Compact Wireless Sensor System

The OMEGA® zSeries wireless sensor system provides Web-based monitoring of temperature, humidity, and barometric pressure in critical HVAC and refrigeration applications. The compact wireless “End Devices” mount discretely on the wall in clean rooms, laboratories, museums, computer server rooms, warehouses, and any remote facility. The wireless End Devices are powered by two “AA” 1.5V alkaline batteries (included). The End Devices transmit up to 91 m (300') (without obstructions or interference) to a “Coordinator” connected directly to an Ethernet network and the Internet. The wireless system complies with IEEE 802.15.4 operating at 2.4 GHz. The OMEGA zSeries system let’s you monitor and record temperature, relative humidity, and barometric pressure over an Ethernet network or the Internet without any special software-just your Web Browser.

OMEGA offers a selection of End Devices for a variety of applications. Each End Device supports 1, 2 or 3 internal sensors. If you need an external probe for your application, check out the zED-P Series.

The Coordinator connects directly to an Ethernet Network or the Internet. Unlike an RS232 or USB device, it does not require a host computer.

✓ Barometric Pressure
✓ Alarms by Email and Text Message
✓ Web Server
✓ Compatible with zSeries Long Range End Devices
✓ No Special Software Required

Each zSeries Coordinator can directly support up to 32 end devices. The Coordinators include AC adaptors to operate on any voltage worldwide from 100 to 240 Vac and 50 to 60 Hz.
The OMEGA zSeries system serves Active Web Pages to display real time readings and charts of temperature, humidity, and barometric pressure. You can also log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic. OMEGA offers a free and easy to use program for logging data to Excel.

The virtual chart viewed on the web page is a JAVA™ Applet that records a chart over the LAN or Internet in real time. With the OMEGA zSeries system there is no need to invest time and money learning a proprietary software program to log or chart the data. Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year.

Temperature and humidity can be charted across the full span (-40 to 125°C, and 0 to 100% RH) or within any narrow range such as (20 to 30°C).

The device can trigger an alarm if variables go above or below a set point that you determine. Your alarm can be sent by email to a single user or to a group distribution list, including text messages to Internet enabled cell phones and PDA’s. The OMEGA “Mail Notifier” software is a free and easy program for this application.

The OMEGA zSeries wireless sensor system is easy to install, simple to operate, and features OMEGA’s award-winning iServer technology with an Embedded Web Server that requires no special software.

OMEGA offers an OPC Server software that makes it easy to integrate the zSeries wireless sensor system with many popular Data Acquisition and Automation programs offered by OMEGA, Wonderware, iConics, Intellution, Rockwell Automation, and National Instruments, among others.
SPECIFICATIONS

SENSOR SPECIFICATIONS (ZED)

Relative Humidity
Accuracy/Range zED-BTH, zED-TH:
±2% for 10 to 90%; ±3% for 0 to 10% and 90 to 100%
Hysteresis: ±1% RH
Non-linearity: ±3%
Repeatable: ±0.1%
Resolution: 0.1%

Temperature
Accuracy/Range
zED-T
±0.5°C for 10 to 55°C (±0.9°F for 50 to 131°F)
±1°C for -18 to 10°C (±1.8°F for -4 to 50°F)
Accuracy/Range
zED-BTH, zED-TH
±0.5°C for 0 to 45°C (±0.9°F for 32 to 113°F)
±1°C for -18 to 0°C and 45 to 55°C (±1.8°F for
-0.4 to 32°F and 113 to 131°F)
zED-BT:
±0.8°C @ 20°C (±1.5°F @ 68°F)
±2°C for -18 to 55°C (±3.6°F for -0.4 to 131°F)
Repeatable: ±0.1°C for zED-BTH, zED-TH, -THP
Resolution: 0.1°C

Barometric Pressure
Accuracy/Range zED-BTH:
±2 mbar for 10 mbar to 1100 mbar (1 KPa to 110 KPa)
Resolution: 0.1 mbar

Interface (zCDR)
Ethernet: 10Base-T (RJ45)
Supported Protocols: TCP/IP, ARP, ICMP, DHCP,
DNS, HTTP, and Telnet
LED Indicators: Network Activity, Network Link,
Diagnostics, Receive and Power
Management: Device configuration and monitoring
through embedded WEB server
Embedded WEB Server: Serves WEB pages
(JAVA™ Applets) containing real-time data and
live updated charts within definable time intervals

Power
(zCDR):
Power Input: 9 to 12 Vdc
Consumption: 2.5 W max
Safety Qualified AC Power Adaptor: Included
Nominal Output: 9 Vdc @ 0.5 A
Input: 100 to 240 Vac, 50/60 Hz
Power Adaptor Operating Temperature:
0 to 40°C (32 to 104°F)
(zED):
Alkaline Battery: Two 1.5 Vdc (included)
Lifetime: Estimate of 2 years
with frequency of 1 reading per 2 minutes

Wireless Communication
Protocol: IEEE 802.15.4
Frequency: 2.4 GHz (2400 to 2483.5 MHz), DSSS, 16 channels
Network Topology: Star Topology
Range: Up to 91 m (300') without obstructions or interference

Environment
Operating Temperature:
zED: -18 to 55°C (-0.4 to 131°F)
zCDR: 0 to 70°C (32 to 158°F) 90% RH non-condensing
Storage Temperature: -40 to 125°C (-40 to 257°F)
Packaging: See diagrams on next page

General
Agency Approval: FCC Part 15C; CE EMC; 2004/108/EC,
LVD 2006/95/EC, RTT&E 1999/5/EC, SRRC
Software: iConnect (configuration software for the Ethernet
interface), iLog (Excel-based software for automatic data
logging), and Mail Notifier (email alarm notification software)
A complete wireless system requires at least: 1 end device (zED-x, zED-x-P, zED-x-LCD, zED-x-DC, or zED-x-CCELL) and 1 coordinator or meter/controller receiver (zCDR)

To Order

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>zCDR</td>
<td>Coordinator, which can support up to 32 end devices (any zED type except zED-VI)</td>
</tr>
<tr>
<td>zED-T</td>
<td>End device unit with internal temperature sensor</td>
</tr>
<tr>
<td>zED-TH</td>
<td>End device unit with internal temperature and humidity sensor</td>
</tr>
<tr>
<td>zED-BT</td>
<td>End device unit with internal barometric pressure and temperature sensor</td>
</tr>
<tr>
<td>zED-BTH</td>
<td>End device unit with internal barometric pressure, temperature and humidity sensor</td>
</tr>
</tbody>
</table>

Calibration

| CAL-3-HU      | NIST-traceable calibration certificate; 3 humidity points: 25%, 50%, 75%, one temperature point: 25°C (for new units) |
| CAL-3-HU-P-T  | NIST-traceable calibration certificate; 3 humidity, barometric pressure, and temperature points (for new units) |
| CAL-3-P       | NIST-traceable calibration certificate; 3 barometric pressure points, temperature 25°C (for new units) |
| CAL-3-T       | NIST-traceable calibration certificate; 3 temperature points (for new units) |
| CT485B-CAL-KIT | Calibration kit, 33% and 75% RH standards |

Note: Because of transmission frequency regulations, these products may only be used in the US, Canada, Europe and China. Other sensor combinations available, contact our Sales Department for more information. Comes complete with software and operator’s manual. For MIL Spec cable add suffix “-ET”.

Dimensions: mm (inch)