



Secure Liberty 100

A simple, secure and scalable metering solution,
designed for heat networks.





Engineered to benefit both the consumer and heat network operator, Liberty 100 delivers usage information for community heating and payment options to district and communal schemes, of any size.

Liberty 100 acts as a hub within the home, ensuring tamper detection and two-way communication with the heat service provider.

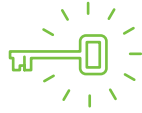
Consumers benefit from a portable and fully functional in-home-display, Pipit 500, allowing them to monitor and control their energy costs.



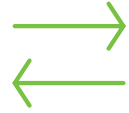
In-house or outsourced operation



Supports MBus or pulse output heat meters



Certified security



Multiple ways to top up



Use for new-build or retrofit installation projects



Provides usage data and alerts



Configurable for pre-playment or credit mode



Cost-effective



Robust and reliable



Easy and speedy install and commissioning



Puts tenants in control



No maintenance required

Why choose **Liberty** **100?**

✔ **Durable and dependable**

- » Thanks to its robust architecture, there's no need for a wired network between multiple systems in properties within the same development. This means no single point of failure (SPOF). If one property experiences problems, the others are protected.
- » A simple wired connection to the energy meter, utilising open-protocol MBus or pulse communications, ensures full data availability and enhanced fraud detection.
- » A multi-network roaming SIM covers a wider area and improves connectivity.
- » In the unlikely case of a disturbance to Secure's main communication engine, a disaster recovery (DR) plan, will ensure you are connected within the hour.
- » Pipit 500 is fully compliant with smart metering industry standards.

✔ **Simple install and commission**

- » The solution is quick and easy to set up and test using a step-by-step process featured on the device screen; ideal for high volume projects.
- » Onsite power requirements are low, it requires a:
- » fused spur socket outlet (unswitched) for Liberty Connect 100
- » three-pin socket for Pipit 500.
- » Suitable for new-build or retrofit projects.

✔ **Hassle-free maintenance**

- » Wireless ZigBee communications connect Pipit 500 to Liberty Connect 100, allowing flexibility when designing the layout within your property.
- » Updates firmware remotely using over-the-air (OTA) programming.
- » Pipit 500 can be replaced without the need for an engineer.
- » Transferable protocol means no long-term contracts. You'll always have the freedom to choose the appropriate heating.
- » Low operating costs, and no maintenance required.
- » The solution also offers dual fuel capability when used in conjunction with Secure's smart electricity meters.

✔ **You are well informed**

Our remote diagnostics provide you with real-time, on-demand tenant metering data via Liberty Online, including:

- » account balances
- » cumulative register value (kWh) readings
- » total credit added
- » cost of monthly consumption
- » monthly standing charge deduction
- » differential temperature (ΔT) and volume

✔ **Early fault detection enables a fast response**

Notifications of any critical events occurring on-site are sent to you via email. These include:

- » tamper
- » faults
- » input of unauthorised vend codes
- » exhausted credit
- » unauthenticated attempts to access WAN or GPRS
- » configuration changes in heat meter
- » communication failure with heat meter.

✔ Well secured means peace of mind

- » Fully secure and encrypted:
 - » Internal Home Area Network (HAN) communication between Pipit 500 and Liberty Connect 100.
 - » General Packet Radio Service (GPRS) and Wide Area Network (WAN) communication between the Liberty Connect 100 and external systems.
- » ISO 27001 certification - the internationally recognised best-practice framework for any information security management system (ISMS).
- » Operators can manage their solution(s) via Liberty Online, an SSL-encrypted website that also offers two-factor authentication for added security.
- » Payments are transferred securely between Secure's 24/7 back-office solution and each meter.

✔ Convenient for tenants

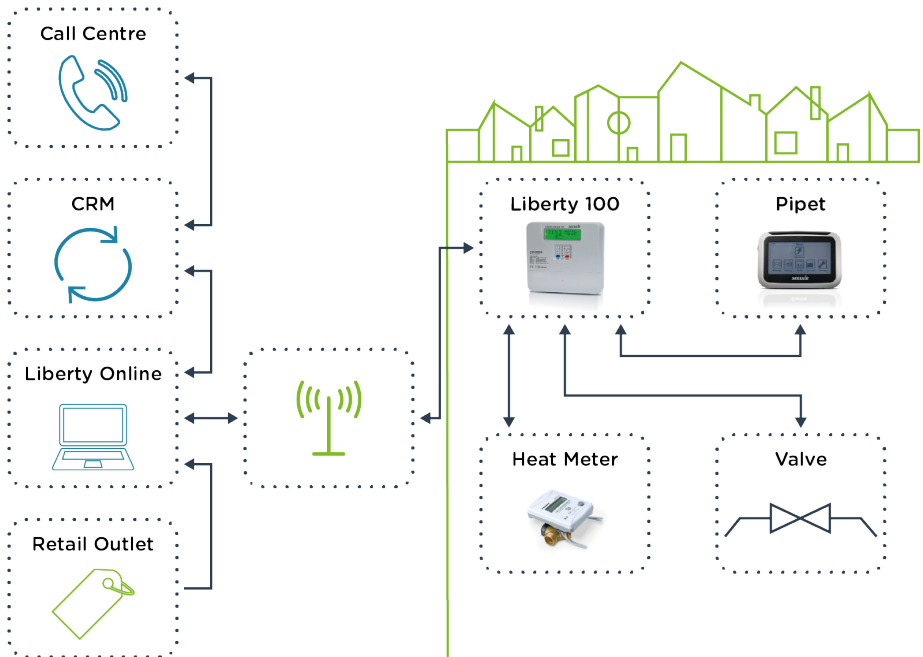
- » Pipit 500 has a small footprint and is both portable and wireless - easy to move from one room to another.
- » Global or individual messages sent to all or specific tenants can be viewed via Pipit 500.
- » Making payments couldn't be easier:
 - » Flexible and virtually instant payment options: cash, retail outlets, website, phone and text
 - » Real-time top ups
 - » In the case of WAN or GRPS disconnection, users can top up manually
 - » Each tenant can be switched remotely between pre-payment and credit mode
 - » Emergency or friendly credit options available.
- » In credit mode, users can view their current monthly spend in real time.
- » Debt management options are available and can be tailored to suit the individual tenant's energy usage and financial needs.

