



SEVIO Basic

Installation guide



Legal information

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Under no circumstances shall Sevio be responsible for any loss of data or income or any special, incidental, and consequential or indirect damages howsoever caused.

More information about Sevio can be found at the following Internet address: <https://sevio.it/>.

Version history

Revision	Date	Description
16_05	01/05/2016	Emission
21_01	20/01/2021	First revision



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Safety

Important safety notes



Read this user guide carefully before mounting, installing and operating the device.



Do not operate the device in any other environmental conditions than it is designed for.

Before using this device

Read this manual completely and gather all information on the device. Make sure that you understand it fully. Check that your application does not exceed the safe operating specifications for this device.

Before installation

This device should only be installed by qualified personnel.



Regulatory notices

Simplified EU declaration of conformity

Hereby, Sevio Srl declares that the equipment is in compliance with EU directives. The full EU declaration of conformity and other detailed information are available at the respective product page at <https://sevio.it/>.

United States (FCC)

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1. this device may not cause harmful interference. 2. this device must accept any interference received, including interference that may cause undesired operation.

Contains FCC ID: TV7RB951G-2HND

RF Exposure requirements: To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operations at closer distances than this are not recommended.

Agency approvals and standards compliance

Type	Description	Approval/Compliance
Article 3.1a - Directive 2014/53/UE	Health and Safety	Assessment for conformity EN 62311:2008
Article 3.1b - Directive 2014/53/UE Article 3.2 - Directive 2014/53/UE	EMC FWL	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4 ETSI EN 300 328 V2.2.2
Article 4 - Directive 2011/65/EU	RoHS	EN 50581:2012

Warranty

Any guarantee claim must be received before the end of the 2 years guarantee period and is to be enclosed with the returned claimed defective product within this same period, and must include Sevio return authorization number (RM No.).

Care recommendations

Follow the care recommendations below to maintain full operation of device and to fulfill the warranty obligations.

This device must not be operated with covers or lids removed.

Do not drop, knock or shake the device, rough handling beyond the specification may cause damage to internal circuit boards.

Do not use harsh chemicals, cleaning solvents or strong detergents to clean the device.

Do not paint the device. Paint can clog the device and prevent proper operation.

Do not expose the device to any kind of liquids (rain, beverages, etc). The device is not waterproof. Keep the device within the specified humidity levels.

Do not use or store the device in dusty, dirty areas, connectors as well as other mechanical parts may be damaged.

If the device is not working properly, contact the place of purchase, nearest Sevio distributor office or Sevio technical support.

Note: Do not use damaged equipment and/or accessories such as damaged power cord.

Note: Do not open the device. There are no serviceable parts inside.

Note: Product warranty gets void and any liability will be disclaimed when opening the device.

Note: Never unplug equipment from the electrical outlet by holding the cord only, always disconnect the cable by applying force directly to the plug.

Symbols



CE marking, the product complies with the requirements of the applicable EU directives.



Direct current, DC



This symbol means that the product shall not be treated as unsorted municipal waste when disposing of it. It needs to be handed over to an applicable collection point for recycling electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help to reduce hazardous substances and prevent potential negative consequences to both environment and human health, which could be caused by inappropriate disposal.



General description

SEVIO Basic is a networking device aimed at providing a secure interconnection between industrial automation networks and external/remote IP networks.

Along with the hardware device Sevio provides a managed VPN infrastructure to allow remote access to routers and automation networks. The VPN infrastructure is accessible from PCs, smartphones, tablets via standard protocols.

The typical scenarios can be identified in:

- remote access to automation devices for the purpose of troubleshooting, maintenance, control, assistance, reconfiguration, data collection;
- machine to remote machine communication;
- local data collection, processing, storage, retrieval and transmission to outside premises;
- providing a safe Internet access to the automation devices.

Typical users of Sevio routers are:

- OEMs wishing to offer a secure internetworking functionality to their machines;
- System integrators;
- End users.

The device is usually installed by instructed or skilled persons in electrical cabinets onboard or in the vicinity of the machines.

The configuration may be performed locally or in a cloud-based centralized interface named Sevio Portal.

Although requiring a certain level of competence in IP networking and security the configuration is usually very simple and automated.

Package content

The package contents of following main components:

- 1 SEVIO Basic router
- 1 power supply
- 1 power terminal block connector
- 1 Wi-Fi antenna
- 1 USB Key
- 1 quick guide

If any components are missing or damaged or if you have any questions regarding the contents, contact us at support@sevio.it.

