robustel

robustOS Pro

EV8100

Elevator Voice Gateway

1 x FXS + 2 x ETH + 1 x RS-232 + 1 x RS-485 + 1 x CAN + 4 x DI + 1 x Relay + Wi-Fi (optional) + Bluetooth (optional)



INTRODUCTION

Robustel's **EV8100** is an advanced elevator voice gateway designed to facilitate voice transmission over VoIP and VoLTE, ensuring seamless communication between cellular networks and elevator intercom systems. This next-generation device features multiple interfaces, enabling comprehensive remote monitoring and management of the elevator communication system, which allows for rapid and efficient resolution of any issues or malfunctions.

With its robust design and advanced capabilities, the EV8100 serves as a reliable and essential safety solution for modern buildings. It supports Docker, allowing for the easy deployment of applications, and is powered by **RobustOS Pro** – Robustel's latest Linux Debian Bullseye-based router operating system, featuring enhanced cybersecurity, an intuitive graphical user interface (GUI), and a wide array of software functionalities, including VPN support, Smart Roaming, SMS remote control, and more.

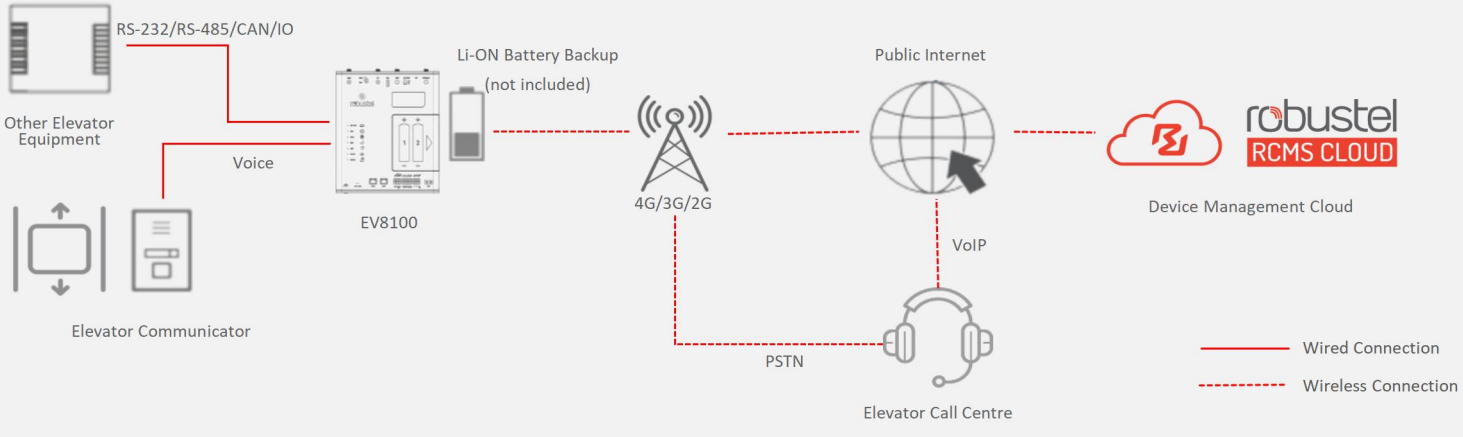
The **Robustel Cloud Manager Service (RCMS)** is a unified cloud-based platform designed for real-time monitoring and centralized management of industrial IoT devices. Fully compatible with Robustel routers and gateways, RCMS delivers an interactive geospatial dashboard that enables users to visualize device locations and track critical metrics such as data usage, signal strength, and network status. To ensure seamless operations, the platform facilitates over-the-air (OTA) updates for firmware, configurations, and applications, minimizing downtime while optimizing system performance. Experience robust, cloud-native device management by registering at: https://rcms-cloud.robustel.net

