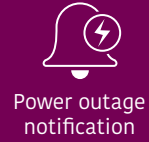# Liberty 120
a part of Liberty Online

Remote disconnect

Modular communication

Power outage notification

Pay As You Go (PAYG)

single-phase smart meter with cellular communications

Liberty 120 is a single-phase, single-element smart meter that provides flexibility through a modular design to accommodate the latest cellular communications technologies. Liberty 120 paves the way for reliable data transfer, making it the ideal solution for smart metering applications.

The meter supports firmware upgrade, allowing metering and communications features, functionality to be updated in the field. Liberty 120 meters are 'fit for purpose' for all contestable and embedded metering installations. This enhances flexibility and makes the investment future-proof. The meters can be used for individual domestic or small commercial applications as well as for co-located metering installations in master-child configuration, offering value for money with reduced Capex and inventory. The Liberty 120 smart meter forms part of the Secure's liberty online smart metering solution. Refer liberty online brochure for system details.

Applications

- Domestic and small commercial premises
- Embedded networks and co-located installations (optional)
- Credit and PAYG applications
- Advanced metering infrastructure (AMI)
- Suitable for co-generation metering applications

Key features

- Meets the minimum services specification as per Australian National Electricity Rules (NER)
- Multi-operator (roaming) SIM support – ensures maximum network coverage
- Credit and Pay As You Go (PAYG) mode, remotely switchable (optional)
- Peak and off-peak tariff management
- Remote de-energisation and energisation
- Alerts to identify potential anomalies
- Consumer friendly displays
- Quality of supply (QoS) monitoring
- Modular communication
- Remote firmware upgrade

Benefits

- Value for investment with common infrastructure for contestable and embedded solutions.
- Better information on usage to manage energy consumption
- Improve billing cycle and accuracy through remote reading
- Facilitates supply connection/disconnection remotely
- Optimised telecommunication and data services for embedded networks
- Fail-safe installation and commissioning process – reduced site opex and time
- Power outage management – quick response time
- Remote re-configurations
- Reduced cost of ownership
  - Removes cost of manual read
  - Designed to serve long life in field

Options and accessories

- External antenna
- Build options
  - 4G WAN & Zigbee HAN (Contestable or Embedded master)
  - Zigbee HAN (Embedded child)
- ZigBee® compliant in-home display

SECURE
energy together

Technical specifications

Electrical

Connection type	1-phase, 2-wire, active-neutral, direct connected
Measuring elements	1 element
Rated voltage	230V , -20% to +15%
Maximum voltage	460V (L-N) continuous
Impulse withstand	12 kV, 9 J, as per NMI M6
Current range	10-100A
Frequency	50 Hz ±5%
Accuracy	Class 1.0 (active energy), class 2.0 (reactive energy)
Metrology lamp	Two metrological LEDs for active and reactive energy

Compliance

Standards	NMI M6-1, AS 62052.11, AS 62053.21, AS 62053.23
	Exceeds minimum services specification as per the National Electricity Amendment (expanding competition in metering and related services. Rule 2015 No. 12)

Data storage capacity

Energy/demand load profile	395 days (per channel) at 30-minute interval (configurable), up to 4 channels, 65 days (per channel) at 5-minute interval (configurable), up to 4 channels
Quality of supply (QoS) parameters	90 days (per parameter) at 30-minute interval (configurable), up to 8 parameters, including average voltage, current, phase angle, temperature

Switches/outputs

Mains supply contactor	100 A

Mechanical

Dimensions (W x H x D)	146 mm x 211 mm x 65 mm
Enclosure material	Flame-retardant polycarbonate
Weight	0.9 kg (approx.)
Sealing provisions	Terminal cover, meter main cover, communications module
Display	10-character alphanumeric starburst display with backlight and icons for status
Keypad	12-key (0-9, A, B) for local entry of PAYG code and access to displays

Environmental

Ingress protection	IP 53
Insulation class	Protective class II
Temperature	Operating: -10 °C to +60 °C
	Storage: -25 °C to +70 °C
Humidity	95%, non-condensing

Time clock

RTC type	Crystal or mains-synchronised
Power source	Mains supply
Backup source	Lithium battery, 15-year life
Compliance	AS 62054.21

Measurement

Energy types	Active, reactive

Communications

Local	ANSI optical port
Remote	Build Options for: 3G/4G WAN & ZigBeeHAN (Contestable or Embedded master), ZigBeeHAN (Embedded child meter, up to 15 per master) Hot-swappable field interchangeable module, sealable separately
Security	AES128 encryption, cover open detection, Module removal detection
Outage notification	Reserve power supply

Specifications are subject to change without prior notice