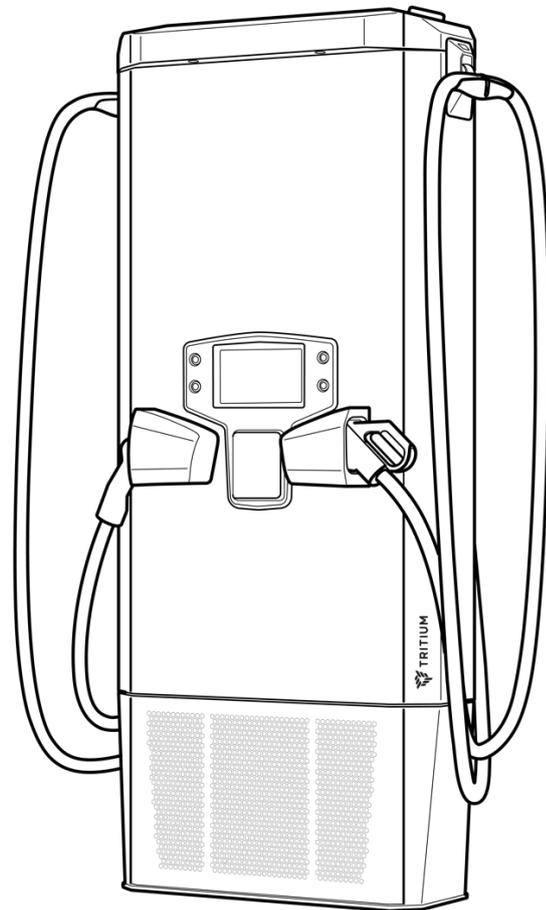




RTM75 / PKM150 CS Operating Manual



INS.047
Version 5

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Rev	Date	TC #	Change	Author
5	27/07/2023	4911	Conversion from InDesign (V4) document to latest Word template. General updates made throughout the document. Includes updates for Singaporean requirements.	A Prewecki, S George, D Muldoon, M Graham

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Contents

1	Introduction	3
1.1	Purpose	3
2	SAVE THESE INSTRUCTIONS	4
2.1	Important safety instructions	4
2.1.1	<i>Identifying symbols</i>	4
2.1.2	<i>Operating Temperature</i>	4
2.1.3	<i>Storage Temperature</i>	4
2.1.4	<i>Weather Rating</i>	4
3	Operating instructions	5
3.1.1	<i>Using the human machine interface (HMI)</i>	6
3.1.2	<i>Physical Buttons</i>	7
3.1.3	<i>Language Selection Screen</i>	8
3.1.4	<i>Information Screen</i>	9
3.1.5	<i>Charging session authentication</i>	9
3.2	Charging Option A – Connect plug before payment authentication	10
3.3	Charging Option B – Connect plug after payment authentication	15
4	Troubleshooting.....	21
5	Emergency Stop (ESTOP)	23
5.1.1	<i>ESTOP Reset (Authorized Personnel ONLY)</i>	23

1 Introduction

1.1 Purpose

This manual contains information on how to operate the RTM75 / PKM150CS electric vehicle (EV) fast charger models:

- TRI153-RTM-01
- TRI153-RTM-02
- TRI155-PKM-01 Charge Station
- TRI155-PKM-02 Charge Station

For assistance with operation of the charger, contact the charger operator or Tritium Customer Support.

Note: Images used in this manual are examples only and may differ slightly from actual implementation.

2 SAVE THESE INSTRUCTIONS

2.1 Important safety instructions

 **CAUTION**

- The RTM75 / PKM150CS fast charger must be installed and serviced only by trained and **qualified electrical personnel**.
- In the event of a circuit breaker trip, the charger must be inspected by a Tritium-certified service agent before the charger is re-energised.

2.1.1 Identifying symbols

Symbol	Definition
	CAUTION
	CAUTION – RISK OF ELECTRIC SHOCK
	IMPORTANT
	READ THE MANUAL

2.1.2 Operating Temperature

-35°C to 50°C (-31°F to 122°F)

2.1.3 Storage Temperature

-35°C to 70°C (-31°F to 158°F)

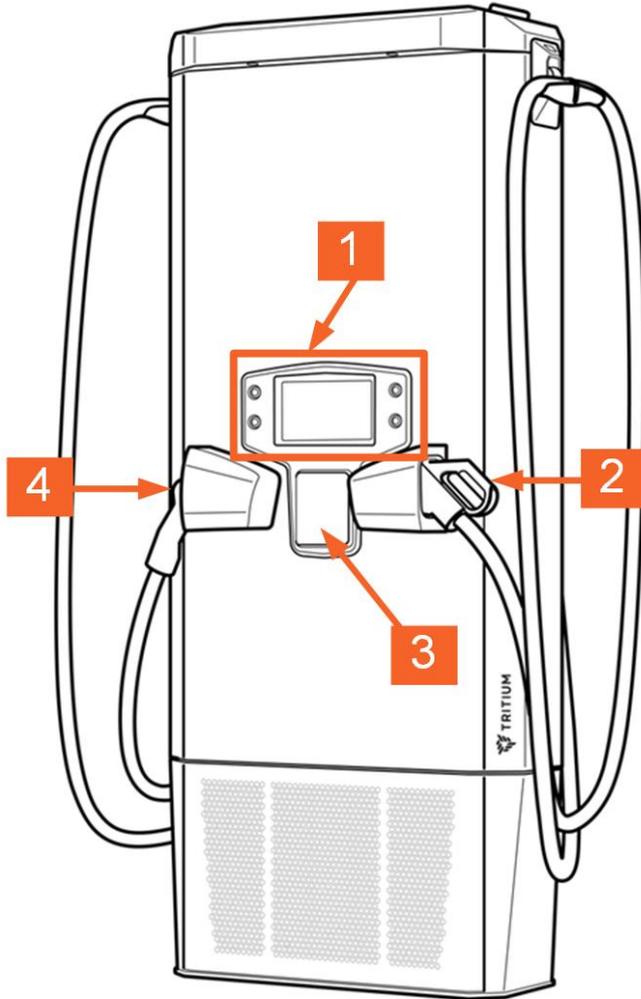
2.1.4 Weather Rating

IP65 and NEMA 3R Electronics Enclosure

3 Operating instructions

Charging your vehicle with the RTM75 / PKM150CS EV fast charger is safe, secure, and easy to do with industry standard plugs and a simple interface that guides you through the charging process.

The RTM75 / PKM150CS charger offers two different charging plugs: the CHAdeMO and the Combined Charging Standard (CCS).



