



Roof above Cable Management

Suitable for UFC 200 and UFC 500

Installation and Service Instruction

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1 Document management

1.1 Change history

Date	Document Version	Created	Approved	Changes

2 Safety



This chapter contains general safety information, specific safety instructions and precautions as well as information concerning personnel qualification and proper use of the product.

Before installing the Roof above Cable Management, review this manual carefully and consult with a licensed contractor and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.



2.1 General safety information

The following four risk levels and one information level are taken into account in this manual.



Danger

	DANGER
	Immediate pending danger Indicates an immediately pending danger that will result in death or serious injury if not avoided. <ul style="list-style-type: none">▶ Instruction 1 to avoid danger▶ Instruction 2 to avoid danger▶ Instruction n to avoid danger

Warning

	WARNING
	Potential pending danger Indicates a pending danger that could result in death or serious injury if not avoided. <ul style="list-style-type: none">▶ Instruction 1 to avoid danger▶ Instruction 2 to avoid danger▶ Instruction n to avoid danger

Caution

	CAUTION
	Potential pending danger Indicates a pending danger that could result in minor injuries if not avoided. <ul style="list-style-type: none">▶ Instruction 1 to avoid danger▶ Instruction 2 to avoid danger▶ Instruction n to avoid danger

Notice

NOTICE

Danger of damage to property

Indicates potential for damage to property. Is used to highlight actions that are not associated with personal injury.

- ▶ Instruction 1 to avoid damage to property
- ▶ Instruction 2 to avoid damage to property
- ▶ Instruction n to avoid damage to property

Noten



Notes indicate important information about the product in the context of the manual.

- ▶ Info 1
- ▶ Info 2
- ▶ Info n

The safety instructions are supplemented by warning pictographs indicating the source and type of danger.

2.2 Safety instructions

All safety instructions in this manual are based on the results of the risk assessment carried out in accordance with the Machinery Directive 2006/42/EC Annex I and EN ISO 12100. Where applicable, the life cycle phases of the product were taken into account.



WARNING



Injury through suspended load or lifting equipment

Persons in the vicinity of the installation site immediately before the Roof above Cable Management being installed can be injured by lifting equipment or suspended loads.

- ▶ Secure the installation site against unauthorised access.



WARNING



Injuries from swinging load

Risk of injury through Roof above Cable Management swinging while suspended. Through swinging, the danger zone increases.

- ▶ Pay attention.
- ▶ Keep the escape zone clear.



WARNING



Squeezing or crushing of hands

During installation of the Roof above Cable Management on the charger, hands can be squeezed or crushed.

- ▶ Pay attention.
- ▶ Do not reach between Roof above Cable Management until the Roof above Cable Management is securely in position.



WARNING



Injury from falling objects

Risk of injury through Roof above Cable Management falling during setup.

- ▶ Do not stand under lifted loads.
- ▶ Use appropriate hoisting gear.
- ▶ If necessary, secure mechanically whilst lowering.



CAUTION



Tripping over charging cable

Charging cables pose a trip hazard.

- ▶ Secure cables when they are not in use.
- ▶ Pay attention during charging.



CAUTION



Risk of cutting

Risk of cutting hands on Roof above Cable Management enclosure during unpacking and installation.

- ▶ Wear protective gloves.



CAUTION



Injuries through being struck by falling objects

Loose equipment or quickly deposited tools may fall and cause injury.

- ▶ Ensure that you have enough room to carry out your work.
- ▶ Put tools away securely.
- ▶ Keep the workplace tidy.

3 About this manual

3.1 Validity

This instruction regards first commercial version of Roof above Cable Management which is intended to guide you through the tasks of installation and service on UFC 200 and UFC 500.



Read this manual before conducting works on Roof above Cable Management.

Follow all safety instructions in [Delta UFC 200 and UFC 500 Maintenance Manual](#) and working instructions in this manual.

3.1.1 Hardware version

This manual covers Roof above Cable Management

Hardware version

The hardware version code provides information about the charger and the available connectors

PN	Part description	Applicable for UFC 200 and UFC 500 chargers
3924342300	ROOF ABOVE CM WITH PACKING ASSY	UFC 500 and UFC 200

Table 1: Hardware version

Abbreviations: Roof above CM= Roof above Cable Management

The Roof above Cable Management does not fit with any other charger platform from Delta. It is also not possible to apply it on UFC 200/UFC 500, where the roof area is already used to attach other elements e.g. additional lightning, weather protection roof etc. Roof above Cable Management only fits chargers equipped with Status Light Roof and Cable Management System.

