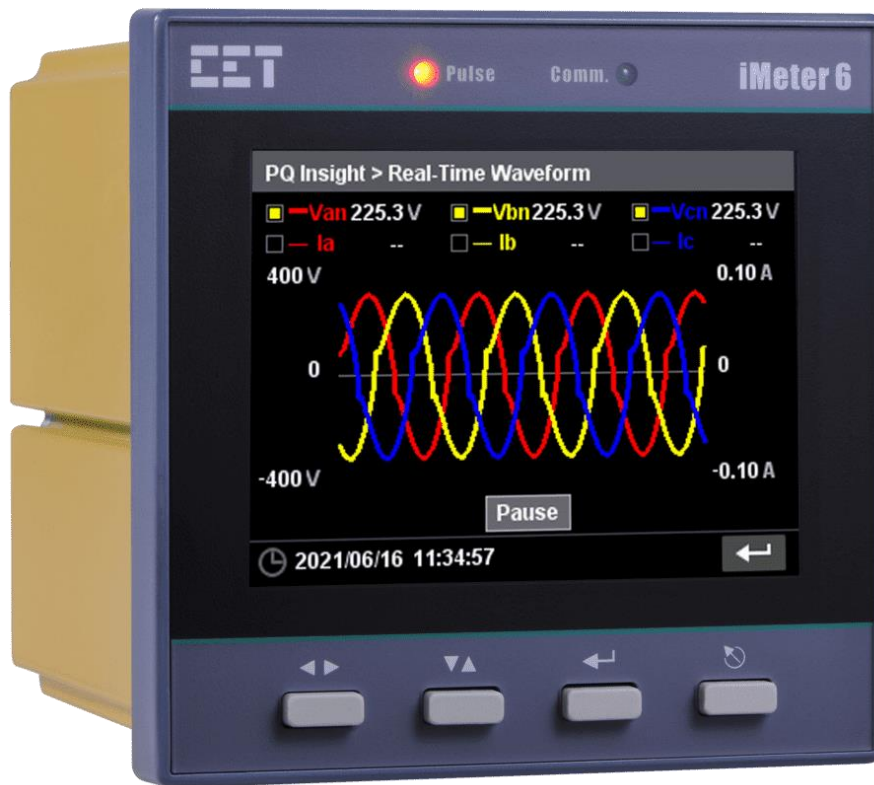




- IEC 62053-22 Class 0.2S
- IEC 61000-4-30 Ed. 3 Class S Compliance
- Dips/Swells/Interruptions/Transients
- WF Recording @ 256 samples/cycle
- 1GB Non-volatile Memory
- Energy Log, PQ Log, SOE Log
- 28 Standard and 4 High-Speed DR
- Modbus RTU/TCP/Master & EtherGate
- Metal Enclosure with No Openings
- IP54 Rated
- Extended Warranty
- ANSI C12.20 Class 0.2
- True RMS Measurements
- 3.5" Color Dot-Matrix IPS Display
- I4 and Residual Current Monitoring
- Extensive I/O Capabilities
- Multi-Tariff TOU
- 24 Setpoints and 6 Logical Modules
- On-board Web Server
- Industrial Grade Components
- Standard Tropicalization
- Extended Temperature Range

Designed For Reliability

Manufactured To Last



The iMeter 6 is CET's latest offer for the advanced Power Quality Monitoring of Incomers and Critical Feeders for Utilities, Data Centers, High-Tech Manufacturing Facilities and Heavy Industries. Housed in an industry-standard DIN form factor measuring 96x96x119.5mm, the iMeter 6's compact size is perfectly suited for today's space restricting environment. The iMeter 6 features quality construction with metal enclosure, advanced Power Quality and Revenue-Accurate measurements, high-resolution Waveform Recording capabilities, comprehensive Data Logging with 1GB memory, extensive I/O and a user friendly, IPS Color Dot-Matrix Display @ 320x240. It also provides either an I4 Input for Neutral Current measurement or a 0/4-20mA Analog Input for measuring external transducer signal such as Residual or Leakage Current. With a standard 10/100BaseT Ethernet Port and a RS-485 port supporting multiple protocols, the iMeter 6 becomes a vital component of an intelligent Power Quality Monitoring System.

