



robustOS

# R2120

Industrial Cellular PoE Router

5 ETH (4 with PoE-PSE)+ 2 DI + 2 DO + 1 RS485



## INTRODUCTION

The R2120 is a specialized industrial cellular PoE router designed for smart security applications. Equipped with 5 Ethernet ports, including 4 PoE-PSE ports, along with 2 Digital Inputs, 2 Digital Outputs, and an RS485 serial port, this router excels in meeting the unique demands of modern security systems.

**Enhanced PoE-PSE Functionality:** The R2120 features 4 PoE-PSE ports compliant with the 802.3af and 802.3at standards, enabling effortless power and data transmission through a single Ethernet cable to simplify field installation.

**Remote PoE Device Management:** The R2120 goes beyond standard PoE-PSE functions with its support for remote management capabilities. Users can conveniently schedule restarts or power cycles for PoE devices as required, enhancing operational control and efficiency.

**RCMS** is Robustel’s free router monitoring service that is fully compatible with the R2120. It allows customer to see a location overview of their routers quickly and simply on a map. Features such as data usage, signal strength, current network and much more can then be viewed on a per router basis. Over-the-air updates are supported for Firmware, router configuration and Apps serving as essential ‘insurance’ if anything was not quite right during deployment.

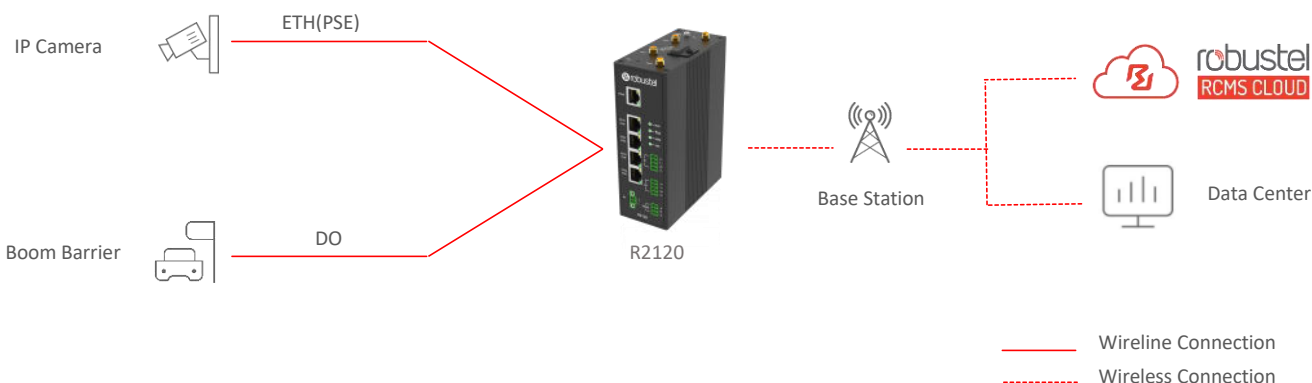
You can try Robustel’s free router management platform by signing up here: <https://rcms-cloud.robustel.net>



## KEY FEATURES

- Highly stable 4G/3G/2G cellular connectivity
- Dual SIM card slots for redundant communications
- Supports Ethernet, Wi-Fi and Cellular internet with auto-failover
- 5 x 1000Mbps Ethernet ports, including 4 PoE-PSE ports compliant with the 802.3af and 802.3at standards
- 2 x DI & 2 x DO for simple monitoring and control
- 1 x RS485 port for connection to industrial/legacy device
- Fully programmable Operating System with well documented SDK
- Multiple VPN options available including DMVPN & IPSec
- Free cloud management platform - RCMS, with Remote PoE device management supported

## APPLICATION EXAMPLE



# SPECIFICATIONS

## Hardware System

CPU	MT7621, 880 MHz
RAM	512MB
Flash	32MB

## Cellular Interface

Number of antennas	2 (MAIN + DIV)
Connector	SMA-K
SIM	2 Mini SIM (2FF)

## Ethernet Interface

Number of ports	5 x 10/100/1000 Mbps
	1 WAN + 4 LAN, or 5 LAN(default)
Magnet isolation protection	1 KV

## PoE Out Interface

PoE ports	ETH1~ETH4
PoE standards	802.3at, 802.3af
PoE max power per port(at PSE)	Up to 30W
Total PoE power budget(at PSE)	Dependent on power supply capacity