3.2 Target groups

This manual is intended for personnel performing Roof above Cable Management installation on the UFC 200 or UFC 500. Before conducting upgrade tasks on the UFC, review UFC Maintenance Manual and this manual carefully and consult with a licensed contractor, licensed electrician and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.

3.3 Conventions

In this manual, the different types of content are presented differently.

3.3.1 Instructions in the text

Instructions in the text include safety instructions, notes, tasks in sequence and unordered lists of items or tasks.

Safety instructions

Safety instructions are covered in document "[Delta UFC 200 Maintenance Manual](#)" and "[Delta UFC 500 Maintenance Manual](#)".

Task instructions

Each step of a task is indicated by an individual step. Individual tasks are separated by blue bars, the tasks are numbered in sequence. Numbered tasks must be conducted in the order shown.

[image]	Task 1
[image]	Task 2
[image]	Task n

The task is completed.

Images and information

When information is provided together with an image these blocks are separated by black bars.

[image]	Information
[image]	Information
[image]	Information

Lists

In unordered list the content is displayed with triangles which mark individual items.

- ▶ Item 1
- ▶ Item 2
- ▶ Item n

4 Product description

Roof above Cable Management is a product which goal is to protect Cable Management System from weather conditions such as snow and rain. Roof above CM is shown on the following graph:

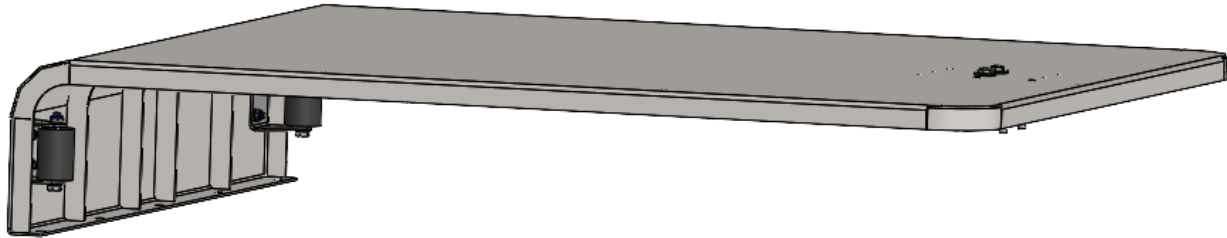


Figure 1 -Roof above Cable Management

In the table below, the main points concerning the Roof above CM device are presented:

Category	Value	Unit
Weight	16,4	[Kg]
Width	760	[mm]
Length	835,8	[mm]
Height	151,6	[mm]

