FX9600 Fixed UHF RFID Reader

Top of the line performance for high-volume rugged environments

To achieve maximum visibility and efficiency in your most rugged environments, your business needs an RFID reader that can keep up with the high volume and wide variety of pallets, cases and tagged items that go in, out and through your warehouse and dock doors each day. The Zebra FX9600 Fixed UHF RFID Reader delivers the performance and features you need to handle it all. With support for Power over Ethernet, IP53 sealing and up to eight RF ports, the FX9600 brings a new level of cost efficiency to passive UHF asset tracking and inventory management, without compromising on performance. Industry-leading read rates, long read ranges and exceptional RF sensitivity ensure you can automate inventory management — from receiving and putaway to picking and shipping — without errors and without bottlenecks. The result? Increased efficiency and accuracy every time your inventory is touched, reduced labor costs and the delivery of the right product to the right customer, on time, every time. When you need industry-best RFID performance, the FX9600 delivers.



Top of the line performance

High RF sensitivity for superior performance and efficiency
The faster and more accurately you can receive, inventory, pick and ship, the more efficient and profitable your operation can be. The FX9600's eight highly sensitive monostatic RF ports provide the exceptionally high RF sensitivity required to deliver the greatest accuracy and longer read ranges. The result is the highest throughput in this class — even in the densest RF environments with challenging materials, such as metal or liquids.

Most power in its class
With a best-in-class processor and expanded memory, the FX9600 offers the power needed to support very high traffic throughput and sophisticated software applications.

Unrivaled deployment simplicity

Parse data at the edge with embedded applications
The FX9600 can host embedded applications, so data can be parsed directly on the reader. Since data is processed in real time at the network edge, the amount of data transmitted to your backend servers is substantially reduced, increasing network bandwidth and improving network performance. Latencies are reduced, improving application performance. And the integration of data into a wide variety of middleware applications is simplified, reducing deployment time and cost.

Easy, low-cost deployment with support for PoE and PoE+
Eliminate the time and cost required to run power drops to each reader with support for PoE (802.3af) or PoE+ (802.3at). And either PoE+ or a 24V power supply provide industry-best full output power, eliminating the loss of power due to long cable runs and connectors. You get maximum tag reads, maximum read ranges and the maximum RFID performance required to get coverage you need with fewer readers.

The FX9600 — industry-best RFID performance for your most demanding environments.

For more information about the FX9600 Fixed UHF Reader, visit www.zebra.com/fx9600

Directly connect to Wi-Fi™ networks and Bluetooth™-enabled devices

The FX9600 supports a Wi-Fi/Bluetooth dongle for direct wireless connectivity to your Wi-Fi network, as well as Bluetooth-enabled computers and other devices. There's no need for hard-wired connections to the access point.

Compact, streamlined layout

A streamlined layout with all cabling and input/output ports located on one side simplifies deployment and management.

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.

Industry best TCO

Rugged design for tough environments

An extremely durable diecast aluminum housing and IP53 sealing deliver the durability you need to ensure uptime — even in damp, dusty work areas, extreme heat or subzero temperatures.

More read points per reader

In addition to a four-port model, the FX9600 comes in an eight-port model, enabling you to cover more dock doors and portals with fewer readers — significantly lowering your initial investment, as well as deployment and management time and costs.

Rugged mobile mount for use in forklifts and more

The rugged mobile mount brings the benefits of RFID to forklifts, other warehouse material handling vehicles, as well as other rugged environments where vehicles do not have rubber inflatable wheels. By installing the FX9600 on a forklift, drivers can ensure that the right item is going to the right place — and that the right items are picked for the right order. The universal mount offers a wide range of mounting options anywhere on the vehicle, while vibration and shock dampening capabilities ensure maximum uptime in your most rugged applications.

Optional 4G LTE cellular modem with GPS capabilities

An optional 4G LTE modem with GPS enables you to extend RFID to the field. For example, with an FX9600 installed in a delivery truck, you can automatically verify package pick up and delivery or track Returnable Transport Objects (RTOs) such as bakery trays and commercial laundry. The integrated GPS provides the exact location where RFID tags are read – giving you complete visibility into when and where a package or asset was placed or received.

