

SMARTG-02 INDIRECT THREE PHASE METER EM341-5ID2

Transformer / Bulk Applications







Active Reactive





Tampers

Modular

Cut-Off Relay





Battery



PLC



RF

GSM/GPRS



INTRODUCTION

The SmartG-02 electricity meter series are modern, electronic, fully programmable devices, designed for application in AMI systems for monitoring and control of electricity consumption.

The SmartG-02 electricity meter series meet remote data transmission requirements and enable readouts of various measurands. The meters are compliant with IEC and DLMS/COSEM standards and have been designed to serve billing purposes.

EM341-5ID2, is a four wire, Prepaid/Postpaid compact electronic meter (indirect connection meter), with accuracy class 0.2, capable of measuring Active & Reactive Energy and is type approved according to IEC & EN standards. This makes it perfectly suitable for Transformer / Bulk Applications.

The indirect connection meter is used to measure energy consumption in 220 VAC, 50 Hz, and 1-6 Ampere, and operates in a three-phase four wire power network. It contains an independent measuring element allowing consumed energy to be measured. There is a LED mounted on the front panel of the meter, pulsing at a rate of 1000 pulses per KWh or KVAr for energy registration.

The modular nature of the meter means that its communications interface supports a broad range of field-upgradable communications options including GPRS, PLC, and RF among others.

STANDARDS

- IEC 62052-11
- IEC 62053-23:2003
- EN 50470
- IEC 695-2-1
- IEC62055 (for contactor)

- IEC 62056-42
- IEC 62056-46
- IEC 62056-53
- IEC 62056-61
- IEC 60068

METER SPECIFICATIONS

| Electrical Characteristics | | |
|----------------------------|---|--|
| Nominal Voltage | 3X220/380 V | |
| Voltage Variation (Min) | -40% Vn | |
| Voltage Variation (Max) | 30% Vn | |
| Nominal Current (Ibase) | 1 A | |
| Maximum Current (Imax) | 6 A | |
| Nominal Frequency | 50 Hz | |
| Frequency Variations | ±5% | |
| Accuracy Class | 0.2 Active according to IEC 62053-22 2 Reactive | |
| Starting Current | 0.1 % Ib according to IEC 62053-22 | |
| Wiring | 3 PH, 4 wires Network | |
| Number of elements | 3 | |
| Power Consumption | ≤2W | |
| Measurements | KWh MD(A)(KW) | |
| Back-up Battery Type | Lithium Battery | |
| Back-up Battery Lifetime | 10 Years | |
| Memory | | |
| Туре | Flash memory | |
| Retention Period | More than 20 Years | |
| Environmental Conditions | | |
| IP Rating | IP54 | |
| Temperature Range | -5°C to +70°C | |
| Storage Temperature | -25°C to +80°C | |
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Communication

METER FEATURES

| aracteristics | Feature | Description |
|---|------------------|--|
| 3X220/380 V | Display | Fully electronic (LCD) with backlight |
| -40% Vn | Load Profile | The meter is capable of storing two profiles. One |
| 30% Vn | | for energy and one for other parameters. |
| 1 A | | Each profile has an integration period of 1 to 60 minutes |
| 6 A | | • The profiling period extends for at least 45 days |
| 50 Hz | Events | • The EM341-5-SmartG-02 records a considerable |
| ±5% | | amount of data for extended periods of time In addition, the EM341-5-SmartG-02 stores up to |
| 0.2 Active according to IEC 62053-22 | | Addition, the Elvis 41-5-smarts-oz stores up to 400 events Events are logged with a date/time stamp |
| 2 Reactive 0.1 % Ib according to IEC 62053-22 | | The EM341-5-SmartG-02 has the ability to detect |
| 3 PH, 4 wires Network | Tamper Proofing | the following types of tamper attempts: |
| 3 | | Meter Cover Open Terminal Cover Open |
| ≤ 2W | | Module Cover Open Reverse Connection |
| KWh | | Earth or Current Bypass Connection |
| MD(A)(KW) | | OverloadOver Voltage |
| Lithium Battery | | Under VoltagePhase Sequence |
| 10 Years | | Missing Potential |
| nory | | The meter supports two alarm methods |
| Flash memory | | LED Indicator |
| More than 20 Years | Alarms | Audible AlarmMessages on LCD |
| al Conditions | | • The meter can be configured to give any |
| IP54 | | combination of alarms as required |
| -5°C to +70°C | Relay Operation | • The relay control modes include: |
| -25°C to +80°C | | Remote Disconnect Local Disconnect |
| <90% | | • The relay is configurable to be triggered in the |
| 0-3600M | | event of: Meter cover open |
| 20 Years | | Meter Terminal Cover Open |
| nication | | Module Cover OpenEnergy Reverses |
| Standard Optical Port (IEC 62056-21) Complies with DLMS/COSEM HDLC mode-E protocol | | Earth or Current Bypass Connection Meter Current Overload Meter Over Voltage and Under Voltage At Low Battery Phase Sequence |
| RS-485 Complies with DLMS/COSEM direct HDLC protocol | | Missing Potential Low Credit |
| Supported through the use of a GSM/GPRS Modem, PLC Modem or RF Modem | Auto-diagnostics | With each power-up or firmware update, the meter shall diagnose: |
| Optical Port: 9600 bit/s RS-485: 9600 bit/s GPRS: 56–114 Kbit/s | | Meter and memory integrity Display, alarms & battery status External communication module status |

MECHANICAL SPECIFICATIONS

 \rightarrow **Dimensions:** (L × W × D) = 277.3 mm x 177.4 mm x 88.5 mm

→ Weight: Approximately 1.8Kg

Humidity Range

Altitude

Service Life

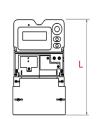
Optical Interface

AMI/AMM Module

Data Transmission Rate

Serial Communication Port

---> Meter Housing: Flame Retardant Polycarbonate



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