



# EV8100

robustOS Pro

## Elevator Voice Gateway

1 x FXS + 2 x Ethernet + 1 x RS232 + 1 x RS485 + 1 x CAN

4 x DI, 1 x Relay, Optional Wi-Fi, Bluetooth



## INTRODUCTION

Robustel's EV8100 is an advanced elevator voice gateway that supports voice transmission over VoIP and VoLTE, enabling seamless communication between a cellular network and the elevator's intercom system. This next-generation device offers multi-interfaces and allows for seamless remote monitoring and management of the elevator's communication system, making it easy to address any issues or malfunctions quickly and efficiently. With its advanced features and robust design, the EV8100 is a reliable and essential safety solution for any modern building.

EV8100 supports Docker for easy deployment of applications and benefits from 'RobustOS Pro' – Robustel's latest Linux Debian bullseye based router OS with enhanced cybersecurity, advanced GUI and a myriad of software features including VPNs, Smart Roaming, SMS remote control and more.

**RCMS** is Robustel's free router monitoring service that is fully compatible with the EV8100. It allows customers 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.

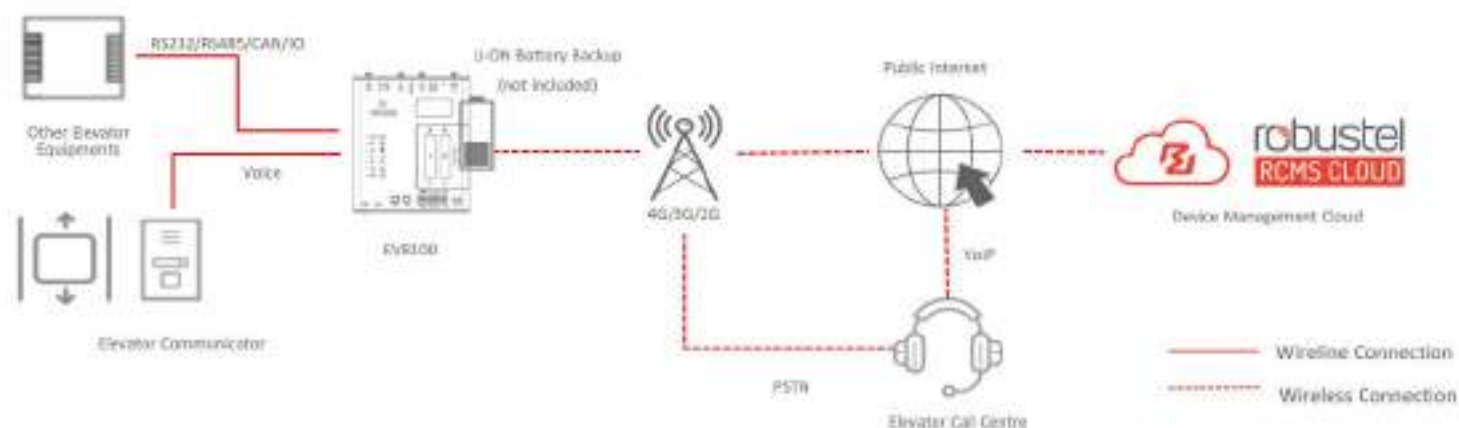
You can try Robustel's free router management platform by signing up here: <https://rcms-cloud.robustel.net>



## KEY FEATURES

- VoIP and VoLTE supported, VoLTE as a backup voice communication line
- Battery holder for EN 81-28 and AS1735 compliance
- Highly stable 4G/3G/2G cellular connectivity with global band coverage
- High performance compute engine with 8 GB eMMC Flash for running complex customer applications
- 'Docker' containerization supported
- 1 x RS232 + 1 x RS485 + 1 x CAN for connection to industrial/legacy devices
- 4 x DI & 1 x Relay for simple monitoring and control
- Dual SIM card slots for redundant communications
- 802.11ac Wi-Fi (optional) supporting AP and Client modes
- Bluetooth (optional), Bluetooth 5.2 compliant
- Supports C, C++, Java, Python, Node.js etc. for users to develop their own applications
- More than 50,000 applications from Debian repository currently available
- IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN/Wireguard\* + more VPN options
- Supports RCMS – Robustel's router/gateway management platform for effective management of large estates of devices

