



*RFline*

## UHF Long Range Reader

# RFline U4



## PRODUCT DESCRIPTION

RFline U4 is designed for demanding industrial and logistics applications, ideally suited for reading distances > 10 meters. Equipped with rugged M12 connectors and a robust housing, it is the ideal solution for integration into machines, forklifts, and conveyor systems.

The device is powered by the latest IMPINJ E710 reader chip, offering excellent read performance and high flexibility for industrial and IoT environments. Supporting UHF RFID technology EPC Class 1 Gen 2 (ISO 18000-63) within a frequency range of 865–868 MHz, the RFline U4 enables reliable and fast identification processes.

With up to 33 dBm RF output power via a mono-static antenna port, the reader achieves read rates of > 950 tags per second depending on the tag IC used. Real-time temperature monitoring ensures stable operation, even under challenging environmental conditions.

iDTRONIC provides a comprehensive Software Development Kit (SDK) for seamless integration into Linux, Windows and controller-based systems. The SDK includes full documentation, command protocols, source code examples and a user-friendly Windows demo application.

## APPLICATIONS

- Industry 4.0 devices
- Logistics & Asset Tracking
- Retail / Inventory Management

## FEATURES

- 4 External Antennas
- Host, Buffered and Notification reading modes
- Anticollision, RSSI and phase angle output
- Whitelist Management
- Integrated Web Server for configuration
- Real Time Clock with battery backup
- Secure key storage via Secure Element

## CHIP OPTIONS

- UHF  
(EPC C1 GEN2 / ISO18000-63)

## TECHNICAL DATA

### ELECTRICAL SPECIFICATIONS

Reading Range	> 10 m
Operating Frequency	865–868 MHz (ETSI)
Power	10–24 VDC & POE (M12 5-Pin)
GPIO	2 inputs, 4 relay outputs (24VDC/1A, M12 12-pin)
Antenna	4 External Antenna Ports with TNC connector
Interface	RS232, TCP/IP POE, Canbus (SAE J1939)
Reader IC	Impinj E710
RF Output Power	Adjustable with up to 33 dBm (1 dB steps)
RF Sensitivity	Up to -93 dBm
Read Rate	> 950 tags/sec
Tag Cache	> 950 tags (12-byte EPC)

### MECHANICAL SPECIFICATIONS

Dimensions	160 x 100 x 65 mm
Material	Metal
Mounting	flat surface or pole, 4 mounting studs for accessory fastening
Protection Class	IP67

### ENVIRONMENTAL CONDITIONS

Operating Temperature	-25 °C up to +55 °C
Storage Temperature	-25 °C up to +85 °C
Humidity	up to 95 %, non-condensing

### SDK INFORMATION

Supported OS	Windows
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### SUPPORTED STANDARD / TAGS

ISO Standard	ISO 18000-63 (EPC Class 1 Gen 2)
Radio	EN 302 208
EMC	EN 301 489
Safety	EN 62368-1, EN 50364
Cybersecurity	EN 18031-1
Environment	EN 61373 Cat 1B, EN 45545-2, EN 50155, EN 60068-2-30, Salt Mist EN 50155
Certificates	CE

*\*READING DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.*

## ORDER CODES

VERSIONEN	ORDER CODES
RFline U4 - RS232	R-RF-UHF-LR-U4-232
RFline U4 - CAN J1939	R-RF-UHF-LR-U4-CAN
RFline U4 - Ethernet	R-RF-UHF-LR-U4-ETH
RFline U4 - POE	R-RF-UHF-LR-U4-POE

## PRODUCT IMAGES

