

ModuREX

Installation and maintenance manual

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1 About this manual

This manual provides instructions for the safe handling, installation, inspection, and maintenance of the ModuREX Core system (hereinafter “the product”).

The instructions in this manual apply to the mechanical installation and general product maintenance. Electrical installation work is outside the scope of this document. Electrical work must follow the documentation of the EV charger and any other electrical devices installed on the ModuREX Core system, as well as applicable local electrical installation requirements and standards.

The products must only be installed and serviced as described in this manual. Any use outside the described scope is considered improper use.

The document is intended for installers, service personnel, and project stakeholders responsible for selecting the mounting method and ensuring compliance with applicable local regulations.

Product – ModuREX Core Pedestal

Installer – Person or organization responsible for mechanical installation

Qualified electrician – Person authorized to perform electrical work according to local regulations

Fasteners – Bolts, screws, washers, anchors supplied or specified for installation

1.1 Manufacturer

Modurex Systems OÜ

Kadaka tee 191c-28, Haabersti, 12620 Tallinn, Estonia

info@modurex.eu

2 Safety information

Work must be planned and performed in accordance with applicable local regulations and site safety rules. The installation area must be secured to prevent unauthorized access.

Appropriate PPE must be used as required by the worksite (e.g., safety shoes, gloves, eye protection).

The product must be handled carefully to prevent deformation, surface damage, or coating scratches.

Lifting and positioning must be performed using safe manual handling practices or suitable lifting aids.

WARNING!

Appropriate PPE must be used as required by the worksite and applicable safety regulations. Safety footwear, protective gloves and eye protection must be used as a minimum during installation and service work.

Hands and fingers must be kept clear of pinch points during alignment, fastening, and hatch operation. Cut-resistant gloves must be used if necessary.

WARNING!

Keep hands clear of pinch points when positioning and fastening the product. Use safe lifting practices and suitable lifting aids where required.

Solvents and abrasive cleaning agents must not be used.

Only mild, non-abrasive detergents should be used for routine cleaning.

WARNING!

Electrical work must only be carried out by a qualified and authorized electrician.

3 Product overview

The product is intended to provide a mechanical mounting structure for EV charging equipment and related accessories as specified by the installation project configuration.

The product is supplied in different variants: Core Basic, Core Pro, Core Pro Rail, Core Pro 60, Core Pro 60 Rail. Variant selection is based on the required internal mounting solution and service needs.

Feature / Model	DIN rail mount	Service access	Core Schuko
Core Basic	No	Standard	No
Core Pro	No*	Extended	Yes*
Core Pro Rail	Yes	Extended	Yes*
Core Pro 60	No*	Extended	Yes*
Core Pro 60 Rail	Yes	Extended	Yes*

* - Optional accessory

Table 1 – Product model comparison

Product identification label is provided on the packaging. Record the identification information before disposing of the packaging (e.g., take a photo or store the label copy with the installation project documentation). The identification data should be available for service and spare parts ordering.

