

SMART UTILITY METER CEDAR-20



cme[®]
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INTRODUCTION

The Smart Utility Meter is a proven smart meter designed to fit in powerful grid systems for monitoring and control of electricity consumption.

The SUM electricity meter series ensure a high-power transmission without distortion, also optimized for low impedance lines, without affecting line impedance. The meters are compliant with IEC and DLMS/COSEM standards and have been designed to serve billing purposes.

The SUM single phase meter is a two-wire device, dedicated to generating prepaid/postpaid bills that are delicately calculated using accurate measurement interfaces.

Rated for 220V – 50Hz, and with the ability to measure currents for up to 100 Amps, this meter contains an independent measuring element, thus allowing consumed energy to be measured on both line and neutral phases. All while providing the user with the ability to visualize various accessible parameters on an LCD screen located on top of the meter with couple of led indicators.

The modular nature of the meter means that its communications interface supports a broad range of customizable communications options including but not limited to various PLC and RF protocols.



KEY FEATURES

- PRIME Communication Interface
- Compliant with IEC and DLMS/COSEM
- Modular Communication interface
- Programmable relay (Line and Neutral Control)
- Zero crossing switching
- 1 RS485 interface (HDLC)
- Optical Interface (HDLC Mode E)
- Remote Firmware upgrade
- Alarms and events logs
- Covers opening detection
- Security attacks detection
- Current Bypass Connection
- Auto-diagnostics
- Instantaneous measurements
- Quadrants : Q1 / Q2 / Q3 / Q4, Import/Export (net metering)
- Current measurement for line and neutral

FLEXIBILITY

- NON-Technical Losses detection by comparing line and neutral currents
- In house software and hardware design expedite change request and feature additions
- Modular communication interface helps overcome connectivity issues
- Modular power supply provides ability of voltage input range change if desired
- General purpose auxiliary interface (1 input, 2 outputs) to synchronize with external event

FEATURES



Metering

Accurate
Instantaneous
Cumulative
Net Metering
Load Profile
Time of Use



Safety

Certified to IEC
CE Label
Class 2 Isolated
Recessed Screws
Fire Rated Enclosure
Zero Voltage Switching



Security

2 Tamper Switches
Sealed Compartment
Protected Configuration
Real Time Alarm



Interface

Simple
Single Button
Easy to Read
High contrast Display
Customizable Indicators



Reliability

100,000 hours MTBF
20 Years Data Retention



Customizable

Quick turnaround time for
feature or change request

SPECIFICATION



Voltage

Nominal Voltage: 160V to 265V
phase-to-neutral



Power Consumption

Apparent Power: <10VA



Temperature and Humidity

- **Specified Operating Range:** -40° to +70° C (3K7). Display fully operational from -25° to +60° C.
Humidity: ≤95% RH, non-condensing
- **Storage and Transport:** -40° to +85° C.
Humidity: ≤85% RH, non-condensing.
Must remain sealed within the desiccant bags in which they are shipped to meet storage and transport ratings.



Frequency

Nominal Frequency: 50 Hz ±5%



Current (amperage depends on local regulatory requirements)

- Basic: 5A
- Maximum: 100A



Service and Connection Types

- Single phase two wire service
- Direct line/load connections

SPECIFICATION



Installation

- **Mounting:** DIN 43857
- **Enclosure:** Outdoor (IP54)
- **Class 2 isolated auxiliary wiring terminals:**
Wire size 0.4mm-1.3mm diameter
- **Power and load wires:** up to 50mm²



Load Disconnect

- UC3 compliant up to 100A
- **Mechanical Endurance:** 100,000 cycles
- **Electrical Endurance:** 10,000 cycles
- **Maximum Overload Current:** 120A, 150A
(30 minutes)
- **Maximum Switching Voltage:** 265VAC
- **Maximum Switching Power:** 30,000VA



