

Datalogger DL2



beginning with firmware version 2.0.0

Short manual

Mounting

Electrical connection

Operating controls



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

en

Short manual

Safety advice

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

Instructions

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

Information about the product

Proper usage

The DL2 Datalogger is connected to controllers via the VBus® interface. It enables logging of system data and parameterisation of a solar thermal system.

- Use in dry interior rooms only.
- Avoid ambient temperatures lower than 0 °C or higher than 40 °C
- Do not expose to strong electromagnetic fields.

Improper use excludes all liability claims.

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 the manufacturer.



Note

Strong electromagnetic fields can impair the function of the device.

- Make sure the device as well as the system are not exposed to strong electromagnetic fields.

Subject to technical change. Errors excepted.

Target group

These instructions are exclusively addressed to authorised skilled personnel. Only qualified electricians should carry out electrical works.

Description of symbols

WARNING! Warnings are indicated with a warning triangle!



→ **They contain information on how to avoid the danger described.**

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.
- Arrows indicate instruction steps that should be carried out.



Note

Notes are indicated with an information symbol.

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.

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1 Overview

This additional module enables the acquisition and storage of large amounts of data (such as measuring and balance values of the solar system) over a long period of time. System access is possible with just a few clicks via VBus.net – without any network knowledge or tedious router configuration. For transmission of the data stored in the internal memory of the DL2 to a PC, an SD card can be used.

The DL2 is appropriate for all controllers with VBus®. The datalogger can be connected directly to a PC or router for remote enquiry and thus enables comfortable system monitoring for yield monitoring or for diagnostics of faults.

Different solutions for visualisation and remote parameterisation are available on the RESOL website www.resol.com. On the website, firmware updates are also available.

- With VBus.net support
- Easy visualisation of the measured and balance values of your system
- Logging system performance data over longer periods of time
- Converting and exporting logged data
- Quick fault diagnosis
- Compatible with all controllers equipped with a VBus®
- Transfer data with an SD card – no network connection required
- Integrated LAN connection for network connection



Technical data

Housing: plastic PC-ABS and PMMA

Protection type: IP 20/EN 60529

Ambient temperature: 0... 40 °C

Dimensions: Ø 130 mm, depth 45 mm

Mounting: wall mounting

Display: bar LED for monitoring the memory capacity, 1 illuminated push button for indication of the SD card status

Interfaces: VBus® for the connection to the controller, LAN

Power consumption: 1,75 W

Power supply:

input voltage of mains adapter: 100... 240 V~, 50-60 Hz

rated current: 350 mA

input voltage of Datalogger: 5V_{DC} ± 5 %

2 Included



If one of the items mentioned below is missing or defective, please contact your distributor:

- | | |
|---|---|
| 1 | DL2 Datalogger, ready to plug in, including mains adapter and VBus® cable |
| 2 | Interchangeable mains adapter plugs (EURO, UK, USA, AUS) |
| 3 | Network cable (CAT5e, RJ45), 1 m |
| 4 | Wall plugs and screws |
| 5 | Terminal block for extending the VBus® cable |
| 6 | CD containing the ServiceCenter software |

3 About this manual

This document is a short manual for the DL2 Datalogger.

This short manual contains information about the following topics:

- Installation
- Electrical connection
- Operating controls
- Menu
- Using the SD card

A detailed manual with the complete information about the web interface can be found on the included CD.

Please insert the CD into the optical drive - the installation routine will start automatically. However, if it does not start, e.g. because the autostart function is deactivated or when the CD is in the drive during Windows startup, please double-click on the drive symbol of the CD-ROM drive in "My Computer" or in the Windows Explorer. You can also start the ServiceCenter Setup from the main directory of the installation CD by double-clicking on the file.

4 Installation

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!**

ATTENTION! Short circuit!



A short circuit can lead to damage to electronic components!

→ **Close the housing before establishing the mains connection!**

The DL2 Datalogger comes with the mains adapter and the VBus® cable pre-connected.

The housing does not have to be opened in order to mount the device.

Initial installation must be carried out by the system installer or qualified personnel named by the system installer.

The controller must additionally be supplied from a double pole switch with contact gap of at least 3 mm.

4.1 Wall mounting

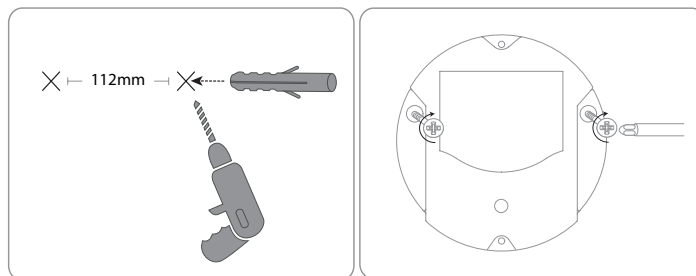
The unit must only be located in dry interior locations. In order to function faultlessly, the device must be protected from strong electromagnetic fields in the selected mounting location.

Please pay attention to separate routing of bus cables and mains cables.

