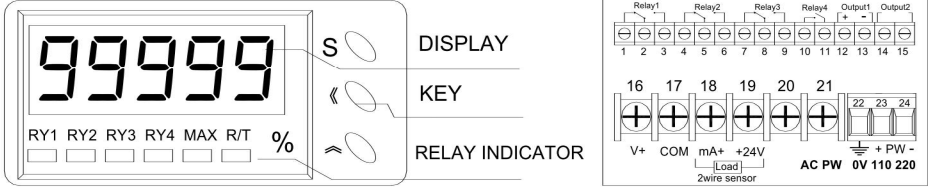


MMS MANUAL

1.Panel and Keys



2.Keys Function

S	:	Setting / Select
△	:	Change number / Enter
>	:	Change position

3.Parameter Setting

3-1 Basic Setting ***In the below setting instruction, P means Press.***

Long press "S" to enter menu. Press "S" to enter setting. Press > and △ to set.		
Display	Function	Instruction
	Input signal	Press > to select 4-20ma/0-20ma/0-10V/1-5V/0-5V
	Display Low value	Press>and△ to set the lowest display value. Range: -19999~99999Count
	Display High value	Press>and△ to set the highest display value. Range: -19999~99999Count
	Decimal Point	Press>to set decimal point position.
	Output Signal	Press>to select 4-20mA/0-20mA or 0-10V/1-5V/0-5V Press S to enter OP_H to set corresponding value(high) Press S to enter OP_L to set corresponding value(low) (Note: mA and V can't exchange)
	Address Baud rate Format	Press>and△ to set address Press S and Press> to select 4800-9600-19200-38400 Press S and Press>to select None/Odd/Even/ 8n1-8n2.
	Display Adjustment	Press>and △ to adjust display value. Range: -19999~19999Count
	Advance setting	No need setting
	Save	Press S to enter no/YES Press> to select YES. Press S to save setting.

3-2 Relay Setting (Alarm) ***In the below setting instruction,P means Press.***

Long press "S" to enter menu. Press "△" to enter setting. Press > and △ to set.

Display	Function	Instruction
	Relay setting	Press△to select HI_Alarm or LO_Alarm. Press>to change position (HHHH means 4 sets of HI relays)
	RY1 action point	Press>and △ to set. Range±19999
	RY1 deadband	Press>and △ to set. Range±19999
	RY1 delay time	Press>and △ to set. Range 0~1999.9 second
	RY2 action point	Press>and △ to set. Range±19999
	RY2 deadband	Press>and △ to set. Range±19999
	RY2 delay time	Press>and △ to set. Range 0~1999.9 second
	RY3 action point	Press>and △ to set. Range±19999
	RY3 deadband	Press>and △ to set. Range±19999
	RY3 delay time	Press>and △ to set. Range 0~1999.9 second
	RY4 action point	Press>and △ to set. Range±19999
	RY4 deadband	Press>and △ to set. Range±19999
	RY4 delay time	Press>and △ to set. Range 0~1999.9 second
	Start delay time	Press>and △ to set. Range 0~1999.9 second
	Press S to enter no/YES Press> to select YES. Press S to save setting.	

4.Meter setting example:

EX.1 Input: DC 4-20mA Display: 0~100.00% Output: 4-20mA(0-100.00)
Relay: 4 sets HI-Alarm
Alarm action point RY1 =80.00% ; RY2=60.00% ; RY3=40.00% ; RY4=20.00%
Delay time: 0 second
Parameter setting:

IN	4-20	OP	4-20
DS-LO	000.00		OP-hi 100.00
DS-HI	100.00		OP-lo 000.00
Dot	888.88	ADJ	No need setting

Relay alarm setting

H-L	HHHH		
RY1	80.00	Delay time	0000
RY2	60.00	Dead band	000
RY3	40.00	**Please refer to title 7 for alarm function explanation.	
RY4	20.00		

5. Buffer Size (The number of measurements for RMS sliding averaging)

- 1.Fast speed (FASL)
 - 2.Midium speed (HI 9H)
 - 3.Low speed (LOL)
- Preset as medium: (HI 9H)

Enter FUnC 0000 Press> and △ to enter 00011

Press Menu to enter setting

Dispaly Instruction

H 9H Press > to select FASL / HI 9H / LOL

Press Menu to save setting.

6. Communication Protocol MODBUS – RTU MODE

Data Format

(ID Number)	(Function Code)	(Data)	CRC
1Byte	1Byte	N Byte	2 Byte

Function Code

03 (03H)	Read parameters of the meter
06 (06H)	Set parameter.

EX1. Read meter display value

Master sends message Tx: 01 03 00 01 00 02 95 CB				
ID Number	Function	Address	DATA number	CRC
1Byte	1Byte	2Byte	2Byte	2Byte
(01H)	(03H)	(00 01H)	(00 02H)	(95 CBH)

Instruction : Master calls meter ID No.1 to read address 0002.Data number 0001

If meter displays 90000

Meter responses to Master RX : 01 03 04 5F 90 00 01 29 CA				
ID Number	Function	Byte	Data	CRC
(01H)	(03H)	(04H)	(5F 90 ; 00 01H)	(29 CAH)

Ex2. Read parameters of the Meter

Master sends message to Meter				
ID Number	Function	Address	DATA number	CRC
1Byte	1Byte	2Byte	2Byte	2Byte
(01H)	(03H)	(00 02H)	(xxH,xxH = N)	(xxH,xxH)

Meter responses to Master				
ID Number	Function	Byte	Data	CRC
(01H)	(03H)	(XXH = N)	(N*2Byte)	(xxH,xxH)
			XxH,xxH.xxH.....	

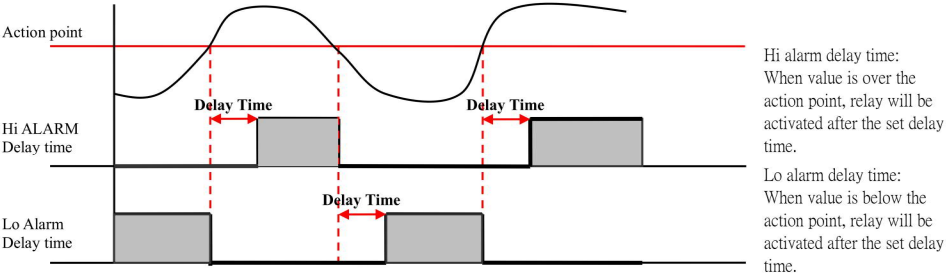
Parameter/Address cross-reference

Add ress	Length	Name	Instruction	(Read/ Write)
01	4Byte	Display value	Range: -19999 – 99999 01(low) 02(high)	R
02				
03	2Byte	Decimal point	Decimal Point Position	R/W

04	2Byte	Relay state	Bit3=RY4 Bit2=RY3 Bit1=RY2 Bit0=RY1 (0 = OFF , 1 = ON)	R
05	4Byte	CT ratio	Setting range: (-19999 – 99999) 05(low) 06(high)	R/W
06				
07				
08				
09	4Byte	OP_HI	Setting range: (-19999 – 99999) 01(low) 02(high)	R/W
10				
11				
12	4Byte	OP_LO	Setting range: (-19999 – 99999) 11(low) 12(high)	R/W

7. Alarm Function Explanation

1・Delay time.



2・Dead band

