



LADEmini Installation



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Scope of delivery

Not to scale

LADEmini Wallbox



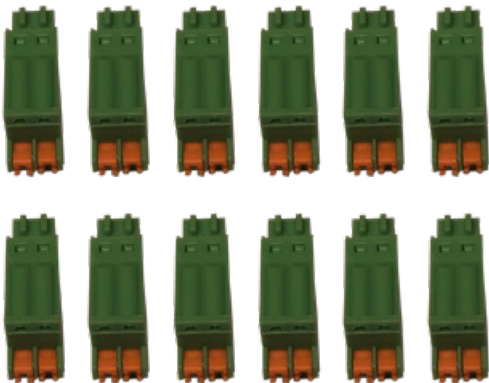
A	1 x	LADEmini Wallbox
B	1 x	Charging cable (11 or 22 kW)
C	1 x	Adapter board with RJ45 socket and ribbon cable or Adapter board with IDC connector and ribbon cable
D	2 x	Screw for adapter board
E	1 x	Cable gland Ø 7–12
	1 x	Cable gland Ø 9–17

F	1 x	Cable gland with bend protection
G	1 x	3-wire Wago clamp
	4 x	2-wire Wago clamp
H	1 x	Earth cable
I	1 x	Nut M5
J	4 x	Screw sleeve

LADeGenius



K



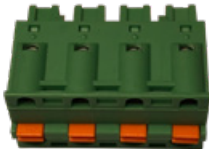
L



M



N



O



P



Q

K	1x	LADeGenius
L	12 x	2-pole connector
M	1 x	3-pole connector
N	1 x	4-pole connector
O	1 x	4-pole connector large
P	1 x	24 V top-hat rail power supply unit
Q	1 x	Suction cup for removing the glass pane of the LADeMini wallbox (included with LADeGenius)

