AL-510
RFID UHF Reader Datasheet

UHF RGID EPC C1G2 Reader Feature

- Compatible with ISO 18000-6C
- With Automatic Read Mode
- Supports up to 32 Port Antennas
- Support Wiegand
- Certification Regions Include US, TW, CN, JP, VN
- Support GPIO Function (4 Inputs & 4 Outputs)
- Support Ethernet, RS232/485, USB HID and Wi-Fi Interface
- Support RFID tag featuring an integrated IoT sensor.

AL-510 Product Details

Air Interface Protocols	EPC Global UHF Class 1 Gen2 / ISO 18000-6C
Transmit Power	0 to +29dBm (1dBm/per step)
Frequency	866-868MHz, 902-928MHz
Max Receive Sensitivity	-75 dBm
Antenna Ports	4 Port Monostatic Antenna Port (SMA JACK)
Read Zones (Maximum)	Support 32-port with Antenna Hubs
Data Interface	Ethernet 10/100Base-T auto-MDIX Ethernet port RS232 Serial Port (DB15 to DB9) RS485 Industrial Connector USB 2.0 Type-B HID port Wi-Fi 802.11 b/g/n, 2.4GHz to 2.5GHz, 150 Mb/s
GPIO	4 Input 1.5V to 24V, 4 Output Dry Contact
IoT Sensor	Support Customized UHF RFID standard air interface protocol. (1) EM Tag: YTG-250 (2) FMSH Tag: FM13DT160
LED	Power (Red), Wi-Fi (Yellow), Status (Red), Signal (Green)
Environment IP Rating	IP52
Shock and Vibration	Mil-Std-810G Certified
Operating Temperature / Humidity	-20~to +70 / 5% to 95% non-condensing
Dimension	180mm X 136mm X 35mm
Weight	550g
Compliance Certification	NCC, FCC, SRRC, JP, MIC
Developer Library	AL510 SDK(.NET)
Software Supported	RFID Middleware, 510 Utility

RFID UHF Reader Antenna Hub & Control Box

Product Specification

Antenna Hub	
Power Supply	12V Provided by the GPIO Adapter
Power Consumption	~60mA Max
Max Input Power	4 Port Monostatic Antenna Port (SMA JACK)
Read Zones (Maximum)	Support 32-Port with Antenna Hubs
Connectors	RF Input: SMA Female 8 RF Outputs: SMA Female 1 Digital I/O: RJ45
Insertion Loss	1.3 dB, Typical
Isolation	27 dB min
Return Loss	-37 dB min
Antenna Hub Switching Speed	<300 µs typical
Environment IP Rating	IP52
Shock and Vibration	Mil-Std-810G Certified
Operating Temperature	-40°C to +80°C
Humidity	5% to 95% non-condensing
Dimension	132 x 86 x 28mm
Weight	140g
Cables RF Cable Maximum Length	Typical ½ dB per Meter Signal Loss
Digital Cable for Control, Maximum Length	100m if Shielded 30m if Unshielded
GPIO Control Box	
Power Supply	12V Provided by the AL510
Power Consumption	~5mA Max
Connectors	1 GPIO Input: DB-15 (For Connection to Reader) 4 Digital I/O: RJ45 (One for Each Hub)
Environment IP Rating	IP52
Shock and Vibration	Mil-Std-810G Certified
Operating Temperature	-40°C to +80°C
Storage Temperature	25 °C
Humidity	5% to 95%, non-condensing
Cables	DB-15: 30cm Normally
Dimension	118 x 70 x 30 mm
Weight	140g

AL-510 multiple antenna architectures

AL510 Fixed Reader

GPIO Control

AL-510C Control Box

— GPIO Control Box Cable (DB15)
— RF Cable (SMA)
— Ethernet Cable (RJ45)

RF Output

Power Output

AL-510H Antenna Hub

32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 09 10 08 07 06 05 04 03 02 01

4 Hubs x 8 ports=32 ports

Antenna Hub

Control Box