

R3S Desktop RFID Reader

Smaller Size and Richer Interfaces to Support Broader Application Needs

Chainway R3S is our newly launched desktop UHF reader designed for close-range RFID data capture. It is built with the Impinj E-series chip and supports the latest Impinj Gen2X protocol, enabling reading distances of up to 100 cm. With a proprietary high-efficiency anti-collision algorithm, the R3S delivers fast, stable performance while maintaining a high read rate. It supports multiple data interfaces, including Bluetooth, Type-C USB, and Ethernet, and works seamlessly with Android, iOS, and Windows devices. Typical applications include retail checkout, tablet-based POS, and jewelry or valuables management.



Strong compatibility with mainstream platforms

Fully compatible with Windows, Android, and iOS systems, the R3S connects easily with mainstream terminal devices. SDKs are available to support application development and reduce integration effort and cost.

Dual Indicators for Instant Feedback

LED indicators and a built-in buzzer provide intuitive real-time feedback for read/write operations, helping users confirm status quickly and reducing errors caused by oversight.

Compact design for flexible deployment

The R3S adopts a compact, integrated design that combines the UHF module and antenna into a single unit, making it small, plug-and-play, and easy to deploy. A top-mounted Scan button allows manual trigger-based reading for more flexible operation. It fits perfectly in space-constrained environments such as desktops, counters, and service windows, and can also be embedded into self-checkout kiosks, loan/return terminals, and other all-in-one devices—delivering a “fits anywhere” deployment experience.

High-Performance, Low-Miss Reading Engine

Powered by the Impinj E-series and supporting the latest Impinj Gen2X protocol, the R3S offers excellent sensitivity and anti-collision performance. It can read 70+ tags in a single session (5-second inventory), significantly improving efficiency for batch checkout and inventory tasks, even in dense tag environments.

Precise power control for reduced misreads

With a maximum read distance of approximately 100 cm and 30-level adjustable power settings, the R3S allows fine-tuned control for different operational scenarios. This helps minimize stray reads and misreads, ensuring accurate and reliable results.

Versatile Interfaces for Easy Integration

USB provides true plug-and-play operation without an external power supply. RJ45 supports Ethernet communication and PoE+ power. A DC input is available to ensure stable power delivery when USB is insufficient or when external Bluetooth modules are used. Multiple I/O options greatly enhance installation flexibility.

Specification

Physical Characteristics

Dimensions	255mm * 235mm * 18mm/10.04 in* 9.25 in* 0.71 in
Weight	Approximately 650 g/22.93 oz.
Material	PC
Port	Compact Version: 1*USB Type-C port Enhanced Version: 1* USB Type-C port + 1* DC power port PoE Version: 1* USB Type-C port + 1*DC power port + 1* RJ45 port
Power Supply	USB, DC, and RJ45 ports all support power supply
Scan Button	1*Scan Button
LED Indicators	1* Power indicator (ring around the inventory button) 1*Bluetooth indicator 1*Operation indicator Ethernet indicators: 1*green LED + 1* yellow LED (optional)
Audio	1*Buzzer

Data Communication

USB	USB 2.0 with a transmission rate of 12 Mbit/s
Ethernet	10/100 Base-T Ethernet /PoE+ support
Bluetooth	BLE 5.0

Environmental

Operating Temperature	-4° F to 122° F (-20° C to 50° C)
Storage Temperature	-40° F to 158° F (-40° C to 70° C)
Humidity	5%RH - 95%RH non condensing
Sealing	Ingress Protection (IP) 54 rating
Vibration	YD/T 1539-2019
ESD	±15 kV air discharge, ±8 kV contact discharge

RFID

Engine	Based on Impinj E-Series chip
Frequency	865-868 MHz/920-925 MHz/902-928 MHz (custom-design for frequency band)
Impinj Gen2X	Supported
Protocol	EPC global Class 1 Gen 2/ISO18000-63 RFID
Transmit Power	1 – 30, step 1 dB
Antenna	Near-Field Antenna
Fastest Read Rate	250+ tags/sec
Multi-tag Inventory	Supports reading 70+ RFID tags at once (5 seconds)
Max Read Range	>100cm (tag:Impinj M750 tag)

Developing Environment

SDK	Supports Android, iOS, and Windows systems
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Accessories

Standard	1*USB data cable、 1*USB cable clip、 2*USB cable fixing screws
Optional	1*DC power adapter、 1*PoE power adapter

Notice: Product specifications are subject to change without prior notice. / Model: R3S / Update Date: 2025-11-28