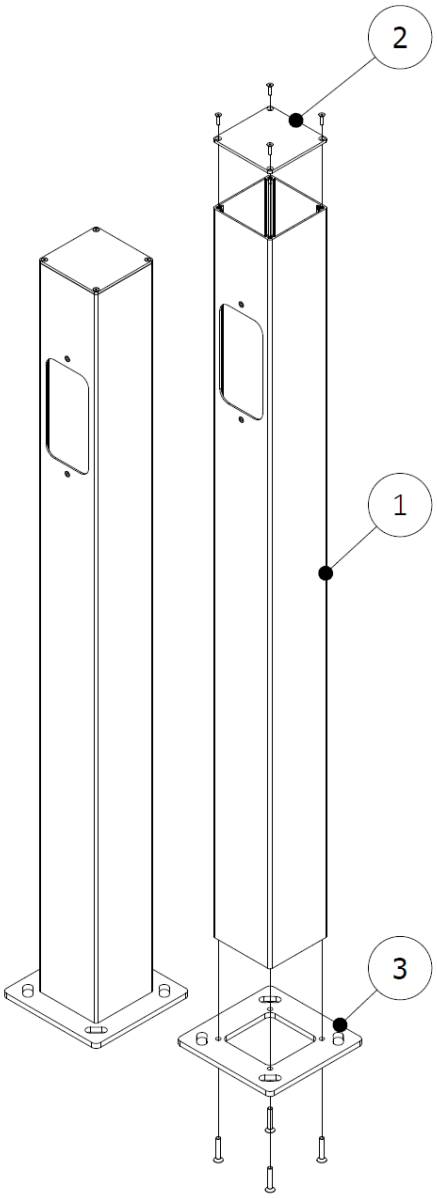


Figure 1 – Core Basic

1	Core
2	Top plate
3	Base plate

Table 2 – Parts of the Core Basic

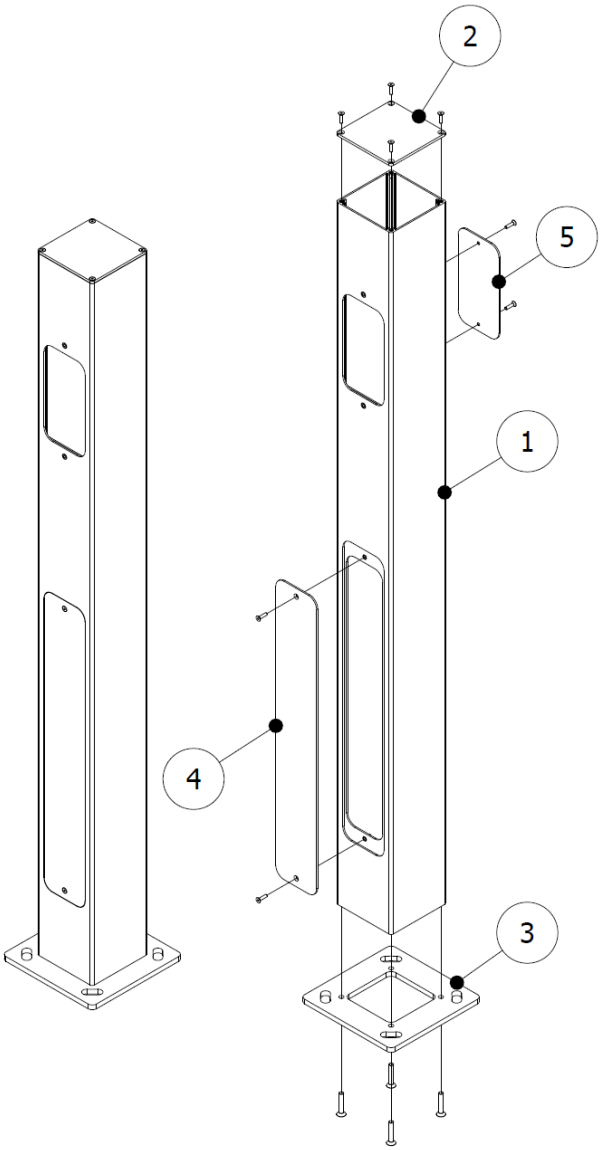


Figure 2 – Core Pro

1	Core
2	Top plate
3	Base plate
4	Service door
5	Product door

Table 3 – Parts of the Core Pro

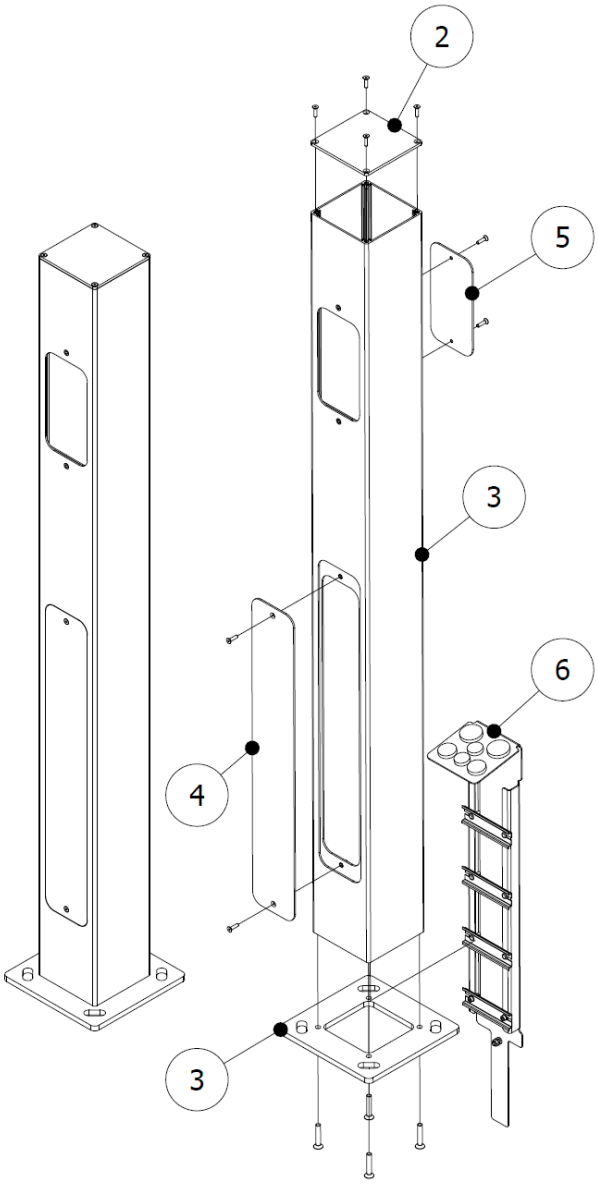


Figure 3 – Core Pro Rail

1	Core
2	Top plate
3	Base plate
4	Service door
5	Product door
6	DIN rail

Table 4 – Parts of the Core Pro Rail

3.1 Dimensions

Dimensions of the product and base plate are brought out below:

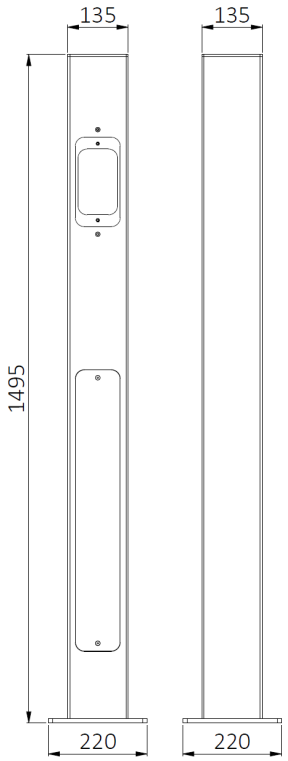


