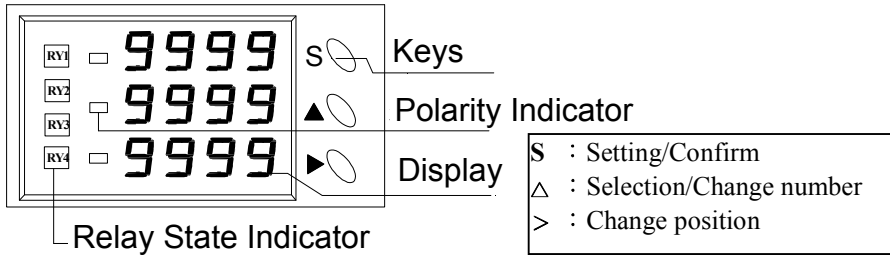


DM3A Manual

1. Panel and Keys



2. Parameter Setting

2-1 Basic Setting *In below Display section, P means Press.

Press "S" to enter **7ENU-0 1-02-03-04-05-06-07-08-09** Press "Δ" to set.

Display	Function	Instruction
7ENU Press S	(MENU)	
01 PΔ 3ct	Input Mode	Press > to select 3CT or 2CT. Press S to enter 02
02 PΔ ct	CT Ratio	Press > and Δ to set : 0-9999Count EX: 100A/5A ratio= 20 ,Set 02 as 0020 Press S to enter 03.
03	No Function	No need to set. Press S to enter 04.
04	No Function	No need to set. Press S to enter 05.
05 PΔ A888 b888 C888	Decimal Point	Press > to set decimal point for display 1. Press Δ. Press > to set decimal point for display 2. Press Δ. Press > to set decimal point for display 3. Press S to 06.
06 PΔ 4-20 9999 9999	O/P Signal and Corresponding to :	Press Δ to select 4-20ma/0-20ma/0-5V/1-5V/0-10V Press > and Δ to set ZERO :0-9999Count Press > and Δ to set SPAN :0-9999Count Press S to select corresponding channel : CH1-CH2-CH3 Press S to enter 07
07 PΔ 9600 Ad31 Bn1	Baud rate Address Format	press Δ to select :9600-19200-38400-2400-4800 Press > and Δ to select :1-99 Press > and Δ to select :8N1-8N2-8E1-8E2-8O1-8O2 Press S to enter 08
08	No Function	No need to set. Press S to enter 09
09 PS 99	Save	Press S to enter no/YES Press > to select YES Press S to finish setting.

2-2 Relay Setting (Alarm)

*In below Display section, P means Press.

Press "S" to enter **7ENU**. Press ">" to enter **rY 1-rY2-rY3-rY4-dELAY-SAVE**

Display	Function	Instruction
7ENU Press >	(MENU)	
H-L PΔ HHHH 1111	HI or LOW Correspond to	Press Δ and > to select HI_Alarm / LO_Alarm Press Δ and > to select corresponding channel: CH1-CH2-CH3
rY-1 PS 9999 PΔ 9999 999	Relay 1 Deadband Delay Time	Press > and Δ to set action point :0-9999 Press > and Δ to set Deadband : 0-9999Count Press > and Δ to set Delay Time : 0-999 sec
rY-2 PS 9999 PΔ 9999 999	Relay 2 Deadband Delay Time	Press > and Δ to set action point :0-9999 Press > and Δ to set Deadband : 0-9999Count Press > and Δ to set Delay Time : 0-999 sec
rY-3 PS 9999 PΔ 9999 999	Relay 3 Deadband Delay Time	Press > and Δ to set action point :0-9999 Press > and Δ to set Deadband : 0-9999Count Press > and Δ to set Delay Time : 0-999 sec
rY-4 PS 9999 PΔ 9999 999	Relay 4 Deadband Delay Time	Press > and Δ to set action point :0-9999 Press > and Δ to set Deadband : 0-9999Count Press > and Δ to set Delay Time : 0-999 sec
dELAY PΔ 999	Start delay time (1-999 sec)	Press > and Δ to set start delay time 0-999 sec
SAVE PS 99	Save	Press S to enter no/YES Press > to select YES Press S to finish setting.

