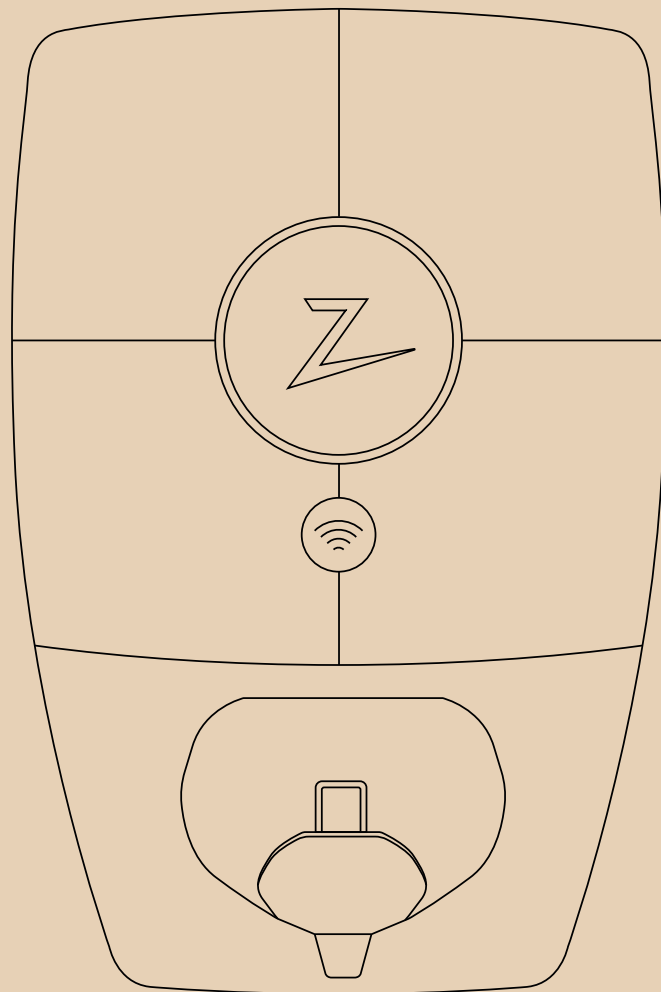


English
Norsk
Svenska
Dansk
Deutsch
Français
Italiano
Español
Nederlands
Suomi
Íslenska
Português
ภาษาไทย

Zaptec Pro



Installation


Manual

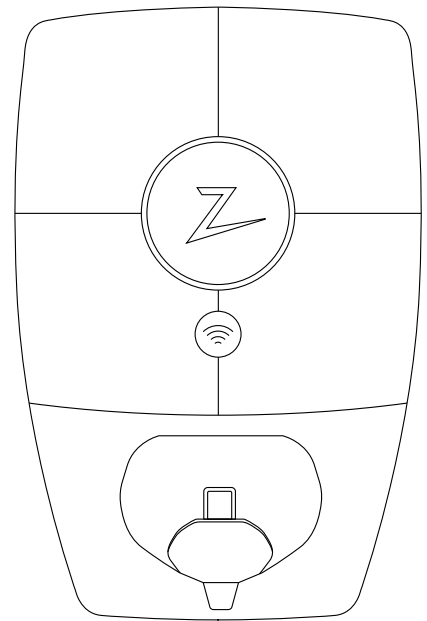


Installation Manual for Zaptec Pro

This installation manual contains the information necessary to safely install and control the charging station. Zaptec recommends that anyone who installs our products completes a training course for Zaptec charging systems.

The installation technician/service partner is always the first point of contact for support. For contact details for Zaptec's technical support, see zaptec.com. A user manual is included in the Zaptec Pro box.

 You will find the most recent version at Zaptec.com/support. See the last page for the version number of the manual.



This installation manual includes:

1. Safety instructions	5
2. Description of the Zaptec Pro system	6
3. Technical Specifications	7
4. Installation	9
5. Troubleshooting	19
6. Storage and Maintenance	21
7. Guarantee	21
8. Support and Repairs	21

1. Safety instructions

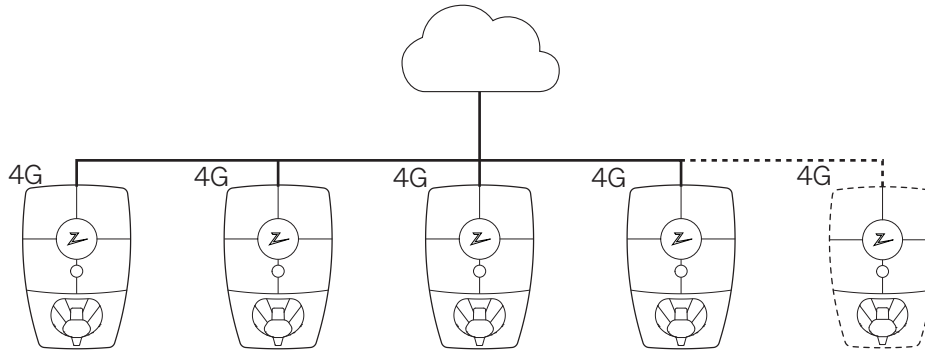


WARNING!

Before using or maintaining this product, it is important to read the following safety instructions. Failure to follow and implement all the instructions and procedures stipulated in this installation manual will invalidate the warranty and cause Zaptec Charger AS to waive all liability and claims for compensation.

