The PC digital panel meter is a low cost solution to a wide range of monitoring and control applications. By simple front panel push-button setup, one meter with a dual channel signal conditioner can be programmed to display frequency or period of the AC line, flow rate and total flow, RPM, time interval phase angle, ratio of the 2 signals or batch values. Independent span and zero for each channel allows two separate inputs to be calculated at the same time. Either of the 2 inputs or the sum, difference, etc., may then be displayed by front panel pushbutton selection. The voltage-to-frequency input signal conditioner converts the meter to an integrating totalizer or rate meter for voltage or current inputs. Outputs may be scaled to display watts and total kilowatt hours, flow and total flow. The square root function provides direct readout of differential pressure transducers. Custom curves may be programmed in the meter for accurately measuring nonlinear frequency or voltage inputs. The quadrature input board is designed to measure position from encoders with differential or single-ended outputs. The quadrature inputs may be up to 200kHz. A zero index input is available for zero correction.

The PC panel meter measures the period of the input and converts the reading to frequency or rate for fast control response, true peak reading capability and an analog output that accurately tracks the signal input. The meter has a gate time selectable from 10mS to 199.99S and an adaptive digital filter that minimizes noise but yet, responds rapidly to an actual change in signal level. The peak value of the input signal can be displayed by pushing a front panel button. The PC provides an isolated 5, 10 or 24VDC output to power sensors.

Transistors or dual 10 amp relays may be added to provide control outputs with the setpoints programmed by front panel pushbuttons. The outputs can be set to operate above or below the setpoint, as deviation alarms and in a latched or nonlatching mode.

0 to 10V and 0-20mA analog outputs are available to drive chart recorders, remote displays or for transmission to a central control room. The outputs are scaled through the front panel pushbuttons. Adding RS-232 or RS-485 enables the PC to communicate with PLC’s or computers. Baud rates can be set from 300 to 19,200. With these options, this makes meter setup even easier. Tri-state, parallel BCD outputs are also available.
SPECIFICATIONS

Display
Type: ............................................. 6 LED, 7-segment, 14.2mm (.56") high digits and 4 LED indicators
Color .................................................. Red or green
Range .................................................. -999999 to +999999

Conversion Technique
(Frequency) ........................................ 1/period time
Rate .................................................... Gate Time + 30ms + 2 periods of the input signal (max.)
Gate Time .......................... Selectable 0 to 199.99 Sec.
Accuracy at 25°C
FR Option
Inputs ................................................. AC or Pulses from NPN, PNP xistors, contact closures, magnetic pickups, etc.
Channel A ............................................. 0 to 2mHz
Channel B ............................................. 0 to 250kHz
Time Base (crystal) ............... Calibrated to +/-2PPM
Span Tempco ................................. +/-2PPM/°C (typ)
Zero Tempco ................................. +0.001%FS/°C

Quadrature Options
Inputs .......................... Differential or single-ended inputs from quadrature encoders, Input to 250kHz
Error .......................... No error contributed by meter
CMV (DC to 60 Hz) ......... Safety-rated to 250VAC 4.2kVp per High Voltage Test
Operating Temperature ............ 0° C to 55°C
Storage Temperature .............. -40° C to 85°C
Relative Humidity ............... 95% at 40°C, noncondensing
NEMA4X ........................... when mounted in panel

Environmental
Operating Temperature ............ 00 °C to 55 0C
Storage Temperature ............ -40 0C to 85 0C
Relative Humidity ............... 95% at 40°C, noncondensing

Ordering Information (01/2003)
PC

DISPLAY COLOR
5 .................................................... Green LED
6 .................................................... Red LED
7 ............................. Extended w/Green
8 ............................. Extended w/Red

POWER INPUT
0 ............................. 85-264VAC, 90 to 370VDC
1 ............................. 9-32VDC, 8 to 28VAC

SETPOINT OUTPUT
0 .................................................... None
1 ............................. Dual 10A Relays
2 ............................. Open Collectors

ANALOG OUTPUT
0 .................................................... None
1 ............................. 4-20mA, 0-10V
2 ................................. Batch Relay Out

DIGITAL INTERFACE
0 .................................................... None
1 ................................. RS-232C
2 ......................................... RS-485
3 ................................... BCD

NOTES:
1. Basic Counter: Frequency, rate, total (up or down), period (2 channels simultaneously), time interval A to B, square root of rate.


2. Basic Counter: Rate, square root of rate (differential pressure or target type flow meters).

Extended Counter: Above plus rate and total simultaneously, linerize non-linear inputs, batch counting, 1/rate (time).

3. Basic Counter: Position or length from encoders. Accepts differential or single-ended inputs, 1x, 2x or 4x inputs. Z channel (zero) input.

Voltage (opt) .................. 8 to 28VAC, 9 to 37VDC
Frequency .................. DC and 47 to 440Hz
Excitation Power Supplies
Outputs .................. 5VDC, 5%, 100mA max.
10VDC, 5%, 120mA max.
24VDC, 5%, 50mA max.
Isolation (power gnd) ........ Safety-rated to 250VAC 4.2kVp per High Voltage Test

NOTES:
1. Basic Counter: Frequency, rate, total (up or down), period (2 channels simultaneously), time interval A to B, square root of rate.


2. Basic Counter: Rate, square root of rate (differential pressure or target type flow meters).

Extended Counter: Above plus rate and total simultaneously, linearize non-linear inputs, batch counting, 1/rate (time).

3. Basic Counter: Position or length from encoders. Accepts differential or single-ended inputs, 1x, 2x or 4x inputs. Z channel (zero) input.