

RESOL

VBus[®]/LAN interface adapter

Mounting

Connection

Operation



VBus[®]/LAN



48005480

**Thank you for buying this RESOL product.
Read this manual carefully to get the best performance from this unit.
Please keep this manual carefully.**

en

manual

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Inhalt

General	2	4. Network settings	7
Overview	3	5. Reset	9
Technical data.....	3	6. LED displays	9
1. Mounting	4	6.1 LED at the front of the housing	9
2. Connection	5	6.2 Status LEDs at the RJ45 LAN connector.....	9
3. System access via RSC-Software	6	Glossary	10
3.1 Data logging.....	6	Imprint	12
3.2 Parametrization.....	7		

General

Safety advice

Please pay attention to the following safety advice in order to avoid danger and damage to people and property.


This manual contains important information about safe and proper usage of this product. Please keep this manual for future reference.

Instructions

Attention must be paid to the valid local standards, regulations and directives!

Subject to technical change. Errors excepted.

Description of symbols

WARNING!	<p>Warnings are indicated with a warning triangle!</p> <p>→ They contain information on how to avoid the danger described.</p>
	

Signal words describe the danger that may occur, when it is not avoided.

Warning means that injury, possibly life-threatening injury, can occur.

Attention means that damage to the appliance can occur.



Note
Notes are indicated with an information symbol.

→ Arrows indicate instruction steps that should be carried out.

Information about the product

Proper usage

The RESOLVBus®/LAN interface adapter may only be used for connecting an electronic controller for solar thermal systems to a computer network or PC via the RESOLVBus® in compliance with the technical data specified in these instructions. Improper use excludes all liability claims.



Note
Strong electromagnetic fields can impair the function of the device.

→ Make sure the device is not exposed to strong electromagnetic fields.

Disposal

- Dispose of the packaging in an environmentally sound manner.
- Dispose of old appliances in an environmentally sound manner. Upon request we will take back your old appliances bought from us and guarantee an environmentally sound disposal of the devices.

CE-Declaration of conformity

The product complies with the relevant directives and is therefore labelled with the CE mark. The Declaration of Conformity is available upon request, please contact RESOL.



Overview



- The network connection for your solar system
- Access to the system via the complete network
- Remote parametrisation of the controller via VBus®
- Full version of the RSC software included on CD-ROM

VBus®/LAN interface adapter

The VBus®/LAN interface adapter is designed for the connecting the controller directly to a PC or router. It enables easy access to the controller via the local network of the owner. Thus, controller access, system parametrisation and data charting can be effected from every workstation of the network.

The VBus®/LAN interface adapter is designed for the connection to controllers equipped with a RESOL VBus®.

Technical data

Housing: plastic

Protection type: IP 20 (EN 60529)

Ambient temperature: 0 ... 40 °C

Dimensions: 95 × 70 × 25 mm

Mounting: Wall mounting is possible (but not required)

Display:

1 bi-coloured LED at the front of the housing

2 LEDs at the RJ45 connection


Power supply:

Mains power supply:

220 ... 240V~ / 50-60 Hz

Mains adapter: power supply:

12V \equiv / 0,5 A

5.5 × 2.5 mm  +

Interface:

RESOL VBus®

RJ45 LAN connection

Supported Operating Systems:

Windows XP, Windows Vista, Windows 7

Included:

1 × Mains adapter 12 V / 0.5 A / 5.5 × 2.5 mm

1 × VBus® cable, 1.5 m

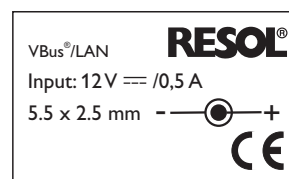
1 × Cat 5 LAN cable, screened, 2 m

1 × RSC-CD

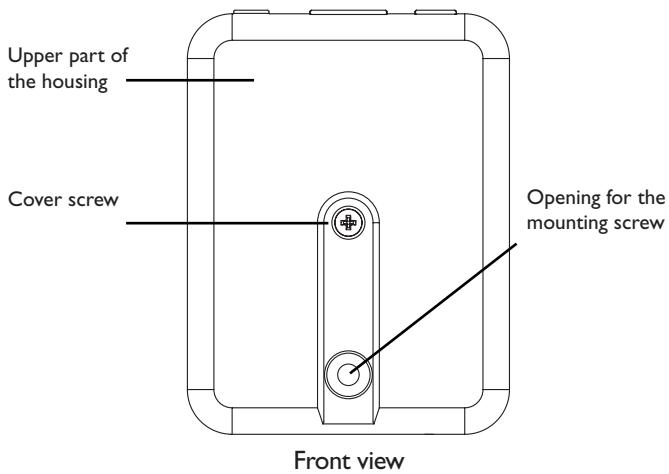
1 × Accessory bag containing

2 × Screw and wall plug

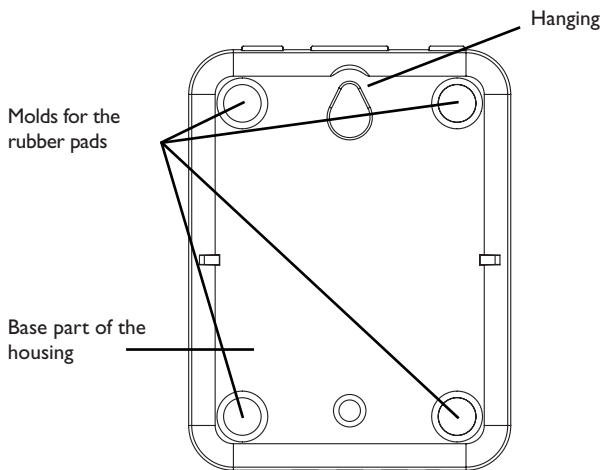
4 × Self-adhesive, skid-proof rubber pad



1. Mounting



Front view



Back view

ATTENTION!	ESD damage! Electrostatic discharge can lead to damage to electronic components! → Take care to discharge properly before touching the inside of the device. To do so, touch a grounded surface such as a radiator or tap!

The unit must only be located in dry interior locations. It is not suitable for installation in hazardous locations. Please pay attention to separate routing of sensor cables and mains cables.

The interface adapter is light and small and thus does not require any form of mounting. It can be placed on a suitable surface (pay attention to the ambient temperature!).

Four self-adhesive, skid-proof rubber pads are included with the VBus®/LAN interface adapter. If necessary, these can be affixed to the corresponding molds on the base part of the housing to ensure a secure placement of the device without wall mounting.

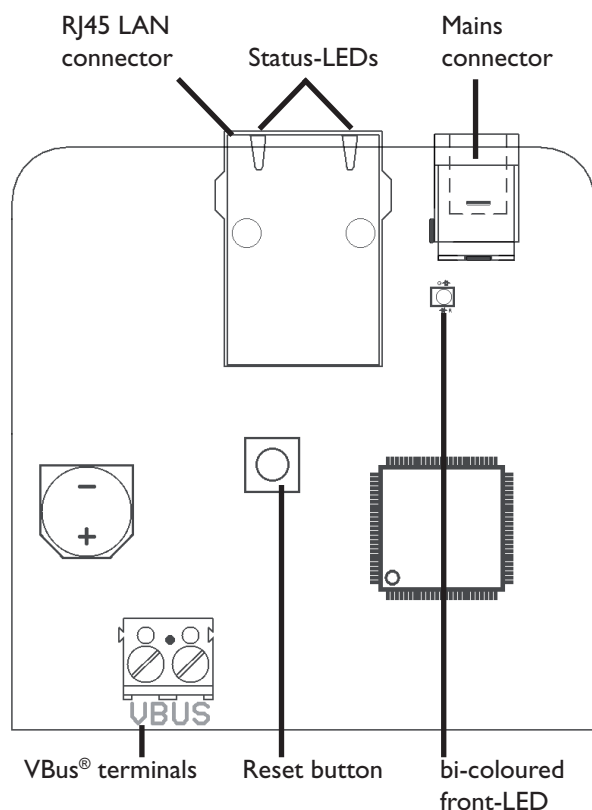
If desired, the interface adapter can be mounted to a wall:

- Mark the desired hanging position on the wall
- Drill and prepare the hole with a wall plug and screw
- Hang the device onto the screw
- Mark the position for the mounting screw (distance to hanging point centre: 70 mm)
- Drill and prepare a hole with a wall plug
- Attach the device and fasten it by means of the second screw

For wall mounting, opening the housing is not required. Opening the housing is only required for access to the terminals.