Product identification and version information

Identification information is available on the left side of the device:

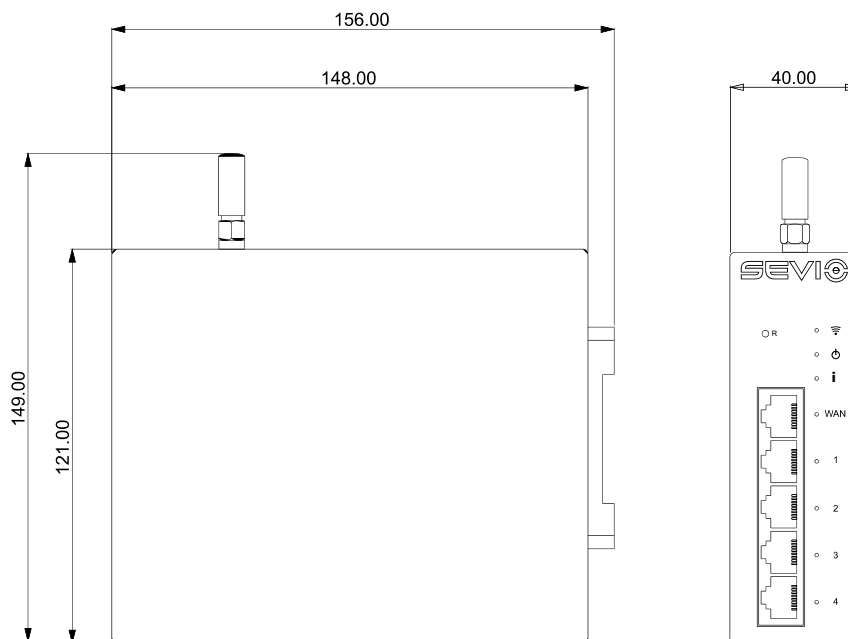


Specification	Value	Notes
MODEL	SVB01	SEVIO Basic
DATE	YYMMDD	Manufacturing date
SERVICE TAG	XXXXXXX	7-characters alphanumeric unique code given to the device
BAR CODE		Service Tag barcode

Mechanical installation

Mechanical overview

Maximum dimensions, with antenna	149 x 40 x 156 mm (H x L x D)
Space needed for installation	Approx. 250 x 100 x 240 mm
Enclosure	Steel
Weight	600 g



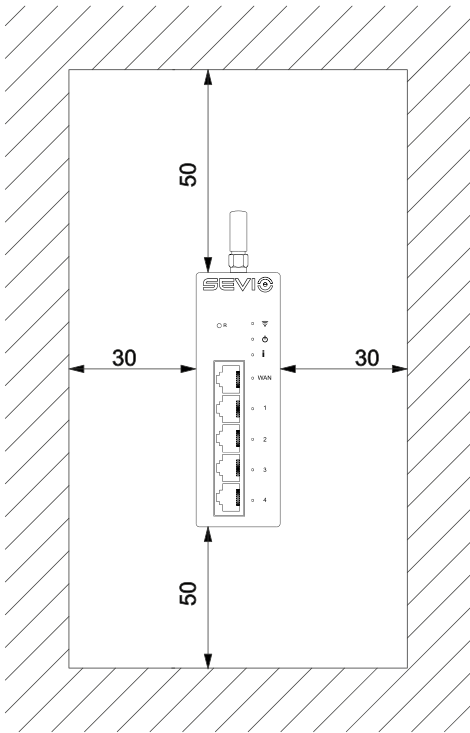
Note: Measurements are stated in millimeters.

Mechanical drawings files are available at <https://sevio.it/>.

Environmental

Operating temperature	-20 °C to 50 °C
Storage and transport temperature	-40 °C to 85 °C
Operating humidity	10% to 90% RH (non condensing)
Storage and transport humidity	10% to 90% RH (non condensing)
Operating altitude max.	2000 m

Cooling



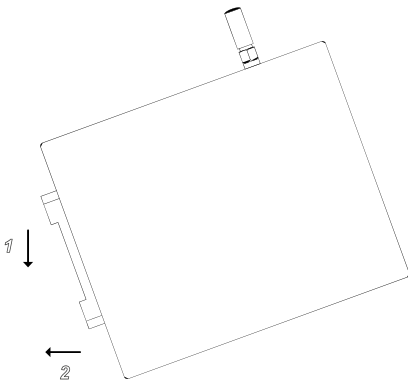
This device uses passive convection cooling. For this reason sufficient air circulation should be guaranteed.

The amount of cooling needed depends on the ambient temperature, the transmission power and the intensity of data traffic.

If operating at extremes ensure that proper clearances, as shown in drawing, are given.

Avoid exposure to direct sunlight.

Mounting



This device is equipped with a spring-loaded clip to hold the device on a standard 35 mm DIN rail.

The device is intended to be mounted vertically.

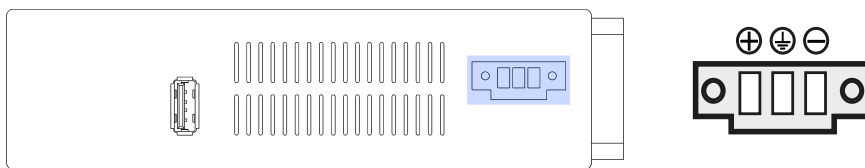
The top of the hook must first be set on the DIN rail. Then just press down (step 1) and at the same time rotate the device until it is flush with the rail (step 2). Finally, release the force on the spring and check that it gets properly seated.

