

FORTINET



FortiExtenderVehicle 511G
FEV-511G

QuickStart Guide



April 16, 2025

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Packing List

FortiExtenderVehicle 511G



2x WiFi and 1x Bluetooth Antennas



5G/LTE/GNSS Vehicle Antenna (Optional)



Mounting Kit



4x Wall Mounting Anchors



4x Wall Mounting Screws

1x Drill Template Sticker



SIM Card Adapter



Vehicle Power Adapter



QuickStart Guide



Product Description

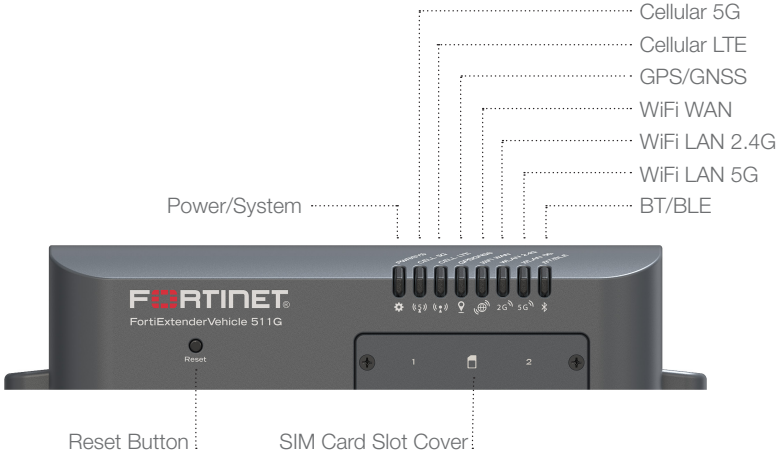
FortiExtenderVehicle 511G is a secure 5G/LTE wireless WAN extender device for vehicular and industrial applications. It has a single 5G Sub 6 GHz high power module, 2x2 2.4G/5G dual-band WiFi6 (802.11 a/b/g/n/ac/ax) and BLE 5.0 integrated in the device. It features one 2.5GE WAN port, four GE LAN RJ45 ports, one USB 2.0 Type A, one DB9 console port, an industrial digital I/O port of Opto isolated input, and one NO/NC relay output.

Model	Modem
FEV-511G	One Telit FN990A28-HP 5G module.

Notes:

FN990A28-HP is a 5G Sub 6 GHz high power module with data throughput up to 3.4 Gbps (DL) /460 Mbps (UL) @5G NSA or 2.5 Gbps (DL) /900 Mbps (UL) @5G SA, and supports GPS/Glonass/Beidou/Galileo navigation system.

Front Panel LEDs and Controls



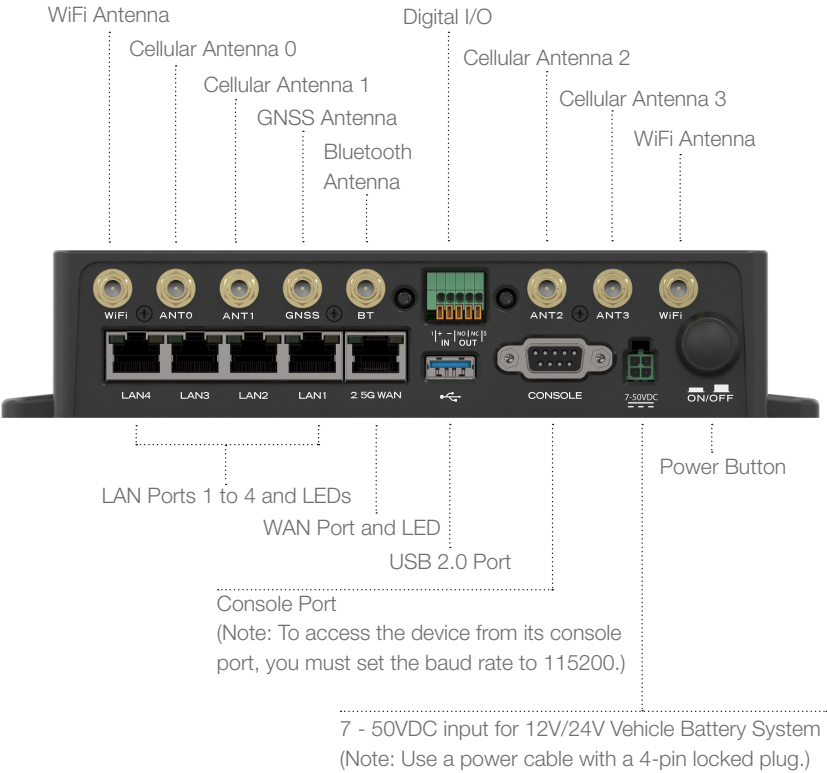
Button Usage

LED	Definition
Reset Button	<ul style="list-style-type: none">Key pressed < 5 sec: System resetKey pressed >= 5 sec: Back to factory default