robustel RCMS CLOUD

KEY FEATURES

- Supports VoIP and VoLTE, with VoLTE as a backup voice communication line
- Complies with EN 81-28 and AS1735 standards with an integrated battery holder
- Provides stable 4G/3G/2G cellular connectivity with global band support
- Features an 8 GB eMMC Flash for running complex applications
- Enables application management through Docker containerization
- Connects to industrial and legacy devices via 1 x RS-232, 1 x RS-485, and 1 x CAN ports
- Allows monitoring and control with 4 x Digital Inputs (DI) and 1 x Relay
- Offers dual SIM slots for redundant communication
- Includes optional 802.11ac Wi-Fi for Access Point and Client modes
- Provides optional Bluetooth 5.2 for enhanced wireless connectivity
- Supports development in C, C++, Java, Python, and Node.js
- Grants access to over 50,000 applications from the Debian repository
- Ensures secure connections with various VPN options, including IPsec and OpenVPN
- Facilitates device management with Robustel's cloud management platform (RCMS)

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware System

CPU	ARM Cortex-A7, 792 MHz
RAM	512 MB DDR3
Flash	8 GB eMMC

Cellular Interface

Number of antennas	2
Connector	SMA-K
SIM	2 x Mini SIM (2FF)

FXS Port

Number of ports	1
Connector	2-pin 5.08 mm terminal block
Signal definition	TIP, RING
Loop voltage	-48 V DC
Loop current	20 mA max
Loop resistance	800 Ohm max

Ethernet Port

Number of ports	2 x RJ45, 10/100 Mbps, LAN or WAN, 1 KV magnet isolation protection

Serial Port

Number of ports	1 x RS-232 + 1 x RS-485 + 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 RS-232/RS-485, up to 1 Mbps for CAN
Signal definition	RS-232: TXD, RXD, GND RS-485: A, B, GND CAN: CAN_H,CAN_ L, GND

Digital Input/Relay Port

Number of ports	4 x DI (Wet contact) + 1 x Relay (Dry contact)
Connector	3.5 mm terminal block
Absolute maximum VDC	+ 30 V DC (DI), + 40 V DC (Relay)
Absolute maximum ADC	100 mA (DI), 300 mA (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 port	1 x USB 2.0 (host), Type A, 5V, 500 mA
LED indicators	1 x BATTERY, 1 x RUN, 1 x MDM, 1 x RSSI, 1 x LINE, 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

Software (Basic features of RobustOS Pro)

Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, HTTPs, ARP, VLAN, SSH2, DDNS, etc.
VPN tunnels	IPsec, OpenVPN, GRE, L2TP, PPTP, DMVPN
Firewalls	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address),Port Mapping, Access Control
Remote management	Web, CLI, SMS
Serial port protocols	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, Wireguard

**Request on demand. For more Apps please visit www.robustel.com.*

Cloud Platform

Robustel Cloud Manager Service (RCMS)	RobustLink, RobustVPN, Operation Console, Elevator IoT

Power Supply and Consumption

Connector	2-pin 3.5 mm terminal block with lock
Input voltage	12/24 V DC, 9 ~ 30 V DC Reverse polarity protection, surge protection
Power consumption	Idle: 4 W@12 V Max: 15 W@12 V
Recommended power supply	12V DC/2 A Power Adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Plastic, 470 g
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) *Note: The battery can be charged at 0 ~ +35 °C*
Storage temperature	-40 ~ + 85 °C (without battery) -20 ~ + 35 °C (with battery for long term)
Relative humidity	5 ~ 95% RH (non-condensing)

