

5CTH

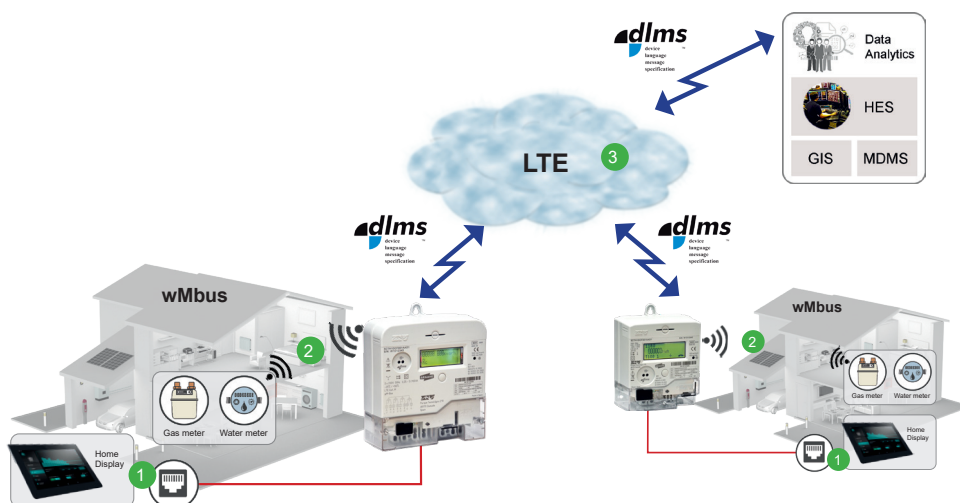
Single Phase & Three Phase Smart Meters



A Smart Metering platform with LTE Cellular Technology

Along with ZIV's meter management software and the appropriate permissions and passwords, the user could configure and use the multiple functionalities of the meter: events, TOU, synchronization, disconnection element (SCS) and many more. **5CTH** smart meter can be operated using DLMS/COSEM application protocol.

- ✓ **Robust automated meter reading (AMR) solution for DSOs**
- ✓ **Energy measurement, load profile and Time of Use (TOU) features**
- ✓ **Multiple communication interfaces:**



- 1 An interface to communicate with the customer (wireline).
- 2 wireless M-Bus communication to gather data from other meters (water, heat or gas meters).
- 3 LTE telecommunications to share information with the central system using the DLMS protocol.
- 4 Optical port for service configuration and maintenance.
- 5 MEP: multiexpansion port (RS485): for future needs

Main Applications

- Instantaneous measurement of voltage, current and power factor per phase, as well as instantaneous network frequency.
- Provide meter present reads (electric and non-electric data) to other service modules through H1 interface.
- Load profile recording including not only electrical energies, but also non-electrical measurements (e.g m3 gas).
- Versatile Time of Use (TOU) module with up to 4 seasons, 4 weekly profiles, 4 types of days and 6 tariff rates.
- End of Billing data (monthly and daily).
- Supply Control Switch (SCS) operation: demand management and overvoltage protection
- Security and operational features able to provide protection across all interfaces including self-monitoring and fraud protection.
- Gateway through H2 port for non-electrical meter measurements (multiutility meter).
- Remote communication through H3 interface.
- Time synchronization.
- Event recording. Event and alarm recording with broad set of manageable events.
- Power Quality recording. Voltage variations outside the established thresholds and long term voltage interruptions.
- Remote firmware upgrade.
- Self-diagnosis and monitoring.

Equipment Interfaces

- H3 interface for remote reading. LTE module.
- H2 interface for communication with non-electrical meters. Wireless M-BUS module.
- H1 interface for communication with OSM (Other Service Module), wired interface with a RJ12 connector.
- H0 interface. Service and Maintenance optical port.
- HMI for local reading and LEDs for status indication and accuracy testing.
- MEP interface: Serial port for future purposes.

Technical Information

	5CTH3BB 3-P	5CTH1AB 1-P
Electrical characteristics		
Nominal voltage	3 x 230/400 V	230 V
Voltage range	-20% to 15%	
Nominal current	Iref = 5 A	
Minimum current	Imin = 0.250 A	
Transitional current	Itr = 0.5 A	
Starting current	Ist = 0.02 A	
Maximum current	Imax = 100 A	Imax = 80 A
Reference frequency	50 Hz	50 Hz
Connection	3P4W	1P2W
	Direct connected (Powered from AC mains supply)	
Electromagnetic environment	E2	
Utilization category	UC3	
Metrological Characteristics		
Active energy accuracy class	CL.B	
Active energy constant	1000 imp/kWh	
Active energy measurement capabilities	Import / Export	
Active energy accuracy class	Cl.2	
Reactive energy constant	1000 imp/kvarh	
Reactive energy measurement capabilities	QI, QII, QIII, QIV	
Time – keeping accuracy	Quartz oscillator. 5ppm	
Climatic conditions		
Operation range	-25°C .. 55°C	
Type of meter	Indoor meter	
Humidity	95% without condensation	
Mechanical characteristics		
Mechanical environment	M1	
IP protection degree	IP51	
Switches		
Supply control switch	3 single inter. breakers 250 V / 100 A	Bipolar inter. breaker 250 V / 90 A
Auxiliary control switch	1 auxiliary switches. 24 V ; 0,5 A	
Communication interfaces		
Local interface H0	Optical port	
Local interface H1	Serial port for IHD	
Multiutility interface H2	Wireless M-BUS 868 MH internal antenna and SMA connector for possible external antenna	
Remote interface H3	LTE CATM- NB2 3, 8 and 20 bands internal antenna and SMA connector for possible external antenna	
Expansion port	RS-485	
Maximum dimmensions		
H x W x D (mm)	225 x 191,8 x 80	175,54 x 136,1 x 78,4
Others		
Useful life	15 years	
Display	Dot matrix integrated display	
Operation reserve	Supercapacitor	

