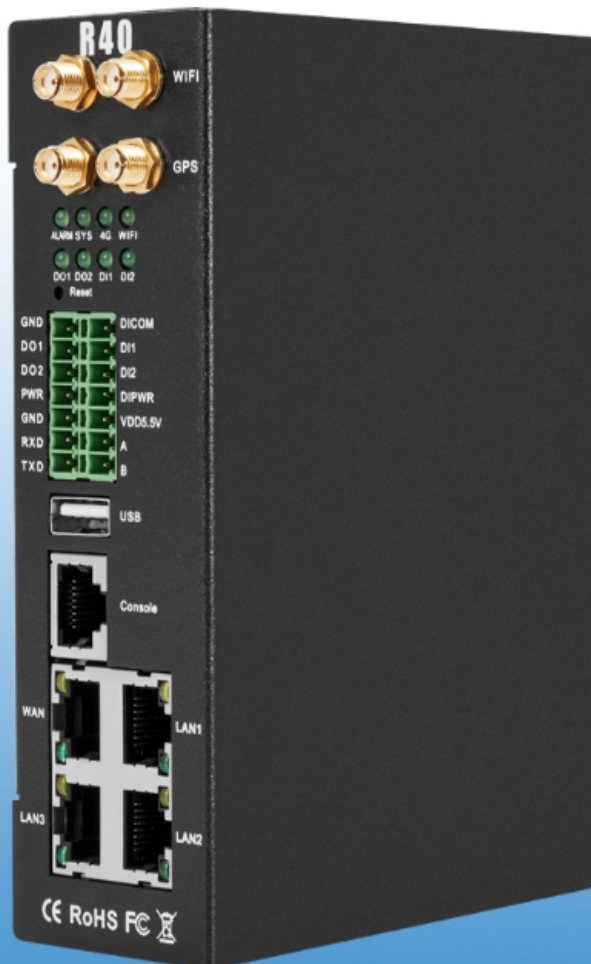




**Wireless Data
Connectivity for
Industrial
applications**

4G Wireless Industrial Router



**4G Wireless Router
Data Sheet**

Ver 1.3

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Provide data wireless access internet acquisition control
With AI/DI/DO,supports Modbus to TCP/MQTT/PLC protocol