- To open the housing, unscrew the cover screw and pull off the upper part of the housing
- To close the housing again, relocate the upper part of the housing and refasten the cover screw

2. Connection



Interior view of the VBus®/LAN interior adapter

ATTENTION!	Short circuit!
	A short circuit can lead to damage to electronic components! → Finish terminal connection and close the housing before establishing the mains connection!

The VBus®/LAN interface adapter needs a mains, a VBus® and a LAN connection to function. To install the VBus® cable, the housing has to be opened (see chap. 1).

→ Connect the included VBus® cable to the VBus® terminals with either polarity

The VBus® cable can be extended or replaced with a two-wire cable (bell wire). The cross section of the cable must be at least 0.5 mm² and the cable can be extended up to 50 m in the case that one module is used.

ATTENTION!	Low voltage cables must not run together in a cable conduit with cables carrying a higher voltage than 50 V.
	→ Pay attention to the local regulations!

→ Close the housing (see chap. 1)

→ Establish the network connection by means of the included LAN cable

→ Establish the mains connection by means of the included mains adapter

Depending on whether you want to access your solar system or adjust the network settings, the VBus®/LAN interface adapter can be accessed in two different ways:

- In order to **access** the solar system **via the RESOL ServiceCenter Software** (data processing and remote parametrisation of the controller, see chap. 3), the VBus®/LAN interface adapter has to be accessed via the RESOL ServiceCenter Software.
- In order to adjust the **network settings** (retrieving and changing the IP address, changing the device name and password, see chap. 4), the VBus®/LAN interface adapter has to be accessed via the operating system of the computer. To make these adjustments possible, the UPnP access has to be enabled.

3. System access via RSC-Software

With the RESOL ServiceCenter Software, the controller can be configured and system data can be recorded via the VBus®/LAN interface adapter. A CD-ROM containing the RSC software is included with the device.

→ Install the software on at least one computer in the network

For more information about the installation see the RSC software manual.

3.1 Data logging

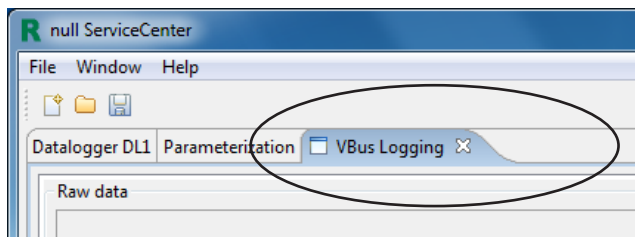


Fig. 1

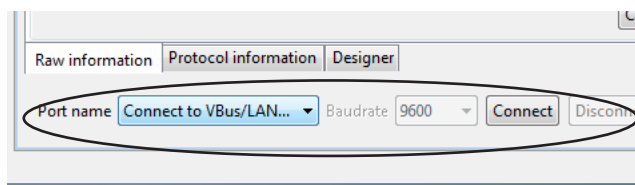


Fig. 2

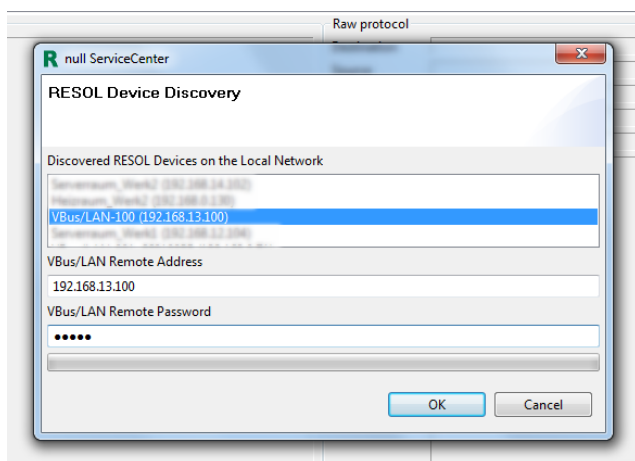


Fig. 3

In order to log data via the RSC software, proceed as follows:

- Start the RESOL ServiceCenter software
 - Click on the **VBus Logging** tab (Fig. 1)
 - At the bottom of the page, in the drop-down menu **Port name**, select **Connect to VBus/LAN** (Fig. 2)
- The window **RESOL Device Discovery** appears (Fig. 3).

