

VPT95M

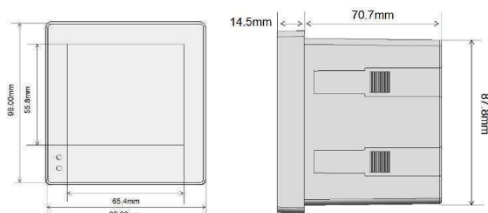
User Manual



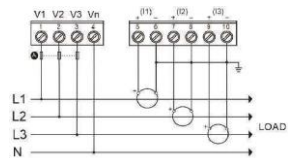
1. Specification

Meter Type	1P2W 1CT, 2P3W 2CT, 3P3W 2CT, 3P4W 3CT, 3P3W 3CT
Fitting Type	Panel Mount (DIN96)
MID Approved	No
Input Type	CT Operated
CT Range	Primary: 1 - 9,999A Secondary: 1 or 5A
Measured Range	0.003 - 6A
Tariffs	Single
Import / Export	Import & Export
Reference Voltage	230VAC (L-N) 400VAC (L-L)
Frequency	45-65Hz
Accuracy (Active Energy)	Cl. 0.5S
Communication Protocol	Modbus RTU over RS485
Range of Modbus Add.	1 - 247
Baud Rate	1200, 2400, 4800, 9600, 19200, 38400
Pulse Output	Active or Reactive Energy (Sum, Import or Export)
Pulse Rate	0.001, 0.01, 0.1, 1, 10, 100, 1000
Pulse Width (ms)	60, 100, 200
IP Rating	IP51 Front Display IP30 Meter Body
Display	Liquid crystal with backlight
Key Programming	4 touch buttons

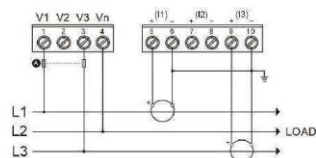
2. Dimensions



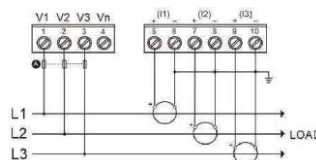
3. Wiring Diagrams



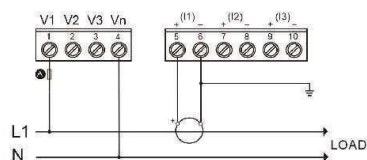
Three phase four wire (3CT)



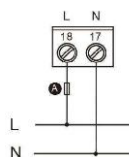
Three phase three wire (2CT)



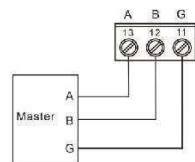
Three phase three wire (3CT)



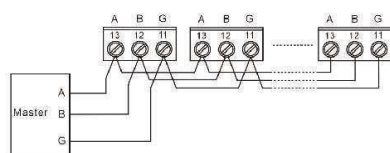
Single phase two wire (1CT)



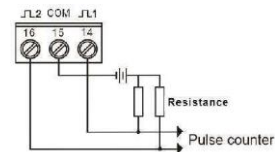
Auxiliary Supply (500mA fast blow fuse)



Single Meter Communications

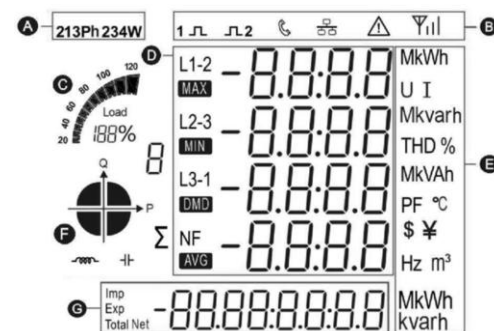


Multiple Meter Communications



Pulse Output Wiring

4. LCD Display



- Supply type icon.
- Status indicator.
- Bar graph for power indication.
- Measured variables.
- Unit of measurement.
- Quadrant indicator, (= inductive | = capacitive).
- Energy display.

5. Button Control

Button	Quick Press	3 Sec. Press
Voltage & Current Esc Key	Main display; scroll through parameters. Settings; exit or return to previous screen.	Enter auxiliary screen from Main display.
Power Factor, Freq. & Dem. Up Key	Main display; scroll through parameters. Settings; scroll up or increase value.	n/a
Power Down Key	Main display; scroll through parameters. Settings; scroll down or decrease value.	n/a
Energy Enter Key	Main display; scroll through parameters. Settings; move cursor right.	Enter settings from Main display. Enter setting or confirm setting.

6. Main Display Screen

6.1 Voltage & Current

"Quick Press" the button to scroll through the values.

- L-N Voltage per Phase (In 3P3W mode, this screen is not displayed)
- L-L Voltage per Phase (In 1P2W mode, this screen is not displayed)
- Current per Phase
- L-N Voltage THD per Phase
- Current THD per Phase
- Phase Sequence of Voltage & Current

6.2 Power Factor, Frequency & Max. Demand

"Quick Press" the button to scroll through the values.

- Total Power Factor & Frequency
- Power Factor per Phase
- Max. Demand Current per Phase
- Max. Demand of Total Active, Reactive & Apparent Power

6.3 Power

"Quick Press" the button to scroll through the values.

- Active Power per Phase
- Reactive Power per Phase
- Apparent Power per Phase
- Total Active, Reactive & Apparent Power

6.4 Energy

"Quick Press" the button to scroll through the values.

