AVM3 Series

Advanced Power Quality Meter

HIGH SPEED AND ACCURATE MEASUREMENT

- Up to 1024 Samples Per Cycle
- Refreshed Once Every Half Cycle
- 0.1% Accuracy on Voltage and Current
- Real Time Waveform Capture

REVENUE METERING

- IEC 62053-22 0.2S and ANSI C12.20 0.2
- 4th CT Input Measure Neutral Current
- TOU, Eight Tariffs, Two Calendars
- Four Quadrant Power and Energy

POWER QUALITY MEASUREMENT AND ANALYSIS

- IEC 61000-4-30 Class A PQ Measurement
- IEC 61000-4-15 Class A Flicker Measurement
- IEC 61000-4-7 Class A Harmonics and Interharmonics Measurement
- IEC 62586-1/2 PQI-A
- Customized EN 50160 Power Quality Reporting

DATA LOGGING

- High Speed RMS Record
- Waveform Record
- Historical Data Logs
- Energy Record
- Large Capacity Storage Available in 4 GB

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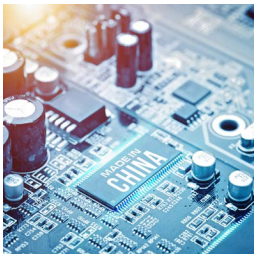
ABLEWISE
Make Energy Usage Wiser

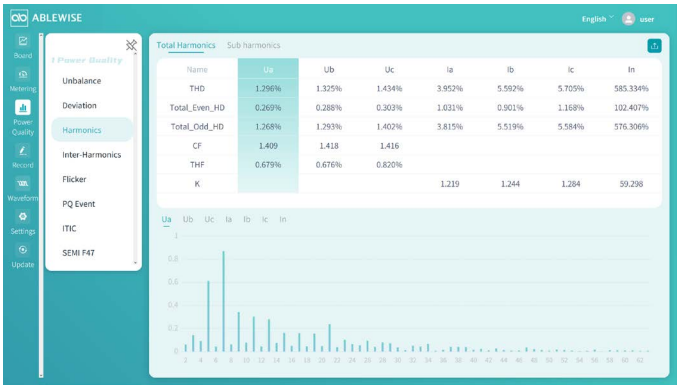
APPLICATIONS

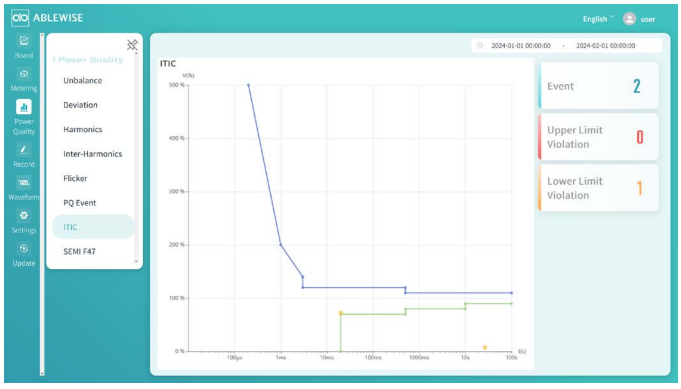
- Semiconductor Industry
- Railway Transit
- New Energy
- Public Buildings
- Chemical Industry
- Factory Automation
- Data Center
- Hospital





FEATURES





Power Quality

- Instantaneous Flicker, Short Term Flicker, Long Term Flicker
- THD, TOHD, TEHD, Crest Factor, THFF, K Factor
- Individual Harmonics and Interharmonics to 63rd
- Individual Harmonic Phase Angle to 63rd
- Individual Harmonic Amplitude to 63rd
- Voltage Unbalance, Current Unbalance
- Voltage and Current Phase Angles

Metering

- Phase-to-Neutral Voltage, Line-to-Line Voltage, Current
- Active Power, Reactive Power, Apparent Power, Power Factor
- Frequency

Data Logging

- Eight Groups Historical Data Logs
- Record Max, Min, Avg and Real Time Values
- Metering Parameter with Programmable

Energy

- Bi-Directional and Four Quadrant Total Energy
- Single-Phase Energy
- Energy Record