Optional



R



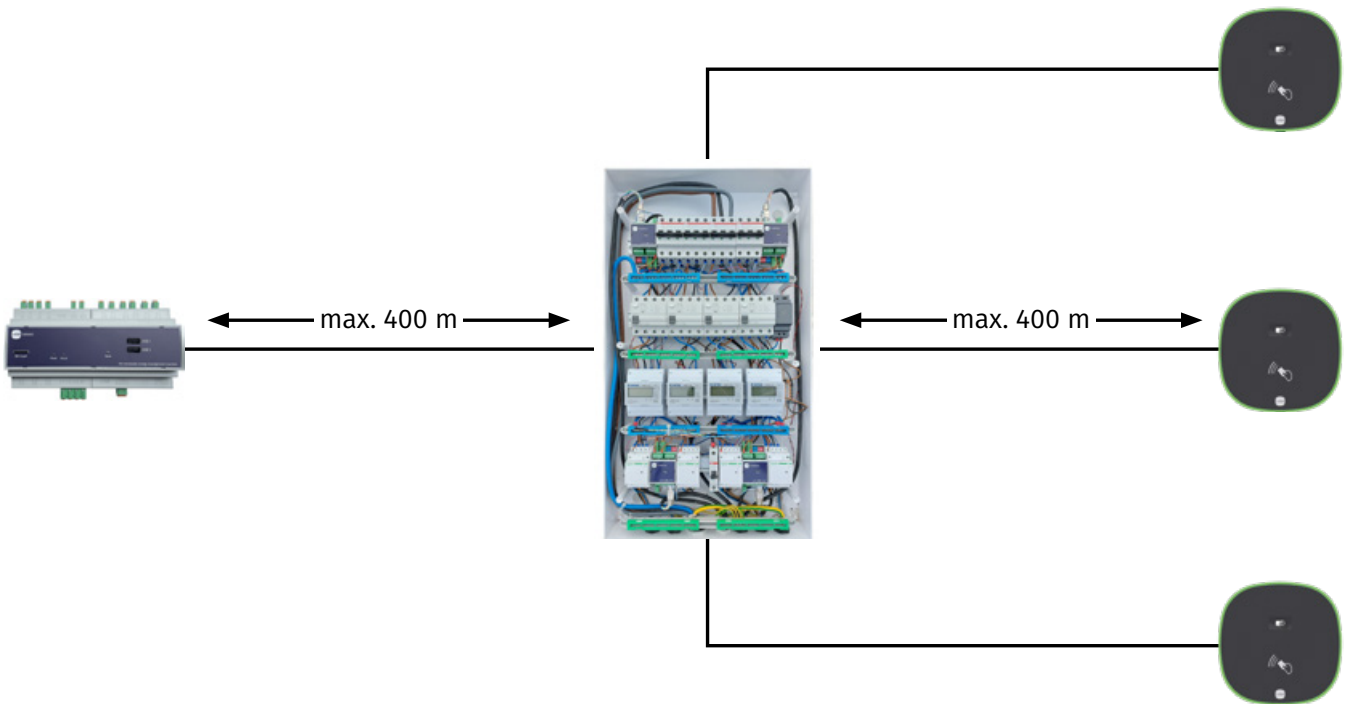
S



T

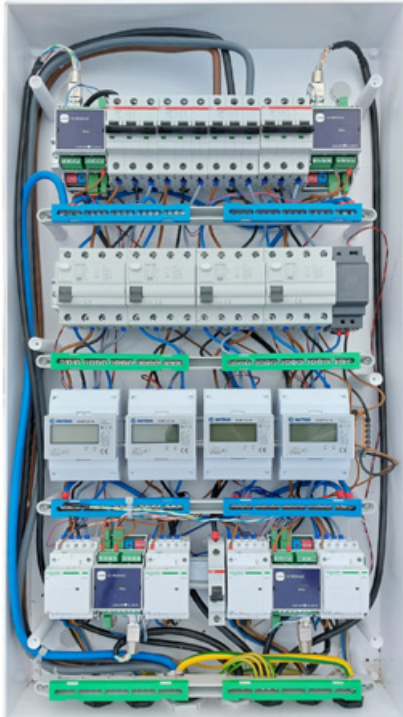
R	1 x	Metal holder
S	1 x	Jumper (for charging points with 22 kW charging capacity)
T	1 x	RJ45 connector (when using installation cable between IO module and adapter board)

Modules



LADEgenius / LADEgenius RT

- Installed on top-hat rail near the house connection.
- Controls up to 96 charging points and other consumers.
- Measures the current at the house connection (LADEgenius RT).
- Connects to the cloud (via LAN or LTE antenna).
- Numerous other interfaces and connections.



LADEmini Cabinet

Example for 4 charging points

Contains power electronics for one to four charging points (pre-wired):