Table 3: Main dimensions

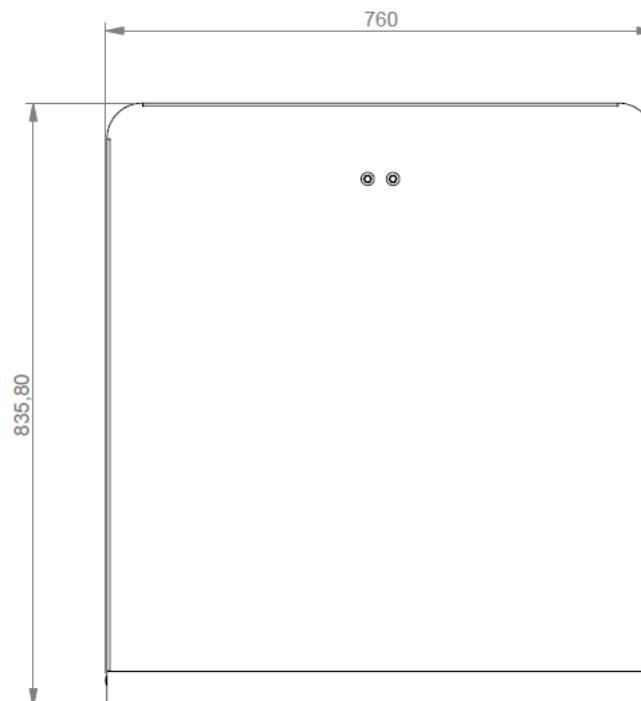


Figure 2 – Roof above CM dimensions Width x Length

Product description

Conventions

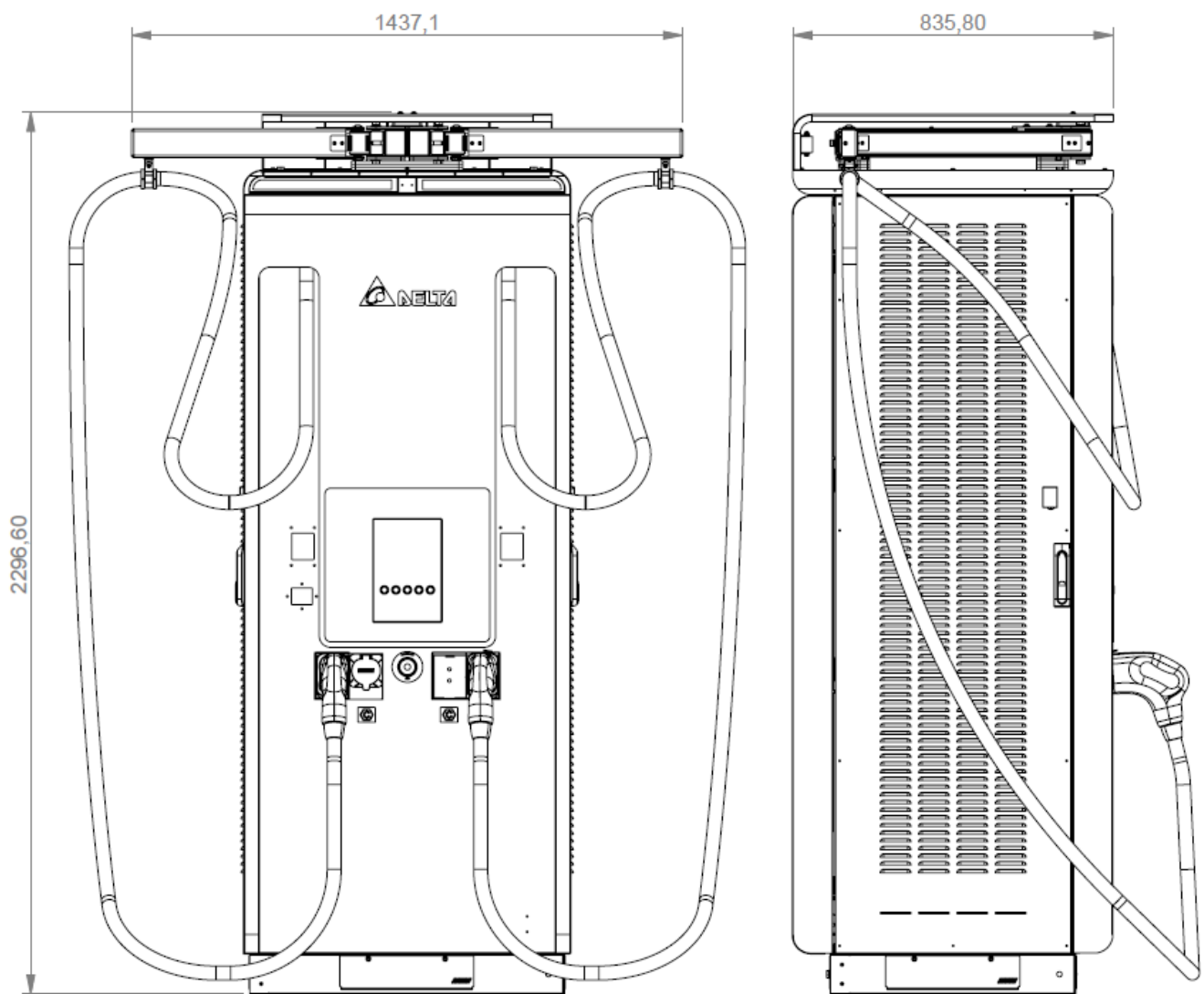


Figure 3 – Roof above CM dimensions on UFC200/UFC500

5 Packing and delivery

One Roof above CM set will be delivered on a pallet containing 5 to 14 Roof above CM units in different cardboards. This is illustrated in the photo below.



Figure 4 - Stacked 5 sets of Roof above CM

5.1.1 Package contents

The package (SL Roof + PACKING) containing items shown in table below:

<i>PART NUMBER</i>	<i>DESCRIPTION</i>	<i>QTY</i>
3924324300	ROOF ABOVE CM PACKING	1 pc.
3902627200	ROOF ABOVE CM ASSY	1 pc.

Table 4: Packing – item numbers and quantity.