ITIC/SEMI Curve

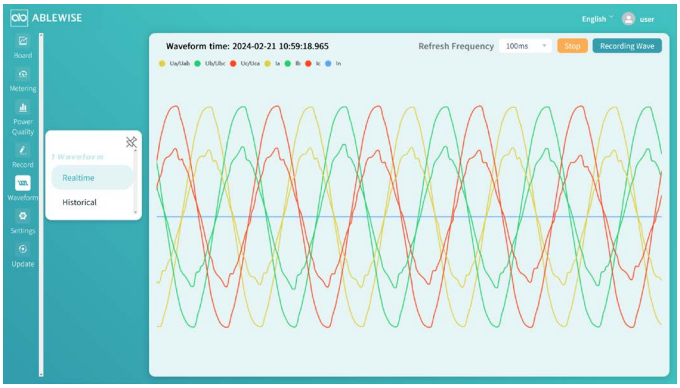
- View a Summary of Voltage Swells, Sags and Duration in the Independent ITIC(CBEMA)/SEMI Log
- SEMI is Suitable for Semiconductor Devices Power Quality Analysis

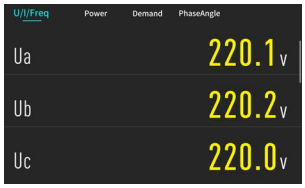
Power Quality Record

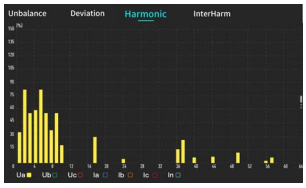
- Power Quality Event Records can be Triggered by Voltage Sags, Swells and RVC, etc
- Up to 50,000 PQ Event Records can be Saved
- PQ Events can Trigger High Speed RMS Record and Waveform Record, etc

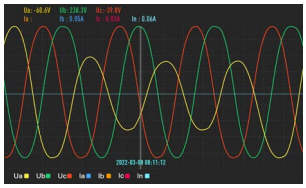
Time of Use (TOU)

- Eight Tariffs, 14 Seasons, 14 Schedules
- Two Calendars can be Switched
- Weekends and 10-Year Holiday Settings









Waveform Capture

- Simultaneous Capture of Voltage and Current Waveforms
- Samples with Programmable Per Cycle
- Record Cycles with Programmable
- Waveform can be Triggered by PQ Event, Alarms, DI and RO Status
- Waveform Data via COMTRADE Format
- Record 1000 Groups Waveform

Alarms

- Over or Under Setting Limit
- Power Measurement Parameters can be Set
- Alarm can Trigger the Relay Output, Digital Output, Alarm Record and Waveform Record, etc

Multiple I/O Functions

- Digital Output: Energy Pulse Output
- Digital Input: Monitor Switch Status or Pulse Count; SOE Record
- Relay Output: Relay Command Control Output ON/OFF, Limit Alarm Control Output

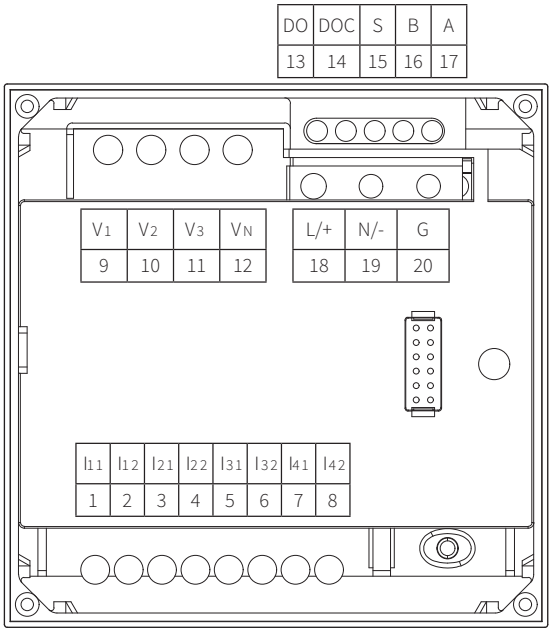
Display

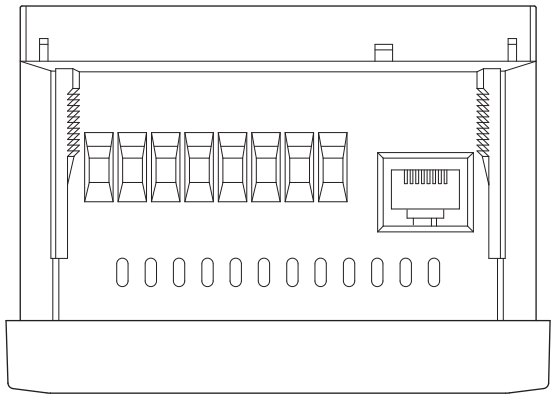
- View Metering Parameters, Energy, Power Quality and Setting Value
- Harmonic and Interharmonic Spectrum Analysis
- Real Time Oscilloscope Waveforms
- Historical Data Logs
- ITIC/SEMI Curve
- PQ Event Record

