



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 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 in two options for 315MHz or 868MHz 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 tape.

Applications

- Precise temperature monitoring
- Facilitates the mounting of sensors and switches on hard materials, such as brick and stone
- Ideally suited for spaces that undergo frequent layout changes
- Allows occupant setpoint adjustment, fan speed selection, and system override initiation and status indication
- Perfect for all sites that run automated building control systems such as hospitals, hotel rooms, offices, and retail outlets

Features & Benefits

- Wireless communication, permitting you to:
 - Eliminate expenses for wiring plans, wire and conduit installations, and electrician fees
 - Optimize sensor placement to get the most accurate reading and achieve improved temperature control and occupant comfort
 - Easily relocate sensors and switches when room configurations or floor plans change
 - Preserve architecture and materials, avoiding drilling and opening walls
 - Adhere to project deadlines and budget
 - Avoid disturbances to tenants caused by noise and dust associated with installation work
- Energy harvesting, allowing you to:
 - Eliminate the use of batteries, thus eliminating maintenance
 - Reduce cable and wiring materials including copper and plastics
 - Preserve building envelope
- Slim, compact style and clean lines are well received by architects and building owners
- For people working outside of core hours, an occupancy control extends normal system operating hours for continued comfort while saving energy when possible
- Fan speed selection for improved personal comfort with ECW-Sensor-SOF model.
- Accurate temperature monitoring while some models have setpoint override for increased individual comfort
- Supports various mounting scenarios for flexibility: Install the Allure ECW-Sensor to any hard surface with double-sided tape, or attach it in place with screws
- Optional battery option available for installations where there is insufficient ambient light (such as in a plenum).

Product Warranty & Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards and carry a two-year warranty. Distech Controls is an ISO 9001 registered company.

Wireless Battery-less ECW-Sensor Models



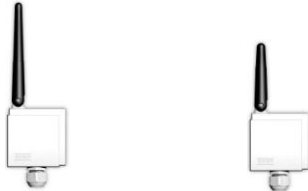
These wireless sensors are part of Distech Controls' Open-to-Wireless solution that reduces the cost of installation, and minimizes the impact on existing partition walls, when they are used with a compatible controller and a Wireless Receiver shown below.



Model	Allure ECW-Sensor	Allure ECW-Sensor-O	Allure ECW-Sensor-S	Allure ECW-Sensor-SO	Allure ECW-Sensor-SOF
Solar powered	■	■	■	■	■
Monitor space temperature	■	■	■	■	■
Occupancy override		■		■	■
Setpoint adjustment			■	■	■
Fan speed selector					■
Optional battery	■	■	■	■	■
Product Number (315MHz)	PDITE-WSEN315X0	PDITE-WSENO315X0	PDITE-WSENS315X0	PDITE-WSENSO315X0	PDITE-WSENSOF315X0
Product Number (868MHz)	PDITE-WSEN868X0	PDITE-WSENO868X0	PDITE-WSENS868X0	PDITE-WSENSO868X0	PDITE-WSENSOF868X0

Related Products

Wireless Receiver Models



Model	Wireless Receiver (315)	Wireless Receiver (868)
Frequency	315MHz	868.3MHz
Communication protocol	EnOcean	EnOcean
Product Number	PDITE-WIRE315XO	PDITE-WIMRE868XO

For more information on these or other Distech Controls products please refer to our web site at www.distech-controls.com or contact sales@distech-controls.com.

Optional Battery



07BAT-ER14250

For installations where there is insufficient ambient light or where the sensor is in prolonged darkness, an optional battery can be installed to provide energy for continued operation. Type LS14250; 1/2AA, Lithium 3.6V/1.1Ah; Operational lifespan: Approximately 5-10 years depending on ambient conditions.

Transmission Ranges

The main factors that influence the system transmission range are type and location of the antennas of the receiver and the transmitter, type of terrain and degree of obstruction of the link path, sources of interference affecting the receiver, and "Dead" spots caused by signal reflections from nearby conductive objects. Since the expected transmission range strongly depends on this system conditions, range tests should categorically be performed before notification of a particular range that will be attainable by a certain application.

