

Product Profile

- Available as a stand alone reader or a module for easy integration into an existing housing
- Four addressable antenna ports for flexible, economical deployment of RFID across multiple portals or conveyor assemblies
- Custom-configurable serial interfaces for connection to programmable logic controller equipment
- Designed for indoor industrial environments



INTELLITAG FIXED READERS AND MODULES: 915 MHZ AND 2450 MHZ

Intermec's Intellitag® team, with over a decade of success designing, producing, installing, and supporting radio frequency identification (RFID) solutions worldwide, introduces a new FCC-approved fixed reader, the ITRFxxx01, and module, the ITRMxxx01, to the existing Intellitag family of RFID tags, scanners and readers. Packaged in a sturdy extruded aluminum enclosure with an available power supply, the readers are ready for freestanding installation in indoor industrial environments. The modules are supplied without the aluminum housing, making them ready to integrate into other systems and enclosures.

The reader and module, available in either 915 MHz or 2450 MHz frequency bands, are ready for integration into supply chain management for retail operations, industrial manufacturing, and logistics applications. Both units are ideal for RFID solutions requiring an extended read range, multi-tag sort, read/write, and memory capacity not provided by "proximity" technology.

With four antenna ports, users can deploy a single ITRFxxx01 reader or module with four antennas, instead having to install four separate readers with one antenna each. This reduces the "cost per antenna,"

especially when identifying relatively small numbers of items at a time in multiple locations.

The ITRFxxx01 series Intellitag readers are specifically designed to provide cost effective solutions for implementing RFID into environments using programmable logic controllers (PLC), where RS232 and RS422 connections dominate. The serial port on the ITRFxxx01 or ITFMxxx01 allows the readers to be directly installed and run under the command of a PLC.

RF power output and duty cycle are programmable with both models. This gives the user the flexibility to inexpensively custom-configure the readers' operation to meet specific regulatory requirements governing the consumption of RF bandwidth, or to meet specific user requirements, such as the need to coexist with a wireless LAN installation.

Applications standards organizations, such as ANSIMH10, are adopting Intellitag technology because it is proving to be both practical and reliable in real-world industrial environments that require identification and data capture from multiple, non-uniformly oriented items at ranges in excess of 1 to 2 meters.

Physical Description

The Intellitag® Fixed Reader, or ITRFxxx01, available in both 915 MHz and 2450 MHz frequency bands, is a rugged radio frequency identification (RFID) reader appropriate for use in indoor industrial environments. The reader can also be purchased as a module, without the aluminum housing, for integration into an existing system.

Physical Characteristics of the Reader

Length: 19.1 cm (7.5")

Height: 6.6 cm (2.6")

Width: 13.5 cm (5.3")

Physical Characteristics of the Module

Length: 17.8 cm (7")

Height: 2 cm (.8")

Width: 12.7 cm (5")

Standard Features

Input/Output Circuits: 13 pin DIN connector. Four input and four output circuits for monitoring and controlling external devices through the reader

Antenna Connections: 4 connectors - reverse SMA. Selectable by software

Identify, Read & Write Examples*:

- Configured for U.S. FCC Part 15 operation at a distance of 50% of the maximum read range
- Identifies up to 40 tags per second
- Reads a tag (8 bytes of data) within 12 ms
- Performs a verified write at an average rate of 31 ms per byte, per tag

Range Performance Examples*

With FCC unlicensed operation scanner/programmer and dual antenna configuration, writes up to 70% of read range.

- 2450 MHz -- Reads at 1.5 meters with a single antenna and 60-mm tag
- 915 MHz -- Reads at 3 meters with a single antenna and 105-mm tag

* Rates and ranges will vary by tag spacing, movement, mounting surface, surrounding materials, and orientation.

Power

Supply: 1500 ma regulated at 8.5 VDC

Software

Application program interface (API), demonstration and example applications software are included in the Intellitag® Software Developer's Kit. Intermec restricts the resale of its RFID solutions to partners that have been qualified by attendance at an Intermec RFID Developer's class.

Options**RFID Frequency Options**

2450 MHz

915 MHz

Communications Interface Options (factory configured)

RS232

RS422

Accessories

- 95-250VAC to 9VDC external power supply
- Power cords for U.S., Europe, U.K. and Japan
- Antennas, dummy loads and antenna cables

Environment

Operating Temperature: -20°C to 55°C

(-4°F to 131°F)

Storage Temperature: -40°C to 85°C

(-40°F to 185°F)

Humidity (non-condensing): 10% to 95%

Shock: 10 G, 11ms, half sine pulse (operating)

Vibration: 1.0 GRMS. 10 to 500Hz, 3 axis (operating)

Regulatory Approvals

ANS INCITS 256:1999 (R2001) - Parts 2, 3.1 & 4.2

ANSI MH10.8.4

ISO/IEC CD18000 Part 4

ISO/IEC WD18000 Part 6

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