// ZHM-21

Wireless M-Bus Interface

// Introduction

EpiSensor's ZHM-21 makes it easy to collect data from wired M-Bus-enabled metering equipment.

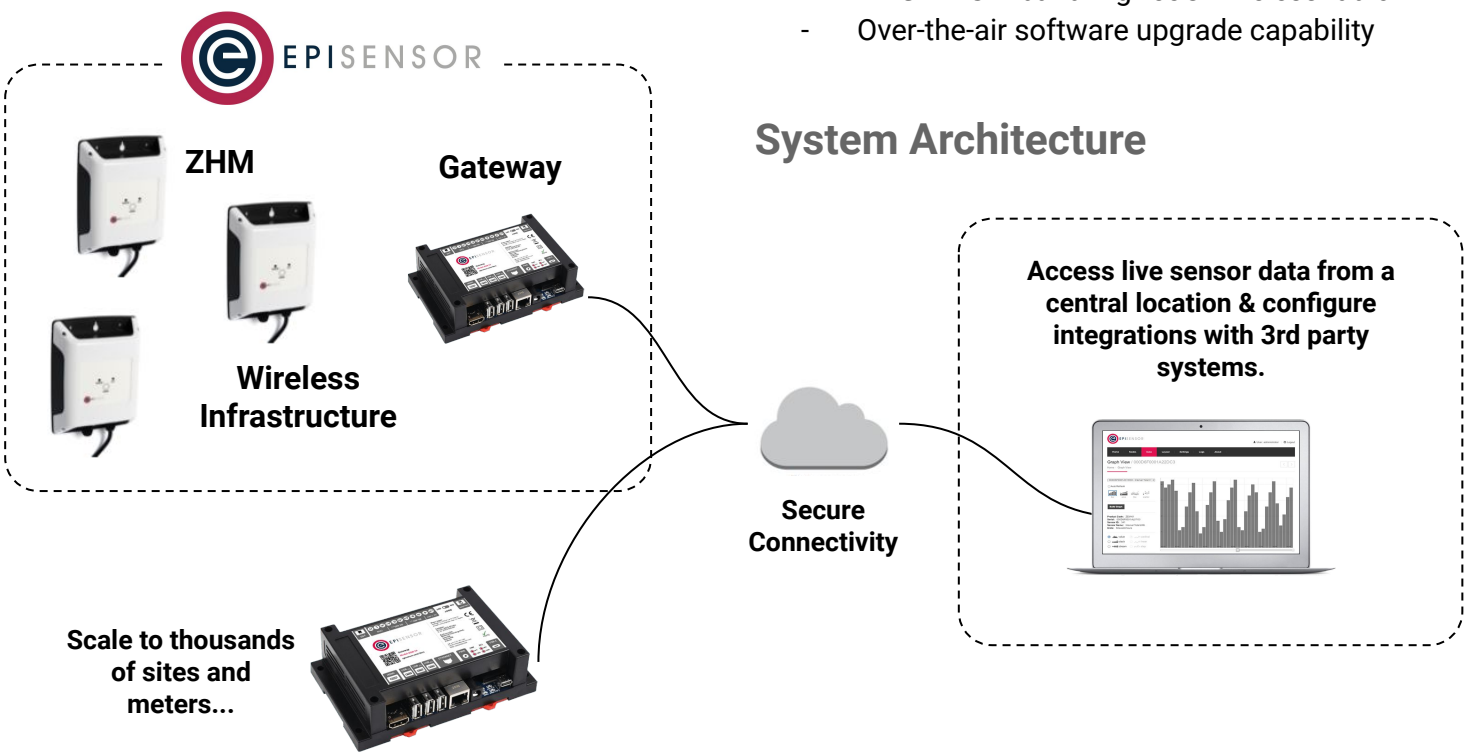
Data is transferred securely over a wireless network to a central Gateway, where it is stored and exported to a variety of 3rd party platforms for tenant billing, storage, visualisation and analysis.

