

HIGH POWER wireless TRANSMITTERS



zED-[*]-P Series



zED-TP1-LCD, \$245, shown smaller than actual size.

zED-TP1-P, \$195, shown smaller than actual size.



Starts at
\$195

wiSeries



- Web Server
- Email Alarms
- No Special Software Required
- High Power
- NEMA 4 (IP65) Enclosure

The rugged high-performance, high power OMEGA wiSeries wireless transmitters are compatible with the OMEGA zSeries and wiSeries system for Web-based monitoring of Analog Voltage and Current, Temperature, Humidity, and Barometric Pressure.

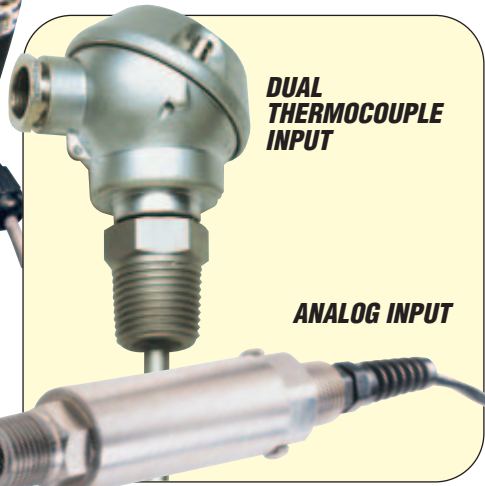
The radio is a high power IEEE 802.15.4 compliant transmitter operating at 2.4 GHz designed to transmit over greater distances and through more obstructions than the standard transmitter.

These wireless sensors transmit 1000 m (3280')—without obstructions or interferences—to a zSeries coordinator or wiSeries meter-controller. The coordinators and controllers connect directly to an Ethernet network and the Internet and serve active Web Pages to display and chart the data.

You can monitor and record analog voltage and current, temperature, relative humidity, and barometric pressure over an Ethernet network or the Internet without any special software—just your Web Browser.

These wiSeries wireless sensors are designed for demanding industrial applications indoors and harsh outdoor environments. The electronics are protected in a rugged weatherproof polycarbonate NEMA 4 (IP65) rated housing. The rugged industrial sensors are supplied with 3 m (10') of cable.

OMEGA offers wireless sensor/transmitters that run on either batteries or AC power. The battery version (zED-DCCELL) comes with two alkaline D-Cell batteries that can last for years. The AC version (zED-P, zED-LCD) comes with a 5 Vdc universal AC adaptor that operates on any voltage worldwide (110 to 240 Vac).



DUAL THERMOCOUPLE INPUT

ANALOG INPUT

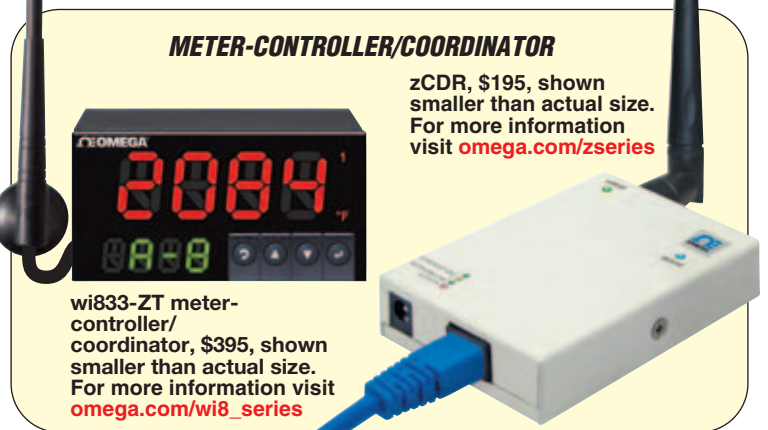


EXTERNAL PROBES

Temperature/humidity or barometric pressure/temperature probe, included with zED-THP-P.

Lug mount probe, included with zED-TP2-P.

Stick probe, included with zED-TP1-P.



METER-CONTROLLER/COORDINATOR

zCDR, \$195, shown smaller than actual size. For more information visit omega.com/zseries

wi833-ZT meter-controller/coordinator, \$395, shown smaller than actual size. For more information visit omega.com/wi8_series

WIRELESS W



wiSeries

WIRELESS TRANSMITTERS

Wireless transmitters are available with external probes appropriate for an almost unlimited variety of industrial and commercial applications.

OMEGA offers a selection of end devices for a variety of applications. The high power end device supports one external sensor. The external sensors are designed for harsh environments such as outdoor weather, in HVAC ducts, in freezers and refrigerators.

OMEGA offers wireless sensor/transmitters that run on either batteries or AC power. The battery version (zED-DCELL) comes with two alkaline D-Cell batteries that can last for years. The AC version (zED-P, zED-LCD) comes with a 5 Vdc universal AC adaptor that operates on any voltage worldwide (110 to 240 Vac).

