



SMART ENERGY ANALYZER FOR SINGLE AND THREE PHASE SYSTEMS

Model No: SMART-VEN 585

- Measures Kwh, Kvarh, Kw, Kvar, Kva, P, F, Pf,
- Hz, Dmd, V, A, Etc.
- Bi-Directional Measurement Imp & Exp
- Energy Information of Each Phase
- Total Harmonic Distortion Of Voltage and Current
- 2nd~63rd Individual Harmonic Distortion
- Backlit LCD Display for Full Viewing Angles



INTRODUCTION

The Multi-function Energy Analyzer Smart VEN585 series is a top new-generation intelligent panel meter, used not only in the electricity transmission and power distribution system, but also in the power consumption measurement and analysis in high voltage intelligent power grid.

This document provides operating, maintenance and installation instructions for the Smart Controller 585 series unit. The unit measures and displays the characteristics of single phase two wires, three phase three wires and three phase four wires supplies, including voltage, frequency, current, power and active and reactive energy, imported or exported, harmonic, power factor, max. demand etc. Energy is measured in terms of kWh, kVArh.

Maximum demand current can be measured over preset periods of up to 60 minutes. In order to measure energy, the unit requires voltage and current inputs in addition to the supply required to power the product. The requisite current input(s) are obtained via current transformers. The Smart VEN 585 can be configured to work with a wide range of CTs, giving the unit a wide range of operation.



UNIT CHARACTERISTICS

The Unit can measure and display:

- Line voltage and THD% (total harmonic distortion) of all phases.
- 2~63rd voltage IHD% (Individual harmonic distortion) of all phases.
- Line Frequency.
- Currents, current demands and current THD% of all phases.
- 2~63rd current IHD% of all phases
- Active Power, reactive power, apparent power, maximum power demand and power factor.
- Active Energy imported and exported.
- Reactive Energy imported and exported.
- Energy of each phase.

The Unit has password-protected set-up screens for:

- Communication setting: Modbus address, baudrate, parity.
- CT setting: CT 1 (Primary), CT2 (Secondary), CT rate
- PT setting: PT1 (Primary), PT2 (Secondary) , PT rate
- Pulse setting: Pulse output 1, Pulse rate, Pulse time
- Demand setting: Demand interval time, demand method
- Time setting: Backlit time, display scroll time
- System configuration: System type, System connect.

CT and PT

CT1 (Primary Current): 5~9999A

CT2 (Secondary Current): 1A or 5A

PT1 (Primary Voltage): 100V ~ 500,000V

PT2 (Secondary Voltage): 100 to 480 V AC (L-L)

RS485 OUTPUT FOR MODBUS RTU

This unit uses a RS485 serial port with Modbus RTU protocol to provide a means of remote monitoring and controlling.

PULSE OUTPUT

Two pulse outputs indicate real-time energy measurement. Pulse output 1 is configurable, pulse output 2 is fixed to active energy, 3200imp/kWh.

VOLTAGE AND CURRENT

- Phase to neutral voltage 100 to 276 V a.c (Not for 3p3w supplies).
- Voltage between phases 174 to 480V a.c (3p supplies only).
- Installation category III (600V).
- Rated current: 1A or 5A.
- Current input range: 5%~120% Ib.
- Percentage total voltage harmony distortion (THD%) for each phase to percentage current harmonic distortion for each phase.
- Current on each phase.

MEASURED INPUTS

Voltage inputs through 4-way fixed connector with 2.5mm² stranded wire capacity. Single phase two wire(1p2w), three phase three wire(3p3w) or four phase four wire(3p4w) unbalanced. Line frequency measured from L1 voltage or L3 voltage. Three current inputs (six physical terminals) with 2.5mm² stranded wire capacity for connection of external CTs. Nominal rated input current 5A or 1A a.c.

ACCURACY

Voltage VL-N	0.5%
Voltage VL-L	0.5%
Current	0.5 %
Frequency	0.1 %
Active Power	0.5 %
Apparent Power	0.5 %
Reactive Power	1 %
Power Factor	00.1
Active Energy	IEC62052-21 Cl.1 or IEC62053
Reactive Energy	IEC62053-23 Cl.2
THD	1 %

ENERGY MEASUREMENTS

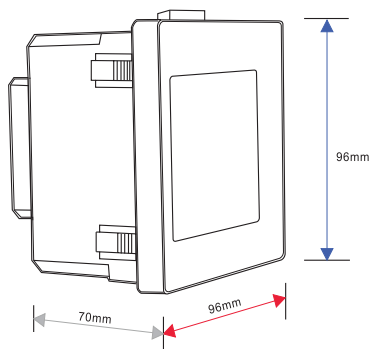
Imported/Exported active energy	0 to 9999999.9 kWh
Imported/Exported reactive energy	0 to 9999999.9 kVArh
Total Active energy	0 to 9999999.9 kWh
Total Reactive energy	0 to 9999999.9 kVArh

ENVIRONMENT

Operating Temperature	-25C To +55C
Storage Temperature	-40C To +70C
Relative Humidity	0 to 95%, non -condensing
Altitude	< 2000 meter
Vibration	10Hz to 50 Hz,
Pollution Degree	IEC 60062-2



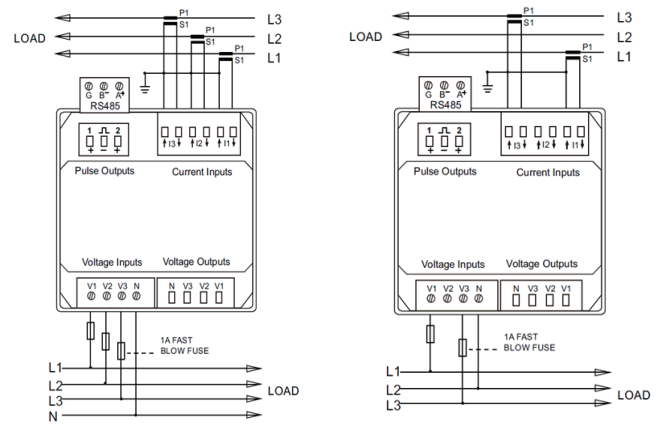
DIMENSIONS



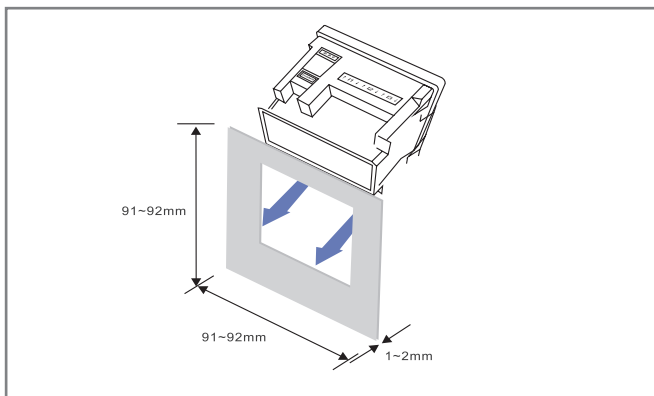
Height 96mm
Width 96mm
Depth 70mm



WIRING DIAGRAM



INSTALLTION



Plug-in Plug Solution