// Key Features

- Security from edge to cloud
- Integrated switch for valve control
- Integrated mains power supply
- Water and dust-proof polycarbonate enclosure
- Local data logging (up to 2 years)
- Self-healing mesh network
- 2.4GHz ISM band ZigBee® wireless radio
- Over-the-air software upgrade capability

For more information, contact:
sales@episensor.com
visit http://episensor.com or call +353 61 512 500

System Architecture



Technical Specification

// Electrical

Category	Parameter	Value
Mains Power Supply	Input Voltage Range	85 - 264 V AC
	Input Frequency Range	50 / 60 Hz
	Power Consumption	Max. 5 W
	Mains Connection	Spring Terminals via IP67 gland

// Communications

Category	Parameter	Value
Wireless Sensor Network	Radio Technology	ZigBee Pro
	Radio Frequency	2.4 GHz ISM band
	Network Topology	Mesh
	Channels	16 (802.15.4 Channels 11 to 26)
	Max Tx Power	+8dBm
	Tx modulation	O-QPSK
	Rx Sensitivity	-101dBm
	Max Data Rate	256kbit/s
	Wireless Range	up to 50m indoor / 300m outdoor
M-Bus	Physical Connection to M-Bus	2 metre flying lead
	Supported Baud Rates	300, 600, 1200, 2400, 4800, 9600
	Max Connected Meters	1
	Max Cable Length	1000m
	Pass Through	No
	Compatible Manufacturers	Kamstrup, Sontex, Itron, Sharky, Elster, Sensus, Landis+Gyr
Valve Control	Max Operations at full load	5000
	Valve Connection	Spring Terminals via IP67 gland
	Contact Arrangement	1-pole, Form C (CO)
	Contact Rating (resistive)	1A / 250V AC

Note: the valve control relay is not intended for switching large electrical loads, and is therefore limited to 1.0A

Technical Specification

// Software & Security

Category	Parameter	Value
Real Time Clock & Sync	Real Time Clock Backup	Capacitor
	Hold-up time	up to 72 hours
	Synchronisation	NTP time server via Gateway
Real Time Clock & Sync (continued)	Timestamp Format	ISO-8601
	Timestamp Resolution	1 second
Data Logging	Storage Type	Non-volatile flash
	Capacity	up to 70,000 data points
Security	Sensor Network Encryption	AES 128-bit
	Server Communications	TLS v1.2 / various

// Operating Conditions

Category	Parameter	Value
Operating Conditions	Operating Temperature	−25°C to 55°C (−22°F to 131°F)
	Storage Temperature	−40°C to 70°C (−40°F to 158°F)
	Operating Humidity Range	up to 80% (non-condensing)
Physical	Weight	0.35 kg
	Dimensions (W x H x D)	144 x 112 x 45mm
	IP degree of protection	IP67 (IEC 60529)

// Certifications

Category	Parameter	Value
Certifications	Safety	CE
	Environmental	RoHS, WEEE
	EMC/RF	Contains FCC ID: S4GEM35XB
		Contains IC ID: 8735A-EM35XB

EpiSensor products are not suitable or specifically designed, manufactured or licensed for use in military, aviation, powerplant, medical or in other inherently dangerous or safety critical applications.

Technical Specification

// Order Codes

SKU	Description
ZHM-21	Mains powered, M-Bus master, max 1 connected meter, valve control

Installation & Safety Notes

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- ➔ EpiSensor equipment should be installed, operated, serviced and maintained only by qualified personnel. EpiSensor does not assume any responsibility for any consequences arising out of the use of this equipment.
- ➔ For detailed installation and safety information, consult the Install Sheet.

// Contact

For technical support, please contact **support@episensor.com** or phone +353 61 512 500

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Manufactured in an ISO 9001 / ISO 14001 certified facility.

Designed and manufactured in Ireland