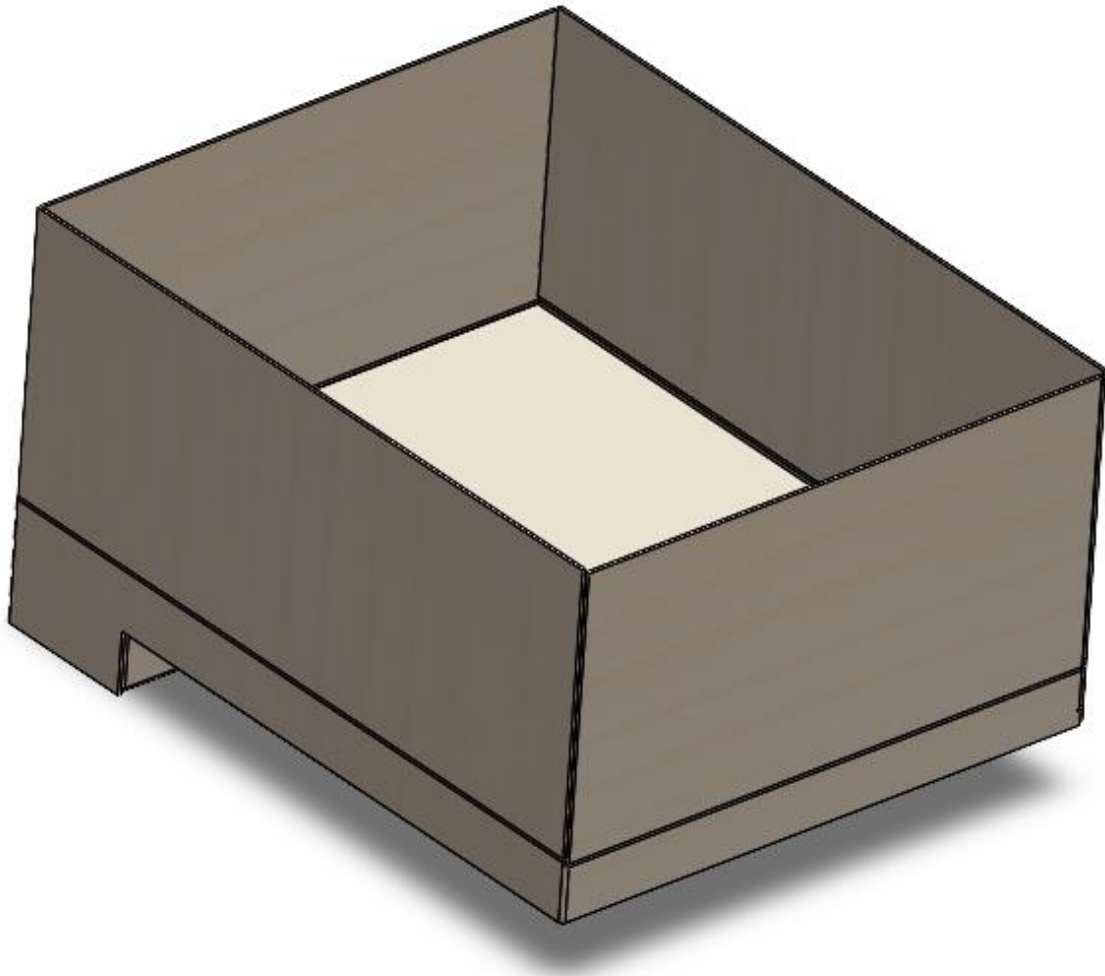


Figure 5 - Packing solution

5.1.2 Unpacking

The following steps outline the tasks to be performed in order to safely unpack the Roof above CM:

- Place cardboard with Roof above CM in place with easy access for 2 people.
- Cut the top tape to open the carton.
- Cut open the side walls of the carton and then remove the outer filling and accessories.
- Remove the Roof above CM from the cardboard.

6 Preparation of the charger and space

To mount the Roof above CM to the UFC 200 and UFC 500, the space around the charger and the charger itself must be prepared accordingly. Roof above CM can only be mounted on the chargers equipped with the Roof with Status Light and Cable Management System.

The points that need to be made are outlined below:

- Remove the screws together with the washers marked with the red arrows.

