



Multifunction Meter

Instrument
Division

AE 9000 ▶ AE 9001 ▶ AE 9002 ▶ AE 9003

Data sheet No. : AE-9000 /10/11

1. Product Perspective

AE -9xxx is used in variety of industrial and commercial applications. AE - 9xxx computes -Display, Monitor, stores, and communicate up to maximum 63 major electrical parameters, including true RMS Voltage, Current, PF, Frequency, Active power, Reactive power, Apparent power, Active energy, Reactive energy, Apparent energy, Total harmonic distortion (THD) and Maximum demand. The meter offers simple user-friendly Programming of Voltage, current, and power Measurement parameters using a menu driven interface. Status of all parameters can be viewed through main Screens on the 3 line, 4 digits LED display (Maximum nos. of screens - 30). The AE-9xxx has option for digital RS485 Communication. The protocol used is a standard MODBUS and is ideal for Energy Management System.

2. Operation

AE - 9xxx offers high functionality and uncomplicated operation. AE- 9xxx measures all the values needed to monitor power and Energy. A five-button interface on the front panel gives simple access to the measuring, display and configuration screens. With the help of "A" (navigation key) buttons, can access total 63 (AE-9000) major electrical parameters. The parameters to be viewed through display screens.

3. Product Features

- ▶ Fully programmable CT and PT ratio (Primary / Secondary).
- ▶ Fully programmable selection of three phase 3 wire or 4 wire configuration.
- ▶ Programmable Single & Three phase system configuration.
- ▶ The true RMS measurement.
- ▶ Display and communication of up to 63 parameters through 30 screens / pages.
- ▶ KVA & KW Demand Measurements. Demand interval can be set from 5 to 30 minutes.
- ▶ Password protection.
- ▶ Simultaneously three parameters can be view
- ▶ Total Voltage or Current % THD measurement.
- ▶ Phase angle & Phasor angle measurement.
- ▶ Separate registers for Import and Export energy measurement.
- ▶ Energy summation (Import + Export) for Active, Reactive & Apparent Energy.
- ▶ Display Previous Energies (before the energies were reset).
- ▶ Neutral Current Measurement.
- ▶ RS 485 interface for configuration, communication and downloading purpose.
- ▶ Confirm to IP54 (front face)
- ▶ Run Hr. & ON Hr display.
- ▶ LED and Memory test facility.
- ▶ High quality LED display.
- ▶ Simple menu driven.
- ▶ EMS Software available (optional).
- ▶ Real Time clock
- ▶ Universal Auxiliary Power Supply.
- ▶ Recording & display of Minimum Voltage & Current values.
- ▶ Recording & display of Maximum Voltage & Current values

4. Monitors

- ▶ Voltage- Line – Line , Line - Neutral & System voltage.
- ▶ Current- Individual Phase, Average & Neutral
- ▶ Frequency
- ▶ Power (Active, Reactive and Apparent)
- ▶ Energy (Active, Reactive and Apparent)
- ▶ Power Factor(per phase & average along with phase & Phasor angle)
- ▶ Maximum demand – (Active & Apparent)
- ▶ Minimum / Maximum Voltage & Current Values

6. System Input

Designed for all low, medium and high voltage switchgear and distribution systems, the AE-9xxx Has customer programmable PT and CT ratio capability. Both primary & secondary are configurable. The standard nominal inputs Voltage are 415 or 110 VAC (L-L) & Current – 1A or 5AAC.

7. Typical Applications

- ▶ Energy Generation & Distribution Systems
- ▶ Industrial & Commercial Generator sets.
- ▶ Building management System.
- ▶ Energy Management System.
- ▶ Control & Monitoring Systems.
- ▶ Process Control.
- ▶ Switch Gear.





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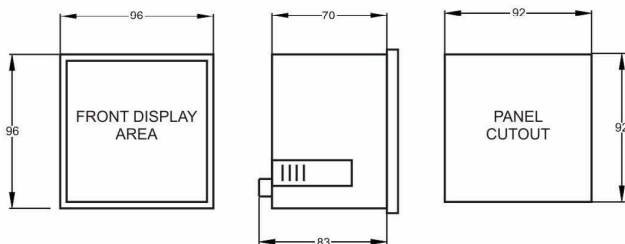
8. Specifications

Type	1 / 3-Phase-3-wire/ 4wire (Programmable through front panel).
Input voltage V AC	110V or 415 V (L-L)
Voltage Overload	1.5 time for 10 sec
Input Current A AC	1A or 5A
Current Overload	50A max for 3 sec
Auxiliary supply	AC / DC: 85 V - 300 V.
Burden	For Voltage / Current - 0.2 VA max per Volt/Amp input, Auxiliary - 3VA max.
Frequency	45 Hz - 55Hz
Resolution	RMS 4 digit, Integral 8 digit
Accuracy Class	1.0 (optional: 0.5S).
RS485 communication	Two wire half duplex Baud rates - 4800, 9600, 19200, 38400.
Isolation	2k VAC isolation for 1min. Between communication and other circuit.
Demand Interval	Programmable from 5 to 30 Minutes.(In steps of 1 Minute)
Environmental	Operating Temp. -10 to +70 °C. Storage temp.-20 to +85°C, Humidity [95% RH non condensing.
Mechanical Size	Bezel : 96 x 96 mm Depth : 83mm behind Bezel
Protection	IP54 for front Display.
Conform to	IS 1248 - Part1, for Class 1 - IS13779 / IEC 62052-11 & 62053-21. (for Class 0.5S- IS14697 / IEC 62052-11 & 62053-22).
Casing	ABS
Keypad	5 Functional keys
LED Indication	Individual LED's for parameter information

9. Digital Communication (Optional)

An RS485 communication Port is available for direct connection to SCADA systems (EMS / BMS) using the Modbus RTU protocol. Remote monitoring enables the user to record the systems parameters in real time basis.

10. Dimensions:



11. Wiring Diagram :