Communications

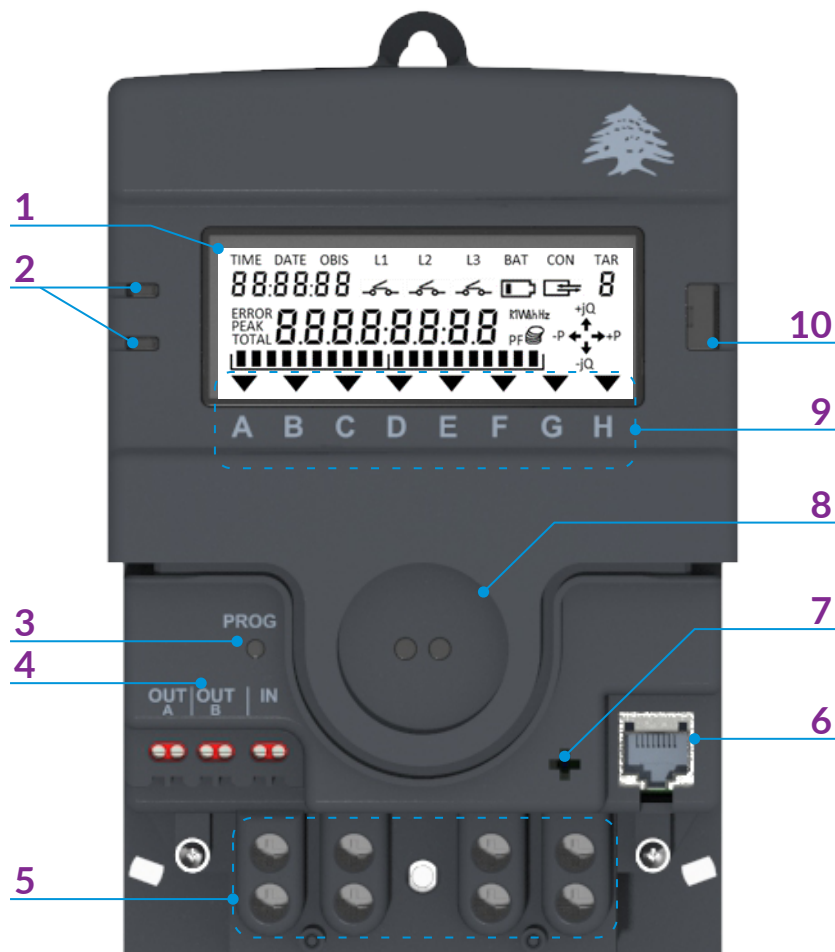
- PRIME 1.3.6, CENELEC A-band power line communication channel
- Optical Port IEC 62056-21
- Isolated current loop with external RS485 adapter
- DLMS Security Suites 0 and 1



Certifications

- **Measurement Accuracy Compliance**
 - **Active Energy:**
 - IEC 62053-21 Class 1
 - **Reactive Energy:**
 - IEC 62053-23 Class 2
- **Environment:** IEC 62052-11
- **Tariff and Load Control:** IEC 62054-21
- **Safety Ratings:** IEC 61010-1 CE marked.
- **Timing/Real Time Clock:** Accurate per IEC 62052-21 [2004] and IEC
- **Communication:**
 - CENELEC A EN50065
 - PRIME
 - Optical Port IEC 62056-21
- **Data:** DLMS/COSEM

DESCRIPTION



- 1. LCD Screen
- 2. LED Indicators
- 3. Programming Button
- 4. Auxiliary Connectors
- 5. Terminal Block
- 6. Serial Connector
- 7. Tamper Switch
- 8. Optical Port
- 9. Customizable Indicators
- 10. User Button

DESCRIPTION

1. LCD SCREEN

Displays major power and energy parameters

2. LED INDICATORS

Blink to indicate energy consumption

3. PROGRAMMING BUTTON

Configuration button, that is only accessible after taking off the cover (sealing screw is not present), to limit access to authorized personnel

4. AUXILIARY CONNECTORS

Connectors for general-purpose IOs (1 Input and 2 outputs), that are only accessible after taking off the cover (sealing screw is not present)

5. TERMINAL BLOCK

Input and output power connector

6. SERIAL CONNECTOR

Serial port that provides direct access to the meter, for programming and configuration purposes

7. TAMPER SWITCH

Main tamper switch to detect the possible removal of the cover/sealing screw

8. OPTICAL PORT

Local standard communication port that supports all remote communication features

9. CUSTOMIZABLE INDICATORS

Indicators on LCD screen and labels on plastic can be customized to match the customer's request

