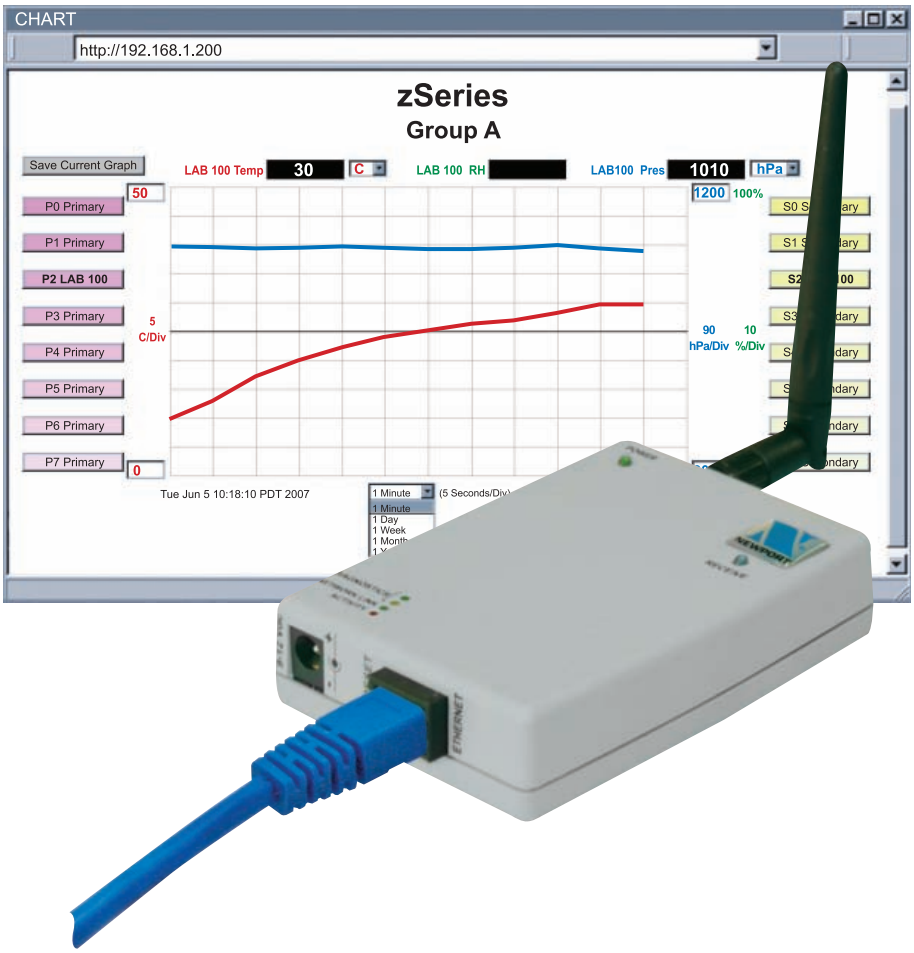
Wireless Sensor System

- Temperature
- Humidity
- Barometric Pressure
- Alarms by Email or Text Message
- Web Server
- No Special Software Required



The **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.

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.

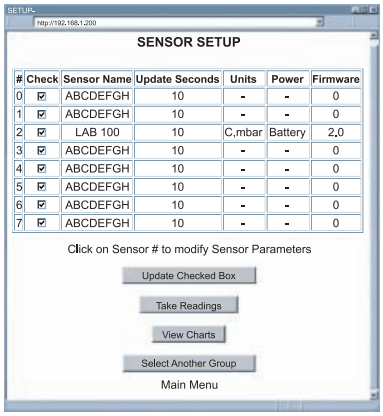
NEWPORT offers a selection of End Devices for a variety of applications. Each End Device supports one or two sensors.

The 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.

