



AnyRover V3 – Mobile Access Router

MIMO Dual modem high speed LTE and WLAN router with integrated GPS/GNSS receiver, Ethernet switch and Power-over-Ethernet (PoE) capability

The AnyRover V3 mobile access router (MAR) is the state-of-the-art solution for professional mobile applications in vehicles. It provides a secure communication and high functionality in a compact and energy-optimized solution. The powerful device allows a seamless integration in IPsec and OpenVPN networks and fast internet access. Advanced security features are built on the integrated encryption engine, the trusted platform module (TPM), firewall and NAT support.

With optional MobileIP (IETF RFC 5944) support the AnyRover V3 can be remotely accessed at the same IP address permanently,

regardless of what technology the current connection to the Internet is based on. It can even handle various encryption techniques for each transmission technology.

The i.MX6D Processor with dual 1 GHz core and 1 GByte DDR3 RAM allows the AnyRover V3 to combine low power consumption with high data rates, even with the use of encrypted VPN tunnelling protocols. Low power consumption means longer operation time on vehicle batteries.

The optional dual modem configuration with dual SIM ports enables the AnyRover V3

to be connected to two network operators simultaneously. When using MIMO / dual radiator antennas, the 4G/LTE and 3G/HSPA+ mobile network radios offer higher data rates by making use of MIMO multipath propagation, beamforming or antenna diversity functions as well as more fluent cell handover. Which mode is used depends on the current network signal strength. On a 4G mobile network connection, even Full HD video streaming will be fluent in most situations.

Further options are one or two integrated dual-band 802.11b/g/n (/ac in Q4/18) WLAN cards with WPA2 (AES) encryption and 802.1x/EAP authentication. They can be configured as WLAN client or access point individually. Alternatively, mesh mode (IEEE 802.11s) is supported as well.

The WLAN feature is available with or without MIMO option.

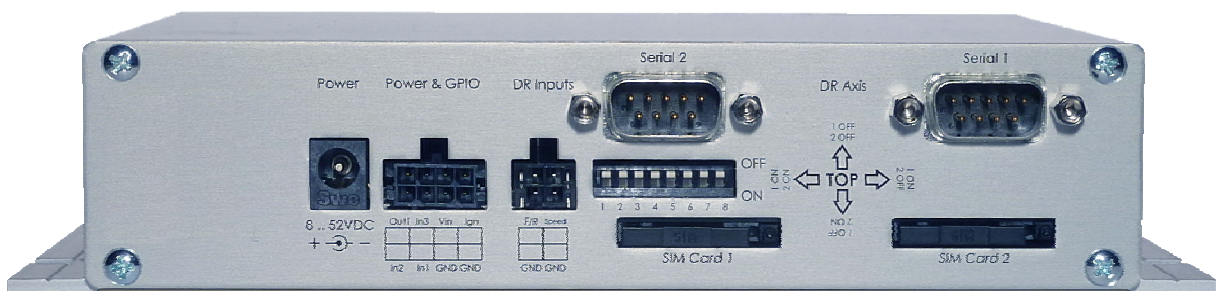
The high-sensitivity GNSS receiver uses GPS, Galileo and GLONASS satellite signals simultaneously to calculate its position. The optional self-calibrating 3D dead reckoning feature provides position fixes even without GNSS coverage. 3D dead reckoning combines GNSS position information with the vehicle speed tick signal and advanced sensor fusion technology. The result is uninterrupted positioning data even at places where no GNSS signals are available such in tunnels, parking garages or under structures. The position is stored for weeks and is available right after starting up the device.

The AnyRover V3 contains an integrated four-port 10/100 Mbit/s Ethernet switch. One or more ports can be separated in VLAN segments (IEEE 802.1q) with optional trunk port for further extension. This allows the configuration of individual access policies on each port.

One of the Ethernet ports can be optionally configured as a WAN port. As soon as that port is connected to an alternative communication interface (e.g. DSL or satellite link), this data link can be used as additional uplink to the home network. This function is mainly used if no wireless network coverage is available at the current location or if it is overloaded at big public events.

With two different types of Power over Ethernet (PoE) modules, the AnyRover V3 can be either remotely powered (Powered Device, PD), or can feed power to up to two PoE devices (Power Sourcing Equipment, PSE) with 12.94 W power capability according to IEEE 802.3af.

Further interfaces are two optional RS-232 serial ports for GNSS output, vehicle data interface or remote RS-232 port connectivity. A software driver for various CAN bus vehicle data interfaces is already integrated and enables fleet owners to collect data like mileage, fuel level etc. and have them transferred to a database server.



