// ZMB-30, ZMB-31, ZMB-33

Wireless Modbus Interface

// Introduction

EpiSensor's ZMB makes it easy to collect data from wired Modbus-enabled equipment.

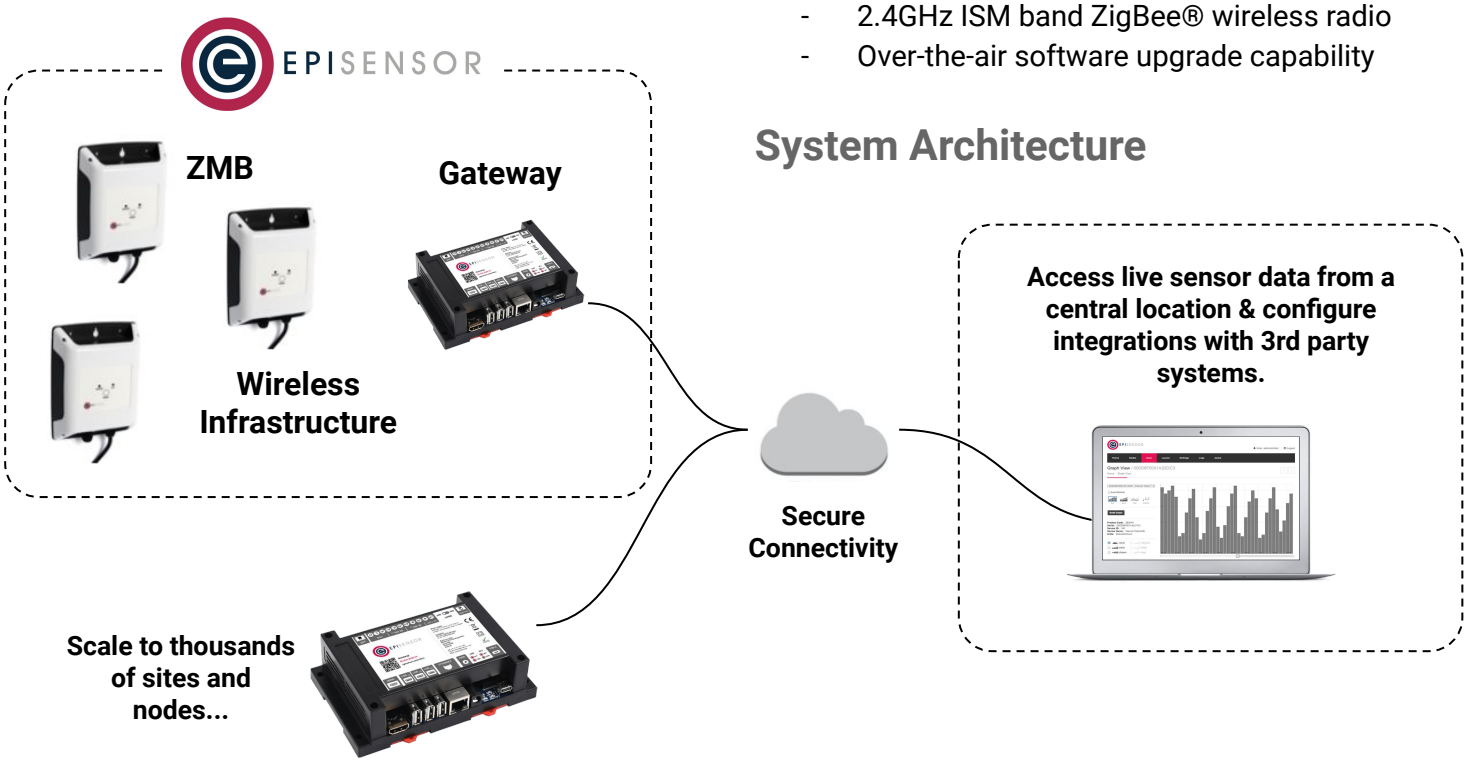
Data is transferred securely over a wireless network to a central Gateway, where it is stored and exported to a variety of 3rd party platforms for storage, visualisation and analysis.

// Key Features

- Security from edge to cloud
- Read/Write up to 30 registers per ZMB
- Integrated temperature probes
- On-board 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 Cable length	2 metres

// 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
Serial	Physical Network	RS-485, RS232 (TTL)
	Protocol	Modbus RTU
	Baud Rate(s)	300 to 115200
	Function Codes Supported	1, 2, 3, 4, 5, 6, 15, 16
	Register Types Supported	Coil, Discreet, Input, Holding
	Max Connected Meters	up to 30 (see order codes)
	Max Cable Length	1000m
	Pass Through	No

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
	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 100%
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
ZMB-30	Mains powered, single 2.5m waterproof temperature probe, max 4 Modbus registers, live stream mode
ZMB-31	Mains powered, no temperature probes, max 30 Modbus registers
ZMB-33	Mains powered, no temperature probes, max 4 Modbus registers, live stream mode

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

Address: EpiSensor Ltd. Georges Quay House, Georges Quay, Limerick, V94 YW9T, Ireland

Manufactured in an ISO 9001 / ISO 14001 certified facility.

Designed and manufactured in Ireland