The following figures for expected transmission range are considered by using an Allure ECW-Sensor and an Open-to-Wireless controller with a Wireless Receiver and may be used as a rough guide only:

- Line-of-sight connections: Typically 30m (98ft) range in corridors, up to 100m (328ft) in halls
- Plasterboard walls / dry wood: Typically 30m (98ft) range, through max. 5 walls
- Ferroconcrete walls / ceilings: Typically 10m (33ft) range, through max. 1 ceiling
- Fire-safety walls, elevator shafts, staircases and supply areas should be considered as screening.

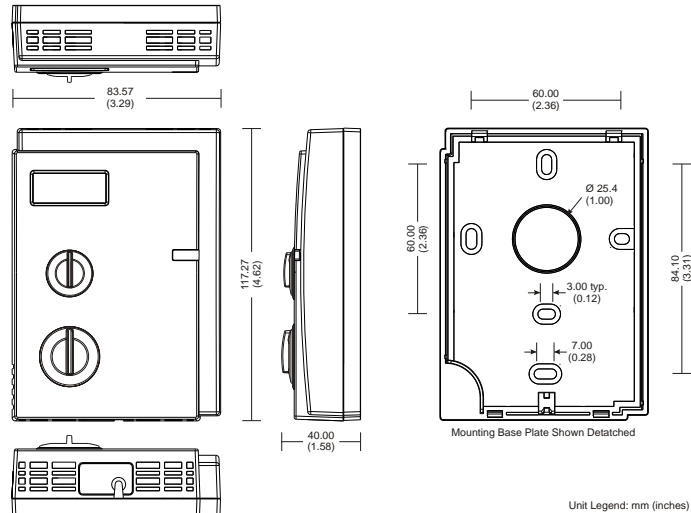
The angle at which the transmitted signal hits the wall is very important. The effective wall thickness – and with it the signal attenuation – varies according to this angle. Signals should be transmitted as directly as possible through the wall. Wall niches should be avoided. Other factors restricting transmission range:

- Switch mounted on metal surfaces (up to 30% loss of transmission range)
- Hollow lightweight walls filled with insulating wool on metal foil
- False ceilings with panels of metal or carbon fiber
- Lead glass or glass with metal coating, steel furniture

The distance between EnOcean receivers and other transmitting devices such as computers, audio and video equipment that also emit high-frequency signals should be at least 0.5m (1.6ft)

For more information about the EnOcean technology and Open-to-Wireless, refer to the Open-to-Wireless Solution Guide. For more information about the Wireless Receiver module, refer to the [Wireless Receiver Datasheet](#). These documents can be found on our web site at www.distech-controls.com.

Product Specifications



General

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

Environmental

Operating Temperature	5°C to 40°C; 41°F to 104°F
Storage Temperature	-20°C to 57°C; -4°F to 135°F
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	TBD 0.4lbs (0.18kg)
Installation	Double-sided foam tape Wall mounting through mounting holes (see figure above for hole positions)

Agency Approvals

UL Listed (CDN & US)	UL916 Energy management equipment
Material ¹	UL94V-1



Electromagnetic Compatibility

ECW-Sensor 315MHz	
- FCC	This device complies with FCC rules part 15.231
- IC	RSS-210
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



- All materials and manufacturing processes comply with the RoHS directive  and are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive .
- From EnOcean Equipment Profiles (EEP) V2.0, EnOcean GmbH.

Sensor Data

Temperature Sensor	
- Type	Pt1000 (1KΩ @ 0°C; 32°F)
- 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

Communications

Communication Protocol	EnOcean 4BS Telegram
Power Output	10mW
Communication Frequency	
- ECW-Sensor 315MHz	315MHz
- ECW-Sensor 868MHz	868.3MHz
EnOcean Communication ²	
	EEP:
- Allure ECW-Sensor	07-02-05
- Allure ECW-Sensor-O	07-10-03
- Allure ECW-Sensor-S	07-10-03
- Allure ECW-Sensor-SO	07-10-05
- Allure ECW-Sensor-SOF	07-10-01
- Manufacturer ID	0h009
Transmit Interval Time	1, 10, 100; Jumper selectable
- Default	10
Wake-Up Cycle Time	1, 10, 100 seconds; Jumper selectable
- Default	100 Seconds

Specifications subject to change without notice.

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Allure ECW-Sensor Series

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