

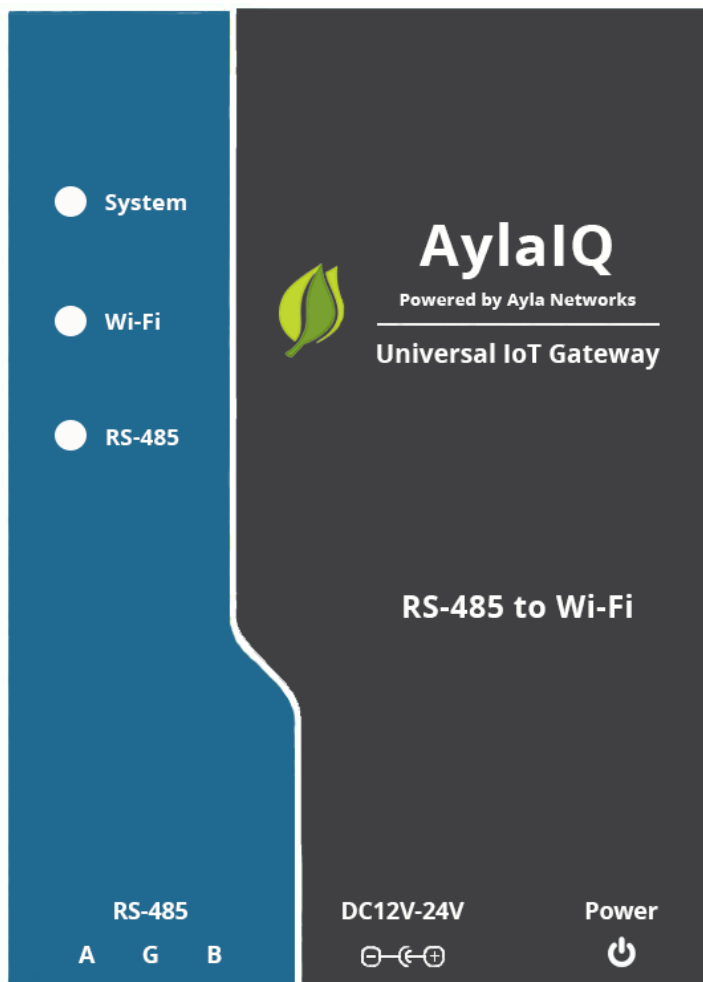
# AylalQ: Diagnostic Plug-in Solution for IoT

## Put Your Deployed Devices in the IoT Game

AylalQ is a turnkey solution tailored for both product manufacturers and service enterprises to realize rapid time to IoT value. The solution, which comes in a simple and easy to deploy dongle form integrated with a cloud service and dashboard application, is designed for the ubiquitous RS-232/RS-485 serial port communication standard that is common across various types of residential and commercial equipment.

AylalQ has a variety of applications in commercial / industry verticals that are capital intensive with fixed assets such as:

- Building management – with HVAC, water management and security systems
- Commercial / Industrial automation – Equipment and production environment asset
- Connected home monitoring – home appliances and smart services



## Benefits

- Rapid time to business value with low configuration effort
- High visibility into device usage and performance to understand operational patterns
- Extend lifecycle of existing assets through timely maintenance decisions
- Optimized services through truck roll reduction

## General Specification

### Specification

Working Environment		Industrial humid environment
Static Electricity		Air 15KV/Contact8k
Working Temperature		14F (-10°C) ~140F (60°C)
Storage Temperature		-4F (-20°C) ~160F (71°C)
Power		12~24VDC
Power Cable		DC-05
MODBUS/IO Connector		WJ15EDGK-3.81-3P
Button		On/Off, Reset(10s)
Internal Working Voltage		3.3V
Internal Working Frequency		200MHz
Button	On/Off	One Time press
	Reset	Press and hold for 10S
LED	Red/Green	Self-test
		Wi-Fi indicator
		RS232/RS485 indicator
Flash		8Mbyte
Log UART		DEBUG
MODBUS Function Code		0x04, 0x06
Devices supported		1~247
Modbus protocol		RTU/ASCII
Modbus transmission		9600 /19200 bps(changeable)
Discrete Inputs		Supported
Input Registers/Holding Registers/Extend Registers		Supported



