EL SEWEDY ELECTROMETER ®

SMART SINGLE PHASE METER

AM170

Residential, Commercial, and
Industrial Applications (Low Voltage)

PRIME ALLIANCE® **dlms** **STS ASSOCIATION**

Active Reactive

Cut-Off Relay

Battery

Tampers

Modular

LTE/GPRS

PLC

RF

INTRODUCTION

The AM170 electricity meter series are modern, electronic, fully programmable devices, designed for application in AMI systems for monitoring and control of electricity consumption.

The AM170 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. AM170, is a two wire, Prepaid/Postpaid compact electronic meter (direct connection meter), with accuracy class 0.5, capable of measuring Active Energy. It is type approved according to IEC & EN standards. This makes it perfectly suitable for Residential, Commercial, (and Industrial Applications (Low Voltage).

It supports up to 10 rates Step / 8 TOU with Friendly Hours, Weekends & Holidays available. as well as step tariff.

The direct connection meter is used to measure energy consumption in 220 VAC, 50 Hz, and 5-80 Ampere, single-phase two wire power net. 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 3200 pulses per KWh 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/4G, PLC, and RF among others.

STANDARDS

- IEC 62052-11
- IEC 62053-23:2003
- EN 50470
- IEC 695-2-1
- IEC62055

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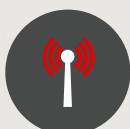- IEC 62056-53
- IEC 62056-61
- IEC 60068

METER SPECIFICATIONS

Electrical Characteristics

Nominal Voltage (Vn)	220 V
Voltage Variation (Min)	-40% Vn
Voltage Variation (Max)	30% Vn
Nominal Current (Ibase)	5 A
Maximum Current (Imax)	80 A
Nominal Frequency	50 Hz
Frequency Variations	±5%
Accuracy Class	0.5
Starting Current	0.4 % Ib
Power Consumption	≤ 2W
Measurements	KWh, V, I, PF, P, MD (KW)
Back-up Battery Type	Lithium Battery
Back-up Battery Lifetime	15 Years

Memory

Type	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
Humidity Range	<90%
Altitude	0-3600M
Service Life	20 Years

Communication

Optical Interface	Standard Optical Port (IEC 62056-21)
	Complies with DLMS/COSEM HDLC mode-E protocol
AMI/AMM Module	Supported using: • Internal PLC Modem • LTE modem • RF Modem
Data Transmission Rate	Optical Port: 9600 bit/s PLC: 5.4 – 128.6 Kbit/s RF: 50 - 2400 Kbit/s LTE: 10 Mbit/s

Mechanical

Dimensions	Height x Width x Depth 189 x 140 x 72 mm
Weight	0.87 Kg

METER FEATURES

Feature	Description
Display	• Fully electronic (LCD) with backlight
Load Profile	• Load profile divided on two profiles: ✓ Load profile (for energy) ✓ Load profile (for measurement value) – Including voltage, current, demand
Events	• The AMx70 records a considerable amount of data for extended periods of time • In addition, the AMx70 stores above to 375 events • The disconnector events is stored in separate log with 175 events capacity • Events are logged with a date/time stamp
Firmware upgrade	• Ability to easily update / change the meter firmware without processing it on-site. This is done locally via optical port and remotely in a massive change command from the Management Software • The meter support firmware image. can be scheduled to be performed immediately or at a future date performed immediately or at a future date. • The meter will perform a self-check process after the execution of the new firmware update, and the result of the self-check process will be stored on the meter event log (and will be retrievable locally or remotely)
Tamper Proofing	• The AMx70 can detect the following types of tamper attempts: ✓ Meter Cover Open ✓ Terminal Cover Open ✓ Reverse Connection ✓ Overload ✓ Over Voltage ✓ Under Voltage
Load control	• The meter supports the option to control loads (configurable) that is remotely activated or deactivated • The control functionality includes: ✓ Allowed loads for given time periods ✓ Demand Limit
Alarms	• The meter supports alarm detection and with LED notification and icons on the LCD • The meter can be configured to give any combination of alarms as required
Relay Operation	• The relay control modes include: ✓ Remote Disconnect ✓ Local Disconnect • The relay is configurable to be triggered in the event of: ✓ Meter cover open or enclosure open ✓ Meter Terminal Cover Open ✓ Energy Reverses ✓ Meter Current Overload ✓ Meter Over Voltage and Under Voltage ✓ At Low Battery ✓ Low Credit & others (ex. sunrise sunset)
Test mode	• The meter supports a Test Mode in which there will be an automated test sequence available that includes: ✓ Full diagnostic test; testing all of the active and inactive functionality • Metering accuracy test: enabled to allow for accuracy testing to be performed without affecting the recorded customer registration of energy
Auto diagnostics	• With firmware update, the meter well diagnoses: ✓ Meter and memory integrity ✓ Display, alarms & battery status
Outline drawing	