Communication

- RS485 Port: Modbus, DNP3.0 and BACnet MS/TP Protocols
- Ethernet Port： Modbus-TCP/IP, DNP 3.0, BACnet IP, IEC 61850, SNTP/NTP, FTP Protocols

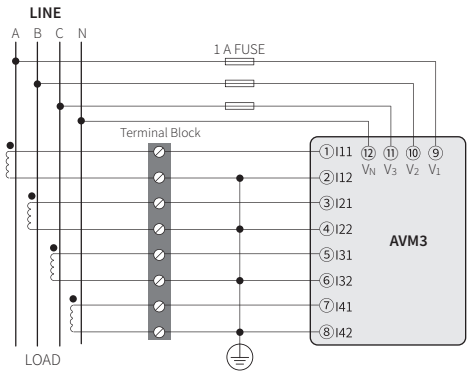
TERMINAL DIAGRAM



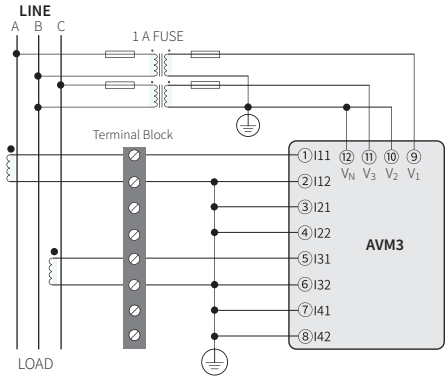


TYPICAL WIRING

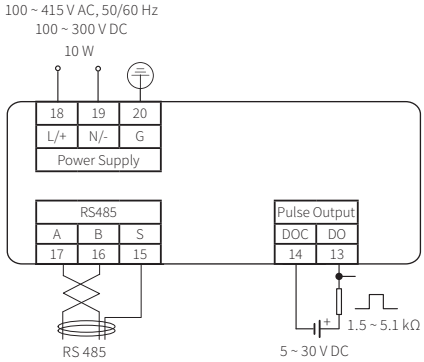
3LN, 3CT



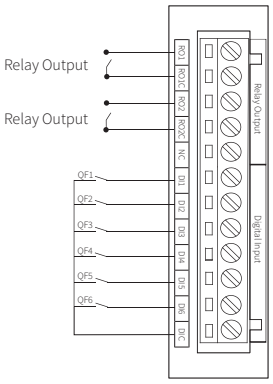