How it works?

The Liberty 100 offers utility grade PAYG/ Data Collection Systems for heat networks.

Each unit utilises a SIM card to ensure direct connectivity.

A separate in-home-display allows residents to monitor their energy and see their remaining credit/bill. Depending on the mode of operation. PAYG or credit billing



Secure Liberty 100 Billing Solutions

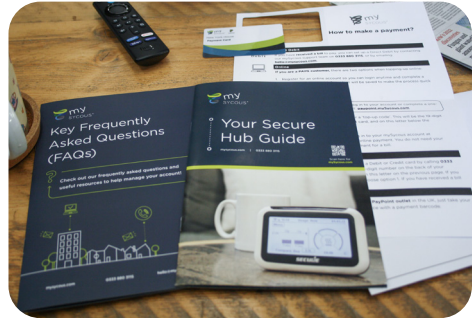
The Liberty 100 operates in either a PAYG or credit mode and can be remotely switched between the two.

The Secure HES can be operated by Sycous, with our Mabdeck Software and Customer Billing Services, making administration simple and cost effective. Access and operation of their HES can be transferred across numerous service providers, providing an ideal 'transferable protocol' solution.



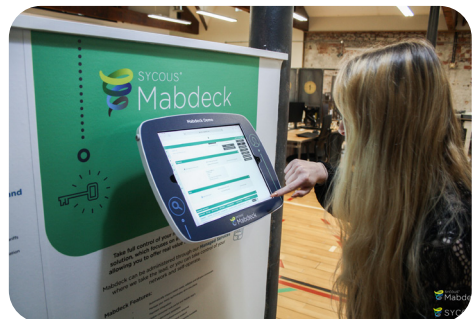
Customer Billing Services

Let us operate some, or all, of your metering, PAYG and data collection systems on your behalf.



Mabdeck Billing Software

Automatically generate bills to your residents, operate PAYG solutions, collect payments, manage debt, report on your operations and give your consumers online and mobile App access to their accounts.



Technical Specifications

Liberty Connect 100

Mechanical Features	Mechanical Description
Dimensions (L x W x H)	145 x 155 x 46 mm
Weight	0.55 kg (± 0.05) approx.
Sealing Provisions	2 seals on the rear and 1 seal on the terminal block cover
Display	<ul style="list-style-type: none">» 150 Segment Transflective STN LCD with backlight» 10 alphanumeric characters (9 mm high and 2.4 mm wide) with icons» Display visibility angles - 15 degrees from all sides» Display operating temperature range from -25°C to +55°C
Keypad	12 keys, silicone rubber material
Electrical Features	Electrical Description
Rated voltage	230 V AC, + 30% and -20%
Frequency	50 Hz \pm 5%
Relay input voltage	12V DC / 24V DC / 110V AC / 230 V AC Maximum 26V DC / 250V AC
Relay input/output current rating	2A maximum
Other Features	Other Description
Power source	Mains supply
Life expectancy	10 years

Compliance Features	Compliance Description
Wired M-Bus	EN 13757-2 Physical and link layer (Master) EN 13757-3 Application layer (Master)
RoHS	2002/95/EC restriction of the use of hazardous substances
WEEE	2012/19/EU Waste Electrical and Electronic Equipment Directive
Battery directive	2006/66/EC Regulates the manufacture and disposal of batteries in the European Union

Communication Features	Communication Description	
Pulse input	Supply	4.5V DC maximum
	Type	Potential Free Contact (Open collector) - OB type
	Pulse width	20 ms to 800 ms
Wired M-Bus (supports single slave)	Electrical isolation	3 kV
	Supply	36V DC
	Load	20 mA
	Electrical isolation	3 kV

Environmental Features	Environmental Description
Operating temperature	-25°C to +55°C
Storage temperature	-25°C to +70°C
Operating humidity	Up to 95% non-condensing

Pipit 500

Features	Description
Dimension	115 x 80 40 mm
Weight	0.2 kg approx.
Power consumption	< 0.6 W
Display area	76 x 40 mm
Display resolution	240 x 128 pixels
Touchscreen	Resistive type
Material	Acrylonitrile Butadiene Styrene (ABS) / Polycarbonate Flame Retardant (PCFR)
Colour	White
Replaceable battery	A pair of AAA alkaline non-rechargeable batteries
Memory size	2 MB
Operating temperature	0°C to +50°C
Storage temperature	-20°C to +70°C
Relative humidity	0 to 95%
Ingress protection	IP40
Operating life	Greater than 5 years

Want to know more?

Contact our team on **+44 (0) 113 3604 776** or
email **info@sycous.com**.

Visit **sycous.com** to learn more about our
innovative metering, remote data collection and
billing solutions.



Sycous Limited is registered in
England and Wales.
Company Number 08836039.
Registered Address: New York
House, 1 Harper Street, Leeds,
LS2 7EA