COMPACT WIRELESS SENSOR SYSTEM

CHART
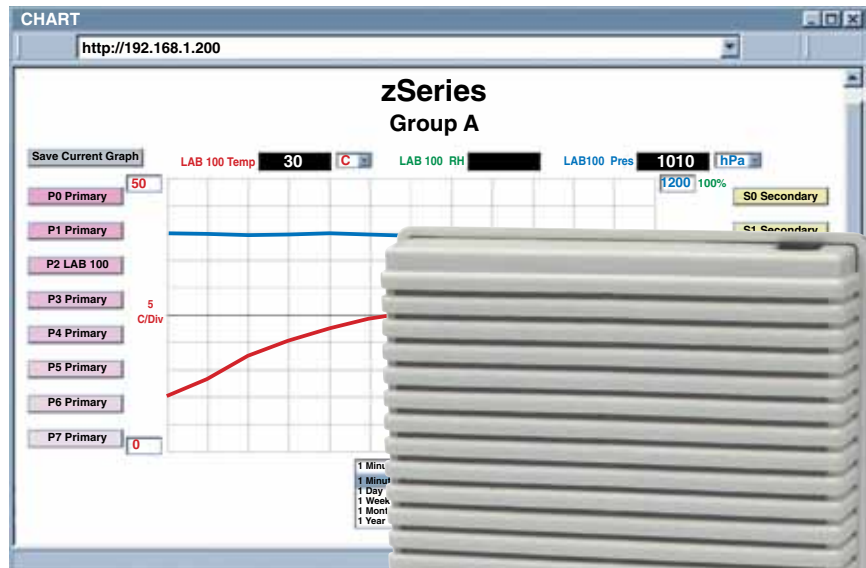
http://192.168.1.200

zSeries
Group A

Save Current Graph

LAB 100 Temp **30** C

LAB 100 RH

LAB100 Pres **1010** hPa

50

1200 100%

P0 Primary

S0 Secondary

P1 Primary

S1 Secondary

P2 LAB 100

5
C/Div

P3 Primary

P4 Primary

P5 Primary

P6 Primary

P7 Primary

0

1 Minu
1 Minu
1 Day
1 Week
1 Mont
1 Year

zED-T, includes two
"AA" 1.5V alkaline batteries,
shown smaller than actual size.

zSeries

1 YEAR WARRANTY CE ! **NIST**
Optional

- ✔ **Temperature**
- ✔ **Humidity**
- ✔ **Barometric Pressure**
- ✔ **Alarms by Email and Text Message**
- ✔ **Web Server**
- ✔ **Compatible with zSeries High-Power End Devices**
- ✔ **No Special Software Required**

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.

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

zCDR/Coordinator

zCDR shown smaller than actual size. For more information, visit us online.
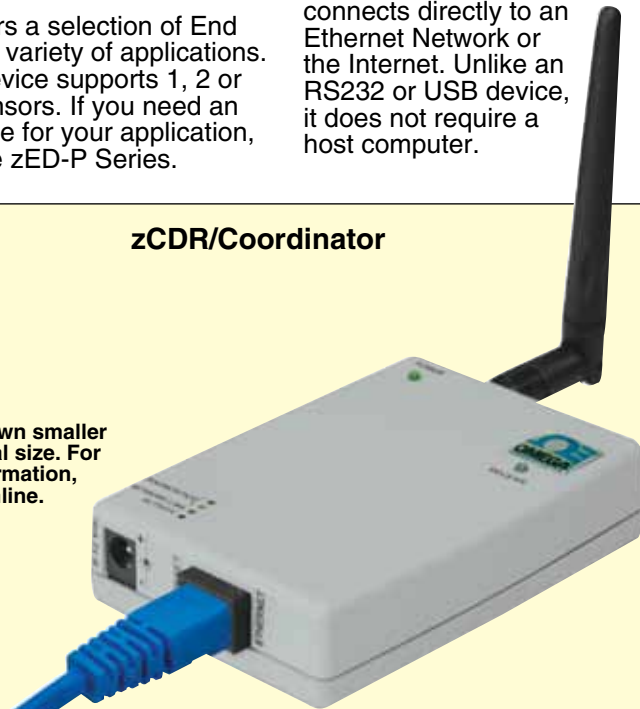
**zED-TC-LCD-DC-H2
shown smaller than
actual size.**

High Power End Devices Available
- Temperature
- Barometric Pressure
- Humidity
- Dual Thermocouple
- Analog Voltage or Current

The zSeries Coordinator is an independent node on the network sending and receiving data in standard TCP/IP packets. It is easily configured from a Web Browser and can be password protected. From within an Ethernet LAN or over the Internet, the user simply types the IP address (such as 192.168.1.200) or an easy to remember name (such as "Warehouse 5" or "Chicago Lab") and the Coordinator serves a Web Page with the current readings.

