

GR531-NA

LTE Cat.4 Industrial Router



WLAN/WAN/Cellular
Auto-failover



Compact Size



Dual SIM



Richlink Cloud
FOTA/Remote
Configuration



Multiple Network
Protocols



Wide Temperature



PoE



VPN for Data Security



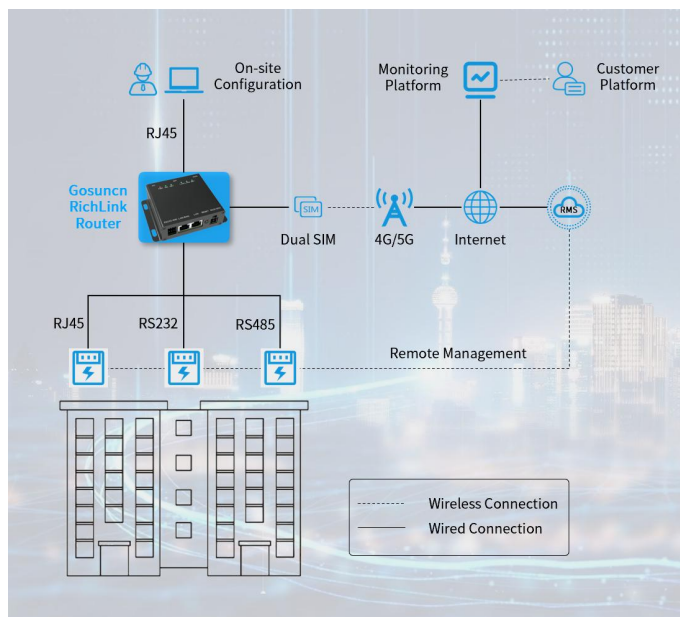
Dual Image Backup

GR531-NA is a compact Industrial Cellular Router that provides reliable connectivity in rigorous conditions common in industries like smart meter, monitoring, and retail. This model is equipped with 4G LTE, WLAN, and two Ethernet ports, making it ideal for quickly setting up primary and backup connectivity with remote management capabilities.

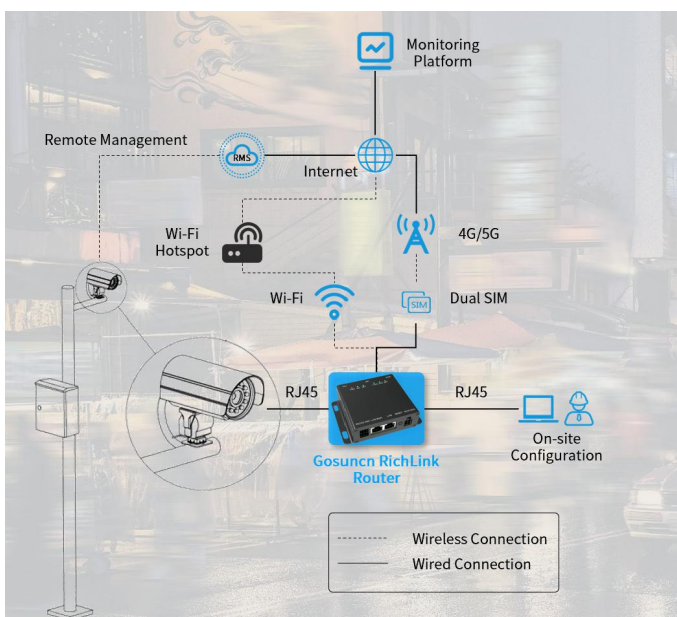
Application Scenarios

GR531-NA Industrial Router can be widely used in smart metering, video surveillance, vending machine and EV charging scenarios.