Regulatory and Type Approvals

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

ORDERING INFORMATION

Model	Order Code	Wi-Fi	BLE	Frequency Bands*	Country /Region	Certification (*In progress)	Package Contains
EV8100-A-4L-A06GL	A012600010	-	-	4G: LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 LTE TDD: B38/39/40/41 3G: UMTS: B1/2/4/5/6/8/19 2G: GSM: B2/3/5/8	Global	CE UKCA FCC IC PTCRB Verizon AT&T	1 x EV8100 Gateway (B Code: B126001) 1 x Wall Mounting Kit
	A012600002	-	-				1 x EV8100 Gateway (B Code: B126001) 2 x Cellular Antenna 1 x Power Adapter 1 x Wall Mounting Kit
EV8100-B-4L-A06GL	A012600011	√	√		Global	CE UKCA FCC IC PTCRB Verizon AT&T NTC*	1 x EV8100 Gateway (B Code: B126002) 1 x Wall Mounting Kit
	A012600003	√	√				1 x EV8100 Gateway (B Code: B126002) 2 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter 1 x Wall Mounting Kit
EV8100-A-4L-A34AU	A012600012	-	-	4G: LTE FDD: B1/2/3/4/5/7/8/28 LTE TDD: B40 3G: WCDMA: B1/2/4/5/8 2G: GSM/EDGE: B2/3/5/8	ANZ	RCM	1 x EV8100 Gateway (B Code: B126003) 1 x Wall Mounting Kit
	A012600004	-	-				1 x EV8100 Gateway (B Code: B126003) 2 x Cellular Antenna 1 x Power Adapter 1 x Wall Mounting Kit
EV8100-B-4L-A34AU	A012600013	√	√		ANZ		1 x EV8100 Gateway (B Code: B126004) 1 x Wall Mounting Kit
	A012600005	√	√				1 x EV8100 Gateway (B Code: B126004) 2 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter 1 x Wall Mounting Kit
EV8100-A-4L-A04JP	A012600014	-	-	4G: LTE FDD: B1/3/8/18/19/26 LTE TDD: B41 3G: B1/6/8/19	Japan	JATE TELEC	1 x EV8100 Gateway (B Code: B126005) 1 x Wall Mounting Kit
	A012600006	-	-				1 x EV8100 Gateway (B Code: B126005) 2 x Cellular Antenna 1 x Power Adapter 1 x Wall Mounting Kit
EV8100-B-4L-A04JP	A012600015	√	√				1 x EV8100 Gateway (B Code: B126006) 1 x Wall Mounting Kit
	A012600007	√	√				1 x EV8100 Gateway (B Code: B126006) 2 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter 1 x Wall Mounting Kit
EV8100-A-4L-A12EU	A012600016	-	-	4G: LTE FDD: B1/3/7/8/20/28A LTE TDD: B38/40/41 3G: WCDMA: B1/8 2G: GSM/EDGE:B3/8	EU	CE UKCA	1 x EV8100 Gateway (B Code: B126013) 1 x Wall Mounting Kit
EV8100-B-4L-A12EU	A012600017	√	√				1 x EV8100 Gateway (B Code: B126014) 1 x Wall Mounting Kit

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

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Millbeck.

IoT Connectivity

ABOUT

Millbeck is a UK-based IoT and M2M connectivity specialist, supplying the SIM technology, networking hardware and technical expertise that keep connected devices online, wherever they're deployed.

With over 20 years' experience in cellular networking, our team has built deep sector knowledge and strong partnerships with leading carriers and hardware manufacturers across the UK, Europe and globally.

TIMELINE

2002 — MILLBECK FOUNDED
Business connectivity for UK SMEs

2008 — FIRST IOT SIM SOLUTION PROVIDED
Cellular SIM solutions commence

2018 — ROAMING IOT SIMS LAUNCHED
The next step in IoT connectivity begins

2024 — TELTONIKA DIAMOND PARTNER
Millbeck appointed as a key Teltonika partner

NOW — UK, EUROPE & GLOBAL DEPLOYMENTS
Connecting devices across every sector

EXPERTISE

- Routers
- Antennas
- Networking
- IoT SIMs
- IoT Consultancy

SIM TECHNOLOGIES

- 2G/3G, 4G LTE, 5G, CAT-M1, LTE-M, VoLTE & NB-IoT
- eUICC
- eSIM
- Fixed Public IP
- Fixed Private IP
- IPSec VPN
- SSL VPN

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