

MICROPROCESS RPM & LINE-SPEED METER



FEATURES

- Accuracy 0.01% F.S.
- Accepts input rates up to 5KHz (Optional up to 50KHz)
- Display type of RPM or line-speed can be modified
- Display unit (M/min), (y/min), (ft/min) of line-speed can be modified
- Input pulse of revolution can be modified (1~9999)
- Decimal point can be modified
- Input pulse cut off sampling time can be modified (0.1 to 99.9 second)
- Display value depend on the mean input pulse several times can be modified (1 to 99 times)

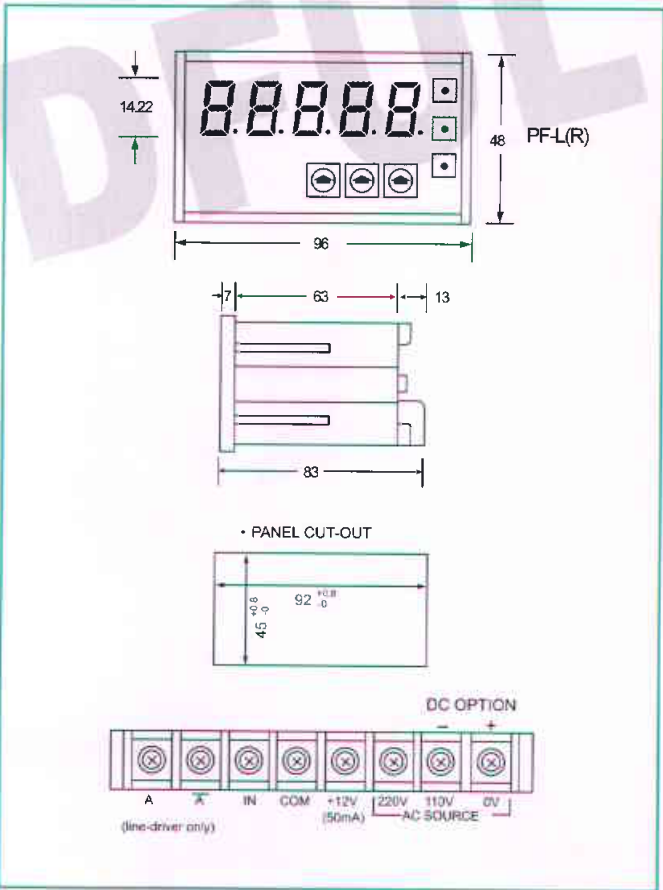
1. MODEL: PF-L(R) - ■ ■ ■ - ☐ X=5 (Input rate up to 5KHz) X=50 (Input rate up to 50KHz)
PF-L(R)N - ■ ■ ■ - ☐ (Non-rotary switches) (Non-line driver type)

NO	Input Type	NO	Sensor Power	NO	Aux. Power
1	Pulse (TTL) (5V)	A	DC 5V (≤100mA)	0	DC 12V
2	Pulse (NPN) (12V)	B	DC 12V (≤50mA)	1	AC 110/220V
3	Pulse (PNP) (12V)			2	DC 24V
4	AC 1-60V			3	DC 48V
5	Line-driver RS422(5V)			4	DC 110V
6	Line-driver RS422(12V)			5	DC 220V
9	SPECIFIED			6	AC90~260V
					• ±20% of rate, less 2.5VA for AC input
					• ±20% of rate, less 2WATT for DC input

2. Specification

- Aux. power supply : AC 110 & 220V ±20% (50 or 60Hz) ±20%
(Optional DC 12, 24, 48, 110, 220V
AC/DC 100~240V ±10%)
- Measuring accuracy : 0.01% F.S. (23±5°C)
- Count input type : Switch selectable current sourcing or current sinking
- Count input trigger levels : Switch selectable
Hi bias (V_{IH}=7.5V, V_{IL}=5.5V) or
Lo bias (V_{IH}=3.7V, V_{IL}=2.0V)
- Max. count rates : 5KHz (optional up to 50KHz)
(50% duty cycle)
- Sampling time : 10 cycle/sec. (≥10Hz)
f cycle/sec. (<10Hz)
- Over input indication : "ovEr"
- Readout range : "0" to "99999" adjustable
- Diameter setting : 0~999mm (PF-L(R)) (rotary switches)
0~9.999M (PF-L(R)N)
(Touch switches setting)
- Parameter setting : Touch switches
- Display : Red high efficiency LEDs 14.22mm (0.56")
- Memory mode : Non-volatile EEPROM memory
- Sensor power supply : 12VDC ±10% (≤50mA)
- Dielectric strength : 1.5KVac/1 min. (input/power)(PF-L(R))
1.5KVac/1 min. (input/power/display)
(PF-L(R)N)
- Operating condition : 0~50°C (20~90% RH non-condensed)
- Storage condition : 0~70°C (20~90% RH non-condensed)