→ Choose a mounting location.

→ Drill 2 holes (Ø 6 mm, centres 113 mm) and insert the wall plugs.

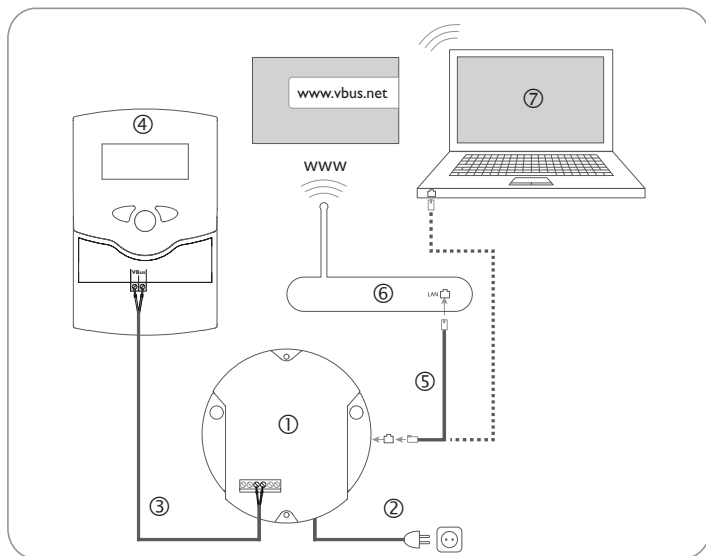
→ Fasten the base part of the housing by means of the enclosed screws (4 x 40 mm)



4.2 Electrical connection

Carry out the connection of the Datalogger ① to other modules in the order described below:

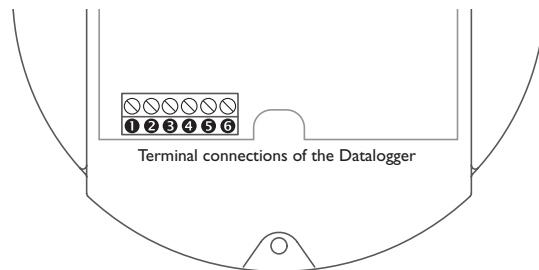
- ➔ Connect the data cable (VBus®, ③) to the controller ④. If necessary, extend the cable using the terminal block included and a common two-wire cable.
- ➔ Plug the mains adapter ② into a socket.
- ➔ For a direct connection to a router or a PC, connect the Datalogger to a router ⑥ or a PC ⑦ using the network cable (included with the DL2, ⑤).



Power supply is carried out via an external mains adapter. The supply voltage of the mains adapter must be 100...240V~ (50...60 Hz).

The DL2 Datalogger comes with the mains adapter and the VBus® cable pre-connected.

4.3 VBus®/data communication



The DL2 Datalogger is to be connected to the controller via the pre-connected VBus® cable. The corresponding terminal allocation is described in the controller manual.

The VBus® cable can be extended using the terminal block included and a common two-wire cable.

The VBus® cable is pre-connected to the Datalogger terminals ③ and ④. Another module can be connected to the terminals ⑤ and ⑥.

4.4 Connecting the network cable

The DL2 Datalogger can be connected to a computer or a router by using a network cable (CAT5e, RJ45).

- ➔ Connect the network cable included to the network adapter of the computer or the router.

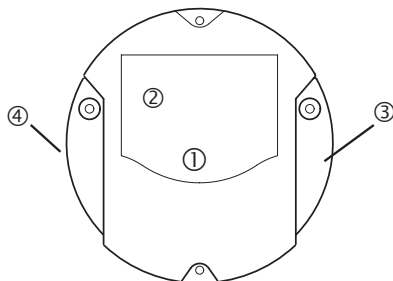
5 Indications, operating controls, and connections

The following elements are featured on/in the housing of the DL2 Datalogger:

- ① Operating control LED / Reset button
- ② Memory capacity and VBus® signal LEDs
- ③ LAN connector
- ④ SD memory card slot

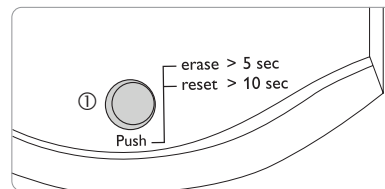
Power supply connection (inside the housing)

VBus® connection (inside the housing)



Positions of the operating controls and connections

5.1 Operating control LED

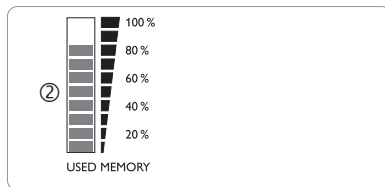


The operating control LED ① indicates the operating status of the DL2 Datalogger by issuing flashing signals.

LED flashing codes

Colour	Permanent	Flashing
Green	<ul style="list-style-type: none"> The SD card can be removed. The firmware update is completed. 	<ul style="list-style-type: none"> Do not switch off power supply! A firmware update is being run. Do not remove the SD card! Data are being copied onto the SD card.
Orange	<ul style="list-style-type: none"> Power supply is working and the device is ready for operation. 	<ul style="list-style-type: none"> An error occurred during the copy process.
Off	<ul style="list-style-type: none"> The device is booting. No power supply. 	