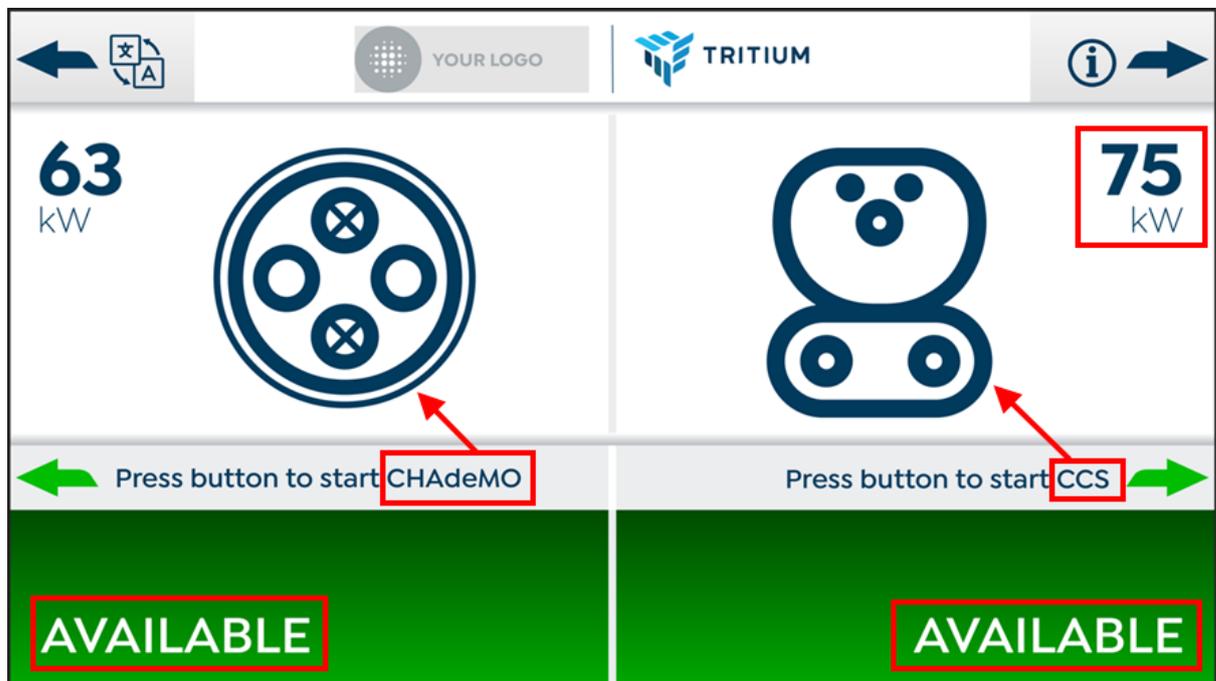
#	Description
1	Human Machine Interface (HMI)
2	CCS plug
3	RFID or Credit Card reader
4	CHAdeMO plug

3.1.1 Using the human machine interface (HMI)

The charging stations' HMI:

- has physical buttons that control the charging session with adjacent icons to confirm the action. These icons:
 - are highlighted to prompt an action or selection.
 - display a tick when the expected action is completed.
- has a full colour display that shows authentication, charging session and other information to the user:
 - during the charging session the minutes shown on the display show how long your car has been charging.
- can display details to the user in a wide variety of different languages and allows the user to choose their desired language¹.
- can provide audio feedback to confirm that certain functions have been successful.

At any stage, return the plug to the plug holster to end your charging session.



The above HMI display indicates that this charging station:

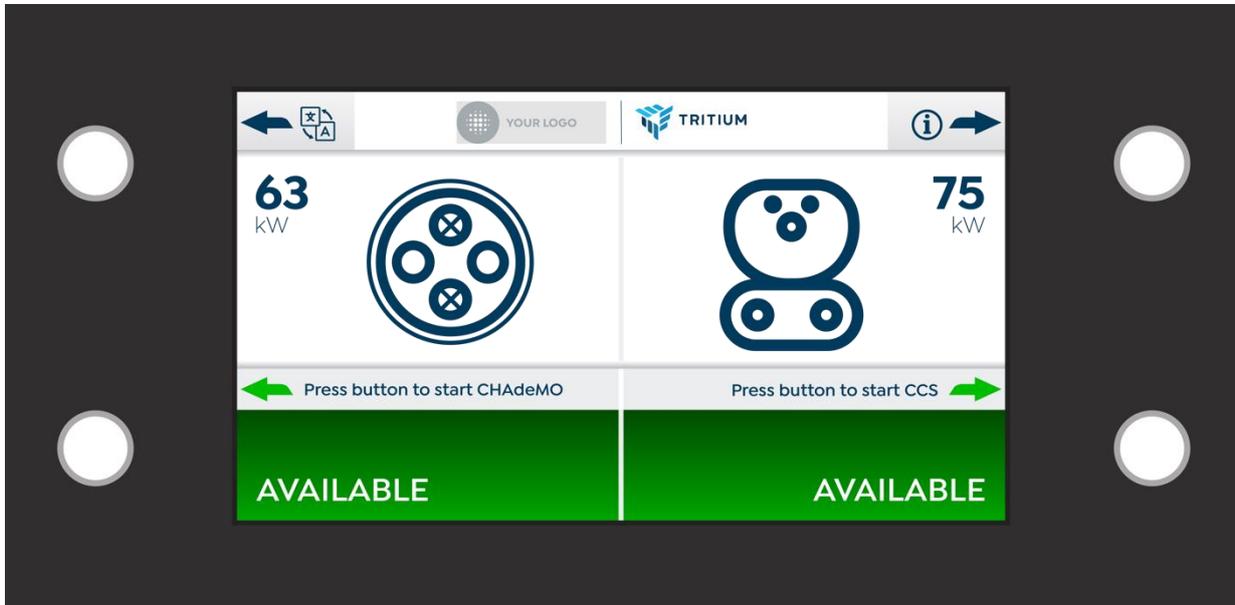
- Is equipped with 75kW power output² i.e. is an RTM75.
- Has a CHAdeMO charging cable on the left side of the unit.
- Has a CCS2 charging cable on the right side of the unit.
- Is at idle – both charging cables are available.

[1] It is up to the charge point operator to decide which languages to enable on the charging station.

[2] The CHAdeMO cable shows 63kW not 75kW because its output power is limited compared to CCS.

3.1.2 Physical Buttons

The charging station is equipped with 4 physical buttons to ensure the unit remains accessible and responsive under all weather conditions.



The four physical buttons for user input are represented by the two circles to the left and right of the display. When idle, pressing each of the four physical buttons has the following effect.

Button position	Button function
Top Left	Displays the language selection screen.
Bottom Left	Initiates a charging session using the left charging cable.
Top Right	Displays information screens (if available).
Bottom Right	Initiates a charging session using the right charging cable.

3.1.3 Language Selection Screen

When the language selection icon displays (top left button), press this to display the language selection screen.



When the language selection screen is displayed the actions of the 4 buttons changes as indicated by the icons on the screen.



