

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 that are inexpensive and widely available.

The End Devices transmit up to 300 feet (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 2.4GHz.

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.

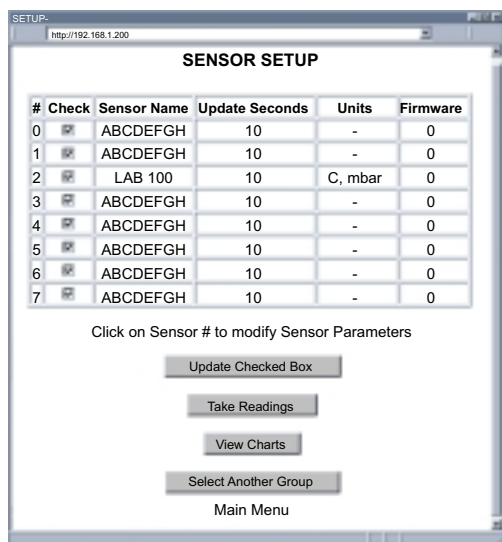
- **Temperature**
- **Humidity**
- **Barometric Pressure**
- **Email Alarms**
- **Web Server**
- **No Special Software Required**



**\$95**  
zED-T

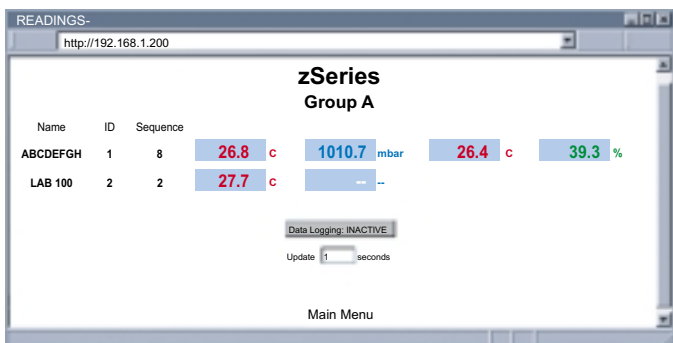
Each zSeries Coordinator can directly support up to thirty-two (32) End Devices. The Coordinators include AC adapters to operate on any voltage worldwide from 100-240 Vac and 50-60Hz. The Coordinator connects directly to an Ethernet Network or the Internet. Unlike an RS232 or USB device, it does not 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.

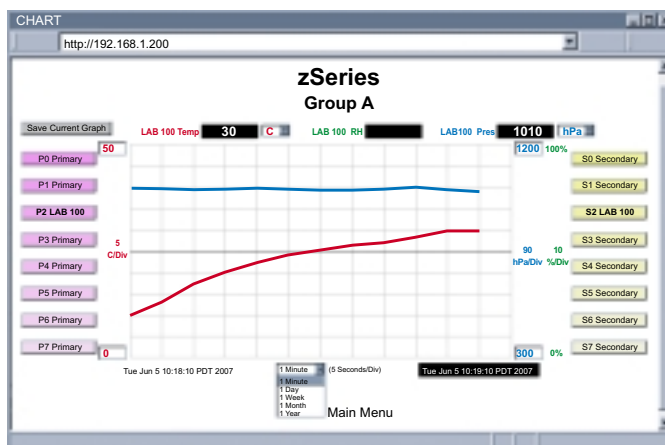


The device can trigger an alarm if variables go above or below a set point that you determine. Your alarm can be sent by email to a single user or to a group distribution list, including text messages to Internet enabled cell phones and PDA's. The NEWPORT "Mail Notifier" software is a free and easy program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

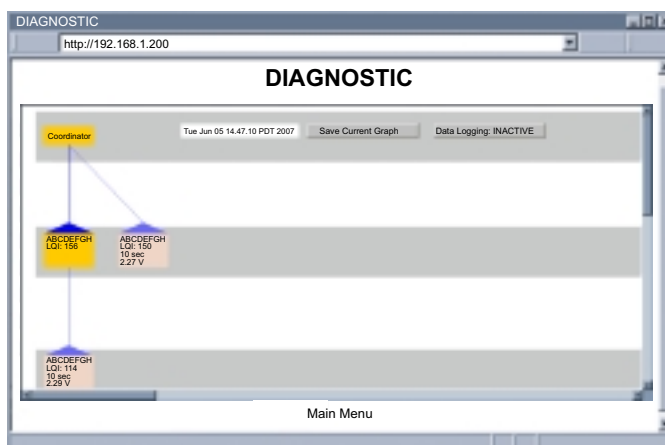


The NEWPORT zSeries system serves Active Web Pages to display real time readings and charts of temperature, humidity, and barometric pressure. You can also log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic. NEWPORT offers a free and easy 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.