- Total Active Energy
- Total Reactive Energy
- Import Active Energy
- Export Active Energy
- Import Reactive Energy
- Export Reactive Energy

7. Auxiliary Display Screen

"3 Sec. Press" the button to enter. Use and to select value and to enter.

Per Phase Measurement Data

- L1 active power, voltage, current & active energy
- L2 active power, voltage, current & active energy
- L3 active power, voltage, current & active energy
- L1 active power, voltage, current & reactive energy
- L2 active power, voltage, current & reactive energy
- L3 active power, voltage, current & reactive energy

Per Phase Measurement Data

- Max. value of per phase L-N voltage
- Max. value of per phase L-L voltage
- Max. value of per phase & neutral current
- Max. value of per phase active power
- Max. value of per phase reactive power
- Max. value of per phase apparent power
- Max. value of total active, reactive & apparent power

- Min. value of per phase L-N voltage
- Min. value of per phase L-L voltage
- Min. value of per phase & neutral current
- Min. value of per phase active power
- Min. value of per phase reactive power
- Min. value of per phase apparent power
- Min. value of total active, reactive & apparent power

Sub-harmonic Component of Voltage

- 2nd to 31st harmonic component of Voltage

Sub-harmonic Component of Current

- 2nd to 31st harmonic component of Current

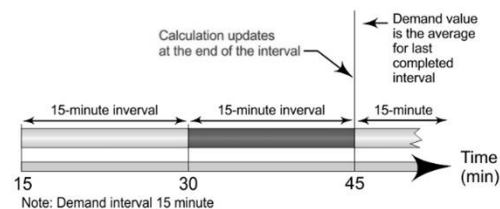
Extended Information

- Modbus address
- Baud rate
- Parity bit
- CT ratio
- PT ratio
- Running time
- Serial Number
- Software version number
- Screen test

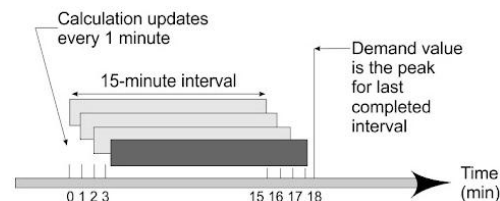
8. Demand Calculation Method

The demand calculation method can be set to Fixed or sliding.

Fixed



Sliding



Demand Calculation Method, Interval & Sliding Time can be adjusted in settings.

9. Set up

To enter the set up menu, “3 Sec. Press” the button to enter the password screen, (default password is 0000).

“Quick Press” the button to move cursor between values and “Quick Press” the or buttons to change them up or down. “3 Sec. Press” the button confirm the password.

“Quick Press” the or buttons to scroll through the settings. “3 Sec. Press” the button to enter setting or sub-setting. “Quick Press” the button to move cursor between values and “Quick Press” the or buttons button to change them. “3 Sec. Press” the button when complete.

“Quick Press” the button to exit or return to previous menus.

Communication Menu - SET COMM	
	Modbus Address Default: 001 Options: From 1- 247
	Baud Rate Default: 9600 Options: 1200, 2400, 4800, 9600, 19200, 38400
	Parity Bit Default: None Options: None, Even, Odd
	Stop Bit Default: 1 Options: 1, 2
System Menu - SET SYS	
CT Configuration - SET CT PARA	
	CT Primary Default: 5A Options: 1 – 9,999A
	CT Secondary Default: 5A Options: 1 or 5A
PT Configuration - SET PT PARA	
	Voltage Primary Default: 230V Options: 30 – 600,000V

	Voltage Secondary Default: 230V Options: 30 – 600V
System Type SET SYS TYPE	
	Supply Type Default: 3P4W 3CT Options: 1P2W 3CT, 2P3W 2CT, 3P3W 2CT, 3P4W 3CT, 3P3W 3CT
CT Direction - SET SYS CNCT	
	L1 Current Direction Default: Forward Options: Forward or Reverse
	L3 Current Direction Default: Forward Options: Forward or Reverse
	L3 Current Direction Default: Forward Options: Forward or Reverse
Set Password SET PASS	
	User Password Default: 0000 Options: Four digit combination from 0-9.
Pulse Output Menu - SET PULS	
	Pulse Output Default: Active Energy (Sum) Options: Active Energy (Sum, Imp. or Exp.) or Reactive Energy (Sum, Imp. or Exp.)
	Pulse Rate Default: 0.01 Options: 0.001, 0.01, 0.1, 1, 10, 100 or 1000
	Pulse Width Default: 100ms Options: 60, 100, 200

Max. Demand Menu - SET dnd	
	Demand Calculation Method Default: Sliding Block Interval Options: Fix Block Interval or Sliding Block Interval
	Demand Interval Period Default: 60 minutes Options: 0, 5, 8, 10, 15, 30 or 60 minutes
	Sliding Time Default: 1 minute Options: 1 – Demand Interval Period
Time Menu - SET EL RE	
	Backlight Time Default: 60 minutes Options: On, Off, 5, 10, 30, 60, 120
	Auto Scroll Display Time Default: 0 seconds (Off) Options: 0-255
Reset Menu - RE SET	
	Reset Options ENGY dnd all All Energy Data Max. Demand All resettable data

10. Modbus Protocol

To view or download, please use the following QR code:



Email – help@voltaris.co.uk