

MULTIPANEL



M814-VAH OPERATING MANUAL

MultiPanel M814-VAH Display Screen Sequence



All units are fully programmed by the factory and shipped in the 3 phase 4 wire unbalanced load setting. The following shows screens for 3 phase 4 wire

ACTION :

Switch on power.

COMMENTS :


The first screen shows 3 phase line to neutral voltage. Top line L1-N middle L2-N bottom L3-N



ACTION :

Press 

COMMENTS :


The second screen shows 3 phase line to line voltage. L1/L2, L2/L3, L3/L1. If the  is pressed MultiPanel goes back to its previous screen. If the meter is programmed for 3 Phase 3 wire this will be the first screen.



ACTION :

Press 

COMMENTS :

The third screen shows 3 phase current L1, L2 L3. If the  is pressed. MultiPanel goes back to previous screen.



ACTION :

Press 

COMMENTS :

The fourth screen shows neutral current (In) and Frequency (Hz).



ACTION :

Press 

COMMENTS :

The fifth screen shows maximum amp demand for each phase (Adm).



ACTION :

Press 

COMMENTS :



The sixth screen shows the hours (hrs) and minutes (mins) that the meter has been running.



Note: If MultiPanel is programmed for Single Phase 3 wire the first screen you will see is as shown. Both the volts Line to Neutral (VL-N) and volts Line to Line (VL-L) annunciators will be illuminated. The top line of the display is L1 to Neutral voltage. Middle line display is L1 to L2 voltage. Bottom line display is L2 to Neutral voltage.

MultiPanel M814-VAH



All units are fully programmed by the factory and shipped in the 3 phase 4 wire unbalanced load setting.

1.1 To enter the programming mode, the two front buttons  &  have to be pressed simultaneously and held for 5 seconds. The MultiPanel now enters either the Security Code or LED display brightness control. If the security code has been programmed see section 1.1. If no security code has been set move to section 2.1

1.1 Security Code



ACTION :

Press  &  simultaneously, and hold for 5 seconds.

COMMENTS :

MultiPanel is now asking for the 4 digit code



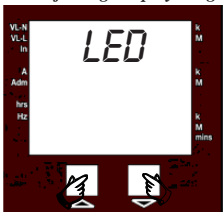
ACTION :

Press

COMMENTS :

Press until 1st digit of security code is shown. Press cursor moves to the 2nd digit, Press until second digit of code is shown. repeat operation until the correct four digit code is displayed. Press and the meter goes into LED brightness adjustment mode.

2.1 Adjusting Display Brightness.



ACTION :

Press & simultaneously, and hold for 5 seconds. Note if LED already display do not hold both buttons for 5 seconds as you are already in display brightness mode.

COMMENTS :

MultiPanel is now in LED brightness adjustment mode.



ACTION :

Press

COMMENTS :

Screen shows brightness level 4. Pressing scrolls through 0,1,2,3,4 Note the factory sets the brightness level at 4. Once desired level is shown, Press and the screen returns to LED. The brightness level is now programmed.

3.1 System Setting.




MultiPanel can be used on any of the following wiring systems: Single Phase (1PH), Single Phase 3 wire (1PH3), 3 Phase 3 wire (3PH3) and 3 Phase 4 wire (3PH4). The units are set by the factory to 3 phase 4 wire. The MultiPanel can be used on any voltage between 10 and 415V Line to Neutral (17 to 720V Line to Line). The standard unit has internal 5 Amp shunts and external current transformers must be used. To change to different wiring systems the unit must be wired as shown on the connection diagram and the appropriate system programmed into the meter as follows.



ACTION:

Press  SET is shown= system set up.

COMMENTS :

Press  and the system currently programmed will be displayed. Pressing  repeatedly will display four types shown 3PH4, 3PH3, 1PH3, 1PH. Press  when the system type required is shown. The meter returns to LED. The system is now programmed.

4.0 Setting Primary and Secondary Voltage Ratio.


The meter's default Primary and Secondary voltages are factory set to 415.2V L-N. With default set at 415.2 V any voltage between 10 to 415 volts LN (17 to 720V L/L) can be used without the need to re-program the meter.

If no external voltage transformers are used proceed to 5.1.




