

Liberty 200

Single-phase smart pre-payment energy meter



Security



Upgradeable



AMI ready

The Liberty 200 smart meter is a part of Secure's established and proven Liberty online smart metering platform. It is a new generation, single-phase, smart prepayment electricity meter, equipped with a bi-directional cellular (NB-IoT) communication that allows it to interact with the head end system (HES) for data collection and configuration with adequate security.

It covers the 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 200 can deliver smart metering use cases of an energy supplier.

It provides account balance and consumption information in monetary terms, without any dependency on the WAN communication network, which helps consumers to monitor and budget their energy consumption.



Application

- Residential metering
- Small commercial metering

Benefits

- Periodic remote data availability for utility reconciliation and monitoring
- Improved revenue collection efficiency and elimination of billing errors through smart pre-payment 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
- A common metering asset for forwarded or import-export mode monitoring
- Same asset extension as permanent connection from temporary connection mode
- Peak and off-peak management

Features

- Reliable, bi-directional NB-IoT (with fall-back to GPRS) communication unit
- Connect-disconnect switch with performance equivalent to UC1 or better
- Secure data delivery to head end system (HES)
- Supports pre-pay and credit modes
- Pre-pay functionalities – friendly credit hours and days, emergency credit, arrear recovery, etc.
- Intuitive, legible and user-friendly display
- 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
- Remote firmware upgrade
- BLE support to interact with Secure's consumer mobile-app

Consumer benefits (smart pre-pay)

- Effective energy budgeting through balance and energy consumption information in monetary terms
- Balance and energy consumption information available without any dependency on WAN communication and HES
- Convenient options to recharge and top up (mobile app)



Technical specifications

Electrical

Connection type	1-phase 2-wire, direct connected
Rated voltage and variation	240 V P-N, +/- 30% of Vref
Current range	5-60 A
Accuracy	Class 1.0
Frequency	50 Hz, ± 5%
Metrology LED	One LED for configured energy
Switch category	UC1 or better
Burden	
Voltage circuit	As per IS 16444
Current circuit	As per IS 16444

Compliance

Standards	IS 16444, IS 15959
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Mechanical

Dimensions W x H x D	150 mm X 238 mm X 67 mm ±5 mm
Weight	1.20 kg (approximately)

Enclosure material

Meter case, terminal block	Engineering plastic
Sealing	Break to open enclosure, Additional sealing provision on meter body, ETBC 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

Features

Energy channels	Supports forwarded or Import-export mode
Tariff rate registers	Up to 8 rate registers, for configured energy channels
Maximum demand	For configured energy channels
Load survey	As per IS 16444 (Provision for additional parameters configuration)
Events and transactions	As per IS 16444
Operating modes	Pre-pay or Credit mode

Communication unit/module

Communication interface	NBLoT, fall-back to GPRS
SIM card	NBLoT enabled Nano SIM card
Standard reference	3GPP release 13
Supported frequency (Module)	850, 900, 1800, 2100 MHz (NBLoT) 900, 1800 MHz (GPRS)
Power Class	NBLoT: Class 5 (+20dBm ± 2dBm) for all bands
Comms unit power supply	In line with IS 16444
SIM card accessibility	Within sealable communication module
Communication options	Optical port for local communication Communication module with NBLoT / GPRS for remote communication Optional Built-in BLE for local wireless communication
Communication status	Indication on LCD
Antenna	Internal antenna, optional high gain extended antenna

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