LED Behavior

LED	Definition
Power/System (Green/Amber)	<ul style="list-style-type: none">Green Steady ON: System running normalGreen Flashing: ConnectedAmber Steady ON: System errorAmber Flashing: System boots upLED Off: No power
Cellular 5G LNK/ACT (Blue/Amber)	<ul style="list-style-type: none">Blue Steady ON: Connected to 5G with 5G signal level >= 50%Blue Flashing: 5G activity with 5G signal level >= 50%Amber LED ON: Connected to 5G with 5G signal level < 50%Amber LED Flashing: 5G activity with 5G signal level < 50%Blue(5G)/Green(LTE) both flashing: 5G/LTE modem FW upgradeLED OFF: Not connected to 5G cellular
Cellular LTE LNK/ACT (Green/Amber)	<ul style="list-style-type: none">Green Steady ON: Connected to LTE with LTE signal level >= 50%Green Flashing: LTE activity with LTE signal level >= 50%Amber LED ON: Connected to LTE with LTE signal level < 50%Amber LED Flashing: LTE activity with LTE signal level < 50%Blue(5G)/Green(LTE) both flashing: 5G/LTE modem FW upgradeLED OFF: Not connected to LTE
GPS/GNSS (Green/Amber)	<ul style="list-style-type: none">Green ON: GPS/GNSS locked with > 5 positioning satellitesAmber LED: GPS/GNSS locked with <= 5 positioning satellitesLED OFF: No GPS/GNSS
WiFi WAN (Green/Amber)	<ul style="list-style-type: none">Green Steady ON: 2.5G/1G wired WAN or 5G WiFi connected as WANGreen Flashing: 2.5G/1G wired WAN or 5G WiFi WAN activityAmber steady ON: 100M wired WAN or 2.4G WiFi connected as WANAmber flashing: 100M wired WAN or 2.4G WiFi WAN activityLED OFF: No wired WAN or WiFi WAN connection
All five Amber LEDs on	<ul style="list-style-type: none">OS upgrade in process
WiFi LAN 2.4G (Green)	<ul style="list-style-type: none">Green Steady ON: 2.4G WiFi connected as LANGreen Flashing: 2.4G WiFi LAN activityLED OFF: No 2.4G WiFi LAN
WiFi LAN 5G (Green)	<ul style="list-style-type: none">Green Steady ON: 5G WiFi connected as LANGreen Flashing: 5G WiFi LAN activityLED OFF: No 5G WiFi LAN
BT/BLE (Green)	<ul style="list-style-type: none">Green Steady ON: BT ONLED OFF: BT OFF

Rear View Ports, LEDs, Buttons, and Antenna Connectors



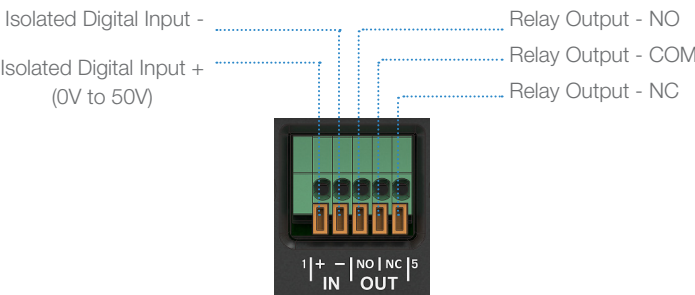
LEDs on RJ45

LEDs	Color	Definition
WAN	Blue (Right LED)	<ul style="list-style-type: none">Blue Steady ON: 2.5G Ethernet connectedBlue Flashing: 2.5G Ethernet activityLED OFF: No 2.5G Ethernet connection
	Green (Left LED)	<ul style="list-style-type: none">Green Steady ON: 1G or 100M Ethernet connectedGreen Flashing: 1G or 100M Ethernet activityLED OFF: No 1G or 100M Ethernet connection
LAN1-4 Ports	Green (Right LED)	<ul style="list-style-type: none">Green Steady ON: 1G Ethernet connectedGreen Flashing: 1G Ethernet activityLED OFF: No 1G Ethernet connection
	Amber (Left LED)	<ul style="list-style-type: none">Amber Steady ON: 100M Ethernet connectedAmber Flashing: 100M Ethernet activityLED OFF: No 100M Ethernet connection