4G Industrial VPN Router R40

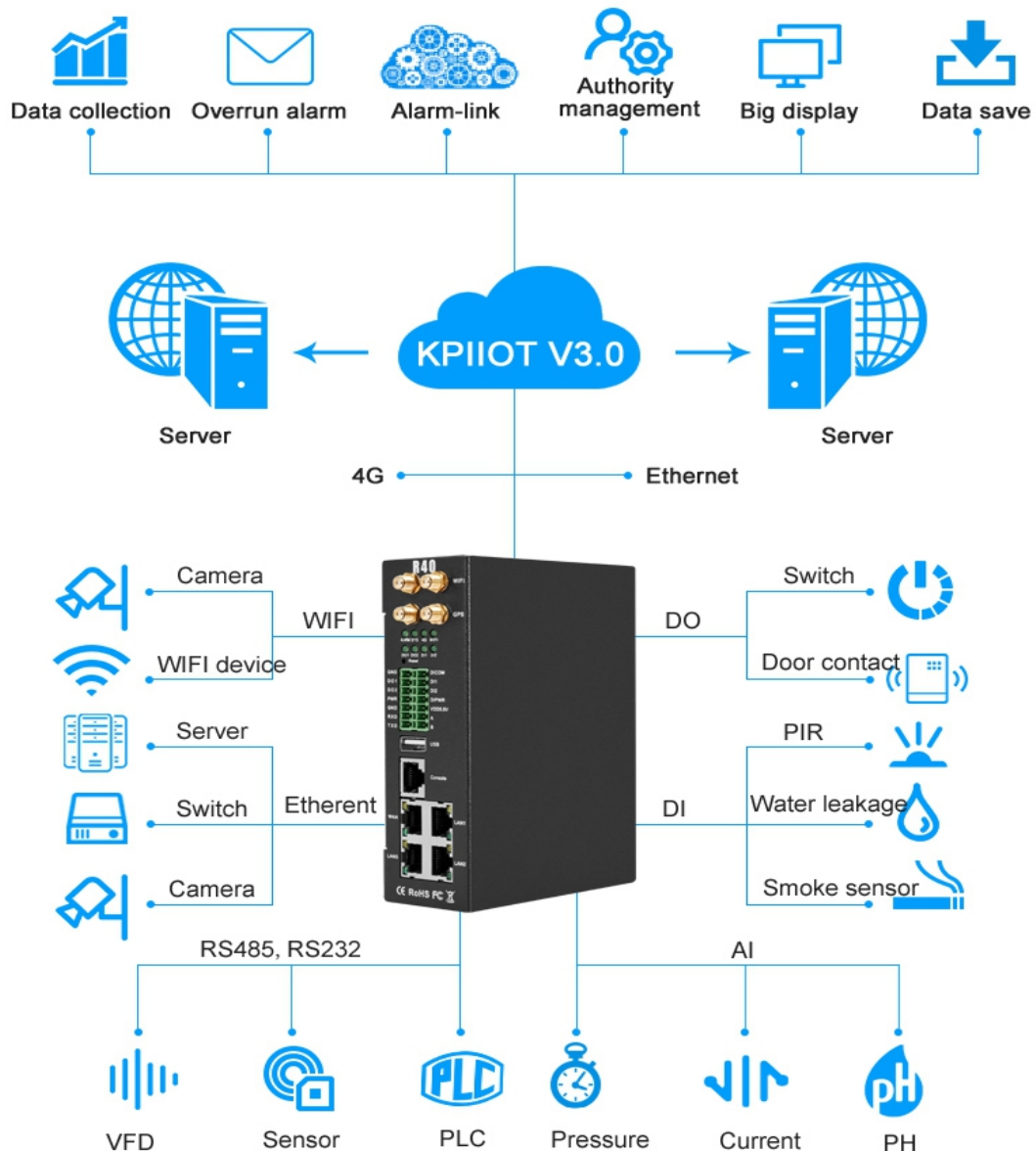
1. Brief Introduction

Router industrial router is an industrial IoT high-speed router, compatible with 4G/3.5G/3G/2.5G network, flagship

configuration, VPN link, industrial protection, wide temperature, wide voltage design, easy to set up high speed, stable The wireless transmission network uses the public LTE network to provide users with wireless long-distance data transmission, It is with 4 AI+2DI+2DO for options,can be used in multiple industrial applications.

It is an industrial-grade multifunctional Internet of Things terminal device that supports POE power supply, comes with IO input and output, with 2 serial ports, supports transparent transmission, Modbus Master protocol for expanding IO and connecting PLC and other devices. It adopts dual SIM card redundancy design to ensure stable and reliable data transmission, supports MQTT protocol and Modbus protocol, and is compatible with most PLC protocols, greatly simplifying on-site wiring construction costs and reducing operation and maintenance costs.

High-performance industrial-grade cellular router adopts 32-bit processor, developed based on Linux system, supports GSM/2G/3G/4G/GPRS/EDGE/WCDMA/HSPA+/LTE network, provides high-speed wireless network bandwidth for the device through wireless connection, and has automatic detection of network disconnection, automatic restart of dial-up failure, and scheduled restart to ensure network Stable connection.



2. Safety Directions



Safe Start up

Do not use the unit when using GSM/3G/4G equipment is prohibited or might bring disturbance or danger.



Interference

All wireless equipment might interfere network signals of the unit and influence its performance.

3. Standard Packing List

Router R40 X1, Power adaptor*1, GSM/3G/4G Antenna X1, 2.4G WIFI Antenna X3,
User Manual X1, Wall-mounted snap kit x 2, 35mm Standard DIN rail fixed Bracket*1.

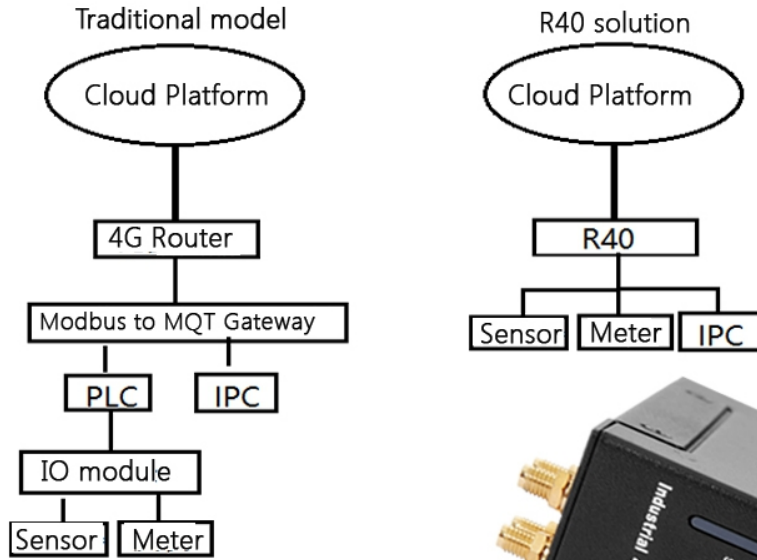


Note: The package does not include any SIM card.



