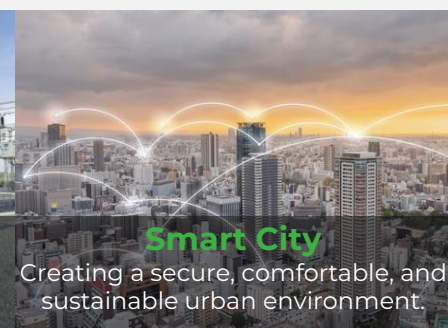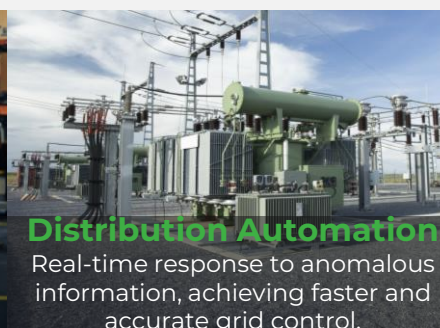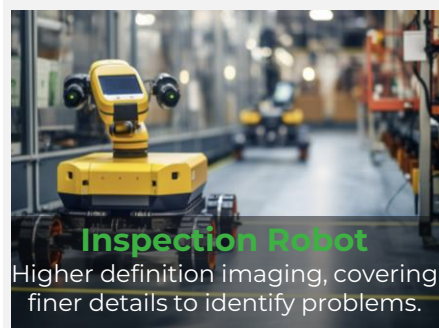# InHand Networks

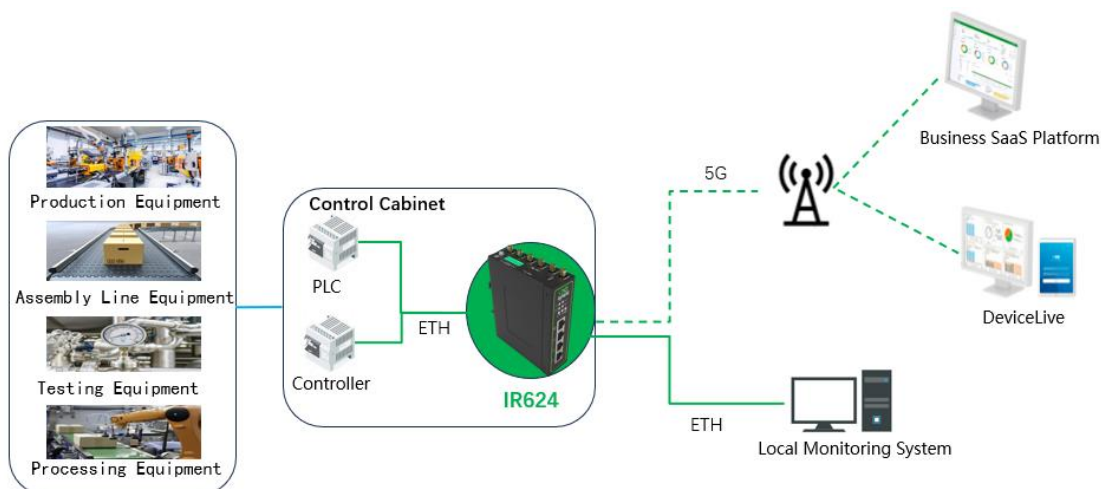Embrace 5G, Co-Create the Digital Era.

InRouter624 series

· 5G   · Wi-Fi 5   · Security

· Cloud-Managed

The InRouter624 (IR624) series by InHand Networks is designed to assist enterprises in digital transformation. Integrated with 5G/4G, Wi-Fi, VPN, and more, it offers efficient, secure, and intelligent connectivity solutions for various IoT industries. With a multi-level link detection mechanism, the IR624 ensures stable communication for unattended industrial sites. Paired with InHand Networks' DeviceLive IoT management platform, it aids users in achieving centralized cloud management and remote maintenance. This allows for easy monitoring of device status, reducing deployment costs, and enhancing management efficiency.

Smart Factory
24/7 continuous production, enhancing production efficiency.

Warehouse Automation
Intelligent Control, reducing Labor Costs.

Remote Healthcare
Expanding the treatment boundaries of medical experts.