- ! Read through the instructions carefully and familiarise yourself with the equipment before you start using it.
- ! This equipment may only be installed, repaired and maintained by qualified personnel. Repairs must be carried out by Zaptec or a pre-approved workshop.
- ! All applicable local, regional and national regulations must be followed when installing, repairing and maintaining the equipment.
- ! Do not use a product which is damaged in any way. See the information in the chapter on Support and Repairs.
- ! Only use approved cabling for the installation.
- ! Do not insert foreign objects into the Type 2 socket.
- ! Do not use high-pressure washers to clean the Zaptec Pro. Follow the instructions in the chapter on Storage and Maintenance.
- ! Do not install in a location which is exposed to direct sunlight.
- ! Adapters are permissible – A conversion adapter from the EVSE plug must only be used if specified and approved by the vehicle manufacturer or EVSE producer.
- ! Do not insert test probes, wires or anything else into the quick-release connector on the back plate. Voltage tests should be performed directly on the terminal screws or using a female connector.
- ! Read the guarantee at zaptec.com/guarantee or contact Zaptec Support and request a copy.

2. Description of the Zaptec Pro system

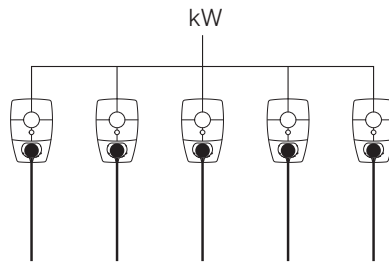


Future-proof and intelligent charging solution

Combines power electronics, built-in software and a cloud-hosted portal for configuration, monitoring and control. The solution is future-proof, with software updates delivered over-the-air to the charging station.

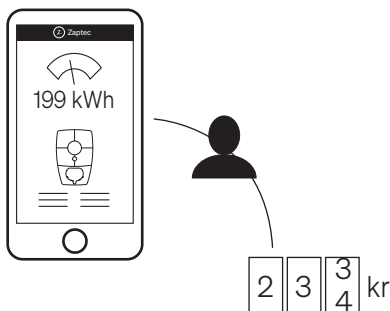
Unique scope for scaling with a single circuit and power cable

Communication between the charging stations and the cloud solution passes through the same power cable. This shared infrastructure makes it possible to start with a few charging stations and expand the system as and when necessary. Scaling an existing installation will therefore not require any extra work or investment in electrical infrastructure.



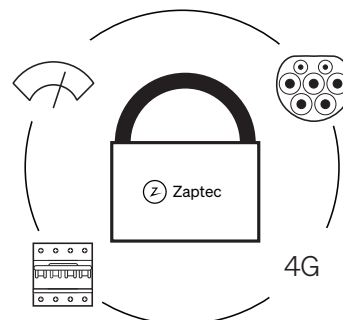
Use all available capacity

The power is shared dynamically across all the charging stations. Enables over 100 electric vehicles to be charged in one day, via a single 63A* circuit breaker. Charge at up to 22kW on all charging stations.



Fair use through RFID or Zaptec App

A built-in electricity meter accurately records energy consumption, which can then be allocated to authorised users.



Safety in accordance with the highest standards

Fully-rated Type 2 charging socket, circuit breaker, electronic earth fault protection and temperature sensors are built into the charging station. This ensures safety for both the user and the power grid.

* With three-phase connection and typical charging usage over 24 hours.

3. Technical Specifications

Mechanical and installation

Parameter	Test condition	Min	Typ	Max	Unit
Dimensions			H: 392 W: 258 D: 112		mm
Weight	Including backplate		5		kg
Altitude				2000	m
Input cable cross section		2.5		10	mm ²
Input cable diameter		13		18.5	mm
Degree of protection			IP54		
Noise emission	With fan running			47.5	dBa
Charging mode			Mode 3, case B		
Mechanical strength			IK10		
Pollution degree	Installation environment		4		
Support for ventilation	According to EN 61851-1 6.3.2.2		No		
Access	According to EN 61851-1 5.4		Restricted and non-restricted access		

General

Parameter	Test condition	Min	Typ	Max	Unit
Rated voltage (Un)	Phase-Neutral	207	230	253	V
	Phase-Phase	360	400	440	
Rated current (In)			32		A
Rated frequency			50		Hz
Standby power consumption			3		W
Ambient operating temperature		-30		40	°C
Maximum charging power	TN 3 phase @ 32 A		22		kW
	TN 1 phase @ 32 A		7.4		
	IT 3 phase @ 32 A (Norway only)		12.7		
	IT 1 phase @ 32 A (Norway only)		7.4		
Protection class			I		
Overvoltage category			III		

Connectivity

Protocol	Supported standards
4G	LTE Cat M1
Wi-Fi	802.11b/g/n (2.4 GHz)
Bluetooth	Bluetooth v5.1 (BR/EDR/BLE)
Powerline (PLC)	HomePlug Green PHY, 10 Mbit/s
Plug and charge	Hardware support for ISO15118
RFID	ISO/IEC 14443 A (Type A, 13.56 MHz) ISO/IEC 15693 (Mifare classic, 13.56 MHz)

Integrated energy meter

Parameter	Test condition	Min	Typ	Max	Unit
Accuracy	Line voltage, current, and power factor	-2		2	%
	Line voltage, current, power factor and temperature	-3		3	%

Integrated RCCB

Parameter	Symbol	Min	Typ	Max	Unit
Residual operating current	$I_{\Delta n}$		0.03		A
Operating characteristics			Type B		
Making and breaking capacity	I_m			500	A
Residual making and breaking capacity	$I_{\Delta m}$			500	A
Rated conditional short-circuit current	I_{nc}			3	kA
Rated conditional residual short-circuit current	$I_{\Delta c}$			3	kA

Integrated circuit breaker

Parameter	Symbol	Min	Typ	Max	Unit
Manufacturer and part number			Lovato P1 MB 3P C40		
Rated current	I_n		40		A
Curve			C		
Nominal short-circuit breaking capacity	I_{cn}			10	kA

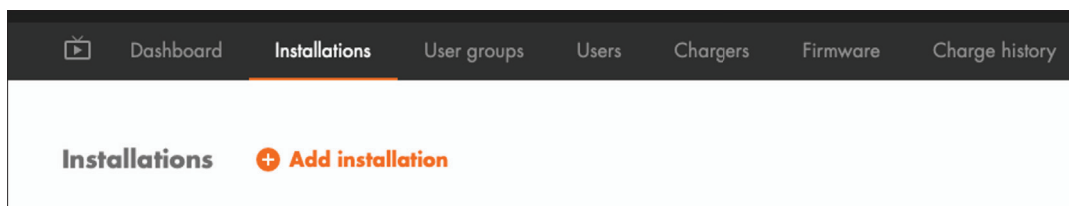
For CE documentation please see zaptec.com/CE-documentation

4. Installation

Prepare for the installation in the Zaptec Portal

Only Zaptec installation technicians/service partners can add installations in the Zaptec Portal cloud solution. New installation technicians/service partners must contact Zaptec's technical support via zaptec.com in order to have service authorisation added to their user profile. They will then be able to add new installations.

