onway Router on1700

User Manual

2026-07-09

onway ag, Switzerland

1 Safety Instructions

Please carefully observe all safety instructions in the manual.

Compliance Information

The onway routers must be used in compliance with any and all applicable national and international laws and with any special restrictions regulating the utilization of the communication module in prescribed applications and environments.

Information about the accessories / changes to the device

- Please only use original accessories to prevent injuries and health risks.
- Changes made to the device or the use of non-authorized accessories will render the warranty null and void and potentially invalidate the operating license.
- onway routers must not be opened (SIM cards may be used according to the instructions).

Information about the device interfaces

- All systems that are connected to the onway router interfaces must meet the requirements for SELV (Safety Extra Low Voltage) systems.
- Interconnections must not leave the building nor penetrate the body shell of a vehicle.
- Connections for antennas may only exit the building or the vehicle hull if transient overvoltages (according to IEC 62368-1) are limited by external protection circuits down to 1500 Vpeak. All other connections must remain within the building or the vehicle hull.
- Always keep a distance of more than 40 cm from the antenna in order to reduce exposure to electromagnetic fields below the legal limits.
- Devices with a WLAN interface may be operated only with the applicable regulatory domain configured. Special attention must be paid to country, number of antennas and the antenna gain. The maximum allowed gain is 3 dBi in the relevant frequency range. To use WLAN antennas with a higher gain, contact onway about custom radio configurations. The antenna gain and cable attenuation need to be correctly configured by certified specialized personnel. A misconfiguration will lead to loss of the approval.
- Cellular antennas attached to the router must have an antenna gain of no more than 2.5 dBi. The user is responsible for the compliance with the legal regulations.
- Only CE-compliant power supplies with a current-limited SELV output voltage range may be used with onway routers.

General safety instructions

- Observe the usage limitations of radio units at filling stations, in chemical plants, in systems with explosives or potentially explosive locations.
- The devices may not be used in airplanes.
- Exercise particular caution near personal medical aids, such as pacemakers and hearing aids.
- onway routers may also cause interference in the nearer distance of TV sets, radio receivers and personal computers.
- Never perform work on the antenna system during a thunderstorm.
- The devices are generally designed for normal indoor use. Do not expose the devices to extraordinary environmental conditions worse than IP30.
- Protect them against aggressive chemical atmospheres and humidity or temperatures outside specifications.

2 Specifications and Features

Interfaces

- 1× SFP cage
- 3× Ethernet (10/100/1000 Mbit/s) with auto MDX, RJ45 connector
- 1× Mini-SIM card slot, internal
- 2× USB 3.0
- 1× Power input, 12 V, 2 A
- 1× microUSB serial console port

Options

- Up to two LTE Category 4 modems
- One dualband WLAN module (AP or station mode)
- Internal SSD mass storage for content
- Optional second SIM card slot, internal

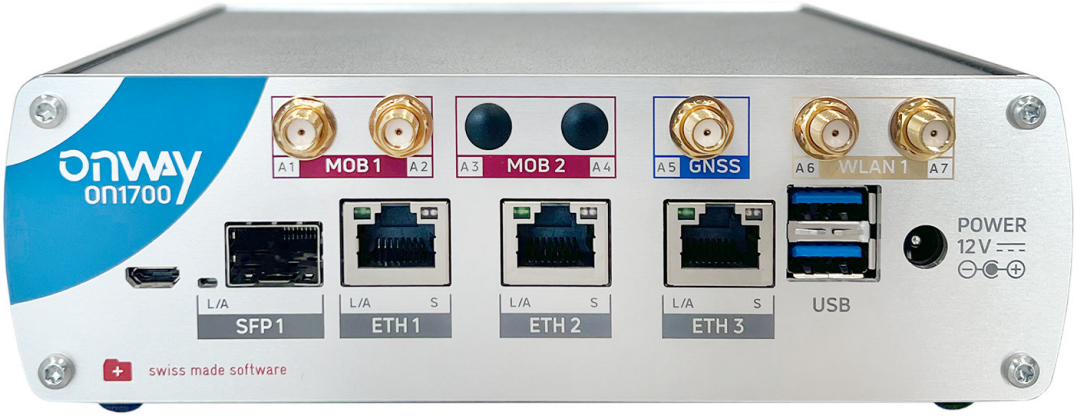
Dimensions

- Size of mounting base, excluding connectors: 169 mm x 158 mm
- Height: 55 mm with feet
- Weight: 850 g, depending on options

Environmental Conditions

- Input voltage: 12 V (DC, ±10 %)
- Operating temperature range: 0 °C to 50 °C
- Storage temperature range: −40 °C to 85 °C
- Humidity: 0 % to 95 % (non-condensing)
- Altitude: 4000 m maximum
- Ingress protection rating: IP30