2LL, 2CT



Power Supply+RS485+Digital Output

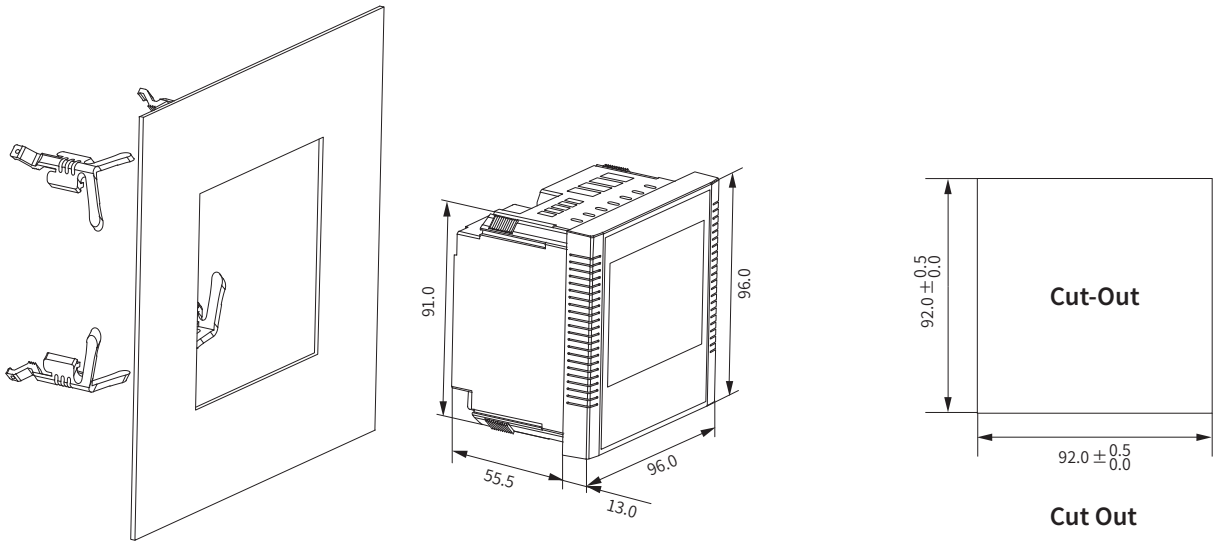


AVM3-IO1



DIMENSIONS *AVM3 Dimensions*

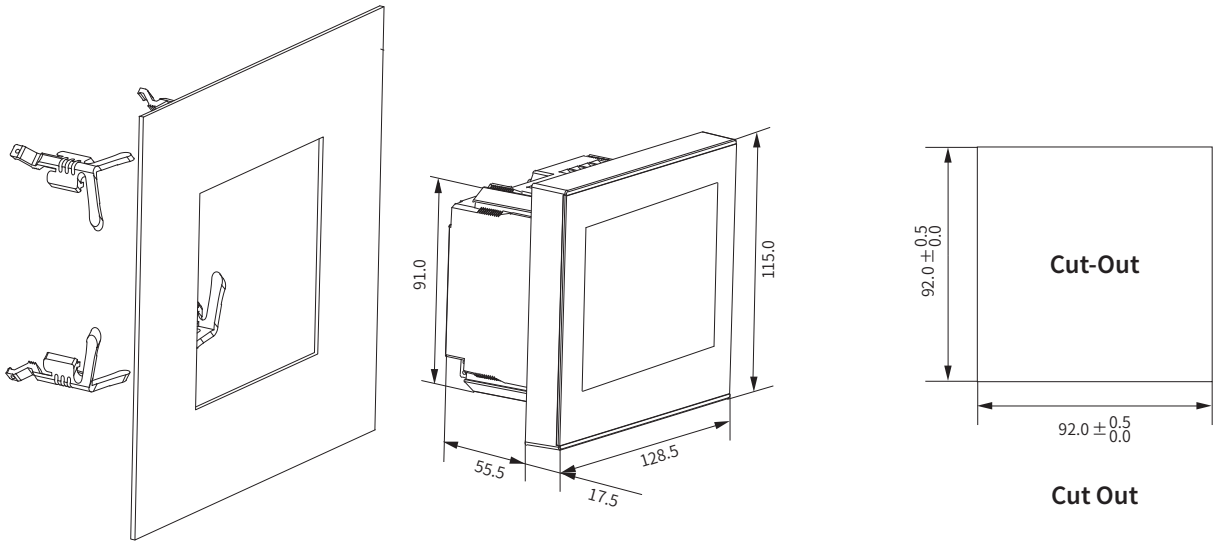
Unit: mm



Cut Out

AVM3 Plus Dimensions

Unit: mm



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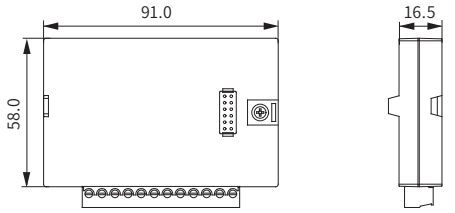
I/O Module Dimensions