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 i®Server technology with an Embedded Web Server that requires no special software.
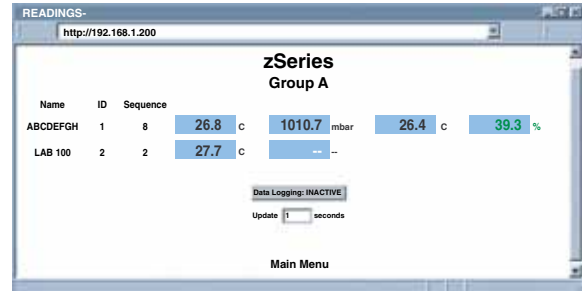
The OMEGA zSeries system serves Active Web Pages to display real time readings and charts of temperature, humidity, and barometric pressure. You can also log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic. OMEGA offers a free and easy 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.
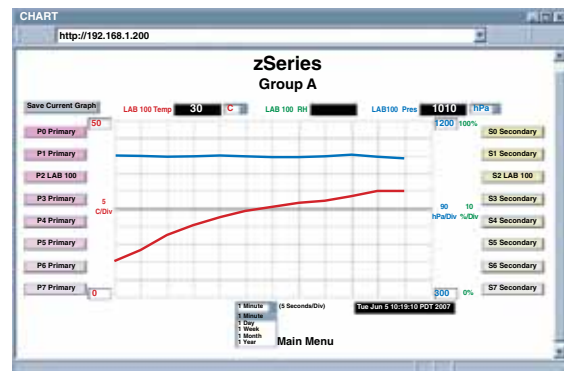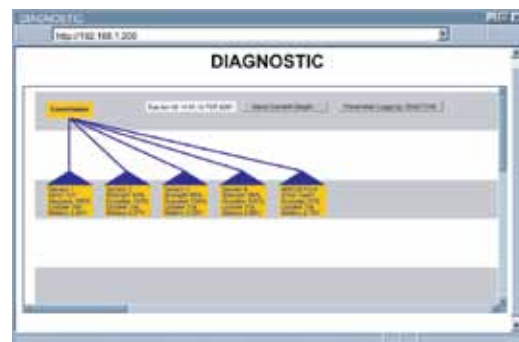

Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year. Temperature and humidity can be charted across the full span (-40 to 125°C, and 0 to 100% RH) or within any narrow range such as (20 to 30°C).

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.

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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%
Repeatability: ±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 -0.4 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)
Repeatability: ±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

zED-T shown smaller than actual size.
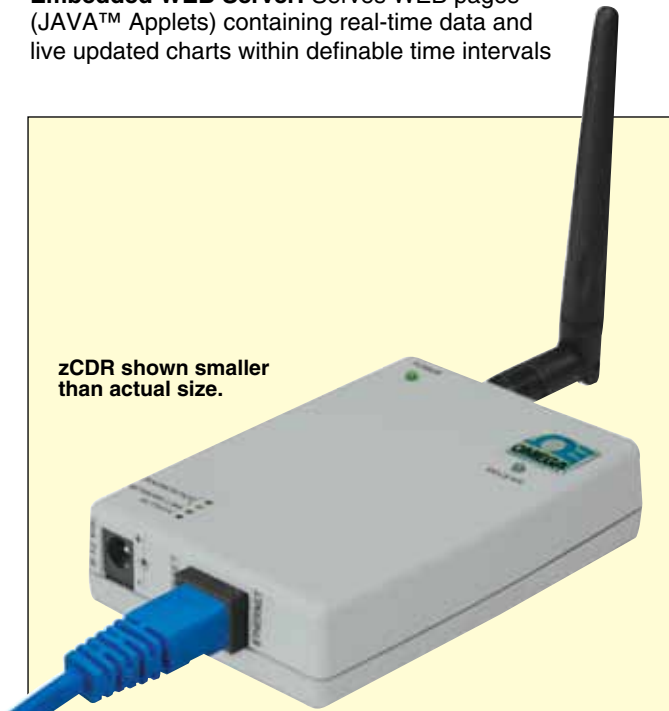
Power
(zCDR):
  Power Input: 9 to 12 Vdc
  Consumption: 2.5 W max
  Safety Qualified AC Power Adaptor: Included
  Nominal Output: 9 Vdc @ 0.5 A
  Input: 100 to 240 Vac, 50/60 Hz
  Power Adaptor Operating Temperature:
  0 to 40°C (32 to 104°F)
(zED):
  Alkaline Battery: Two 1.5 Vdc (included)
  Lifetime: 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)

zCDR shown smaller than actual size.

Safety qualified universal AC power adaptor included with zCDR coordinator.

Dimensions: mm (inch)

zED - End Device

Material: Valox® Plastic Case with Wall Mount

Optional External Sensor

91.8 (3.61)

23.8 (0.94)

64.5 (2.54)

zCDR - Coordinator

Material: Metal Case with Wall Mount Bracket

107.7 (4.24)

90.3 (3.56)

POWER

RECEIVE

DIAGNOSTICS
NETWORK LINK
ACTIVITY
COORDINATOR

23.6 (0.93)

61.6 (2.42)

108 [4.3]

93.1 [3.67]

POWER

RECEIVE

DIAGNOSTICS
NETWORK LINK
ACTIVITY
COORDINATOR

Ethernet

66.0 [2.60]

27.4 [1.08]

zCDR - Coordinator

Material: Plastic Case with Wall Mount Bracket

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

Model No.	Description
zCDR	Coordinator, which can support up to 32 end devices (any zED type except zED-VI)
zED-T	End device unit with internal temperature sensor
zED-TH	End device unit with internal temperature and humidity sensor
zED-BT	End device unit with internal barometric pressure and temperature sensor
zED-BTH	End device unit with internal barometric pressure, temperature and humidity sensor
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".