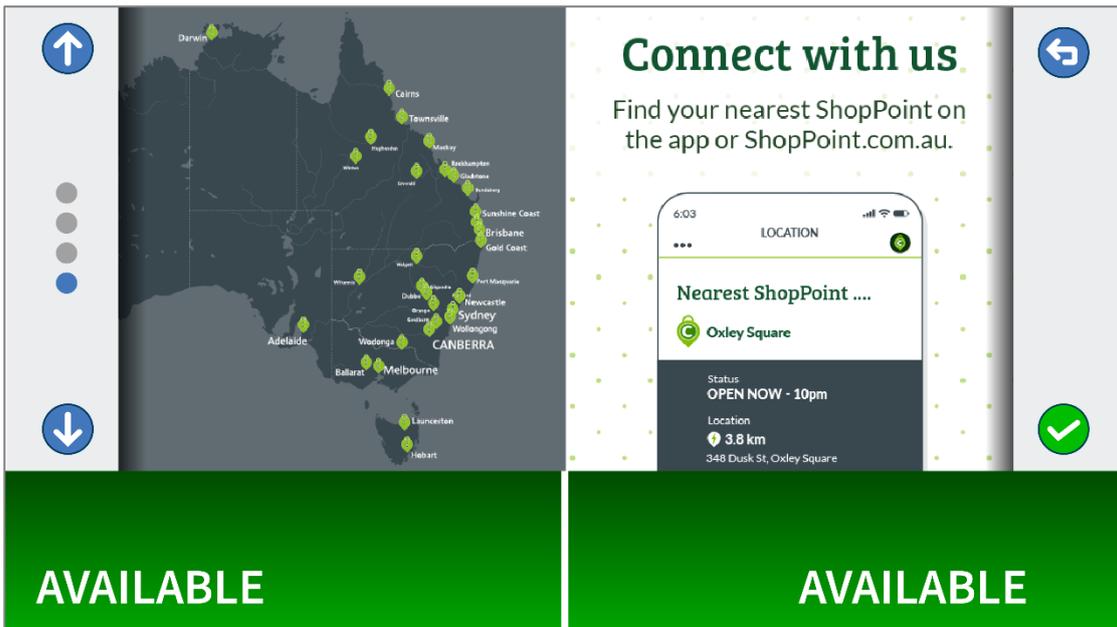
Icon	Button function
	Scrolls up the language selection list e.g., changes the selection from Español to English.
	Scrolls down the language selection list e.g., changes the selection from Español to Français.
	Confirms the language selection.
	Returns to the main screen.

3.1.4 Information Screen

The charge point operator may choose to provide additional information via the information screen. Pressing the top right button when the information screen icon (below) is shown will display the screen.



When the information screen is displayed the actions of the buttons changes as indicated by the icons on the screen.



Icon	Button function
	Scrolls the information screen selection up.
	Scrolls the information screen selection down.
	No action.
	Returns to the main screen.

3.1.5 Charging session authentication

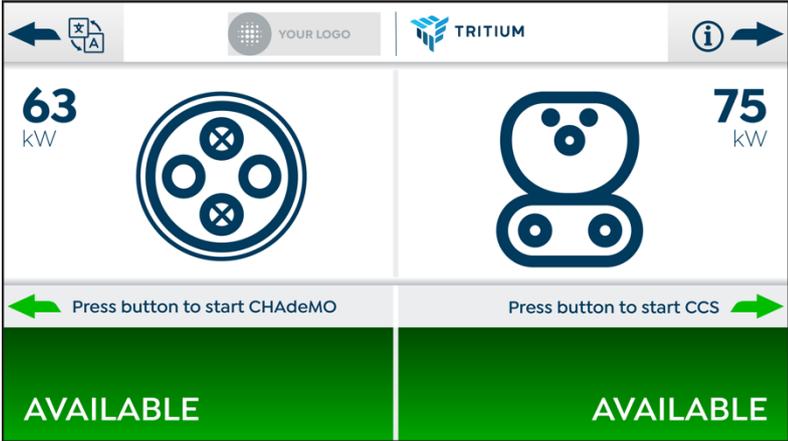
Charging session authentication can be started before connecting a charging cable to your vehicle or after.

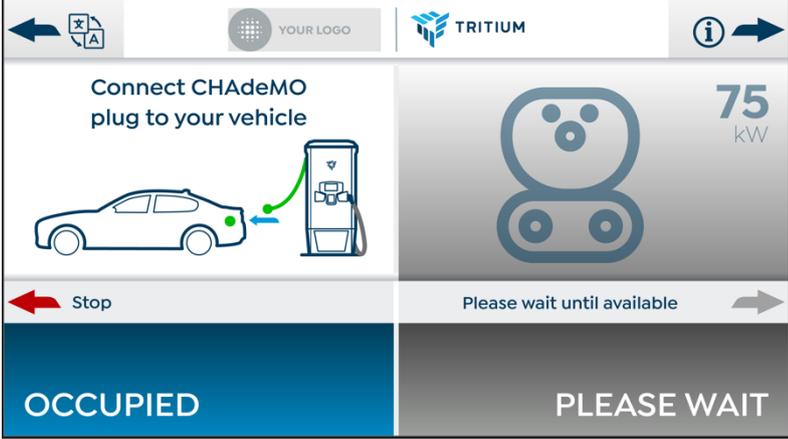
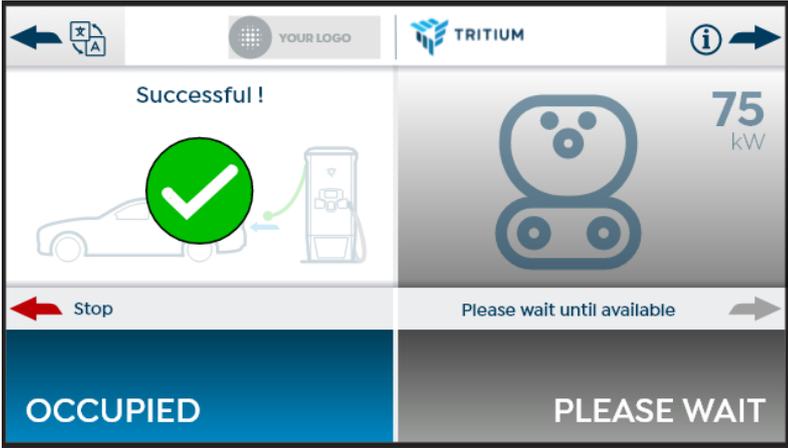
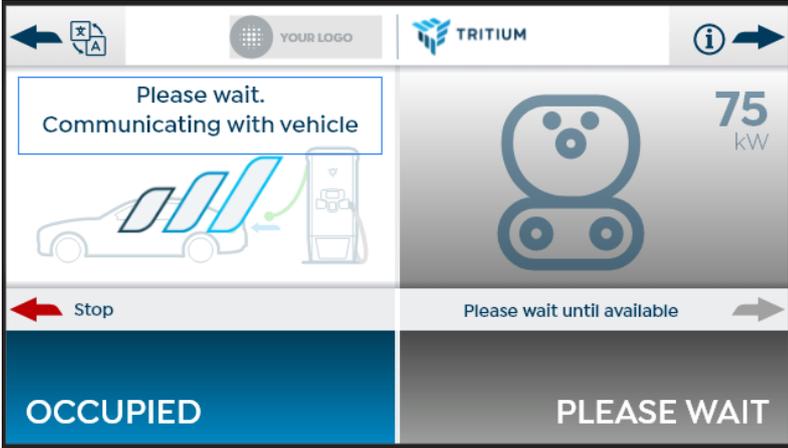
The RTM75 / PKM150CS charger is designed to authenticate individual charging sessions through card or NFC recognition, mobile app or via vehicle-based authentication such as Plug and Charge or AutoCharge. Authentication may also be disabled (free mode), in which case charging will start automatically.