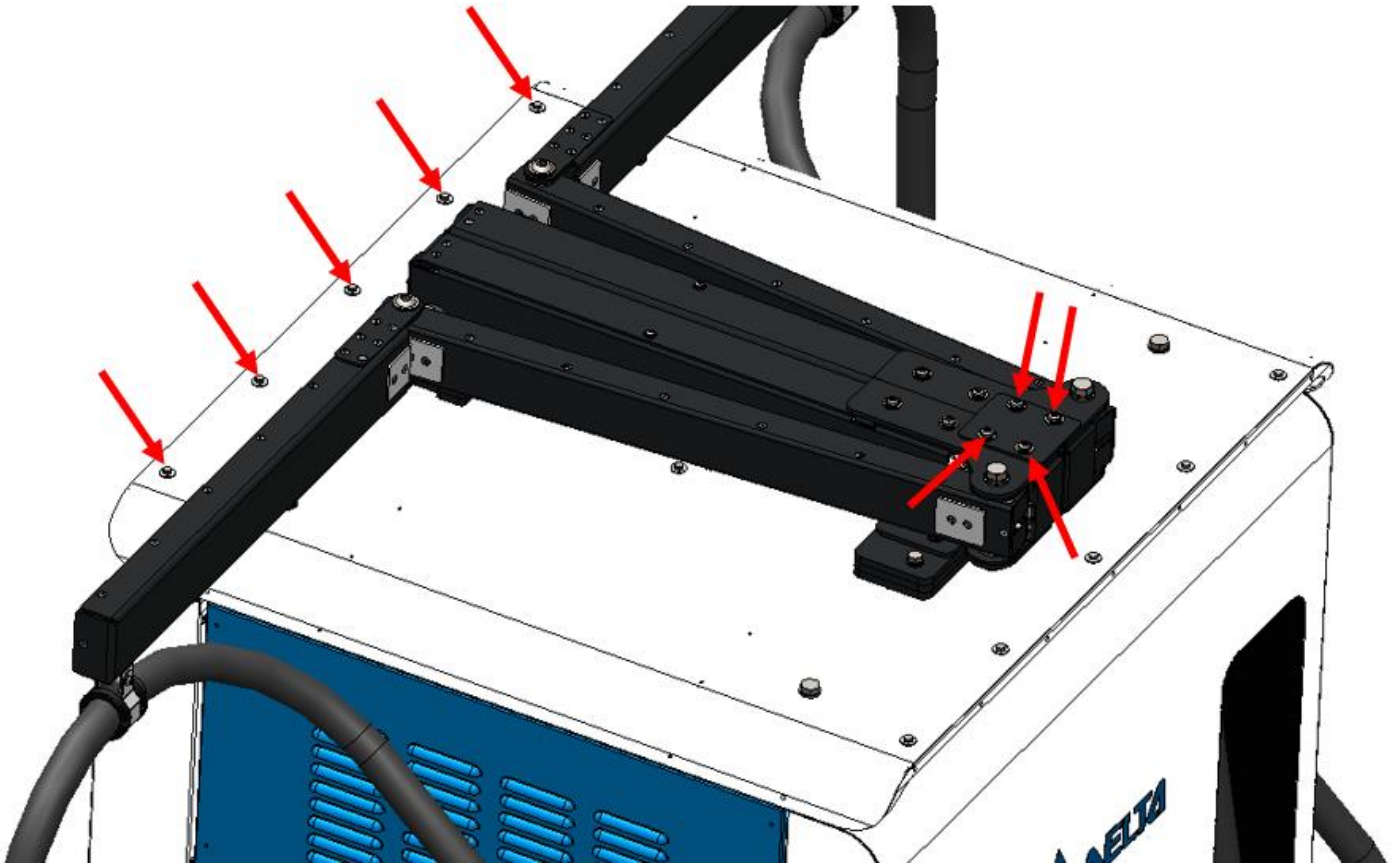


Figure 6 - Screws and washers removal process

- Clean the roof of the charger of any debris such as dirt, dust, water.

After installation/service

After installing the system, leave the charger clean. Dispose of any waste in a suitable waste container. During and after servicing operations, any soiling, e.g. with grease, must be cleaned up.

7 Assembly instruction

This chapter covers the installation of Roof above CM to the UFC 200 or UFC 500.

7.1 Requirements and restrictions:

- Installation must be performed by 2 persons
- Do not perform any tasks that are not listed in the manual.