Unit: mm



SPECIFICATION

Parameters	Accuracy	Resolution	Range
Voltage	±0.1%	0.001 V	5 V ~ 1000 kV
Current	±0.1%	0.001 A	5 mA ~ 50000 A
Active Power	±0.2%	0.001 W	-9999 ~ 9999 MW
Reactive Power	±0.2%	0.001 var	-9999 ~ 9999 Mvar
Apparent Power	±0.2%	0.001 VA	0 ~ 9999 MVA
Power Factor	±0.2%	0.001	-1.000 ~ 1.000
Frequency	±0.01 Hz	0.001 Hz	40.000 ~ 70.000 Hz
Active Energy	0.2S	0.001 Kwh	0 ~ 99999999999.999 kWh
Reactive Energy	0.5S	0.001 Kvarh	0 ~ 99999999999.999 kvarh
Apparent Energy	0.5%	0.001 kVAh	0 ~ 99999999999.999 kVAh
Harmonics	Class A	0.001	
Interharmonics	Class A	0.001	
Pst, Plt	±5%	0.001	
Unbalance	±0.15%	0.001%	0.000% ~ 100.000%
Running Time	-	0.01 h	0 ~ 9999999.99 h

Voltage Input	
Nominal Voltage	400 V AC L-N (+20%); 690 V AC L-L (+20%) CAT III
Accuracy	±0.1%
Input Impedance	≥6 MΩ/Phase
Withstand	2×Un Continuous, 2500 V AC, 50/60 Hz for 1 minute

Current Input	
Nominal Current	5 A/1 A
Range	0 ~ 10 A/0 ~ 2 A
Accuracy	±0.1%
Starting Current	5 mA/1 mA
Burden	0.05 VA (Typical) @5 A
Withstand	100 A rms for 1 second, Non-Recurring

Energy Accuracy	
Active Energy	IEC 62053-22 Class 0.2S ANSI C12.20 0.2
Reactive Energy	IEC 62053-24 Class 0.5S

Operating Environment	
Operating Temperature	-25 ~ 70 °C
Storage Temperature	-40 ~ 85 °C
Relative Humidity	5% ~ 95% (Non-Condensing)
IP Degree of Protection	IP 54 (Front Panel) IP 30 (Back Housing)

Power Supply	
Operating Range	100 ~ 415 V AC, 50/60 Hz; 100 ~ 300 V DC
Power Consumption	10 W, 20 VA

I/O Module Option	
Digital Output (DO)	
Voltage Range	5 ~ 30 V DC
Load Current	5 ~ 50 mA
Output Frequency	25 Hz, 50% Duty Ratio
Isolation Voltage	3500 V AC
Digital Input (DI)	
Input Voltage Range	20~30 V DC, Built-In Power Supply
Input Type	Dry
Input Impedance	10 kΩ (Typical)
SOE Resolution	1 ms
Isolation Voltage	3500 V AC
Relay Output (RO)	
Switching Voltage	250 V AC or 30 V DC
Switching Current	5 A (R), 2 A (L)
Contact Resistance	100 mΩ (Max)
Isolation Voltage	3500 V AC

Communication
RS485
Modbus RTU, BACnet MS/TP, DNP 3.0
Baud Rate: 1200 ~ 115200 bps
ETHERNET
Modbus-TCP/IP, DNP 3.0, BACnet IP, IEC 61850, SMTP, SNTP/NTP,FTP, Ethernet 10M/100M Base T

Standards Compliance	
Product Standard	
Product Standard	IEC 61557-12
Power Quality Standards	
Power Quality Measurement Standards	IEC 61000-4-30:2015 Class A IEC 61000-4-7:2009 IEC 61000-4-15:2010
Power Quality Product Standards	IEC 62586-1:2017 IEC 62586-2:2017
Voltage Characteristics of Electricity Supplied by Public Electricity Networks	EN 50160:2010
Safety Standard	
Safety Standard	IEC 61010-1 ed.3; IEC 61010-2-30 ed.2; CAT III
Electromagnetic Compatibility	
Electrostatic Discharge Immunity	IEC 61000-4-2
Radiated Field Immunity	IEC 61000-4-3
Fast Transients Immunity	IEC 61000-4-4
Surge Immunity	IEC 61000-4-5
Conducted Disturbances Immunity	IEC 61000-4-6
Power Frequency Magnetic Field Immunity	IEC 61000-4-8
Radio-Frequency and Radio Disturbance	CISPR 11/CISPR 22; EN 550 11/EN 550 22

ORDERING INFORMATION

Model		Current Input		Power Supply
AVM3	-	**5A:** 5A	-	**P1:** 100 ~ 415 V AC , 50/60 Hz; 100 ~ 300 V DC
AVM3 Plus	-	**1A:** 1A	-	

Ordering Example: AVM3-5A-P1; AVM3 Plus-1A-P1

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ABLEWISE
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