3. Outside dimension and connection diagram



MICROPROCESS RPM & LINE-SPEED CONTROLLER METER



FEATURES

- Accuracy 0.03% F.S.
- Accepts input rates up to 20KHz
- Display type of RPM or line-speed can be modified
- Input pulse of revolution can be modified
- Dual alarm, compare hysteresis, alarm delay function
- 15 bit DAC analog voltage or current mode can be modified
- Autochange of decimal point can be modified
- Input pulse cut off sampling time (0.1-99.9 second) can be modified
- Display value depend on the mean input pulse several times can be modified

1. MODEL: PF - MR - ☒ → See output switching table (S2)

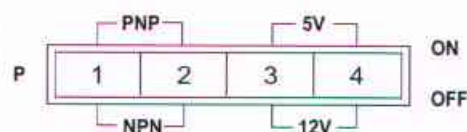
- 0 (non-alarm)
- 1 (one-alarm)
- 2 (two-alarm)

2. Specification

- Aux. power supply : AC110 & 220V $\pm 20\%$ (50 or 60Hz)
(Optional DC 24, 48, 110, 220V
AC/DC 100-240V $\pm 10\%$)
- Measuring accuracy : 0.03% F.S. (23 $\pm 5^\circ$ C)
- Count input type : Switch selectable current sourcing or
current sinking
- Count input trigger levels : Switch selectable
Hi bias ($V_{IH}=7.5V$, $V_{IL}=5.5V$) or
Lo bias ($V_{IH}=3.7V$, $V_{IL}=2.0V$)
- Sampling time : 10 cycle/sec. ($\geq 10Hz$)
f cycle/sec. ($< 10Hz$)
- Over input indication : "ovEr"
- Readout (compare) range : "0" to "99999" adjustable
- Diameter setting : 0-9.999M
- Parameter setting : Touch switches
- Alarm action : "Hi" or "Lo" adjustable
- Compare hysteresis : 0-9999 digit adjustable
- Alarm delay time : 0-99.9 second adjustable
- Relay contact output : AC 250V-3A, DC 30V-5A
- Analog output resolution : 15 bit DAC
- Output drive capability : $\leq 10mA$ for voltage mode
 $\leq 10V$ for current mode
- Output ripple (p-p) : $< 0.1\%$ F.S.
- Response time : $\leq 300ms$ (0-90%) $\geq (10Hz)$
- Display : Red high efficiency LEDs 14.22mm
(0.56")
- Sensor power supply : 12VDC $\pm 10\%$ ($\leq 50mA$)
- Memory mode : Non-volatile EEPROM memory
- Dielectric strength : 2KVac/1 min. (power/input/output)
- Operating condition : 0-50 $^\circ$ C (20-90% RH non-condensed)
- Storage condition : 0-70 $^\circ$ C (20-90% RH non-condensed)

3. Function switches (S1, S2)

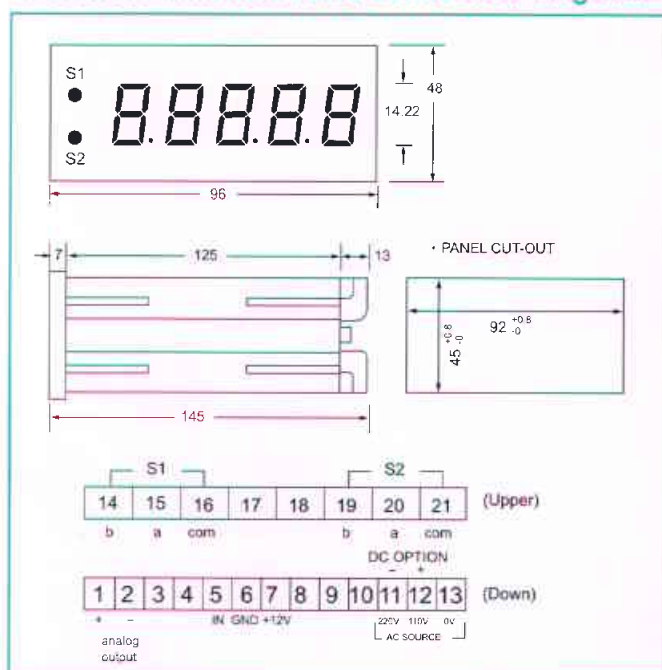
- S1 → P₁, P₂, input type selection
P₃, P₄, input trigger level selection