Should AC power fail, the unit can operate on a 3.6V ultra-long-life lithium backup battery (included). It can run on battery power for days, weeks, or months depending on the read rate selected by the user.

ALARM AND EMAIL

The wiSeries wireless sensor system 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 and PDAs. The OMEGA "MailNotifier" software is a free and easy program for this application. The meter-controller connects directly to an Ethernet Network or the Internet. Unlike an RS232 or USB device, it does not require a host computer.

EMBEDDED WEBSERVER

The wiSeries 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.

CHARTS AND GRAPHS

The wiSeries system serves Active Web Pages to display real time readings and charts of Analog Voltage and Current, 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 wiSeries 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 (-40 to 257°F), and 0 to 100% RH] or within any narrow range such as [20 to 30°C (68 to 86°F)]. OMEGA offers an OPC Server software



(\$295) that makes it easy to integrate the wiSeries wireless sensor system with many popular Data Acquisition and Automation programs offered by OMEGA, Wonderware, iConics, Intellution, Rockwell Automation, and National Instruments, among others.

QUALITY AND TECHNOLOGY

Designed and manufactured in the USA, the innovative OMEGA® wiSeries system features an extended 1 year warranty at no extra charge.

SPECIFICATIONS

RELATIVE HUMIDITY

Accuracy/Range (zED-THP-x, zED-BTHP-x): ±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-TP1-x, zED-TP2-x: ±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)

zED-THP-x, zED-BTHP-x: ±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 70°C (±1.8°F for -0.4 to 32°F and 113 to 158°F); ±2°C for -40 to -18°C and 70 to 124°C (±3.6°F for -40 to -0.4°F and 158 to 255°F)

zED-BTP-x: ±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-THP-x, zED-BTHP-x

Resolution: 0.1°C

BAROMETRIC PRESSURE

Accuracy/Range (zED-BTP-x, zED-BTHP-x): ±2 mbar for 10 mbar to 1100 mbar (1 KPa to 110 KPa)

Resolution: 0.1 mbar

PROBE SPECIFICATIONS

Industrial Probe (zED-BTP-x, -BTHP-x, zED-THP-x):

SS 316 housing, 137 x Ø16 mm (5 x Ø0.63")

Stick Probe (zED-TP1-x): ABS tubing, 152.4 x Ø6.35 mm (6 x Ø0.25")

Lug Mounted Probe (zED-TP2-x): Copper tubing, 53.4 x Ø7.92 mm (2.1 x Ø0.312"); mounting hole Ø4.72 mm (Ø0.186")

Cable:

zED-TP1-x, -TP2-x, zED-THP-x: 3 m (10') L x Ø2.62 mm (0.103"); -80 to 200°C (-112 to 392°F)

zED-BTP-x, -BTHP-x: 3 m (10') L x Ø4.45 mm (0.175"); -55 to 105°C (-67 to 221°F) ϕ = diameter

THERMOCOUPLE INPUT

Temperature Accuracy/Range: Refer to T/C chart, on next page

Temperature Stability: 0.08°C/°C

Temperature Coefficient: ±25 ppm/°C

Thermocouple Cold End Tracking: 0.1°C/°C

Thermocouple Lead Resistance: 100 Ω max

Thermocouple Type (ITS 90): J, K, T, E, R, S, B, C, N, L (DIN J)

Warm-Up to Rated Accuracy: 30 min



Universal AC adaptor is included with all AC powered models.

wi Series



ANALOG INPUT

Voltage Input: Differential; bipolar; ± 100 mV, ± 1 V, ± 10 V

Input Impedance: 400 k Ω for voltage

Current Input: Differential; bipolar; ± 20 mA (5 Ω load)

Accuracy: $\pm 1\%$ full range @ 25°C

Reading Rate: Periodic (1 sample/update) or continuous (20 samples/second)

A/D Conversion: Sigma-Delta

Resolution: 16 bits

Temperature Coefficient: ± 50 ppm/ $^{\circ}$ C

Common Mode Rejection: 105 dB

Normal Mode Rejection: 98 dB

Warm-Up to Rated Accuracy: 30 minutes

WIRELESS COMMUNICATION

Standard: IEEE 802.15.4, DSSS

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

Network Topology: Star topology

Range: Up to 1000 m (3280') without obstructions or interference

POWER (zED-x-P, zED-x-LCD)

Power Input: 5 Vdc

Consumption: 0.8 W max

Safety Qualified AC Power

Adaptor (Included):

Nominal Output: 5 Vdc @ 0.6 A

Input: 100 to 240 Vac, 50/60 Hz

Operating Temperature: 0 to 40°C (32 to 104°F)

Lithium Back-up Battery: One 3.6 Vdc (included)

