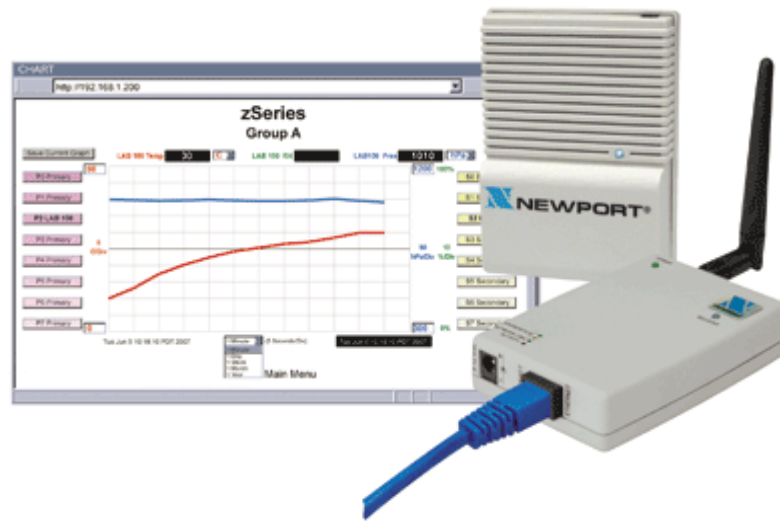




Wireless Sensor System



Features

- ✓ Temperature
- ✓ Humidity
- ✓ Barometric Pressure
- ✓ Alarms by Email or Text Message
- ✓ Web Server
- ✓ Compatible with wiSeries High-Power End Devices and Meter-Scanner-Controller Receivers
- ✓ No Special Software Required



The new **NEWPORT® 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 1.5 volt alkaline batteries (included) that are inexpensive and widely available.

The End Devices transmit up to 300 feet (without obstructions or interferences) 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 NEWPORT 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.

NEWPORT offers a selection of End Devices for a variety of applications. Each End Device supports one or two sensors. End Devices are available with built-in sensors, with external sensor probes, and with both built-in and external sensors.



The external sensors are designed for harsh environments such as outdoor weather, in HVAC ducts, in freezers and refrigerators. For example, you can select one End Device that has one internal and one external sensor to monitor temperature and humidity both inside and outside a climate-controlled facility.



Each Coordinator can directly support up to thirty-two (32) End Devices. The Newport wireless Coordinators include [Adapters](#) to operate on any voltage worldwide from 100 to 240 Vac and 50/60Hz. The zSeries Coordinator connects directly to an Ethernet Network or the Internet. Unlike an RS232 or USB device, it does not require a host computer.

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 cell phones. The Newport "Mail Notifier" software is a free and easy program for this application.

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

The NEWPORT 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. NEWPORT 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 NEWPORT zSeries system there is no need to invest time and money learning a proprietary software program to log or chart the data.

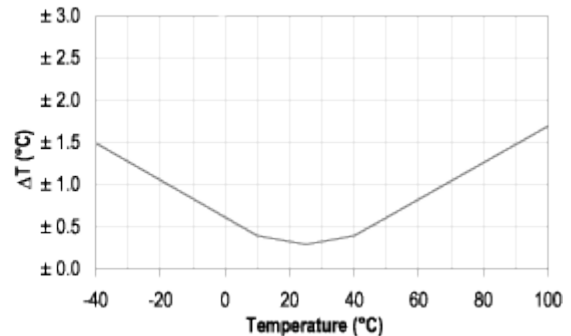
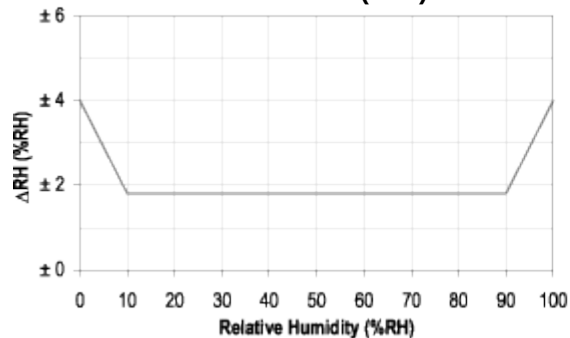
Chart scales are fully adjustable on the fly. For example, the chart can display one minute, one hour, one day, one week, one month or one year. Temperature and humidity can be charted across the full span (-40 to 125°C, and 0 to 100% RH) or within any narrow range such as (20 to 30°C).