Typical Applications

- Class 0.2S Revenue Metering
- Power Quality Monitoring of Main Incomer or Critical Feeder
- Utility, Industrial and Commercial Metering
- Substation, Building and Factory Automation
- Low, Medium and High Voltage applications
- Neutral (I4) and Residual Current (Ir) Monitoring

Features Summary

Ease of use

- Large, Backlit, Color Dot-Matrix IPS display with wide viewing angle
- Password protected setup via Front Panel and on-board Web Server
- Easy installation with mounting slide bar, no tools required

Basic Measurements (1 second update)

- 3-phase U, I, Neutral-Earth Voltage (Ung), and Power measurements
- Neutral Current (I4), Calculated Residual Current (Ir) and Frequency
- kWh, kvarh Import/Export/Net/Total, kVAh Total and kvarh Q1-Q4
- Interval Energy
- Voltage and Current Phase Angles
- Device Operating Time (Running Hours)
- DI Pulse Counters
- Optional AI measurement

High-Speed Measurements

- 3-phase U @ ½ cycle, I, Neutral Current (I4), Power and PF @ 1 cycle

Power Quality

- IEC 61000-4-30 Ed.3 Class S Compliance and EN50160 Report
- Waveform Recording (WFR & DWR) in COMTRADE format
- Fundamental U, I, I4, P, Q, S and Displacement PF
- U and I Unbalance, Sequence Components, Voltage and Freq. Deviation
- THD, TOHD, TEHD, Crest-Factor, K-Factor and TDD
- Individual Harmonics up to 63rd
- Dips, Swells, Interruptions Detection and Transients Capture
- Disturbance Direction Indicator

Demands

- Present and Predicted Demands for 3-phase U, I, P, Q, S, PF, as well as I4, Frequency, U and I Unbalance and THD
- Max. Demands with Timestamp for Ull, Uln & Current per phase and average as well as Power of This Month & Last Month (or Since Last Reset & Before Last Reset)
- Max./Min. values per Demand Interval
- Demand synchronization with DI

Setpoints

- 16 Standard (1s) and 8 High-Speed (1 cycle) Setpoints
- Extensive monitoring sources including U, I, P, Q, S, PF, Current Demands, THD, Unbalance, Sequence Components, Phase Loss/Reversal, etc.
- Configurable thresholds and time delays
- 6 Logical Modules supporting AND/OR/NAND/NOR operations
- SOE, WFR, DWR, Data Recorder, DO and Email Alarm trigger

Log Memory

- 1GB on-board memory
- DR Logs, WFR Logs, DWR Logs, IER Logs and Demand Logs

Real-Time Waveform Capture (WFC) and Waveform Recorder (WFR)

- Real-time WFC @128 samples/cycle x 4 cycles, Event Waveforms and ITIC/SEMI F47 Curves via Front Panel and Web Interface
- WFR with 128 entries
- Simultaneous capture of 3-phase Voltage and Current Inputs
- Programmable formats and pre-fault cycles from 256x20 to 16x320
- Support FIFO Recording Mode
- Scheduled WFR with max. repetition of 10,000 times and programmable schedule from 1 to 960 hours
- COMTRADE file format, downloadable from the on-board Web/FTP Server

Disturbance Waveform Recording (DWR)

- 128 entries
- Simultaneous recording of 3-phase Voltage and Current Inputs
 - Initial Fault: 35 cycles @ 256 samples/cycle
 - Extended Fault: Up to 150 cycles @ 16 samples/cycle
 - Steady State: Up to 360 seconds of 1-cycle absolute peak values
 - Post Fault: 15 cycles @ 256 samples/cycle

Multi-Tariff TOU capability

- Two independent sets of TOU Schedules
 - Up to 12 Seasons
 - 90 Holidays or Alternate Days
 - 20 Daily Profiles, each with 12 Periods at min. 15-min interval
 - 8 Tariffs, each providing kWh/kvarh Import/Export and kVAh
- Switching between two TOU schedules according to pre-programmed time and logged as an SOE event

Interval Energy Recorder (IER)

- Support recording of kWh/kvarh Import/Export and kVAh Total
- Programmable Recording Interval from 1 min to 65,535 mins
- Max. Recording Depth @ 65,535 records
- Support FIFO or Stop-When-Full Recording Mode

Data Recorder (DR)