7.2 Tools preparation

To perform the upgrade, following tools must be available

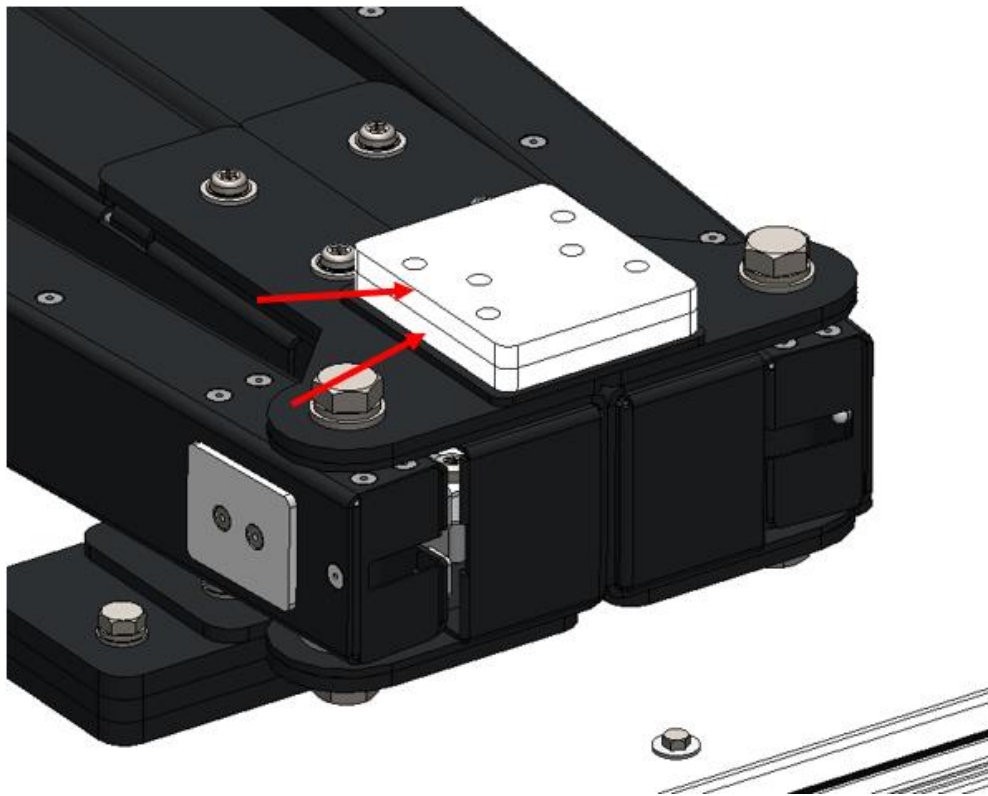
- ▶ Torque wrench 2-100Nm
- ▶ Hexagonal socket wrench key 8 mm
- ▶ Hexagonal socket wrench key 10 mm
- ▶ Screwdriver bit TX T30
- ▶ Allen Screwdriver 4mm
- ▶ Ladder
- ▶ Safety helmet
- ▶ Protective gloves
- ▶ Safety shoes

7.3 Installation instruction

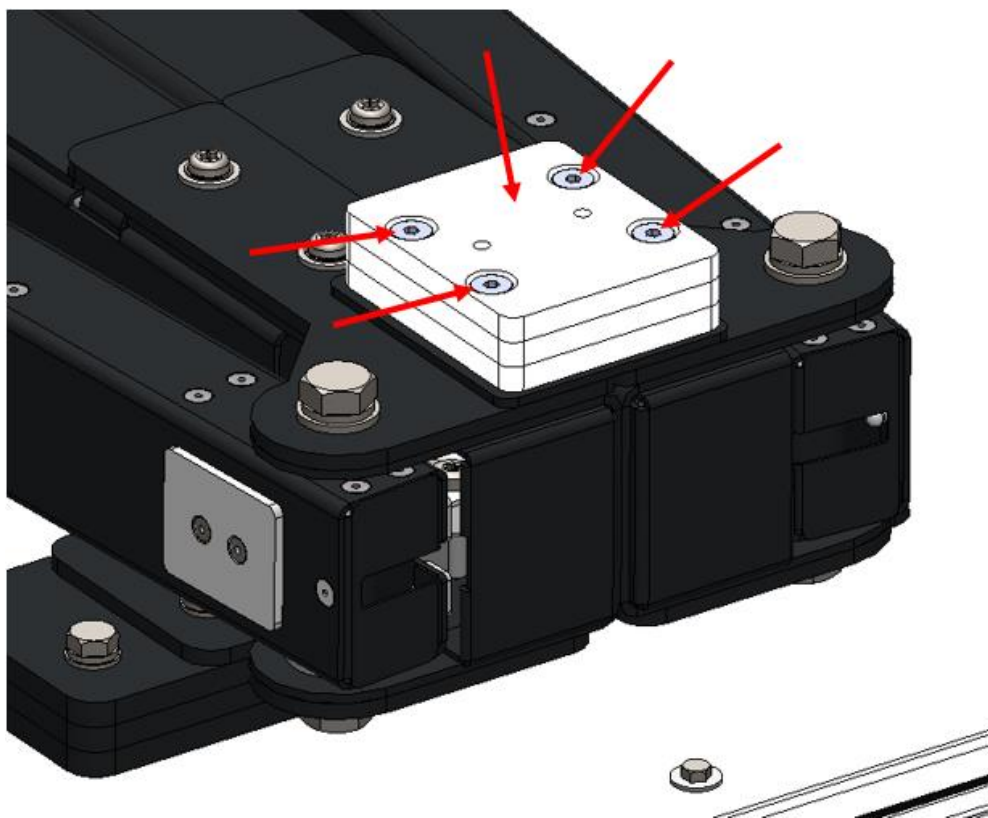
This part will lead through Roof above CM structure assembly, then its installation and finally connection with cables.