Log on at <https://portal.zaptec.com>. If you wish to add a new Zaptec Portal installation, go to Installations and fill in the form shown below:



Name: Give the installation a name.

- Address: The address of the installation's physical location.
- Category: Select the installation category from the drop-down list.
- Network type: Choose the appropriate power grid for the location of the charging system.
- Protection for charging system: The maximum current that the installation can use for charging. This could be a digital budget or the value of the physical overload protection or the power switch. If the charging station is located on a separate circuit, the maximum current per phase must normally be set to the rating of the circuit breaker.

Add installation

Name Field is required

Category Field is required

Address Zip code City

Country Field is required Type Field is required

Electrical grid Field is required Charging system circuit breaker [A] Field is required

Add charging circuits to the installation

- Once the installation has been set up, press the “Circuits” tab
- Click on “Add circuit”
- Enter the circuit designation stated on the circuit breaker
- State the value A] for overload protection

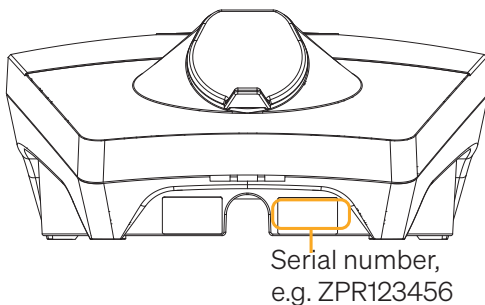


Charging stations that receive power from this charging circuit can charge up to the value of the charging circuit. You may wish to specify a lower value to limit the maximum circuit current.

Add charging stations to the installation

After you have created the installation in Zaptec Portal, create circuits in accordance with the electrical installation at the location. The charging stations must then be added to the associated circuits.

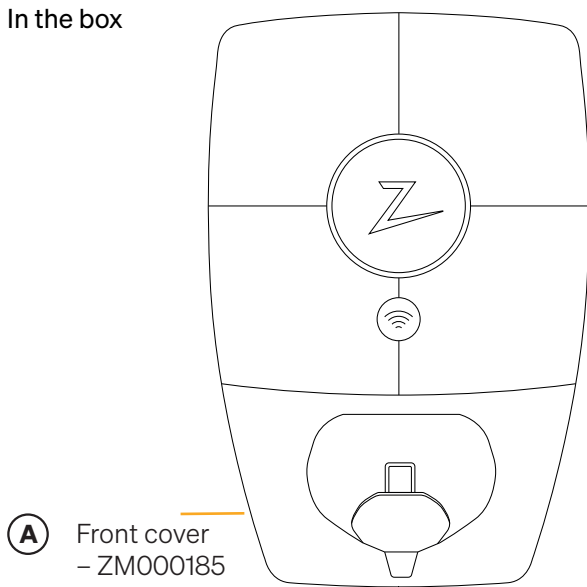
Fill in the serial number (ZPRxxxxxx) and the name of each charging station. The name should be the charging station’s owner, apartment number, parking space number or some other physical identification for the exact location of the charging station. The location of the serial number is shown in the illustration. Charging stations illuminate green when they are online.



The installation in the Zaptec Portal must represent the physical installation at the location. The Zaptec Portal installation is a virtual installation in order to balance load and phase algorithms in the charging system.

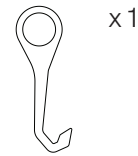
Zaptec Pro

In the box

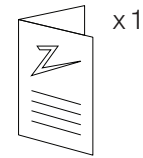


A Front cover
- ZM000185

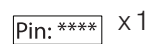
B Charging station - ZM000437



C SmartKey Column version ZM000278

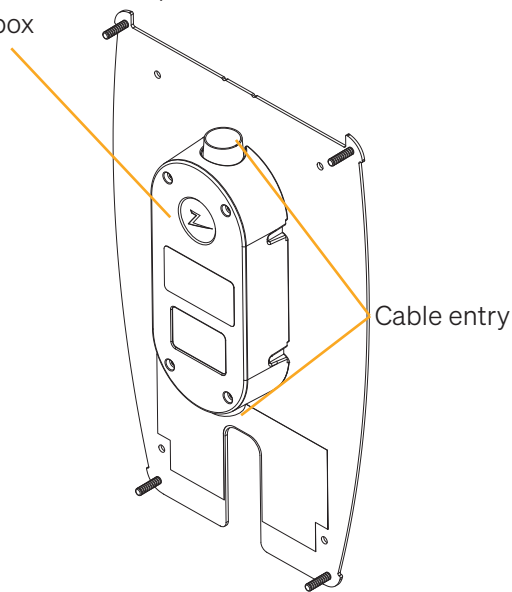


D User manual - ZM000325

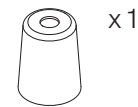


E Pin
Unique PIN code to configure the device
in the Zaptec app

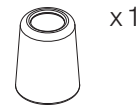
Supplied with the back plate
Junction box



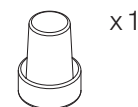
F Back plate with junction box
- ZM000438