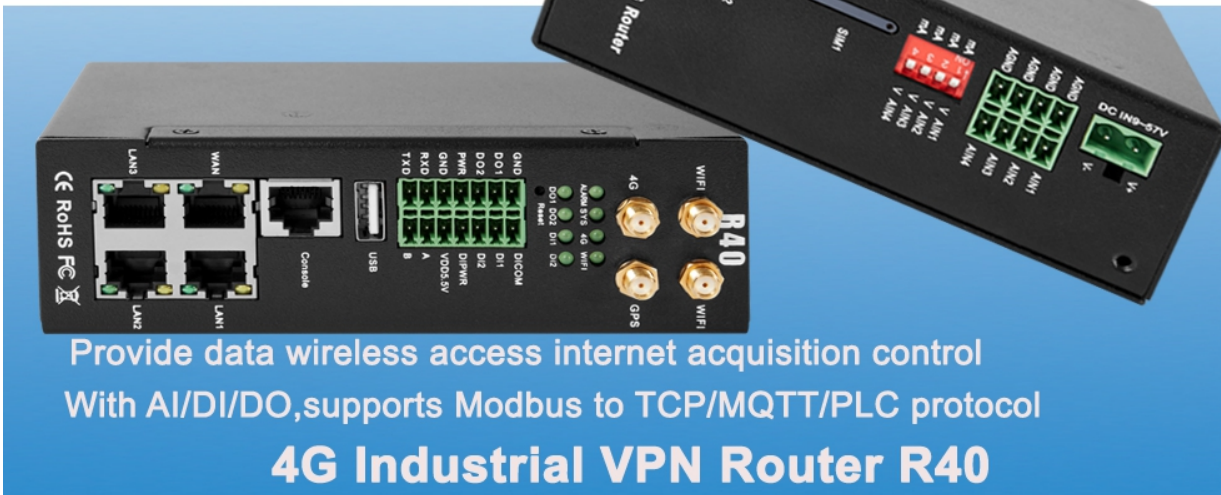
4. Main Features

- DIN(2 channel) :Support NO/NC/counting input, frequency \leq 100, can set counting threshold, support alarm trigger.
- DO(2 channel): can be set according to the trigger condition.
- AIN(4 channel): Support 0-5V, 0-20mA, 4-20mA, can set threshold value, support alarm trigger.
- Support SMS to query DI/DO/AI status and value, and set DO status;
- Support 4G wireless Internet access function, can set APN and other parameters;
- Two SIM card slots, support dual card switching;
- Support GPS, positioning data can be released through MQTT;
- VPN: Support L2TP, IPSEC, OPENVPN and other VPN protocols.
- Interface: Support RS485 and RS232 serial port transparent transmission and MODBUS RTU to TCP, Support MODBUS master, can regularly read MODBUS slave node data through RS485, RS232 and Ethernet.
- Support address mapping, mapping RS485, RS232 and Ethernet access device addresses to router local addresses.
- Support monitoring the online status of network devices connected to the LAN port, which can be reported to the platform through MODBUS or MQTT.
- Link switching: Support WAN port and 4G network connection switching, preferentially use WAN port wired network.
- Platform connection: Support MODBUS and MQTT protocols, MQTT supports SSL encryption.
- Alarm:Supports SMS and e-mail alarm.
- Timer:Support one-time timer and period timer.
- Upgrade:Support remote upgrade through webpage



Advantage:

1. Low hardware cost
2. Less hardware connection, low error probability
3. Small installation space and easy construction
4. Simplified architecture and low maintenance cost
5. Humanized design, no PLC programming required



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5. Technical Parameters

Item	Parameters	Description
Power Supply	Input voltage	9~57VDC
	Input current	Normal:240mA@12V,max:800mA@12V
	Connection	5.08mm terminals
	Protection	Anti-reverse connection Protection
WAN	Qty	1
	Interface Spec	RJ45,10/100Mbps,Automatically adapted to MDI/MDIX
	Protection	ESD ±30kV (contact) , ±30kV (air) EFT 40A (5/50ns) Lightning strike 24A (8/20μs)
LAN (POE)	Qty	3
	Interface Spec	RJ45,10/100Mbps,Automatically adapted to MDI/MDIX
	POE(optional)	Supports 3 POE power output