7.3.1 Structure assembly

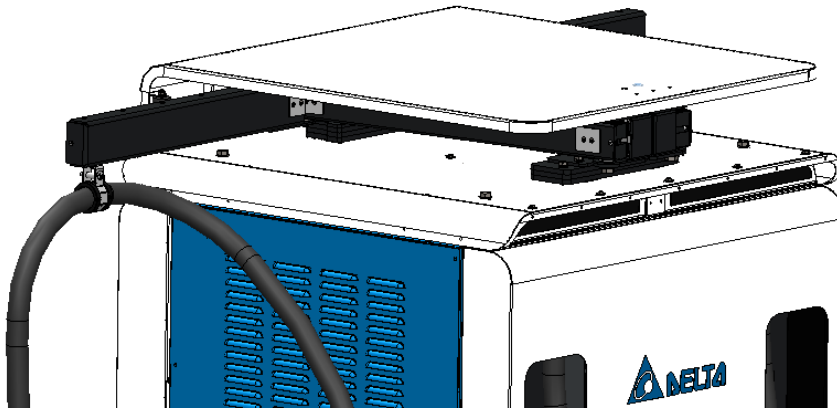
First part will be focused on assembly of Roof above CM construction. To mount the roof above CM, use parts which are included in the LDPE BAG.



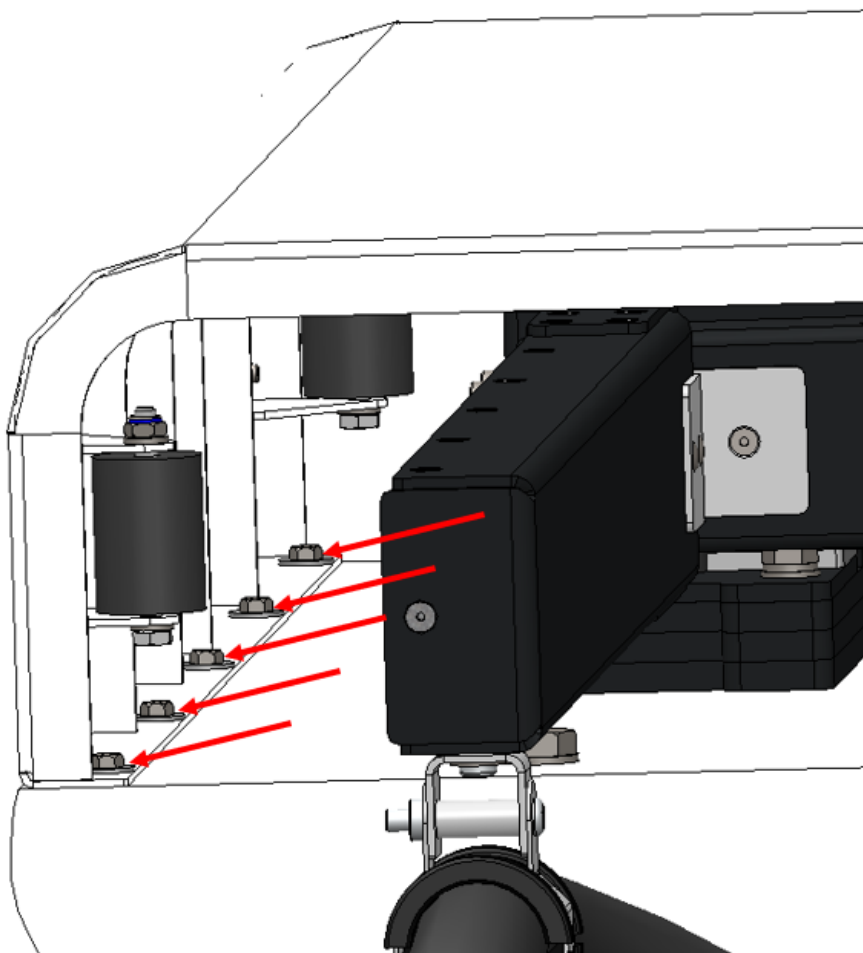
- 1 Place 2 distance spacers (without countersink) and align them with the holes.



- 2 Place the last distance spacer (with countersink), align it with the holes and screwed in with 4pcs. of countersunk screws ISO 10642 M6x40 using torque 7 Nm.