NEWPORT offers an OPC Server software (\$295) 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)



TEMPERATURE

Accuracy/Range*:

zED-T (internal sensor)

$\pm 0.5^{\circ}\text{C}$ 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)

-TP1, -TP2 (external sensor)

$\pm 0.5^{\circ}\text{C}$ for 10° to 85°C ($\pm 0.9^{\circ}\text{F}$ for 50° to 185°F)

$\pm 1^{\circ}\text{C}$ for -40° to 10°C and 85° to 125°C

($\pm 1.8^{\circ}\text{F}$ for -40° to 50°F and 185° to 257°F)

Accuracy/Range*:

zED-BTH, zED-TH (internal sensor)

$\pm 0.5^{\circ}\text{C}$ for 0°C to 45°C ($\pm 0.9^{\circ}\text{F}$ for 32° to 131°F)

$\pm 1^{\circ}\text{C}$ for -18° to 0°C and 45° to 55°C

($\pm 1.8^{\circ}\text{F}$ for -0.4° to 32°F and 113° to 131°F)

-THP (external sensor)

$\pm 0.5^{\circ}\text{C}$ for 5°C to 45°C ($\pm 0.9^{\circ}\text{F}$ for 41° to 113°F)

up to $\pm 1^{\circ}\text{C}$ for -40° to 5°C and 45° to 124°C

(up to $\pm 2.7^{\circ}\text{F}$ for -40° to 41°F and 113° to 255°F)



RELATIVE HUMIDITY

Accuracy/Range:

zED-BTH, zED-TH, -THP

Refer to Chart

Accuracy/Range*:

zED-BT (internal sensor)

±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)

-BTP (external sensor)

±0.8°C @ 20°C (±1.5°F @ 68°F)

±2°C for -40° to 85°C (±3.6°F for -40° to 185 °F)

***Note:** extended temperature ranges are for External Probes only, the End Device's operating temperature is -18 to 55°C (-0.4 to 131°F)

Resolution: 0.1°C

Repeatability: ±0.1°C, for zED-BTH, zED-TH, -THP

±2% for 10 to 90%;

±3% for 5 to 10% and 90 to 95%;

±4% for 0 to 5% and 95 to 100%

Hysteresis: ±1% RH

Non-linearity: ±3%

Repeatability: ±0.1%

Resolution: 0.1%

BAROMETRIC PRESSURE

Accuracy/Range:

zED-BTH, zED-BT, -BTP

±2 mbar for 10 mbar to 1100 mbar

(1 KPa to 110 KPa)

Resolution: 0.1 mbar

EXTERNAL PROBE SPECIFICATIONS (zED)

Industrial Probe:

SS housing, 137mm x Ø16mm (5" x Ø 0.63") for zED-xx-BTP, zED-xx-THP

Stick Probe:

ABS tubing, 152.4 mm x Ø6.35 mm (6" x Ø 0.25") for zED-xx-TP1

Lug Mounted Probe:

Copper tubing, 53.4 mm x Ø 7.92mm (2.1" x Ø 0.312"); mounting hole Ø 4.72mm (Ø 0.186") for zED-xx-TP2

Cable: 3 m (10') long x Ø 5.72mm (0.225")

Standard Cable Operating Temp: -40° to 125°C (-40° to 257°F) for zED-xx-TP1, -TP2, -THP;

-55° to 105°C (-67° to 221°F) for zED-xx-BTP

Optional MIL Spec Cable (-ET): Ø 2.62mm (0.103") -80° to 200°C (-112° to 392 °F)

INTERFACE SPECIFICATIONS (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 ([Fig.1](#))

Embedded WEB Server: Serves WEB pages (JAVA™ Applets) containing real-time data ([Fig. 2](#)) and live updated charts within definable time intervals ([Fig. 3](#)).

