The single phase smart meter CL710K20 is designed for residential applications in a single phase two wire grid. It has advanced tamper detection and power quality monitoring. The CL710K20 is setting new metering paradigm for robustness and reliability in India.

The CL710K20 is a direct connected, electronic single-phase two-wire, two-element energy meter with accuracy active: class 1/B. Reactive measurement is optional with class 2.

**Tamper protection**
- Ultrasonic welding, the meter can’t be opened without breaking the structure
- Cover open detection for terminal, module and face cover
- Magnetic tamper detection and penalty measurement/billing
- Immunity to high voltage sparks up to 35 kV
- Detection of ac/dc chopping
- Missing neutral detection and measurement
- Detection of wire connection tampers
- Event recording and reporting
- Mechanical protection with seals for main cover, terminal cover, communication module, battery and optical port

**Data Security**
- 3 level security management for up to 6 clients
- AES-GCM-128 encryption and AES-128 key wrap

**Demand Control**
- Latching relay with contacts for phase and neutral
- More than 100,000 switching cycles
- Overload control
- Over-current control
- Relay can be controlled manually and by remote
Measurement and Power Quality

- Measurement in phase and in neutral
- Measurement of active and apparent power/energy
- Net energy metering (NEM) mode
- Import (forward) only mode
- Over-voltage recording
- Under-voltage recording
- Sag
- Swell
- 30 minutes load profile for 40 days or
- 15 minutes load profile for 20 days
- Time of use (TOU) up to 8 rates, daily, weekly, seasonal and special

Advanced Metering Infrastructure (AMI) capabilities

- exchangeable communication modules (plug & play)
- self-register (auto-register) function
- self-healing function
- high compatibility with 3rd party systems
- DLMS/COSEM compliance
- STS payment mode can be set in the meter, the tokens are generated with PRISM security modules and submitted by the AMI system

The firmware can be upgraded locally or by remote. The meter has a sealable battery. A extra battery supports the real time clock (RTC). The CL710K20 has a modular design without any internal wiring. The display can be read without power.

Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PARAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage Un</td>
<td>wide range from 110 V ... 240 V</td>
</tr>
<tr>
<td>Current Ib (Imax)</td>
<td>5 (30) A, 5 (40) A, 5 (60) A, 10 (60) A other combinations on request</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 Hz, 60 Hz</td>
</tr>
<tr>
<td>Accuracy, active</td>
<td>class B, class 1</td>
</tr>
<tr>
<td>Accuracy, reactive (optional function)</td>
<td>class 2</td>
</tr>
<tr>
<td>Ingress protection</td>
<td>IP 54</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-25°C ... +70°C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>≤ 95 %</td>
</tr>
<tr>
<td>Local interfaces</td>
<td>Optical Port, sealable, optional: RS232, BLE (Bluetooth Low Energy)</td>
</tr>
<tr>
<td>Interfaces for remote access</td>
<td>radio frequency (RF mesh), GPRS, G3, G4, NB-IoT</td>
</tr>
<tr>
<td>Dimensions</td>
<td>175 mm x 115 mm x 60 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>650 g</td>
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</tbody>
</table>