Get the most out of your RFID investment — from the leader in RFID

Zebra has more fixed, handheld and portal RFID systems installed than any other RFID provider, giving you the peace of mind that comes from choosing RFID products that are well-tested in practically every industry — and in some of the world's largest companies. And with over 300 RFID technology patents that have allowed us to deliver many industry firsts, you can count on our best-in-class advanced technologies to maximize the performance of your RFID solution.

Specifications

Physical Characteristics

Dimensions	10.75 in. L x 7.25 in. W x 2.0 in. D 27.3 cm L x 18.4 cm W x 5.0 cm D
Weight	Approx. 4.4 lbs/2.13 kg
Housing Material	Die-cast aluminum, meets IP53 standards
Visual Status Indicators	Multicolor LEDs: Power, Activity, Status and Applications

RFID Characteristics

Max Receive Sensitivity	-86 dBm monostatic
Air Protocols	ISO 18000-63 (EPC Class 1 Gen 2 V2)
Frequency (UHF Band)	Global Reader: 902 MHz - 928 MHz (Also supports countries that use a part of this band), 865 MHZ - 868 MHz US (only) Reader: 902 - 928 MHz
Transmit Power Output	0dBm to +33.0dBm: PoE+, 24V External DC, Universal 24 VDC Power Supply; 0dBm to +31.5dBm: PoE, 12V External DC (4-port-models only), 24V External DC, Universal 24 VDC Power Supply

Connectivity

Communications	10/100 BaseT Ethernet (RJ45); USB Host and Client (Type A and B)*; Serial (DB9)
General Purpose I/O	4 inputs, 4 outputs, optically isolated (Terminal Block)
Power Supply	POE (802.3af) POE+ (802.3at) +24V DC (UL Approved)
Antenna Ports	FX9600-4: 4 monostatic ports; (Reverse Polarity TNC) FX9600-8: 8 monostatic ports; (Reverse Polarity TNC)

Environmental

Operating Temp.	-4° to +131° F/-20° to +55° C
Storage Temp.	-40° to +158° F/-40° to +70° C
Humidity	5-95% non-condensing
Sealing	IP53

Hardware, OS and Firmware Management

Processor	Texas Instruments AM3505 (600 MHz)
Memory	Flash 512 MB; DRAM 256 MB
Operating System	Linux
Firmware Upgrade	Web-based and remote firmware upgrade capabilities
Management Protocols	RM 1.0.1 (with XML over HTTP/HTTPS and SNMP binding); RDMP
Network Services	DHCP, HTTPS, FTPS, SFPT, SSH, HTTP, FTP, SNMP and NTP
Network Stack	IPv4 and IPv6
Security	Transport Layer Security Ver 1.2, FIPS-140
API Support	Host Applications — .NET, C and Java EMDK Embedded Applications — C and Java SDK

Regulatory Compliance

Safety	UL 60950-01, UL 2043, 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 For Malaysia: 919-923 MHz
SAR/MPE	FCC 47CFR2:OET Bulletin 65; EN 50364
Other	ROHS, WEEE

Environmental Compliance

Environment
• RoHS Directive 2011/65/EU; Amendment 2015/863
• REACH SVHC 1907/2006
For a complete list of product and materials compliance, please visit
www.zebra.com/environment

Warranty

The FX9600-4 and FX9600-8 are warranted against defects in workmanship and materials for a period of one year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions. For complete warranty statement, go to:
www.zebra.com/warranty

Recommended Services

Support Services	Zebra OneCare™; On-Site System Support
Advanced Services	RFID Design and Deployment Services

Footnotes

*Configurations without a USB hub require an external USB hub for
full USB functionality
Specifications are subject to change without notice.

Markets and Applications

Warehousing

• Inventory management

Transportation and Logistics

• High volume traffic
• RFID-tagged pallets and cases

Manufacturing

• Asset tracking

Retail

• Item-level tagging
• Pickup and delivery confirmation

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