G Small cable seal (10-16mm) - ZM000180



H Large cable seal (16-21mm) - ZM000174



I Blanking plug for cable seal - ZM000173

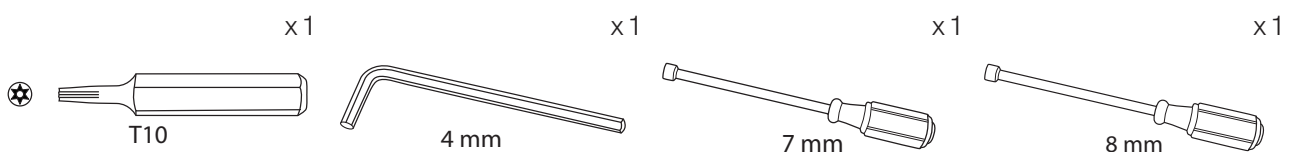


J Mounting nuts - ZB100049



K Adhesive sticker to protect connections

Tools required for installation



T10
T10 Torx screwdriver
or bit

4 mm
4mm Unbrako
screwdriver or bit

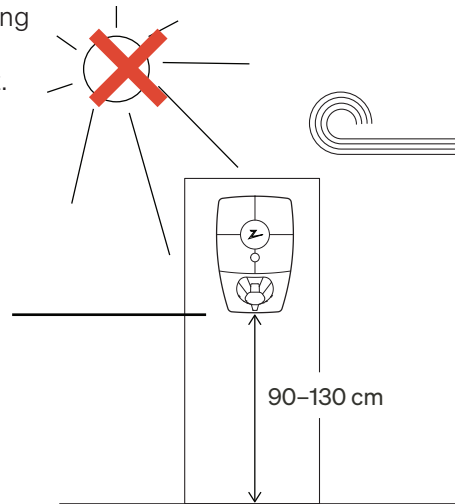
7 mm
7 mm-long socket
spanner

8 mm
8 mm-long socket
spanner

Location of the charging station/back plate

Avoid installing the charging station in areas which are exposed to direct sunlight. High temperatures in the device will reduce the charging rate.

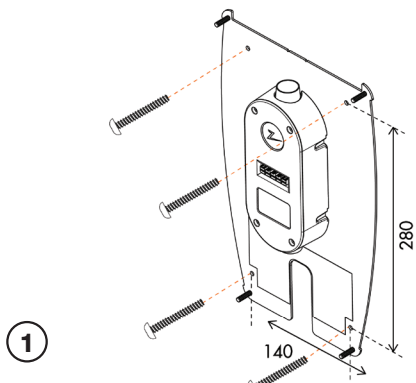
The back plate must be mounted on a flat surface.



Well-ventilated area.

Do not install the box close to heat sources or in a closed box.

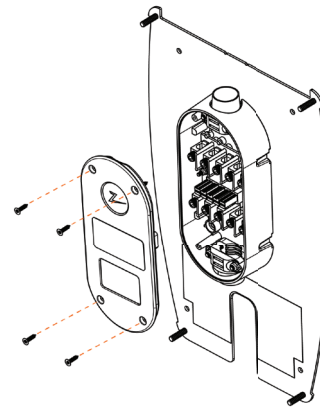
Installing and connecting the back plate



1

Mount the back plate

If the wall structure requires plugs/drilling, you must ensure that dust and dirt do not get into the junction box. Screw requirement: Head max 12mm diameter, Head max height 6mm, length min 25mm.



2

Remove the cover on the junction box

Undo four screws and open the cover to access the junction box.

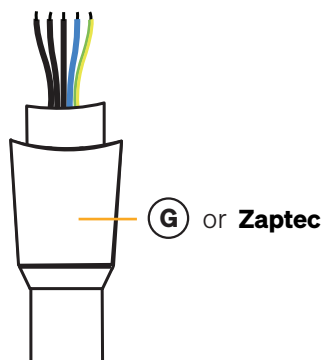


It is important not to create any new holes in the back plate. The four existing holes must be used. Creating new holes in the back plate will invalidate the warranty.

3

Prepare the cable

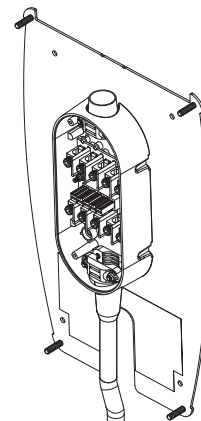
Recommended cable is round PFXP, Powerflex or PFSP type with diameter \varnothing 13–18.5 mm. Fit the right sealing cone onto the cable before you connect the cables to the junction box see G or H for right sealing diameter.



4

Wiring

To limit the risk of leaks in outdoor installations, we recommend connecting the cable to the bottom of the junction box. If this is not possible, we recommend that the device be thoroughly sealed and checked in accordance with the manual, and that other seals be used (Sikaflex or similar).



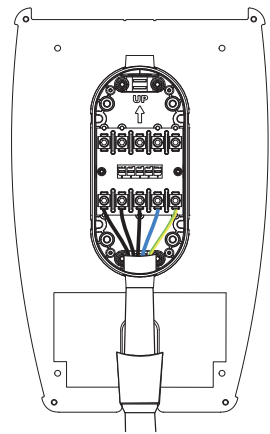
5

Connecting the wires

Connect the cables in the junction box in accordance with the electrical system at the location. See the illustration below. The terminal blocks must be tightened to a torque of 5 Nm.

If you install the system on a three-phase IT network, we recommend using a 5-wire cable – in case a TN-transformer is installed in the future. This will mean that

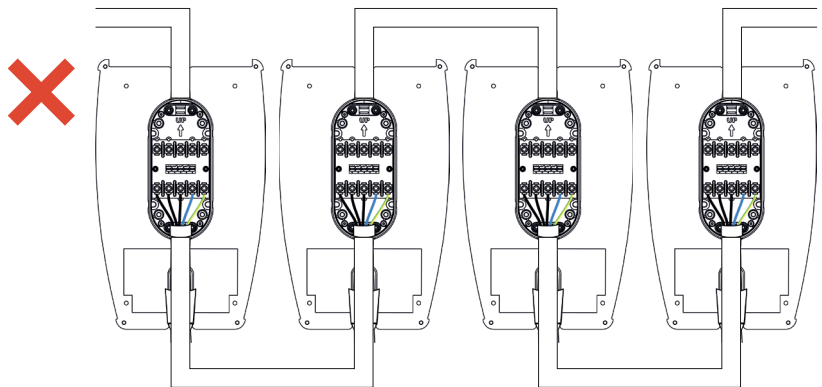
the neutral connection can be made in the fuse box rather than on each individual charging point, which will make it easier to carry out future upgrades.