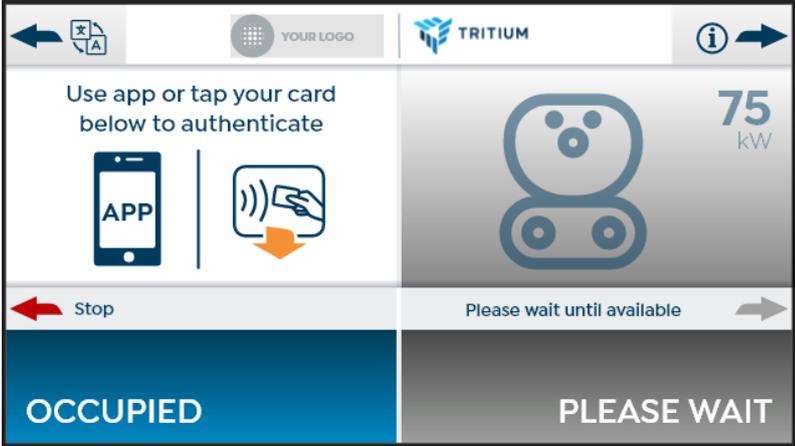
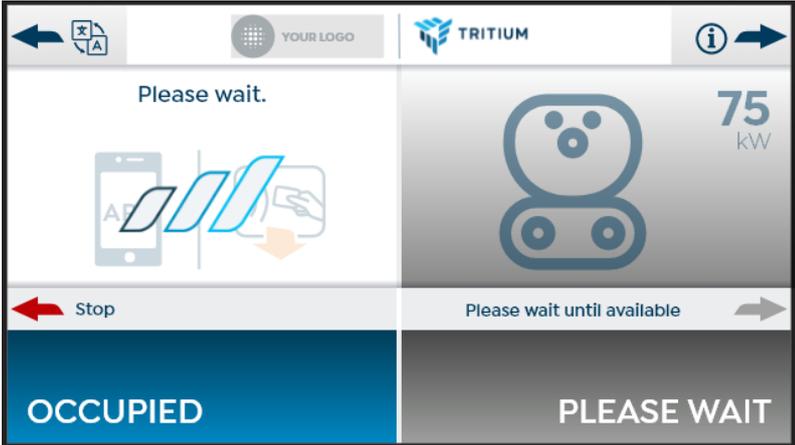
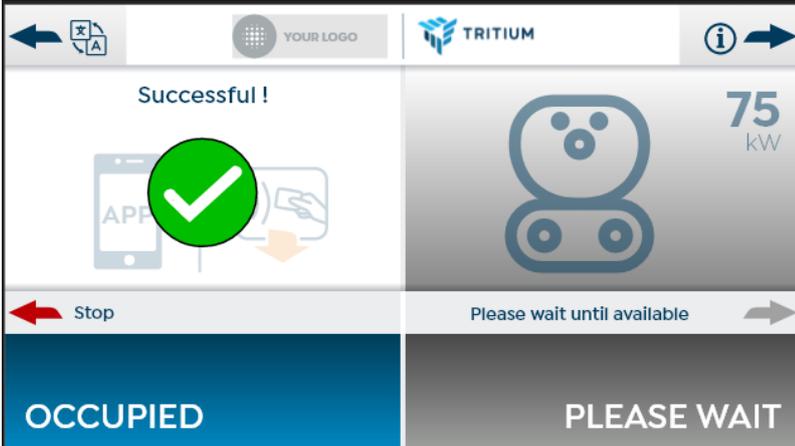
Note: You have ample time to make your selections, however if the charger has been idle for too long without making a selection, it returns to being available for other users.

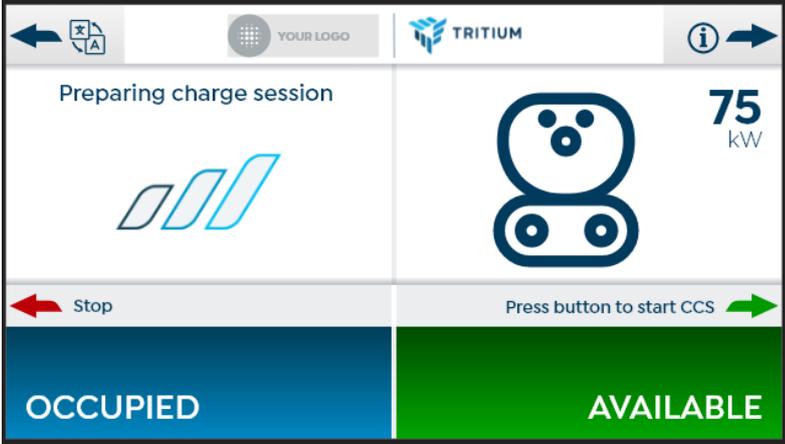
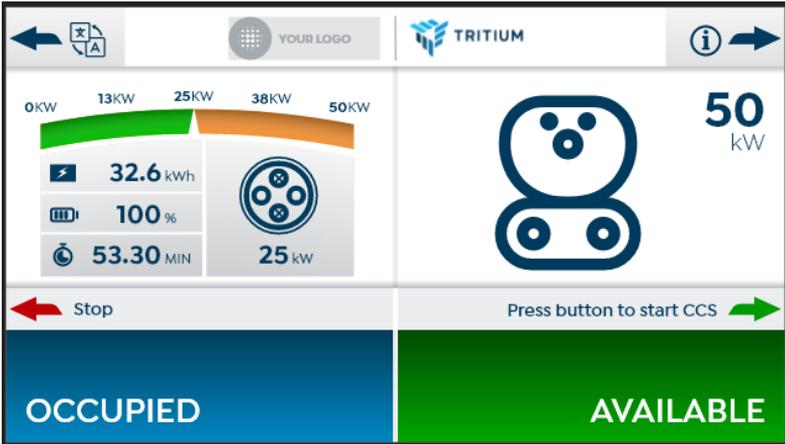
3.2 Charging Option A – Connect plug before payment authentication

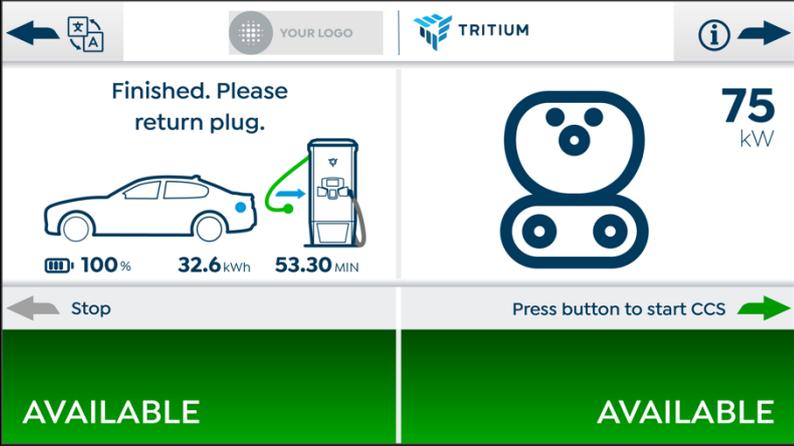
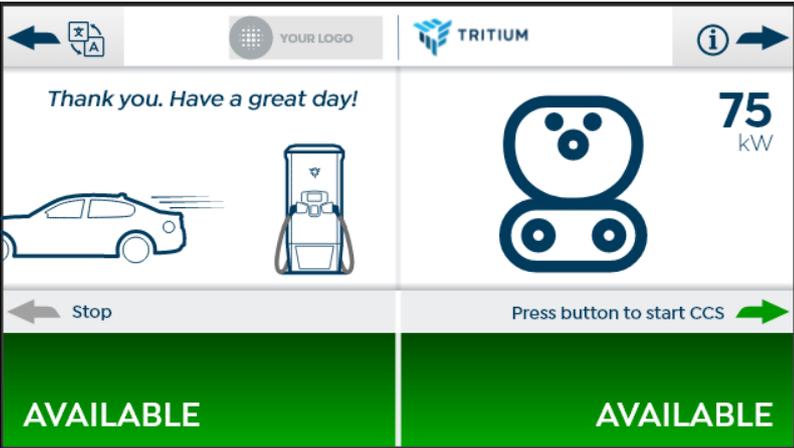
Note: For this manual, the RTM75 / PKM150CS charger display shows authentication icons (an APP and card swipe), which cover credit card, RFID card, NFC and mobile app authentication options. If these icons are not shown on your model, they are not available for use.