3 Connectors and Indicators



ON1700 Router Front View

Interface Connectors

Interface Name	Connector	Function
MOB 1	SMA female A1 A2	Cellular radio 1 antennas Modem 1 primary MIMO RX/TX antenna Modem 1 secondary MIMO RX only antenna
MOB 2	SMA female A3 A4	Cellular radio 2 antennas Modem 2 primary MIMO RX/TX antenna Modem 2 secondary MIMO RX only antenna
GNSS	SMA female A5	Satellite navigation antenna Satellite navigation antenna
WLAN 1	SMA female A6 A7	WiFi module 1 antennas WLAN 1 primary MIMO RX/TX antenna WLAN 1 secondary MIMO RX/TX antenna
USB	microUSB	USB serial port
SFP 1	SFP cage	Gigabit SFP port 1
ETH 1	RJ45	Gigabit Ethernet port 1
ETH 2	RJ45	Gigabit Ethernet port 2
ETH 3	RJ45	Gigabit Ethernet port 3
USB	Dual USB-A	2× USB 3.0 port
PWR	Jack	Power connector

Ethernet Status Indicators

Name	Label	Color	Description
SFP 1	L/A	● / ✳	Link / Activity
	L/A	●	No link
ETH 1-3	L/A	✳	Activity
	L/A	●	No link
	S	●	1000 Mbit/s
	S	●	100 Mbit/s
	S	●	10 Mbit/s if L/A is green (blinking)

ON1700 Router Back View

Status Indicators

Name	Color	Description
SYS	●	System in regular mode
	✳	System booted in recovery mode
	●	System is down
MOB	●	Mobile connection established
	✳	Mobile connection in progress
	●	Mobile interface not in use
VPN	●	All VPN connections redundantly established over all uplinks
	✳	At least some VPN connections unavailable
	●	VPN connection down

Software Interface Mapping

The network interface naming and numbering used in the router configuration is different compared to the labels on the router housing. Refer to the following table to map between the two naming and numbering schemes.

Interface Name	Config Name
SFP 1	sfp0
ETH 1–3	lan0–lan2
MOB 1–2	mbm0–mbm1
WLAN 1	wfi0

Antenna Options

Depending on the installed router options, some connectors may be missing.

Cellular modems have two antenna ports. For optimal performance, these two antennas shall use a different polarization. The secondary antenna is for RX MIMO only, TX uses the primary antenna: When connecting only one antenna, it must be connected to the primary modem antenna connector.

Supply Voltage

To power the router, a supply voltage of 12 V must be provided.

The power supply requirements depends on the installed options, but must be at least 6 W.

Factory Reset

On the back side there is a small hole to access the Factory Reset Button. A short press of the Factory Reset Button triggers a system reboot. A long press, greater than 5 seconds, triggers a system reset. A reset will delete all configuration data as well as all credential data stored on the router. A reset will flash all three back LEDs three times. After the reset is complete, a reboot will follow.

SIM Installation

To insert the SIM card, the back panel has to be removed.

USB Mass Storage Devices

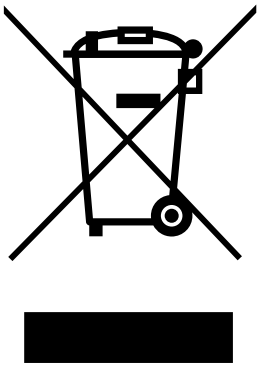
Both USB-A ports on the router support USB 2.0/3.0 mass storage devices. If enabled in the configuration or if the device has a signed partition, the device will be mounted automatically upon insertion. A storage device on the lower port is named USB1, while a device on the upper port is named USB2. Connecting mass storage devices through USB hubs is not supported.

4 Conformity and Waste Disposal

Declaration of Conformity

onway routers comply with the relevant standards following the provisions of the RED Directive 2014/53/EU. To obtain a signed version of the Declaration of Conformity please contact the onway support.

Waste Disposal



This product is subject to the WEEE directive 2012/19/EU and compliant with the marking requirements. The WEEE symbol on this product indicates that it must not be disposed of with normal household waste at its end of life. Instead, it must be separated and returned to a designated collection point for waste electric and electronic equipment for proper recycling. Doing so helps to conserve natural resources and to protect the environment from unnecessary pollution.

5 Open Source Software Notice

This product does in part build on open source software. We are distributing such open source software to you under its respective license, and the licenses can be obtained here:

`https://support.onway.ch/onway-router/licenses/on1700/`

To obtain the corresponding open source codes covered by these licenses, please contact us at `support@onway.ch`.

Specific Acknowledgements

- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (`http://www.openssl.org/`)

6 Contact Information

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