DMS e-Solution

Three Phase Ultra Smart Modular Energy Meter (CT, CT/VT Type)

The next generation platform for smart energy management

AISTAN M57Z

PRODUCT INFORMATION

The first industrial sensor to boast 64 bit computing power and vast amount of on board memory, easily outperforms the most powerful smart meters and controllers currently available in the market.

Powered by Android operating system, the AISTAN M57Z gives you access to an ever-growing eco-system of smart energy applications, a sophisticated power quality analyser, demand response controller, sustainability sensor and much more. Equipped with the latest interface technologies, the AISTAN M57Z can adapt to a wide range IoT environments.

With a unique capacitive touch screen display, the AISTAN M57Z provides you with an un-paralleled user experience.

KEY FEATURES

- Full AMI capabilities with 64 bit computing power
- Capacitive touch screen with Android Operating System
- Adaptable to a wide range of IoT environments
- 8 GB of storage memory, 2 GB of program memory & 1 GB RAM
- Bidirectional and nett metering
- Field replaceable communication module
- Two-way communication with either RF Mesh, GPRS 3G, NB-IoT, PLC, Wi-Fi, Ethernet point to point (P2P), RS485
- Harmonics distortion measurement for Voltage, Current, Power and Energy
- Trending and Prediction of energy values and demand
- Demand Control and Connect/Disconnect capabilities
- Programmable demand control based on Current or based on Power
- Four quadrant measurement with auto-ranging and auto-scaling
- Over the air firmware upgradation (OTA)
- LVTTL RS232 adaptable to Silver Spring Network or Trilliant RF and 3G modules

- Daisy chain support, up to 31 serial Modbus devices
- Programmable decimal places for energy values
- Active, Reactive and Apparent power
- Predicted active, reactive, apparent power
- Interval calculation—block interval/sliding window
- Integrated Load Profile with programmable interval
- High resolution energy parameters
- Last gasp functionality for real time outage alert
- Read out display parameters during power outage
- Extensive anti-tamper features for enhanced security
- Alarm and monitoring services
- Non-volatile memory
- Flexible and Easy to install

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SPECIFICATIONS

Standards

- IEC 62053-21, IEC 62052-11,
  IEC 62053-61, IEC 62053-23
- IS 13779, CBIP Publication 304

Meter Type

- Three Phase, 3 Wire
- Three Phase, 4 Wire

Measurement

- kW, kWh, kVA, kVAh, kVAr, kVArh
- Import, Export, Nett, Total energy
- Harmonics distortion–Voltage and Current
- Vrms, Irms, Hz, PF

Measurement Accuracy

- Measurement Type–True RMS/200 samples per cycle
- Current & Voltage–Class 0.2
- Active Power–Class 0.2
- Frequency–Class 0.5
- Power factor–Class 0.5
- Active energy–Class 0.5S/Class 0.2S
- Reactive energy–Class 2
- Data update rate–1/2 cycle / 1 second

Maximum Demand

- Maximum Demand (MD)
  Integration with Programmable Periods
- Active, Reactive and Apparent power
- Predictive Active, Reactive and Apparent power
- Interval Calculation–block interval/sliding window
- RTC Synchronized demand interval

Display Modes

- Simple intuitive touch screen navigation

Voltage

- Nominal Voltage: 3 x 220V-240V
  (-40% to +20%) (for three phase four wire configuration)
- Nominal Voltage: 3 x 110V
  (-20% to +15%) (for three phase three wire configuration)
- Safe operating Voltage: 90V to 450V AC

Current

- Current rating: 1(10)A
- Starting Current: 0.1% of basic current

Frequency

- Normal frequency: 50Hz to 60Hz
- Frequency Variation: ±5%

Real-Time Clock

- Precision clock accuracy: ±5ppm at reference temperature
- Synchronization with time server

Over Current/Voltage Handling

- Over Current: Up to 120% of Imax
- Over Voltage: Up to 450V AC applied short time between phase & neutral wires

Meter Constant

- 10000 imp/kWh, 10000 imp/kVArh
  (other constants on request)

Communications

- Optical Interface
- Remote Interface: The AISTAN M57Z meter has a remote communication port which supports different communication technologies
- Communication protocol: DLMS/Modbus
- Baud rate: 19200 baud

Data Storage

- 8 GB of storage memory
- 2 GB of program memory
- Life of data: >20 years

Tamper/Event Detection

- Top, terminal and modem cover open detection
- Supply and Load wires interchange detection
- Phase missing, Voltage sag, Voltage swell with programmable threshold
- Magnetic field detection
- Battery Low Indication
- Neutral Disturbance
- Power OFF/ON events
- Event/Tamper logging records along with date

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THREE PHASE ULTRA SMART MODULAR ENERGY METER (CT, CT/VT TYPE)

SPECIFICATIONS

LCD DISPLAY

- 800 x 400 color TFT LCD with backlight control

LED OUTPUT

- LED indicator available for Active and Reactive Energy

ENVIRONMENTAL

- Impermeability to IEC 60529: IP 54
- Temperature Range according to IEC 62052-11:
  Operation: 0°C to +60°C
  Storage: -10°C to +70°C
- Humidity Range:
  Operation: 5% to 95% RH (No condensation state)
  Storage: 95% RH (No condensation state)

SECURITY

- Meter cover seal: 2 factory-assembled screws
- Terminal cover seal: 2 field sealable provision
- Modem cover seal: 2 field sealable provision

LOGICAL STRUCTURE

- Public Client Association (PC)
- Meter Reading Association (MR)
- Utility Settings Association (US)

BATTERY

- Internal lithium battery
- Battery life: 15 years for RTC battery

CALENDAR SUPPORT

- Gregorian (English)

MULTI-TARIFF

- Up to 6 Tariff tables can be defined
- Active and passive calendar support with programmable season profile, week profile and day profile

SOFTWARE

- Supported by DLMS client software
- User-friendly readout and configuration tool Smart Meter Manager

LOAD PROFILE

- Selection of parameters to profile from the list of parameters
- Programmable interval time

SCALABILITY

- Standard android operating system
- Multiple features can run simultaneously and perform variety of functions
- Default applications include: line parameters, Time of Use, Event logging, demand control, load profiling
- FeRAM data storage supports > trillion write cycles

STANDARD INPUT/OUTPUT

- One digital output (KY) energy pulse output programmable for active or reactive energy
- Two programmable potential free relay outputs. Default function one second pulse on command
- Two digital inputs for water and gas meter interface

TERMINAL TYPE

- Fixed type terminals
- Pressure plate type terminals (optional)

PHYSICAL PARAMETERS

- Dimension: 179mm x 279mm x 90mm
- Weight: 1.5 kg.
- Mounting Type: Projection

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