

RFID Sensor Systems

Sensing, Tracking, and Data Logging

ST050 fully passive RFID temperature sensor Ranger™ tag

RFID Sensor Systems offers tags, readers, and small systems compliant with EPC Gen2 class 1 international standard. We offer a variety of tags with different mounts and read/write range. Our product line is further enhanced with EPC Gen2 class1 compatible tags providing immediate sensor data and logged sensor data. Most of our tags are available with adhesive backing, Velcro-like backing, magnetic strip backing, and screw-hole mounting options. Our passive tags are designed with industry standard CMOS Gen2 class1 (ISO 18000-6c) integrated circuit ICs.

The ST050 low profile passive tag is designed for maximum range in open air applications. It also provides a limited range when mounted on or near metallic or liquid (beyond competitive tags including most tags specified as “metal mount”). The ST050 tag provides exceptional range for all orientations within the plane normal to the axis of the tag.



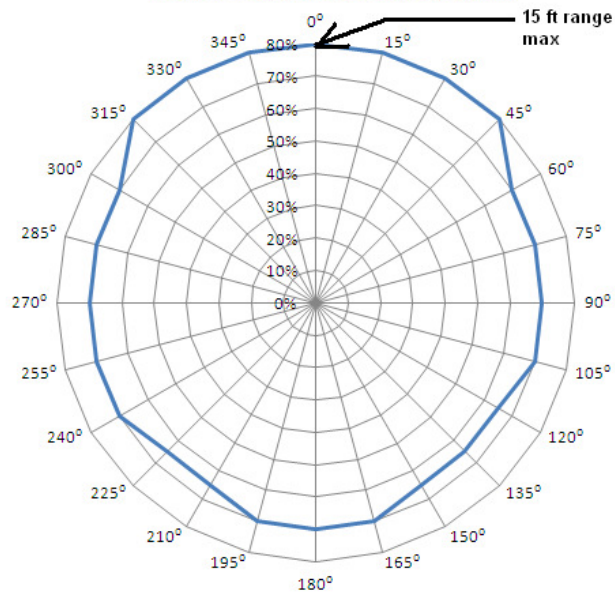
ST050-1

ST050-2

EPC Gen2 class1/ ISO 18000-6c compatible

Features	
Application:	Measures temperature of surrounding environment. Mounting on metal will reduce range
Tag Dimensions:	6.7 x 0.4 x 0.7 in. (170 x 10 x 18 cm). Backing options add to tag thickness
Frequency (MHz)	902-928 NA + SA, 865.7 – 867.6 EU & India, 902-907.5 Brazil, 920-926 Australia The read range of this tag is approximately the same from 860 to 960 MHz.
Read Range:	Up to 15 feet (6.1 m) open air with 1 Watt reader RF power and standard antenna.
Memory	8000 user bits + 96 bit EPC code + 32 bit access password + 16 bit kill password. Also preprogrammed with unalterable 64-bit serial number.
RFID protocol chip:	ISO 18000-6c (C3)
Temperature range:	-80 to +80 °C
Hermeticity:	IP-67
Standard color:	White (Other colors optional)
Standard Mountings:	ST050-1 screw holes, ST050-2 long handle
Attachment options:	Velcro-like backing or adhesive backing
Compatible Standards:	EPC Gen2/ISO 18000-6c including 6.25, 12.5, 25.0 μs tari
Return data link:	40, 80, 160, 320, 640 kHz

ST050-1 Range Pattern Open Air



Range radius is calibrated in feet

The polar coordinate plots of tag range are obtained with an ISO 18000-6c reader operating with 30 dBm (1 Watt) RF power and a standard RFID readerpatch antenna with 6 dBm gain. The tag is characterized above in open air. Frontal range is indicated as 0° orientation.

Sensor Long Ranger™ Applications

- Food Traceability
- Refrigerated drugs
- Refrigerated flowers
- Temperature monitoring in storerooms and vehicles in transit



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