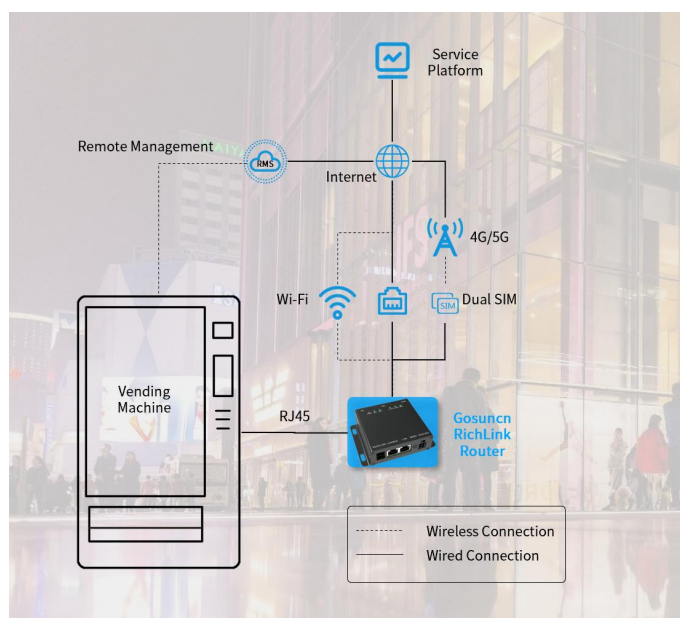
Smart Metering



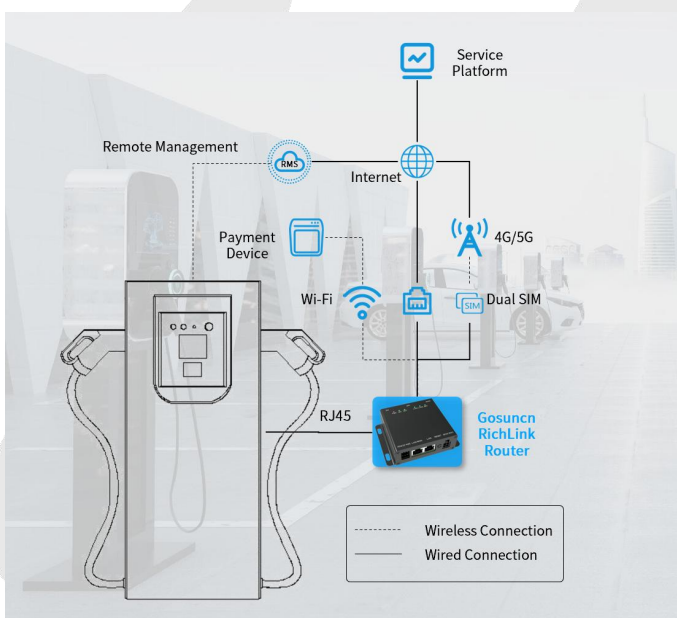
Video Surveillance



Vending Machine

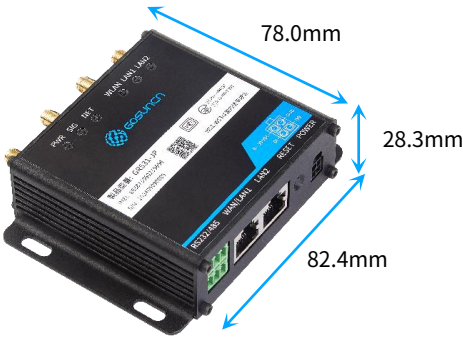


EV Charging



Main Features

Dual SIM Backup	1×WAN/LAN+1×LAN
WLAN 2.4G+5G	GNSS(optional)



Physical Specification

Dimension*	82.4×78.0 ×28.3mm
Weight	About 168g
Casing Material	Aluminum housing
Mounting	Bracket/DIN

Operating Environment

Operation Temperature	-30℃ ~ +70℃
Storage Temperature	-40℃ ~ +85℃
Humidity	5%~95% RH
Waterproof and dustproof	IP30
Anti-vibration rating	IEC 60068-2-6: 2007