POWER (zCDR)

Power Input: 9 to 12 Vdc

Consumption: 2.5 W max

Safety Qualified ac Power Adapter (included)

Nominal Output: 9 Vdc @ 0.5 A

Input: 100 to 240 Vac, 50/60 Hz

Power Adapter Operating Temp: 0° to 40°C (32° to 104°F)

POWER (zED)

Alkaline Battery: two 1.5 Vdc, supplied

Lifetime: Estimate of 2 years with frequency of 1 reading per 2 minutes

WIRELESS COMMUNICATION

Standard: IEEE 802.15.4, DSSS

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

Network Topology: Star Topology

Range: Up to 91 m (300 ft) without obstructions or interference

ENVIRONMENT

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



Universal ac Power Adapter

Operating Temperature (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 mechanical section

GENERAL

Approvals:

FCC: Part 15C.

CE: EMC 2004/108/EC, LVD 2006/95/EC, R&TTE 1999/5/EC.

Software:

The software packages available for the zSeries wireless system are **iConnect** (configuration software for the Ethernet interface), **iLog** (Excel-based software for automatic data logging [Fig. 4](#) and [Fig. 5](#)), and **Mail Notifier** (email alarm notification software).

zSeries Web Server - Screen Shots

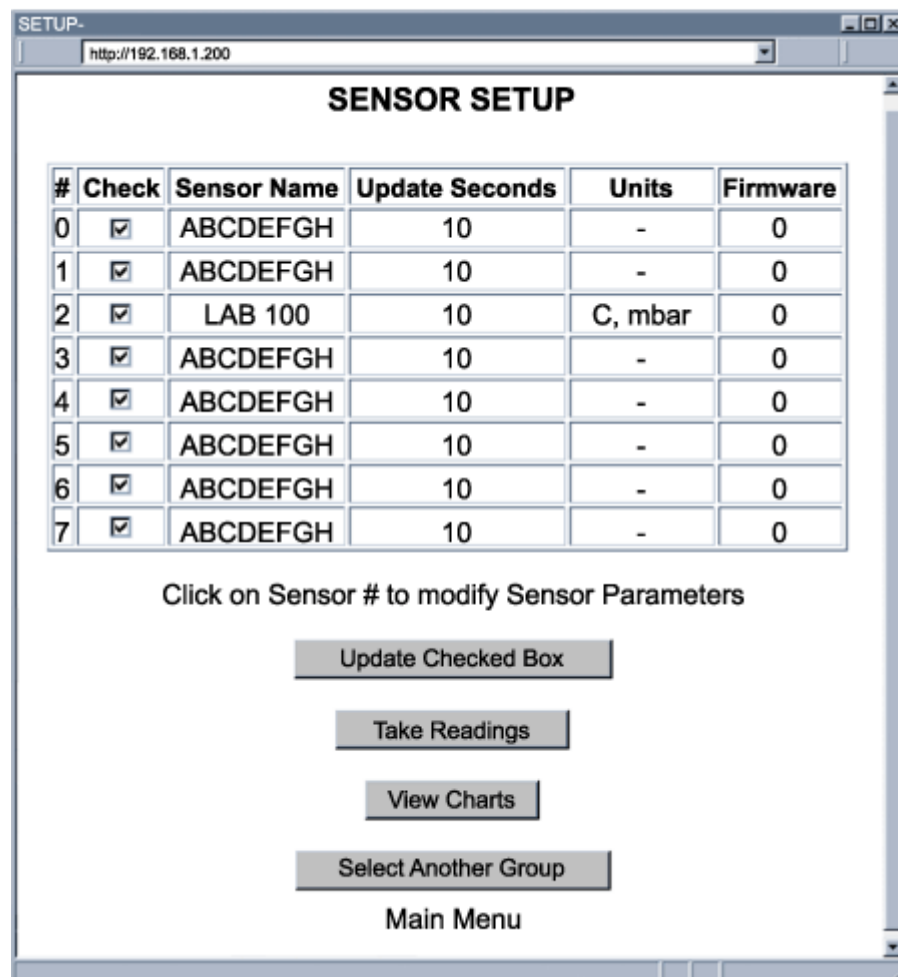


Fig. 1 - Sensor configuration through embedded WEB server

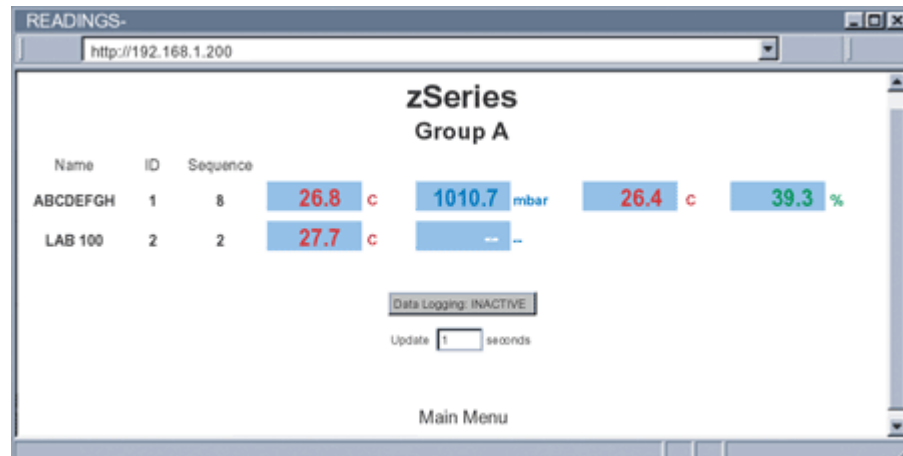


Fig. 2- WEB page displaying data received from the sensor

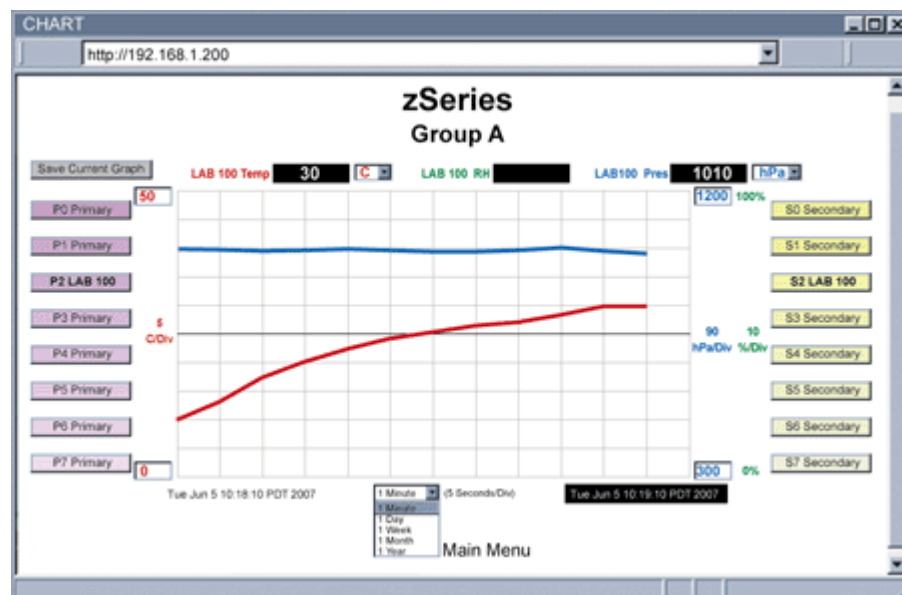