- S2 → P₁-P₂-P₃-P₄-P₅-P₆ output range selection
P₇-P₈ output mode: voltage/current selection

X	Output Range	O/P Range 1-2-3-4-5-6	O/P Mode 7-8
N	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. Outside dimension and connection diagram



MICROPROCESS RPM & LINE-SPEED CONTROLLER METER



FEATURES

- Accuracy 0.03% F.S.
- Input frequency up to 100KHz
- Display type of RPM or Line-speed can be modified
- Input pulse of revolution can be modified
- Sensor voltage +12V or +24V can be switched ($\leq 80\text{mA}$)
- Four alarms with hysteresis and delay functions (optional)
- 16 bit DAC analog output can be modified (optional)
- Support RS485 or RS232 with Modbus RTU mode (optional)

1. MODEL: PF - MRA

NO	Alarm	NO	Analog Output	NO	Communication	NO	Aux. Power
0	None	See Analog Output	0	None	1	AC 90~260V	
1	1 Alarm	Switching Table	1	RS485	2	DC 24~70V	
2	2 Alarm		2	RS232	3	AC/DC 24V	
3	3 Alarm		9	SPECIFIED	4	DC 110V	
4	4 Alarm				9	SPECIFIED	

2. Specification

- Aux. power supply : AC 100~240V $\pm 10\%$ 50/60Hz $\leq 10\text{VA}$
DC 24~70V $\pm 10\%$ $\leq 7\text{W}$
AC/DC 24V $\pm 10\%$ $\leq 10\text{VA}$
DC 110V $\pm 10\%$ $\leq 9\text{W}$
- Measuring accuracy : 0.03% F.S. ($23 \pm 5^\circ\text{C}$)
- Count input type : Switch selectable current sourcing or current sinking
- Count input trigger levels : Switch selectable
Hi bias ($V_{IH}=7.5\text{V}$, $V_{IL}=5.5\text{V}$) or
Lo bias ($V_{IH}=3.5\text{V}$, $V_{IL}=1.5\text{V}$)
- Sampling time : 10 cycle/sec. ($\geq 10\text{Hz}$)
f cycle/sec. ($< 10\text{Hz}$)
- Readout (compare) range : "0" to "99999" adjustable
- Diameter setting : 0~9.9999M
- Parameter setting : Touch switches
- Alarm action : "Hi" or "Lo" adjustable
- Compare hysteresis : 0~9999 digit adjustable
- Alarm delay time : 0~99.9 or -0.1~ -99.9 second adjustable
- Relay contact output : AC 250V/3A, DC 30V/5A
- Analog output resolution : 16 bit DAC
- 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 : $\leq 300\text{ms}$ (0~90%) $\geq (10\text{Hz})$
- Communication speed : 2400, 4800, 9600, 19200 bps
- Communication format : $< 8, \text{N}, 1 >$, $< 8, \text{N}, 2 >$, $< 8, \text{O}, 1 >$, $< 8, \text{E}, 1 >$
- Communication address : "1" to "247" can be modified
- Display : Red high efficiency LEDs 14.22mm (0.56")
- Sensor power supply : 12VDC or 24VDC $\pm 10\%$ ($\leq 80\text{mA}$)
- Memory mode : Non-volatile EEPROM
- Dielectric strength : 2KVac/1 min. (power/input/output)
- Operating condition : 0~50°C (20~90% RH non-condensed)
- Storage condition : 0~70°C (20~90% RH non-condensed)

3. Function switches (S1)

ON	PNP			5V	x	x	x	x
P	1	2	3	4	5	6	7	8
OFF	NPN			12V				

P1 : Input type selection (ON=PNP; OFF=NPN)

P2, P3 : Input signal filter selection

P2-P3 (ON=1 OFF=0)	Input Signal Filter Range
0-0	100KHz
1-0	10KHz
0-1	50Hz
1-1	45Hz

