Communication skills for ultra low powered objects

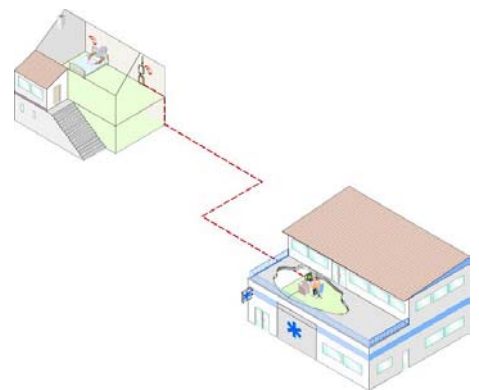# WIRELESS TEMPERATURE SENSOR MONITORS

Real-time remote tracking of changes in temperature

Wavetherm is a wireless module that connects the market's leading electronic temperature sensors for today's demanding smart environments. Whether you have critical applications that depend on temperature regularity, or temperature control is part of your home comfort system, you can use Wavetherm wireless transceivers to monitor and control temperature sensors from any location.

Temperature data can be stored in Wavetherm's memory, and then transmitted wirelessly according to your needs using Wavenis ultra low-power, long-range technology from Coronis Systems in flexible network installations of any size. With Wavenis-enabled repeaters, gateways, and data concentrators you can easily integrate temperature-monitoring features in both custom solutions and existing networks. You can also read individual or entire groups of sensors wirelessly with a single click from handheld computers, PDAs, and servers.

Wavetherm offers a reliable solution for mission-critical applications involving temperature monitoring in industry, healthcare, food traceability, and many other types of climate control and personal convenience uses. Wavetherm automatically sends alerts via wireless or cellular networks when programmed thresholds are breached. Above all, Wavetherm offers reliable wireless connections with ultra-long battery life of several years depending on use.

- Supports popular PT100, PT1000, and Dallas 18S20 digital temperature sensors
- Ideal for traceability, industrial, healthcare, pharmaceutical refrigeration, storage, and agro-food applications
- Available with extended data logging
- Programmable alarm functions
- Wireless range up to several hundred meters indoors
- Unlimited number of sensors in networks
- 433, 868, and 915 MHz ISM bands
- Easy installation

Wireless temperature monitoring is very useful for many healthcare, transportation, traceability, and industrial applications.

Wavetherm Specifications

GENERAL FEATURES

- Autonomous battery powered unit with wireless temperature sensor interface
- Supports Dallas DS 18S20 and PT100/PT1000 sensors
- Up to two sensors per Wavetherm
- Programmable internal data logging, measurement period, threshold alarms
- Data transmission upon request
- Date-time management with day/night mode
- Multi-year battery life depending on use
- Immediate alert transmission upon detection of low battery, broken cable, and threshold conditions
- Easy installation
- Immediate transmission or store-and-forward up to 48 readings
- Extended data logging (optional) stores up to 4,500 readings
- System-wake-up
- Dimensions: 12 x 4 x 3 cm (4.7 x 1.6 x 1.2 in.)
- Weight: 110 to 160 g (4 to 5.6 oz)

WIRELESS FEATURES

- Optimized Wavenis wireless technology for applications requiring ultra low-power consumption, long range, and reliability in hard-to-reach places
- Radio range up to 1 km in line of sight outdoors, up to 200 meters indoors
- Resistant to RF interference – sophisticated data processing: FHSS, data interleaving, BCH (31,21) mechanisms
- Build flexible wireless mesh networks unlimited in size
- 2-way links with mobile and fixed network control points
- Programming via direct wireless or remote network connection
- Point-to-point, point-to-multipoint (broadcast, polling), repeater modes
- Tree, star, and mesh network topologies
- License-free 433/868/915MHz ISM bands
- EN300-220-1, FCC15-249, & FCC15-247 compliant
- EMC compliant with EN 300-683

	Wavetherm Dallas	Wavetherm PT1000	Wavetherm PT100 (calibrated)
Sensor	Dallas 18S20	PT1000 (2 wire)	PT100 (2 or 4 wire)
Range	-55 / +125° C	590 to 1620 Ω -100° C to +160° C	59 to 162 Ω -100° C to +160° C
Accuracy	±0.5° C	±0.5° C	±0.1° C
Resolution	0.5° C	0.15° C	0.01°C (4 mΩ)

* 0.5° C with non-calibrated Wavetherm PT100

OTHER WIRELESS SENSOR PRODUCTS FROM CORONIS SYSTEMS

Wavetherm is compatible with all Wavenis-powered products from Coronis Systems, including:

- Wavesense – wireless sensor monitor
- Wavetank – tank and silo level monitor
- Wavelog – binary on-off monitor
- Waveport (USB, serial, compact flash) & Wavecard wireless network interface cards
- Wavehub – data concentrator
- Wavecell – cellular network gateway