Radio Frequency Identification (RFID) System Components for 13.56 MHz transponders, developed for applications in factory automation and access control.

The Sentient RFR-01 is a fixed position, radio frequency tag reader. Operating at 13.56MHz*, the RFR-01 is compatible with Phillips I-Code® and Texas Instruments Tag-it® protocols. Measuring less than eight cubic inches, the small, self-contained unit incorporates the antenna, modulator/demodulator, analog to digital converter, decoder and communications in a small, industrially robust, and waterproof enclosure.

Developed for use in factory automation, the RFR-01 is ideal for near distance applications typically found in process manufacturing applications. An outstanding feature for such applications is the units ability to write pertinent manufacturing data into the RF tag as an item proceeds through the process. Information such as sub-assembly, quality test data, and process sequences can all be tracked directly to the tagged item along the production line.

Typical applications include:
- Totes, carts in distribution
- Carriers moved along power and free conveyors
- Meat hooks along chain driven overhead conveyors
- Garments along laundry systems

* The RFR-01 reads passive, low cost, RF transponders that operate in a frequency band of 13.56 MHz.

Passive transponders do not require an on board battery supply. The device obtains its energy directly from the field produced by the RFR-01. By comparison to active transponders, the useful life of a passive tag is greatly extended, while its cost is substantially reduced.
Product Specifications

Dimensions:
- Length: 3.1 in. (80 mm)
- Width: 3.1 in. (80 mm)
- Height: 0.8 in. (20 mm)
- Weight: 

Housing:
- Plastic, ABS, rubber seal ring, IP67

Cabling:
- 3ft, shielded

Technology:
- Passive tag operating at 13.56 MHz

Power Supply:
- 5 VDC, 12 VDC or 24 VDC

Power Consumption:
- Max 150 mA at 12VDC

Operating Temperature:
- –30 to +70 ºC

Status LEDs:
- Red - Read
- Green - Power

RS 232 Interface:
- 9600 baud
- 1 start bit
- 8 data bits
- no parity
- 1 stop bit
- half-duplex