4.1.1 Setting Primary Voltage Ratios



ACTION :

Press  twice *UPRI = Primary Voltage setting*

COMMENTS :






Press  and the primary voltage setting will be displayed (default setting is 415.2V) Cursor flashes under first digit. Pressing  increments the digit. Press  when the digit required is displayed and the cursor will move to the next digit. Example If 11kV / 110 is required



ACTION :

Press 

COMMENTS :

Press  and then  increment each digit until the display shows 011.0 Press  the display will now show SELE, this allows the meter to be scaled in V, kV or MV. In this example kV is required so Press  once and k annunciator will illuminate; press twice and the MV annunciator will illuminate. Press  and the screen returns to LED. The primary ratio is now programmed.




4.1.2 Setting Secondary Voltage Ratios.



ACTION :

Press  three times USEC = Secondary Voltage setting

COMMENTS :




Press  and the secondary voltage setting will be displayed (default setting is 415.2V) Cursor flashes under first digit. Pressing  increments the digit. Press  when the digit required is displayed and the cursor will move to the next digit. In this example we need 110.0 (ratio 11kV/110)



ACTION :

Press 

COMMENTS :


Press  and then  increment each digit until the display shows 110.0 Press  and the screen returns to LED. The secondary ratio is now programmed.

5.1 Setting Primary Current Ratios.




The current input to MultiPanel must be via external current transformers. If the CTs are to be earthed, the earth connection must be to 1 on secondaries of the transformers as terminal 3, 6 and 9 are internally connected to terminal 11, the neutral.



ACTION :

Press  four times SYS A = Primary Current setting

COMMENTS :







Press  and the primary current setting will be displayed (default setting is 5A) Cursor flashes under first digit. Pressing  increments the digit. Press  when the digit required is displayed and the cursor will move to the next digit. Example if ratio of 250 is required



ACTION :

Press 

COMMENTS :

Press  and then  increment each digit until the display shows 250.0 Press  the display will now show SELE, this allows the meter to be scaled in A, kA or MA. In this example A is required so Press  and the screen returns to LED. The primary ratio is now programmed. If for example 1200A is required display would be set to 001.2 then when SELE is displayed Press  and k annunciator is displayed. Press  and screen returns to LED and CT is programmed.

6.1 Resetting Hours Run Counter.



ACTION :

Press  *five times* HOUR = Hours run screen

COMMENTS :





Hours Run resetting screen is displayed.



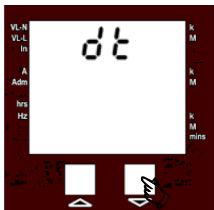
ACTION :

Press 


COMMENTS :

The screen now displays the option to either reset the counter to zero (Y) Press  *or do not reset hours counter (N) Press*  *Once either*  *or*  *have been pressed screen returns to LED screen and hours counter has / has not been reset.*

7.1 Setting Demand Time.



ACTION :

Press  six times dt = Demand time screen

COMMENTS :

Demand Time setting screen is displayed.

Demand times between 3 and 30 minutes can be set.





ACTION :

Press 

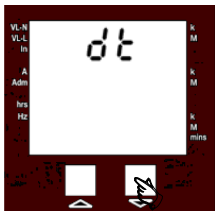
COMMENTS :

The screen now displays the demand time that is programmed, the default time is 3 minutes.


Pressing  repeatedly will scroll through from 3 to 30 minutes. When required time is displayed, Press  the screen returns to LED screen and Demand time is programmed.

7.1.1 Resetting Demand Counter.

Note: When a demand time period has been set MultiPanel automatically resets the time to zero. The new period starts once MultiPanel is returned to the measuring mode. The counter can also be reset to zero via programming as follows.



ACTION :


Press  six times dt = Demand time screen

COMMENTS :





Demand screen is displayed.



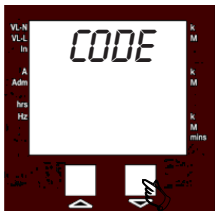
ACTION :

Press  twice


COMMENTS :

The screen now displays the option to either reset counter to zero (Y) Press  or do not reset hours counter (N) Press  Once either  or  have been pressed screen returns to LED screen and hours counter has / has not been reset.