Lifetime: Estimate of 2 years with frequency of 1 reading per 2 minutes (7 months with -TC/-VI option)

POWER (zED-x-DCELL)

Alkaline Battery: Two D-cell 1.5 Vdc (included)

Lifetime: Estimate of 5 years with frequency of 1 reading per 2 minutes

ENVIRONMENTAL

Operating Temperature:

zED-x-P: -20 to 70°C (-4 to 158°F), 90% RH non-condensing

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

zED-x-LCD: -10 to 60°C (14 to 140°F), 90% RH non-condensing

zED-x-LCD: -10 to 60°C (14 to 140°F), 90% RH non-condensing

zED-x-LCD: -10 to 60°C (14 to 140°F), 90% RH non-condensing

zED-x-LCD: -10 to 60°C (14 to 140°F), 90% RH non-condensing

PACKAGING

Enclosure Material: Polycarbonate

Enclosure Protection: NEMA 4 (IP65)

Enclosure Dimensions:

135.9 L x 82 W x 39 mm D

(5.35 x 3.23 x 1.56")

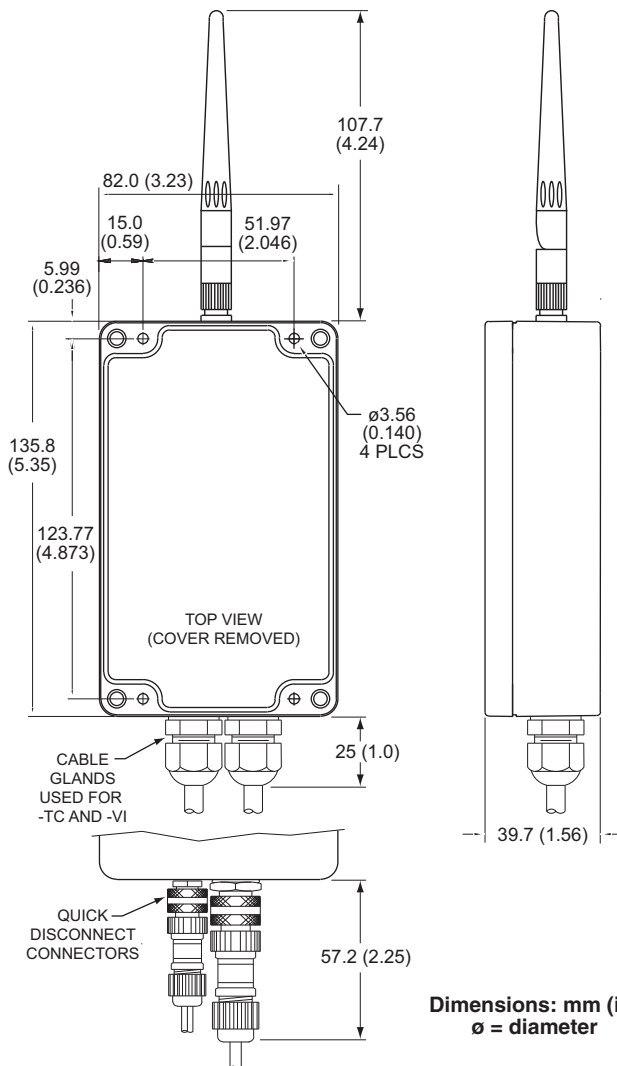
GENERAL

Agency Approval: FCC Part 15C; CE

EMC; 2004/108/EC, LVD 2006/95/EC,

RTT&E 1999/5/EC

Software: iConnect (configuration software for the Ethernet interface), iLog (Excel-based software for automatic data logging), and Mail Notifier (email alarm notification software)



Dimensions: mm (in)
ø = diameter

WIRELESS
W

Thermocouple Chart

	Input Type	Range	Accuracy
J	Iron - Constantan	-210 to 760°C (-346 to 1400°F)	0.4°C (0.7°F)
K	CHROMEGA®- ALOMEGA®	-270 to -160°C/-160 to 1372°C (-454 to -256°F/-256 to 2502°F)	1.0°C/0.4°C (1.8°F/0.7°F)
T	Copper - Constantan	-270 to -190°C/-190 to 400°C (-454 to -310°F/-310 to 752°F)	1.0°C/0.4°C (1.8°F/0.7°F)
E	CHROMEGA® - Constantan	-270 to -220°C/-220 to 1000°C (-454 to -364°F/-364 to 1832°F)	1.0°C/0.4°C (1.8°F/0.7°F)
R	Pt/13%Rh-Pt	-50 to 40°C/40 to 1768°C (-58 to 104°F/104 to 3214°F)	1.0°C/0.5°C (1.8°F/0.9°F)
S	Pt/10%Rh-Pt	-50 to 100°C/100 to 1768°C (-58 to 212°F/212 to 3214°F)	1.0°C/0.5°C (1.8°F/0.9°F)
B	30%Rh-Pt/6%Rh-Pt	100 to 640°C/640 to 1820°C (212 to 1184°F/1184 to 3308°F)	1.0°C/0.5°C (1.8°F/0.9°F)
C	5%Re-W/26%Re-W	0 to 2320°C (32 to 4208°F)	0.4°C (0.7°F)
N	Nicrosil - Nisil	-250 to -100°C/-100 to 1300°C (-418 to -148°F/-148 to 2372°F)	1.0°C/0.4°C (1.8°F/0.7°F)
L	J DIN	-200 to 900°C (-328 to 1652°F)	0.4°C (0.7°F)



