

# 5CTB

## PRIME

### Smart Meters



**Dual Stack PRIME 1.3 & 1.4** single and three-phase smart meters designed with field proven **ZIV's own technology** according to PRIME protocol.

**PRIME**  
ALLIANCE

#### A complete and flexible product family

- ✓ The 5CTB meter provides robust automated meter reading solutions for distribution companies using DLMS/COSEM application data. This implementation can be adapted to different companion standards.
- ✓ Local and remote communication capabilities enable complete meter operation, including remote firmware upgrade to address improvements, regulatory changes, or new challenges.
- ✓ A set of configurable parameters make it the right solution for all domestic energy consumers and prosumers.

These 5CTB meters are part of a family of digital meters incorporating metering, load recording and Time of Use (TOU) functionality. More specifically, this meter platform has been designed for energy metering in customers with AMM (Automatic Meter Management) capabilities through one built-in PLC (Power line Communications) module in the meter, in this case, using PRIME protocol (Powerline Intelligent Metering Evolution) according to both **version 1.3 and 1.4**, selected through a configuration parameter.

These smart meters provide valuable information about low voltage network and offers new opportunities for network management (voltage and current monitoring, Quality of service events...) and local and remote communication capabilities enable complete meter operation and facilitate technical or commercial support tasks to consumers or prosumers. This includes data reading, contract configuration changes, RTC synchronization and operation of the built-in breaker.

## Key features

- Secured access and encrypted data transmission .
- Flexible and configurable Dot matrix display for meter readings and standardized messages/symbols. Visible area of 73.5x24.5mm with a resolution of 132x42 pixels.



- Instantaneous measurements of voltages, currents, active and reactive powers, angles and power factors (per phase), neutral current, network frequency and sequence information.
- Energy registers (bidirectional active and reactive in the 4 quadrants) total and per tariff rate.
- Several load profiles with different channels and configurable integration period.
- Measurand load profile with average, maximum, minimum values for voltage, current and power. Configurable Integration period.
- RMS values register (voltage, currents and active/reactive power) with configurable integration period.
- Instantaneous measurements log, 48 entries. Configurable integration period.
- Three Versatile Time of Use (TOU) modules (contracts) based on an annual tariff structure with up to 12 seasons each with a weekly schedule, 12 types of day can be configured using up to 6 tariff rate periods distributed throughout the day by selecting the start time. Up to 30 public holidays can be configured as well.
- Maximum Demand Recording (MDR), total and per tariff rate with timestamp.
- Monthly and daily billing data
- Real time clock which keeps the actual date and time of the equipment with an accuracy of  $\pm 5\text{ppm}$  (EN 62054-21). Clock synchronization capabilities.
- Information about power interruptions and voltage variations according to EN 50160.
- Independent event recording logs with FIFO operation (first event generated, first event deleted) and with different capacity depending on the occurrence.
- Self-Diagnostics and monitoring. Error and alarm flags to provide information about the incidences or operations.
- Breaking and reconnection elements for remote switching operations, demand control or demand side management (only for direct meters).
- Protection against temporary overvoltage (e.g earth faults) by means of opening the disconnect in a very short time frame.
- Battery for RTC and fraud events maintenance.
- Enhance anti-tampering protection system.

## Technical Information

	Single phase meter	Direct 3 phase meter
Active and reactive energy accuracy	Class B (EN 50470-3) / Class 2 (IEC 62053-23)	
Verification test constant	4000 pulses /kWh or kvarh	
Minimum, Reference and maximum current	0.25-5(80) A	0.25-5(80) A (5CTBE2F6)
Starting current	20 mA	20 mA
Power absorbed by the current circuit (Iref)	< 0.3 VA	< 0.3 VA
Voltage rated values	127-230 Vac; 50 Hz	3x127/220 Vac 3x 230/400 Vac 50 Hz
Power Consumption	<1.1 W / 13 VA per phase IEC 62053-61	
Specified operating range	-25°C to 55°C	
Built-in breaker	Two poles. 250 Vca / 90 A. UC2 according to IEC 62052-31	Three poles 250 Vca / 90 A. UC2 according to IEC 62052-31
Optical port	According to IEC 61056-21	
PLC module	Built-in PLC PRIME dual 1.3&1.4	Built-in PLC PRIME dual 1.3&1.4
Degree of protection	IP51	
Lifetime	15 years	
Meter with long terminal cover dimensions (mm)	212.27 x 124.7 x 64	264,6 x 165 x 70,8
Meter with short terminal cover dimensions (mm)	171,46 x 124.7 x 64	211 x 165 x 70,8

