

Wireless Environmental Sensor



ZW-CM



- ✓ Temperature, Humidity & Barometric Pressure
- ✓ Up to 5 Year Battery Life Using Low Cost Alkaline "AA" Batteries
- ✓ Time Stamping and Local Logging of All Measurements
- ✓ Flexible Power Management
- ✓ Compatible with ZW-REC Coordinators —No Special Software Required
- ✓ OEG Support Provides Email Alarming, Data Historian and OPC/UA, DA Support



ZW-CM shown smaller than actual size.

The compact ZW-CM provides assured monitoring and transmission of temperature, relative humidity and barometric pressure for environmental monitoring applications. The fully self-contained unit operates using two low-cost Alkaline "AA" batteries, requiring no external sensors or power and may be easily wall mounted in virtually any residential, industrial or commercial site. The ZW-CM seamlessly integrates with the Omega™ ZW SERIES wireless sensor system (ZW-REC and ZW-ED).

The ZW-CM uses an IEEE 802.15.4 compliant transmitter operating at 2.4 GHz designed to transmit up to 1000 m* (3280') to a ZW-REC coordinator. The ZW-REC connects directly to an Ethernet network to serve active web pages and display the data. You can monitor and record temperature, relative humidity, and barometric pressure over an Ethernet network with no special software—just your web browser.

The Omega™ ZW-Series wireless sensor system provides Web-based monitoring of temperature, humidity, barometric pressure and a wide range of process related devices in diverse industrial, laboratory, commercial and agricultural applications.

Omega™ offers a growing selection of end devices suitable for a variety of applications. Each end device supports up to four internal or external sensors. The ZW-ED Universal Sensor interface allows users to connect a variety of digital probes, 4-20 mA external sensors and discrete digital signals to measure pulse rate, width, delay and counter applications. The ZW-ED-A extends support to thermocouples, RTD's and process voltage/current devices. The UWxx end devices provide a convenient handheld device with a range of sensor inputs.

The ZW-CM compact wireless "End Devices" mount discretely to the wall in clean rooms, laboratories, museums, computer server rooms, warehouses and any facility requiring environmental monitoring. The device is powered by two "AA" 1.5V alkaline batteries with expected lifetimes of up to 5 years (1 transmission/hour).

The ZW family end devices transmit sensor information to a ZW-REC coordinator (receiver) that can directly support up to one hundred and twenty-eight (128) end devices. The ZW-REC may be powered from an AC adapter to operate on any voltage worldwide from 100 to 240 Vac and 50/60 Hz and connects directly to an Ethernet Network or the Internet.

The ZW-REC is an independent node with an embedded web server and allows sending and receiving data in standard TCP/IP packets.



It is easily configured from a Web Browser, can be password protected and offers encryption. From within an Ethernet LAN or over the Internet, the user just types the IP address (such as 192.168.1.200) or an easy to remember the name (such as "Warehouse 5" or "Chicago Lab") and the ZW-REC serves a Web Page with the current readings.

The ZW-REC is supported by the Omega Enterprise Gateway (OEG) which provides

a set of web-based data visualization, monitoring, alarming, data historian and email services.

The optional OEG OPC-UA/DA and MQTT software allow data from the ZW-CM to be integrated into enterprise network and cloud-based applications. The OPC Server enables the ZW wireless sensor system to be easily combined with many popular Data Acquisition and Automation programs offered by Omega, DasyLab, Wonderware, iConics,

Intellution, Rockwell Automation, and National Instruments, among others.

The ZW-CM is designed for residential, industrial or commercial indoor environments. Refer to the ZW-ED Universal sensor transmitter for demanding NEMA rated industrial applications.

** Without obstructions or interference.*

Specifications

Integrated Sensors: Temperature, Relative Humidity, Barometric Pressure

Warm-Up to Rated Accuracy: 30 minutes

Operating Environment: -18 to 55°C (-0.4 to 131°F), 90% RH non-condensing

PACKAGING

Enclosure Material: Polycarbonate

Enclosure Dimensions:
135.9 L x 82 W x 39 mm D
(5.35 x 3.23 x 1.56")

TEMPERATURE

Accuracy/Range*: $\pm 0.5^{\circ}\text{C}$ for 10 to 55°C ($\pm 0.9^{\circ}\text{F}$ for 50 to 131°F)
 $\pm 1^{\circ}\text{C}$ for -18 to 10°C ($\pm 1.8^{\circ}\text{F}$ for -0.4 to 50°F)

Resolution: 0.1°C

Repeatability: $\pm 0.1^{\circ}\text{C}$

Relative Humidity

Accuracy/Range:

3% (20% to 80%)

5% (5% to 95%)

Hysteresis: $\pm 1\%$ RH

Non-linearity: $\pm 3\%$

Repeatability: $\pm 0.1\%$

Resolution: 0.1%

BAROMETRIC PRESSURE

Accuracy/Range: ± 4 mbar (300 - 1100 mbar)

Resolution: 0.1 mbar

WIRELESS COMMUNICATION

Standard: IEEE 802.15.4, DSSS

Frequency: 2.4 GHz (2400 to 2483.5 MHz), 16 channels

Network Topology: Star Topology

Range: Up to 300 m (1000') without obstructions or interference

POWER

Alkaline Battery: Two AA-cell 1.5 Vdc, supplied

Lifetime: Estimate 4 years with frequency of 1 reading per minutes

GENERAL

Approvals: CE, FCC: Part 15C, ECCN 5A992, EMC 2014/30/EU, LVD 2014/35/EU, RED 2014/53/EU

Software: OEG

Battery Life

Transmission Rate (Sec)	Battery Life (Days)	Months	Years	Frequency
1	25	1	0.1	Transmit every 1 second
10	247	8	1	Transmit every 10 seconds
60	1395	47	4	Transmit every 1 minute
120	2609	87	7	Transmit every 2 minutes
300	5455	182	15	Transmit every 5 minutes

To Order

Model No.	Description
ZW-CM-TH	Wireless temperature and humidity sensor
ZW-CM-BTH	Wireless temperature, humidity and barometric pressure sensor

Note: A complete wireless system requires at least: one (1) End Device (ZW-CM) and one (1) Coordinator/Receiver (ZW-REC).