R170-0B02 CDU Sensor

RF CODE Sensors

Designed for deployment with Server Technology CDUs, R170 Sensors enable power monitoring data to flow over the RF Code radio frequency infrastructure.

Features & Benefits

- Encoded Radio Transmissions at 433 MHz
- Power consumption and utilization trend monitoring, including:
  - Per Phase Voltage/ Power
  - Phase Cumulative Energy Use
  - Per Outlet Watt-Hour
  - Feed-Line Amperage and Overload Status
- Works with Server Technology's Smart or Switched PIPS CDUs
- Integrates with RF Code's CenterScape or Asset Manager software solutions
- Easy-to-Deploy, "Wire-free" Monitoring
- Low Power Consumption for Long Battery Life

RF Code's R170 sensors integrate with Server Technology's CDUs which run custom firmware to support the RF Code device. The CDU Sensor allows power monitoring information to be transmitted and utilized by RF Code's "wire-free" radio frequency infrastructure. This results in comprehensive power monitoring information from Server Technology's CDUs being made available in RF Code's CenterScape or Asset Manager application.

The R170-0B02 CDU Sensor is compatible with Server Technology's Smart and Switched CDUs with PIPS (Per Inlet Power Sensing) and with or without POPS (Per Outlet Power Sensing). The sensors periodically transmit their own unique ID and, depending upon the model of CDU, transmissions include CDU product information (model/serial/ etc.), CDU phase and outlet power usage information such as amperage, voltage, apparent power, active power, and breaker status. This solution enables customers to monitor power information from each CDU at a dramatically reduced cost by the elimination of wires/cables, IP addresses and IP address administration.

Designed for use with rack-mounted CDUs, the battery-powered R170 433 MHz RF transmitter features an industrial-strength adhesive backing for quick and easy installation. Simply plug the sensor's locking RJ45 connector into the serial port on the CDU, peel off the sensor's adhesive liner, and attach the sensor to the top of the rack (this ensures clear signal transmission in metal-dense data center environments).

Each sensor broadcasts its unique ID and a portion of the CDU data once every 10 seconds using RF Code's patented communication protocol. The power usage statistics are transmitted to RF Code Readers that are connected to the Ethernet network. All power data collected from the CDU flows via the RF Code readers to the RF Code software (Zone Manager, Asset Manager, and CenterScape) and into other applications for power monitoring and display. The software presents all of the collected power parameters and computes additional attributes from this data to provide a complete picture of power utilization. Power attributes can be utilized by existing CenterScape or Asset Manager features such as:

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

Powered by a replaceable coin cell battery, the R170 sensor will perform reliably in any data center environment (the sensor's specified operating temperature range is -20 to +70 degrees Celsius). R170 cases are impact-resistant and temperature stable. The R170 sensor operates with a very low duty cycle that translates to long battery life (typically > 5 years). Featuring a low-battery alert, the sensor will continue to report CDU operational data for at least three months following this alerting.

R170 CDU Sensors only receive information from the CDUs, hence no outlet switching or other actions are possible through the sensor. This means the RF Code wireless solution does not compromise power security.

The R170 CDU Sensor is ideal for data center managers that want to minimize wiring and eliminate the costly administrative overhead of managing IP connections to each CDU.

RF Code R170 CDU 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
Radiated Emissions	71.8 dBuV/m at 3 meters (maximum)
Modulation	ASK
Stability	Saw stabilized
Sensor Cable Length (RJ45 from Sensor to Serial Port)	7 ft (2.1 m)

ENCLOSURE	
Case Length	1.35 in (34.28 mm)
Case Width	1.84 in (46.74 mm)
Case Height	0.50 in (12.7 mm)
Case Weight (with sensor)	0.66 oz (18.71 g)
Construction	Injection-molded polycarbonate enclosure
Durability	Tough, impact resistant and temperature stable
Mounting Options	Industrial-strength adhesive or screw-mountable snap-in bezel

ENVIRONMENTAL	
Operating Temperature	-20° C to +70° C
Storage Temperature	-40° C to +80° C
Sealing	Splash resistant

POWER	
Battery Type	Lithium CR2032 replaceable coin cell
Smart Sensor Feature	Low battery indication
Battery Life	> 5 years (typical)

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