## Wi-Fi Interface

Number of antennas	2 (Wi-Fi0 + Wi-Fi1)
Connector	RP-SMA-K
Standards	802.11a/b/g/n/ac, 2 x 2 MIMO
	Supports AP and Client modes
Frequency bands	2.412 - 2.472 GHz (2.4 GHz ISM band)
	5.15 - 5.825 GHz (5 GHz ISM band)
Security	WPA, WPA2, WEP, WPA3
Encryption	AES, TKIP, WEP64

## Serial Interface

Number of ports	1 x RS485
Connector	1 x 3-pin 3.5 mm female socket
ESD protection	±8 KV air discharge, ±4 KV contact discharge
Baud rate	300 bps ~ 115200 bps
Signal definition	RS485: A, B, GND

## DI/DO

Type	2 x DI + 2 x DO, wet contact
Connector	2, 1 x 4-pin 3.5 mm female socket
Isolation	3.75 KVDC (opto-isolator)
Absolute maximum VDC	"V+" +30 VDC (DI), +30 VDC (DO)
Absolute maximum ADC	100 mA (DO)
Signal definition	DI1+, DI1-, DI2+, DI2-, DO1+, DO1-, DO2+, DO2-

## Others

Reset button	1 x RST
LED indicators	1 x RUN, 1 x RSSI, 1 x Modem, 1 x USR
Watchdog	Built-in

## Software (Basic features of RobustOS)

Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, HTTPS, ARP, VLAN, SSH2, DDNS, etc.
VPN tunnel	IPsec, OpenVPN, GRE, Wireguard
Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Remote management	Web, CLI, SMS
Serial port	Transparent, TCP Client/Server, UDP, Modbus RTU to TCP
Others	Smart Roaming v2

## SDK

Supported programming languages	C, C++
Flash available for SDK	5 MB
RAM available for SDK	256 MB

## App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Dynamic Route, Captive Portal, Modbus Master, TR069
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\*Request on demand. For more Apps please visit [www.robustel.com](http://www.robustel.com).

## Cloud Platform

Robustel Cloud Manager	RobustLink, RobustVPN, Operation Console
Service (RCMS)	

## Power Supply and Consumption

Connector	2-pin 3.5 mm female socket with lock
Input voltage	44~57V DC
Power consumption	Idle: 4.4W@48 V, excluding the PoE consumption Data link: 12W (Max) @48 V, excluding the PoE consumption

## Physical Characteristics

Ingress protection	IP30
Housing & Weight	Aluminum, 539g
Dimension	143 x 105 x 49 mm
Installations	Desktop, wall mounting and DIN rail mounting
Operating temperature	-20 ~ +70°C
Storage temperature	-40 ~ +85°C
Relative humidity	5 ~ 95%RH(Non-Condensing)

## Regulatory and Type Approvals

Environmental	RoHS2.0, WEEE
EMI	EN 55032 Conducted Emission Class B EN 55032 Radiated Emission Class B
EMS	EN 61000-3-2 (Harmonic Current) EN 61000-3-3 (Voltage Flicker) EN 61000-4-2 (ESD) Contact Level 2, Air Level 3 EN 61000-4-3 (RS) Level 2 EN 61000-4-4 (EFT) Level 2 EN 61000-4-5 (Surge) Line to line Level 3, EN 61000-4-6 (CS) Level 2

# ORDERING INFORMATION

Model	PN	Frequency Bands*	Country /Region	Certifications (*In progress)	Package Information
<b>R2120-A5AAA-4L-A12EU</b>	A015000001	<b>4G:</b> LTE FDD : B1/B3/B7/B8/B20/B28A LTE TDD : B38/B40/B41 <b>3G:</b> WCDMA: B1/B8 <b>2G:</b> GSM/EDGE:B3/B8	EMEA	CE*, UKCA*, CB*	1 x Router (PN: B015000001) 1 x DIN Rail Mounting Kit 2 x 4PIN Terminal Block 1 x 3PIN Terminal Block 1 x 2PIN Terminal Block
<b>R2120-A5AAA-4L-A13AU</b>	A015000002	<b>4G:</b> LTE FDD : B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD : B40 <b>3G:</b> WCDMA: B1/B2/B4/B5/B8 <b>2G:</b> GSM/EDGE:B2/B3/B5/B8	ANZ	RCM*	1 x Router (PN: B015000002) 1 x DIN Rail Mounting Kit 2 x 4PIN Terminal Block 1 x 3PIN Terminal Block 1 x 2PIN Terminal Block

\* For more information about frequency bands in different countries, please contact your Robustel sales representative.