

MICROPROCESS RATE AND TOTALIZER CONTROLLER METER(PULSE INPUT)



FEATURES

- Programmable rate 0 to 9999 digit (rate), 0 to 99999999 digit (totalizer)
- Input pulse or magnetic pick-up can be modified
- Accuracy 0.03% F.S. (rate)
- Input ranges from 0.01Hz to 10KHz
- Programmable time base (1,60,3600 second)
- Programmable rate 0 to 9999 digit
- Input pulse cut off sampling time 0.1~99.9 second can be modified
- Programmable totalizer of pulse in time base (0~99999999)
- Programmable scale factor (0.0001~9999.9999)
- Dual alarm function (Optional)
- 15 bit DAC isolating analog output function (Optional)

1. MODEL: PF - FRT - [Color] - [Color] - [Color] - [Color]

NO	Input Type	NO	Alarm	NO	Analog Output	NO	Communication	NO	Aux. Power
A	Pulse (NPN)	0	Non-alarm	N	None	N	None	1	AC 100V/200V
B	Pulse (PNP)	1	One-alarm	I	DC 4-20mA	1	RS232	2	DC 24V
C	Magnetic pick-up	2	Two-alarm	V	DC 0-10V	2	RS485	3	DC48V
				R	SPECIFIED			4	DC 110V
								5	DC 220V
								6	AC 90~260V
								9	SPECIFIED
									• ±20% of rate, less 3.5VA for AC input
									• ±20% of rate, less 3WATT for DC input

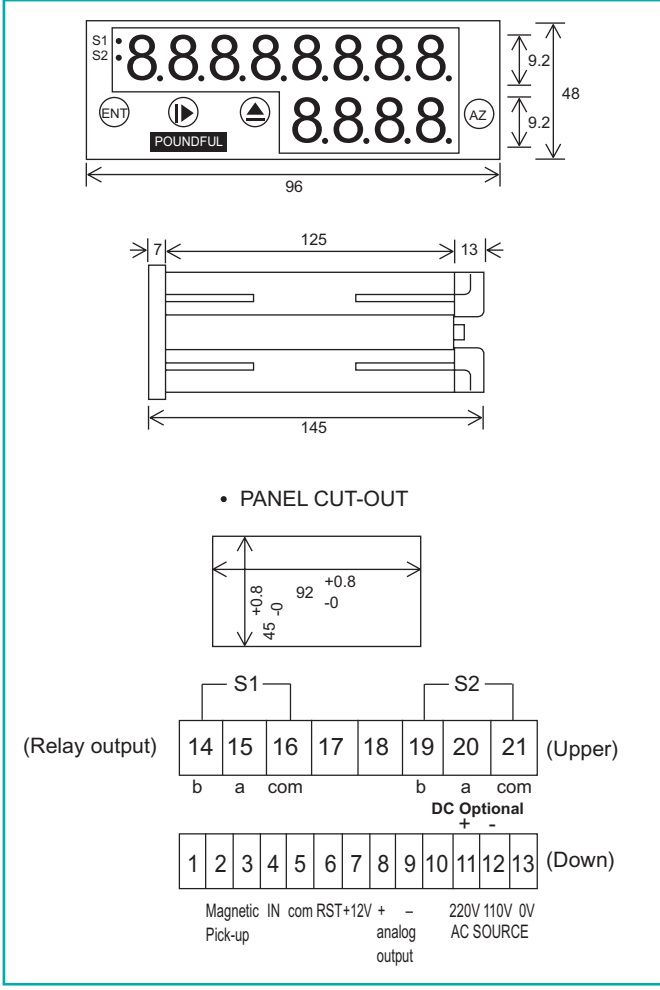
3. Function switches (SW1)

- 1 SW1-1 ON : magnetic pick-up input
- 2 SW1-2 ON : pulse input
- 3 SW1-3 ON : pulse PNP
- 4 SW1-4 ON : pulse NPN

2. Specification

- Aux. power supply : AC110 & 220V ±20% (50 or 60Hz) (Optional DC 24V or 48V or 110V or 220V switching AC90~260V ±10%)
- Measuring accuracy : 0.03% F.S (rate) (23±5°C)
- Count input type : Switch selectable current sourcing (≤5mA) or current sinking (≤2.5mA) or magnetic pick-up
- Count input trigger levels : Pulse (V_H=3V, V_L=2.5V) Magnetic pick-up (V_H≥30mV(p-p), 40V max.) can be modified
- Max. count rates : ≤10kHz (50% duty cycle) (pulse) ≤10kHz (magnetic Pick-up)
- Sampling time : 10cycle/sec. (≥10Hz) (rate) f cycle/sec. (<10Hz) (rate)
- Over input indication : "ovEr"
- Readout (compare) range : "0" to "9999" adjustable (rate) "0" to "99999999" adjustable (totalizer)
- Alarm action : "Hi" or "Lo" adjustable
- Relay contact output : AC250V~3A, DC30V~5A
- Analog output resolution : 15 bit DAC (isolating)
- Output drive capability : ≤10mA for voltage mode ≤10V for current mode
- Output ripple (p-p) : <0.1%F.S.
- Temp. coefficient : 50ppm/°C (0-50°C)
- Display : Red high efficiency LEDs high 9.2mm
- Parameter setting : Touch switches
- Memory type : Non-volatile EEPROM memory
- Dielectric strength : 2KVac/1 min. (input/output/power)
- Operating condition : 0~50°C (20 to90%RH non condensed)
- Storage condition : 0~70°C (20~90% RH non-condensed)