Inspection Robot
Higher definition imaging, covering finer details to identify problems.

Distribution Automation
Real-time response to anomalous information, achieving faster and accurate grid control.

Smart City
Creating a secure, comfortable, and sustainable urban environment.

Solution

Production Equipment

Assembly Line Equipment

Testing Equipment

Processing Equipment

Control Cabinet

PLC

Controller

ETH

IR624

5G

Business SaaS Platform

DeviceLive

ETH

Local Monitoring System

Features and Advantages

Ubiquitous network access: 5G

IR624 features 5G cellular high-speed network access with a downlink speed of up to 2Gbps, providing a comprehensive enhancement to the new network experience. The characteristics of high bandwidth and low latency contribute to building a more powerful and efficient next-generation network, allowing you to fully experience the remarkable charm of 5G.

"Always-on" connectivity

IR624 is equipped with various features, including link backup, link detection, dual SIM switching, watchdog, etc., to ensure the reliability and stability of connections. This reduces the risk of network failures, saves network investment costs, and provides a worry-free new experience of network services!

Secure Network Connection

IR624 integrates multiple layers of security policies, including VPN, firewall, and policy routing. It effectively safeguards sensitive data and critical business networks from attacks and threats, providing a secure and trustworthy network environment. While your business rapidly expands, we are dedicated to protecting your digital assets.

Cloud-Managed Networking Solution

The IR624 connects to the InHand Networks DeviceLive IoT device management platform to manage tens of thousands of distributed site devices in real time and grasp device status anytime and anywhere. Additionally, users can remotely connect to on-site devices through DeviceLive for diagnosis, debugging, and repair of distributed on-site devices. This reduces losses caused by equipment failures, making management easier, more efficient, and more economical!
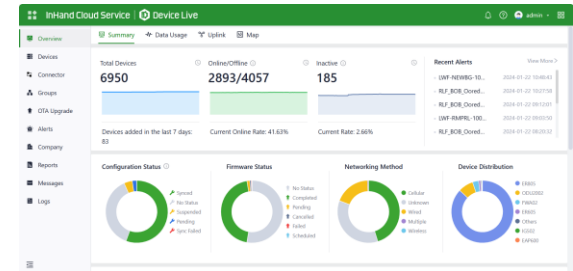
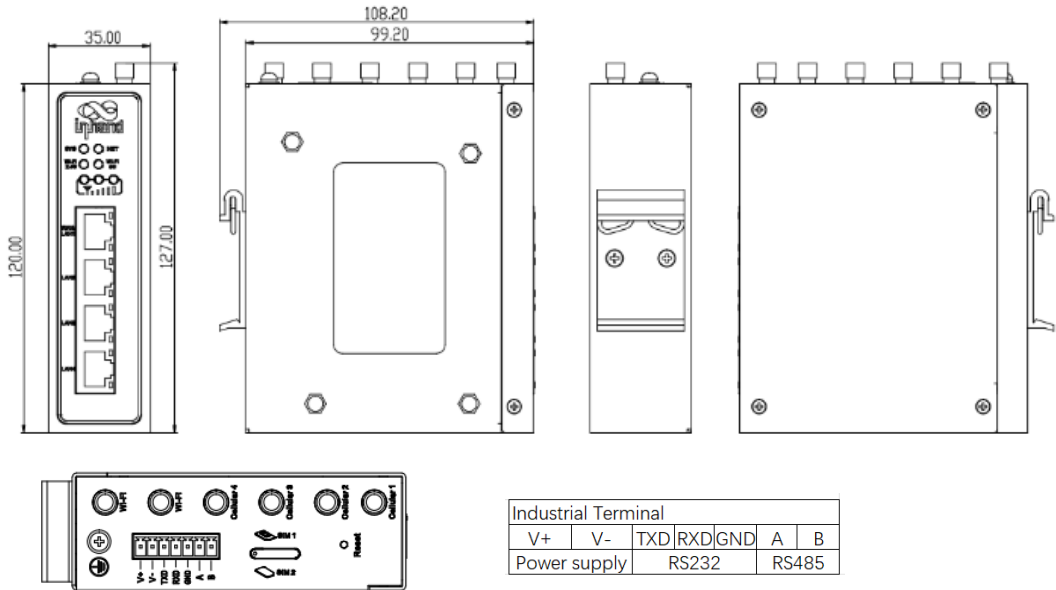Control Panel
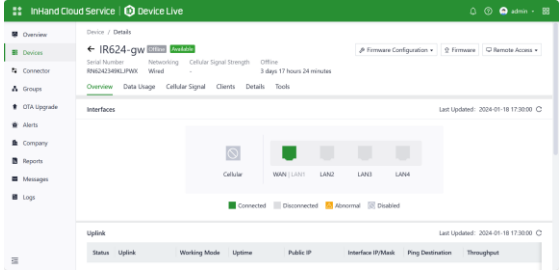
Device Details