Step	Action
1	<p>Ready to use The following screen displays when the unit is available for use.</p>  <p>The screenshot shows a digital display with a top navigation bar containing a back arrow, a logo placeholder 'YOUR LOGO', the 'TRITIUM' logo, and an information icon with a right arrow. Below the navigation bar, the display is split into two columns. The left column features a CHAdeMO icon, the number '63 kW', and a green arrow pointing left with the text 'Press button to start CHAdeMO'. The right column features a CCS icon, the number '75 kW', and a green arrow pointing right with the text 'Press button to start CCS'. At the bottom of each column, the word 'AVAILABLE' is displayed in white text on a green background.</p>

Step	Action
2	<p>Connect plug to car</p> <p>When a charging cable has been removed from its holster and is ready to be connected to the vehicle, the second cable will be disabled until the charging session has successfully started or been terminated.</p>  <p>The screenshot shows a user interface for a charging station. At the top, there are navigation icons, a 'YOUR LOGO' placeholder, the 'TRITIUM' logo, and an information icon. The main display is split into two panels. The left panel displays the instruction 'Connect CHAdeMO plug to your vehicle' above an illustration of a car and a charging station with a cable. The right panel shows a large '75 kW' power rating next to a stylized car icon. At the bottom, there are two buttons: 'Stop' on the left and 'Please wait until available' on the right. Below these buttons are two large colored areas: a blue 'OCCUPIED' area on the left and a grey 'PLEASE WAIT' area on the right.</p>
3	<p>Connected</p> <p>When the plug is connected to the car the plug icon shows a tick.</p>  <p>The screenshot shows the same user interface as in step 2, but with a green checkmark icon overlaid on the car illustration in the left panel. The text 'Successful!' is displayed above the illustration. The rest of the interface, including the '75 kW' power rating, the 'Stop' and 'Please wait until available' buttons, and the 'OCCUPIED' and 'PLEASE WAIT' status areas, remains the same.</p>
4	<p>Communication</p> <p>The charger checks the communication with the vehicle.</p>  <p>The screenshot shows the same user interface as in step 2, but with a blue box containing the text 'Please wait. Communicating with vehicle' overlaid on the car illustration in the left panel. The rest of the interface, including the '75 kW' power rating, the 'Stop' and 'Please wait until available' buttons, and the 'OCCUPIED' and 'PLEASE WAIT' status areas, remains the same.</p>

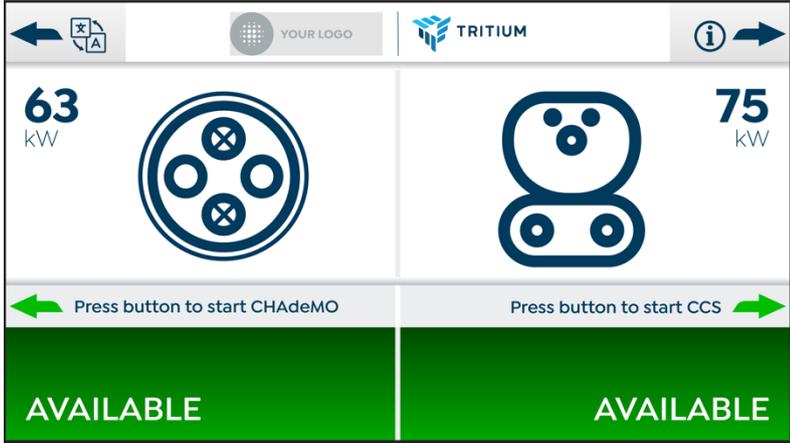
Step	Action
5	<p>Authentication The charger requests authentication.</p>  <p>Swipe your credit card, RFID card or NFC device over the payment terminal or use a mobile app to authenticate the charging session.</p>  <p>Upon successful authentication the authentication icons show a tick.</p> 

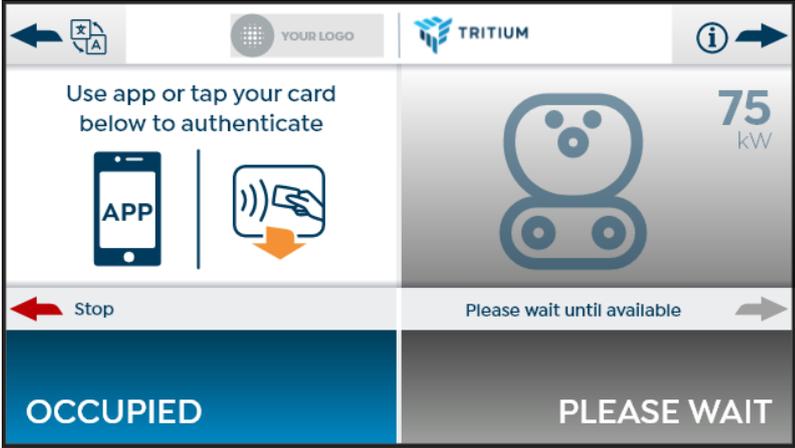
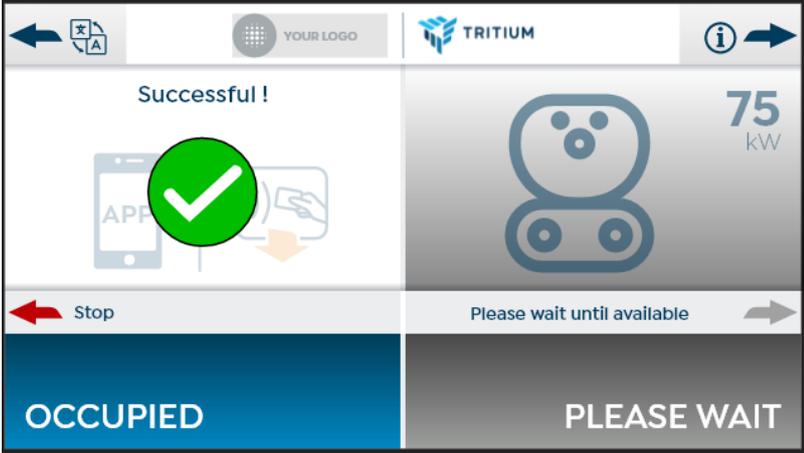
Step	Action
6	<p>Charge session The charger starts the charge session.</p>  <p>The charge session starts and the active session and arrow for the stop button are displayed. At this stage the second charging cable may be used.</p>  <p>By default, the charge session remains unlocked. The lock screen feature can be enabled by the charge point operator but can cause compatibility issues with mobile pay devices that use frequent credential rotation.</p> <p>If lock screen is enabled, to unlock the charge session, press the unlock button.</p> <p>Swipe your bank or RFID card over the payment terminal to unlock the session and complete payment. The charge session unlocks.</p> <p>The active session and the arrow for the stop button are displayed.</p>