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Wireless Data Connectivity

		compatible IEEE802.3at/af Single POE maximum output power 30W With power management function Voltage range 48~57V
	Protection	ESD $\pm 30\text{kV}$ (contact) , $\pm 30\text{kV}$ (air) EFT 40A (5/50ns) Lightning strike 24A (8/20 μs)
Serial Port	Qty	2
	Type	1 RS485,1 RS232
	Baudrate	1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200, 230400
	Data Bit	5, 6, 7, 8
	Parity	None, Even, Odd
	Stop Bit	1,2
	Working mode	Data transparent transmit,Modbus RTU to TCP,Modbus master
	Protection	ESD (contact) : 8KV Surge: 4KV (8/20us) ESD $\pm 8\text{kV}$ (contact) , $\pm 15\text{kV}$ (air) EFT 4KV, 40A (5/50ns)
Console	Qty	1
	Type	CONSOLE
	Interface Spec	RJ45
	Protection	ESD: $\pm 8\text{kV}$ (contact) , $\pm 15\text{kV}$ (air)
USB (Reserved)	Qty	1
	Type	USB2.0 (HOST)
	Protection	ESD $\pm 8\text{kV}$ (contact) , $\pm 15\text{kV}$ (air)
WIFI	Antenna qty	2
	Antenna type	SMA
	protocol	802.11a/b/g/n (mixed)
	mode	AP mode,client mode
	Frequency	2.4G
	Channel	Channel 1 - 13
	Security	Open,WPA,WPA2
	Encryption	AES,TKIP,TKIPAES
	Connection number	16 (Max)
	Speed	300Mbps (Max)
	Transmit Distance	Outdoor non-blocking/opening, covering up to 20 meters
	SSID Broadcast Switch	support
Cellular Network	Antenna Port Qty	1
	Antenna Port Type	SMA
	4G (L-E)	GSM/EDGE: 900,1800MHz WCDMA: B1,B5,B8 FDD: B1,B3,B5,B7,B8,B20 TDD: B38,B40,B41
	4G (L-AU)	GSM/EDGE: 850,900,1800MHz



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Wireless Data Connectivity

		WCDMA: B1,B2,B5,B8 FDD: B1,B2,B3,B4,B5,B7,B8,B28 TDD: B40
	4G (L-A)	WCDMA: B2,B4,B5 FDD: B2,B4,B12
	4G (L-V)	FDD: B4,B13
	4G (L-J)	WCDMA: B1,B3,B8,B18,B19, B26 FDD: B2,B4,B12 TDD: B41
	4G (L-CE)	GSM/EDGE: 900,1800MHz WCDMA: B1,B8 TD-SCDMA: B34,B39 FDD: B1,B3,B8 TDD: B38,B39,B40,B41
SIM	Qty	2
	Interface Spec	Drawer interface,supports 1.8V/3V SIM/UIM 卡 (NANO)
	Protection	In-built 15KV ESD Protection
GPS (optional)	Antenna qty	1
	Antenna type	SMA
	Tracking Sensitivity	> -148 dBm
	Horizontal Accuracy	2.5m
	Protocol	NMEA-0183 V2.3
Digital input	Qty	2
	Type	Switch contact signal (dry node) or level signal (wet node)
	range	1:High level, 5~30VDC, close signal ;0:low level 0~1VDC open signal
	Pulse frequency	Max 100Hz
	Protection	Isolation voltage 3750Vrms
Digital output	Qty	2
	Type	SINK output
	Load voltage	Max 50VDC
	Load current	500mA (single) , 625mW
	Protection	EFT: 40A (5/50ns)
Analog input	Qty	4
	Type	0~5V, 4~20mA, 0~20mA
	ADCResolution	16bit
	Protection	EFT: 40A (5/50ns)
Indicator light	ALARM	Alarm indicator light
	SYS	System running status indicator
	4G	4G status indicator
	WiFi	WiFi status indicator
	DO1,DO2	Digital output indicator light
	DI1,DI2	Digital input indicator light
System	CPU	MIPS CPU,Clock Speed 580Mhz
	Storage	16MB (Scalable to 32MB)



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Wireless Data Connectivity

	RAM	128MB (Scalable to 256MB)
Software	Network Portocol	PPP, PPPoE, TCP, UDP,DHCP, ICMP,NAT, HTTP, HTTPs,DNS, ARP, NTP,SMTP,SSH2,DDNS etc.
	VPN	Ipsec,OpenVPN,L2TP
	Firewall	DMZ,DoS defense,IP packet, Domain name and MAC address filtering, port mapping, access control
	Remote Management	Support web remote configuration
	System Log	support
	Firmware Upgrade	Support serial port local TFTP/web firmware upgrade
Certificate	EMI	EN 55022: 2006/A1: 2007
	EMS	IEC(EN)61000-4-2(ESD) IEC(EN)61000-4-3(RS) IEC(EN)61000-4-4(EFT) IEC(EN)61000-4-5(Surge) IEC(EN)61000-4-6(CS) IEC(EN)61000-4-8
	Others	CE,FCC,ROHS,3C
Working Enviornment	Working temperature	-40~85℃
	Storge temperature	-40~105℃
	Humidity	5~95%RH
Others	Enclosure	Metal
	Size	H145mm * L110mm * W45mm
	IP level	IP30
	Net weight	790g
	Installation	Wall-amount/ rail-amount