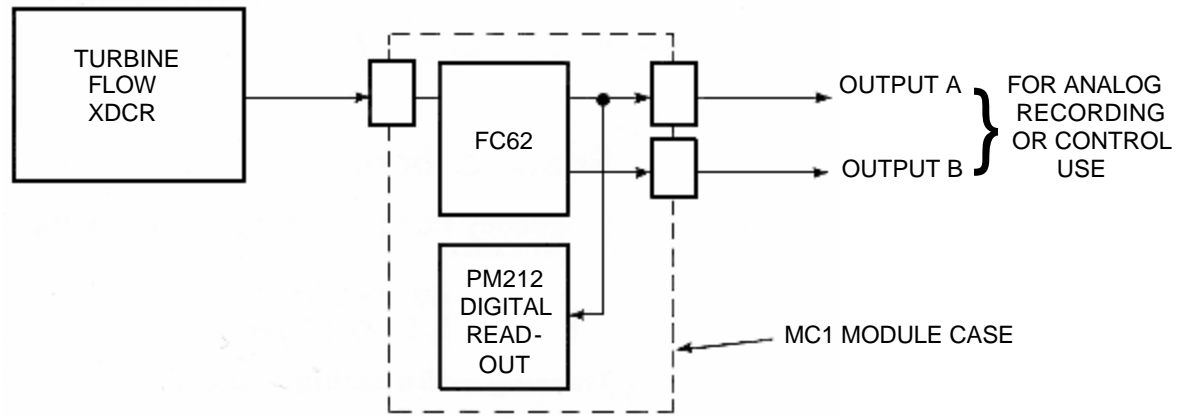
## Specifications

<b>Frequency Range:</b>	9 ranges, 50 Hz full scale to 50 kHz full scale. 0 to 50, 100, 250, 500 Hz 0 to 1, 2.5, 5, 25, 50 kHz
<b>Tracking or Switching Accuracy:</b>	2%, top to bottom.
<b>Input Modes:</b>	AC, DC or logic (selectable; logic level or zero crossing).
<b>Output A:</b>	0 to 10 V, 1 to $\pm 100$ mA less than 1 ohm source impedance, short circuit proof.
<b>Output B:</b>	0 to 1V DC, 90 ohm source impedance.
<b>Range Trim:</b>	Adjust output to provide 10 Vdc output for any frequency from 100% of selected range to 40% of selected range.
<b>Output Suppression:</b>	0 to 10 Vdc, any output up to 10 V may be suppressed to zero with the 10-turn calibrated suppression control.
<b>Output Gain:</b>	X10 gain switch allows output signal to be expanded 10 times. Any selected $\pm 10\%$ portion of a full-scale frequency change will produce $\pm 10$ Vdc output.
<b>Output Frequency Response:</b>	Six ranges: 0 to 0.1, 0.5, 2, 10, 50, 200 Hz
<b>Linearity:</b>	$\pm 0.1\%$ (typ. $\pm 0.05\%$ )
<b>Operating Temperature:</b>	0. to 160° F
<b>Temperature Sensitivity:</b>	Span 0.005%/°F (typ.); Zero 0.001 %/°F (typ.)
<b>Power Requirements:</b>	+15 Vdc at 50 mA; -15 Vdc at 28 mA. Supplied by module case.

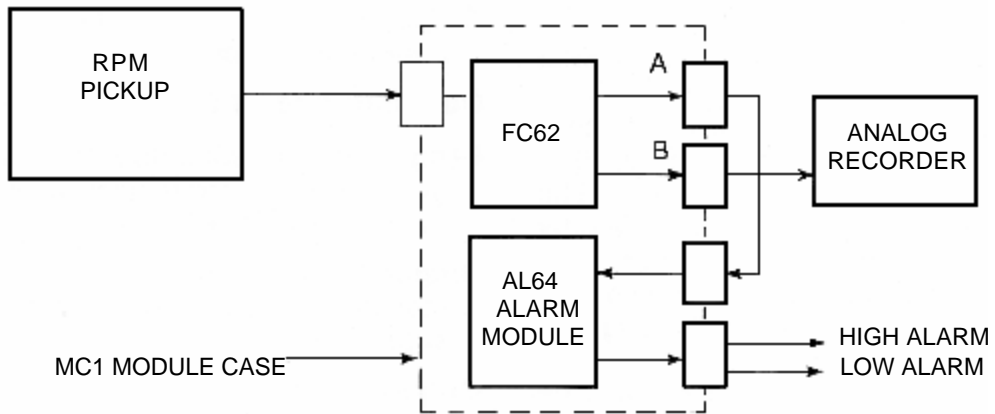
## TYPICAL APPLICATIONS



TYPICAL INSTALLATION, MAGNETIC OR PHOTOCELL INPUT



FUEL FLOW MEASUREMENT WITH DIGITAL FLOW READOUT



SPEED MEASUREMENT WITH OVERSPEED/UNDERSPEED ALARMS

## Accessories

P/N 7616-2 Plug-In Module Connection Extender



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