# S9931-CAT1





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RICON S9931-CAT1, is an ultra-compact router with LTE Cat.1 cellular connectivity, designed for industrial IoT and M2M applications. With 1 × Fast Ethernet (10/100 Mbps), RS232/RS485 serial interfaces and a 5–35 V DC power input, it integrates easily with a wide range of different field devices. Its compact design and -30 °C to +70 °C operating temperature range make it well suited for use in harsh industrial environments.

S9931-CAT1 transfers data collected from electricity, water and natural gas meters to cloud systems with Modbus TCP and MQTT support. It offers a flexible connectivity solution for automatic meter reading (AMR/AMI), energy management, remote monitoring and telemetry applications. With automatic connection recovery, IPSec/OpenVPN tunneling, firewall and advanced routing features, it supports the security and continuity of data communication.

S9931-CAT1 can be configured via the web interface, CLI, SNMP and TR-069; it can be monitored centrally and managed remotely through the Ricon Management System (RMS). Remote software update, SMS commands and connection monitoring features help reduce the need for field intervention and increase operational efficiency.

# Features

- LTE / 4G support
- IPSec VPN
- OpenVPN
- L2TP / PPTP
- GRE Tunneling
- DMVPN
- Firewall
- MAC / IP Filter
- DoS/DDoS Protection
- HTTPS / SSH Connection
- Static & Dynamic Routing
- BGP
- OSPF / RIP
- VLAN
- NAT / Port Forwarding / DMZ
- DHCP Server
- Bridging / Passthrough
- Policy-based Routing (PBR)
- Web GUI (HTTPS)
- CLI (SSH / Telnet)
- SNMP
- TR-069
- Syslog / Event Log
- OTA Software Update
- SMS Commands
- Cloud Management Platform
- MAC Filter
- Serial Port (RS232/RS485)
- Connection timers
- Ping / Uptime Watchdog
- Automation via SMS
- Task definition via script file
- Modbus TCP / MQTT
- MQTT over TLS
- Identity-Based Firewall
- Cloud Access Control (CASB)
- TLS Inspection

# Specifications

## Dimensions and Weight

- Height: 86.68mm
- Width: 65.82mm
- Depth: 28mm
- Weight: 60g
- FR-ABS molded housing
- IP30 protection

## Environmental

- Operating Environment Temperature : -30ºC~+70ºC
- Operating Voltage: DC 5V~35V


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## General Specs

| | |
|---|---|
| CPU | MT7628AN |
| Memory | 128MB |
| HW Watchdog | Connection timers<br>Ping / Uptime Watchdog<br>SMS automation<br>Script tasks |
| SPI Flash | 16MB |

## Interfaces and Configuration

| | |
|---|---|
| LAN | 1x10/100 Mb |
| DHCP Server | DHCP Server |

## Cellular Features

| | |
|---|---|
| Cellular Modem Module | EG800K-EU |
| Module Type | LCC |
| Region | Global |
| Chipset | ASR1602 |
| Category | LTE: Cat.1 |
| Cellular Bands | LTE-FDD: B1/3/5/7/8/20/28 |
| SIM Support | 1 x U-SIM Card |

## Security Features

| | |
|---|---|
| Firewall | Identity-Based Firewall<br>Cloud Access Control (CASB)<br>TLS Inspection |
| Filters | Access restriction<br>Wireless access restriction |
| Misc | Security log<br>Security alarms<br>Packet capture log (pcap to dump file) |


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## Management Features

| | |
|---|---|
| Management Interfaces | Web GUI (HTTPS)<br>CLI (SSH / Telnet)<br>SNMP<br>TR-069<br>Syslog / Event Log<br>OTA Firmware Update<br>SMS Command<br>Cloud Management Platform |
| Version Management | Image Checksum<br>Active version and backup version<br>Automatic rollback when remote upgrade fails |
| Account Management | Integrated Admin/Guest Accounting<br>TACACS/TACACS+, Radius Auth. models |
| Retrievable Parameters<br>WEB UI / CLI / TR-069 / SNMP | CLI command-line access<br>SNMP remote monitoring and management<br>Web-based graphical interface management |

