

# 微電腦型類比輸入瞬間量, 累積量(9位數)顯示控制電錶

( MICROPROCESS RATE & TOTALIZER CONTROLLER METER )

MODEL  
MRT



## ■特點(FEATURES)

- 顯示範圍0至19999(瞬間量),0至999999999(9位數累積量)可任意規劃 (Programable rate 0 to 19999 digit (rate),0 to 999999999 digit (totalizer))
- 精確度0.05%滿刻度±1位數(Accuracy 0.05%F.S.±1digit)
- 瞬間量與累積量時間基數可任意規劃(1 或 60 或 3600 秒)(Programable time base (1,60,3600 second))
- 瞬間量之最高顯示值可任意規劃(0至19999)(Programable rate 0 to 19999 digit)
- 累積量之輸入脈波比例刻劃調整可任意規劃(0.00001至9999.99999) (Programable scale factor (0.00001 to 9999.99999)(totalizer))
- 具有開根號功能(Math-rootextractor function)
- 具有9段線性折補功能(Correction for non-linearity function(9 segments))(optional)
- 二組警報功能(Dual alarm function) (optional)
- 15 BIT 隔離類比輸出(15 bit DAC isolating analog output function) (optional)
- 數位 RS-485 界面(Digit RS-485 interface function) (optional)
- 數位脈波同步輸出功能(Digital pulse output function) (optional)

## 1.MODEL:MRT-□ □ □ - □ □ □ - □ X X=0(none-pulse output) X=P(1 pulse/conut output)

(選購型號)

NO	Input Type	NO	Input Function	NO	Alarm	NO	Analog output	NO	RS-485 output	NO	Aux. Power
A	DC1~5V	N	Normal	0	Non-alarm	N	None	N	None	A	AC/DC 18V~60V
B	DC4~20mA	Y	Math-rootextractor	1	One-alarm	I	DC4~20mA	Y	RS-485	B	AC/DC 90V~260V
C	• DC1~5V			2	Two-alarm	V	DC0~10V		• Modbus RTU mode • 256 nodes on bus		• Less 5VA for AC/DC input
D	• DC4~20mA				• Pulse output only one-alarm	T	• DC4~20mA				
O	SPECIFIED					R	SPECIFIED				

Note:•Exciting supply DC24V(<25mA)

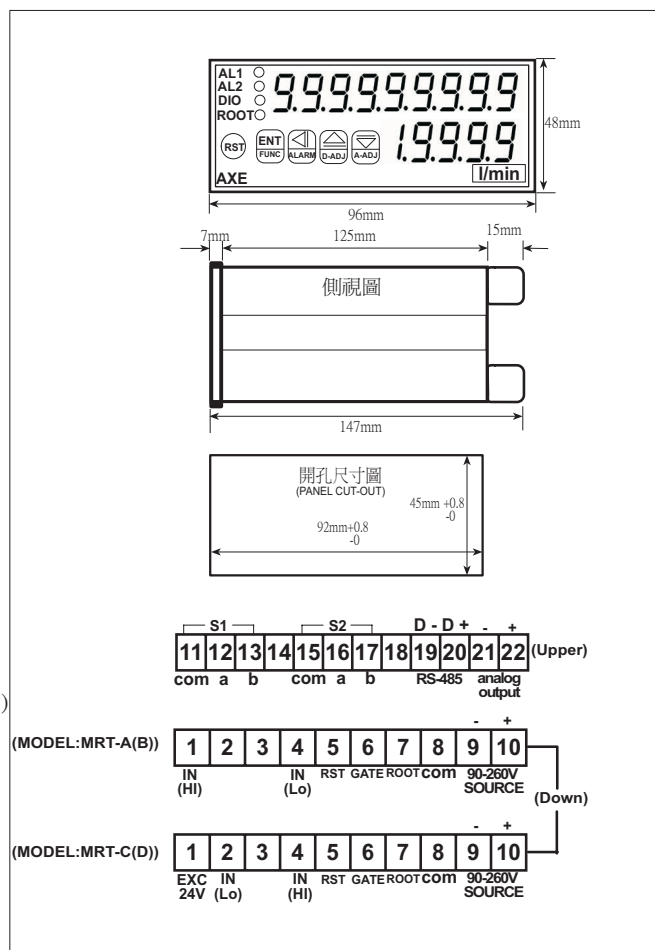
•Two-wire transmitter (Exciting voltage DC10~36V)

## 2.SPECIFICATION (主要規格)

- Measuring accuracy : 0.05% F.S.±1 digit (rate) (23±5°C) (精確度)
- Sampling time : 16 cycles/sec. (取樣時間)
- Over input indication : " doFL " (過載顯示)
- Readout (compare) range : 0~19999 adjustable(rate) (顯示值(比較值)範圍) 0~999999999 adjustable (totalizer)
- Alarm action : Hi or Lo adjustable (繼電器動作方向)
- Relay contact output : AC 250V-5A,DC 30V-7A (繼電器容量)
- Analog output resolution : 15 bit DAC (isolating) (類比輸出解析度)
- Response time : < 250ms (0~90%) (反應速度)
- Output drive capability : < 10mA for voltage mode (輸出負載能力) < 10V for current mode <[(V+)-7.5V]/20mA for two-wire mode
- Output ripple (p-p) : < 0.1% F.S. (輸出之漣波)
- RS-485 baud rate : 19200/9600/4800/2400 selective (傳輸速率)
- RS-485 address : "01"~"FF"(0~255) (通訊位址)
- Temp. coefficient : 100ppm/°C (0~50°C) (溫度係數)
- Display : Red high efficiency LEDs high 10.16 mm(0.4") (顯示幕)
- Memory mode : Non-volatile E<sup>2</sup> PROM memory (記憶方式)
- Dielectric strength : 2KVac/1 min. (input/output/power) 1600Vdc (input/output) (絕緣耐壓能力)
- Operating condition : 0~50°C (20 to 90% RH non-condensed) (使用環境條件)
- Storage condition : 0~70°C (20 to 90% RH non-condensed) (存放環境條件)
- CE EMC Certification : EN 55022:1998/A1:2000 Class A EN 61000-3-2:2000 EN 61000-3-3:1995/A1:2001 EN 55024:1998/A1:2001 (CE認證)

