CAENRFID
THE ART OF IDENTIFICATION

ion R4301P
UHF Long Range Reader with GPRS/WIFI

The first UHF RFID portal reader with embedded GPRS/WIFI

Features

- EPC C1 G2, ISO 18000-6C Compliant
- Multi-regional Support
- Embedded Intelligence
- Ethernet Port
- USB 2.0 High Speed Host Port
- Internal MicroSD slot
- Integrated GPRS modem or WIFI interface module (optional)
- Easily deployable & scalable

Applications

- RFID tunnels
- Portal applications
- On vehicle installations
- Industrial control
- Access control systems
- Point of sales devices (smart shelves, smart displays)

General Info

The Ion (Model R4301P) is the top-of-the-range portal reader of the easy2read$^{©}$ Family.

CAEN RFID has carefully designed the device taking into account customer requests and on-field experience on RFID installations. The result is not only an UHF reader, it's a unique combination of outstanding RFID reading performances, computing power and communication capabilities.

The reader is optimized for portal installations, featuring full power to up to 4 antennas, GEN2 Dense Reader Mode management and high speed read rates.

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 operations 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.

The Ion complies with and can operate in different regulatory environments (Europe, US, Australia, China, Korea, Singapore, Taiwan).

easy2

products family

easy2read© Family

The easy2read© family constitutes a complete and reliable product line of readers for any Auto-ID need. A reading range from a few centimetres up to 7-8 metres distance makes the easy2read© family suitable for applications such as access control, UHF gates, desktop reading or OEM modules for integration into handheld or printer devices.

- OEM Readers
- Fixed Readers
- Desktop Readers

easy2read©

Technical Specifications Table

Frequency Range	902÷928 MHz (FCC part 15) 865.600÷867.600 (ETSI EN 302 208)
Output Power	Up to 32 dBm (1.6W) conducted (ETSI) Up to 30 dBm (1W) conducted (FCC)
CPU	Intel Atom E3815 CPU @ 1.46Ghz
Memory	2Gbytes RAM, 8 Gbytes MicroSD
Operating System	Linux (Debian)
Scripting	Java Virtual Machine
Host Interface Protocols	- CAEN RFID host-to-reader protocol - EPCGlobal LLRP RFID host-to-reader protocol
Antenna Connector	4 TNC Reverse Polarity
Receiving Capability	Gen 2 Dense Reader Mode Management Data rate up to 400 Kbits/s
Standard Compliance	EPC C1 G2/ISO 18000-6C
Digital I/O	13 GPIO pins, TTL level
Connectivity	RS232 Serial Communication (DB9); USB 2.0 High Speed Host Port; Ethernet 10/100/1000BASE-T (RJ45)
Wireless Communication	GSM/GPRS (SMA) (optional) WiFi (SMA) (optional)
Internal Interfaces	MicroSD slot SIM card housing (optional)
IP Rating	IP42
MTBF	135.000 hours
Dimensions	(W)275 x (L)155 x (H)39 mm^3 (10.8 x 6.1 x 1.5 inch^3)
DC Power	9÷36 Vdc (30W)
Operating Temperature	-20 °C to 55 °C
Weight	1.3 kg

Ordering Options

Code	Description
Reader	
WR4301PXAAAA	R4301P - ION - RFID UHF Portal Reader
WR4301PXGPRS	R4301P - ION - RFID UHF Portal reader with GPRS
WR4301PXWIFI	R4301P - ION - RFID UHF Portal reader with WIFI Interface
Development Kit	
WR4301PDKAAA	R4301PDK - Development kit with R4301P reader, antenna, cable, power supply and demo tags
WR4301PDKGPR	R4301PDKG - Development kit with R4301P GPRS reader, antenna, cable, power supply and demo tags
WR4301PDKWFI	R4301PDKW - Development kit with R4301P WIFI reader, antenna, cable, power supply and demo tags