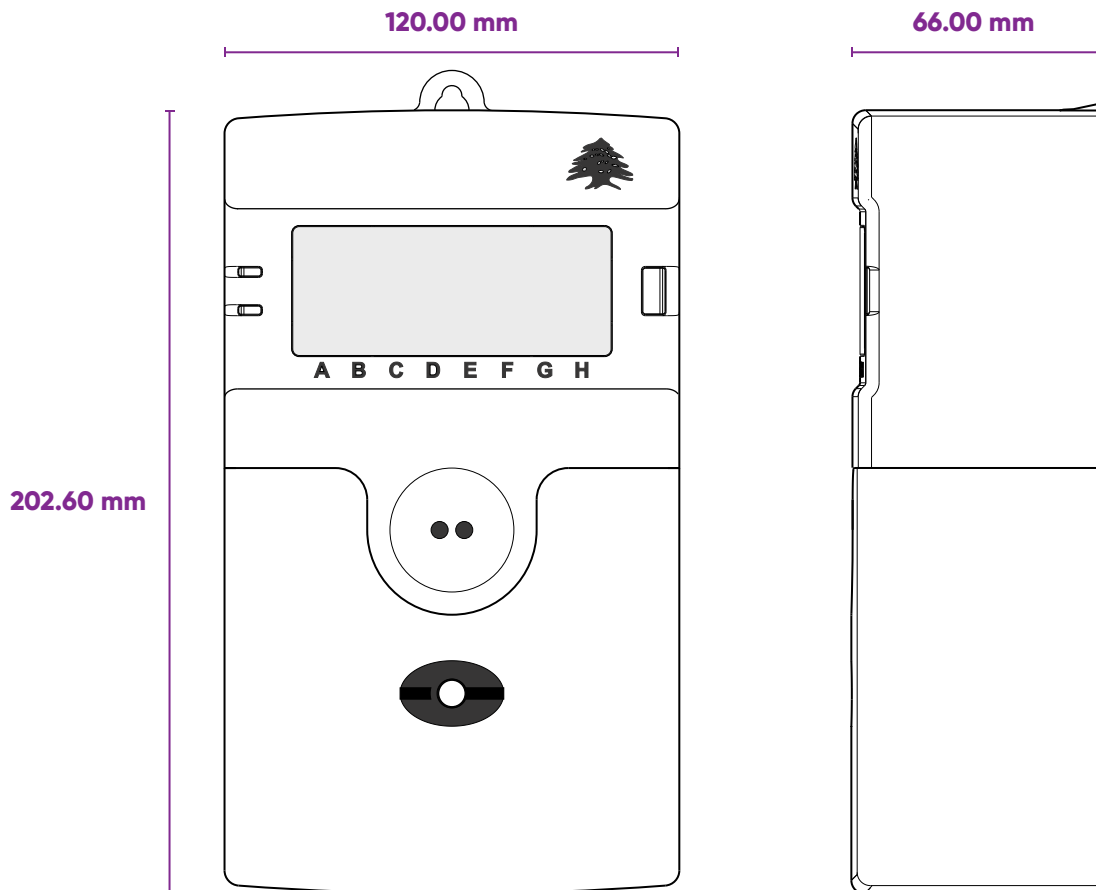
10. USER BUTTON

Main user interface button, used to navigate through menus of the LCD Screen

DIMENSIONS

Standard

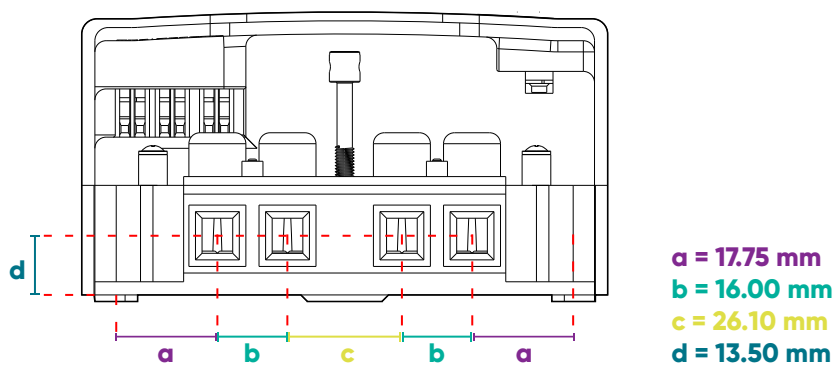
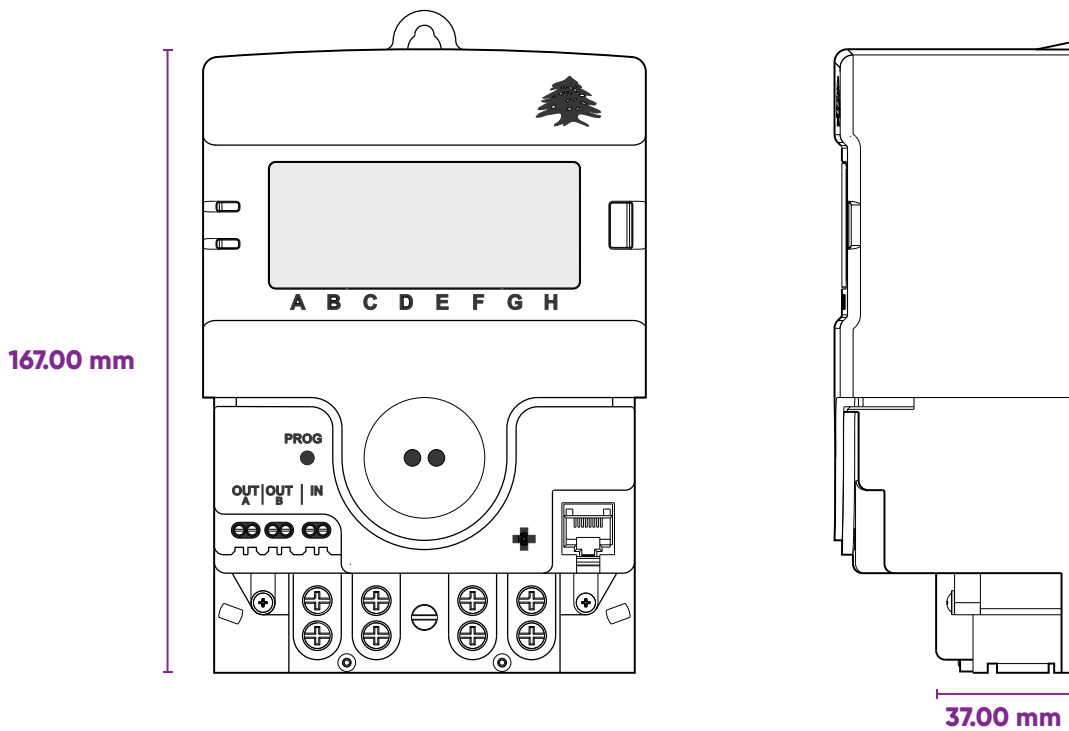
Dimensions to DIN



