

# Liberty 100

Single phase single element electricity meter with intimate modular communications hub



Installation efficiency



Remote firmware upgrade



Pay as you go (PAYG)

## Smart, flexible and future proof

Secure Meters has developed Liberty 100 single phase smart electricity meter to meet UK smart metering requirements. Liberty 100 has modular architecture for both WAN/HAN enabling multiple communications options to be deployed. The modules can be replaced in the field so that investment in the meter is protected even if communications technology needs to be changed during the life of the meter. The communications module acts as hub for communication to head end system and to the gas meter/in home display. The meter and communications hub are capable of remote firmware upgrade after installation to allow features and functionality to be changed. Liberty 100 supports both credit and Pay As You Go (PAYG) modes of operation.



### Application

- Smart electricity meter with communication hub for dual fuel (electricity + gas) and single fuel (electricity) domestic customers in both credit and PAYG modes
- Metering for small commercial premises including credit and PAYG modes
- Import and export metering for local generation

### Benefits

- Modular communication module allows multiple WAN and HAN options for different communications providers
- Simple installation, registration and pairing process
- Remotely switchable between credit and PAYG modes
- Assists consumers in reducing energy consumption

### Features

- Meets requirements of SMETS1 and SSWG
- Four-quadrant measurement with import/export registration
- Time of use/complex tariffs and maximum demand
- Logging of multi parameter load survey, billing data, events including power outage and abnormalities
- Integrated contactor
- Multiple WAN communication options – GPRS, long range radio
- Liberty 100 communication hub acts as coordinator for Zigbee HAN and mirror for gas meter data
- Credit and PAYG modes (meter maintains account and tariffs)
- Keypad to enable local entry of Pay as You Go token if WAN not available
- Remote firmware upgrade (not metrology)



## Technical specifications

### Electrical

|                      |  |
|----------------------|--|
| Connection type      | Direct connected                                     |
| Wiring configuration | Single phase, two wire                               |
| Voltage range        | 230 Vac (nom)  |
| Current range        | 0.5-20 (100) A                                       |
| Accuracy             | Active energy MID class B, reactive energy class 2.0 |
| Mains frequency      | 50 Hz ± 5%   |
| Burden               | Compliant with relevant standard                     |

### Compliance

|           |                                       |
|-----------|---------------------------------------|
| Standards | MID class B EN 50470-1,3; IEC62053-23 |
|-----------|---------------------------------------|

### Mechanical

|                        |   |
|------------------------|---|
| Modular design         | Field replaceable communication module        |
| Dimensions (W x H x D) | 140 x 175 x 60 mm                             |
| Terminals              | Tunnel type with 2 screws compliant to Bs7856 |
| Weight                 | 1 kg (approx.)                                |
| Enclosure              | Flame retardant polycarbonate                 |

### Environmental

|                    |   |
|--------------------|---|
| Ingress protection | IP 54   |
| Insulation class   | Protective class II                                     |
| Temperature        | -25 °C to +55°C (operating), -25 °C to +70 °C (storage) |
| Humidity           | 95% non-condensing                                      |

### Features

|                    |   |
|--------------------|---|
| Firmware           | Remote firmware upgrade with rollback   |
| Tariff             | Time of use (TOU) and complex (slab within TOU) supported<br>Pending tariff structures supported  |
| Load survey        | 13 months, 4 channels   |
| Display            | Backlit 10-character alphanumeric starburst display with icons for status   |
| Keypad             | 12 way - 0-9, A, B for local entry of PAYG code and access to displays  |
| PAYG functionality | Credit and PAYG modes (meter maintains account and tariffs)<br>Display of current and historical consumption with cost of consumption data<br>Emergency credit with optional load limiting<br>Friendly credit (avoids disconnection during unsocial hours or weekends)<br>Debt recovery |
| Security           | AES128 encryption   |
| Tamper detection   | Removal of terminal cover, main meter cover, communications hub<br>Excessive magnetic field   |

### Communication

|                              |  |
|------------------------------|--|
| Local diagnostic port        | Optical 1107 hardware-compatible port                                      |
| Communication module options | GPRS WAN + ZigBee HAN (SEP 1.x)<br>Multi operator (roaming) SIMs supported |

#### Australia

sales\_australia@securemeters.com  
www.securemeters.com/au

#### Dubai

sales\_middleeast@securemeters.com  
www.securemeters.com/me

#### Europe

sales\_europe@securemeters.com  
www.securemeters.com/eu

#### India, SE Asia, Africa

sales\_india@securemeters.com  
www.securemeters.com/in

#### UK

sales\_uk@securemeters.com  
www.securemeters.com/uk