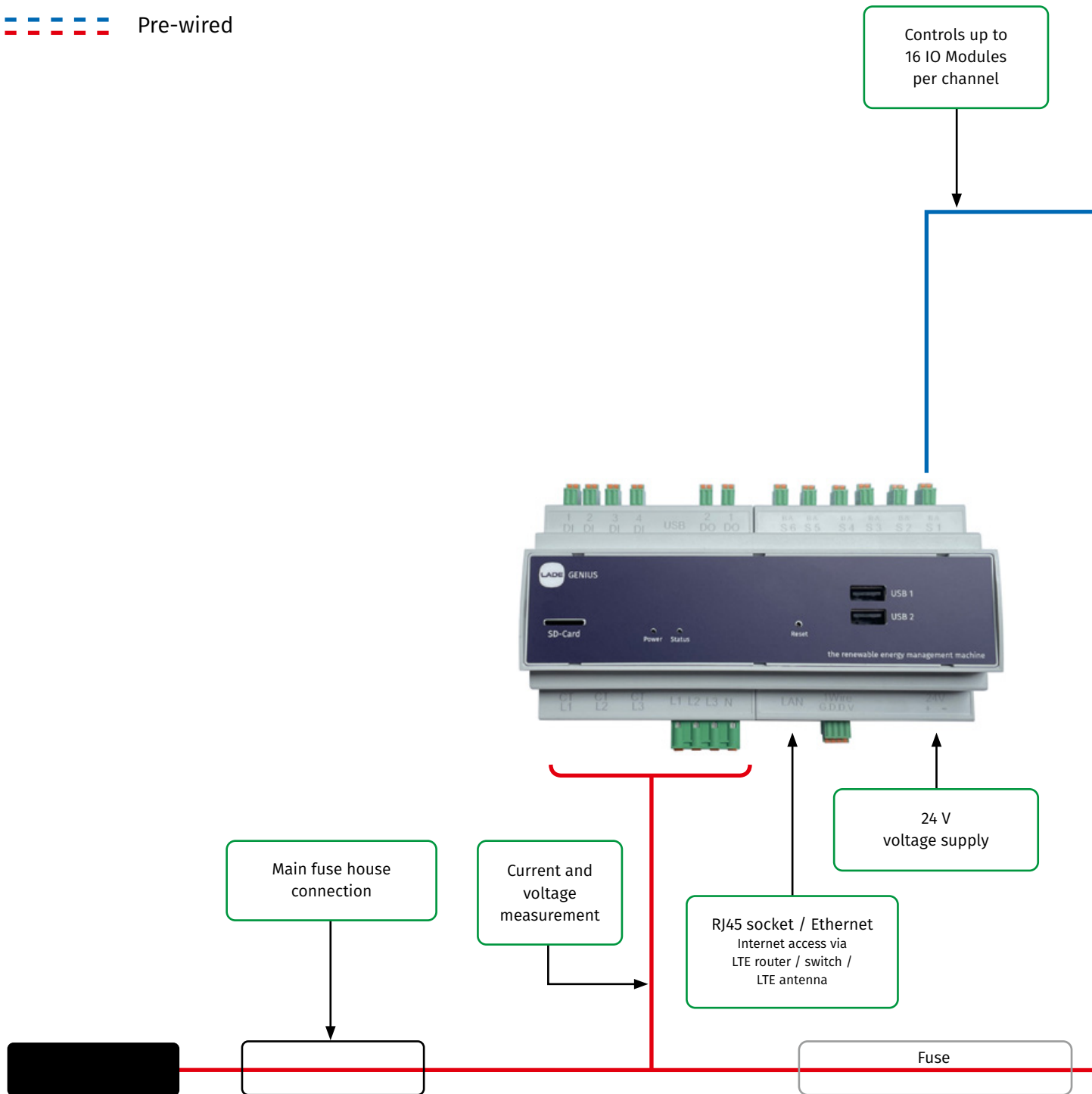
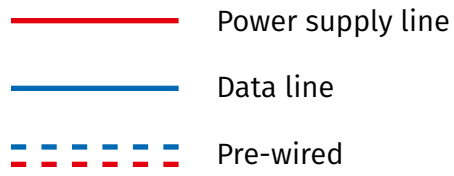
- IO Module
- MID meter
- RCD type B
- Contactor (2 x 2-pole or 1 x 4-pole)
- Circuit Breaker (optional)



LADEmini Wallbox

Wallbox at the parking space with charging cable, display and LED ring.