- In the upper-hand menu, select the VBus®/LAN interface adapter
- Type the password into the **VBus/LAN Remote Password** input field (see chap. 4)
- Click on **OK**

The window **RESOL Device Discovery** closes. In the **VBus Logging** tab of the RSC software, the incoming data of the controller appear and can be processed.

For more information about data processing see the RSC software manual.

3.2 Parametrization

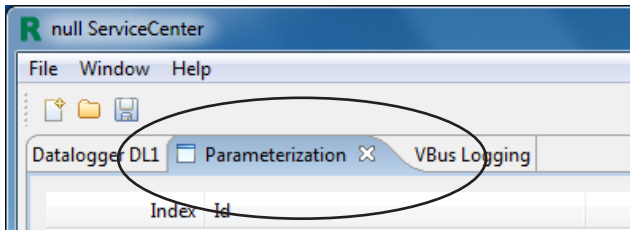


Fig. 4

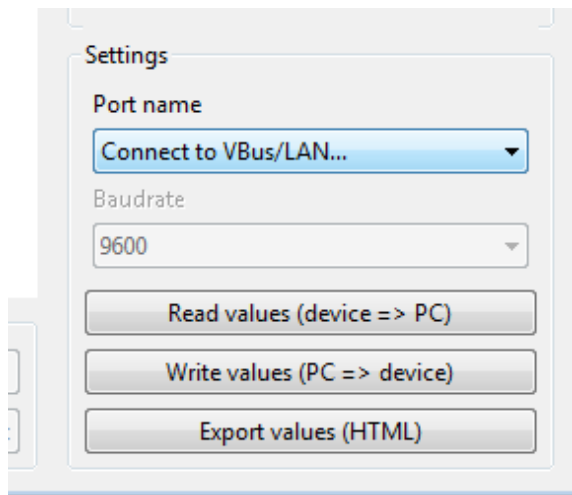


Fig. 5

4. Network settings

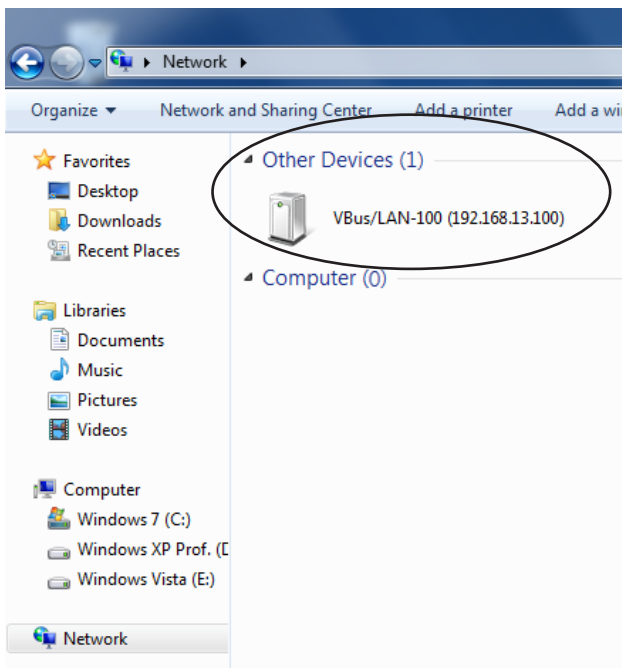


Fig. 6

In order to parametrise the controller via the RSC software proceed as follows:

- ➔ Open the RESOL ServiceCenter software
- ➔ Click on the tab **Parameterization** (Fig. 4)
- ➔ Down to the right of the page, in the drop-down menu **Port name**, select **Connect to VBus/LAN**

In the next step, different actions are available:

- **Read values:**
The current controller data are transferred to the computer and can be processed there.
- **Write values:**
The data entered in the software are transferred to the controller.
- **Export values:**
A HTML file with the current controller data is generated and can be opened in a web browser, printed, or saved.