8.1 Programming Security Code.



ACTION :

Press  seven times CODE = Security code. Once a 4 digit code is set only authorised users can enter the programming mode.

COMMENTS :

MultiPanel is now in the security code setting mode.



ACTION :

Press

COMMENTS :

MultiPanel is now asking for the 4 digit code
Pressing increments the digit with cursor flashing, below it. Scroll until the number required is displayed. Press and the cursor moves to next digit scroll until digit required is displayed. Repeat operations for digits 3 and 4. When the fourth digit number required is displayed, Press the screen returns to LED and code is stored.

9.1 Terminating Programming. Once programming has been completed there are two options available either to cancel (CNCL) all data entered whilst in programming mode or to end programming and return to measuring mode.



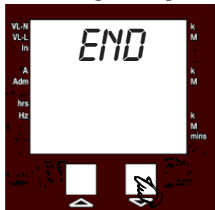
ACTION :

Press eight times CNCL = Cancel

COMMENTS :

Press to cancel all data entered during programming and return to measuring function.
Press to go to END function.


9.1 End Programming.

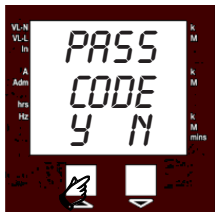


ACTION :

Press  9 times END = End programming

COMMENTS :



Press  to end programming, but before programming is ended you will be asked if you wish to enable the use of the security code.



ACTION :

Press  or  See comments below

COMMENTS :

The screen now displays the option to either enable security code (Y) Press  or cancel code (N) Press  Once either button has been pressed screen returns to the measuring mode.



COMMENTS :

If (Y) was pressed all data that has been entered during programming is stored and MultiPanel has now returned to measuring mode.

10.0 Specifications.

INPUT

Rated Un	10V to 415V LN 17 TO 720V LL
Accuracy	Class 1%
Burden	0.5VA per phase
Overload	Maximum 415V LN 720V LL
Rated In	5Amp (option 1 Amp)
Accuracy	Class 1 %
Burden	0.5VA per phase
Overload	2 x In continuous
Frequency	45/65Hz

AUXILIARY DUAL VOLTAGES

AC voltage standard	230/400V
Other options	57.7/100 or 63.5/110 or 69/120 or 120/208 or 254/440 or 277/480 or 346/600V +/- 15% 45/65Hz burden <7VA

INSULATION

Test Voltage	3kV between input auxiliary and case
Impulse Test	EMC5kV transient Complying with IEC 801 / EN55020 HF
Surge withstand	IEC801 / EN55020 ANSI C37.90A
Interference	EHF 2.5kV 1MHz Complying with IEC 255-4
Protection Class II	complying with IEC348

APPLIED STANDARDS

General	IEC 688 BSEN60688 BS4889 IEC359
EMC	Emissions BSEN50081/1 Immunity BSEN50082/2
Safety	IEC 1010, BSEN601010

DISPLAY

Digits	3 lines 9999
Size	14.2 mm 7 segment

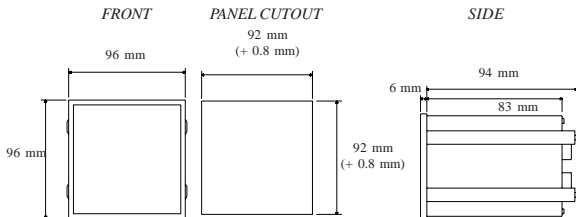
ENVIROMENTAL

Working Temperature	0 to + 60 deg C
Storage Temperature	-40 to + 85 deg C
Temperature Coefficient	0.01% per deg C
Relative Humidity	0-95% non condensing
Shock	30G in 2 planes

ENCLOSURE

Standard Din case	Din 96 x 96 x 98 mm
Panel mount	Via 4 retaining brackets
Panel cutout	92 + 0.8mm x 92 + 0.8mm
Material	Black Polycarbonate complying with UL 94 VO
Terminals	Screws for 2 x 0.5-5mm
IP rating	IP54 / Nema 4
Weight	0.5kg (1.1lb)

CASE DIMENSIONS



CONNECTION DIAGRAMS

CURRENT INPUTS NOT ISOLATED
EXTERNAL C.T.s MUST BE USED

