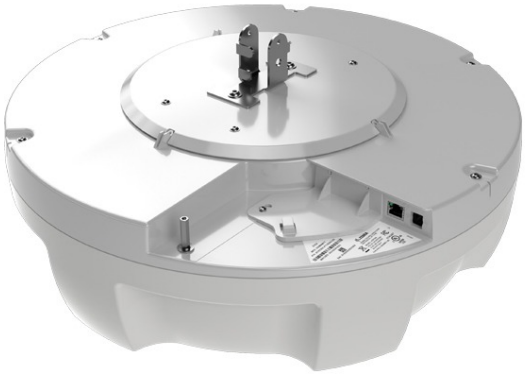
ATR7000 RTLS Reader

Redefine operational efficiency with superior, affordable real-time locationing

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 RTLS Reader offers unprecedented visibility into the location of items bearing RFID tags, updated continuously in real time. Digital beam steering and wide-angle, phased-array antennas provide unmatched accuracy and coverage.



Superior Locationing for Maximum Asset Visibility

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

Wide-angle Multi-polarized Antenna
The wide angle 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.

Beam Steering for Pinpoint Location Accuracy
The ATR7000 electronically steers and processes several hundreds of narrow flashlight-style beams simultaneously, providing highly-accurate pinpoint asset location typically better than 2 ft./0.6 meters.

Industry-best Real-time Tracking: Location, Movement and Direction of Movement
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 peak 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.

Simplified Integration and Deployment

Fast and 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.

Pave the way to frictionless time-saving workflows that drive process efficiency to a new high and transaction costs to a new low with the ATR7000.
For more information, visit www.zebra.com/atr7000

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.

Get Superior Locationing with Zebra's Configuration and Location Analytics Software (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 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. The Location Analytics engine automatically:

• Collects the tag bearing 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 within 2 ft./0.6 m accuracy

• 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 — stationary, on-the-move and in which direction they are 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 returning from 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 through the elimination of about six to nine months of development time. Maximum operational efficiency. And maximum worker productivity.

Easy to Deploy, Manage and Scale

MotionWorks Enterprise 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.

CLAS Software

CLAS (Configuration and Location Analytics Software), a part of Zebra's Advanced Asset Tracking System, enables you to configure and manage all ATR7000 readers and perform real-time identification, location analytics, and tracking of goods tagged with passive UHF RFID tags.

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

Cut Hardware Costs in Half with an Unbeatable Coverage Zone

When it comes to cost, whether you choose to deploy the ATR7000 as a Real-Time Locationing System 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 dock doors, 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 do not require a battery 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 costs less than eight cents and lasts for years, it's feasible to tag large volumes of inventory and assets — unlike other RTLS systems.

Maximize Performance with Zebra Advanced Performance RFID Tags — Purposefully Designed for the ATR7000

The right tags are key to maximizing the performance and benefits of your RFID system. That's why Zebra developed its advanced performance RFID tags, designed specifically to provide the extended read range, orientation insensitivity and faster tag acquisition required to unlock the full potential of the ATR7000. The extended read range combines with the high sensitivity of the ATR7000 to ensure that even tags at the edge of the coverage zone are easily captured. The omni-directional tags are orientation insensitive, enabling flexible application of the labels on your assets — crucial for high read rates. The highly sensitive chip in the tag provides a faster response time to the reader, resulting in faster tag capture and increased throughput. And with wideband technology in the chip, there's no performance degradation on challenging dense and heavy materials, such as wood, glass, water and paper.

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 (US and Canada) 865-868 MHz (EMEA and India)

Connectivity

Network Connectivity	10/100 BaseT 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, 0.04g2/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

Mounting

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

Power Sources

POE+ (802.3at) or AC-DC power supply rated for +24Vdc, 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 60950-01, IEC 62368-1, IEC-60950-1, EN 60950-1
RF/EMI/EMC	FCC Part 15, RSS 210, EN 302 208, ICES-003 Class B, EN 301 489-1/3
Other	ROHS, WEEE

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

Warehousing and Manufacturing

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

Management Interface

Network Stack	IPv4, IPv6
Security	Transport Layer Security Ver. 1.2, FIPS 140-2 Level 1
Host Interface Protocol	LLRP v1.0.1