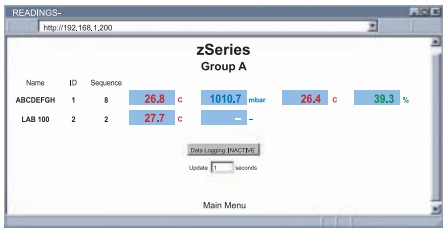
Each zSeries Coordinator can directly support up to thirty-two (32) End Devices. The Coordinators include AC adapters to operate on any voltage worldwide from 100-240 Vac and 50-60Hz.The Coordinator connects directly to an Ethernet Network or the Internet. Unlike an RS232 or USB device, it does not require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

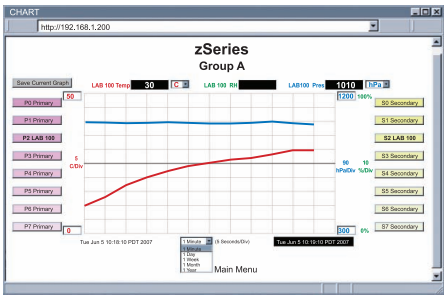


The device can trigger an alarm if variables go above or below a set point that you determine. Your alarm can be sent by email to a single user or to a group distribution list, including text messages to cell phones. The NEWPORT zSeries "Mail Notifier" software is a free and easy program for this application.

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.

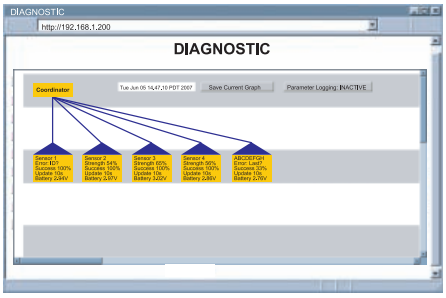


The NEWPORT zSeries system serves Active Web Pages to display real time readings and charts of temperature, humidity, and barometric pressure. You can also log data in standard data formats for use in a spreadsheet or data acquisition program such as Excel or Visual Basic. NEWPORT offers a free and easy 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 that makes it easy to integrate the zSeries wireless sensor system with many popular Data Acquisition and Automation programs offered by NEWPORT, Wonderware, iConics, Intellution, Rockwell Automation, and National Instruments, among others.

SPECIFICATIONS

SENSOR SPECIFICATIONS (zED)

RELATIVE HUMIDITY

Accuracy/Range:
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%

TEMPERATURE

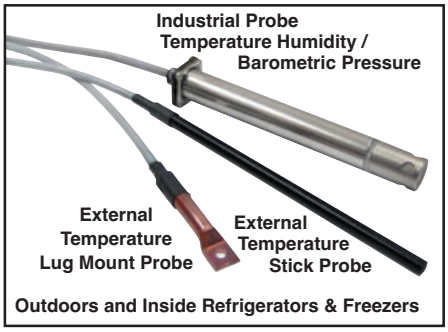
Accuracy/Range*:
zED-T (internal sensor)
±0.5°C for 10° to 55°C
(±0.9°F for 50° to 131°F)
±1°C for -18° to 10°C
(±1.8°F for -0.4° to 50°F)
-TP1, -TP2 (external sensor)
±0.5°C for 10° to 85°C
(±0.9°F for 50° to 185°F)
±1°C for -40° to 10°C and 85° to 125°C
(±1.8°F for -40° to 50°F and 185 to 257°F)

Accuracy/Range*:
zED-BTH, zED-TH (internal sensor)
±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)
-THP (external sensor)
±0.5°C for 5°C to 45°C
(±1°F for 41° to 113°F)
up to ±1°C for -40° to 5°C and 45° to 124°C
(up to ±2.7°F for -40° to 41°F and 113° 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 85°C
(±3.6°F for -40° to 185°F)

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

***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)



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**

SPECIFICATIONS (Continued)

EXTERNAL PROBE SPECIFICATIONS (zED)

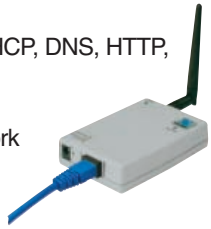
Standard Cable: 3 m (10') long x Ø 5.72 mm (0.225"); -40º to 125ºC (-40º to 257ºF) for **-TP1, -TP2, -THP;** -55º to 105ºC (-67º to 221ºF) for **-BTP**

Optional MIL Spec Cable (-ET): Ø 2.62 mm (0.103"); -80º to 200ºC (-112º to 392ºF)

