

# Three Phase Modular Smart Static Energy Meter

## M52S-G

### PRODUCT INFORMATION

M52S-G Three Phase CT-Operated (CT Type) Modular Smart Static Energy Meter is a new generation of three phase smart meter. It supports active & reactive energy measurements as well as instantaneous measurement with an optional plug-and-play PLC/RF/GPRS communication module.



### KEY FEATURES

#### Module

- Option 1: Single Module
- Option 2: Dual Modules
- Option 3: Flexible configuration with dual modules mixed mesh network

#### Standard

- Compliant with IEC Standards (IEC 62052-11, IEC 62053-22, IEC 62053-24)
- Compliant with Interoperability Standards (DLMS)
- Compatible with encryption algorithm AES128

#### Innovation

- Dual plug and play modules applications
- Flexible communication architecture
- Terminal holes and screws with anti-dropping design
- Power fail alerts (last gasp) and power resume information (first breath) available

#### Product Features

- Compatible with current and future communication technologies
- Sealable optical port
- High bandwidth by dual modules

#### Sustainability

- Upgrade from traditional to smart meter without any extra investment
- High-efficient and self-adaptive communication module for harsh environments
- Flexible communication architecture such as RS485/PLC cascade connection

# M52S-G

CLASS 0.5S

## THREE PHASE MODULAR SMART STATIC ENERGY METER



### SPECIFICATIONS

#### MEASUREMENT

- Unidirectional or Bidirectional measurement
- Cumulative Energy
- Record Active & Reactive Energy (optional) in Tariffs

#### INSTANTANEOUS VALUES

- Power, Voltage, Current
- Power Factor, Frequency

#### DISPLAY

- Large digit LCD display with backlight
- Scrolling display and push button mode configurable
- Display Readable Without Main Power (RWP)
- Tamper and relay status shown as ICON
- Impulse LED available for kWh and kVarh

#### TARIFF

- Time of Use (TOU) measurement of energy and maximum demand (up to 4 tariffs, 12 seasons, 8 weekly programs, 8 days, 12 period, 100 special days)
- Up to 30 energy tariff and 30 demand tariff registers

#### DAILY PROFILE

- Daily profile for 35 days
- Energy

#### BILLING PROFILE

- Billing profile for 12 months
- Energy, Average PF, Maximum Demand

#### LOAD PROFILE

- 8 Load profiles with different daily and hourly registration periods with up to 20 different objects

#### POWER QUALITY

- Voltage sag, swell and cut, daily maximum and minimum, current bypass, power failure, power factor
- Total harmonic distortion (THD), Voltage and Current harmonics

#### RTC

- Clock accuracy (daily deviation):  $\leq 0.5\text{sec.}$  (23°C)
- RWP (Read Without Power)

#### ANTI-TAMPER

- 5 sealing positions (Terminal, Top & Modem Cover)
- Top, Terminal & Modem Cover open detection
- Bypass / reverse current
- Neutral missing / neutral disturbance
- Strong magnetic field detection

#### EVENTS & ALARMS

- Load and Power grid On/Off events detection
- Under Voltage, Over Voltage, Over Current, and Over Load
- Power failure and Power resume
- 200 event records with date and time
- Alarms for events and tampers
- Alarms indication (LED & Buzzer) (optional)

#### DEMAND MONITORING

- Block / slide mode (optional)
- Demand interval configurable
- Maximum Demand with time stamp
- Historical value (optional)

#### SECURITY

- Multi-level password for data reading and programming for all available ports
- 2 data access levels (LLS and HLS)
- Encryption of data AES - 128 standard
- Secured communication channels and encrypted data exchange with HLS

#### COMMUNICATION

- Protocol: Full DLMS/COSEM and IEC 62056-21 compliance
- Optional port for local communication As Per IEC 62056-21
- RF / PLC / GPRS Plug and play communication module
- RF module with Wi-Sun Sub GHz transceiver
- PLC with G3-PLC band 150kHz-450kHz
- GPRS support 2G/3G/4G network
- Local and remote firmware update available
- 4 independent communication interfaces:
  - Optical Port
  - 1x Rs485
  - 1x wired M-bus
  - Two independent plug-and-play module slots with selectable G3-PLC / BPLC / Wi-Sun RF / 2G / 3G / 4G modules

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CLASS 0.5S



## THREE PHASE MODULAR SMART STATIC ENERGY METER

### SPECIFICATIONS

#### APPLICATION

- CT-Operated Connection

#### ACCURACY

- Active: Class 0.5
- Reactive: Class 1

#### NOMINAL VOLTAGE

- 3P4W: 3 x 220V, 3 x 230V, 3 x 240V

#### CURRENT RANGE

- 1(5)A
- 5(10)A

#### STARTING CURRENT

- 0.5% of Ib

#### FREQUENCY

- 50Hz / 60Hz

#### POWER CONSUMPTION

- Voltage Circuit: <2W, <10VA
- Current Circuit: <4VA

#### TEMPERATURE RANGE

- Operation: -25°C to +55°C
- Storage: -40°C to +70°C
- Limit: -40°C to +70°C

#### HUMIDITY RANGE

- Up to 96% at 45°C non condensing

#### PROTECTION DEGREE

- IP 54

#### EMC

- Electro static discharge
  - Contact discharge: 8kV
  - Air discharge: 15kV
- Fast transient burst: 4kV
- Surge immunity: 4 kV
- Electromagnetic RF Field
  - Frequency range: 80MHz to 2000MHz
  - With voltage: 10V/m
  - Without voltage: 30V/m
- Conducted disturbance
  - Frequency range: 150kHz to 80MHz
  - Voltage level: 10V

#### INSULATED STRENGTH

- Impulse Voltage: 6kV 1.2/50  $\mu$ S
- AC Voltage: 4kV 1 min.

#### STANDARDS

- IEC 62052-11
- IEC 62053-22
- IEC 62053-24

#### DATA STORAGE

- 2 Profile with up to 20 different parameters
- Billing Data: 12 billing periods

#### PHYSICAL DIMENSION

- Dimension: 261.5mm x 170mm x 83.8mm
- Weight: Approx. 1.5 kg.
- Mounting Type: Projection type



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