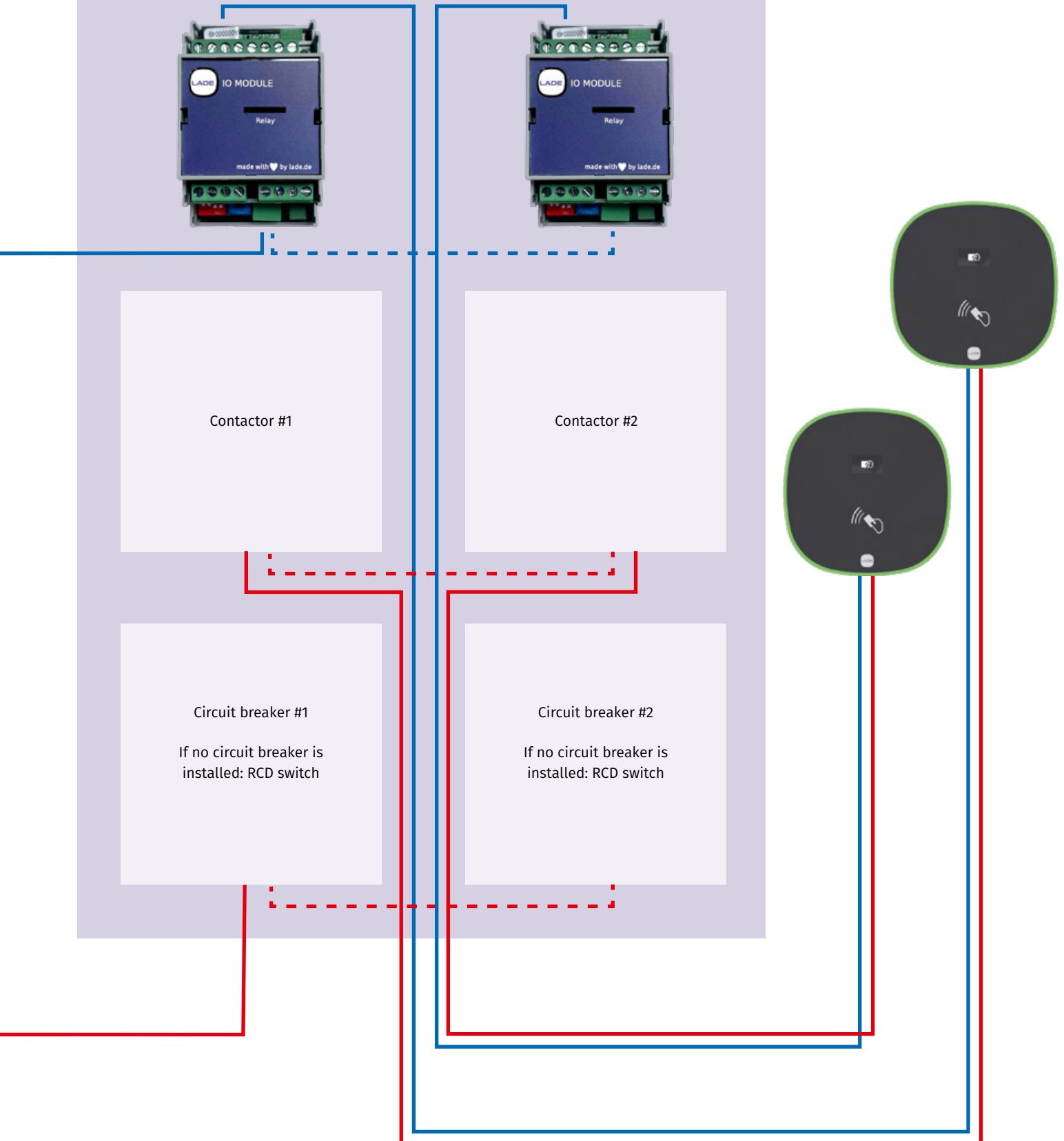
Wiring – Overview



Cabinet

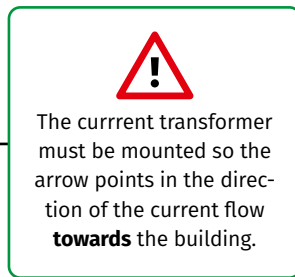
Example for 2 charging points

Schematic representation.
Contains only components to which cables must be connected.



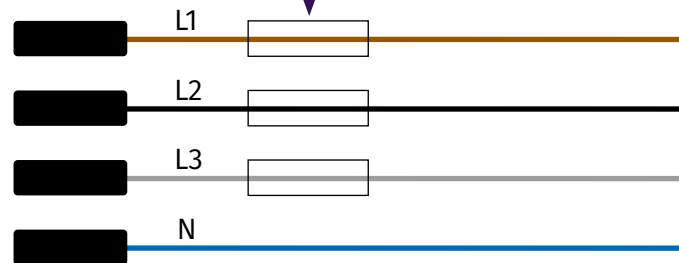
1 – Installing LADEgenius

- Mount LADEgenius on top-hat rail
- Attach current transformers to main line and connect them to LADEgenius with respect to the correct phases
- Connect voltage measurement with respect to the correct phases.
- Connect LADEgenius to router or switch via Ethernet; alternatively: install LTE antenna
- Connect power supply