## Wi-Fi Specification

	Item	Parameter
Device Parts	Module(chipset)	RTL8720CSM On-Board
	Wi-Fi	IEEE802.11b/g/n
	Impedance	50Ω
	SWR	<-10dB
	Power	12~24VDC
	Frequency	2.4~2.4835 GHz
	Receive Sensitivity	20MHz MCS7@-75dBm 40MHz MCS7@-72dBm 54Mbps@-77dBm 11Mbps@-90dBm 1Mbps@-97dBm
	PHY Rate	802.11n MCS 0~7 150Mbps
	Modulation	DSSS, CCK, DBPSK, DQPSK, OFDM, QAM16/64
	Output Power	11b, 1Mbps, POUT = +18dBm 11g, 54Mbps, POUT = +15dBm 11n, MCS7, POUT = +14dBm
	Antenna	PCB
	Interface Supported	Isolated RS485
Hardware Parts	Interface Rate	115200bps@UART
	Working Voltage	12V~24V
	Working Current	<200mA
	Working Humidity	5%~90%
	Storage Temperature	-40~+125° C
	Working Temperature	-40~+85° C
	Dimension	89.0mm×69.0mm×28.0mm
Software Parts	Network type	STA/AP
	Authenticate	WPA-PSK/WPA2-PSK
	Encryption	TKIP/CCMP(AES)
	WPS	NA
	Power Saving	PS-POLL/Standby
	IP Network Protocol	TCP/UDP/ARP/ICMP/DHCP/DNS/HTTP
	Interface	AT Command

## Antenna Specification

Specification	
Frequency Range	2.4~2.4835 GHz
Impedance	50 $\Omega$
Gain	1.5 dBi(Typical)
Antenna type	PCB PIFA Ant

## User Operations

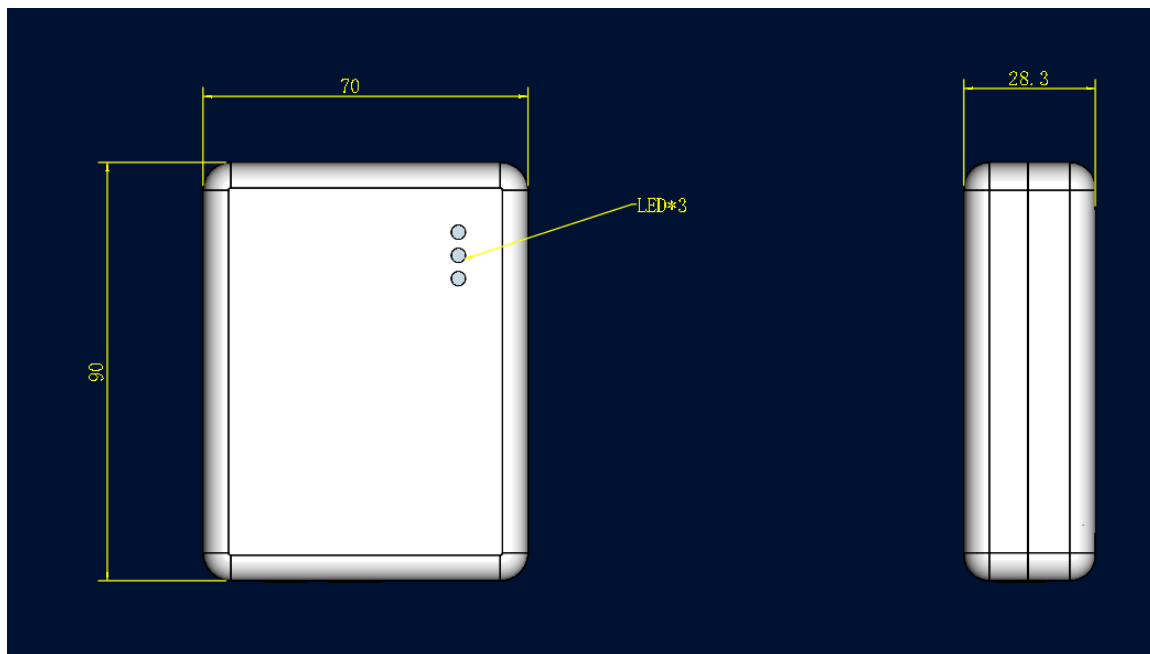
Power On/Off	Press  button once
Reset	Press  button and hold for 10 seconds
System LED	Solid Green => Power On Green Blinking => System Self Test Red On => System Error LED off => Power Off
Wi-Fi LED	Solid Green => Link Successfully Green Blinking => Data Traffic TX/RX LED Off => No Activity
RS-485 LED	Solid Green => Link Successfully Green Blinking => Data Traffic TX/RX LED Off => No Activity

## Mounting and Installation Steps

1. Before mounting AylaIQ to your Device, ensure that your Device is disconnected from the power source.
2. Use an appropriate harness to fix AylaIQ to your device.
3. Connect the RJ45 connector from your device to the slot provided in AylaIQ.
4. Insert the power adapter's pin to the appropriate slot in AylaIQ.
5. Reconnect your device to a power source.
6. Connect the power adapter of AylaIQ to a power source. The System LED of AylaIQ should turn green.

7. Using the AylalQ mobile app, connect your AylalQ device to Wi-Fi and complete the onboarding process.
8. Once AylalQ is successfully connected to Wi-Fi, the Wi-Fi LED would turn green. This LED will start blinking in green while data is being transferred.

## Dimensions (in mm)



## FCC Radiation Exposure Statement

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.

## 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.

NOTE 1: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE 3: Ayla Networks has only provided software for connectivity of hardware and is not the party responsible for compliance.