Fig. 3- WEB page displaying the graph of the received data

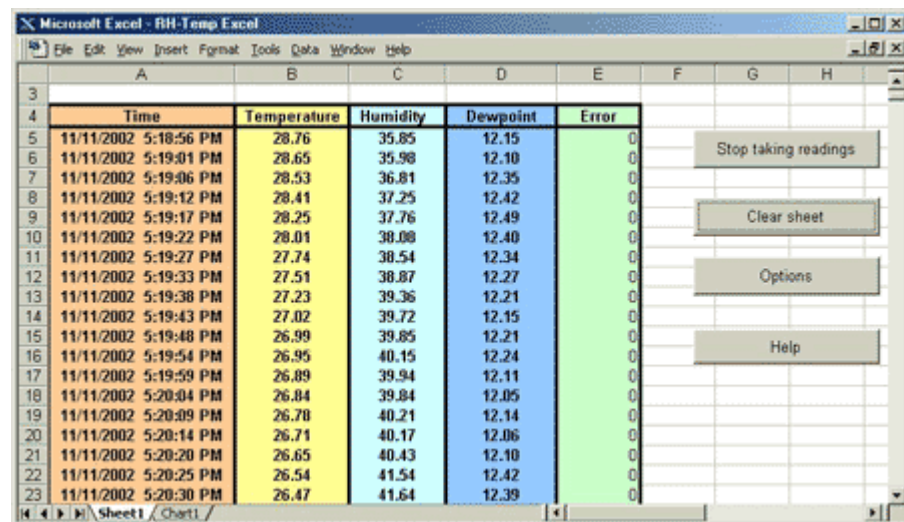


Fig. 4 – iLOG Excel program logging the data sent by the zSeries

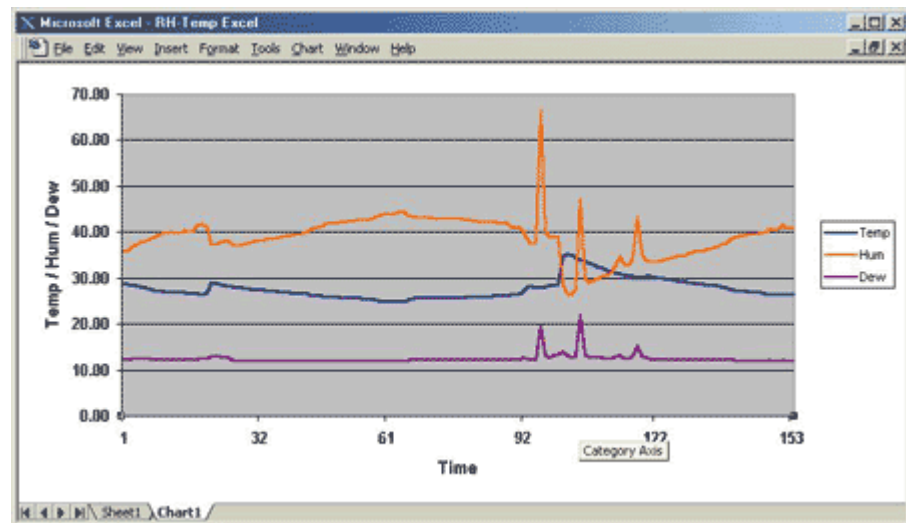


Fig. 5 – iLOG Excel program sketching the data sent by the zSeries

Mechanical Dimensions - Coordinator and Compact End Device

DOWNLOAD CAD FILES

A WEB FORMAT

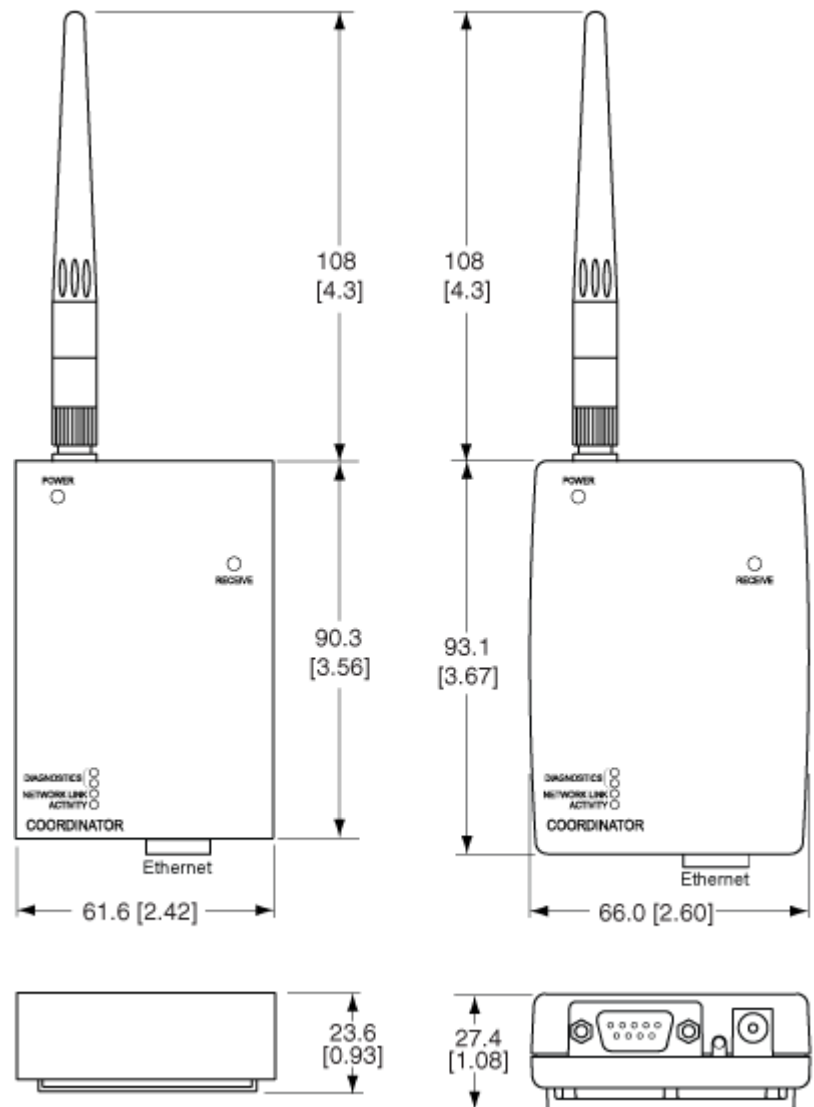
AUTOCAD 2000

[zCDR](#)

[zCDR](#)

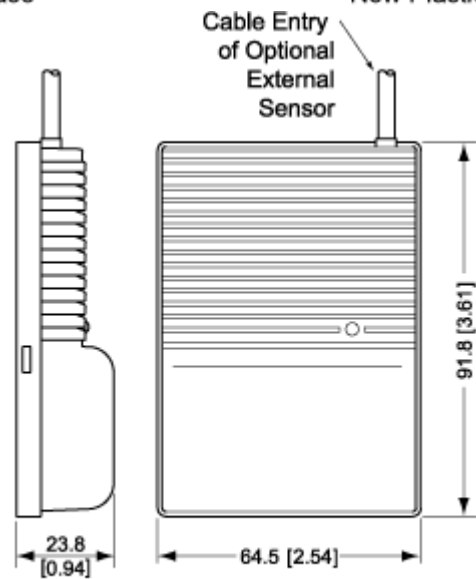
[zED](#)

[zED](#)