! Zaptec Pro installations: DO NOT DO THIS!

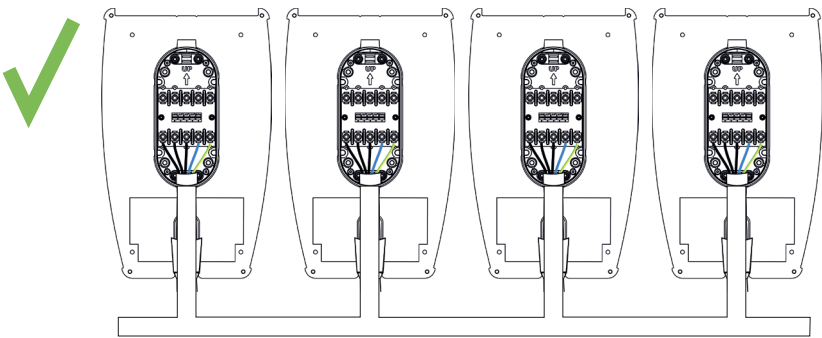
The Backplate rated for 63A connection but not 63A feedthrough!

This is only ok if installation fuse is <=40A (like in HOME installations)



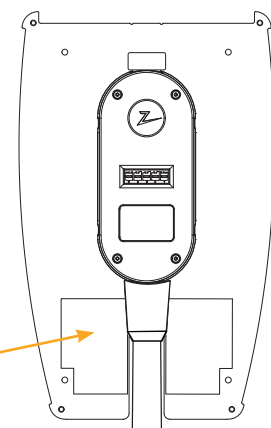
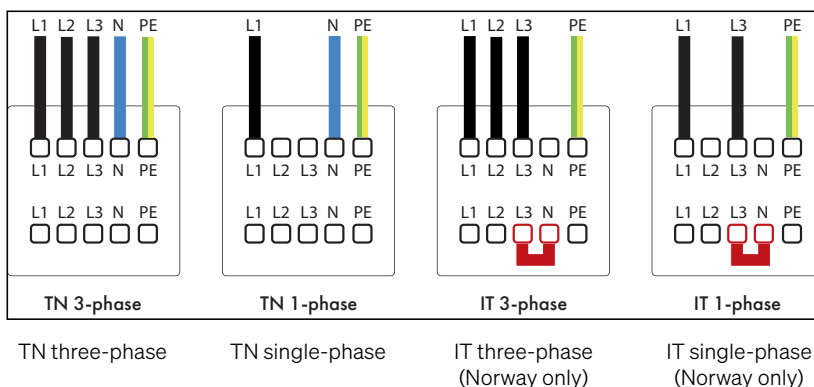
Zaptec Pro installations: DO THIS!

Bottom or top entry of cable is both OK.

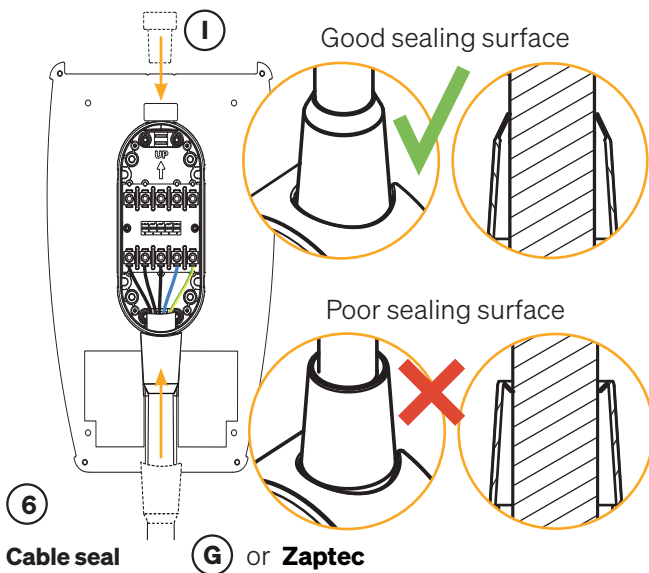


Electrical connection

There are four possible connection variants, depending on whether three-phase or single-phase is used, and whether a TN network, TT network or IT network (Norway only) is used, as shown under or on the label on the back plate.



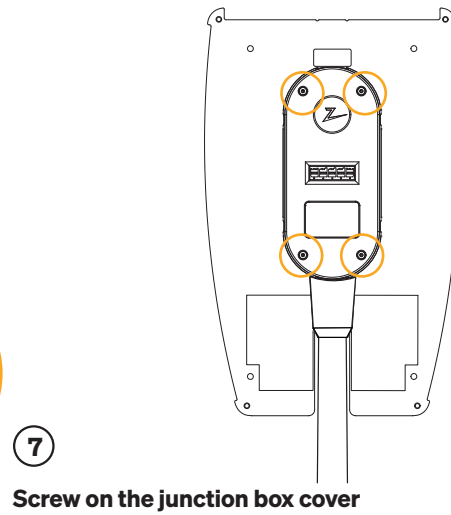
! Check your local wiring regulations for any additional requirements for the safe installation of charging points.



6 Cable seal (G) or Zaptec

Seal the unused cable entry using the blanking plug supplied. Tighten strain relief nuts on blanking plug and cable until secure.

