5CTB

Modular PLC & Cellular Smart Meter

A modular smart meter that implements **ZIV's own technology** for PRIME and Meters & More open standards.

- ✓ **5CTB is a flexible smart meter that incorporates a special sealed holster designed to host a pluggable communication module (e.g. LTE, NBIoT...).**
- ✓ **The embedded PLC node is automatically identified in the PLC Network (plug and play)**
- ✓ **Direct & CT connected Smart Meters using DLMS/COSEM Application data or meters and more protocol stack.**

It ensures a reliable data transmission, even in the most challenging powerline media conditions: eg. noisy, low impedance lines and the like.

Additionally, it can include one or two RS-485 ports to connect a modem or a dongle linked to an In-home Display.

A Flexible and Modular Meter

- **5CTB** meters provide robust automated meter reading solutions for distribution companies. It integrates energy measurement, load profile and Time of Use (TOU) features.
- A set of **configurable parameters** make it the right solution for a wide variety of situations.
- It is **programable** via ZIV´s meter management software.
- **Local and remote communication capabilities enable complete meter operation**. This includes: data reading, configuration setting changes, date synchronization and operation of the built-in breaker.

Key Features

- Secured access and encrypted data transmission.
- Dot matrix display for meter readings and standardized messages/symbols.
- Instantaneous measurement of voltages, currents, active and reactive powers, angles and power factors (per phase), neutral current, network frequency and sequence information.
- Energy registers (active and reactive), total and per tariff rate.
- Several load profiles with different channels and configurable intergration period.
- Measurand profiles (maximum, minimum and average voltage and currents...), with programable integration period.
- RMS values register (voltage, currents and active/reactive power) with configurable integration period.
- Monthly and daily billing data.
- Versatile Time of Use (TOU) module which provides a way to configure different seasons, weekly profiles daily profiles and special days.
- Maximum demand recording for each of the programmed tariff.
- Clock and time synchronization (EN 62054-21) with DST configurable.
- Event and alarm recording with a broad set of manageable events.
- Power Quality recording. Voltage variations outside the established thresholds and long-term voltage interruptions.
- Breaking and reconnection elements for remote switching operations, power control and demand side management.
- Auxiliary relay (optional) for current tariff information or external modules management.
- Protection against temporary overvoltage (e.g earth faults) by means of opening the disconnector in a very short time frame.
- Battery for RTC and fraud events maintenance.
- Self-diagnostics and monitoring.
- Enhanced anti-tampering protection system, including bypass and magnetic field detection.

Technical Information

	3-Phase Direct	3-Phase VT/CT connected
Active / Reactive energy accuracy	Class B/1 (EN 50470-3 / IEC 62053-21) / Class 2 (IEC 62053-23)	
Verification test constant	4000 pulses / kWh or kvarh	
Current reference value (max current)	3 x 5 (100) A	3 x 5 (10) A
Starting current	20 mA	5 mA
Power absorbed by the current circuit (Iref)	< 0.1 VA	< 0.1 VA
Voltage rated values	3 x 127 / 220 Vac ...3 x 230 / 400 Vac / 50 Hz	
Consumption	< 0.8 W (per phase) and 1.2 W (total) < 14 VA per phase with PLC coupling	
Specified operating range	-25 ºC to +70 ºC	
Built-in breaker nominal values (number of operations)	120 A / 250 Vac. UC3 according to IEC 62052-31. Mechanical endurance: 200000 operations	Not applicable
Optical port	According to IEC 62056-21	
Connection to external modem	RS485 (optional) or serial interface for integrated module (4MCM).	
IHD serial port	RS485. Optional per model	
PLC service node	PRIME 1.4 or Meters and More	
Degree of protection	IP53 (according to IEC 60529)	
Lifetime	15 years	
Dimensions	269mm x 190 mm x 77 mm	

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