5.2 Data memory progress bar



The data memory progress bar ② indicates the currently occupied memory capacity of the DL2 Datalogger.

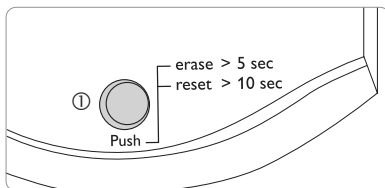
The data memory progress bar is divided into 10 segments. Each segment represents 10% of the memory capacity.

Data memory progress bar

LED segment

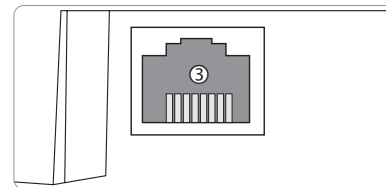
- | | |
|----------------|---|
| permanently on | • The memory capacity of this segment is fully occupied. |
| flashing | • The memory capacity of this segment is partly occupied. |
| | • VBus® connection okay. |

5.3 Reset button



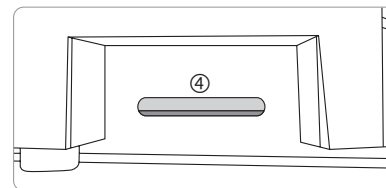
The reset button ① is integrated in the operating control LED. By means of the reset button, data logged can be deleted and the DL2 Datalogger configuration can be reset to the factory settings.

5.4 LAN connector



The integrated LAN connector ③ is located on the right-hand side of the device. The LAN connector supports transfer rates of up to 100 Mbits per second.

5.5 SD memory card slot



The SD memory card slot ④ is located at the left-hand side of the device. By means of the SD memory card slot, data logged can be transferred onto an SD or SDHC card of up to 8 GB memory capacity.

i The memory of an SD card in the slot is used for data transfer only. It will not enlarge the memory of the DL2 Datalogger.

5.6 Power supply connection

Power supply is carried out via a pre-connected mains adapter. The connection terminals are located inside the housing of the DL2 Datalogger.

5.7 VBus® connection

The DL2 Datalogger is to be connected to the controller via the pre-connected VBus® cable. The connection terminals are located inside the housing of the DL2 Datalogger.

6 Firmware update with SD card

New firmware versions extend the functional range and enhance the operation.

The current software can be downloaded from www.resol.de/firmware.

In order to run a firmware update over the SD memory card slot, proceed as follows:

- ➔ Download the firmware from the Internet: <http://www.resol.com/firmware>
 - ➔ Insert an SD card formatted with the **FAT 32** format into the PC.
 - ➔ Copy the firmware update ZIP file onto the SD card.
 - ➔ Extract the ZIP file on the SD card (the required folder structure will be created automatically).
 - ➔ Remove the SD card from the PC and insert it into the SD card slot of the DL2.
- The firmware update is being run and the DL2 automatically reboots. This may take a few minutes. The operating control LED starts flashing, lights up for a while and then all LEDs go out.
- ➔ Wait until the operating control LED is permanently green.

7 Data export

There are 2 different ways to export logged data from the DL2 Datalogger:

1. Export logged data onto an SD memory card. The data are stored as a VBus® format file and can be read out on a computer using the ServiceCenter software.
2. Export logged data onto a computer over the Web interface. Different file formats can be selected.



Information about exporting data over the Web interface can be found in the detailed manual on the CD included.

7.1 Data export over SD card

In order to copy data onto an SD card, proceed as follows:

- ➔ Insert the SD card into the SD card slot

The operating control LED flashes (green):

The card has been recognised and data are being transferred.

The operating control LED is permanently green:

The transfer is completed. The card can be removed.

8 Ordering software

For an expense allowance of EUR 20,-, a DVD containing the source code and the compiler scripts of the Open Source applications and -libraries can be ordered.

Please send your order to:

RESOL – Elektronische Regelungen GmbH

Heiskampstraße 10

45527 Hattingen

GERMANY

Please name the version number of the firmware in your order. It can be found in the Web interface, main menu **About**, sub-menu **General**, bottom area (e. g.: „1.0 (200805241128)“). Per order, only one version number can be named.

9 Accessories



SD card

Art. no.: 18000741

10 Spare parts

VBus® cable, 1.50 m

Art. no.: 750 012 15

Distributed by:

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Important note

The texts and drawings in this manual are correct to the best of our knowledge. As faults can never be excluded, please note:

Your own calculations and plans, under consideration of the current standards and directions should only be basis for your projects. We do not offer a guarantee for the completeness of the drawings and texts of this manual - they only represent some examples. They can only be used at your own risk. No liability is assumed for incorrect, incomplete or false information and / or the resulting damages.

Note

The design and the specifications can be changed without notice.
The illustrations may differ from the original product.

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