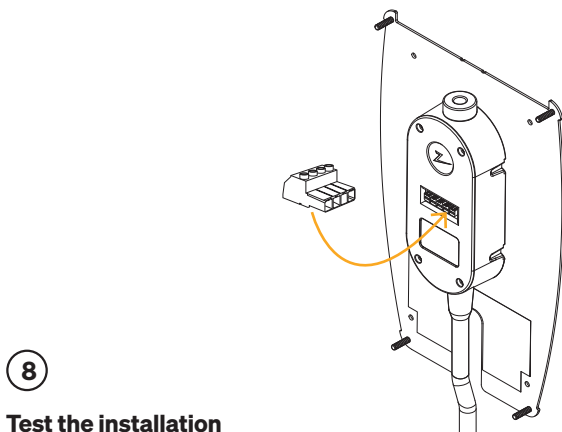
Place the cable seal over the cable entry in order to seal it properly. The cable seal must be pulled down towards the junction box and then pushed all the way down, so that the cone ends up in the correct position as shown below. Visually check that the seal has a good sealing surface.



7 Screw on the junction box cover

Screw on the junction box cover. The junction box screws must be tightened to a torque of 0.7 Nm.

! Use the correct cable seal for the cable. Check the cable dimension and select an appropriate cable seal. Small cable seal – cable dimension 10-16. Large cable seal – cable dimension 16-21.

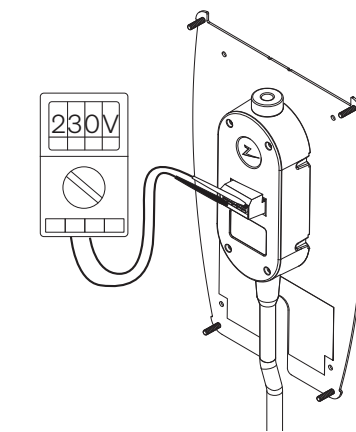


8 Test the installation

To test the installation after the cover has been screwed on, you must use the female connection. If you test directly on the back plate, the connections will be damaged.

(Webshop reference ZB10000zz).

NB: You must not insert test-probes into the charging station connector as it will be damaged by this.



9 Protect the connections

Apply the adhesive sticker to protect the connections if you are not installing the charging station directly after.

! Do not insert test probes, wires or anything else into the quick-release connector on the back plate. Voltage tests should be performed directly on the terminal screws or using a female connector.

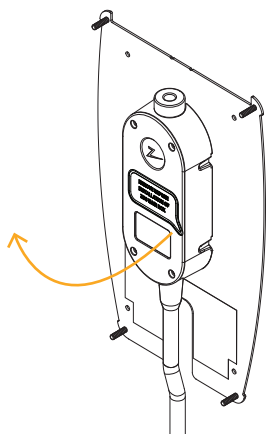
Insulation test

Prior to fitting the charging station to the back plate, an insulation test must be carried out on all back plates. If this is done while the charging station is fitted, the overvoltage protection may be triggered and this will cause the test to fail.

If a PLC communication module is used as a communication solution, this must be disconnected during the insulation test in order to avoid erroneous insulation results caused by the phase coupling function of the PLC communication module.

Do not insert test probes, wires or anything else into the quick-release connector on the back plate. Voltage tests should be performed directly on the terminal screws or using a female connector.

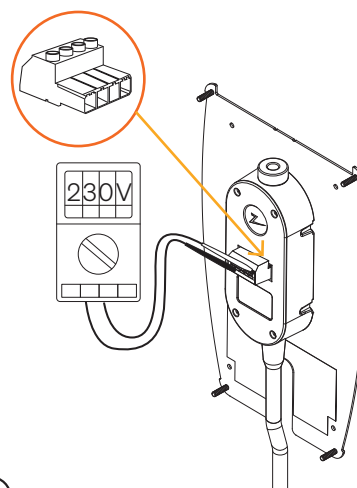
Install the charging station



1

Remove the adhesive sticker

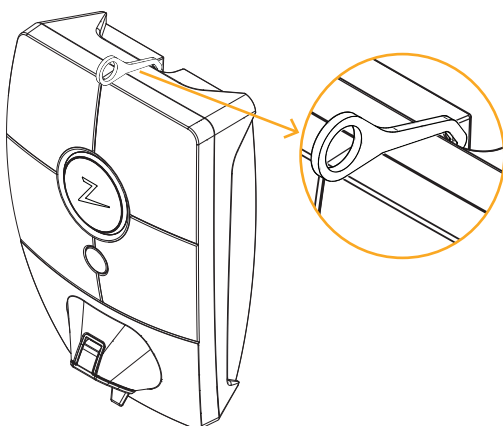
Remove the adhesive sticker which protects the contact on the junction box, if applicable.



2

Test the installation

Use the female connection to test the installation before continuing the fitting of it. If you test directly on the back plate, the connections will be damaged.

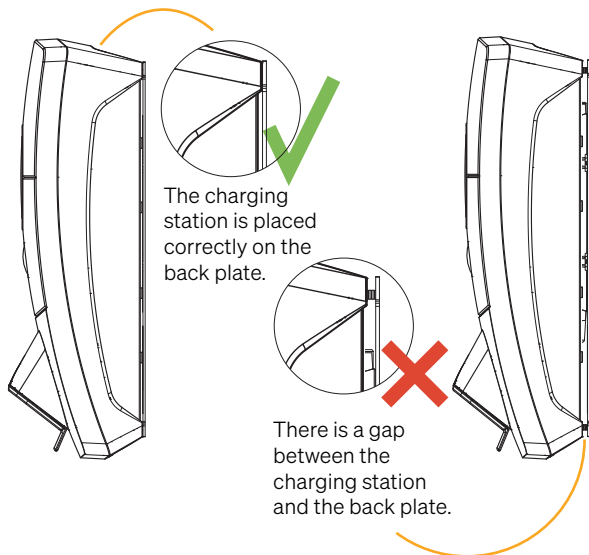


3

Remove the front cover

Remove the front cover using the SmartKey* special tool supplied with the charging station, and take the front cover off.

