



# TSR System



## Wireless Temperature Monitoring System

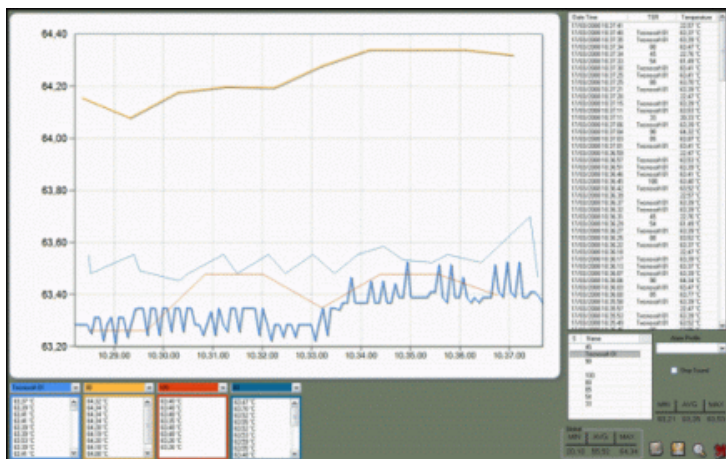
The **TSR System** is the simplest solution for your applications that need a real time monitoring. No special skill required, no complicated configuration to deal with: just set the transmission rate on your **TempStick Radio** units, place them in the desired spot, plug the **USB Radio Receiver** to your PC and start the **TSR** software. You'll immediately see data coming through and you can view up to 4 graphs on screen and receive alarms from all the sensors transmitting.

### Pro:

- radio transmission, no more cables and real time control of the data;
- quick and easy installation;
- alarm setting for each sensor;
- different kind of cables and probes available.

### Applications:

- stock houses and warehouses;
- laboratories;
- fridges/freezers;
- pharmacies;
- other temperature sensitive environments compliant with ISO 9001 standards.



Sensors are waterproof, as the cables. All units can be calibrated and delivered with their calibration certificate, necessary for ISO 9001 compliance. Standard calibration validity is of one year.



### Transmission:

- reliable, with data control;
- no possibility of wrong data;
- range up to 250 meters in open space, 80 meters in closed environment (transmission range depends also on walls and material of the walls themselves. Iron and steel obstacles might reduce the transmission range).

### Sensors and transmitter:

- each transmitter has its unique identification number, as the radio;
- sensors are easy to install and place where you need to control temperature;
- software can manage unlimited sensors and transmitters;
- no USB drive installation for the **USB Radio Receiver**;
- configuration interface (to set rate of transmission) available.

## Technical Features



TempStick® Radio	
<b>Size</b>	6,5 X 5 X 4,5 cm
<b>Electronics Temperature Range</b>	-20 °C ÷ +60 °C
<b>Sensor Temperature Range</b>	-40 °C ÷ +90 °C *
<b>Resolution</b>	0,03 °C
<b>Accuracy</b>	±0,25 °C with calibration certificate Standard calibration certificate: -10°C, 0°C, 10°C, 25°C, 50°C (other temperatures available on demand) ±1 °C without calibration certificate **
<b>N° acquisitions</b>	Acquisitions storage on PC Hard Drive
<b>Acquisition interval</b>	From 1 reading every 3 seconds to 1 reading every 255 minutes
<b>Battery</b>	Factory replaceable
<b>Autonomy</b>	More than 500.000 acquisitions/transmissions - more than 10 years with standard use (24 acquisitions per day)
<b>Mission length</b>	Depending on the Hard Drive free memory
<b>Protection degree</b>	IP68 probe; IP67 case; IP40 connectors

\* Depends on cable and sensor. Effective range is within calibration points interval and is 100°C for maximum resolution

\*\* post production data without calibration



TSR	
<b>Operating systems</b>	Windows 2000, XP, Vista
<b>Data management</b>	Database organized on sensor's serial number and start date of the mission
<b>Data display</b>	Graph and table (exportable in Excel) and data printing in reports
<b>Multi-graph</b>	Up to 4 graph can be displayed simultaneously
<b>Alarms</b>	Visual and sound alarms on set thresholds (different for each sensor)
<b>Communication</b>	USB for the USB Radio Receiver and for TempStick Radio Interface (for unit configuration and programming); Radio 433 MHz
<b>Languages</b>	English, Italian



USB Radio Receiver	
<b>Software</b>	TSR
<b>Size</b>	6,5 X 5 X 4,5 cm
<b>Antenna</b>	External (provided with the USB Radio Receiver)
<b>Communication</b>	USB (no driver installation required), cable provided
<b>Transmission Range</b>	250 mt open space, 80 mt closed environment (transmission range may be affected by obstacles of different nature)



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UNI EN ISO 9001:2008 certified for Firmware and Software development