

# MICROPROCESS RATE & TOTALIZER CONTROLLER METER



## FEATURES

- Programmable rate 0 to 9999 digit (rate) 0 to 999999999 digit (totalizer)
- Accuracy 0.1% F.S. (DC, AC(TRMS))
- Programmable time base (1, 60, 3600 seconds)
- Programmable scale factor (0.0001 to 9999.9999)
- Decimal point can be modified
- Dual alarms, compare hysteresis functions
- 15 bits DAC analog output function
- Transmitter excitation supply DC 24V ( $\leq 25\text{mA}$ )

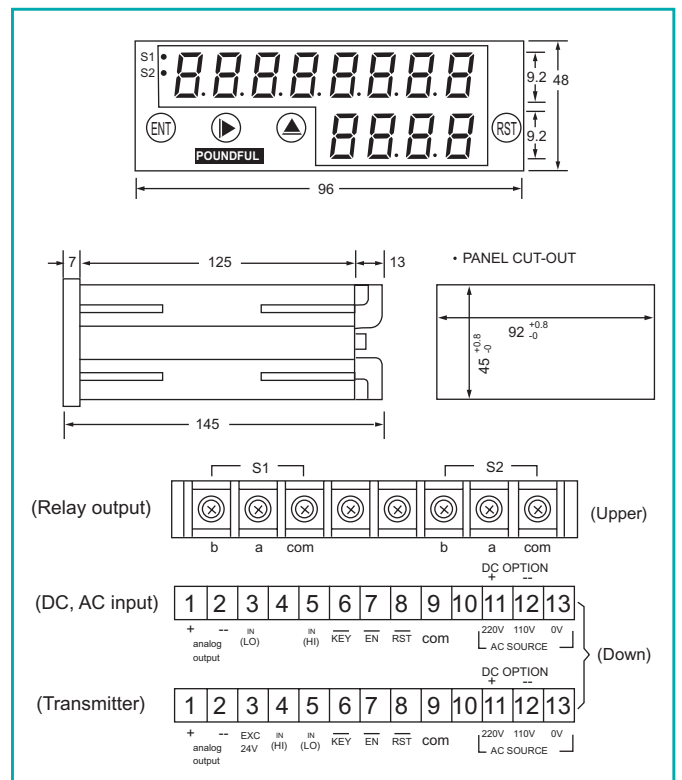
1. MODEL: PF - IT- [ ] - [ ] - [ ] [X] → X = 0 (non-alarm) X = 1 (one-alarm), X = 2 (two-alarm)

NO	Input Type	NO	Input Range	NO	Input Range	NO	Output Range	NO	Aux. Power
A	DC	1	DC 0-50mV (shunt)	6	DC 4-20mA (EXC. 24V)	0	None	1	AC 110/220V (50/60Hz)
B	AC (RMS)	2	DC 1-5V	7	AC 0-1A	1	DC 0-10V (non-isolating)	2	DC 24V
C	AC (TRMS)	3	DC 1-5V (EXC. 24V)	8	AC 0-5A	2	DC 4-20mA (non-isolating)	3	DC 48V
		4	DC 0-10V	9	SPECIFIED	3	DC 0-10V (isolating)	4	DC 110V
		5	DC 4-20mA			4	DC 4-20mA (isolating)	5	DC 220V
						5	SPECIFIED	6	AC 90~260V
								9	SPECIFIED

## 2. Specification

- Aux. power supply : AC110 or 220V  $\pm 20\%$  (50 or 60Hz)  
(Optional DC 24V or 48V or 110V or 220V switching AC90~260V  $\pm 10\%$ )
- Measuring accuracy : 0.1% F.S  $\pm 1$  digit (DC, AC(TRMS))  
0.15% F.S  $\pm 1$  digit (AC(TRMS))
- Readout (compare) range : "0" to "9999" adjustable (rate)  
"0" to "99999999" adjustable (totalizer)
- Compare hysteresis range : "0" to "99" adjustable
- Alarm action : "Hi" or "Lo" adjustable
- Relay contact output : AC 250~3A, DC30V~5A
- Analog output selection : Rate or totalizer can be modified
- Analog output resolution : 15 bit DAC
- Output drive capability :  $\leq 10\text{mA}$  for voltage mode  
 $\leq 10\text{V}$  for current mode
- Output ripple (p-p) :  $< 0.1\%$  F.S.
- Over input indication : "ovEr"
- Temp. coefficient : 100ppm/ $^{\circ}\text{C}$  (0-50 $^{\circ}\text{C}$ )
- Display : Red high efficiency LEDs high 9.2mm (0.36")
- Parameter setting : Touch switches
- Memory type : Non-volatile EEPROM memory
- Dielectric strength : 2KVac/1min. (power / input & output)
- Operating condition : 0~50 $^{\circ}\text{C}$  (20 to 90% RH non-condensed)
- Storage condition : 0~70 $^{\circ}\text{C}$  (20 to 90% RH non-condensed)

