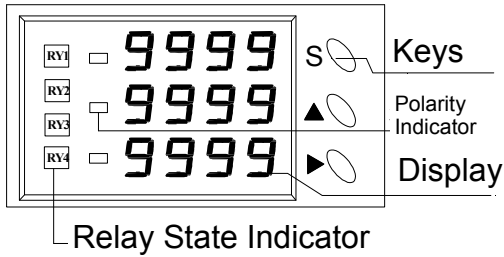


DM3E / DM3S / DM3D Manual

1. Panel and Keys



- S : Setting/Confirm
- △ : Selection/Change number
- > : Change position/Turn page
- Long press△ : Reset MAX

2. Parameter Setting

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

Display	Display	Display
iEnU	(MENU)	
01	Input Signal	Press> to select 4-20ma/0-20ma or 1-5V/0-10V/0-5V (*A and V can't exchange). Press S to enter 02
02	Display1 Value	Press> and△ to set. Range:0-9999 Press S to enter 03
03	Display2 Value	Press> and△ to set. Range:0-9999 Press S to enter 04
04	Display3 Value	Press> and△ to set. Range:0-9999 Press S to enter 05
05	Decimal Point	Press> to set decimal point for display 1. Press △. Press> to set decimal point for display 2. Press △. Press> to set decimal point for display 3. Press S to 06.
06	O/P Signal and Corresponding to :	Press△ to select 4-20ma/0-20ma/0-5V/1-5V/0-10V Press> and△ to set ZERO :0-9999Count Press> and△ to set SPAN :0-9999Count PressS to select corresponding channel: CH1-CH2-CH3-CH4-CH5(4=0AVG, 5=MAX) Press S to enter 07
07	Baud rate Address Format	press△ to select :9600-19200-38400-2400-4800 Press> and △ to select :1-99 Press> and △ to select :8N1-8N2-8E1-8E2-8O1-8O2 Press S to enter 08
09	No Function	No need to set. Press S to enter 09
	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.

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

3. Meter setting example:

EX1. Input: DC4-20mA (3Units) Display1:60.00% Display2: 200.0% Display3: 1000%

Setting:

01	Set as 4-20	05	Decimal point:A8.88 / B88.8 / C888
02	Set as 6000	06	No need to set
03	Set as 2000	07	No need to set
04	Set as 1000	08	No need to set

EX2. Input: 600A/50mV(3Units) Display1:600.0A Display2: 1000A Display3: 50.00A

Output: 4-20ma corresponding to A phase value 600.0A

Setting:

01	No need to set	05	Decimal point:A88.8 / B888 / C8.88
02	Set as 6000	06	Output: 4-20Ma
03	Set as 1000		ZERO=0000
04	Set as 5000		SPAN=6000
			CH 1 (A 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	Function	Address	DATA number	CRC
1Byte (01H)	1Byte (03H)	2Byte (00 01H)	2Byte (00 01H)	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	Function	Byte	Data	CRC
(01H)	(03H)	(02H)	(03E8H)	(B8 FAH)

Ex2. Read parameters of the Meter

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

Meter responses to Master

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

Address (Dec)	Length	Name	Instruction	(Read/Write)
01 (40002)	2Byte	Display 1	Range -1999-9999	R
02 (40003)	2Byte	Display 2	Range -1999-9999	R
03 (40004)	2Byte	Display 3	Range -1999-9999	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	DS1 setting	Range 0-9999	R
11 (40012)	2Byte	DS2 setting	Range 0-9999	R
12 (40013)	2Byte	DS3 setting	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	Range 0-9999	R
16 (40017)	2Byte	RY2	Range 0-9999	R
17 (40018)	2Byte	RY3	Range 0-9999	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.

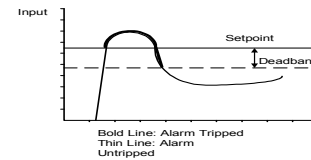
6. Error

Display	Problem
Err	No input signal connected/wrong input connection/incorrect input signal
FULL	Display range is over 9999 Incorrect CT ratio / Wrong input signal

7. Alarm Function Illustration

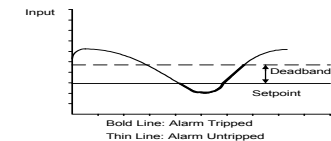
1.HIGH ALARM : (Deadband)

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



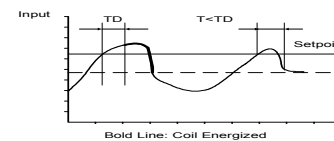
2.LOW ALARM : (Deadband)

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



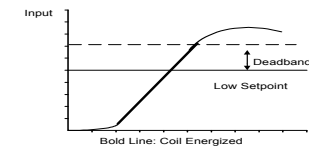
3.ON DELAYTIME :

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.