DIMENSIONS

Compact

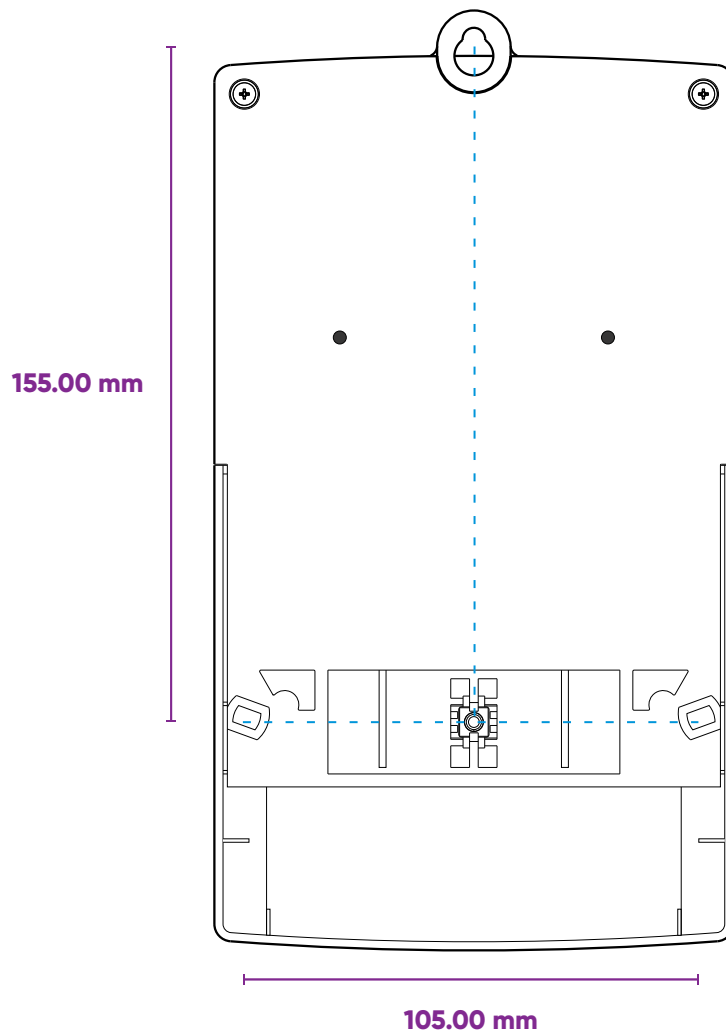
Smaller Than Most Competitors



DIMENSIONS

LEBANESE

With Greetings
Completely Designed &
Made in Lebanon



Disclaimer Notice:

All features, functionality and other product specifications are subject to change without notice or obligation.