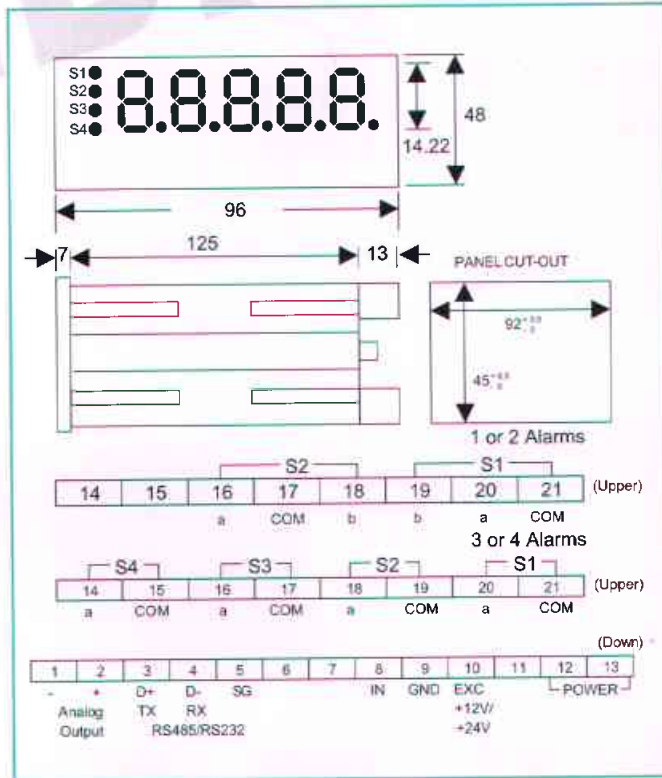
P4 : Input trigger level selection (ON=5V; OFF=12V)

P5, P6, P7, P8 : Don't care

4. Analog output switching table

NO	Output Range	O/P Range 1-2-3-4-5-6	O/P Mode 7-8
N	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

5. Outside dimension and connection diagram (unit:mm)



DIN72x72 MICROPROCESS RPM/LINE-SPEED CONTROLLER METER



FEATURES

- Accuracy 0.03% F.S.
- Accepts input rates up to 20KHz
- Display type of RPM or LINE-SPEED can be modified
- Input pulse of revolution can be modified
- Dual alarm, compare hysteresis, alarm delay function
- Input pulse cut off sampling time (0.1 ~ 99.9 second)
- Decimal point can be modified
- Display value depend on the mean input pulse several times can be modified
- Up and down key setting, easy to operate

1. MODEL: PF-MR724 - ☒ → X=0 (non-alarm)

X=1 (one-alarm)

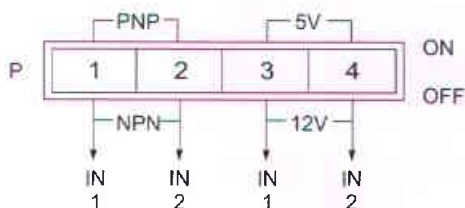
X=2 (two-alarm)

2. Specification

- Aux. power supply : AC110 & 220V $\pm 20\%$ (50 or 60Hz)
(Optional DC 24V or 48V or 110V or 220V, Switching AC100~240V $\pm 10\%$)
- Measuring accuracy : 0.03% F.S. (23 $\pm 5^\circ$ C)
- Count input type : Switch selectable current sourcing or current sinking
- Count input trigger levels : Switch selectable
Hi bias ($V_{IH}=7.5V$, $V_{IL}=5.5V$) or
Lo bias ($V_{IH}=3.7V$, $V_{IL}=2.0V$)
- Sampling time : 10 cycle/sec. ($\leq 10HZ$)
f cycle/sec. ($\leq 10HZ$)
- Over input indication : "ovEr"
- Readout (compare) range : "0" to "9999" adjustable
- Diameter setting : 0.001~9.999M
- Setting methods : Touch switches
- Display count value : Red high efficiency LED's high
14.22mm (.56")
- Display preset value : Green high efficiency LED's high
9.2mm (.36")
- Alarm action : "Hi" or "Lo" adjustable
- Relay contact output : AC 250~3A, DC30V~5A
- Sensor power type : 12VDC $\pm 10\%$ ($\leq 60mA$)
- Memory type : Non-volatile EEPROM memory
- Dielectric strength : 2KVac/1 min. (input/output/power)
- Operating condition : 0~50 $^\circ$ C (20 to 90 % RH non-condensed)
- Storage condition : 0~70 $^\circ$ C (20 to 90 % RH non-condensed)

3. Function switches

- P₁, P₂ → input type selection
- P₃, P₄ → input trigger level selection



4. Outside dimension and connection diagram