4. Outside dimension and connection diagram



MICROPROCESS RATE & TOTALIZER CONTROLLER METER (PULSE INPUT)



FEATURES

- Programmable rate 0 to 29999 digit (rate), 0 to 2147483647 digit (totalizer)
- Input pulse or magnetic pick-up can be modified
- Accuracy 0.03% F.S.
- Automatic, external, or button totalizer reset
- Input ranges from 0.01Hz to 15KHz
- Sensor voltage +12V or +24V can be selected ($\leq 50\text{mA}$)
- Programmable time base (1,60,3600 second)
- Programmable scale factor (0.00001 to 19999.99999)
- Input pulse cut off sampling time 0.1~99.9 second can be modified
- Programmable totalizer of pulse in time base (0~99999999)
- Four alarms with hysteresis and delay functions (optional)
- 16 bit DAC analog output type can be modified (optional)
- RS485/ RS232 communication with Modbus RTU mode (optional)

1. MODEL: PF-FRTA -

NO	Input Type	NO	Analog Output	NO	Alarm	NO	Alarm	NO	Pulse	NO	Communication (Modbus RTU)	NO	Aux. Power	NO	Aux. Power
A	Pulse (NPN)	See Analog	0	None	3	3 Alarms	0	None	0	None	1	AC 90 ~ 240V	4	DC 110V	
B	Pulse (PNP)	Output Switching	1	1 Alarms	4	4 Alarms	1	Relay	1	RS485	2	DC 24 ~ 70V	9	SPECIFIED	
C	Magnetic pick-up	Table	2	2 Alarms			2	Open Collector	2	RS232	3	AC/DC 24V		$\leq 15\text{VA}$ for AC $\leq 15\text{W}$ for DC	

Pulse output unavailable if 4 alarms specified

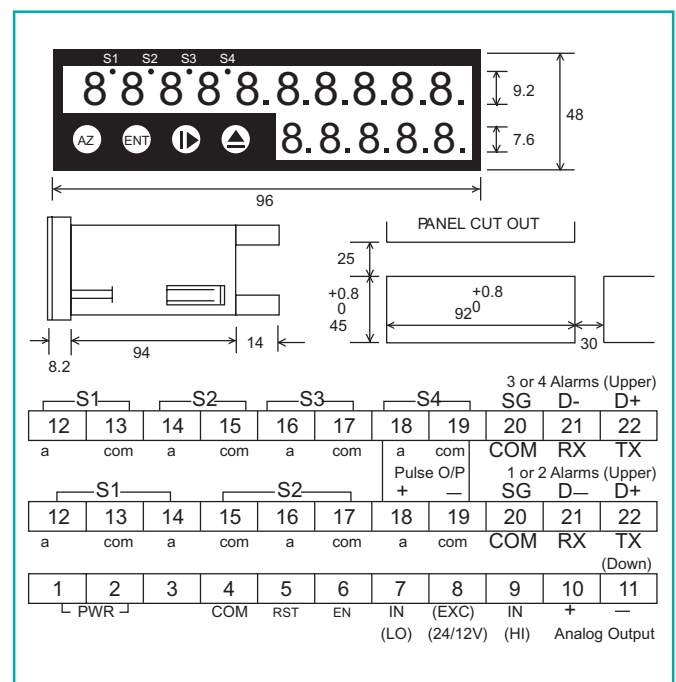
2. Specification

- Aux. power supply : AC 90~260V $\pm 10\%$ 50/60 Hz
DC 24~70V $\pm 10\%$
AC/DC 24 $\pm 4\text{V}$
DC 110V $\pm 10\%$
- Measure accuracy : 0.03% F.S. (23 $\pm 5^\circ\text{C}$)
- Count input type : Switch selectable current sourcing ($\leq 5\text{mA}$) or current sinking ($\leq 2.5\text{mA}$) or magnetic pick-up
- Count input trigger levels : Pulse ($V_{IH}=3\text{V}$, $V_{IL}=2.5\text{V}$)
Magnetic pick-up ($V_{IH}\geq 30\text{mV}$ (p-p), 40V max.) can be modified
- Max.count rates : $\leq 15\text{KHz}$ (50% duty cycle) (pulse)
 $\leq 15\text{KHz}$ (magnetic Pick-up)
- Sampling time : 10cycle/sec. ($\geq 10\text{Hz}$) (rate)
1 cycle/sec. ($< 10\text{Hz}$) (rate)
- Over input indication : "ovEr"
- Readout (compare) range : "0" to "29999" adjustable (Rate)
"0" to "2147483647" adjustable (Totalizer)
- Alarm selection : Rate and totalizer can be modified
- Compare hysteresis range : "0" to "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) : $\leq 0.1\%$ F.S.
- Response time : $< 250\text{ms}$ (0~90 %)
- Pulse relay contact output : DC 100V / 0.5A $\leq 10\text{VA}$
- Pulse open collector : $\leq \text{DC } 30\text{V} / 40\text{mA}$
- 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 (front direction) (optional) : IP65(optional)
- Dielectric strength : 2KVac/1min. (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	O/P Mode
		1-2-3-4-5-6	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)		

4. Dimension and connection diagram



3. Function switches (SW1)

S1	S2
1 S1-1 short : pulse input	1 S2-1 short : NPN
2 S1-2 short : pulse input	2 S2-2 short : PNP
3 S1-3 short : Magnetic pick-up	3 S2-3 short : 1KHz Filter
4 S1-4 short : Magnetic pick-up	4 S2-4 short : 50KHz Filter

S2-3 and S2-4 are open for the low pass filter which is 15KHz cut-off frequency.