R185 0-5V Sensor

RF CODE Sensors

R185 Sensors are designed for deployment with industrial process control equipment, devices and sensors using 0-5V output, enabling wire-free transmission of industry-standard measurements for specialty and industrial applications.

Features & Benefits

- 0-5V wired interface
- Adhesive mounting options for the sensor and cable, making it easy to install the sensor for maximum RF propagation
- Sensor relays 0-5V payloads for upstream compiling and interpretation in the software stack
- Standard reporting interval of 3x per minute; optional custom firmware configurations to adjust communication and beacon rates for specific applications
- 5-year battery life with user-accessible / replaceable coin cell batteries
- Designed for use with suitable, customer-supplied wiring (typically 24 AWG stranded)

The 0-5V output is a common method of relaying sensor information in monitoring applications with a need for analog sensors. The 0-5V sensor is a device used to measure physical parameters (such as temperature, pressure, speed, liquid flow rates), with 0V representing the lowest end of the range (sensor reading) and 5V the highest (sensor reading). The R185 Sensor solution allows the 0-5V monitoring data to flow over the RF Code radio frequency infrastructure. All data transmitted from the sensors is captured by the RF Code readers and relayed to the RF Code software Zone Manager / Asset Manager/ CenterScape and into other applications. The 0-5V output readings can be visualized via:

- Live table and map views
- Interactive graphing
- Scheduled reports and graphs
- Alerting and thresholds

The battery-powered 433 MHz RF transmitter features an industrial-strength adhesive backing for quick and easy installation. Simply peel off the sensor's adhesive liner and attach the sensor to the top of the equipment (this ensures clear signal transmission in metal-dense equipment spaces). These sensors report their own unique ID and 0-5V output value once every 20 seconds using RF Code's patented communication protocol; this results in three (3) amperage (current) measurements per minute.

Powered by three (3) field-replaceable coin cell batteries, the R185 sensor will perform reliably in an operating temperature range from -20 to +70 degrees Celsius. R185 sensor enclosures are impact-resistant and temperature stable. The R185 sensor operates with a low duty cycle that translates to long battery life (typically > 5 years). Featuring a low-battery alert, the sensor will continue to report 0-5V data for at least three months following this alerting.

Designed for deployment with industrial process control equipment, devices and sensors using 0-5V outputs, the R1850 0-5V sensor enables you to use the RF Code wire-free sensor network to monitor the status of 0-5V sensors and supported devices.

RF Code R185 0-5V Sensor Specifications

OPERATION	
Operating Frequency	433.92 MHz
Group Code & Sensor ID Codes	> 4,000,000 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: RF TRANSMITTER (SENSOR)	
Width	2.53 in (64.3 mm); 3.50 in (88.9 mm) including mounting wings
Depth	2.53 in (64.3 mm)
Height	1.03 in (26.2 mm)
Case Weight (with sensor)	2.61 oz (74 g)
Construction	ABS
Durability	Tough, impact resistant and temperature stable
Mounting Options	Mechanical screws (2 places) or adhesive pads

ENVIRONMENTAL: RF TRANSMITTER (SENSOR)	
Operating Temperature*	-20° C to +70° C (-4° F to +158° F)
Storage Temperature	-40° C to +80° C (-40° F to +176° F)

POWER	
Battery Type	Three (3) Lithium CR2032 replaceable coin cells
Smart Sensor Features	Low battery indication
Battery Life	5 years

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