

Ion - R4301P

RAIN RFID Long Range Reader with GPRS/WiFi



Features

- RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) compliant
- Multiregional support
- Embedded intelligence
- Ethernet port
- USB 2.0 High Speed host port
- Internal MicroSD slot
- Integrated GPRS or WiFi interface module (optional)
- Easily deployable and scalable

Applications

- RAIN RFID portals for logistic
- Industrial automation reading points
- RAIN RFID tunnels
- Access control reading points
- On-vehicle installations
- Point of Sales Devices (smart shelves, smart displays)

Overview

The **Ion** (Model R4301P) is the top-of-the-range portal reader of the easy2read® product line. CAEN RFID has carefully designed the device taking into account customer requests and on-field experience on RFID installations. The result is not only a RAIN RFID reader, it's a unique combination of outstanding RFID reading performances, computing power and communication capabilities.

Based on an embedded HW architecture (x86) and standard operating system (Linux), the **Ion** eases the development of custom software and solutions. The on-board computing power and connectivity remove the need for an external PC and related cabling. This results in deployment and operation cost savings, thus reducing the total cost of ownership of installed devices.

The **Ion** is best suited for complex AutoID scenarios, where the information can be collected and fed directly to the reader from multiple sources such as Smart Card readers, Barcode readers, GPS and other in-field sensors. All data can be handled locally through data buffering, filtering and aggregation, in order to directly provide decision-making data to higher level Business Intelligence processes. The same data can also trigger local actuators and screen displays for in-field real-time processes in a standalone mode.

The presence on board of an optional integrated GPRS modem or WiFi interface module, together with its compact and versatile form factor, allow to use it in any worldwide installation requiring RFID usage in remote areas.

As a result of all the above, the **Ion** allows solution providers to customize the reader to each application, thus creating their own specialized devices accordingly.



Technical Specification Table

Frequency Range	- 865.600÷867.600 MHz (ETSI EN 302 208 v. 3.1.1) - 902÷928 MHz (FCC part 15.247)
RF Power	- Up to 32 dBm (1.6W) conducted (ETSI) - Up to 30 dBm (1W) conducted (FCC)
Number of Channels	- 4 channels (compliant to ETSI EN 302 208 v. 3.1.1) - 50 hopping channels (compliant to FCC part 15.247)
Standard Compliance	EPC Class 1 Gen 2 - ISO18000-63
CPU	Intel Atom E3815 CPU @ 1.46GHz
Memory	2Gbytes RAM, 8 Gbytes MicroSD
Operating System	Linux (Debian)
Scripting	Java Virtual Machine
Host Interface Protocols	- EPCGlobal LRP RFID host-to-reader protocol - CAEN RFID host-to-reader protocol
Receiving Capability	- Gen 2 Dense Reader Mode Management - Data rate up to 400kb/s
Connectivity	- RS232 Serial Communication (DB9 connector) - Baudrate up to 115.200kbps - Databits: 8 - Stopbit: 1 - Parity: none - Flow control: none - Ethernet 10/100/1000Base-T (RJ45 connector) - USB 2.0 High Speed Host Port
Wireless Communication	- GSM/GPRS internal module(optional) - WiFi internal module(optional)
I/O Interface	13 configurable GPIO pins, TTL levels
Antenna Connectors	4 TNC Reverse Polarity
Power Supply	9÷36V DC power supply (30W)
Internal Interfaces	- MicroSD slot - SIM card holder (optional)
IP Rating	IP 42
MTBF	135000 hours
Dimensions	- (W)275 x (L)155 x (H)39 mm ³ - 10.8 x 6.1 x 1.5 inches ³
Operating Temperature	-20°C to +55°C
Weight	1.3 kg.

Ordering Options

WR4301PXAAAA	Ion - RAIN RFID Reader	WR4301PDKGPU	Ion - FCC Developer Kit with GPRS
WR4301PXGPRS	Ion - RAIN RFID Reader with GPRS	WR4301PDKWFE	Ion - ETSI Developer Kit with WiFi
WR4301PXDKEU	Ion - ETSI Developer Kit	WR4301PDKWFO	Ion - FCC Developer Kit with WiFi
WR4301PXDKUS	Ion - FCC Developer Kit	WALIM0000003	ION Power Supply
WR4301PDKGPE	Ion - ETSI Developer Kit with GPRS		