Mount current transformer behind the meter

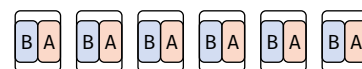
Main fuse house connection



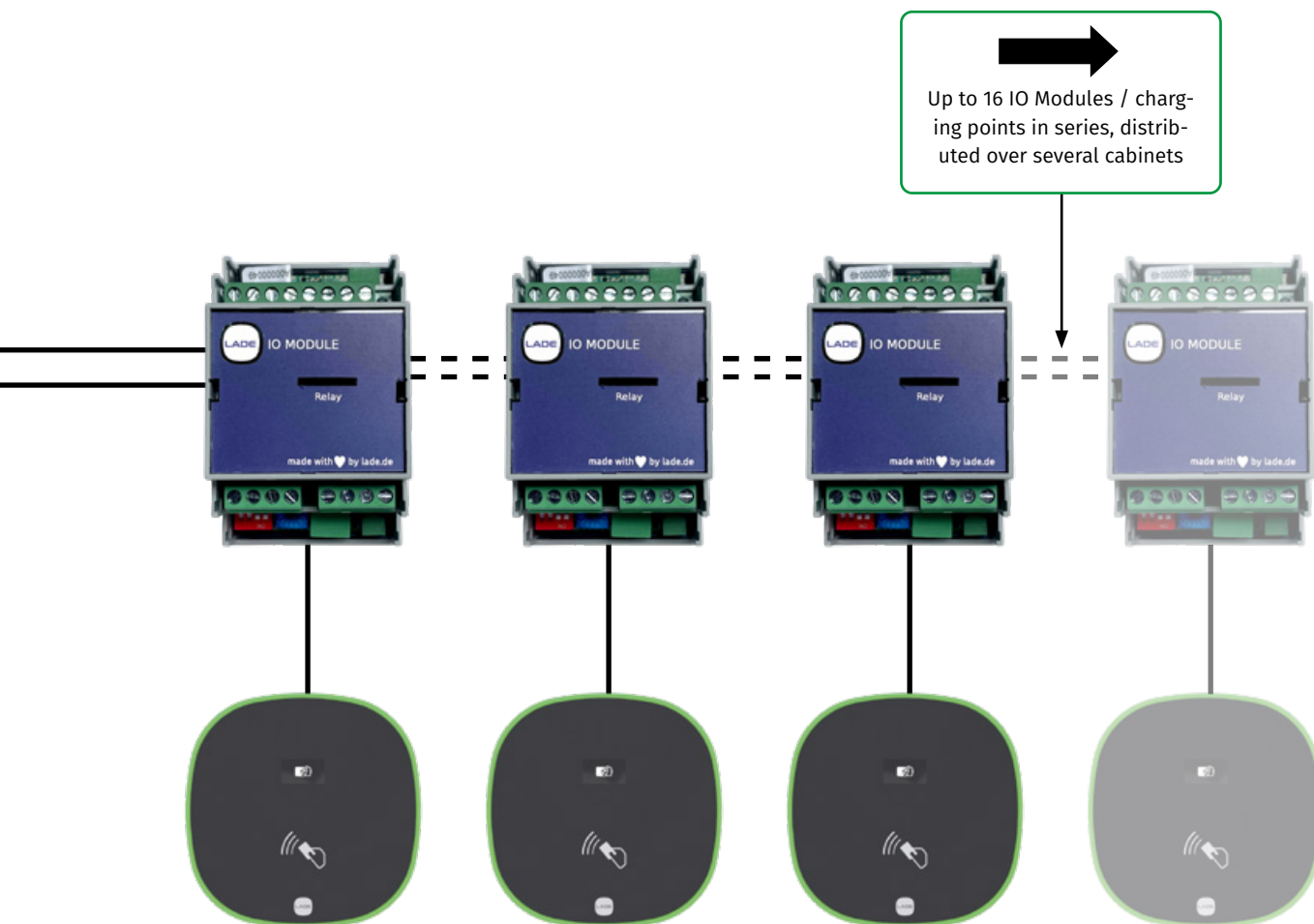