Figure 4 – Dimensions of the product

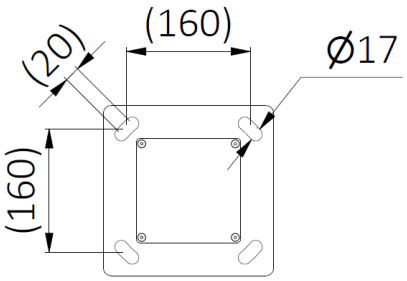


Figure 5 – Dimensions of the Base plate

3.2 Materials and finish

Main structure (Core): Aluminium

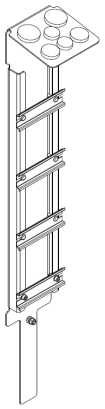
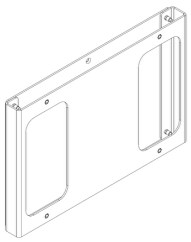
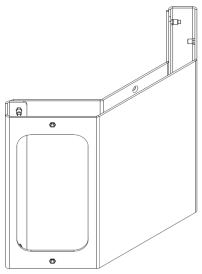
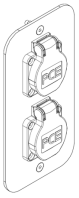
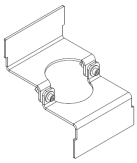
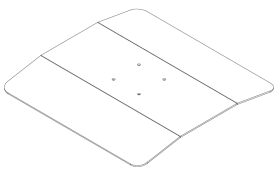
Aluminium parts finish: Powder coated, colour RAL 9005

Core Groundbase: Galvanized steel

DIN rail mount: Stainless steel

3.3 Additional extras

The product can be ordered with multiple additional extras.