Mobile

Modem	LTE Cat.4, LTE: Max. DL 150Mbps / UL 50Mbps; HSPA+: Max. DL 42Mbps / UL 5.76Mbps
Status	Signal strength (RSSI), SINR, RSRP, RSRQ, EC/IO, RSCP, Bytes sent/received, connected band, IMSI, ICCID
SIM Management	SIM select, SIM lock
APN	AutoAPN
Network	Network select, Band lock, Used band status display

Ethernet

WAN/LAN	WAN/LAN1, 10/100 Mbps, compliance with IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX
LAN	LAN2, 10/100 Mbps, compliance with IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX

Notes:
Dimension*: Housing measurements are presented without antenna connectors, screws and bracket;

WLAN

Wireless Mode	IEEE 802.11 a/b/g/n/ac, Access Point (AP), Station (STA)
WLAN Security	WPA_TKIP, WPA_AES, WPA_TKIPAES, WPA2_TKIP, WPA2_AES, WPA2_TKIPAES, WPAWPA2_TKIP, WPAWPA2_AES, WPAWPA2_TKIPAES, WPA3_AES, WPA2WPA3_AES, WPAWPA2WPA3_AES
WPS	PIN code, PBC
WLAN Users	Up to 10 simultaneous connections

Serial

Type	1×RS-232 + 1 × RS-485 serial port
Signal Definition	RX, TX, GND (RS-232) , A, B
Baudrate	RS-232 (300-115200bps), RS-485 (300-115200bps)

Physical Interface

Ethernet	RJ45 port×2, 10M/100M
I/O	1×Digital Input, 1×Digital Output on 4-pin power connector
Status LED	Power, Signal, Net state, LAN1, LAN2, WLAN
SIM	2×SIM slot (Mini SIM – 2FF), 1.8 V/3 V; 1×eSIM QFN 5×6 (optional)
Antenna	SMA Female: 2 for LTE ,1 for WLAN, 1 for GNSS
Power Supply	4-pin industrial DC power socket
Serial	2×3-pin 3.5 mm socket
Reset	Factory reset button/WPS