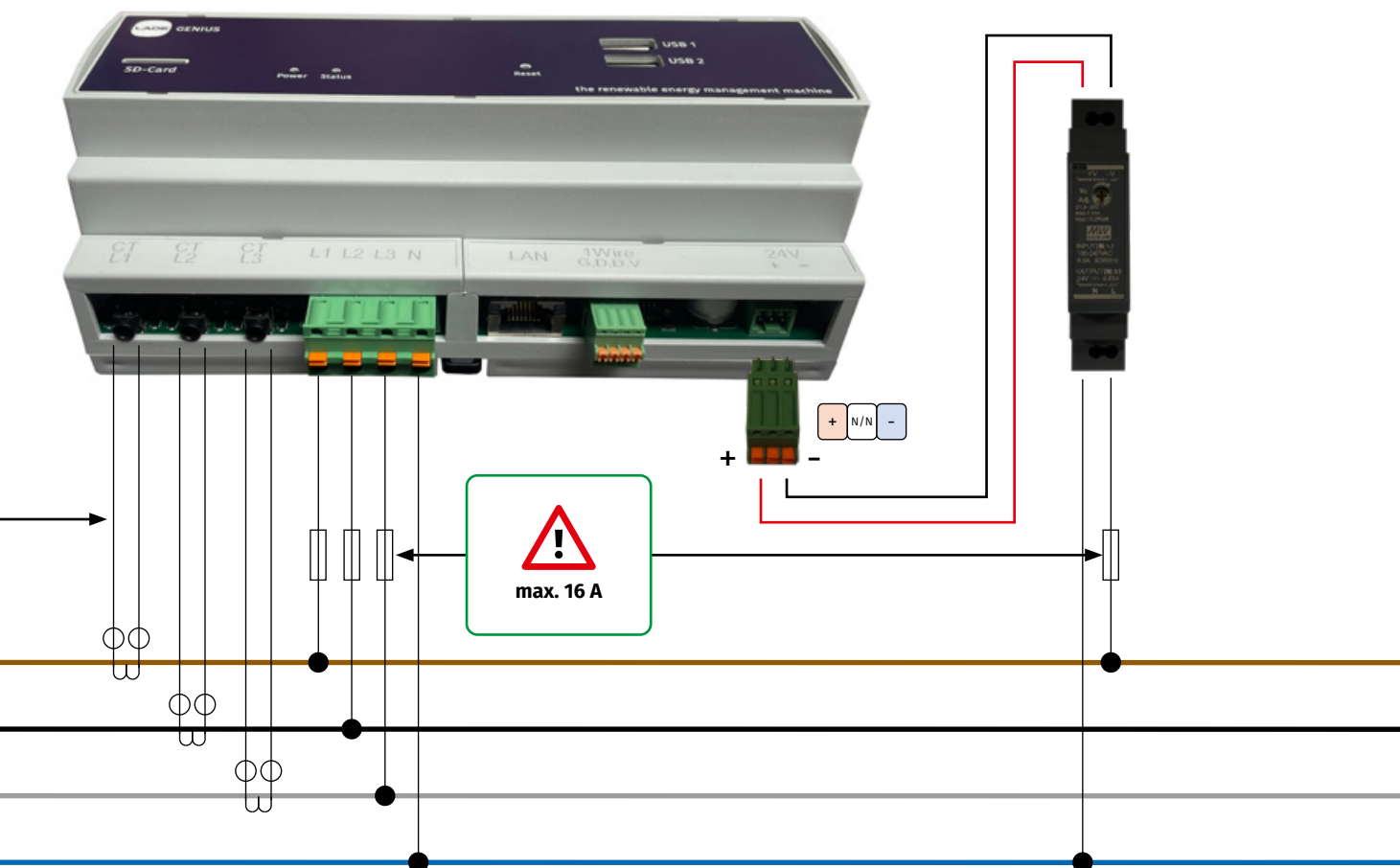
Data bus (2-wire) to the IO Module.
Up to 16 IO Modules in series possible.