## PRELIMINARY SPECIFICATIONS

### SENSOR SPECIFICATIONS (zED)

#### RELATIVE HUMIDITY

**Accuracy/Range:** zED-BTH, zED-TH, -THP  
±2% for 10 to 90%; ±3% for 0 to 10% and 90 to 100%  
**Hysteresis:** ±1% RH  
**Non-linearity:** ±3%  
**Repeatability:** ±0.1°C  
**Resolution:** 0.03%, 12 bit

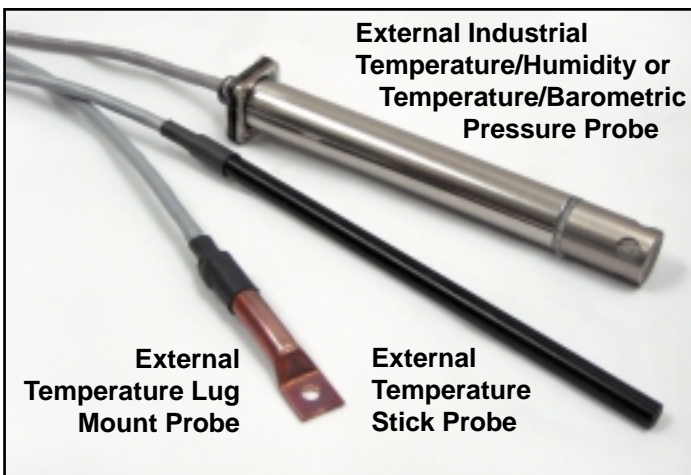
#### TEMPERATURE

**Accuracy/Range\*:**  
**zED-T (internal sensor)**  
±0.5°C for 10° to 55°C (±0.9°F for 50° to 131°F)  
±1°C for -18° to 55°C (±1.8°F for -0.4° to 131°F)  
**-TP1, -TP2 (external sensor)**  
±0.5°C for 10° to 85°C (±0.9°F for 50° to 185°F)  
±1°C for -40° to 125°C (±1.8°F for -104° to 257°F)

**Accuracy/Range\*:**  
**zED-BTH, zED-TH (internal sensor)**  
±0.5°C for 0°C to 55°C (±0.9°F for 32° to 131°F).  
±1°C for -18° to 0°C (±1.8°F for -0.4° to 32°F)  
**-THP (external sensor)**  
±0.5°C for 0°C to 80°C (±0.9°F for 32° to 176°F).  
±1°C for -18° to 0°C and 80° to 124°C  
(±1.8°F for -0.4° to 32°F and 176° to 255°F)

**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 125°C (±3.6°F for -40° to 257°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)  
**Repeatability:** ±0.1°C  
**Resolution:** 0.01°C, 14 bit for  
**zED-BT, zED-BTH, zED-TH, -THP, -BTP**  
**Resolution:** 0.0625°C, 12 bit for **zED-T, -TP1, -TP2**



### BAROMETRIC PRESSURE

**Accuracy/Range:** zED-BTH, zED-BT, -BTP  
±2 mbar for 0 mbar to 1100 mbar (0 KPa to 110 KPa)  
**Resolution:** 0.1 mbar

### EXTERNAL PROBE SPECIFICATIONS (zED)

**Industrial Probe:** SS 316 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:** 6.1m (20') long  
**Cable Operating Temp.:** -40° to 125°C (-40° to 257°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, Transmit 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:** 100-240 Vac, 50/60 Hz  
**Nominal Output:** 9 Vdc @ 0.5 A  
**Output Power:** 2.5 W max



Safety Qualified Universal AC Power Adaptor, included

### POWER (zED)

**Alkaline Battery:** two 1.5 Vdc, supplied  
**Lifetime:** Estimate of 2 years with frequency of 1 reading per 5 minutes

### WIRELESS COMMUNICATION

**Protocol:** IEEE 802.15.4  
**Frequency:** 2.4 GHz, 16 channels  
**Network Topology:** Star Topology  
**Range:** Up to 91 m (300 ft) without obstructions or interference

### ENVIRONMENT

**Operating Temperature:** -18° to 55°C (-0.4° to 131°F)  
90% RH non-condensing  
**Storage Temperature:** -40° to 125°C (-40° to 257°F)

### PACKAGING

See mechanical section

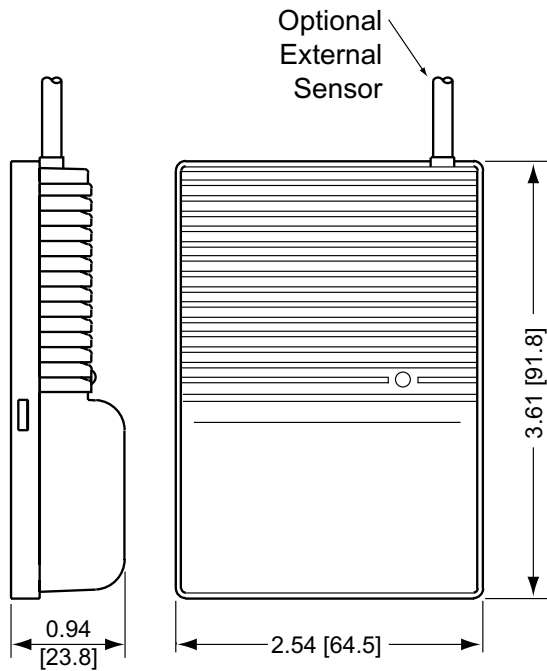
### GENERAL

**Agency Approval:** FCC  
**Software:** Field firmware upgradeable. Including an Excel program for automatic data logging within definable time intervals, compatible with all Windows operating systems.

