



# Panel mount frequency meter

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Allows for a delay in the start-up time after powering the instrument. During this time the instrument performs no measurement or control. Ability to reset the display count on instrument start-up.

The fast and simple way to configure a sensor. Select from a predefined list Eg. NPN, PNP, Namur, pick-up, inductive, etc. The instrument will automatically configure the required parameters for the selected sensor (pull-up / pull-down resistors, trigger level, excitation voltage, etc)

Simple selection of the optimal trigger level for the sensor input. The display indicates up or down reflecting the status of the input signal level. When the LED changes state continuously the optimal trigger level has been achieved.

The FR dual-channel signal conditioner accepts inputs from proximity switches with a PNP or NPN output, TTL or CMOS logic, magnetic pickups, contact closures, low-level outputs from turbine flow meters down to 12 mV, and high-level AC line inputs up to 250 Vac. A built-in isolated 5, 10, or 24 Vdc excitation supply can power proximity switches and other sensors, thus eliminating the need for an external power supply.

The analog output can be selected as 4-20 mA, 0-20 mA, unipolar 0-10V, or bipolar -10V to +10V with a 20V span and 0V at mid-range. If a voltage output is selected, output pins 1 and 2 may be reversed to provide reversed polarity.

A 16-bit D-to-A converter provides 0.0015% full-scale resolution and  $\pm 0.02\%$  full-scale accuracy. The update rate for meters is a fast 60/sec for 60 Hz power or 50/sec at 50 Hz power. The analog output can track the unfiltered signal for fastest response, or a digitally filtered signal for best noise rejection.

Isolation from power and signal is provided by a separate power supply in the meter. This supply can drive 20 mA of current into loads up to 600 ohms for 12V compliance. Isolation to signal ground and power ground eliminates problems caused by ground loops.

Scaling of the analog output can be via the meter's front panel pushbuttons or a serial digital interface using Instrument Setup software. The displayed readings to produce the low and high analog outputs can be set to any value from -99999 to +99999 for DPMs or from -999999 to +999999 for counters and timers. Depending on your selected output range, simply set the meter reading for low analog output (4 mA, 0 mA, 0V or -10V) and for high analog output (20 mA or 10V).

The bipolar -10V to +10V analog output can provide a negative signal for a negative deviation from a setpoint, and a positive signal for a positive deviation. It can also be used for proportional control around a setpoint. For example, if proportional control is desired around 170°C with a  $\pm 10^\circ\text{C}$  span, set the -10V output



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to 160°C and the +10V output to 180°C. The control signal will be 0V at 170°C.

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