Poled connection.
Note assignment A/B.



Up to 6 x 16
charging points



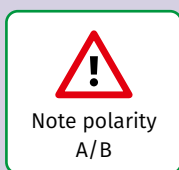
2 – Connect Cabinet

Hardware-Version 1 IO Module with 8 DIP switches

Requirements:

- Cabinet is fixed to the wall
- Data and supply lines are laid

1. Connect the data bus coming from LADEgenius to the bottom of the IO module.



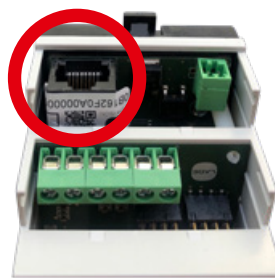
2. Connect the data line going towards the charger on the top side of the IO module.

Variant 1: Installation cable with enclosed RJ45 plug; use colour coding A.

Variant 2: Pre-assembled Cat cable

3. Adjust hardware settings.

4. Set the RS485-address of the charging point.



↓ = ON / 1
↑ = OFF / 0

DIP switches

Contactor

Depending on the configuration, the cabinet contains one 4-pole contactor per charging point or two 2-pole contactors (for optimised PV charging). Which version is used must be set at the IO Module.

Meter connected in the cabinet

By default, an MID meter is installed in the cabinet and connected to the IO Module. This is set at the IO Module by switching on the DIP switch.

Additional contactor

In Italy and the Netherlands, installers are obliged to install an additional contactor. In this case, the corresponding DIP switch must be switched on. In Germany this is not necessary.

RS485 address

All charging point connected to the same RS485 channel (max. 16 charging points) need a unique address. This is set via the DIP switches in binary format for hardware version 1.

Terminating resistor

A terminating resistor must be switched on at the last IO Module within a series of charging points connected to the same RS485 channel.

5. If applicable, switch on terminating resistor.

6. Connect the supply line to the first circuit breaker from the left on the input side.

7. Connect the supply line going towards the charger to the corresponding contactor (1 x 4-pole or 2 x 2-pole).



Note the correct assignment of phases.



Example

- 1) 2 x 2-pole contactor
- 2) Meter in Cabinet (standard)
- 3) No additional contactor installed (standard)
- 4-7) RS-485 address: 0
- 8) Terminating resistor switched on

Meter in the cabinet?

Yes = ON (default)

No = OFF

Additional contactor installed?

Yes = ON

No = OFF (default)

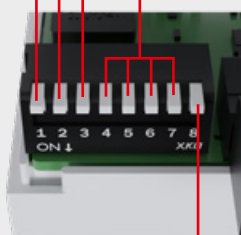
Which contactor in the cabinet?

2 x 2-pole = ON

1 x 4-pole = OFF

RS485 address:

0-15 in binary format



Terminating resistor

On = ON

Off = OFF

RS485 address

Address	Pin 4	Pin 5	Pin 6	Pin 7
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

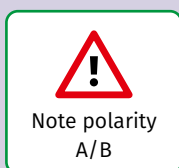
2 – Connect Cabinet

Hardware-Version 2 IO Module with rotary switch

Requirements:

- Cabinet is fixed to the wall
- Data and supply lines are laid

1. Connect the data bus coming from LADEgenius to the bottom of the IO module.



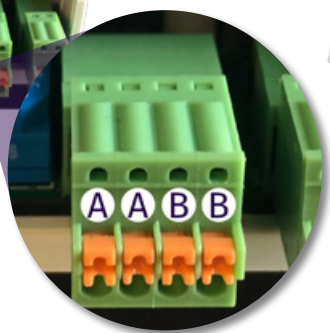
2. Connect the data line going towards the charger on the top side of the IO module.

Variant 1: Installation cable with enclosed RJ45 plug; use colour coding A.

Variant 2: Pre-assembled Cat cable

3. Adjust hardware settings.

4. Set RS485 address on rotary switch.



↓ = ON
↑ = OFF

DIP switches

Contactor

Depending on the configuration, the cabinet contains one 4-pole contactor per charging point or two 2-pole contactors (for optimised PV charging). Which version is used must be set at the IO Module.

Meter connected in the cabinet

By default, an MID meter is installed in the cabinet and connected to the IO Module. This is set at the IO Module by switching on the DIP switch.

Additional contactor

In Italy and the Netherlands, installers are obliged to install an additional contactor. In this case, the corresponding DIP switch must be switched on. In Germany this is not necessary.

Terminating resistor

A terminating resistor must be switched on at the last IO Module within a series of charging points connected to the same RS485 channel.

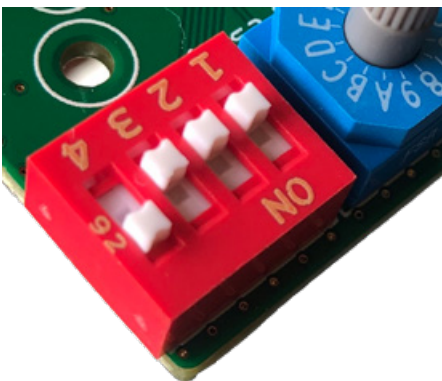
5. If applicable, switch on terminating resistor.