## 3.OUTSIDE DIMENSION AND CONNECTION DIAGRAM

(外型尺寸與開孔尺寸與配線圖)



# 類比與脈波輸入流量瞬間量/累積量/批量顯示控制電錶 (PULSE/ANALOG INPUT FLOW RATE/TOTALIZER/BATCH CONTROLLER (two-stage)METER)

**MODEL  
MRT-B**



## ■特點(FEATURES)

- 精確度0.05%滿刻度±1位數(Accuracy 0.05% F.S.±1digit)
- 可同時量測與顯示瞬間量(5位數)/批量(6位數)/累積量(10位數)  
(Measuring and display rate(5 digits)/batch(6 digits)/totalizer(10 digits))
- 5種流量單位可任意設定(Display flow unit TON/M<sup>3</sup>/Liter/GAL/CC can be modified)
- 4種時間基數可任意規劃(1或60或3600或86400秒)  
(Programable time base(1 or 60 or 3600 or 86400 second))
- 批量控制採用前置量預停設定方式(Prestop counting function)
- 批量控制具有向上或向下計數模式可規劃(Two-counting mode Up/Down for batch controller)
- 面板具有起動/停止/批量復歸按鈕功能  
(Front panel push buttons allow the operator to start/stop/batch reset function)
- 防護等級NEMA4/IP64(Protection class NEMA4/IP64)

## 1.MODEL:MRT-B (選購型號)

NO	Input Type	NO	Input Type	NO	Linearity function	NO	Alarm output	NO	Analog output	NO	RS-485	NO	Aux. Power
A	DC1~5V & NPN/PNP Voltage pulse	O	SPECIFIED	N	None	0	None	N	None	N	None	A	AC/DC18~60V
B	DC4~20mA & NPN/PNP Voltage Pulse	Y	16 point(linearity)	Y	16 point(linearity)	2	Rate/Totalizer	I	DC4~20mA	Y	RS-485	B	AC/DC90~260V
C	DC1~5V & Magnetic pick-up							V	DC0~10V				
D	DC4~20mA & Magnetic pick-up							R	SPECIFIED				

## 2.SPECIFICATION (主要規格)

- Measuring accuracy (精確度) (23±5°C) : 0.05% F.S.±1 digit(Rate/Analog input)
- Readout/compare range (顯示值/比較值範圍) : 0~99999 digit(Rate)/0~999999 digit(Batch)  
0~9999999999 digit(Totalizer)
- Input type (輸入型式) : In side jump selectable:  
DC4~20mA/DC1~5V(Analog)  
Current sourcing(NPN)/Current sinking(PNP)/  
Switch contact(Pulse)
- Count input trigger levels (脈波觸發電位) : High level: V<sub>HI</sub>=DC4~30V(Pulse)  
V<sub>HI</sub>=AC30mV~30V(Magnetic pick-up)  
V<sub>HI</sub>=Rmax.<500 ohm(Switch contact)  
Low level: V<sub>LI</sub>=DC0~2V(Pulse)  
V<sub>LI</sub>=AC0~20mV(Magnetic pick-up)  
V<sub>LI</sub>=Rmax.>1K ohm(Switch contact)
- Max.count rates (最高輸入頻率) : <10KHz(50% duty cycle(Pulse))  
<1KHz(Magnetic pick-up)  
<100Hz(Switch contact)
- Batch controller start time delay (批量控制輸出2起動延遲時間) : 0 to 99 second adjustable(Output2)
- Batch controller prestop range (批量控制輸出2預停前置量) : 0 to 9999 digit adjustable(Output2)
- Batch controller counting modes (批量控制輸出復歸方式) : Up or Down can be modified
- Batch controller output reset type (批量控制輸出復歸方式) : Manual(N) or Auto restart(A) can be modified
- Analog output resolution (類比輸出解析度) : 16 bit DAC
- Response time (輸出反應速度) : < 50ms(0~90%)
- Output drive capability (輸出負載能力) : < 10mA for voltage mode  
< 10V for current mode
- Pulse output (脈波輸出容量) : Photo couple of open-collector(Max.DC30V/50mA)  
(Synchronize totalizer)(Max.100Hz)
- RS-485 address (通訊位址) : "01"~"FF"(0~255)
- RS-485 baud rate (傳輸速度) : 38400/19200/9600/4800/2400 selective
- Temp. coefficient (溫度係數) : 50ppm/°C (0~50°C)
- Display (Rate/Totalizer) (顯示幕) (Batch) : Red high efficiency LEDs high 10.16mm(0.4")  
Red high efficiency LEDs high 7.0mm(0.28")
- Memory mode (記憶型式) : Non-volatile E<sup>2</sup> PROM memory
- Dielectric strength (絕緣耐壓能力) : 2KVac/1 min. (input/output/power)  
1600Vdc (input/output)
- Operating condition (使用環境條件) : 0~50°C (20 to 90% RH non-condensed)
- Storage condition (存放環境條件) : 0~70°C (20 to 90% RH non-condensed)
- CE EMC Certification (CE認證) : EN 55022:1998/A1:2000 Class A  
EN 61000-3-2:2000  
EN 61000-3-3:1995/A1:2001  
EN 55024:1998/A1:2001

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