- ➔ Click on the action you want to perform (Fig. 5)

The required input fields appear in the **Parameterization** tab of the RSC software.

For more information about parametrization see the RSC software manual.



Note

Some RESOL controllers cannot be parametrized via the RSC software. In order to parametrize these controllers, the additional tool integrated in the RSC software has to be used.



Note

Always ask a skilled system administrator to change the IP address and UPnP port number!

In order to access the VBus®/LAN interface adapter via the operating system, the UPnP access has to be enabled.

Under Windows Vista and Windows 7, the UPnP access is enabled by default. Under Windows XP, UPnP access can be enabled in **Control Panel** / Network connections / Advanced / Optional network components... / Network services / Details.

In order to access the web interface of the VBus®/LAN interface adapter, proceed as follows:

- ➔ Select **Computer** (Windows XP: Start / Settings) in the Start menu
 - ➔ Click on **Network** (XP: Network connections)
- The VBus®/LAN interface adapter appears under **Other Devices** (Fig.6; XP: My Network Places).

- ➔ Double-click on the symbol

The Web-Interface appears in the browser window (Fig. 7).

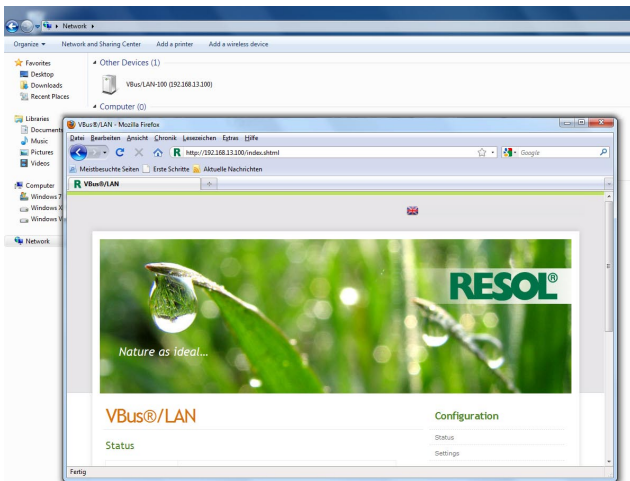


Fig. 7

General Configuration Settings

Module Name:	VBus/LAN-100
UPnP port number:	6432
VBus Password:	••••••••
<input type="button" value="Update Settings"/>	

Fig. 8a

The Web-Interface is not designed for controller access, but for adjusting the network settings of the VBus®/LAN interface adapter.

By means of the **Settings** menu of the Web-Interface, the following settings can be adjusted:

- Assign a static IP address to the VBus®/LAN interface adapter
- Change the name and the password of the VBus®/LAN interface adapter
- Reset the VBus®/LAN interface adapter
- Select a menu language for the Web-Interface
- Change the UPnP-port number

Changing the password

The default password for the VBus®/LAN interface adapter is „vbus“. It can be changed in order to prevent unauthorised access.

To change the password, proceed as follows:

- ➔ Click on **Settings** in the Web-Interface
- ➔ Enter the desired password into the **VBus Password** input field
- ➔ Click on **Update Settings**

The new password is saved.

Accessing the device is not possible without the correct password.

- ➔ Note down the new password and keep it carefully!

If the password is lost, the device has to be reset to the factory settings. For more information see chap. 5.

General Configuration Settings

Module Name:	VBus/LAN-100
UPnP port number:	6432
VBus Password:	••••••••
<input type="button" value="Update Settings"/>	

Fig. 8b

Changing the module name

In the same menu, a new module name can be assigned to the VBus®/LAN interface adapter. The device will be displayed with its module name in the network.

- ➔ Enter the desired name into the **Module Name** input field
- ➔ Click on **Update Settings**

The new module name is saved.

5. Reset

If the password for the VBus®/LAN interface adapter is lost, the device has to be manually reset to the factory settings. In order to conduct a reset, proceed as follows:

→ Open the housing (see chap. 1)

→ Press the reset button for 5 seconds

During the reset process, the front-LED flashes red.