6. Connect the supply line to the first circuit breaker from the left on the input side.

7. Connect the supply line going towards the charger to the corresponding contactor (1 x 4-pole or 2 x 2-pole).



Note the correct assignment of phases.

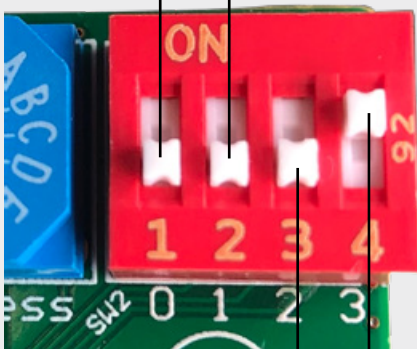


Welcher Schütz im Cabinet?

2 x 2-polig = AN
1 x 4-polig = AUS

Zähler im Cabinet angeschlossen?

Ja = AN (Standard)
Nein = AUS



Picture rotated by 180°

Additional contactor installed?

Yes = ON
No = OFF (default)

Terminating resistor

On = ON
Off = OFF

RS485 address

Address	Setting
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F

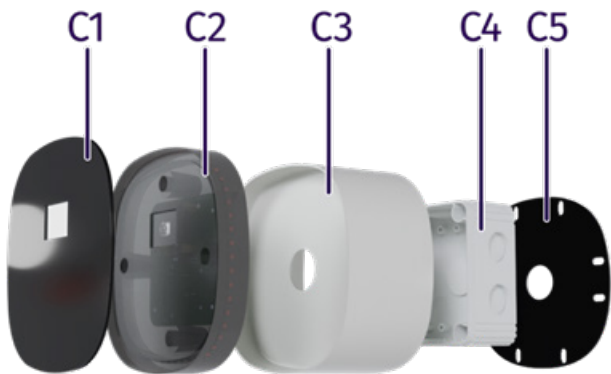
3 – Install wallbox

Requirements:

- Metal holder [C5] and cable junction box [C4] are installed
- Data and supply lines have been laid



The glass pane is attached to the housing with magnets. Use the enclosed suction cup to remove the pane.



C1	Safety glass pane
C2	LED ring with charger board and display
C3	Cover
C4	Cable junction box
C5	Metal holder



Adapter board for Cat installation cable



Adapter board for patch cable

The adapter board is available in two variants, depending on whether a Cat-7 installation cable is used for the data line between IO Module and charger (standard) or a pre-assembled patch cable.



The adapter board can be installed in all four corners of the junction box. The ideal position depends on the side from which the supply and data lines are inserted.

1. Insert the data line from the rear, top, right or left and connect it to the adapter board.

Variant 1: Lay installation cable on IDC connector, use colour coding A

Variant 2: Plug pre-assembled patch cable into RJ45 socket



2. Attach the earthing cable to the earthing bolt.

3. Attach the ribbon cable to the adapter board.

4. Insert the charging cable into the socket from below and close the cable gland.

5. Attach the signal wires of the charging cable (orange and white) to the push-in clamps on the adapter board.

CP → CP T1+ → TS

6. Attach the earthing cable from the earthing bolt to the push-in clamp PE.



7. Connect the supply line to the charging cable using the 2-wire Wago clamps.

L1 → L1

L2 → L2

L3 → L3

N → N

8. Connect the earth wires of the supply line, the charging cable and the earth bolt using the 3-wire Wago clamp.



9. Put on the cover [C3] and feed the ribbon cable through the opening.

10. Turn all four locking bolts to position 1.

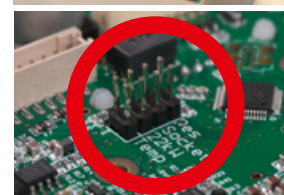


11. Attach the ribbon cable to the charger board of the LED ring [C2], put on the LED ring and fix it with four screws.

Only for LADEmini with 22 kW charging capacity: Place the jumper on the pins of the charger board marked "22 kW".



This setting may only be set if the charging point (charging cable and contactor) and the connected load are designed for 22 kW charging power. Check all components before setting the jumper. Do not make any adjustments to the other pins. This may destroy the unit.



12. Put on safety glass pane [C1].

13. To open the housing, pull off the safety glass pane with the enclosed suction cup.



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