3. Meter setting example:

EX1. Input: 1000/5A (3 units) Mode : 3CT mode CT 1000A/5A ;CT ratio=200

Display: 0~1000A

Setting:

01	3CT	05	Decimal point:A888 / B888 / C888
02	CT ratio = 0200	06	No need to set
03	No need to set	07	No need to set
04	No need to set	08	No need to set

EX2. Input: 600/5A(3 units) Mode:2CT CT 600A/5A ;CT ratio=120 Display: 0~600.0A

Output:4-20mA corresponding to R phase value 0~600.0A

Setting:

01	2CT	05	Decimal point: A88.8 / B88.8 / C88.8
02	CT ratio = 0120	06	O/P signal: DC 4-20 mA
03	No need to set		ZERO=0000
04	No need to set		SPAN=6000
			CH 1 (R phase)
		07	No need to set
		08	No need to set

4. Communication Protocol

MODBUS – RTU MODE

Data Format

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

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

Ex1. Read the Voltage display value

Master sends message TX : 01 03 00 01 00 01 D5 CA				
ID Number 1Byte (01H)	Function 1Byte (03H)	Address 2Byte (00 01H)	DATA number 2Byte (00 01H)	CRC 2Byte (D5 CAH)

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

If the meter displays 1000

Meter responses to Master RX : 01 03 02 03 E8 B8 FA				
ID Number (01H)	Function (03H)	Byte (02H)	Data (03E8H)	CRC (B8 FAH)

Ex2. Read parameters of the Meter

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

Meter responses to Master

ID Number (01H)	Function (03H)	Byte (XXH = N)	Data (N*2Byte) XxH,xxH.xxH.....	CRC (xxH,xxH)
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Parameter/Address Cross-reference(Refer to ModScan32)

Address (Dec)	Length	Name	Instruction	(Read/Write)
01 (40002)	2Byte	Display 1	Range 0-9999	R
02 (40003)	2Byte	Display 2	Range 0-9999	R
03 (40004)	2Byte	Display 3	Range 0-9999	R
08 (40009)	2Byte	Decimal Point	0000 0000 0000 0000 DS3 DS2 DS1	R
09 (40010)	2Byte	Relay State	Bit0=RY1 0001 ON Bit1=RY2 0010 ON Bit2=RY3 0100 ON Bit3=RY4 1000 ON	R
10 (40011)	2Byte	CT ratio	Range 0-9999	R
13 (40014)	2Byte	OP_HI	Range 0-9999	R
14 (40015)	2Byte	OP_LO	Range 0-9999	R
15 (40016)	2Byte	RY1 setting value	Range 0-9999	R
16 (40017)	2Byte	RY2 setting value	Range 0-9999	R
17 (40018)	2Byte	RY3 setting value	0-65535	R

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

1. High speed (8 entries)
2. Medium speed (16 entries)
3. Low speed (32 entries)

Preset as medium:(**ri d**)

Setting : In 09-00,key in 11 and press S to set. Press Δ to select High(**HI 9H**) Medium(**ri d**) Low(**LO!**)
Key in 99 to confirm and save.

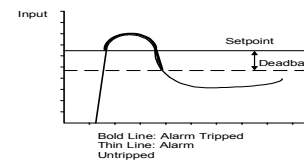
6. Error

Display	Problem
FULL	Display range is over 9999 Incorrect CT ratio / Wrong input signal

7. Alarm Function Illustration

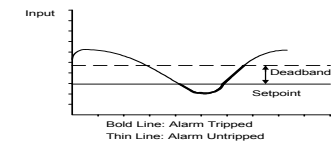
1.HIGH ALARM : (Deadband)

When input signal is over setpoint, Relay is activated until signal is under Deadband



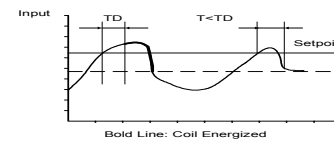
2.LOW ALARM : (Deadband)

When Input signal is under setpoint, Relay is activated until signal is over Deadband



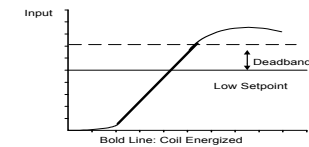
3.ON DELAYTIME :

When input signal is over setpoint, relay will be activated after the set time.



4.ZERO NO ALARM :

When input signal is under 0.3%,no low alarm function
Set 58 >0 to activate this function.



5.START DELAY TIME :

Input signal starts from 0. No alarm function within TS.