The AnyRover V3 power connector does also provide general purpose input and output interfaces (GPIO). The 3 inputs can measure analog voltages or trigger event scripts as digital inputs. The 1.8A output allows external hardware to be powered and switched on and off. Further digital I/O is available on request.

The wide operating temperature range of the AnyRover V3 covers -25°C to $+75^{\circ}\text{C}$. In addition, the supply voltage range from 8 to 52 volts allows the installation in all vehicle types without additional voltage converters.

For antenna connectivity, SMA or FAKRA connectors are available.

The AnyRover V3 configuration is stored in a text file that can be edited locally or downloaded automatically from a management and monitoring server. The router can be identified based on the SIM card number, and the configuration download can be triggered automatically when inserting the SIM card or from the management server. This allows non-IT staff to install or replace a router without knowledge of configuration processes.

The system is based on a Linux OS, thus allowing software upgrades and software updates. Additional functions are easy to integrate, which allows an optimal integration of specific customer requirements. If large storage is required for applications or logging, it can be expanded by installing a MicroSD card or USB storage device.

Optional accessories

Power supply 230V / 24V 15 W		For stationary operation of the AnyRover without Power over Ethernet (PoE) capability
Power supply 230V / 24V 60 W		For stationary operation of the AnyRover with Power over Ethernet (PoE) capability on up to 2 ports
Vehicle installation power and GPIO cable 8 wires		For vehicle power supply and the usage of the 3 digital/analog-input and the digital output
Various indoor, outdoor and vehicle antennas and extension cables		Please ask for an individual solution in your project

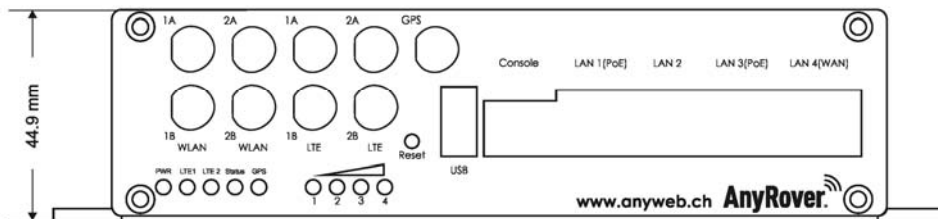
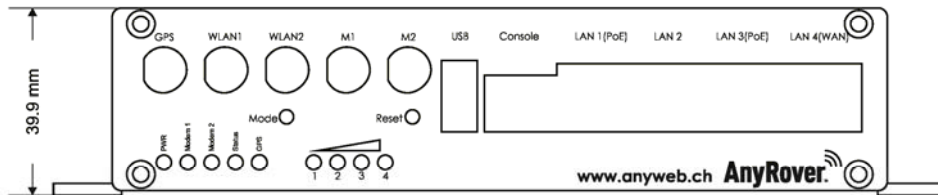
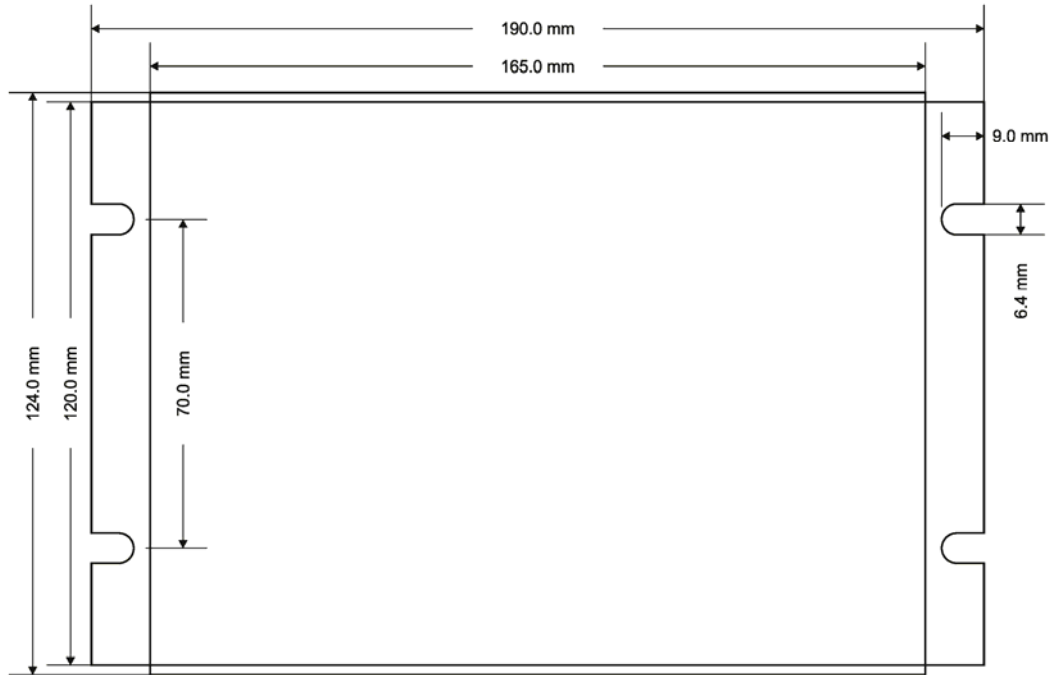
Technical data

