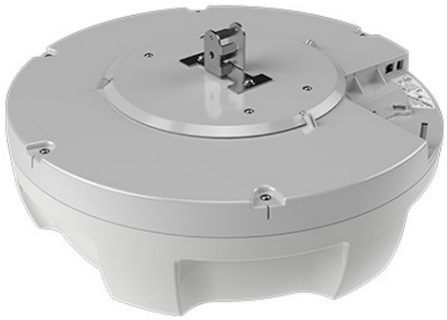
ATR7000 Overhead RFID Reader

Redefine operational efficiency with superior performance, visibility, and value

Your business depends on accurate, up-to-the-minute data. The more you know about the position and movements of your inventory and assets, the better you'll be able to plan effectively, optimizing your operational efficiency and productivity while minimizing time-consuming, error-prone manual scanning. The Zebra ATR7000 Overhead RFID Reader offers unprecedented visibility into the location of items bearing RFID tags, and the advanced directionality feature allows a single, standalone ATR7000 to track the movement of RFID tags through four or six designated zones, such as major pathways or transition points. Build your best real-time location system around the industry standard: the Zebra ATR7000 Overhead RFID Reader.



Superior locationing for maximum asset visibility

Advanced RFID, exclusively from Zebra
The parallel multi-transmit and receive architecture, digital beam-forming, and wide-angle array antenna combine to deliver unsurpassed location accuracy and coverage.

More coverage with fewer readers
The wide-angle, multi-polarized antenna covers up to double the area of typical competitive readers. And with dual circular and linear coverage patterns, you get maximum tag visibility in virtually any application, regardless of the environment size or complexity.

Pinpoint location accuracy
The ATR7000 electronically steers and processes several hundred narrow flashlight-style beams simultaneously, providing highly accurate asset location, typically better than 2 feet (0.6 meters).

Multi-zone advanced directionality
A single fixed ATR7000 Overhead RFID Reader can track RFID tag transitions through four or six reporting zones, recognizing and recording movement through transition points or along designated pathways.

Real-time tracking—location, movement, and direction
The ATR7000 gives you complete real-time visibility into the location of all of your tagged assets—regardless of whether they are stationary or on a forklift moving at top speed. Since you can also see the direction of the movement, you get an extra layer of intelligence—for example, you can see whether items are moving into or out of a truck on the loading dock. And this powerful industrial reader delivers up to 10 times the throughput of competitive readers—so no matter how many assets you need to track, with the ATR7000, you can always track them all in real time.

Get frictionless, time-saving workflows that improve efficiency and reduce costs.
For more information, please visit www.zebra.com/atr7000

Simplified integration and deployment

Fast, easy integration with Zebra RFID API

Want to get your small deployment up and running quickly and easily? With Zebra's RFID Application Programming Interface (API), you can. The API simplifies the creation of RFID applications that can utilize real-time tag location data from the ATR7000, paving the way for dynamic time-saving workflows.

Superior locationing with CLAS

Want to empower your Warehouse Management System (WMS) with the real-time pinpoint location of all your tagged assets to enable the creation of dynamic workflows that maximize productivity? With Configuration and Location Analytics Software (CLAS), you can. This ready-to-use licensable software includes two key components: the RTLS software that enables configuration and remote management and monitoring of all your ATR7000 readers, and the Location Analytics engine, which automatically:

• Collects tag data from all of your ATR7000 readers.

• Triangulates the tag data from multiple readers to calculate the real-time location of all tagged assets, typically accurate within 2 feet (0.6 meters).

• Streams the real-time location of your tagged assets into the business system of your choice—such as your Warehouse Management System (WMS).

Now your WMS will know where all your assets are, whether they're stationary or on-the-move, and in which direction they're moving. Armed with this new level of locationing intelligence, your WMS can automatically create and assign complex dynamic workflows that aggregate tasks along a single path. For example, a worker completing a put-away order could complete a pick order on the return trip. Or one worker can complete multiple pick orders with items in the same vicinity on one trip through the warehouse.

The result? Minimum application coding. Maximum value out of your ATR7000 RFID solution. A faster return on investment by eliminating about six to nine months of development time. Maximum operational efficiency. And maximum worker productivity.

Easy to deploy, manage, and scale

Zebra Resonate RFID Reader Management

With RFID Reader Management, you can easily deploy and manage a network of Zebra passive RFID readers. Fully compatible with our current portfolio of devices in this category, RFID Reader Management allows you to configure and monitor the status of every cloud-ready Zebra RFID reader in your system from one consolidated application, without requiring multiple tools to manage different types of readers.

IoT Connector

With IoT Connector, you can gather data from cloud-capable edge devices in a simple, consistent manner. Use the information and insights gained to make decisions in real time. Developed as a standard feature of our barcode scanners and RFID readers, IoT Connector is simple to configure—no coding required—and uses standard protocols within the Internet of Things.