Dimensions (mm)

Industrial Terminal						
V+	V-	TXD	RXD	GND	A	B
Power supply		RS232			RS485	

Dimensions : 127 * 108.2 * 35mm

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Product Specifications

InRouter624 Hardware Specifications

Hardware Platform

CPU	880MHz
RAM	256MB
Flash	128MB

Interface

Cellular	5G, downlink speed of up to 2Gbps, Sub6(450MHz to 6GHz), compatible with 4G/3G
Ethernet Port	4*10/100/1000Mbps，Ethernet, WAN/LAN/VLAN 1.5KV network isolation transformer protection
Power Supply	DC9-48V, over-current protection, anti-reverse connection, 2 PIN industrial terminal
Serial Port	1 x RS232 and 1 x RS485 ESD protection: 15KV
Reset	Reset button
SIM Card	1 x Drawer-type slot, support dual-NANO SIM, 1.8 V/3 V eSIM (Optional)
Antenna Interface	4 x SMA for 5G or 2 x SMA for 4G , 2 x RP-SMA for Wi-Fi
Ground Terminal	Supports
Indicator	1 x System, 1 x Cellular, 1 x 2.4G Wi-Fi, 1 x 5G Wi-Fi, 3 x Signal

Hardware components

RTC	Support

Wi-Fi

Dual Radio	2.4G / 5GHz Wi-Fi
Transmission Bandwidth	5G: 867 Mbps 2.4G: 300 Mbps
Protocol	802.11 ac/a/b/g/n Wave2 MU-MIMO
Maximum Transmit Power	5G: 17dBm 2.4G: 17dBm
Transmission Distance	50 meters by line of sight (Actual transmission distance depends on environment of the site.)

Mechanical Features

Dimensions	127x 108.2x 35mm	Weight		544g
Installation	Din-rail	Protection Rating		IP30
Housing	Metal	Cooling		Fanless

Power rate

Standby Power	370-480mA@12V
Working Power	415~530mA@12V
Peak Power	530mA@12V

Ambient Environment

Storage Temperature	-40 ~ 85℃	Operating Temperature	-20~ 70℃
Ambient Humidity	5~95% (no condensing)		

EMC

Static	EN61000-4-2, level 3
Radiation Electric Field	EN61000-4-3, level 3
Pulsed Electric Field	EN61000-4-4, level 3
Surge	EN61000-4-5, level 3
Conducted Disturbance Immunity	EN61000-4-6 ,level 3
Shock Wave Resistance	EN61000-4-12,level 3
Power Frequency Magnetic Field Resistance	EN61000-4-8, horizontal / vertical 400A/m (>level 2)

Physical Specs

Shockproof	IEC60068-2-27	Vibration Resistance	IEC60068-2-6
Free Fall	IEC60068-2-32		

Certificate

CE, E-MARK, ECE R118, FCC, IC, PTCRB, AT&T*, T-Mobile*

InRouter624 Software Specifications

Network Connection

Network Access	APN, VPDN
Access Authentication	CHAP/PAP
Network Type	WCDMA, TDD LTE/FDD LTE, 5G NR(SA/NSA) (Please refer to the Ordering Guide for frequencies)
LAN Protocol	ARP, Ethernet
WAN Protocol	Static IP, DHCP, PPPoE

Network Protocol

Protocol & Application	TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, SSL/TLS, ARP, VRRP, PPP, PPPoE, SSH, DHCP Server, DHCP Relay, DHCP Client, DDNS, Telnet, IP Passthrough
Routing	Static routing