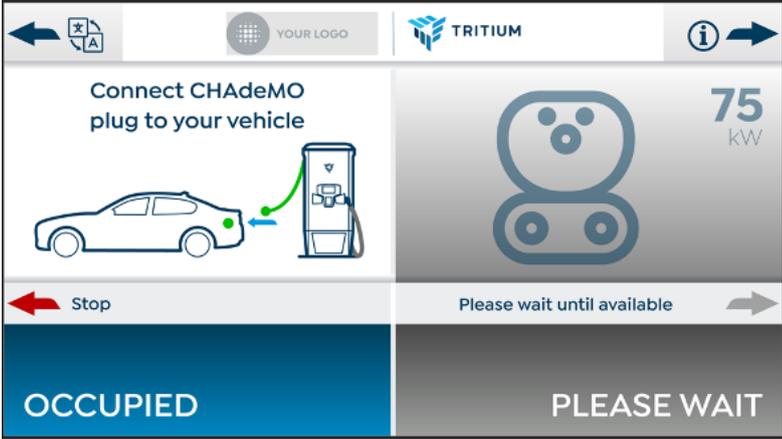
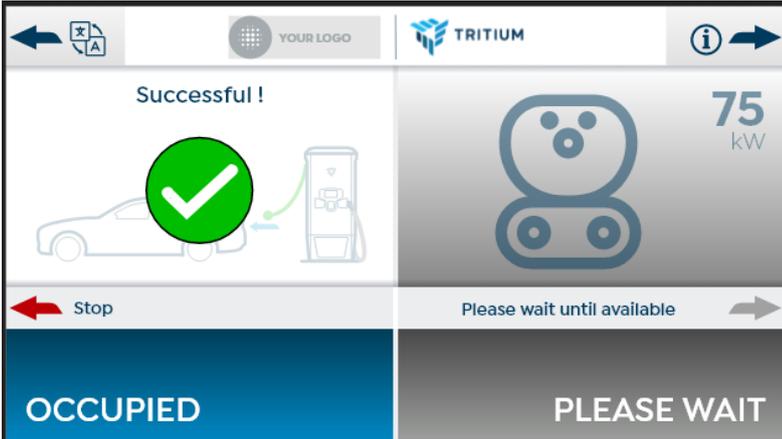
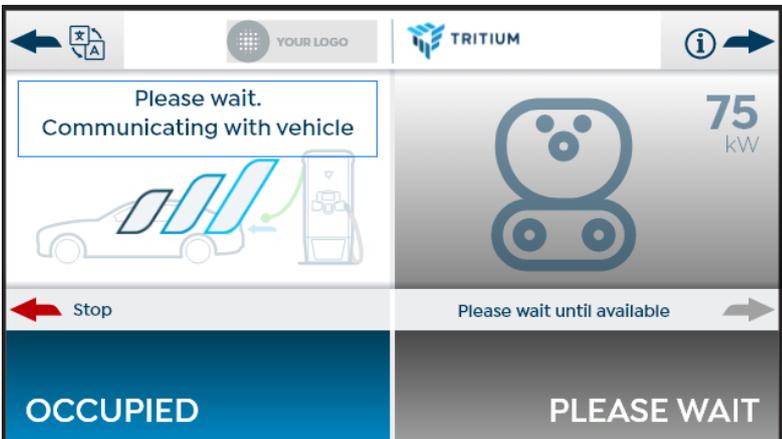
Step	Action
7	<p>Complete charge</p> <p>The charge session is automatically terminated when the maximum charge level of the electric vehicle is reached.</p> <p>To terminate the session at an earlier point, use the button that is aligned with the stop icon.</p>  <p>The return plug icon is highlighted.</p> 
8	<p>Return plug to charger</p> <p>The charger detects the returned plug.</p> 

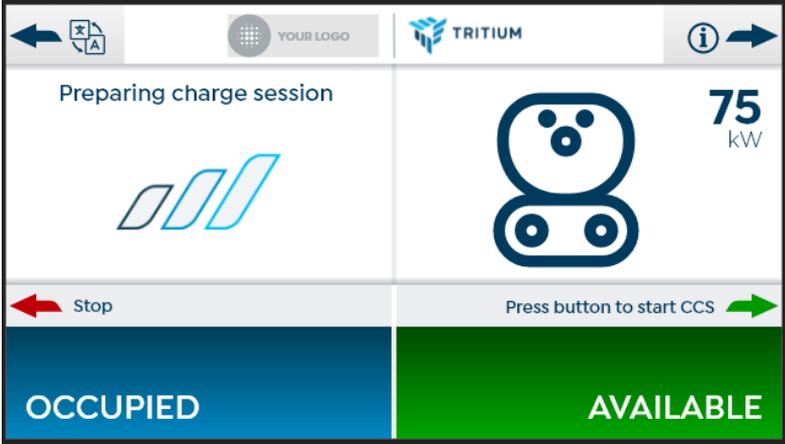
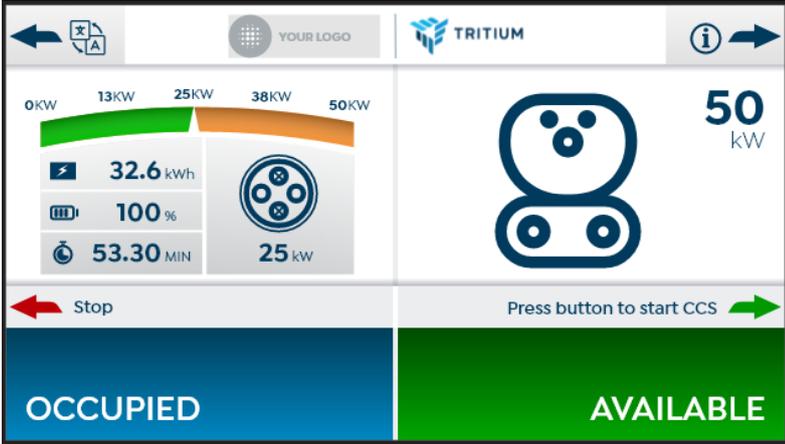
3.3 Charging Option B – Connect plug after payment authentication