## 3. Dimension and connection diagram



# MICROPROCESS RATE & TOTALIZER CONTROLLER METER



## FEATURES

- Resolution of 5 digits rate and 10 digits totalizer simultaneously
- Accuracy 0.1% F.S. for DC and AC(TRMS)
- Automatic, external or button totalizer reset
- Sensor voltage +12V or +24V can be selected ( $\leq 50\text{mA}$ )
- Programmable time base (1, 60, 3600 seconds)
- Programmable scale factor (0.00001 to 19999.99999)
- Rate with/without math rootextractor function
- Four alarms with hysteresis and delay functions (optional)
- 16 bits DAC analog output can be modified (optional)
- RS-485/RS-232 communication with Modbus RTU mode (optional)

## 1. MODEL: PF - ITA- [Color] - [Color] - [Color] - [Color]

NO	Input Type	NO	Input Range	NO	Analog Output	NO	Alarm	NO	Pulse	NO	Communication (Modbus RTU)	NO	Aux. Power
A	DC	1	DC 0-50mV	See Analog Output Table	0 None 1 1 Alarm 2 2 Alarms 3 3 Alarms 4 *4 Alarms	0 None 1 Relay 2 Open Collector	0 None 1 RS485 2 RS232	1	AC 90~240V $\pm 10\%$				
B	AC (RMS)	2	DC 1-5V					2	DC 24~70V $\pm 10\%$				
C	AC (TRMS)	3	DC 0-10V					3	AC/DC 24V $\pm 10\%$				
		4	DC 4-20mA					4	DC 110V $\pm 10\%$				
		5	AC 0-1A					9	SPECIFIED				
		6	AC 0-5A						$\leq 15\text{VA}$ for AC $\leq 10\text{W}$ for DC				
		9	SPECIFIED										

Pulse output unavailable if 4 alarms specified

## 2. Specification

- Aux. power supply : AC 90~240V  $\pm 10\%$  50/60Hz  
DC 24~70V  $\pm 10\%$   
AC/DC 24V  $\pm 10\%$   
DC 110V  $\pm 10\%$
- Measuring accuracy : 0.1% F.S.  $\pm 1$  digit (DC, AC(TRMS))  
(23  $\pm 5^\circ\text{C}$ )  
0.15% F.S.  $\pm 1$  digit (AC(RMS))
- Readout (compare) range : "0" to "24999" adjustable (rate)  
"0" to "2147483647" adjustable (totalizer)
- Alarm selection : Rate and Totalizer can be modified
- Compare hysteresis range: 0~999 adjustable
- Alarm action : "Hi" or "Lo" adjustable
- Alarm relay contact output: AC 250V/3A, DC 30V/5A
- Analog output selection : Rate or Totalizer can be modified
- Analog output resolution : 16 bit DAC (isolating)
- Output drive capability :  $\leq 20\text{mA}$  for voltage mode  
 $\leq 14\text{V}$  for current mode
- Output ripple (p-p) :  $< 0.1\%$  F.S
- Response time :  $\leq 250\text{ms}$  (0~90%)
- Pulse relay contact output : DC 100V/0.5A  $\leq 10\text{VA}$   
300, 400, 500, 600, 700ms
- Pulse open collector :  $\leq \text{DC } 30\text{V}/40\text{mA}$   
20, 30, 40, 50, 60ms
- Communication speed : 2400, 4800, 9600, 19200 bps
- RTU data format :  $< 8, \text{N}, 1 >$ ,  $< 8, \text{N}, 2 >$ ,  $< 8, \text{E}, 1 >$ ,  $< 8, \text{O}, 1 >$
- Communication address : "1" to "247" can be modified
- Parameter setting : Touch switches
- Memory type : Non-volatile EEPROM
- Waterproof and dustproof : IP65 (optional)  
(front direction) (optional)
- Dielectric strength : 2KVac/1 min. (power/input/output)
- Temp. coefficient : 100ppm/ $^\circ\text{C}$  (0-50 $^\circ\text{C}$ )
- Operating condition : 0~50 $^\circ\text{C}$  (20~90% RH non-condensed)
- Storage condition : 0~70 $^\circ\text{C}$  (20~90% RH non-condensed)

## 3. Analog output switching table

NO	Output Range	O/P Range 1-2-3-4-5-6	O/P Mode 7-8
0	Non-output	switching status	on=1 off=0
1	0 ~ 1V	1-0-1-1-1-0	1-1
2	0 ~ 5V	1-0-1-0-1-0	1-1
3	1 ~ 5V	1-1-1-0-1-1	1-1
4	0 ~ 10V	1-1-0-1-0-0	1-1
5	2 ~ 10V	1-1-1-1-0-1	1-1
6	0 ~ 1mA	0-1-1-1-1-0	0-0
7	0 ~ 10mA	1-0-1-0-1-0	0-0
8	0 ~ 20mA	1-1-0-1-0-0	0-0
9	4 ~ 20mA	1-1-1-1-0-1	0-0
S	SPECIFIED (NON-PROGRAMMABLE)		

## 3. Dimension and connection diagram