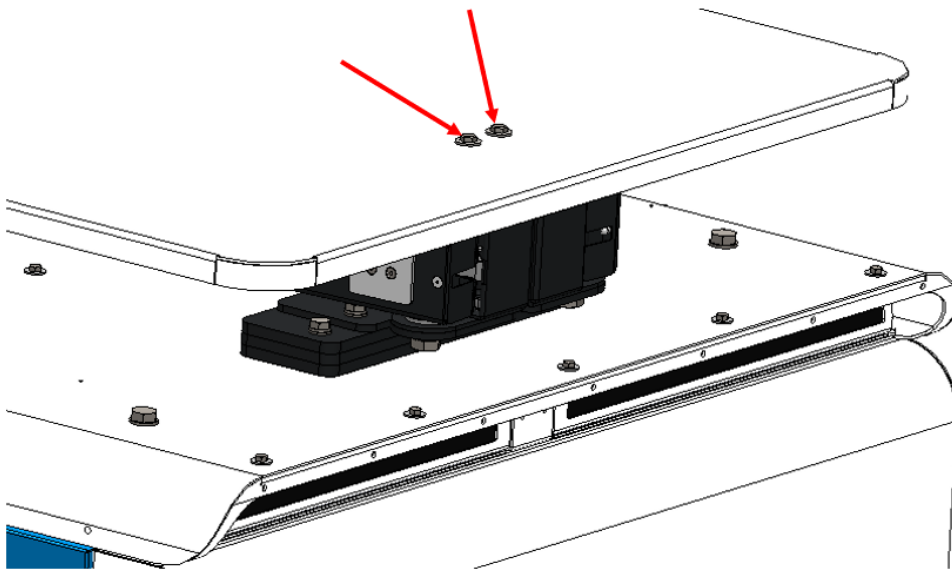
- 3 Using 2 people and a ladder, place the roof on the Roof with Status Light.



- 4 Tighten the screws in the rear part of the roof. Use the same screws and washers that were dismantled in the chapter 6. (Preparation of the charger and space).

Assembly instruction

Installation instruction



- 5 Tighten the screws on the top surface of the Roof above CM using 2pcs. of screws ISO 4017 M6x20 and 2pcs. of flat washers ISO 7089 M6 with 7 Nm torque.



WARNING



Injury through suspended load or lifting equipment

Persons in the vicinity of the installation site immediately before the Roof above CM being installed can be injured by lifting equipment or suspended loads.

- ▶ Secure the installation site against unauthorised access.



WARNING



Squeezing or crushing of hands

During installation of the Roof above CM on the charger, hands can be squeezed or crushed between Roof above CM and Roof with status light and Cable Management System.

- ▶ Pay attention.
- ▶ Do not reach between Roof above CM until the Roof above CM is securely in position.



WARNING



Injury from falling objects

Risk of injury through SL Roof falling during setup.

- ▶ Do not stand under lifted loads.
- ▶ Use appropriate hoisting gear.
- ▶ If necessary, secure mechanically whilst lowering.

8 Restrictions and guidelines for use

8.1 Restrictions

- ▶ Avoid installing the system near heat sources that may affect the internal temperature of the system. High temperature can affect system performance and security.
- ▶ Do not hang up on the Roof above CM structure as this may damage it and cause it to malfunction and additional damage may be caused to the charger.
- ▶ It's forbidden to mount extra equipment on the Roof above CM.

8.2 Guidelines

- ▶ Mount the Roof above CM by following the steps in the instructions .
- ▶ At each periodic inspection of the charger, check the status of the system to make sure it is working properly and without damage. Repair immediately if there is any damage.
- ▶ Use the system only for its intended purpose Do not use it for other purposes that may damage it.



Delta-Servicekontakte

EVCS.Service@deltaww.com

Delta Electronics (Netherlands) BV

Zandsteen 15, 2132 MZ Hoofddorp,

Tel.: +31 20 655-0900

Evcs.emea@deltaww.com

Emobility.delta-emea.com

Über Delta

Delta wurde 1971 gegründet und ist ein weltweit führender Anbieter von Lösungen für das Energie- und Wärmemanagement. Wir wollen innovative, saubere und energieeffiziente Lösungen für eine bessere Zukunft bereitstellen und sind in unter anderem in den Bereichen Leistungselektronik, Energiemanagement und Smart Green Life tätig. Delta verfügt über Vertriebsniederlassungen, Fertigungsstätten sowie Forschungs- und Entwicklungszentren auf der ganzen Welt. Im Jahr 2014 rangierte Delta auf der höchsten Klassifizierungsebene A des Climate Performance Leadership Index des Carbon Disclosure Project (CDP). Seit 2011 ist Delta Teil des Dow Jones Sustainability Indices (DJSI) World Index.