Product	Picture
Core Cable Hook Universal	
DIN mount	
Core Expand (side by side)	
Core Expand (angled, 45 degrees)	
Core Schuko	
Core 60 Adapter (60 mm pole adapter)	
Core Roof Universal	

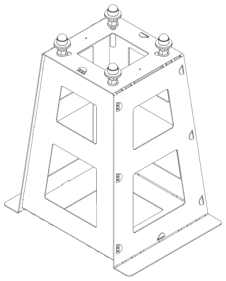
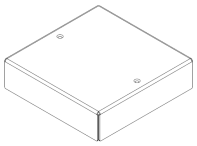
Product	Picture
Core Groundbase	
Core Ready	

Table 5 – List of additional extras

3.3.1 DIN mount rail

The product may be supplied with an internal DIN rail mounting provision for installing auxiliary DIN-rail devices (e.g., modular protection devices), as specified by the project configuration.

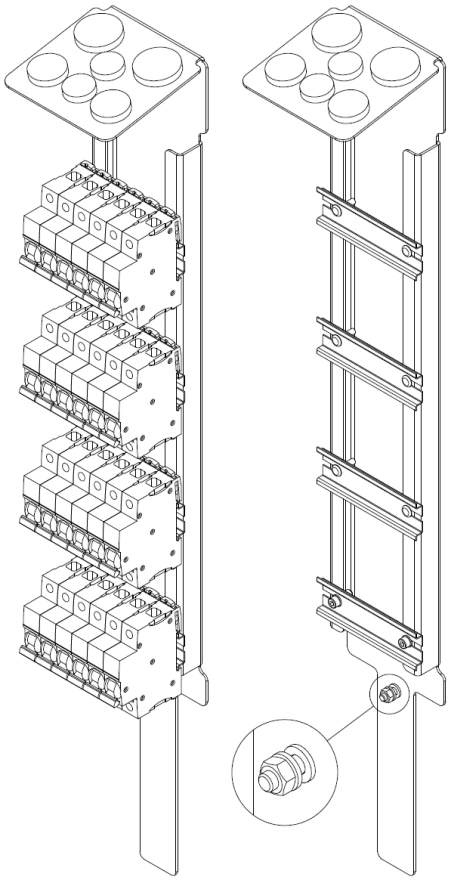


Figure 6 – DIN mount rail

DIN rail arrangement: 4 rows.

Usable width per row: up to 6 DIN modules (TE) (typ.).

Maximum capacity: up to 24 DIN modules (TE) in total (4×6), depending on device width and required clearances.

Only components specified for the project configuration may be installed. Installed devices must not obstruct cable routing, service hatch operation or required clearances.

Cable entry grommets are provided in the top plate for cable routing. Select grommets according to the cable outer diameter and use one cable per opening.

WARNING!

Electrical work must only be carried out by a qualified and authorized electrician.

If the DIN mount rail is installed, a dedicated PE bonding point is provided on the DIN rail mounting frame. The bonding point is a welded M8 stainless steel (A2) threaded stud for connecting a protective earth/bonding conductor.

Use a suitable ring terminal with an M8 hole. The stud nut should be tightened to 10 Nm (as per Table 9) unless specified otherwise by the electrical installation requirements or project documentation.

3.3.2 Grommets

Cable entry grommets are provided to route cables into the product and between internal mounting areas. Grommets protect the cable outer sheath from sharp edges and provide basic strain relief. Use only the specified openings and grommet sizes.

Grommets are supplied with the following assemblies (depending on configuration):