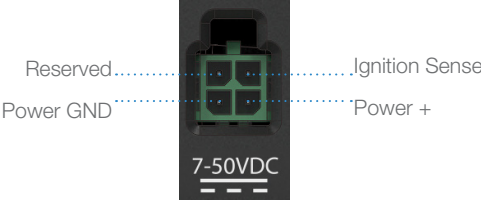
Button Usage

Power Button	<ul style="list-style-type: none">Press to lock: Power on.Press to release: Power off.
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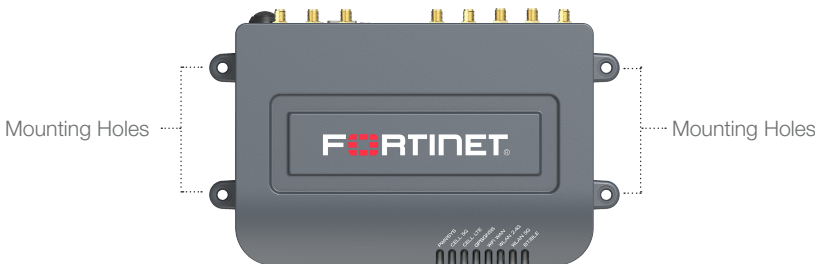
Digital I/O Definitions



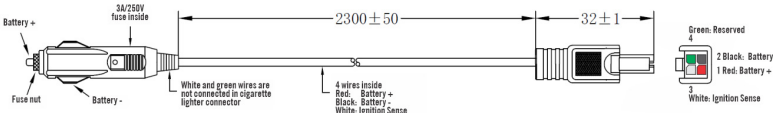
Power Input Pin Definitions



Mounting Holes



Battery Adapter Cable

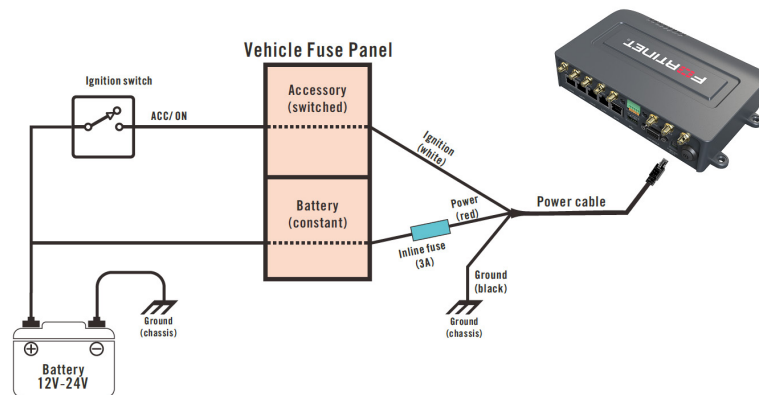


1 Basic Connections



1. Press to release the power button to ensure that the device is in power-off state (the power button is fully out).
2. Plug the cigarette lighter connector of the vehicle power adapter into the vehicle cigarette lighter socket.
3. Plug the 4-pin locked plug into the device power input socket, and press to lock the power button to power on the device.

Power Connection to Vehicle Fuse Panel



Note: UL/cUL Listing for US/Canada vehicle use does not cover use of products connected to vehicle battery via DC cable/connector.

2 Assembly

1. Unscrew the SIM socket dust cover fastening screws, and remove the dust cover.
2. When inserting your MicroSIM (3FF) SIM card(s) into the SIM socket(s), be sure to observe the following guidelines:
 - If installing one SIM card, you can insert the card into either SIM socket
 - If installing two SIM cards, use SIM1 as the primary socket and SIM2 as the secondary
3. Insert the SIM card(s) into the SIM socket(s), making sure that the card is facing down with the cut corner on the left. (If necessary, press the card again to remove it.)
4. Replace the SIM socket dust cover, tighten the dust cover screws, and attach the antennas.