## Cellular Modem Features

| | |
|---|---|
| APN Data Services | Dynamic APN support<br>SIM PIN management<br>Bridge Mode Support |
| Modem Interface Configuration | Full band scan<br>Automatic/On-demand dialing<br>Enable/Disable Radio<br>Pppd and DHCP dialing options |
| Modem Backup | Supports backup on interface failure.<br>Supports backup on traffic flow interruptions.<br>Supports automatic connection establishment. |


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## Network Features

| | |
|---|---|
| Routing | Static Routing, Dynamic Routing<br>BGP<br>OSPF / RIP<br>VLAN<br>NAT / Port Forwarding / DMZ<br>DHCP Server / Client<br>Bridging / Passthrough<br>Policy-Based Routing (PBR) Support |
| Tunnels | IPSec VPN<br>OpenVPN<br>L2TP<br>PPTP<br>SSTP<br>GRE Tunneling<br>DMVPN<br>Firewall<br>MAC / IP Filtering<br>DoS/DDoS Protection<br>HTTPS / SSH Access |
| Routing | NAT Support<br>Port Forwarding<br>DMZ Support |
| Load Balancing | Per-Packet Routing Support |

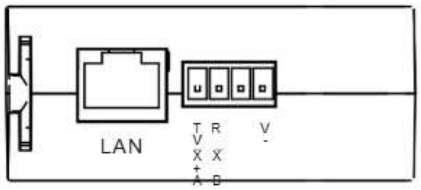
## Ordering Information and Accessories

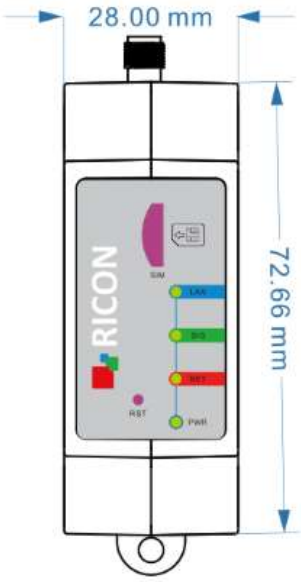
| | |
|---|---|
| S9931-CAT1 | CAT1 Cellular Radio Interface<br>1xLAN Fast Ethernet, 1xSIM Slot |

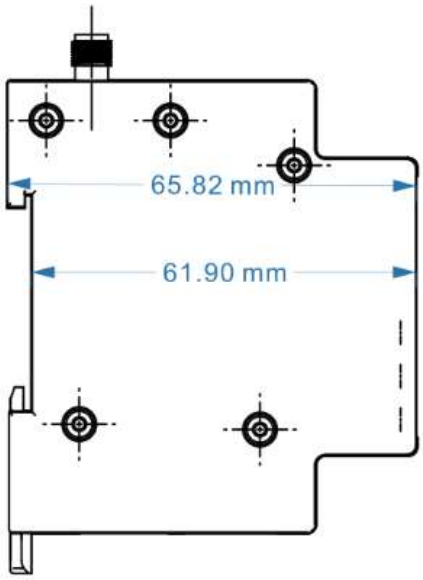
## Defaults

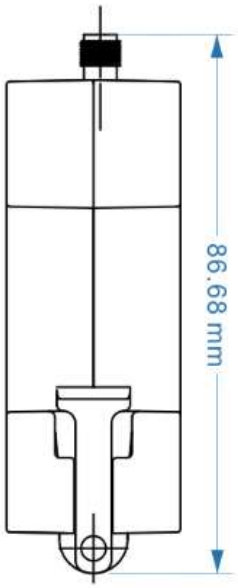
| | |
|---|---|
| Default Box Contents | 1 x S9931-CAT1 Router Hardware<br>1 x Power Adapter<br>1 x RCN-LTE-ANT-IND LTE Antenna<br>1 x 1m. CAT6 Ethernet patch cable |


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## About Ricon

Ricon is a B2B technology company developing network technologies for the secure, uninterrupted and sustainable communication needs of businesses. With industry experience and a technology-driven approach, it delivers connectivity, communication and management solutions for mobile, fixed and cloud networks.

Helping service providers, businesses and partners build reliable and scalable network infrastructures, Ricon supports the development of strong and sustainable communication infrastructures with solutions that adapt to changing digital needs and requirements.

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