

1V0001 EXTERNAL CONTROL UNIT

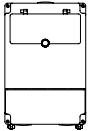
Quick Start Guide, current 05/2021, Article number: 0301671_d

Thank you for choosing the 1V0001 external control unit by ABL!

- Please read this quick start guide carefully.
- Please also consider the information and safety notices provided in the installation and operating manuals for the Wallboxes eMH2 and eMH3 by ABL.



Components included



1 x 1V0001 external control unit



The 1V0001 has four pre-drilled holes (Ø 7 mm) for mounting at the installation site. Fasteners (screws, wall plugs etc.) are not included with the 1V0001. These must be supplied by the installation contractor.

Requirements for the mounting location

The mounting surface

- ...measures at least 320 x 205 mm.
- ...be flat and able to support sufficient weight (weight: ca. 2 kg).
- ...must have a minimum distance of 50 cm in all directions to other electrical consumers.
- ...be located at a distance of at least 20 cm in all directions from other transmitting devices.
- ...must offer a sufficiently dimensioned supply cable for connection to the electricity grid.
- ...must offer a data cable (twisted pair, at least CAT5 or above) for connecting the external extender wallboxes.

Installing and connecting the 1V0001



During the installation, the circuit breaker for the supply line must be switched off in the house distribution.

Tools and materials required: Pencil, spirit level, fasteners (screws/wall plugs, 4 each), Pozidriv screwdriver, M32 cable gland with strain relief, power drill, drill bits, cable cutter, wire stripper, crimping tool

- 1 Place the 1V0001 control unit on a level work surface.
- 2 Loosen the knurled screw on the housing cover and open the cover flap.
- 3 Flip the pivot levers of the internal MCB and RCCB to the **0** position.
- 4 Close the cover flap and secure it using the knurled screw.
- 5 Remove the 4 Phillips head screws in the corners of the housing cover and flip back the housing cover. Keep the screws in a safe place (tool: Pozidriv screwdriver).
- 6 Place the housing base in the mounting position and align it vertically (tool: spirit level)
- 7 With the unit in mounting position, mark the (4) fixing points through the pre-drilled holes in the housing base (tool: pencil)
- 8 Drill the marked mounting points (tool: power drill, drill bit)

- 9 Insert the wall plugs (4 pcs.) into the drilled mounting points.
- 10 Fasten the housing base to the mounting surface in the mounting position using (4) fixing screws (tool: screwdriver).
- 11 Remove the M32 sealing cap for the power supply cable at either the top or the bottom of the housing base.
- 12 Insert the power supply cable through an M32 cable gland with strain relief and screw the cable gland hand-tight into the housing base.
- 13 Cut the power supply cable to the length required for connection to the RCCB and strip starting at the strain relief of the cable gland (tools: cable cutter, wire stripper).
- 14 Strip the wires of the supply line, put ferrules on the wires and crimp on the ferrules (tools: wire stripper, crimp tool)
- 15 Operate the spring loaded mechanism of the PE terminal and clamp the **PE** protective earth conductor onto it.
- 16 Insert the **L** and **N** conductors of the power supply cable into the RCCB terminals and screw down hand-tight (tool: Pozidriv screwdriver).

Conductor colour*	Connector RCCB	Description
Brown	L	Phase 1 current-carrying conductor
Blue	N	Neutral
Green-Yellow	PE	Protective earth

* Colour-coding is not internationally standardised and may therefore vary



The electronic components of your wallbox will be damaged if a voltage above 250 V is applied between the current-carrying conductor **L** and the neutral conductor **N**.

This completes the electrical connection of the 1V0001.

Connecting controller/extender communications and commissioning

Tools and materials required: M32 cable gland with strain relief, cable cutters, wire stripper, data cable (twisted pair, at least CAT5 or above), Pozidriv screwdriver, Voltmeter



During the installation process, the circuit breaker for the supply cable in the domestic power distribution must be switched off until step 7.

- 1 Remove the M32 sealing cap for the power supply cable at either the top or the bottom of the housing base.
- 2 Insert the power supply cable through an M32 cable gland with strain relief and screw the cable gland hand-tight into the housing base.
- 3 Cut the data cable to the required length for connecting to the daisy chain circuit board and strip as required (tools: cable cutter, wire stripper).



