Desktop UHF RFID reader/writer Hardware manual

（For SLR1218、SLR5218、SLR5318）

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Chapter 1 Overview

This series of readers have built-in small gain PCB antenna, excellent structural design, can effectively prevent the tag from being misread or serial read, positioned in the use of close reading card scenarios. Suitable for supply chain management, asset management and other fields of card issuing applications and close card reading applications. At the same time, it can support the optional high-gain ceramic antenna, combined with the high-performance RFID module to meet the use of higher card reading performance scenarios.

The series currently has three main products

model	model difference
SLR1218	Power range 5 - 30dbm，high-performance
SLR5318	Power range 5 - 30dbm
SLR5218	Power range 13 - 20dbm

Chapter 2: Technical Parameters

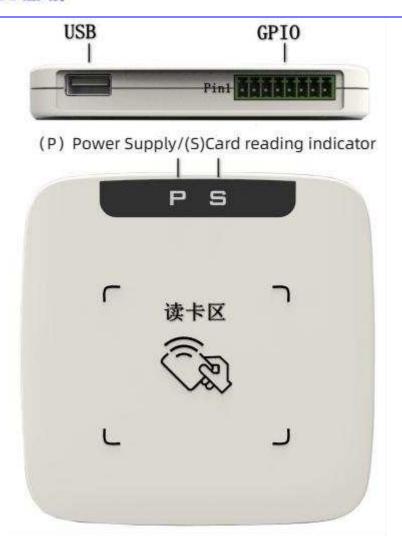| Label / transfer protocol	
Tagged agreement	EPC Class 1 Gen 2（ISO18000-6C）
Radio frequency interface	
Antenna connection	Default 0 dBi round polarized PCB antenna, optional 2 dBi round polarized ceramic antenna
Output power range	SLR1218： 5dBM~30dBm　Adjustment accuracy：1dBm SLR5318： 5dBM~30dBm　Adjustment accuracy：1dBm SLR5218：13dBM~20dBm　Adjustment accuracy：1dBm
Receiving sensitivity	SLR1218：< -85dBm SLR5318：< -75dBm SLR5218：< -65dBm
Work area support	FCC（NA，SA）902-928MHz ETSI(EU)　　865-867MHz SRRC-MII(P.R.China)840-845 MHz、920-925MHz OPEN'(Custom)840-960MHz
Transmission control interface	
communication interface	USB2.0 communication / RS232 serial port communication, portport rate: 115200 bps (default)
Universal GPIO port	Two sets of inputs, and two sets of outputs
Work status tips	Power indicator, read card status indicator, buzzer
format	
physical dimension	110mm×110mm×16.5mm
Power supply / power consumption	
DC power supply	USB power supply, external 5V (+ / -0.25V) power supply

power dissipation	Work: (separate USB supply, only maximum transmitting power of 27 dBm)SLR1218: 3.9W(27dBm)/4.8W(30dBm) SLR5318: 2.7W(27dBm)/3.6W(30dBm) SLR5218: 1.0W (20dBm) Stand： SLR1218：0.35W SLR5318：0.25W SLR5218：0.25W
environmental character istics	
working temperature	-10℃ - +55℃
Storage temperature	-20℃ - +60℃
function	
Label reading rate	SLR1218 : > 100 tag/second SLR5318 : > 50 tag/second SLR5218 : > 50 tag/second (In special case, related to labeling performance)
Read the card distance	0dBi PCB Antenna　　　　　2 dBi Ceramic Antenna SLR1218 : 5cm - 80cm　　　SLR1218 : 20cm - 3.0m SLR5318 : 3cm - 60cm　　　SLR5318 : 10cm - 2.5m SLR5218 : 10cm - 30cm　　SLR5218 : 60cm - 1.0m The write distance is about 50% of the read distance(Test label: ALIEN9662 white card)

Chapter 3: Hardware Description

3.1 Interface description

USB   GPIO

Pin1

(P) Power Supply/(S)Card reading indicator

P   S

读卡区

USB/RS232
Toggle switch

ON

1 2 3
OFF

✧ **USB**：USB 1.1 / USB 2.0
✧ **GPIO**：(Universal Input / Output interface), from left to right (Pin 1-Pin 8)

pin	Definition	instruction
1	+5V	The equipment is connected to 5V(+/-0.25V) power supply
2	GND	Power supply of equipment
3	TXD	RS232 serial port data output
4	RXD	RS232 Serial port data entry
5	IN1	GPIO Input (5-12V)
6	IN2	GPIO Input (5-12V)
7	OUT1	GPIO output (5V)
8	OUT2	GPIO output (5V)

✧ **USB port / RS232 serial port communication switching switch:**

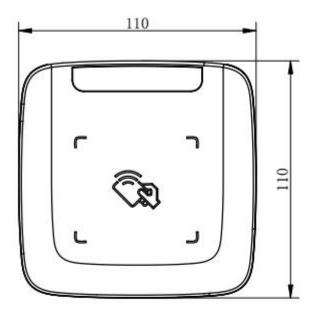| switch	1	2	3
USB	ON	OFF	OFF
RS232	OFF	ON	OFF

✧ (P) Indicator light: power supply indicator light, always on the power on.
✧ (S) Indicator: Read the card indicator until the card is on.

3.4 Appearance size

（unit：mm）

第 4 章 Direction for use

4.1 link

Connect the device through a serial port cable or USB cable to power up the device, (desktop right-click computer-Management-Device Manager-view the available COM slogan). Connection setting: fill in the COM slogan for the address, and select a single antenna for the number of antenna ports. Please refer to the demonstration software instructions for specific functions.

4.2 GPIO control

Description: demonstrate the software-reader parameter GPIO interface setting

IN1 （GPI1）	Input status: High level (5-12V) software determination logic 0 ☐ GPI1
	Input status: Low level (0V, or suspended) software determination logic 1 ☑ GPI1
IN2 （GPI2）	Input status: High level (5-12V) software determination logic 0 ☐ GPI1
	Input status: Low level (0V, or suspended) software determination logic 1 ☑ GPI2
OUT1（GPO1）	Software control logic of 0 ☐ GPO1 Output end: Low level (0V)
	Software control logic of 1 ☑ GPO1 Output end: High level (5V)
OUT2（GPO2）	Software control logic of 0 ☐ GPO2 Output end: Low level（0V）
	Software control logic of 1 ☑ GPO2 Output end: High level（5V）
Read card	The GPO 1 logic is in 0 ☐ GPO1 White light / buzzer silent; GPO 1 logic 1

indicator lamp (white) / Buzzer control (GPO 1)	☑ GPO1，White light goes on / buzzer goes off
Read card indicator lamp (red) (GPO 2)	GPO2 logic 0 ☐ GPO2，Red light out；GPO2 logic 1 ☑ GPO2，The red light is on.

FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.