HIGH POWER wireless TRANSMITTERS

A complete wireless system requires at least: 1 end device zED-x-P, zED-x-LCD, or zED-x-DCCELL (up to 8 end devices) and 1 coordinator or meter/controller (receiver) zCDR, wi8xx-ZT, or wiDRxx-ZT.

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

MODEL NO.	PRICE	DESCRIPTION
WIRELESS END DEVICE		
zED-TP1-P	\$195	Temperature sensor with stick probe, AC powered
zED-TP2-P	195	Temperature sensor with lug mount probe, AC powered
zED-THP-P	240	Temperature and humidity sensor, AC powered
zED-BTP-P	245	Barometric pressure and temperature sensor, AC powered
zED-BTHP-P	295	Barometric pressure, temperature and humidity sensor, AC powered
zED-TC-P	240	Dual thermocouple input, AC powered
zED-VI-P	240	Analog input, AC powered
zED-TP1-DCCELL	195	Temperature sensor with stick probe, battery powered
zED-TP2-DCCELL	195	Temperature sensor with lug mount probe, battery powered
zED-THP-DCCELL	240	Temperature and humidity sensor, battery powered
zED-BTP-DCCELL	245	Barometric pressure and temperature sensor, battery powered
zED-BTHP-DCCELL	295	Barometric pressure, temperature and humidity sensor, battery powered
zED-TC-DCCELL	240	Dual thermocouple input, battery powered
zED-VI-DCCELL	240	Analog input, battery powered
zED-TP1-LCD	245	Temperature sensor with stick probe, AC powered, LCD display
zED-TP2-LCD	245	Temperature sensor with lug mount probe, AC powered, LCD display
zED-THP-LCD	290	Temperature and humidity sensor, AC powered, LCD display
zED-BTP-LCD	295	Barometric pressure and temperature sensor, AC powered, LCD display
zED-BTHP-LCD	345	Barometric pressure, temperature and humidity sensor, AC power, LCD display
zED-TC-LCD	290	Dual thermocouple input, AC powered, LCD display
zED-VI-LCD	290	Analog input, AC powered, LCD display
WIRELESS COORDINATOR AND METER CONTROLLER WITH COORDINATOR (RECEIVERS)		
zCDR	\$195	Coordinator, which can support up to 32 end devices
zCDR-VI	195	Coordinator, which can support up to 32 analog input end devices
wi833-ZT	395	Meter/controller, which can support up to 8 temperature end devices, with 2 relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac, embedded Ethernet, 90 to 240 Vac, 50/60 Hz
wi853-ZT	395	Meter/controller, supports up to 8 temperature end devices, with analog output 0 to 10 Vdc or 0 to 20 mA @ 500 Ω max and Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac, embedded Ethernet, 90 to 240 Vac, 50/60 Hz
wiDR22-ZT	395	DIN rail monitor/controller, supports up to 8 temperature end devices, with 2 solid state relays (SSRs): 0.5 A @ 120/240 Vac continuous, embedded Ethernet, 90 to 240 Vac, 50/60 Hz
wiDR44-ZT-DC	420	DIN rail monitor/controller, supports up to 8 temperature end devices, with 2 pulsed 10 Vdc @ 20 mA (for use with external SSR), embedded Ethernet, low power option 12 to 36 Vdc, 24 Vac

CALIBRATION	PRICE	DESCRIPTION
CAL-3-HU	\$125	NIST traceable calibration certificate; three humidity points: 25%, 50%, 75%, 1 temperature point of 25°C (for new units)
CAL-3-HU-P-T	250	NIST traceable calibration certificate; three humidity, barometric pressure, and temperature points (for new units)
CAL-3-P	125	NIST traceable calibration certificate; three barometric pressure points, and temperature 25°C (for new units)
CT485B-CAL-KIT	75	Calibration kit, 33% and 75% RH standards

For the meter/controllers, other output options are available, please contact our Sales Department.

Ordering Examples: Two zED-TP2-P high power end devices with external temperature sensor in lug mounting probe housing and 3 m (10') cable, and zCDR, coordinator, \$195 x 2 + 195 = \$585.

CAL-3-HU, NIST traceable calibration certificate for new unit, \$125.

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