Operating temperature range	-20° .. +75°C
Power supply range	8 .. 52V _{DC} (>9V w. PoE)
Power consumption All options included, connected to the mobile network, no data traffic, without PoE load	7W max.
Efficiency of the PoE modules 13.9W load, V _{supply} = 10..36V	>90%
Digital/analog inputs	3
High level digital inp.	4.5 .. 52V
Low level digital inp.	0 .. 2.0V
Analog voltage range	0 .. 6.0V*
input impedance	>50 kΩ

Power output Switch current short circuit proof	1, High Side 1.8A _{DC} min
Weight	700 .. 850g
Dimensions	See next page
Certifications	CE e mark

* Extendable by adding a series resistor

Dimensions



Case dimensions for dual MIMO option on LTE or WLAN.

Contact

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The feature list may change without prior notification. Development and sales of the AnyRover product family is a joint project of AnyWeb AG and Cabtronix AG.

Ordering information

Part number	Option/Description
CTX3450-abcdefgh	CTX3450: Part number of the AnyRover V3 Wireless Router with ECL. <i>abcdefgh</i> is the wildcard for the optioncode (see below)
	a: CPU module features 1: i.MX6D Dual Core Cortex A9 2 x 1 GHz with 4 GB Flash / 1 GB DDR3 RAM 2: i.MX6S Quad Core Cortex A9 1 GHz with 4 GB Flash / 1 GB DDR3 RAM
	b: Casing 0: OEM mainboard assembly without casing 1: Casing without flanges 2: Casing with flanges 4: Casing with flanges +5mm height for dual MIMO options f and g 5: Custom option 1
	c: GPS receiver 0: GPS receiver not assembled 6: 3D Dead Reckoning Multi-GNSS receiver (GPS , Glonass, Galileo), active GPS antenna 7: Standard Multi-GNSS receiver (GPS , Glonass, Galileo), active GPS antenna 8: Timing / RTK cm-Precision Multi-GNSS receiver (GPS , Glonass, Galileo), active GPS ant.
	d: Antenna connectors 1: SMA for GPS, UMTS/LTE, WLAN 2: FAKRA for GPS, UMTS/LTE, WLAN 3: SMA for GPS, UMTS/LTE; SMA-RP for WLAN 4: Custom option 1
	e: Power Over Ethernet IEEE 802.3af (PoE) 0: no Power Sourcing Equipment (PSE) or Powered Device (PD) module 1: PSE module on Port 1 2: PSE modules on Port 1 and Port 3 3: PD module on Port 1 4: PD module on Port 1 and PSE module on Port 3 9: GPIO-Expander A: GPIO-Expander and PSE module on Port 3
	f: GSM / UMTS / LTE modem card 0: no GSM / UMTS / LTE modem card 2: 1 Huawei ME909s-120 PCIe GSM / HSPA+ / LTE modem card 3: 2 Huawei ME909s-120 PCIe GSM / HSPA+ / LTE modem cards 4: 1 Huawei ME909s-120 PCIe GSM / HSPA+ / LTE modem card MIMO 5: 2 Huawei ME909s-120 PCIe GSM / HSPA+ / LTE modem cards MIMO
	g: Wireless LAN (IEEE 802.11a/b/g/h/n) module 0: no WLAN module 5: WLAN module Dual-Band (IEEE 802.11a/b/g/n) 6: 2 x WLAN modules Dual-Band (IEEE 802.11a/b/g/n) 7: WLAN module Dual-Band (IEEE 802.11a/b/g/n) MIMO 8: 2 x WLAN modules Dual-Band (IEEE 802.11a/b/g/n) MIMO
	h. COM Ports and memory card 0: No COM Ports 1: 2 Host COM Ports (DB-9 male) 2: No COM Ports but 8GB Micro-SD mounted 3: 2 Host COM Ports (DB-9 male) with 32 GB Micro-SD mounted

This data sheet is valid from March 2017 and does replace all preceding versions