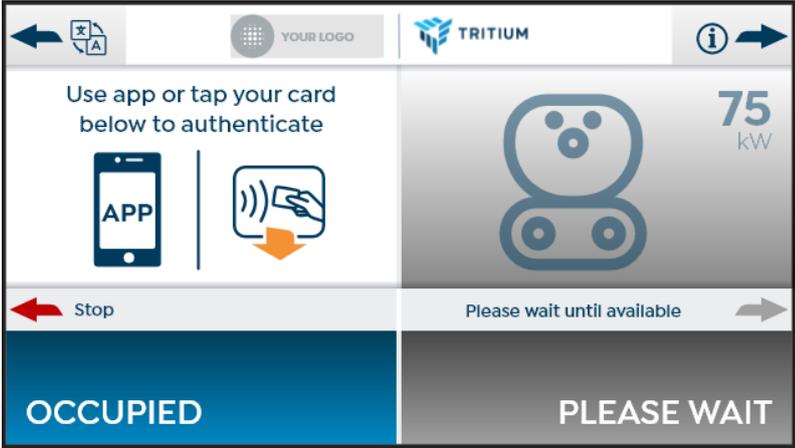
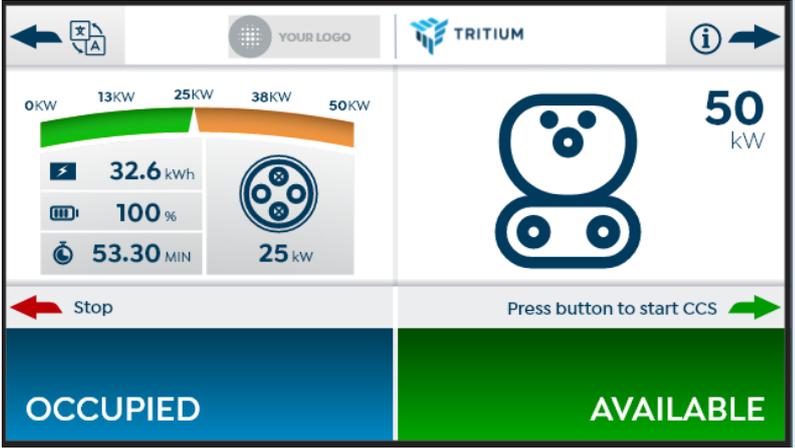
Note: For this manual, the RTM75 / PKM150CS charger display shows authentication icons (an APP and card swipe), which cover credit card, RFID card, NFC and mobile app authentication options. If these icons are not shown on your model, they are not available for use.

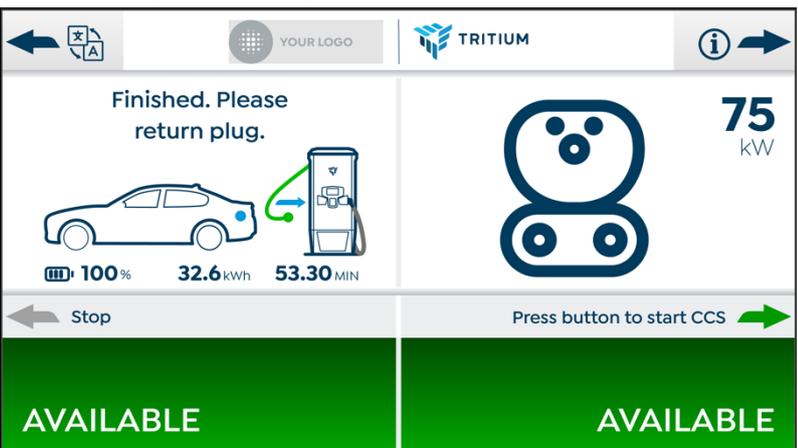
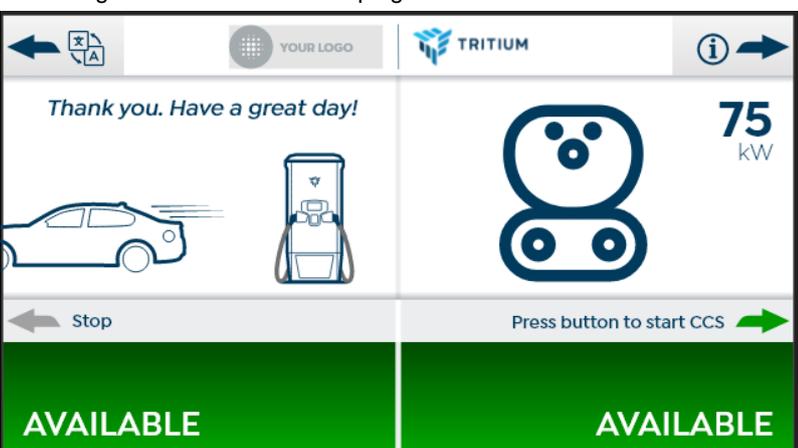
Step	Action
1	<p>Ready to use The following screen displays when the unit is available for use.</p>  <p>The screenshot shows a digital display interface for a charging station. At the top, there is a navigation bar with a back arrow, a logo placeholder 'YOUR LOGO', the 'TRITIUM' brand name, and an information icon. Below this, the display is split into two columns. The left column features a CHAdeMO charging icon, the power rating '63 kW', and a green bar at the bottom with the word 'AVAILABLE'. Below the icon, it says 'Press button to start CHAdeMO'. The right column features a CCS charging icon, the power rating '75 kW', and a green bar at the bottom with the word 'AVAILABLE'. Below the icon, it says 'Press button to start CCS'.</p>

Step	Action
2	<p>Authentication / payment</p> <p>When one of the two buttons is pressed to confirm which charging cable is required – in this example the left cable – authentication will be required. The second cable will be disabled until the charging session has successfully started or been terminated.</p> <p>Swipe your credit card, RFID card or NFC device over the payment terminal or use a mobile app to authenticate the charging session.</p>  <p>Upon successful payment, the authentication icons show a tick.</p> 

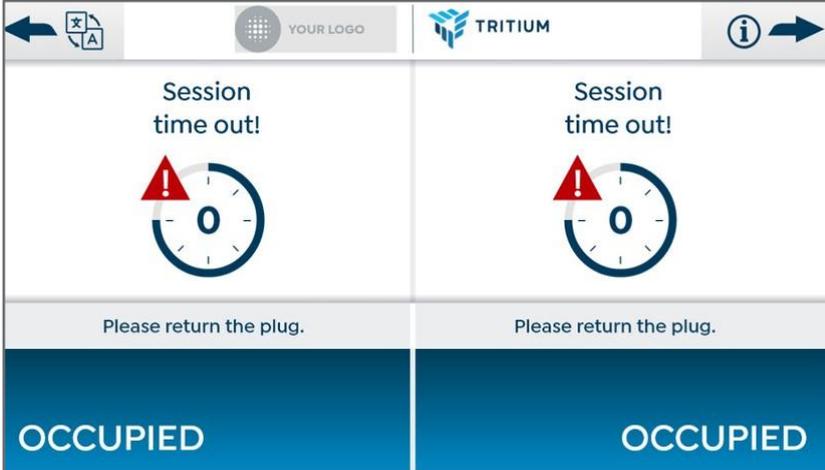
Step	Action
3	<p>Connect plug to car The following screen displays when the charging cable is ready to be connected to the vehicle.</p>  <p>The screenshot shows a mobile application interface for a charging station. At the top, there are navigation icons (back, home, forward) and a status bar with 'YOUR LOGO' and 'TRITIUM'. The main content area is split into two panels. The left panel displays the text 'Connect CHAdeMO plug to your vehicle' above an illustration of a car and a charging station with a green arrow indicating the connection. The right panel shows a large '75 kW' power rating next to a stylized car icon. At the bottom, there are two buttons: 'OCCUPIED' on the left and 'PLEASE WAIT' on the right. A 'Stop' button with a red arrow is also visible on the left side of the main content area.</p>
4	<p>Connected When the plug is connected to the car, the plug icon shows a tick.</p>  <p>The screenshot shows the same mobile application interface as in step 3. The left panel now displays 'Successful!' above the car and charging station illustration, with a large green checkmark overlaid on the car. The right panel remains the same with '75 kW' and the car icon. The 'OCCUPIED' and 'PLEASE WAIT' buttons are still present at the bottom.</p>
5	<p>Communication The charger checks the communication with the vehicle.</p>  <p>The screenshot shows the same mobile application interface. The left panel now displays 'Please wait. Communicating with vehicle' above the car and charging station illustration, with blue wavy lines representing communication signals between the car and the station. The right panel remains the same with '75 kW' and the car icon. The 'OCCUPIED' and 'PLEASE WAIT' buttons are still present at the bottom.</p>