- **DIN rail mount:**
  - 2 x Ø20
  - 2 x Ø25
  - 2 x Ø32

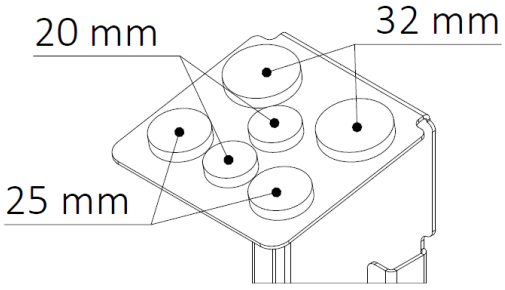


Figure 7 – DIN mount grommets

- **EV charger mounting bracket (Core Fit):**
  - 1 x Ø20
  - 1 x Ø32

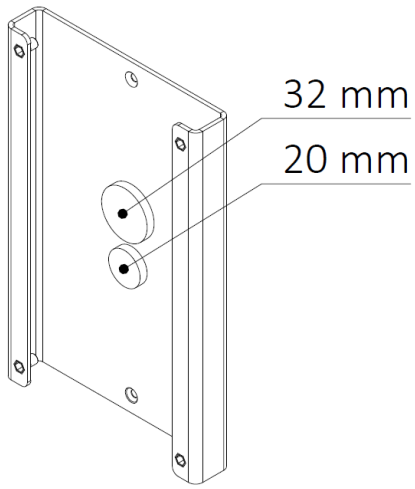


Figure 8 – Core Fit bracket

The panel hole diameter defines the mounting hole for the grommet. The grommet type (GET) indicates the recommended cable outer diameter range.

- Ø32 mm: grommet GET 14-20 (cable Ø 14–20 mm).
- Ø25 mm: grommet GET 10-14 (cable Ø 10–14 mm).
- Ø20 mm: grommet GET 7-10 (cable Ø 7–10 mm).

Installation and use:

- Select the grommet according to the cable outer diameter.
- Route one cable with an outer sheath per grommet opening as a general rule.
- Do not force cables through a grommet. The grommet must remain correctly seated and the cable sheath must not be damaged.
- If multiple cables are required, use separate grommet openings.
- Replace damaged or missing grommets before installing cables.

WARNING!

Damaged cables may cause electric shock or fire. Do not route cables over sharp edges, do not pinch cables, and replace damaged grommets before use.

3.4 Variants

The EV charger can be installed in three different ways. Each type of charger comes with its own mounting bracket (Core Fit). One charger can be directly mounted via the Core Fit bracket. For installing two chargers, the Core Expand adapter bracket must be used. Two chargers can be mounted side by side or at a 45-degree angle. Mounting variants are shown below.

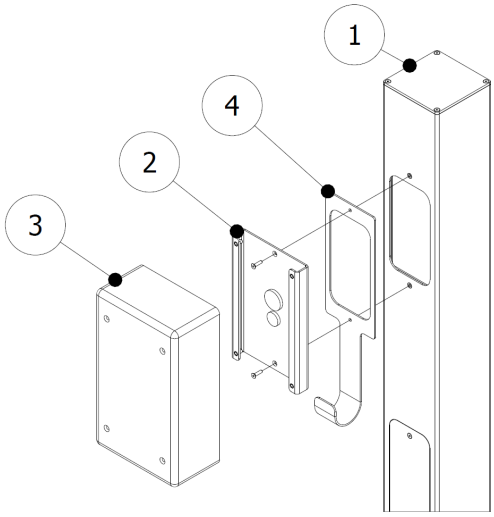


Figure 9 – Mounting one charger

1	Core
2	Core Fit
3	EV Charger
4*	Core Cable Hook, Universal

* - Optional

Table 6 – Parts for mounting one charger

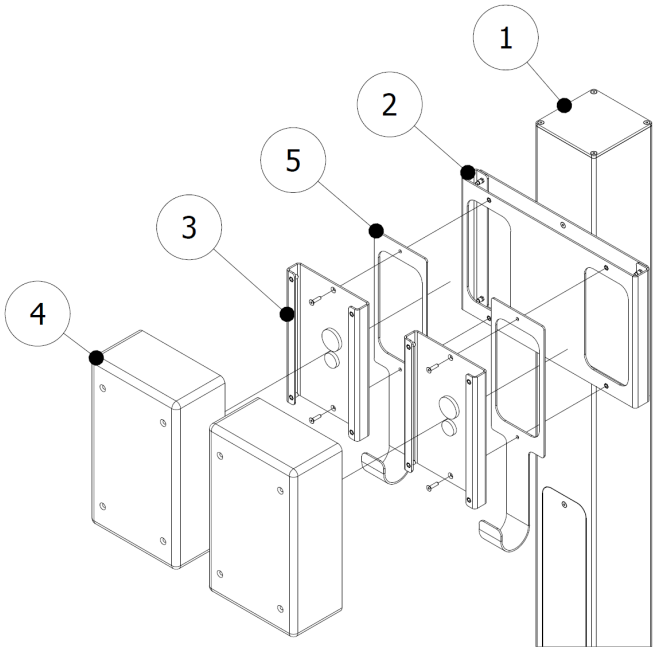


Figure 10 – Mounting two chargers side by side using the Core Expansion bracket

1	Core
2	Core Expand, side by side
3	Core Fit
4	EV Charger
5*	Core Cable Hook, Universal

* - Optional

Table 7 – Parts for mounting two chargers side by side using the Core Expansion bracket