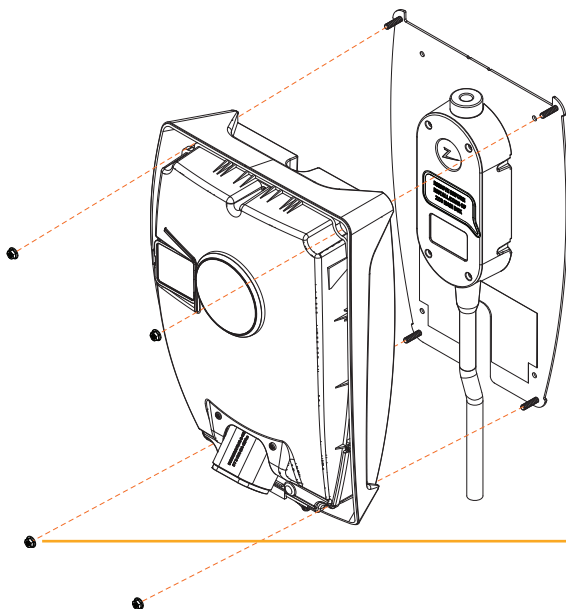
* To remove the front cover on a charging station mounted on a Zaptec Column, you must use a SmartKey Column (supplied with the column) in order to access the charging station.



4

Position the charging station on the back plate

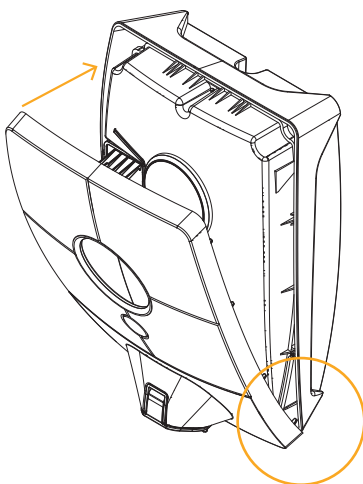
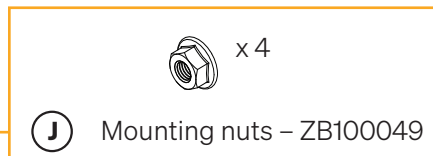
NB: Verify that there is no gap between the charging station and the back plate. If there is a gap you may have used incompatible screws to attach the back plate to the wall (check step 1 of installing backplate).



5

Tighten the nuts

Tighten the charging station using the four supplied nuts. The nuts must be tightened to a torque of 3 Nm.



6

Fit the front cover

Ensure that the cover for the status indicator (Z) is correctly positioned before replacing the front cover again. In order to replace the front cover, you must first position the cover over the Type 2 port and then attach it to the charging station.

Switch on the power supply to the installation

- Check that the status indicator illuminates yellow, which means that the system is starting up and performing internal checks.
- Check that the status indicator changes from yellow to green after 2–3 minutes.
- If the charging station illuminates purple, it is being updated.

See the chapter on troubleshooting for more information if the status indicator illuminates a different colour.

Activate the charging station

- Before you begin, install the Zaptec app from the App Store (Apple) or Play Store (Android) and make sure Bluetooth is enabled. If you have not already done so, register as a user using the app and log in.
- From the Dashboard, tap the settings symbol at the top-left of the screen. Stand close to the charging station you wish to configure.
- Tap Configure Zaptec products then tap Configure via Bluetooth at the bottom of the screen.
- Enter your PIN code. This is unique to each charging station. This will be stated on the box and the zipped bag, or alternatively can be obtained from the Zaptec Portal cloud service (after the charging station has been added to the installation in the Zaptec Portal).
- Go to settings and scan for charging stations. Check that you are connected to the correct charging station. There should be a flashing white light on the status indicator of the charging station.
- Configure the power grid in accordance with the installation, and select the communication method to be used.
- The charging station is online when you can see a green bar on the screen.
- This must be done for all the devices in the installation.

Troubleshooting: If the charging station does not come online, check that the network setup is in accordance with the network requirements in the chapter “Internet and Network Requirements”.



The portal installation must be set up identically to the electrical installation.

Verify the installation in the Zaptec Portal

Check that all the charging stations have been added to the installation in the Zaptec Portal, as described in the chapter “Prepare for the installation in the Zaptec Portal”, to make sure that all the charging stations are present.

Test the charging stations

- Perform an RCD test using a testing device with a Type 2 plug. The test must be performed in accordance with the testing device’s manual.
- Carry out a test using an electric vehicle, test load or Mode 3 test equipment.

Handover and Zaptec Portal access to the installation owner

Hand over the user manual, SmartKey and final checklist to the owner.

Add the installation owner/owner group to the installation.

- Inform the owner/owner group of the jointly owned property/installation that they must register as a user in the Zaptec Portal before they can gain access to the installation.
- Go to Authorisations in the Zaptec Portal, Grant authorisation and add the user(s) who are to administer the installation as owner. They will only be visible if they have registered a user profile in the Zaptec Portal.
- Show the Zaptec Portal dashboard to the owner and give a brief presentation of the functions.

Authorisations in the Zaptec Portal

Administrator: Gives access to settings, access control, statistics and power consumption for the installation.

Service: This is a technical role which gives authorisation to add installations, circuits and charging stations.

User: All authenticated users of the installation. They will only be able to see their own power consumption.

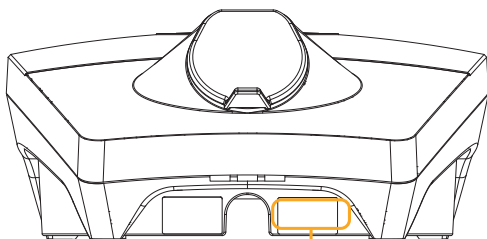
5. Troubleshooting

Warnings/error messages are displayed in the Zaptec Portal / Zaptec App.

