



RFID/NFC TAGS

RFID/NFC sensor tags

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RFID/NFC sensor tags use special sensor chips to measure temperatures, humidity, strain, light, pressure, weights and proximity. The special feature is that these measurements are carried out without a power supply, eliminating the need for inconvenient and often costly battery changes.

These special sensor chips can be packaged differently depending on the environmental conditions. Simple labels with an integrated sensor chip are possible, as are robust, resistant and industrial-grade RFID/NFC sensor tags.

Advantages of RFID/NFC sensor tags

RFID/NFC sensor tags offer many advantages over fixed sensors, especially in applications that require flexible data collection and interaction across company boundaries. They are more

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versatile and ideal for modern applications in logistics, industry, healthcare and other areas.

1. **Sensor data acquisition**

RFID/NFC sensor tags have integrated sensors (e.g. for temperature, humidity, pressure or movement) that enable real-time measurements. This allows dynamic environmental data to be recorded in addition to automatic identification. By combining sensor data with previously stored identification information, a more complete picture of the application or process is created.

2. **Adaptability, expandability and real-time monitoring**

Sensor tags can be used in a variety of environments as they can collect both automatic identification and current environmental data and provide data continuously or at regular intervals. They can be easily integrated into existing RFID systems and new sensors or functionalities can be easily added.

3. **Passive operation or active sensor data collection**

Many RFID/NFC sensor tags operate passively, i.e. they do not require their own energy source and are activated by external readers. This saves energy and reduces maintenance costs. Sensor tags with batteries are also available for independent and continuous monitoring.

4. **Reduced infrastructure and automated processes**

RFID/NFC sensor tags combine versatile functions (storage and measurement), reducing the need for wired sensor devices or enabling measurement in the first place. They enable automated data collection and analysis, which minimises manual effort.

5. **Condition monitoring, predictive maintenance and environmental friendliness**

In industrial applications, RFID/NFC sensor tags can monitor the condition of machines, materials or products and report anomalies at an early stage, enabling predictive maintenance. Their often passive mode of operation makes them more environmentally friendly than active systems, and they can usually be integrated into existing systems.

Wide range of applications:

- ✓ Cold chain logistics in the pharmaceutical and food industries
- ✓ Concrete moisture testing in the construction industry

- ✓ Body temperature measurement in hospitals and the care sector
- ✓ Moisture measurement of textiles, wound dressings, plasters, etc.
- ✓ Monitoring of temperature curves with regard to reactions in laboratory environments
- ✓ Concrete formation, changes and cracks in buildings
- ✓ Adapting agricultural irrigation to real-time moisture measurements
- ✓ Efficient use of lighting in greenhouses
- ✓ Checking unwanted moisture in machines and vehicles
- ✓ Measurements of light, pressure, humidity in animal farming

Technical data



All properties of our RFID/NFC labels are optimized to your project requirements and application purposes.

Frequency	13.56 MHz (HF+NFC), 860-960 MHz (UHF)
Material	Paper, PET, PVC, PCB FR4, Polyurethane
Labeling	Pressure, Laser treatment
Fastening	Self-adhesive, Mounting holes for cable ties, screws and rivets, Without fastening option
Delivery form	Isolated, Roll, Bow
Suitability for metal surfaces	Yes