// ZHT-10, HTS-11

Wireless Temp & Humidity Sensor

// Introduction

EpiSensor's ZHT is a flexible, highly accurate wireless ambient temperature and humidity sensor. It can monitor environmental conditions in buildings and assets remotely and securely via the EpiSensor Gateway, providing facility managers with the granular real-time data they need to improve efficiency, reduce costs and improve performance.

// Key Features

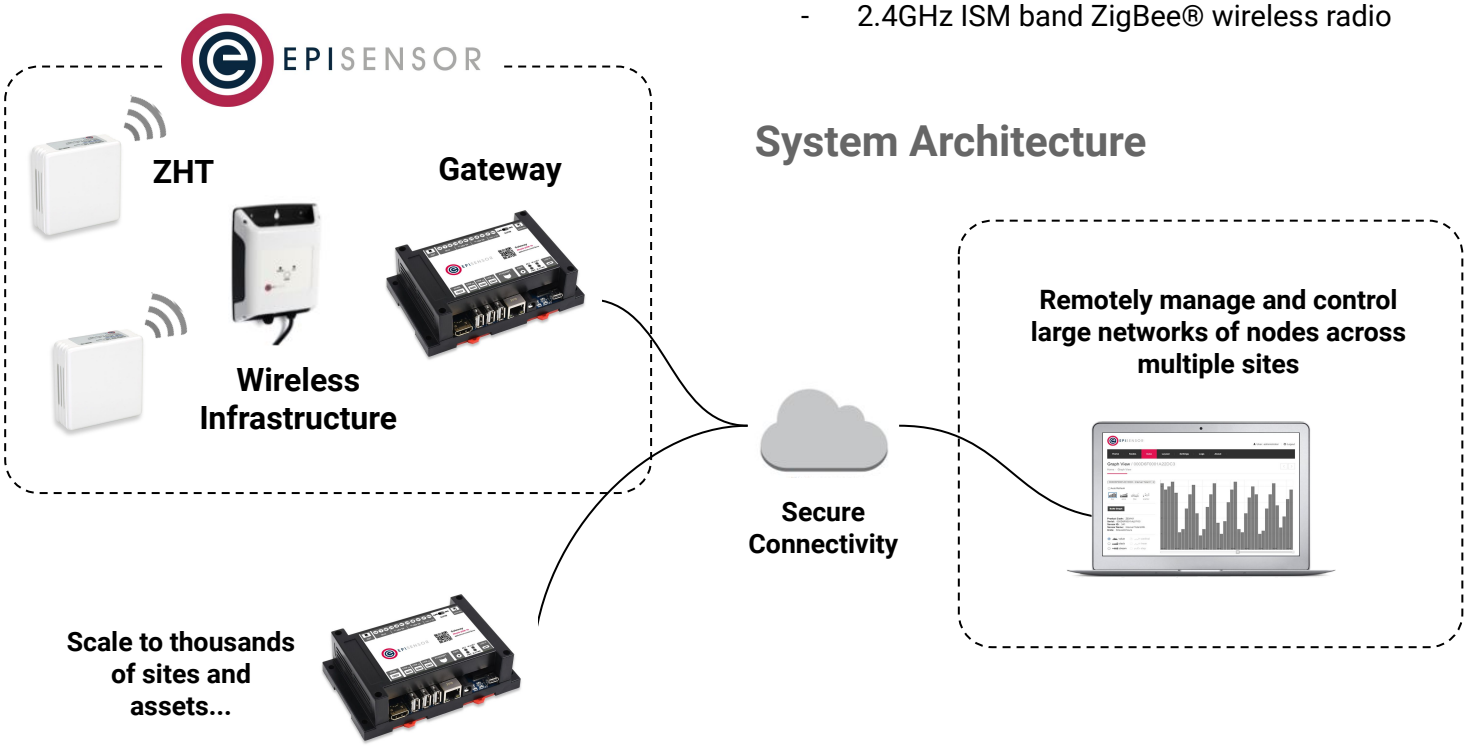
- Security from edge to cloud
- Fully wireless communications
- Vented ABS Enclosure
- Up to 10 year battery life
- Accurate temperature and humidity sensors
- Over-the-air software upgrade capability
- Local data logging (up to 2 years)
- Self-healing mesh network
- 2.4GHz ISM band ZigBee® wireless radio

For more information, contact:

sales@episensor.com

visit http://episensor.com or call +353 61 512 500

System Architecture



Technical Specification

// Sensor

Category	Parameter	Value
Temperature	Sensor Technology	Thermistor, NTC, 10K Ohm
	Sensor Type	Ambient, internal
	Normal Range	-20°C ~ 45°C
	Full Range	-30°C ~ 55°C
	Accuracy (Normal Range)	± 0.2°C
	Accuracy (Full Range)	± 0.5°C
	Resolution	0.01°C
Humidity	Sensor Technology	Digital (Honeywell HIH-5031)
	Normal Range	11% RH ~ 89% RH
	Accuracy (Normal Range)	± 3% RH
	Hysteresis	2% RH
	Repeatability	± 0.5% RH
	Operating Temperature Range	-40°C ~ 85°C
	Response time (slow moving air)	5 seconds
	Stability (50% RH, 5 years)	± 1.2% RH
	Resolution	0.10%

// Power

Category	Parameter	Value
Battery	Nominal Voltage	3.6V
	Capacity	3.6Ah
	Chemistry	Lithium Thionyl Chloride
	Size	A
	User Replaceable	Yes
	Estimated Lifetime	up to 10 years, 15 min reporting
	Estimate based on	NTC temperature sensing only, 23° C, full wireless coverage

Technical Specification

// 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

// Software & Security

Category	Parameter	Value
Real Time Clock & Sync	Real Time Clock Backup	Battery
	Synchronisation	NTP time server via Gateway
	Timestamp Format(s)	ISO-8601, Unix Epoch
	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	−30°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	0.1 kg
	Dimensions (W x H x D)	71mm x 71mm x 27mm
Enclosure	Material	ABS plastic
	IP degree of protection	Not applicable

Technical Specification

// 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.

// Order Codes

SKU	Description
ZHT-10	Vented ABS enclosure, battery powered

// Accessories & Services

SKU	Description
SV-CAL-EPI	EpiSensor calibration, Single Sensor, 1 calibration point
SV-CAL-SP-Q1	UKAS Calibration, Single Sensor, 3 calibration points (default: 0°C, 5°C and 10°C)

Installation & Safety Notes

CONTAINS LITHIUM METAL BATTERY

For more information, call +353 61 512 500

- → 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