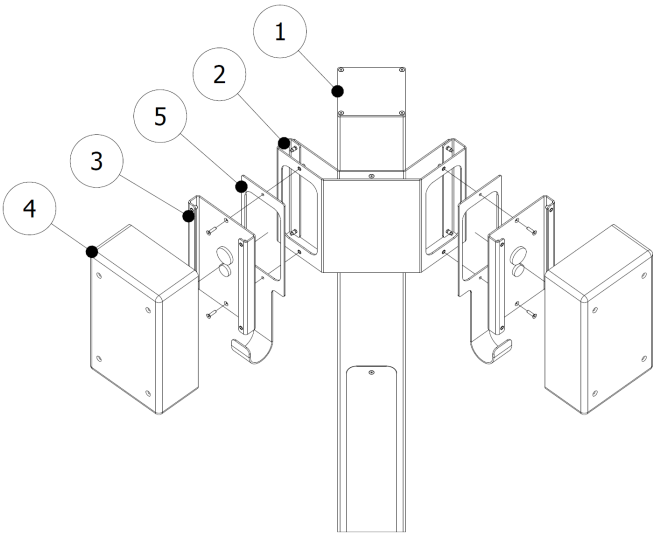


Figure 11 – Mounting two chargers at 45 degrees using the Core Expansion bracket

1	Core
2	Core Expand (angled, 45 degrees)
3	Core Fit
4	EV Charger
5*	Core Cable Hook, Universal

* - Optional

Table 8 – Parts for mounting two chargers at 45 degrees using the Core Expansion bracket

4 Regulatory and compliance information

The product must be installed and used in accordance with applicable local laws, regulations and relevant standards.

Responsibility boundaries:

- The manufacturer is responsible for the mechanical product specification as delivered.
- The installer is responsible for site selection, foundation/anchoring type, electrical installation, and compliance verification.
- Charger-specific requirements (clearances, torque, cable routing, sealing) must be followed according to the EV charger manufacturer documentation, unless otherwise validated by the manufacturer (ModuREX).

5 Installation

The product can be installed using different mounting options depending on the foundation type and site conditions. This chapter provides instructions for each option and defines the key checks required to ensure stability, correct alignment, service access and drainage. Anchor selection, foundation type and electrical work must follow the project specification and applicable local requirements.

5.1 Installation requirements

Site requirements:

- The mounting surface/foundation must be structurally adequate for the expected loads and environmental conditions.
- Sufficient clearance must be provided for charger operation, connector handling, and service access (including service door opening).
- Drainage must be ensured to prevent standing water at the base.

Positioning and levelling:

- Position the product according to the project layout drawings.
- Ensure the product is levelled before final tightening.
- Confirm that the service door can be opened fully without obstruction.

Grounding:

- A PE bonding point is provided only with the DIN rail option (welded M6 stud; use an M6 ring terminal). Otherwise, PE bonding must follow the project specification and the EV charger manufacturer documentation.
- The final grounding method and conductor sizing must be determined by a qualified electrician.

5.2 Tools and fasteners

Required tools (installation):

- Torque wrench (range covering specified torques).
- Hex/Allen keys as required by supplied fasteners.
- Spanners/sockets as required by anchor bolts.
- Level and measuring tape (positioning & clearance checks).
- Drill and drill bits (anchoring).

Required tools (maintenance):

- Torque wrench
- Non-abrasive cleaning equipment (soft cloth, mild detergent).

Tool sizes must be verified against the supplied hardware before installation.