## APPLICATION EXAMPLE



SPECIFICATIONS

|                                |                                                                          |
|--------------------------------|--------------------------------------------------------------------------|
| Hardware System                |                                                                          |
| CPU                            | ARM Cortex-A7, 792MHz                                                    |
| RAM                            | 512MB DDR3                                                               |
| Flash                          | 8 GB eMMC                                                                |
| Cellular Interface             |                                                                          |
| Number of antennas             | 2                                                                        |
| Connector                      | SMA-K                                                                    |
| SIM                            | 2 x Mini SIM (2FF)                                                       |
| FXS Interface                  |                                                                          |
| Number of ports                | 1                                                                        |
| Connector                      | 2-pin 5.08 mm terminal block                                             |
| Signal                         | TIP, RING                                                                |
| Ethernet Interface             |                                                                          |
| Ports                          | 2 x RJ45, 10/100 Mbps, LAN or WAN, 1KV magnet isolation protection       |
| Serial Interface               |                                                                          |
| Type                           | 1 x RS232 + 1 x RS485 + 1 x CAN                                          |
| Connector                      | 3.5 mm terminal block                                                    |
| ESD protection                 | 8 KV Air, 4 KV Contact                                                   |
| Baud rate                      | 300 bps to 115200 bps for RS232/RS485, up to 1Mbps for CAN               |
| Signal                         | RS232: TXD, RXD, GND; RS485: A, B, GND; CAN: CAN_H,CAN_ L, GND           |
| DI/Relay Interface             |                                                                          |
| Number of ports                | 4 x DI(Wet contact) + 1 x Relay(Dry contact)                             |
| Connector                      | 3.5 mm terminal block                                                    |
| Absolute maximum               | + 30V DC(DI), + 40VDC(Relay)                                             |
| Absolute maximum               | 100 mA(DI), 300mA(Relay)                                                 |
| Signal definition              | DI1+, DI1-, DI2+, DI2-, DI3+, DI3-, DI4+, DI4-; NC, NO, COM              |
| Wi-Fi Interface (Optional)     |                                                                          |
| Number of antennas             | 2                                                                        |
| Connector                      | RP- SMA-K                                                                |
| Standards                      | 802.11 a/b/g/n/ac, 2 x 2 MIMO, supports AP and Client modes              |
| Frequency bands                | 2.4 GHz/ 5 GHz                                                           |
| Bluetooth Interface (Optional) |                                                                          |
| Number of antennas             | 1 (Multiplexing Wi-Fi antenna)                                           |
| Connector                      | RP-SMA-K                                                                 |
| Standards                      | Bluetooth 2.1 and 3.0 + Enhanced Data Rate (EDR) + Bluetooth 5.2         |
| Others                         |                                                                          |
| Reset button                   | 1 x RST                                                                  |
| Switch                         | 1 x Battery Switch                                                       |
| USB                            | 1 x USB 2.0 (host), Type A, 5V, 500mA                                    |
| LED indicators                 | 1 x Battery, 1 x RUN, 1 x Line, 1 x MDM, 1 x RSSI, 1 x Cloud, 1 x Device |
| Watchdog                       | External                                                                 |
| VoIP                           |                                                                          |
| Protocols                      | SIP (RFC3261) over UDP, SIPs, SRTP                                       |
| DTMF                           | In-band, RFC2976, RFC 2833                                               |

Battery

1. Battery holder for 2 x 18650 lithium batteries (not included by default).
2. Device is only compatible with 18650 (flat top) type of lithium batteries.
3. If using a single battery, install it in position 1.
4. Improper installation or use of incorrect batteries may damage the device and void warranty.

Software (Basic features of RobustOS Pro)(\*In progress)

|                   |                                                                                                         |
|-------------------|---------------------------------------------------------------------------------------------------------|
| 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, L2TP, PPTP, DMVPN, 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 Gateway                                                 |
| Others            | Smart Roaming v2*                                                                                       |

SDK

|                                |                                                                            |
|--------------------------------|----------------------------------------------------------------------------|
| Operating System               | RobustOS Pro (Based on Debian 11(bullseye))                                |
| Supported programming language | C, C++, Python, Java, Node.js etc. (for users to develop own applications) |
| Debian repository available    |                                                                            |
| Flash available for SDK        | 6 GB                                                                       |
| RAM available for SDK          | 256 MB                                                                     |

App Center(Available Apps for RobustOS Pro)

|      |                |
|------|----------------|
| APP* | Language, RCMS |
|------|----------------|

\*Request on demand. For more Apps please visit [www.robustel.com](http://www.robustel.com).