Steel Case

New Plastic (Valox) Case

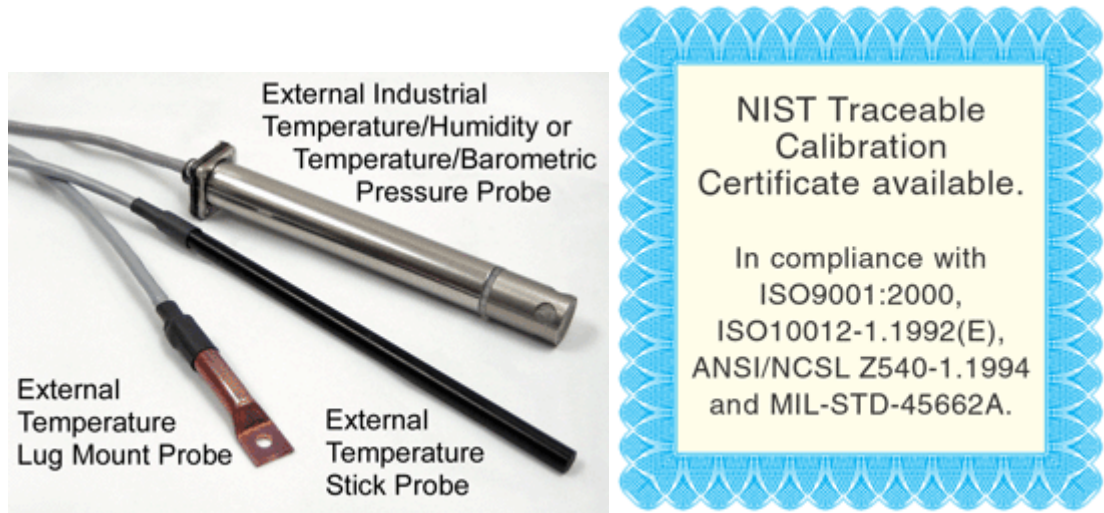


Compact zED End Device

Material: Valox Plastic Case with Wall Mount

Replacement Probes and Calibration Certificates

No need to take your unit out of service to get re-calibrated, order a calibrated probe instead.



Get a NIST Traceable Calibration Certificate with your Calibrated Replacement Probe. A complete wireless system requires one Coordinator (zCDR) and at least one (1) End Device (zED-*) Compact Commercial enclosure or High-Power NEMA 4 type (zED-*-P, zED-*-LCD, zED-*-CELL).

Part Number	Description
zED-T	End device unit with internal temperature sensor
zED-T-TP1	End device unit with internal temperature sensor and external temperature sensor with stick probe
zED-T-TP2	End device unit with internal temperature sensor and external temperature sensor with lug mount probe
zED-TH	End device unit with internal temperature and humidity sensor
zED-TH-THP	End device unit with internal and external temperature and humidity sensor
zED-THP	End device unit with external 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
zED-B-THP	End device unit with internal barometric pressure sensor, external temperature and humidity sensor
zED-BT-BTP	End device unit with internal barometric pressure and temperature sensor and external barometric pressure and temperature sensor industrial probe
zED-TP1-P	Wireless temperature sensor with stick probe
zED-TP2-P	Wireless temperature sensor with lug mount probe
zED-THP-P	Wireless temperature and humidity sensor
zED-BTHP-P	Wireless barometric pressure, temp and humidity sensor

zED-BTP-P	Wireless barometric pressure and temperature sensor
zED-TC-P	Wireless Dual thermocouple input
zED-VI-P	Wireless Analog input
zED-TP1-LCD	Temperature sensor with stick probe
zED-TP2-LCD	Temperature sensor with lug mount
zED-TP1-LCD-AA	Temperature sensor with stick probe, two AA alkaline batteries
zED-TP2-LCD-AA	Temperature sensor with lug mount, two AA alkaline batteries
zED-TP1-CCELL	Temperature sensor with stick probe, two C-cell alkaline batteries
zED-TP2-CCELL	Temperature sensor with lug mount probe, two C-cell alkaline batteries
zED-THP2-LCD-AA-H	Temperature and humidity sensor, two AA alkaline batteries, with LCD display
zED-THP2-CCELL-H	Temperature and humidity sensor, two C-cell alkaline batteries
zCDR	Coordinator, which can support up to 32 analog input end devices
zCDR-VI	Coordinator, which can support up to 32 analog input end devices
wi822-ZT	Meter/controller, supports up to 8 temperature end devices, with two solid state relays (SSR): 0.5A @ 120/240Vac continuous
wi833-ZT	Meter/controller, supports up to 8 temperature end devices, with two relays: form "C" SPDT 3A @ 120Vac, 3A @ 240Vac
wi844-ZT	Meter/controller, supports up to 8 temperature end devices, with two pulsed 10 Vdc @ 20ma (for use with external SSR)
wiDR33-ZT	DIN rail monitor/controller, supports up to 8 temperature end devices, with two relays: form "C" SPDT 3A @ 120Vac, 3A @ 240Vac
wiDR44-ZT-DC	DIN rail monitor/controller, supports up to 8 temperature end devices with 2 pulsed 10 Vdc @ 20 mA (for use with external SSR). Low voltage power option: 12 to 36Vdc or 24Vac.