

**PRELIMINARY**

# **Technical Information Manual**

Revision n. 2

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**Mod. A829US**

*FULLY INTEGRATED UHF  
COMPACT READER  
(FCC part 15)*

**NPO:**

**00107/05:829US.MUTx/02**

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## 1. Introduction

The A829US is a multi protocol fully integrated UHF low power short range reader designed specifically to be used in desktop or embedded RFID application. The A829US is fully compliant to the US telecommunication regulation FCC part 15 (902-928 MHz) and it is the reader solution to solve the problem of proximity reading/writing of tags and labels, where transponders are up to 1 metre distance from the reader.

Currently the A829US Module supports the ISO18000-6 B, the Philips UCODE EPC 1.19 and EPC Class1 Gen2 protocols. Other future UHF protocols will be available by firmware upgrade. The A829US houses an integrated antenna, and an USB interface for PC connection. It is a bus powered USB device designed to operate as a stand alone PC peripheral communicating via an USB serial port.



**Fig. 1.1: Mod. A829US Fully integrated UHF compact reader**

## 2. Mod. A829US Technical Specifications

### 2.1. Mod. A829US Technical Specifications Table

**Table 2.1: Mod. A829US Technical Specifications**

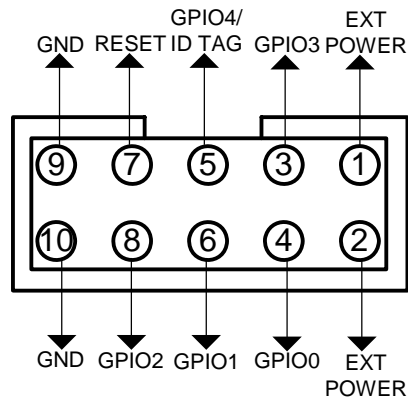
<b>Frequency</b>	912.500÷917.400 MHz (FCC part 15)
<b>RF Power</b>	60 mW ERP @ 5V
<b>Antenna</b>	Integrated Linear polarized Antenna (3.0 dBi @ 915MHz)
<b>Frequency Tolerance</b>	±10 ppm over the entire temperature range
<b>Number of Channel</b>	50 hopping channels (compliant to FCC part 15)
<b>Standard compliance</b>	ISO 18000-6B Philips UCODE EPC 1.19 EPC C1G2 EPC C1G1 (via firmware upgrade)
<b>Digital I/O</b>	Six I/O lines 3.3 V out, 5 V tolerant
<b>USB Port</b>	USB B female connector Bus powered USB 2.0 device Must be connected to High-power Port (> 500 mA @ VBUS) It appears as USB serial port Virtual Com Port (VCP) drivers for - Windows 98/2000/ME/XP Windows CE 4.2, Linux 2.40 and greater
<b>LED display</b>	RED: Power GREEN: Identify TAG YELLOW: USB communication
<b>Dimensions</b>	180 x 130 x 97 mm <sup>3</sup> (7.1 x 5.1 x 3.8 inches <sup>3</sup> )
<b>Electrical Power</b>	5 V DC bus powered (USB) Max 250 mA
<b>Operating Temperature</b>	-20 °C to 60 °C

### 2.2. External connections

The location of the connectors is on the A829US back side. Their mechanical specifications are listed here below:

**USB Port:** USB B female connector, Bus powered USB 2.0 device; it must be connected to High-power Port (> 500 mA @ VBUS)

**GPIO Connector:** 3M-7610-5002-5+5 type; Function: general purpose Input/Output, see figure for pin assignment



**Fig. 2.1: GPIO Connector pin assignment**

### 2.3. Front panel Leds

The A829US front panel houses the following Leds (from left to right):

<b>Function:</b>	<b>Type:</b>
ID Tag Led	Red Led
Power ON Led	Green Led
USB Communication Led	Yellow Led

### 2.4. Regulatory Compliance

This equipment has been tested and found to comply with Part 15 of the FCC Rules.

NOTE:

(a) Any changes or modification not approved by CAEN RFID could void the user's authority to operate the equipment.

(b) Persons must respect a separation distance of at least 20 cm from the reader. This device may not be co-located with any other transmitter or transmitter antenna.