- 28 Standard DR Logs and 4 High-Speed DR Logs
- Recording Interval from 1s to 40 days for Standard DR Log and 1 to 60 cycles for High-Speed DR Log
- Up to 16 parameters for each DR Log with programmable sources including most Real-time measurements, Demands, Energy, Harmonics, Unbalance and Modbus Slaves' Real-time measurements
- Configurable Depth and Recording Offset
- Support FIFO or Stop-When-Full Recording Mode
- BEC 2018 Compliant Data Recording for 3 years at 15-minute interval

SOE Log

- 512 events time-stamped to ±1ms resolution
- Setup changes, Setpoint events and I/O operations

PQ Log

- 512 entries time-stamped to ±1ms resolution
- Dips, Swells, Interruptions and Transients detection

Max./Min. Log

- Logging of Max./Min. values for measurements such as Voltage, Current, Frequency, P, Q, S, PF, Unbalance, K-Factor and THD with Timestamp for This Month & Last Month (or Since Last Reset & Before Last Reset)

Digital Inputs

- 6 channels, volts free dry contact, 24VDC internally wetted
- 1000Hz sampling for status monitoring with programmable debounce
- Pulse counting with programmable weight for each channel for collecting WAGES (Water, Air, Gas, Electricity, Steam) information
- Demand Synchronization
- Tariff switching based on DI status

Digital Outputs

- Up to 3 channels Form A Mechanical Relays for alarming and control
- 5A @250VAC/30VDC

Analog Input (Optional)

- Optional 1xAI, 0/4-20mA DC input with programmable zero and full scales
- Can be used to measure external transducer signal such as Residual or Leakage Current

Communications

RS-485 (P1)

- Optically isolated RS-485 port with Baud Rate from 1,200 to 38,400bps
- Modbus RTU, Ethernet Gateway and Modbus Master
- Supports up to 31 downstream Modbus Slave Devices

Ethernet (P2)

- 10/100BaseT Ethernet Port with RJ45 connector
- Built-in Web Server for easy data viewing and setup configuration
- Modbus TCP, HTTPS, SMTP/SMTPS, SNT, FTPS, SNMP, IEC 61850

Real-Time Clock

- Battery-backed Real-time clock with 6ppm accuracy (<0.5s per day)
- Time Sync. via Modbus RTU/TCP, SNT, GPS and IRIG-B.

System Integration

- Supported by CET's PecStar® iEMS
- Easy integration into other Automation or SCADA systems via Modbus RTU and Modbus TCP protocols
- The on-board password protected Web Server provides user-friendly access to its data and supports the configuration for most of the Setup parameters via a standard web browser

Technical Specifications

Voltage Inputs (V1, V2, V3, VN)	
Standard (Un)	400VLN/690VLL +20%
Range	4V to 120%Un
PT Ratio	
Primary	1 to 1,000,000
Secondary	1 to 1,500
Overload	1.2xUn continuous, 2xUn for 10s
Burden	<0.5VA @ 240V
Frequency	42-69Hz
Current Inputs (-I11, I12, -I21, I22, -I31, I32, -I41, I42)	
Standard (In / Imax)	5A / 10A
Optional (In / Imax)	1A / 2A
Range	0.1% to 200% In
CT Ratio	
Primary	1 to 30,000
Secondary	1 to 50
Overload	2xIn continuous, 4xIn for 60s, 10xIn for 10s, 20xIn for 1s
Burden	<0.25VA @ 5A
Power Supply (L+, N-)	
Standard	95-277VAC L-N/415VAC L-L, 45-65Hz
Optional	90-300VDC
Burden	20-60VDC <10VA/6W @ 240VAC/DC, <3.6W @24VDC
Digital Inputs (DI1, DI2, DI3, DI4, DI5, DI6, DIC)	
Type	Dry contact, 24VDC internally wetted
Sampling	1000Hz
Hysteresis	1-1,000ms programmable
Digital Outputs (DO11, DO12, DO21, DO22, DO31, DO32)	
Type	Form A Mechanical Relay
Loading	5A @ 250VAC/30VDC
LED Pulse Outputs (kWh, kvarh)	
Type	Optical
Pulse Constant	1000/3200/5000/6400/12800 imp/kxh
Optional Analog Input (AI+, AI-)	
Type	0-20 / 4-20 mA
Overload	24 mA maximum
Environmental Conditions	
Operating Temperature	-25°C to 70°C
Storage Temperature	-40°C to 85°C
Humidity	5% to 95% non-condensing
Atmospheric Pressure	70 kPa to 106 kPa
Altitude	< 3000 m
Pollution Degree	2
Measurement Category	CAT III
Mechanical Characteristics	
Enclosure	Aluminum Alloy
Panel Cutout	92x92 mm
Unit Dimensions	96x96x119.5 mm
Shipping Dimensions	300x220x160 mm
IP Rating	54
Shipping Weight	1.18 kg