Electrical installation

Power supply

Power the router through the connector at the bottom of the device, as shown in the figure.

The device is protected against polarity inversions.



Symbol	Direction	Description
+	Input	Power supply
CHA	Input	Chassis ground
-	Input	Power Ground

Power connector	MC 1.5/3-STF-3.81 with screws block
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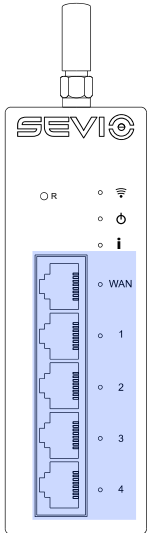
	Min.	Max.
Voltage	+8 V DC	+30 V DC
Input current	0.171 A	0.54 A
Power		5.13 W

Note: The equipment shall be supplied by ES1/SELV power source according to IEC/EN 60950-1 or IEC/EN 62368-1, protected by a 2 A fuse.

Ethernet interface

Connect the WAN port to the Internet access network or to the ADSL router directly and at the ports 1-4 to the automation devices.

One or more switches can be connected to expand the number of nodes complying to the Ethernet standard up to maximum configuration of 253 IP devices.

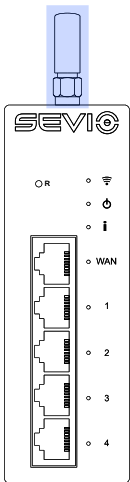


Port	Standard	Use
WAN	1000BASE-T	External LAN
LAN 1	1000BASE-T	Local LAN (automation network)
LAN 2	1000BASE-T	Local LAN (automation network)
LAN 3	1000BASE-T	Local LAN (automation network)
LAN 4	1000BASE-T	Local LAN (automation network)

Connector type	RJ-45 shielded
Cable type	CAT 5e or better, shielded
Autonegotiation	Yes
Auto MDI/MDI-X	Yes
Speed	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s
Duplex	Full, Half
Transmission distance max.	110 m

Wi-Fi interface

Sevio Basic is a radio device operating at 2.4 GHz WLAN bands, and configured either as Access Point or Client. Sevio Portal, the web application for the Sevio system, can be used to configure and view the status of the Wi-Fi interface.



The antenna might be fixed to the antenna connector directly or using antenna cable fixed to the antenna connector.

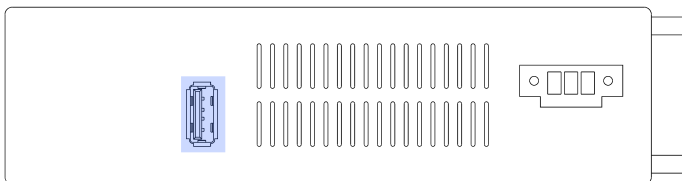
Note: only approved antennas can be used.

Parameter	Value
Type of Radio interface	IEEE 802.11b/g/n 2.4 GHz (Wi-Fi)
Operating Frequency Bandwidth/s	2412MHz - 2472MHz
Number of channels	13
Radio Frequency Power	< 17 dBm EIRP
Antenna connector	RP-SMA female
Antenna type	External provided, RN-SMA-S-RP model, gain max: 0.56 dBi

USB

The USB port may be used for a Cellular Internet connection through *Sevio M100* adapter (not included).

The USB port may also be used to configure the Sevio Router when offline through a properly set up USB flash drive (see *chapter Changing parameters offline*).



Standard	2.0
USB Type	A
Max. Current	500 mA

Status



OFF	Wi-Fi is disabled
ON – Access Point	One or more devices are connected to Wi-Fi
ON – Client	Router is connected to an Access Point



OFF	Device has no power
ON	Router is operative
BLINKING	Boot process in progress

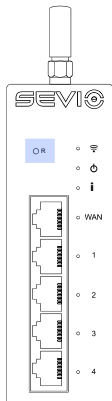


OFF	VPN is not connected
ON	VPN is active
BLINKING	Router in safe mode, contact support@sevio.it



OFF	No traffic
BLINKING	Device is connected and traffic flows

Reset button



The Reset button on the front of the device is intended only for internal function reserved for hardware maintenance.

Note: Do not press without being instructed by our technical support, incorrect operation may require a factory restore.

Configuration

The device is configurable via Sevio Portal which is accessible through any updated web browser:

1. Open <https://sevio.it/> and click on Sevio Portal in your web browser.
2. If you already have an account just log in as usual and add this new device to your list of devices, otherwise register a new account following the instructions in Sevio Portal.



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<https://sevio.it/>