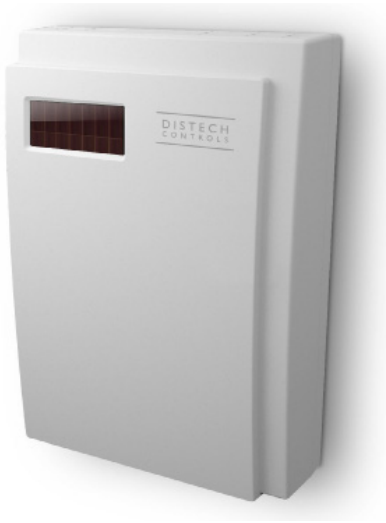
Datasheet

Allure™ ECW-Sensor Series

Room Temperature Sensors



Overview

The Allure™ ECW-Sensor series are wireless and battery-less room temperature sensors specifically designed to communicate with Distech Controls' Open-to-Wireless™ controllers via radio telegrams in accordance with the EnOcean® standard.

All Allure ECW-Sensor models possess an integrated temperature sensor for precision local temperature sensing. In addition, some models feature a rotary knob for setpoint adjustment, fan speed setting, and a push button for occupancy override. All models are powered by solar energy, providing maintenance-free operation and are part of Distech Controls' Open-to-Wireless solution. All models are available for 902 and 868 frequency bands, making them compliant for use in most countries.

The alluring, slim profile enclosure is suitable for classrooms, hotels, executive areas, office spaces and commercial areas. A separate sub-base allows it to be mounted on any surface with double-sided adhesive tape.

Applications

- Perform building retrofits with minimal impact on architecture and materials.
- Install wireless devices on any surface, such as glass, brick and stone.
- Support open spaces that undergo frequent changes in layout or require seasonal displacement.
- Expand controller input count.

Features & Benefits

- Wireless communication permits the optimized placement and easy relocation of sensors, and removes the need to open wall and for extensive installation work.
- Available in various models for communication on 902MHz or 868MHz to suit your country or local area's transmission spectrum standards

Model Selection

PDITE-WSEN902X1	Open-to-Wireless battery-less space temperature sensor, EnOcean 902 MHz (Optional battery available).
PDITE-WSENO902X1	Open-to-Wireless battery-less space temperature sensor with override, EnOcean 902 MHz (Optional battery available).
PDITE-WSENS902X1	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm, EnOcean 902 MHz (Optional battery available).
PDITE-WSENSO902X1	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm and override, EnOcean 902 MHz (Optional battery available).
PDITE-WSENSOF902X1	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm, override and fan speed selector, EnOcean 902 MHz (Optional battery available).
PDITE-WSEN868X1	Open-to-Wireless battery-less space temperature sensor, EnOcean 868 MHz (Optional battery available).
PDITE-WSENO868X1	Open-to-Wireless battery-less space temperature sensor with override, EnOcean 868 MHz (Optional battery available).
PDITE-WSENS868X1	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm, EnOcean 868 MHz (Optional battery available).
PDITE-WSENSO868X1	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm and override, EnOcean 868 MHz (Optional battery available).
PDITE-WSENSOF868X1	Open-to-Wireless battery-less space temperature sensor with setpoint cool/warm, override and fan speed selector, EnOcean 868 MHz (Optional battery available).

Specifications

General

Power Supply	Energy harvesting from ambient light
Optional Battery	Type ER14250; 1/2AA Lithium 3.6V/1.1Ah

Environmental

□ Operating Temperature	5ºC to 40ºC; 41ºF to 104ºF
□ Storage Temperature	-20ºC to 57ºC; -4ºF to 135ºF
□ Relative Humidity	0 to 95% Non-condensing

Enclosure

Material	ABS type PA-765A
Color	Off white
Dimensions (overall)	4.62” x 3.29” x 1.58” (117mm x 84mm x 40mm)
Shipping Weight	0.4lbs (0.18kg)
Installation	Double-sided foam tape
Wall mounting through mounting holes	(see Dimensions for hole positions)

Communications

Communication Protocol	EnOcean 4BS Telegram
Power Output	10mW
Communication Frequency	Allure ECW-Sensor 868 & 902 MHz
For **868Mhz** model only:	
□ Center frequency	868.3MHz
□ Occupied frequency band	868.0 - 868.6Mhz
□ Maximum transmission power	3dBm
□ Receiver category	Category 2
EnOcean Equipment Profiles (EEP) 868 & 902MHz[1]	
□ Allure ECW-Sensor	A5-02-05
□ Allure ECW-Sensor-O	A5-10-0C
□ Allure ECW-Sensor-S	A5-10-03
□ Allure ECW-Sensor-SO	A5-10-05
□ Allure ECW-Sensor-SOF	A5-10-01
Transmit Interval Time	1, 10, 100; Jumper selectable
□ Default	10
Wake-Up Cycle Time	1, 10, 100 seconds; Jumper selectable
□ Default	100 Seconds

For more information on jumper settings, refer to the Allure ECW-Sensor Series Installation Guide.

1. From EnOcean Equipment Profiles (EEP) V2.6, EnOcean GmbH

Specifications (cont'd)

Sensor Data

Temperature Sensor:

- Type — Pt1000 (1KΩ @ 0ºC; 32ºF)
- Sensor Range — 0°C to 40°C; 32°F to 104°F, linear
- Value Range — 255 to 0
- Accuracy — ±0.5°C; ±0.9°F
- Resolution — 8 Bit; 0.15°C; 0.27°F

Occupant Controls Data:

- Occupancy override — 1 Bit
- Setpoint adjustment — 8 Bit; Linear Potentiometer, 0 - 255
- Fan speed selection — 8 Bit; 5-positions:

Position	Value Range
Auto	210 to 255
Off	190 to 209
Fan Speed 1	165 to 189
Fan Speed 2	145 to 164
Fan Speed 3	0 to 144

Electromagnetic Compatibility

Allure ECW-Sensor 902MHz:

- FCC — Complies with FCC rules, part 15.231
- IC — RSS-210

Allure ECW-Sensor 868MHz:

CE - Directives — Electromagnetic Compatibility Directive 2004/108/EC
Radio and Telecommunications Terminal Equipment Directive R&TTE 1999/5/EC

- Standards Used — ETSI EN 301 489-1: V1.6.1
  ETSI EN 301 489-3: V1.4.1
  ETSI EN 50 731 : 2002
  ETSI EN 300 220-1: V2.1.1
  ETSI EN 300 220-2 : V2.1.2
- Recommendation — ERC Recommendation 70-03: 2009-02

Agency Approvals

UL Listed (CDN & US) — UL916 Energy management equipment
Other certifications — UKCA
Material — UL94V-1
All materials and manufacturing processes comply with the RoHS directive.

Dimensions