Security

Network Security	Support access control, NAT, port mapping and firewall filtering based on MAC/IP/port/protocol Support Policy-Based Routing Support 802.1X
Data Security	IPsec VPN, L2TP VPN

Reliability

Backup	Interface backup
Dual SIM Failover	Supports dual SIM failover
Link Detection	Sends heartbeat packets to detect, auto redials when disconnected
Embedded Watchdog	Device runs self-detection, auto recovers from malfunctions

Wi-Fi

Working Mode	AP, Client
Security	Open system, shared key, WPA/WPA2 certification WEP/TKIP/AES encryption
Wi-Fi Portal	Support

Intelligence

DTU Functions	TCP / UDP transparent transmission mode Supports conversion of Modbus RTU to Modbus TCP bridge

Monitoring & Alerting

Dash Board	Device information, interface status, and refined traffic statistics
Link Monitoring	Link delay, jitter, packet loss, and throughput
Log & Alarm	System logs, diagnostic logs, device events

QoS

Traffic Shaping	Support

Remote maintenance

Remote Access	Support Web/CLI remote access
Cloud Management	DeviceLive supports batch management, equipment monitoring, remote maintenance
Network Diagnostics	Support Ping, Traceroute and network packet capture tools
Configuration Backup	Support configuration import and export

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Note: The functions marked with * are not available yet.

Ordering Guide

Model code: IR624-<WMNN>-<WLAN/NA>-S			
Model	<WMNN>: Cellular Type & Module	<WLAN/NA>: Wi-Fi	S: Serial
IR624-NRQ3-<WLAN/NA>-S	(For Global, 5G) 5G NR NSA: n1/2/3/5/7/8/12/13/14/18/20/25/26/28/29/30/38/40/41/48/66/70/71/75/76/77/78/79 5G NR SA: n1/2/3/5/7/8/12/13/14/18/20/25/26/28/29/30/38/40/41/48/66/70/71/75/76/77/78/79 LTE FDD: B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71 LTE TDD: B34/38/39/40/41/42/43/48 LTE LAA: B46 WCDMA: B1/2/4/5/8/19	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485
IR624-NRF4-<WLAN/NA>-S	(For Europe & APAC, 5G) 5G NR: n1/3/5/7/8/20/28/38/40/41/71/77/78/66 LTE FDD: B1/3/5/7/8/20/28/71/66 LTE TDD: B38/40/41 WCDMA: B1/3/5/8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485
IR624-FQ58-<WLAN/NA>-S	(For Europe &APAC, 4G LTE CAT4) LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B34/38/39/40/41 WCDMA: B1/5/8 GSM: B3/8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485
IR624-EN00-<WLAN/NA>-S	NA	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485
IR624-NRF2-<WLAN/NA>-S	(For China, 5G) 5G NR: n1/3*/5/8/28/41/78/79 LTE FDD: B1/3/5/7*/8 LTE TDD: B34/38/39/40/41 WCDMA: B1/5/8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485
IR624-LQ20-<WLAN/NA>-S	(For China, 4G LTE CAT4) FDD: B1/3/5/8 TDD: B34/38/39/40/41 WCDMA: B1/5/8 GSM/EDGE: B3/8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485

Example: IR624-NRF4-WLAN-S: Four Gigabit Ethernet ports IR624 series cellular router with Wi-Fi, supports IPSec VPN and L2TP VPN, supports RS232 and RS485.
Note: the product comes standard with suction cup antenna and Din-rail accessories.

About Us

InHand Networks is a leading IoT solutions provider founded in 2001, dedicated to driving digital transformation across industries and empowering customers to unlock their full potential and achieve accelerated growth.

We specialize in delivering industrial-grade connectivity solutions for diverse sectors, such as enterprise networks, industrial and building IoT, digital energy, smart commerce, and mobility. Our comprehensive product portfolio and services cater to various applications worldwide, including smart manufacturing, smart grid, intelligent transportation, smart retail, etc. With a global footprint spanning over 60 countries, we serve customers in China, the United States, France, Germany, the United Kingdom, Italy, and beyond.

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