Accuracy

Parameters	Accuracy	Resolution
Voltage	±0.1%	0.001V
Current	±0.1%	0.001A
I4 Measured	±0.1%	0.001A
kW, kvar, kVA	±0.2%	0.001k
kWh, kVAh	IEC 62053-22 Class 0.2S ANSI C12.20 Class 0.2	0.1kXh
kvarh	IEC 62053-24 Class 0.5S IEC 62053-23 Class 2	0.1kvarh
PF	±0.2%	0.001
Frequency	±0.01 Hz	0.01Hz
Harmonics	IEC 61000-4-7 Class A	0.01%
K-Factor	IEC 61000-4-7 Class A	0.01
Phase Angles	±1°	0.1°
U Deviation	±0.5%	0.01%
Freq. Deviation	±0.01Hz	0.01Hz
U Unbalance	±0.2%	0.1%
I Unbalance	±1.0%	0.1%
AI	±0.5%	-

Standards of Compliance

Safety Requirements	
CE LVD Directive 2014 / 35 / EU	EN 61010-1: 2010 EN 61010-2-030: 2010
Electrical Safety in Low Voltage Distribution Systems up to 1000Vac and 1500 Vdc	IEC 61557-12: 2018 (PMD)
Insulation	IEC 62052-11: 2003 IEC 62053-22: 2003
AC Voltage: 2kV @ 1 minute Insulation Resistance: >100MQ Impulse Voltage: 6kV, 1.2/50µs	
Electromagnetic Compatibility CE EMC Directive 2014 / 30 / EU (EN 61326: 2013)	
Immunity Tests	
Electrostatic Discharge	EN 61000-4-2: 2009
Radiated Fields	EN 61000-4-3: 2006+A1: 2008+A2: 2010
Fast Transients	EN 61000-4-4: 2012
Surges	EN 61000-4-5: 2014+A1: 2017
Conducted Disturbances	EN 61000-4-6: 2014
Magnetic Fields	EN 61000-4-8: 2010
Voltage Dips and Interruptions	EN 61000-4-11: 2004+A1: 2017
Ring Wave	EN 61000-4-12: 2017
Voltage Dips, Short Interruptions and Voltage Variations on DC Input Power Port	EN 61000-4-29: 2000
Damped Oscillatory Wave	EN 61000-4-18: 2011
Emission Tests	
Limits and Methods of Measurement of Electromagnetic Disturbance Characteristics of Industrial, Scientific and Medical (ISM) Radio-Frequency Equipment	EN 55011: 2016
Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements	EN 55032: 2015
Limits for Harmonic Current Emissions for Equipment with Rated Current ≤16 A	EN 61000-3-2: 2014
Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply Systems for Equipment with Rated Current ≤16 A	EN 61000-3-3: 2013
Emission Standard for Residential, Commercial and Light-Industrial Environments	EN 61000-6-4: 2007+A1: 2011
Power Quality	
Testing and Measurement Techniques – Power Quality Measurement Methods	IEC 61000-4-30 Ed.3 Class S Compliance
Power Quality Measurement in Power Supply Systems – Part 2: Functional Test and Uncertainty Requirements	IEC 62586-2 Ed.2
Mechanical Tests	
Spring Hammer Test	IEC 62052-11: 2003
Vibration Test	IEC 62052-11: 2003
Shock Test	IEC 62052-11: 2003

