

# Microprocessor Watthour & Varhour Digital Meter

MODEL **DMWH/DMQH**

## Features:

- Output/Display Range User Selectable
- Dual Aux. Power 110/220V AC
- WH/VarH Output 0 ~ 100 Pulses User Selectable
- 10 Years Power-OFF Memory for WH and VarH
- Dual Display



Ordering : DMWH         Watthour Uni-Direction  
 DMWH2         Watthour Bi-Direction  
 DMQH2         Varhour Bi-Direction

Circuit	I/P Voltage	I/P Current	Frequency	WH(VARH)O/P	Aux. Power
A 1 $\phi$ 2W	A 55~300V	A 1A	A 50Hz	A 1 Count / 1 Pulse B 1 Count / 10 Pulse C 1 Count / 100 pulse	A AC 110/220V (Dual Power) C DC 24V D DC 110V E DC 125V F AC/DC 85 ~ 265V
B 3 $\phi$ 3W	B 300~600V	B 5A	B 60Hz		
C 3 $\phi$ 4W				F RS-485 N None Y Other	
Y Other	Y Other	Y Other	Y Other		

Specify code number and variable. (e.g. DMWH – B – A – A – B – B – A )

Code number: model – circuit – input V – input C – frequency – WH / VARH output – power

3  $\phi$  4  $\omega$  Voltage Line-Neutral

## SPECIFICATIONS:

### INPUT:

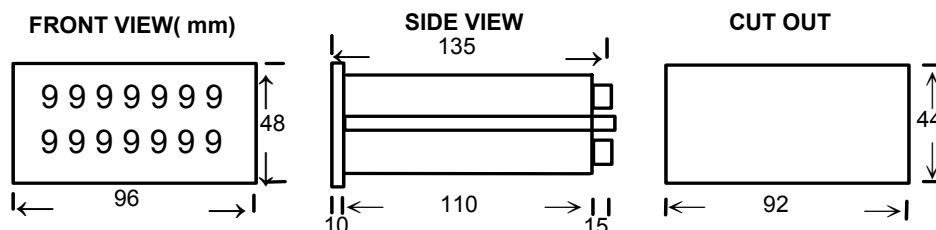
- Input Frequency : 50Hz  $\pm$  5Hz, 60Hz  $\pm$  5Hz.  
 Input Burden : Voltage 0.25VA/Unit, Current 0.25VA/Unit, at 60Hz.  
 Input Over : Normal AC 5A, Current Over 15A Continuous ; 50A 10 Sec/Hour ; 400A 0.5 Sec/Hour.  
 Normal AC 110V, Voltage Over 500V Continuous ; 1200V 10Sec/Hour.  
 Input Range : Normal Voltage 110V, Effective Range 85 ~ 150V. Normal Voltage 220V, Effective Range 160 ~ 300V AC.  
 Normal Current 5A, Effective Range 0 ~ 7.5A. Normal Current 1A, Effective Range 0 ~ 1.5A.

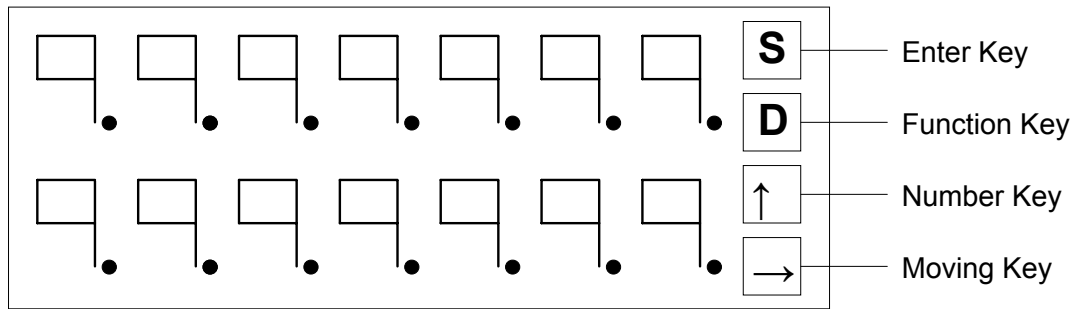
### OUTPUT & DISPLAY:

- Output of WH or VarH : Open Collect Type, Output Speed 0 ~ 100 Pulses User Selectable.  
 Effective Range : 5 ~ 30V DC, 5 ~ 100mA.  
 Output Response Time :  $\leq$  1 Sec.  
 Output Protection : Without Damage for Output Open or Short Circuit.  
 Digital Output Load : RS-485 Output, 1200,2400,4800,9600,19200 Baud Rate, User Selectable.  
 Display Range : Single or dual display.  
 Uni-Direction, Single Display + Wh, 0.56" Super Rate LED.  
 Bi-Direction Dual Display  $\pm$  WH or VarH, 0.36" Super Rate LED, 7 digits  $\pm$  9999999 Counts for WH or VarH.