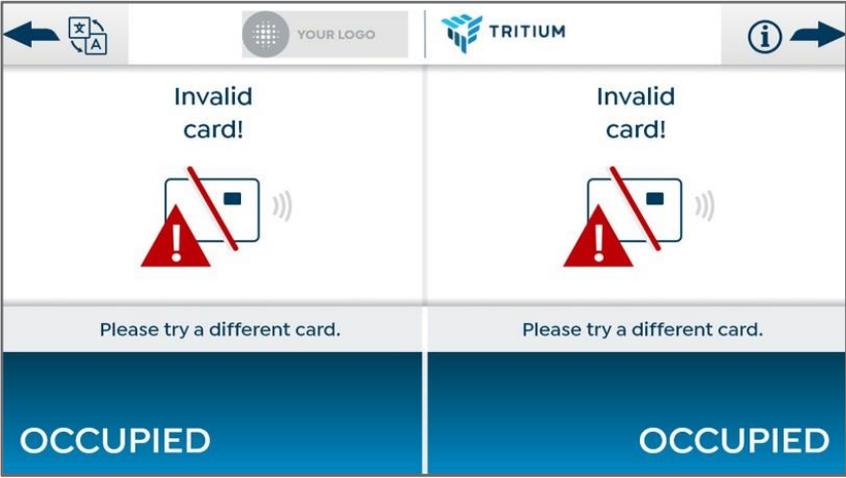
Step	Action
6	<p>Charge session The charger starts the charge session.</p>  <p>The charge session starts and the active session and arrow for the stop button are displayed. At this stage the second charging cable may be used.</p>  <p>By default, the charge session remains unlocked. The lock screen feature can be enabled by the charge point operator but can cause compatibility issues with mobile pay devices that use frequent credential rotation.</p> <p>If lock screen is enabled, to unlock the charge session, press the unlock button. Swipe your bank or RFID card over the payment terminal to unlock the session.</p>

Step	Action
	 <p>The charge session unlocks. The active session and the arrow for the stop button are displayed.</p> 

Step	Action
7	<p>Complete charge</p> <p>The charge session is automatically terminated when the maximum charge level of the electric vehicle is reached.</p> <p>To terminate the session at an earlier point, use the button that is aligned with the stop icon.</p>  <p>The return plug icon is highlighted.</p> 
8	<p>Return plug to charger</p> <p>The charger detects the returned plug.</p> 

4 Troubleshooting

Step	Action								
1	<p>Communication failed</p>  <table border="1"> <tr> <td>Alert</td> <td>"Communication failed!"</td> </tr> <tr> <td>Reason</td> <td>Possible communication failure between charger and vehicle.</td> </tr> <tr> <td>Result</td> <td>This session failed to start.</td> </tr> <tr> <td>User Action</td> <td>Return the plug to the charger and try again.</td> </tr> </table>	Alert	"Communication failed!"	Reason	Possible communication failure between charger and vehicle.	Result	This session failed to start.	User Action	Return the plug to the charger and try again.
Alert	"Communication failed!"								
Reason	Possible communication failure between charger and vehicle.								
Result	This session failed to start.								
User Action	Return the plug to the charger and try again.								
2	<p>Session time out</p>  <table border="1"> <tr> <td>Alert</td> <td>"Session time out!"</td> </tr> <tr> <td>Reason</td> <td>Session time out OR communication interruption. Session time out is triggered if there is no interaction received for 240 seconds.</td> </tr> <tr> <td>Result</td> <td>This session failed to start.</td> </tr> <tr> <td>User Action</td> <td>Return the plug to the charger and try again.</td> </tr> </table>	Alert	"Session time out!"	Reason	Session time out OR communication interruption. Session time out is triggered if there is no interaction received for 240 seconds.	Result	This session failed to start.	User Action	Return the plug to the charger and try again.
Alert	"Session time out!"								
Reason	Session time out OR communication interruption. Session time out is triggered if there is no interaction received for 240 seconds.								
Result	This session failed to start.								
User Action	Return the plug to the charger and try again.								

Step	Action								
3	<p data-bbox="343 286 478 320">Invalid card</p> <div data-bbox="343 362 1189 840" style="border: 1px solid black; padding: 10px;">  </div> <table border="1" data-bbox="343 846 1311 1176"> <tr> <td data-bbox="343 846 534 891">Alert</td> <td data-bbox="534 846 1311 891">"Invalid card!"</td> </tr> <tr> <td data-bbox="343 891 534 1086">Reasons</td> <td data-bbox="534 891 1311 1086"> <ul style="list-style-type: none"> • Invalid bank card or payment provider • Payment declined • No price settings in terminal configuration • RFID not enabled/network not accepted • Different card used from the original card used to authenticate • Incorrect card scan </td> </tr> <tr> <td data-bbox="343 1086 534 1131">Result</td> <td data-bbox="534 1086 1311 1131">This session failed to authenticate.</td> </tr> <tr> <td data-bbox="343 1131 534 1176">User Action</td> <td data-bbox="534 1131 1311 1176">Retry the card or use a different card or authentication option.</td> </tr> </table>	Alert	"Invalid card!"	Reasons	<ul style="list-style-type: none"> • Invalid bank card or payment provider • Payment declined • No price settings in terminal configuration • RFID not enabled/network not accepted • Different card used from the original card used to authenticate • Incorrect card scan 	Result	This session failed to authenticate.	User Action	Retry the card or use a different card or authentication option.
Alert	"Invalid card!"								
Reasons	<ul style="list-style-type: none"> • Invalid bank card or payment provider • Payment declined • No price settings in terminal configuration • RFID not enabled/network not accepted • Different card used from the original card used to authenticate • Incorrect card scan 								
Result	This session failed to authenticate.								
User Action	Retry the card or use a different card or authentication option.								

5 Emergency Stop (ESTOP)

When installed, the ESTOP button is located on the lower front panel of the charger.

Notes:

1. The ESTOP button is an optional extra that must be requested when ordering the charger.
2. It is possible your charger is not fitted with an ESTOP button.
3. It is possible the site has an ESTOP button installed remotely to the charging station.

In an emergency situation activate the ESTOP by pressing the button. Pressing the button will cut off power to the charge station. To reset the ESTOP after it has been activated, see [ESTOP Reset \(Authorized Personnel ONLY\)](#).



#	Description
1	ESTOP actuator protector
2	ESTOP button
3	Fan grill

5.1.1 ESTOP Reset (Authorized Personnel ONLY)

ESTOP reset and Charger restarting after an ESTOP event, must only be performed by authorized personnel.

Only an Authorized person should reset the ESTOP and this should happen after an investigation of the ESTOP event is complete to ensure the system is safe.