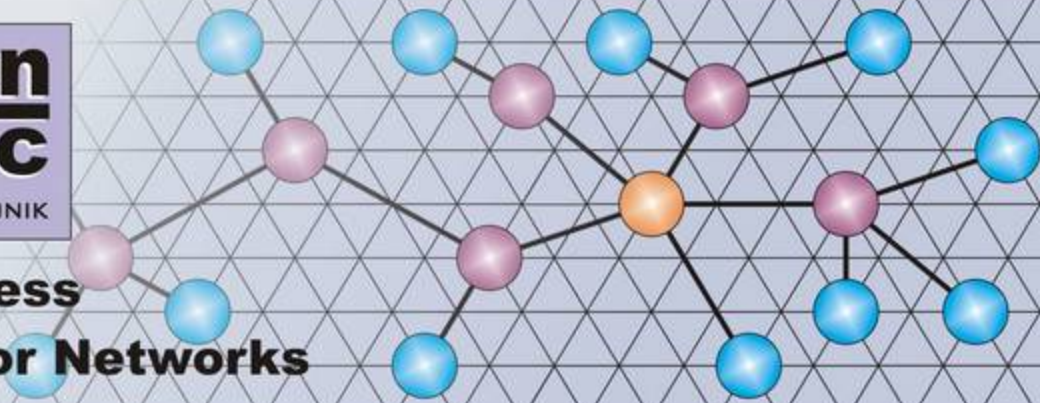**sen Tec** ELEKTRONIK
Wireless Sensor Networks

Wireless Sensor Network Components for Building Automation

Wireless networks can be used for sensor data transmission in building automation. The wireless sensors are small, easy to install, reliable and self configuring. Every data transmission is secured via check sum and acknowledged with a handshake. Wireless technology allows the mounting of sensors without any cables. Temperature and humidity are the most important climate parameters that can be measured in buildings. The receiver can be used as a data logger or it can present the data to a home automation bus.

We offer a range of wireless climate sensors for the use both inside and outside the building.

Moreover, based on our proven wireless network technology we are able to design your individual sensor and transmitter solution.
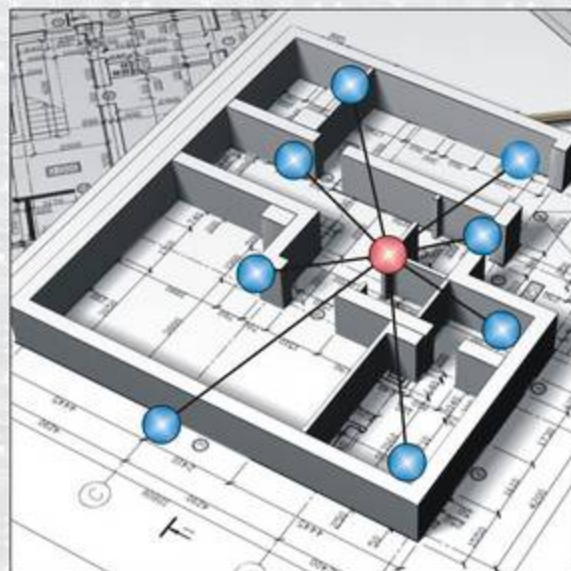
Wireless Sensor Network Technology

- Based on standard IEEE 802.15.4
- 2.4 GHz ISM band, license free operation
- 16 channels with intelligent frequency agility
- Direct sequence spread spectrum technology
- High noise immunity and interference avoidance
- +10dBm transmit power and -96dBm sensitivity
- Radio link distance up to 1000m in free space
- Distance can be extended by the use of routers
- Up to 64 wireless nodes per network
- Star and cluster tree network topologies
- Easy to install, self-configuring network
- Failsafe monitoring of every network node
- Several networks can co-exist in the same area
- Configurable transmission interval: 100ms - 1h
- Handshake for guaranteed data delivery

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Wireless Sensor Network Components for Building Automation

Indoor Temperature Sensor and Transmitter
Temperature range: 0°C to +50°C, resolution: 0.1°C
Wall mount plastic housing, size: 12cm x 7cm x 2.5cm
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Indoor Temperature Sensor and Transmitter with Setpoint Adjustment
Temperature range: 0°C to +50°C, resolution: 0.1°C
Wall mount plastic housing, size: 12cm x 7cm x 2.5cm
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Indoor Climate (Temperature and Humidity) Sensor and Transmitter
Temperature range: 0°C to +50°C, resolution: 0.1°C, humidity 0% to 95% RH
Wall mount plastic housing, size: 12cm x 7cm x 2.5cm
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Indoor Climate Sensor and Transmitter with Setpoint Adjustment
Temperature range: 0°C to +50°C, resolution: 0.1°C, humidity 0% to 95% RH
Wall mount plastic housing, size: 12cm x 7cm x 2.5cm
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Outdoor Temperature Sensor and Transmitter
Temperature range: -20°C to +80°C, resolution: 0.1°C
Wall mount plastic housing, size: 10cm x 6.5cm x 3.5cm, protection class IP 65
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Outdoor Climate (Temperature and Humidity) Sensor and Transmitter
Temperature range: -20°C to +80°C, resolution: 0.1°C, humidity 0% to 95% RH
Wall mount plastic housing, size: 10cm x 6.5cm x 3.5cm, protection class IP 65
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Heating Pipe Attachment Temperature Sensor and Transmitter
Temperature range: 0°C to +120°C, resolution: 0.1°C
Plastic housing, size: 10cm x 6.5cm x 3.5cm, protection class IP 65
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

Universal Configurable Wireless Transmitter Box
Suitable for different types of sensors: thermocouples, thermistors and others
Plastic housing, size: 10cm x 6.5cm x 3.5cm, protection class IP 65
Two AA Lithium batteries, life time up to 6 years (one transmission per minute)

DIN Rail Receiver
RS232 interface and RS485 interface for connection to home automation bus
2 relay switched output contacts, 4 analog voltage outputs 0–10V
Supply voltage: 9–35V, pushbutton and LED
DIN rail mount housing, size: 9cm x 3.5cm x 6cm
External antenna connected via SMA connector *)

USB Box Receiver
USB B connector as data output and PC connector, powered via USB
Metallic housing, size: 8cm x 4cm x 2.5cm
External antenna connected via SMA connector *)

Receiver with Data Logger and SD Card Interface for Data Storage
USB B connector as data output and PC connection
Supply voltage: 9–35V (can be powered from stand-alone battery)
Metallic housing, size: 10.5cm x 10.5cm x 4cm
External antenna connected via SMA connector *)

*) Different antenna options or extension cables can be ordered separately.