Problem	Solution
Cannot log on to the Zaptec Portal	Reset password by clicking on the button for forgotten password.
Cannot create new installations in the Zaptec Portal	New installation technicians/service partners must contact Zaptec's technical support at support@zaptec.com to obtain authorisation to create installations.
The charging station is not online	<p>4G</p> <ul style="list-style-type: none"> • Inadequate GSM network coverage. • 4G not activated on the charging station.
	<p>PLC installations</p> <ul style="list-style-type: none"> • There may be an active firewall. Check the network setup on the router/modem. • Check that the internet is working by connecting the computer directly to the router/switch. • The charging station must be encrypted with respect to the associated PLC module. • Check that the PLC has been installed in accordance with the circuit diagram and on the same L1 and N as the charging station(s). • Check that the network icon is flashing green. • Check that the HomePlug icon is flashing and illuminates red. • The power icon should illuminate green steadily.
	<p>WiFi installations</p> <ul style="list-style-type: none"> • There may be an active firewall. Check the network setup on the router/modem. • Check that the internet is working by connecting a phone, tablet or computer to the WiFi network. • Unable to connect. Check that the SSID and the password for the WiFi are correct. • If the network is not visible, you must check that the WiFi access point uses 2.4 GHz (5 GHz is not supported), and that it uses channels between 1 and 11. • If the network name (SSID) is hidden, you must enter the SSID and password manually using "Other" in the network list. • Unable to connect. Check that the SSID and the password for the WiFi are correct. • If the network is not visible, you must check that the WiFi access point uses 2.4 GHz (5 GHz is not supported), and that it uses channels between 1 and 11 (12 and higher are not supported). • If the network name (SSID) is hidden, you must enter the SSID and password manually.
Charging does not start	Check that the user profile has the right access to charge on this charging station. If charging does not start or the status indicator indicates a charging error by illuminating red steadily.

Colour	Meaning
NO LIGHT	Charging station has not been activated in the Zaptec Portal, no power from the power circuit, incorrect connection or product fault. Check the upstream circuit breaker in the distribution cabinet.
PURPLE	Firmware updating.
GREEN	Check that the charging cable has been inserted into the charging station correctly. Check that the vehicle has been configured to start charging immediately.
BLUE	Communication is taking place between the charging station and the vehicle. Check whether the vehicle is configured to start charging immediately.
RED	<p>Flashing red light</p> <p>Authentication failed – Check that the RFID tag/charging card is connected to your user profile.</p> <p>Authentication failed – Check in the Zaptec Portal that your user has access to charge on the charging station and/or installation concerned.</p> <p>Steady red light</p> <p>Disconnect the charging cable. If the status indicator illuminates green, you can connect the charging cable again. If charging does not start and the indicator illuminates red again, there may be a charging fault on the charging cable or vehicle.</p> <p>If the status indicator lamp does not turn green after the charging cable has been disconnected, you must check the fuses as described in the chapter “Checking the fuses in the charging station”.</p>

If this does not help, make a note of the serial number of the charging station and contact user support as explained in the chapter “Support and Repairs”. The location of the serial number is shown in the illustration.

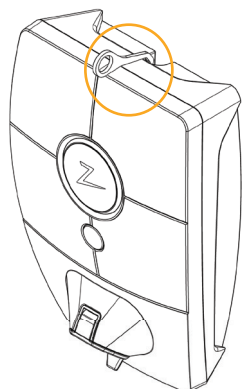


Serial number,
e.g. ZPR123456



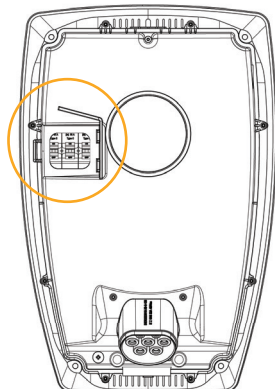
If the charging station has been disconnected from the power grid, it will take two to three minutes to restart.

Check the circuit breaker in the charging station



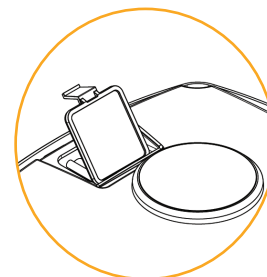
①

Remove the front cover using the SmartKey* special tool supplied with the charging station, and take the front cover off.



②

Check that the circuit breakers in the circuit breaker window have not tripped (they should all face upwards).



③

If any of the circuit breakers have tripped, remove the circuit breaker cover using the snap cover and flip the circuit breakers up again. Fit the circuit breaker cover as in step two and clip the cover into place.

* If the charging station is mounted on a Zaptec Column, you must use a SmartKey Column (supplied with the column) in order to access the charging station.

6. Storage and Maintenance

The product must be stored in a cool, dry place. The protective cover must always be fitted when the product is not in use.

The following periodic maintenance is recommended:

- Wipe down the charging station with a damp cloth.
- Make sure there are no foreign objects in the charging connector.
- Check that the charging station has no physical external damage.

Periodic checks should be carried out on all publicly accessible installations, in accordance with local legislation.

7. Guarantee

We guarantee that the device is free from material faults and complies with applicable consumer protection laws and regulations in the country in which the product was purchased or the consumer resides. Further information about your rights under consumer legislation can be found at zaptec.com/guarantee. Your Zaptec product comes with a five (5) year guarantee. Please find the guarantee document at zaptec.com/guarantee

8. Support and Repairs

The installation technician/service partner is always the first line of support in the event of problems with the installation. Zaptec strongly recommends that the installation technician complete the dealer course for Zaptec Pro before installing a Zaptec Pro system. If you are a Zaptec dealer, contact support as stated in your dealership contract, or via zaptec.com.

Zaptec Charger AS
Made in Norway



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Dansk
Deutsch
Français
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Installation

Manual

Smart and safe
charging system

Zaptec Pro