The daisy chain circuit board is located in the upper left part of the housing base.

- 4 Strip the wire strands of the data cable.
- 5 Clamp the wires of the data cable onto the left or right hand side terminal block of the daisy chain circuit board.

Wire strand colour* (recommended)	Connection coding	Description
White-Orange	METER – B	DATA energy meter
Orange	METER – M	GND energy meter
White-Green	METER – A	DATA energy meter
Green	CONTROL – B	DATA control unit
White-Blue	CONTROL – M	GND control unit
Blue	CONTROL – A	DATA control unit

* Colour coding according to EIA/TIA-T568B, variations possible

- 6** Insert the data cable into the first extender wallbox and clamp in onto the left or right hand side terminal block of its daisy chain circuit board (see the detailed installation and operating manual for the wallbox).



For correct functioning, the colour coding between the individual data cable wire strands and the daisy chain terminal blocks must be strictly observed in all controller/extender units!



Only the first extender wallbox will be connected directly to the 1V0001. Each additional extender will be connected to the extender wallbox that precedes it.

- 7** Switch on the circuit breaker for the power supply to the 1V0001 in the domestic power distribution and measure the voltage at the RCCB if required (tool: voltmeter).
- 8** Flip the housing cover up and fix it hand-tight onto the housing base with the screws (4 screws, → "Installing and connecting the 1V0001", step 5) kept aside for this purpose (tool: Pozidriv screwdriver).
- 9** Loosen the knurled screw on the housing cover and open the cover flap.
- 10** Flip the pivot levers of the internal MCB and RCCB to the **I** position.
- 11** Close the cover flap and secure it using the knurled screw.

This completes the commissioning of the 1V0001 control unit.

Setting up controller/extender communications

Tools and materials required: Pozidriv screwdriver, computer, Ethernet cables with RJ45 plug-in connectors



In order to proceed with configuration, the 1V0001 must be connected to the power supply and the cover flap must be open. Special caution is therefore required due to the presence of electrical voltages!

- 1** Remove the 4 Phillips head screws in the corners of the housing cover and flip back the housing cover. Keep the screws in a safe place (tool: Pozidriv screwdriver).
- 2** Use the Ethernet cable to connect the computer to the RJ45 socket on the centrally located SBC circuit board of the 1V0001.



The SBC circuit board is centrally located in the middle of the housing base.

- 3** On the computer, open the browser and enter the address <http://169.254.1.1:8300/>.

In case of connection errors, check the network settings of the computer and adjust them as follows:



- Network: 169.254.0.0
- Subnet mask: 255.255.0.0
- Address: 169.254.1.2

4 The online administration interface opens in the browser. The following functions are available using the tabs:

Tab	Description
Overview	<ul style="list-style-type: none">• Checking the status of all recognised controller and extender model variants• Checking the system software version
Configuration	<ul style="list-style-type: none">• Checking information about the 1V0001 control unit, the backend and OCPP• Editing backend operator details (only when changing backend operator)• Assigning backend ID to control unit
Devices	<ul style="list-style-type: none">• Checking the system's total connected load• Checking the maximum connected load for each extender wallbox
Products	<ul style="list-style-type: none">• Registering additional extender wallboxes in the system• Editing 1V0001 properties
Certificates	<ul style="list-style-type: none">• Checking backend operator certificates
Diagnostic Functions	<ul style="list-style-type: none">• Checking version and status information for all communicating components in the system
Logs	<ul style="list-style-type: none">• Checking logged access to the communicating components in the system
Maintenance	<ul style="list-style-type: none">• Carrying out a restart (software and/or hardware)• Updating the system software• Running system diagnostics

5 Disconnect the Ethernet cable from the RJ45 sockets in both the 1V0001 and the computer.

6 Flip the housing cover up and fix it hand-tight onto the housing base with the screws (4 screws, → "Setting up controller/extender communications", step 1) kept aside for this purpose (tool: Pozidriv screwdriver).

The 1V0001 control unit is now configured as controller to control the extender wallboxes.