R150 Temperature Sensor

RFCODE Sensors

The R150 Temperature Sensor monitors the ambient temperature inside of your data center racks, enabling easy mapping of data center temperature profiles and air flow optimization.

Features & Benefits

- Accurate temperature monitoring within 2°F
- Encoded radio transmissions at 433 MHz
- Specifically designed for use with rack-installed assets
- Industrial-strength adhesive mounting and flexible mounting options
- Works with all RF Code fixed and mobile readers
- Real-time temperature monitoring for safe protection of racked assets
- Enhances customers' existing Active RFID infrastructure
- Ideal for high density environments

The 433 MHz R150 Temperature Sensor is a battery-powered RF transmitter that monitors temperature-sensitive items, such as assets in IT racks.
Periodically reporting its own unique ID along with the ambient temperature observed by the sensor, the R150 is designed for use in a variety of environmental monitoring applications.

This affordable sensor is sealed in an impact- and splash-resistant polycarbonate enclosure with a strong industrial adhesive on the back of the enclosure. Mounting is easy and flexible, allowing customers to monitor asset surfaces or air temperature; sensors can be mounted on fixed surfaces or suspended in the air (via zip ties). The R150's form factor ensures clear signal transmissions in high density deployments, such as within racks and data centers.

The sensor operates with a very low duty cycle that translates to long battery life (typically > 3 years at a 10-second beacon rate). Based on the ratings and specifications from the battery manufacturers, RF Code develops usage models to calculate the life of the active RFID Sensors. Like all models, there are assumptions and approximations involved. The values are to be taken as engineering estimates – not guaranteed performance. Exposure to extreme temperatures will shorten the battery life. RF Code warrants all sensors to be free from defects in materials and workmanship for a period of 1 year.

Featuring a low-battery alert, the sensor will continue to monitor and report temperature for at least two months following the initial low battery condition. After that, the sensor will continue to broadcast its unique ID and a low battery indication with each beacon, but will not report temperature until the battery is replaced.

The R150 wireless environmental monitoring solution for data centers gives you a real-time pulse on the temperature conditions inside your data center. Easily configurable. As assets move or change, as cooling and heating fluctuates, you can adjust the environmental conditions quickly.

RF Code R150 Temperature Sensor Specifications

OPERATION	
Operating Frequency	433.92 MHz
Group Code & Sensor ID Codes	> 540,000 unique IDs per Group Code
Typical Transmission Range	> 30 ft in the data center; up to 300 ft open field
Radiated Emissions	71.8 dBuV/m at 3 meters (maximum)
Modulation	ASK
Stability	Saw stabilized

ENCLOSURE	
Width	2.22 in (56.4 mm)
Depth	1.74 in (44.2 mm)
Height	0.35 in (8.9 mm)
Case Weight (with sensor)	1.20 oz (34.16 g)
Construction	Lexan polycarbonate
Durability	Tough, impact resistant and temperature stable
Mounting Options	3M 200 MP adhesive, zip-tie loop lanyard

ENVIRONMENTAL	
Operating Temperature	-20° C to +70° C (-4° F to +158° F) *
Storage Temperature	-40° C to +80° C (-40° F to +176° F) *
Sealing	Splash resistant

POWER	
Battery Type	Lithium CR2032 replaceable coin cell
Smart Sensor Features	Low battery indication
Battery Life	> 3 years*

* The R150 Sensor will continue to operate in the Operating Temperature range and withstand periods of time subjected to the Storage Temperature limits, however the battery life is optimized at > 3 years for normal use in temperature-controlled environments between 50° F and 130° F. Prolonged exposure or use under extreme temperature conditions can decrease the useful life of the battery. Not recommended for condensing environments; condensation can cause the sensor to become unreliable. Exposure to liquids may cause the product to malfunction, or permanently damage the circuitry, and voids the product warranty.

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