

# Liberty 500

## Three-phase smart energy meter



AMI ready



Remote  
firmware upgrade



AES128  
encrypted security

The Liberty 500 smart meter is a part of the smart metering system. It is a new generation, three-phase, smart electricity meter with communications capability, including DLMS / COSEM. It is equipped with a bi-directional communication unit with provision for a range of communication technologies, including RF or cellular (NB-IoT / GPRS) devices that allow it to interact with the head end system (HES) for data collection and configuration with adequate security.

It covers state-of-the-art smart functionality, coupled with revenue protection capabilities, making it the ideal solution for smart metering applications.

A built-in connect-disconnect switch and intelligent firmware platform in the Liberty 500 can deliver smart metering use cases of an energy supplier.

### Application

- Residential metering
- Commercial metering (large and small)

### Benefits

- Easy integration with head-end system through bi-directional comms and interoperable protocol
- Periodic remote data availability for utility reconciliation and monitoring
- Improved reading efficiency and elimination of billing errors through smart functionality
- On-demand data collection to serve critical use cases like vigilance
- No site visits to disconnect / reconnect consumer load point
- Enables efficient field operations to quickly restore faults by providing reliable, timely node-specific power interruption information
- Reduced cost of ownership
- Eliminates the cost of manual reading
- Designed to serve long life in the field
- Peak and off-peak management



### Features

- Reliable, bi-directional communication unit
- Four-quadrant metering with import / export registration
- Connect-disconnect switch with UC-3 performance
- Connect-disconnect switch in all three phases
- Data delivery to head end system (HES)
- Intuitive, legible and user-friendly display
- Provision of different communication options - Cellular (NB-IoT / GPRS), RF
- Capacitive touch keypad for ease of display navigation
- Extensive revenue protection measures
- Logging of tamper events and information alerts to the backend system
- Quality of supply (QoS) monitoring
- Supports remote firmware upgrade
- DLMS / COSEM open protocol compliant
- Terminal cover open, front cover open, communication module open detection

### Software

- M-Cubed 100 software suite for meter configuration and reading through optical port

**SECURE**



## Technical specifications

### Electrical

Connection type	3-phase 4-wire, direct connected
Rated voltage & variation	3X230 V, $\pm 10\%$
Current range	10 A Ibasic, 100 A Imax
Accuracy	Class 1.0
Frequency	50 Hz, $\pm 5\%$
Metrology LED	Two LED for active and reactive energy
Switch category	UC3

### Compliance

Standards	IEC 62052-11, IEC 62053-21, IEC 62053-24, IEC 62052-31, IEC 62056 series (DLMS / COSEM)
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### Mechanical

Dimensions W x H x D	184 mm X 265 mm X 97 mm $\pm 5$ mm
Weight	1.85 kg (approximately)
Display	8-digit LCD with backlight and icons for status

### Enclosure material

Meter case, terminal block	Engineering Plastic
Sealing	Break to open enclosure, Additional sealing provision on meter body, terminal cover and communication module

### Environmental

Ingress protection	IP 54
Insulation class	Protective class II
Operating temperature	-10 °C to +60 °C
Storage temperature	-25 °C to +70 °C
Humidity	95%, non-condensing

### Data storage capacity

Energy / demand load profile	One year (single channel) at 30-minute interval (configurable interval)
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### Communication

Local	IEC optical port
Communication interface	RF or cellular (NB-IoT / GPRS)
Communication status	Indication on LCD
Security	AES128 encryption

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