

Requirements for the use of BifrostConnect Solution

Applicable as of 16th of January 2023 (version 2.4)

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Core Services

1. Browser Access

The web interface, which is part of the BifrostConnect Solution, functions in the following Chromium-based browsers:

- Google Chrome
- Chromium
- Edge

The Hardware Unit

1. Hardware revisions

These technical requirements apply to the Hardware Unit revision 1.0

2. Connectivity between the Hardware Unit and the Device

2.1 Device compatibility

The Hardware Unit can emulate a keyboard and mouse to all devices supporting HID using a single USB cable. PS/2 keyboard and mouse emulation are supported using an adapter.

All devices supporting video output using USB-C, HDMI, DVI, VGA, Displayport (alternate mode), or Mini-Displayport can send video signal through the Hardware Unit.

Attention: To be able to use any other type of video output than HDMI and USB-C, an adapter or converter must be used. With VGA, it must be an active converter.

The Hardware Unit supports the following resolutions: 480p, 720p, and 1080p. All other resolutions will not necessarily work.

2.2 Video output

Video output from the Device to the Hardware Unit through USB-C requires a high-quality USB-C data cable (USB 3.1 gen2 or above).

Video output from the Device to the Hardware Unit through HDMI requires a high-quality HDMI cable (HDMI 2.0 or above) with proper shielding.

Attention: A HDMI cable of lower quality is often vulnerable to interference causing video distortion, signal failure, or bandwidth issues.

2.3 Mouse and keyboard input

Mouse and keyboard input to the Device through USB-Micro requires a USB-Micro data cable.

Attention: Please note that some USB-Micro cables do not have data transfer capabilities.

2.4 Bluetooth

The Hardware Unit supports mouse and keyboard input to the Device through Bluetooth 4.0 or older.

2.5 Terminal Access

To establish a terminal session, one of the following cables is required:

- A DB9 RS232 cable Null Modem Cable
- A USB-OTG data cable for USB-based serial connection
- A "Cisco" console cable

Attention: Please note that a DB9 RS232 Straight-through cable cannot be applied.

3. Connectivity between the Hardware Unit and the internet

3.1 Wi-Fi

The Hardware Unit supports the 802.11n 2.4 GHz WPA/WPA2 PSK/AES-enabled network.

3.2 Cellular connection

The Hardware Unit supports cellular-based networks with 3G UMTS/HSDPA (2100 MHz/900 MHz) or 4G LTE networks (2600 MHz, 2100 MHz, 1800 MHz, 900 MHz, and 800 MHz). Applicable but not limited to Europe.

The Hardware Unit supports a Nano SIM card, and the pin code must be disabled.

3.3 LAN

The Hardware Unit supports 10/100 MBit Ethernet LAN Full Duplex

3.4 Network

The network to which the Hardware Unit is connected must support traffic from port 443 using SSL/TLS. WebRTC traffic over UDP must not be disabled on the network. If the network to which the Hardware Unit is connected requires a Proxy server, (i) the HOST mode configuration on the Hardware Unit must be applied (see the manual for further explanation), and (ii) the BifrostConnect Service domains must be whitelisted. If relevant, BifrostConnect will inform the Customer of the domains which must be whitelisted.

The above requirements also apply to the network through which the BifrostConnect web interface is accessed. WebRTC traffic must not be disabled on the computer using the BifrostConnect web interface. WebRTC is by default enabled on Chromium-based browsers.

If you have a load balancer on your network, you must disable it for the Bifrost Unit, as our BifrostConnect service does not support changing incoming WAN/LAN IP addresses on the fly.

Otherwise, you will experience disconnects from the sessions.

4. Other matters

4.1 Firmware

Firmware updates to the Hardware Unit will occasionally be available to improve functionality. It is a requirement that the firmware is updated when new updates are available (see the manual for further explanation).

4.2 Environment

The Hardware Unit must be operated within the following environmental operating ranges:

Operating Temperature	–41 to 104 °F (5 to 40 °C)
Altitude	Only up to 3600 meters.
Humidity	Maximum 85% non-condensing relative humidity
Ingress Protection Rating	IP 20

Furthermore, the Hardware Unit must not be exposed to sunlight for prolonged periods.

Troubleshooting

If you are experiencing issues regarding video, network, or others, please use the provided BifrostConnect cables and then try to recreate the issue. This will help us escalate the support ticket at BifrostConnect.