**Mechanical** Dimensions shown in inches (mm)

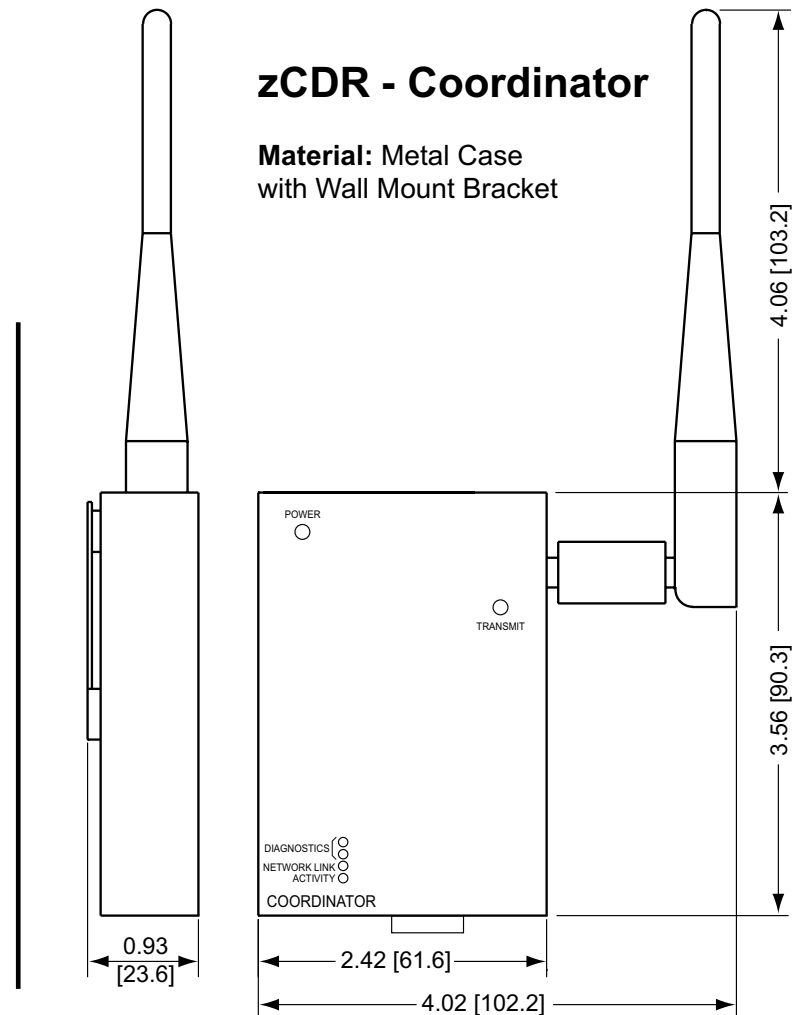
**zED - End Device**

**Material:** Valox Plastic Case with Wall Mount



**zCDR - Coordinator**

**Material:** Metal Case with Wall Mount Bracket



Model No.	Description	Price
zCDR	Coordinator, which can support up to thirty-two (32) End Devices	\$195
zED-T	End Device Unit with Internal Temperature Sensor	\$95
zED-T-TP1	End Device Unit with Internal Temp. Sensor and External Temp Sensor with Stick Probe	\$145
zED-T-TP2	End Device Unit with Internal Temp. Sensor and External Temp Sensor with Lug Mount Probe	\$145
zED-TH	End Device Unit with Internal Temperature and Humidity Sensor	\$150
zED-TH-THP	End Device Unit with Internal and External Temperature and Humidity Sensor	\$245
zED-BT	End Device Unit with Internal Barometric Pressure and Temperature Sensor	\$150
zED-BTH	End Device Unit with Internal Barometric Pressure, Temperature and Humidity Sensor	\$195

**Ordering Example:** for two end units with an internal temperature sensor and an external temperature sensor in a lug mounting probe housing with 20' cable and a coordinator:  $\$145 \times 2 + \$195 = \$485$ .

Other sensor combinations available, contact our Sales Department for more information.

Calibration	Description	Price
CAL-3-HU	NIST Traceable Calibration Certificate. Three Humidity Points: 25%, 50%, 75%, One Temperature Point 25°C (for new units)	\$125
CAL-3-HU-DUAL	NIST Traceable Calibration Certificate. Three Humidity Points: 25%, 50%, 75%, One Temp. Point 25°C per Channel (for new units purchased with two probes)	\$175
CAL-3-HU-P-T	NIST Traceable Calibration Certificate. Three Humidity, Barometric Pressure, and Temp. Points (for new units)	\$250
CAL-3-P	NIST Traceable Calibration Certificate. Three Barometric Pressure Points, Temperature 25°C (for new units)	\$125
CT485B-CAL-KIT	Calibration Kit, 33% and 75% RH Standards	\$75