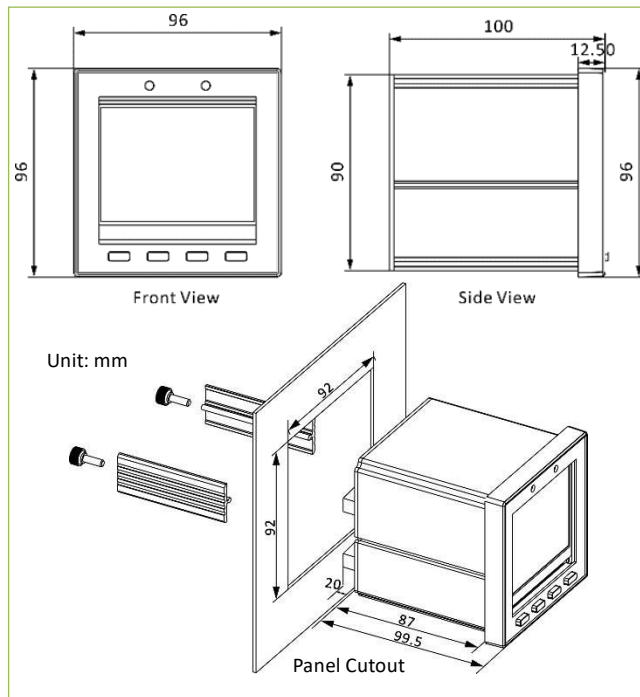
Ordering Guide

Product Code	Description
iMeter 6 Advanced Power Quality Monitor	
Basic Function	
256 samples per cycle, Class 0.2S Compliant, 3-Phase Metering, Demands, Max. Demands, Max./Min., SOE Log, Individual Harmonics to 63rd, 1GB Log Memory, 32 Data Recorders, High-Speed Data Recording, WF Recording, Dips/Swells/Interruptions and Transients Detections	
Display Screen	
B	Color Dot-Matrix IPS Display (320x240 Resolution)
Input Current (I1, I2, I3, I4^a)	
5	5A
1	1A
Input Voltage (V1, V2, V3)	
9	400V LN/690V LL + 20%
Power Supply	
2	95-277VAC L-N/415VAC L-L, 45-65Hz
3	90-300VDC
System Frequency	
5	42Hz-69Hz
DI/DO	
A	6DI + 3DO
AI	
X	No
A ^u	1x Analog Input (0-20mA or 4-20mA DC)
Communications	
D	1x10/100BaseT Ethernet port + 1xRS-485 port
Display Language	
E	English
iMeter 6 - B 5 9 2 5 A X D E	iMeter 6-B5925AXDE (Standard Model)

* Additional charges apply

^a If AI Option A is selected, the I4 Input will be replaced by the 0/4-20mA Analog Input.

Device View and Dimensions



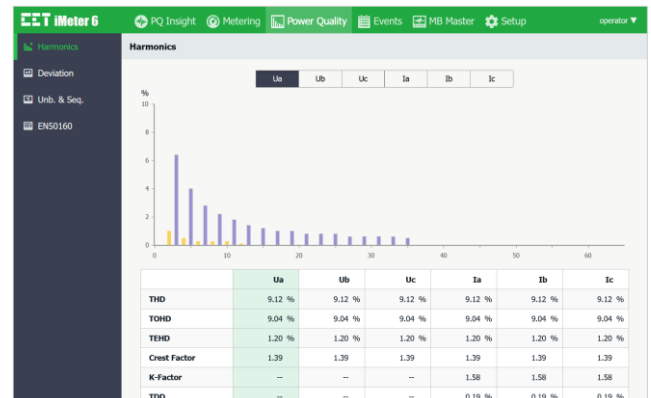
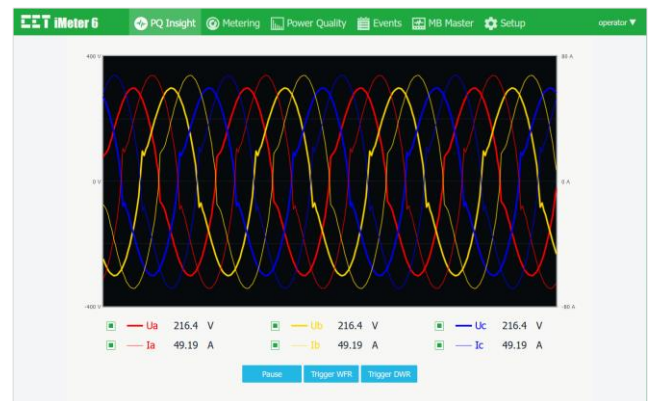
iMeter 6

Advanced Power Quality Monitor

Front Panel Display



On-board Web Interface



Contact us



ECOXPLORE PTE LTD
120 LOWER DELTA ROAD
#12-15/16 CENDEX CENTRE
SINGAPORE 169208
TEL: (65) 6274 4840
FAX: (65) 6274 2939
EMAIL: sales@ecoxplore.com.sg

WWW.ECOXPLORE.COM