Multiple mounting options

Mount the ATR7000 wherever you need it. The built-in pole mounting features make it easy to install overhead. And with the standard VESA mount, get additional versatile mounting options.

Flexible power options

Power it your way. Just plug in the +24 VDC power supply or utilize integrated support for 802.3at Power over Ethernet Plus (PoE+) to eliminate the need for an outlet and the time and cost to run a power drop.

Easy remote management of all your ATR7000 readers

Manage your entire ATR7000 solution with the integrated management interface. With this powerful management solution, you can automatically discover and configure ATR7000 readers that are connected to the local network—no hands-on required.

Unmatched value—without breaking the bank

Unbeatable coverage zone

When it comes to cost, whether you choose to deploy it as a Real-Time Locationing System (RTLS) or a standard fixed reader at dock doors or other transition points, the ATR7000 can't be beat. Its wide-angle antennas cover up to double the area of competitive readers, effectively cutting the number and cost of required readers for your RTLS system in half. And you get the same cost-savings when you deploy the ATR7000 as a fixed reader at your loading dock, since its advanced features enable a single ATR7000 to cover two dock doors.

No-cost tag maintenance

When it comes to tag maintenance, you save even more. Passive UHF tags are not only very cost-effective, they also don't require batteries or battery management and maintenance. So unlike active tags, there's no time or cost spent monitoring battery health and changing batteries to ensure seamless tag visibility. And since the average passive tag lasts for years, it's feasible to tag large volumes of inventory and assets—unlike other RTLS systems.

Specifications

Physical characteristics

Dimensions	Diameter 19.0 in. / 482.6 mm, height 6.34 in. / 161 mm
Weight	11.1 lbs. / 5.03 kg
Visual status indicator	Multi-color LED (power, status)

RFID characteristics

Antenna	Steerable phase-array
Air interface protocol	EPCglobal UHF RFID Class 1 Gen2/ISO 18000-63
Max receive sensitivity	- 88 dBm
Beam scanning range	Azimuth 0-360°, Elevation 0-60°
Frequency (UHF band)	902–928 MHz (U.S. and Canada)

Connectivity

Network connectivity	10/100 Base-T Ethernet (RJ45)
General purpose I/O	Reserved, two (2) inputs, three (3) outputs (Opto-isolated)

Environmental characteristics

Operating temp	-4°F to +131°F / -20°C to +55°C
Storage temp	-40°F to +158°F / -40°C to +70°C
Humidity	5–95% non-condensing
Sealing	IEC IP51
ESD	±15 KVdc air discharge; ±8 KVdc direct/indirect discharge
Vibration	MIL-STD-810F, 0.04 g2/Hz, Random (20 Hz to 2 kHz), 6G rms.

Management interface

Operating system	Linux
Standard API support	Host Application .NET, C and Java EMDK
Management protocols	RM1.01 (with XML over HTTP/HTTPS and SNMP binding); RDMP specification in ISO 24791-3
Firmware upgrade	Web-based and remote firmware upgrade capabilities
Network services	DHCP, HTTPS, FTPS, SFTP, SCP, SSH, HTTP, FTP, SNMP, and NTP
Network stack	IPv4, IPv6

Mounting

Direct attach (pole mount) or VESA 75 or VESA 100

Power sources

POE+ (802.3at) or AC-DC power supply rated for +24 Vdc, 3.25 A

Power consumption

Maximum power	24 W
Idle power	< 4 W

Configuration and Location Analytics Software (CLAS) (licensed)

RTLS config	Server software responsible for initialization, management, and monitoring
Location analytics	Estimates bearings of RFID tags using advanced parallel processing techniques, computes (triangulates) location estimates from tags observed from one or more readers, and publishes tag ID and location on a Kafka interface.
Location accuracy	2 ft. / 0.6 m, R50 4 ft. / 1.2 m, R95

Regulatory compliance

Safety	UL 60950-1; CSA C22.2 No. 60950-1
RF/EMI/EMC	FCC Part 15, ICES-003 (Class B)

Product warranty

Subject to the terms of Zebra Technology's hardware warranty statement, the ATR7000 is warranted against defects in workmanship and materials for a period of 1 (one) year from the date of shipment. For complete warranty statement, please visit: www.zebra.com/warranty

Recommended services

Support services	Zebra OneCare, On-site System Support
Advanced services	RFID Design and Deployment Services

Markets and Applications

Manufacturing, Warehousing, Transportation, and Logistics

- Area monitoring
- Overhead portal
- Dock doors
- Entry/exit areas
- Large area monitoring
- Item location, transition, and direction
- Industrial automation
- Asset tracking

Management interface

Security	Transport Layer Security Ver. 1.2, FIPS 140-2 Level 1
Host Interface Protocol	LLRP v1.0.1

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