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

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

WIRELESS COMMUNICATION

Standard: IEEE 802.15.4, DSSS

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

Network Topology: Star Topology

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

POWER (zED)

Alkaline Battery: Two 1.5 Vdc, supplied

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

POWER (zCDR)

Power Input: 9 to12 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 Temperature:
0º to 40ºC (32º to 104ºF)

Safety Qualified Universal AC Power Adapter, included

PACKAGING (zED)

Material: PBT (Valox) Plastic Case with Wall Mount 64.5mm W x 91.8mm L x 23.8mm D (2.54" W x 3.61" L x 0.94" D)

PACKAGING (zCDR)

Material: Metal Case with Wall Mount Bracket

66.0 W x 93.1 L x 27.4mm D (2.60" W x 3.67" L x 1.08" D)

ENVIRONMENTAL

Operating Temperature:
90% RH non-condensing,
-18º to 55ºC (-0.4º to 131ºF) for **zED;**
0º to 70ºC (32º to 158ºF) for **zCDR**

Storage Temperature:
-40º to 125ºC (-40º to 257ºF)

GENERAL

Agency Approval:
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, and **Mail Notifier** (email alarm notification software).

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.

Replacement Probes and Calibration Certificates

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

Get a NIST Traceable Calibration Certificate with your Calibrated Replacement Probe.

NIST Traceable Calibration Certificate available.

In compliance with ISO9001:2008, ISO10012-1.1992(E), ANSI/NCSL Z540-1.1994 and MIL-STD-45662A.

To Order	
Model No.	**Description**
zCDR	Coordinator, which can support up to thirty-two (32) end devices
zED-T	End device unit with internal temp. sensor
zED-T-TP1	End device unit with internal temp. sensor and external temp. sensor with stick probe
zED-T-TP2	End device unit with internal temp. sensor and external temp. sensor with lug mount probe
zED-TH	End device unit with internal temp. and humidity sensor
zED-TH-THP	End device unit with internal and external temp. and humidity sensor
zED-THP	End device unit with external temp. and humidity sensor
zED-BT	End device unit with internal bar. pressure and temp. sensor
zED-BTH	End device unit with internal bar. pressure, temp. and humidity sensor
zED-BT-BTP	End device unit with internal bar. pressure, temp. and humidity sensor and external bar. pressure and temp. sensor
zED-B-THP	End device unit with internal bar. pressure sensor and external temp. and humidity sensor

Ordering Example: *For two end units with an internal temperature sensor and an external temperature sensor in a lug mounting probe housing with 10' cable* ***zED-T-TP2*** *and a coordinator* ***zCDR****. For MIL spec cable add suffix -ET,* ***zED-T-TP1-ET****. Not available for* ***-BTP*** *Probes. Other sensor combinations available, contact our Sales Department for more information.*

Accessories	Description
zTHP	Replacement, external industrial probe with temp. and humidity sensor, 3 m (10') cable
zTP1	Replacement, external stick probe with temp. sensor, 3 m (10') cable
zTP2	Replacement, external lug mount probe with temp. sensor, 3 m (10') cable
zBTP	Replacement, external ind. probe with bar. pressure and temp. sensor, 3 m (10') cable
Calibration	
CAL-3-HU	NIST traceable calibration certificate. Three humidity points: 25%, 50%, 75%, one temp. point 25°C (for new units)
CAL-3-HU-P-T	NIST traceable calibration certificate. Three humidity, bar. pressure, and temp. points (for new units)
CAL-3-T	NIST traceable calibration certificate. Three (3) temp. points (for new units)
CAL-3-P	NIST traceable calibration certificate. Three bar. pressure points, and temp. 25°C (for new units)
CT485B-CAL-KIT	Calibration kit, 33% and 75% RH standards

Ordering Example:
For a replacement external stick probe: ***zTP1****. For a calibrated replacement probe including calibration certificate:* ***zTP1-CAL-3-T.***
Note: *2 type K thermocouples with 1m of 24 AWG PFA insulated wire with stripped lead termination included with WTC models.*