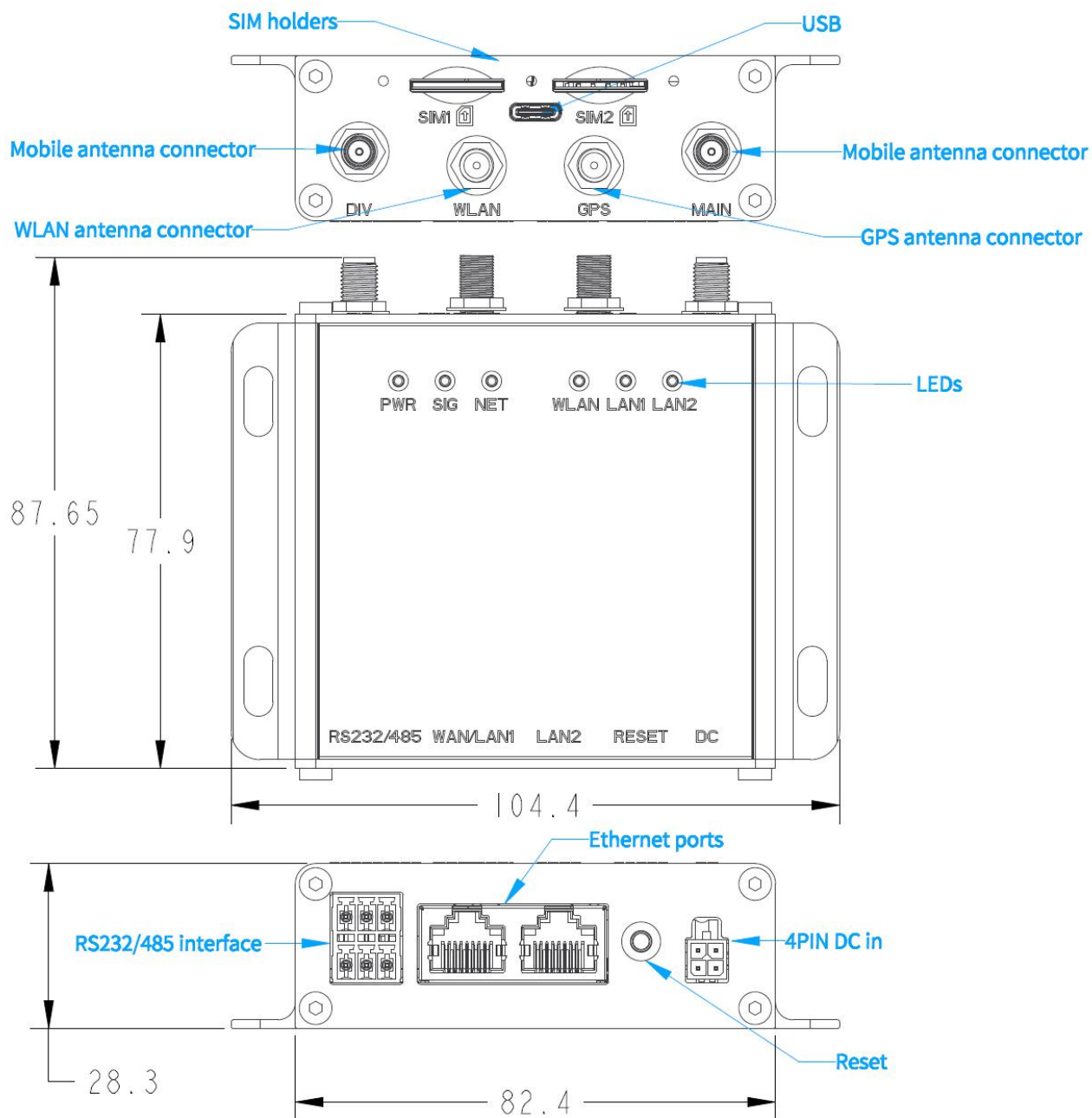
Power

Connector	4-pin industrial DC power socket
Input Voltage Range	9~ 30 VDC, reverse polarity protection, surge protection >33 VDC 10us max
PoE (Passive)	Passive Alternative B PoE. Possibility to power up through LAN1 port , not compatible with IEEE802.3af, 802.3at and 802.3bt standards.
Power Consumption*	Idle: <2 W, Max: <10 W

Industrial Protocols

WAN Failover	Automatic switching to available backup connection, WLAN, Mobile, Ethernet, each of which can be used as an automatic Failover
Network Protocols	PPP, TCP, UDP, DHCP, DHCP RELAY, ICMP, NAT, HTTP, HTTPS, DNS, ARP, NTP, SSH, DDNS, etc.
Routing	Static Routing, Policy routing, RIP, OSPF and BGP, etc.
Firewall	NAT, DMZ, Port Forward, IP/MAC Filter, Access Control List
VPN	PPTP/L2TP/GRE/IPSec
Remote Management	HTTP, SSH, SNMP V2/V3, RICHLINK Cloud

Appearance



What's in the Box?

GR531 Industrial Router ×1



LTE Antenna (SMA Male) ×2



Ethernet Cable(1M) ×1



18W PSU* (Power Supply Unit) ×1



QSG ×1



Optional Accessories

WLAN Antenna(1.5M, RP-SMA)



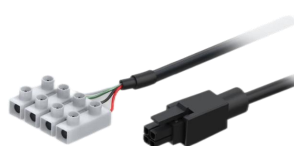
GNSS Antenna(1M, SMA Male)



4 Pin to DC Barrel
Socket Adapter(0.1M)



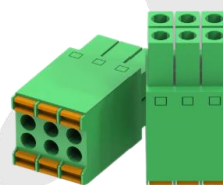
Power Cable with 4-way Screw
Terminal(2M,used for DI/DO)



DIN Rail Kit



2*3 PIN Connector



LTE Mobile Magnetic SMA
Antenna (1.5/3M, SMA Male)



Single Port POE Injector,
50V/0.6A



FCC Regulatory

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.

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.

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.