### INSTALLATION & PERFORMANCE:

- Accuracy : 0.2% RD/PF+0.02%FS at 23 $^{\circ}$ C  $\pm$ 3 $^{\circ}$ C.  
 Dielectric Strength : 2.6KV AC / Min between Input / Power / Case.  
 Impulse : 4 KV 1.2x50  $\mu$ S, ANSI C37.90a / 1983.DIN IEC 255 – 4.  
 Stability :  $\leq$  0.2%/Year.  
 Temperature Coefficient :  $\leq$  100ppm /  $^{\circ}$ C From 0 ~ 60 $^{\circ}$ C.  
 Operating Condition : -10 $^{\circ}$ C ~ +85 $^{\circ}$ C 20 ~ 95% RH Non-Condensed.  
 Storage Condition : -40 $^{\circ}$ C ~ +105 $^{\circ}$ C 20 ~ 95% RH Non-Condensed.  
 Power Supply : AC or DC  $\pm$ 20%, 50 / 60Hz.  
 Outline Dimension : 1/8 DIN 96W X 48H X 135D mm.  
 Mounting : Panel Flush Mounting.





The Watt, Var, Watt/Watthour, Var/Varhour meter setting procedures as follows :

Procedures :

- (1) Press "S" key, display "00" blinking
- (2) Press "D" key, enter "01"~"09" functions
- (3) Press "→" key, to change position.
- (4) Press "↑" key, to change number.

Repeat procedure (1)~(4).

Press "D" and "→" at the same time for QUIT.

PRESS "D" TO SAVE SETTING VALUE AFTER "09".

Input/Output/Display Functions "02"~"09" :

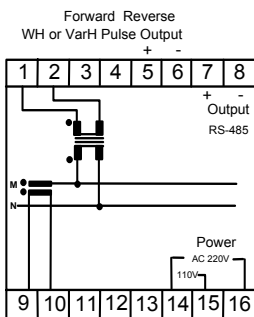
- 02 GAIN VALUE
- 03 Decimal point, change decimal point position.
- 04 Change output value (for Watt and Var only).  
0~20mA, 4~20mA, 0~10mA, 0~5V, 1~5V, 3~5V, 0~1V.  
\* Display 12~20 means 4~12~20mA, display 3~5 means 1~3~5V.
- 05 Output range (for Watt and Var only).  
Change output value when the display scale is not expect same as output value .  
Example : display 0~1000W, the output can be setting 0~500W/4~20mA.
- 06 Digital output Baud Rate  
1200, 2400, 4800, 9600, 19200.  
\* Display 9200 means 19200.
- 07 Address, 01~99(PC or Host Console Address=0)  
32 devices maximum for RS-485 format.
- 08 Watthour or Varhour display counts vs pulse output (for Watthour and Varhour only).  
1 count/1,10,100,200, pulse. 1 count/200pulse maximum.
- 09 Special function : Save, Reset, Uni or Bi Directions etc..  
**DISPLAY "99" PRESS "D" TO SAVE "02"~"09" DATA.**

Remarks : Function Key "04" and "05" for Watt and Var Meter only.

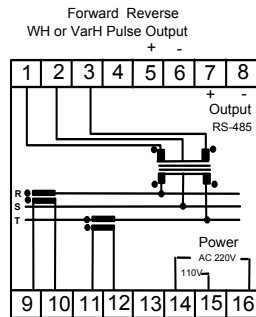
Function Key "08" for Watthour and Varhour Meter only.

Function Key "04", "05", "08" for Watt/Watthour, Var/Varhour Meter.

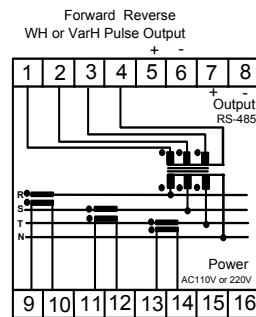
### Terminal Connection:



1 § 2W



3 § 3W



3 § 4W