Power Supply and Consumption

|                   |                                       |
|-------------------|---------------------------------------|
| Connector         | 2-pin 3.5 mm terminal block with lock |
| Input voltage     | 9 ~ 30V DC                            |
| Power consumption | Idle: 4W, Data link: 25W(peak)        |

Physical Characteristics

|                            |                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------|
| Ingress protection         | IP30                                                                                                           |
| Housing & Weight           | Plastic, 470g                                                                                                  |
| Dimensions                 | 170 x 150 x 35 mm                                                                                              |
| Installations              | Desktop, wall mounting and 35 mm DIN rail mounting                                                             |
| Optional magnetic mounting |                                                                                                                |
| Operating temperature      | -20 ~ + 60 °C(Without battery); 0 ~ + 45 °C(With battery)<br><i>Note: The battery can be charged at 0~35°C</i> |
| Storage temperature        | -40 ~ + 85 °C(Without battery)<br>-20 ~ + 35 °C(With battery for long term)                                    |
| Relative humidity          | 5 ~ 95% RH                                                                                                     |

Regulatory and Type Approvals

|               |                                                                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental | RoHS2.0                                                                                                                                            |
| EMI           | EN 55032 Conducted Emission class B<br>EN 55032 Radiated Emission class B                                                                          |
| EMS           | EN 61000-4-2 (ESD) Level 2<br>EN 61000-4-3 (RS) Level 3<br>EN 61000-4-4 (EFT) Level 2<br>EN 61000-4-5 (Surge) Level 2<br>EN 61000-4-6 (CS) Level 2 |

ORDERING INFORMATION

| Model             | PN      | Wi-Fi +BLE | Frequency Bands*                                                                                                                                                                 | Country/Region | Certification (*In progress)                   |
|-------------------|---------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------|
| EV8100-A-4L-A06GL | B126001 | -          | <b>4G:</b><br>LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28<br>LTE TDD: B38/B39/B40/B41<br><b>3G:</b> UMTS: B1/B2/B4/B5/B6/B8/B19<br><b>2G:</b> GSM: B2/B3/B5/B8 | Global         | CE, UKCA, FCC, IC, PTCRB, Verizon*, AT&T       |
| EV8100-B-4L-A06GL | B126002 | ✓          |                                                                                                                                                                                  |                | CE, UKCA, FCC, IC, PTCRB, Verizon*, AT&T, NTC* |
| EV8100-A-4L-A34AU | B126003 | -          | <b>4G:</b> LTE FDD : B1/B2/B3/B4/B5/B7/B8/B28<br>LTE TDD : B40<br><b>3G:</b> WCDMA: B1/B2/B4/B5/B8<br><b>2G:</b> GSM/EDGE:B2/B3/B5/B8                                            | ANZ            | RCM                                            |
| EV8100-B-4L-A34AU | B126004 | ✓          |                                                                                                                                                                                  |                |                                                |
| EV8100-A-4L-A04JP | B126005 | -          | <b>4G:</b> LTE FDD : B1/B3/B8/B18/B19/B26<br>LTE TDD : B41<br><b>3G:</b> B1/B6/B8/B19                                                                                            | JP             | JATE , TELEC                                   |
| EV8100-B-4L-A04JP | B126006 | ✓          |                                                                                                                                                                                  |                |                                                |
| EV8100-A-4L-A12EU | B126013 | -          | <b>4G:</b> LTE FDD : B1/B3/B7/B8/B20/B28A<br>LTE TDD : B38/B40/B41<br><b>3G:</b> WCDMA: B1/B8<br><b>2G:</b> GSM/EDGE:B3/B8                                                       | EU             | CE, UKCA                                       |
| EV8100-B-4L-A12EU | B126014 | ✓          |                                                                                                                                                                                  |                |                                                |

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



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