As soon as the reset is completed, the LED switches to a permanent red.

→ As soon as the LED switches to a permanent red, stop pressing the reset button!

→ When the reset has been completed, close the housing (see chap. 1)

The reset will set the device back to factory settings. All adjustments made in the Web-Interface (see chap. 4) will be lost and will have to be made again.

6. LED displays

6.1 LED at the front of the housing

The VBus®/LAN interface adapter has one bi-coloured LED at the front of the housing and two LEDs at the RJ45 LAN connector.

The bi-coloured LED at the front of the housing indicates the current operating status of the VBus®/LAN interface adapter:

LED flashes green:

Adapter is booting

LED is permanently green:

Normal operation, access is now possible

Static IP address/IP address obtained from a DHCP server

LED slowly flashes green:

Normal operation, access is now possible

IP address has been assigned automatically

LED irregularly flashes green:

Normal operation, data traffic

LED flashes red/green:

Network connection okay, no VBus® signal

LED quickly flashes red:

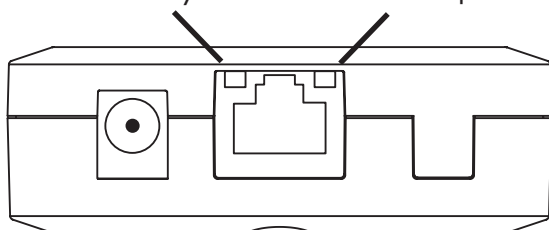
Reset in progress

LED is permanently red:

Reset completed

6.2 Status LEDs at the RJ45 LAN connector

10/100 Link / Activity LED Full duplex LED



At the RJ45 LAN connector there are two status LEDs which indicate the status of the network connection:

10/100 Link / Activity LED:

LED glows: Network connection ok, no data traffic

LED flashes irregularly: data traffic

Full duplex LED:

LED glows: Full duplex active

Glossary

DHCP	Dynamic Host Configuration Protocol, short: DHCP , describes an Internet protocol that controls the automatic retrieval of IP addresses and other data in a network.
IP address	<p>IP stands for Internet Protocol, the network standard on which the Internet and most local area networks are based. Each device inside the network is assigned with an IP address by means of which it can unmistakably be identified.</p> <p>An IP address according to the current IPv4 standard consists of 32 Bits, equalling a 32-digit binary number. To make them more clear, IPv4 addresses are commonly represented as four decimal numbers between 0 and 255, separated by period marks, e. g. 130.094.122.195.</p>
LAN	A Local Area Network, short: LAN , is a delimited network of computers and other devices (e. g. printer, router or our own VBus®/LAN interface adapter). A Local Area Network is not limited to a certain size or diversity.
RJ45	<p>RJ-connectors are standardised telecommunication cable connectors. The RJ-standard has been established by the US-american Federal Communications Commission (FCC), the letters RJ stand for Registered Jack.</p> <p>The commonly used LAN connectors are called RJ45-connectors. Other commonly used names are „ISDN plug“ for unscreened and „ethernet plug“ for screened connectors of this kind.</p>
UPnP	Universal Plug and Play, short: UPnP , denotes a standard for cross-brand access to devices in an IP-based network.
VBus®	In telecommunication engineering, a bus is a system for data transfer between different parties. The VBus® is a field bus, developed by RESOL, which sends and receives data packets via a voltage signal and also supplies connected devices with extra-low voltage.
Full duplex	In telecommunication engineering, different communication standards are defined by their directionality. Communication that can only occur in a definite direction from sender to receiver is called simplex , an example is radio broadcasting. If both parties can be sender or receiver, but never both at the same time, as for example in amateur radio, the communication is called half duplex . If all parties can send and receive data at the same time, such as it is in telephony, the communication is called full duplex . Like most network devices, the VBus®/LAN interface adapter is capable of full duplex communication.
Web-Interface	An interface is a connection, either between two pieces of equipment or between a person and a computer, Web standing for the Internet. RESOL devices such as the VBus®/LAN interface adapter or the DL2 Datalogger have an integrated software that can be opened and operated in every web browser. This software is called Web-Interface because it is an interface to the device that can be accessed via the Internet.

Notes

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