Tightening torque must follow the project specification and the fastener/anchor manufacturer instructions. When stainless steel fasteners are used, suitable anti-seize may be required to prevent galling. If lubrication is used, tightening torque must be adjusted accordingly.

Torque values listed in this manual apply to dry threads (no lubrication, no anti-seize) and are provided as typical values. Tightening torque must not exceed the limit of the specified fastener property class. If the project documentation, anchor manufacturer instructions or device manufacturer requirements specify otherwise, those requirements must be followed.

<table>
<tr><th>Location</th><th>Fastener</th><th>Tool</th><th>Tool Size</th><th>Torque</th></tr>
<tr><td>Anchor/stud Core Groundbase</td><td>M12 Hex nut (A2-70)</td><td rowspan="2">Socket or Spanner</td><td>19</td><td>60 Nm</td></tr>
<tr><td>DIN rail (PE stud)</td><td>M8 Hex nut (A2-70)</td><td>10</td><td>10 Nm</td></tr>
<tr><td>Base plate</td><td>M8 Allen bolt (A2-70)</td><td rowspan="4">Allen key</td><td>6</td><td>25 Nm</td></tr>
<tr><td>DIN rail</td><td>M5 Allen bolt (A2-70)</td><td rowspan="3">4</td><td>5 Nm</td></tr>
<tr><td>Core Service door and Product door</td><td rowspan="2">M5 Allen bolt (A2-50)</td><td rowspan="2">4 Nm</td></tr>
<tr><td>Core Fit and Core Expansion</td></tr>
</table>

Table 9 – Fasteners

5.3 Installation options

Pre-install checks:

- Verify the delivery contents against the packing list.
- Store the product indoors in original packaging until installation.
- Protect against moisture, impact and abrasion.
- Inspect the product for transport damage.
- Confirm that the selected installation option matches the site conditions and project requirements.

WARNING!

Anchor selection and foundation type must follow the project specification and local requirements.

5.3.1 Installation option A

This option is used when the product is mounted to a purpose-made concrete foundation using a cast-in anchor frame (anchor rods held in position using an anchor template plate during concrete works). This method provides accurate positioning and allows alignment during installation.

WARNING!

Concrete works must be performed in accordance with site safety rules. Keep hands clear of pinch points when positioning parts and tightening fasteners.

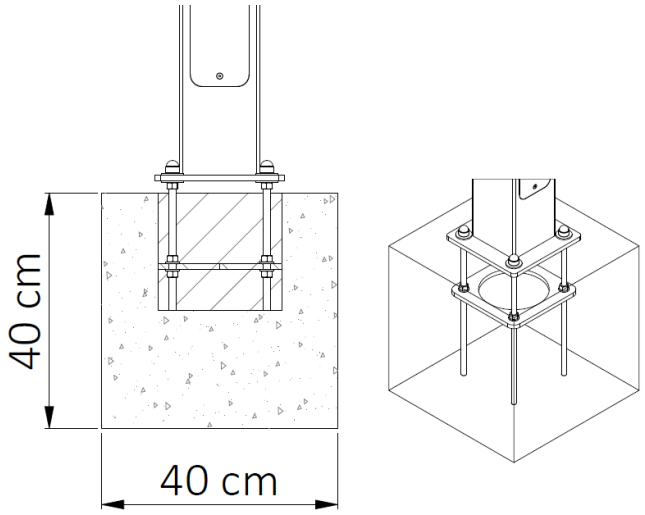


Figure 12 – Installing to concrete foundation

Typical design (reference):

- Anchor frame: M12 anchor rods, positioned using a template plate (typical template holes Ø13 mm).
- Base plate: 17 mm slotted holes for alignment; washers must fully support the slotted holes.
- Typical foundation size: 400x400x400 mm (reference), unless specified otherwise by the project design and local conditions.
- Anchor rod embedment depth, reinforcement and concrete specification must follow the project design.

Installation:

1. Set out the foundation location and orientation according to the project layout.
2. Assemble the anchor frame and verify correct spacing and verticality of the anchor rods.
3. Position the anchor frame in the formwork and set the top level according to the required finished height.
4. Pour the concrete foundation and allow it to cure fully before installation.
5. After curing, install levelling nuts and washers under the base plate.
6. Place the product onto the anchor rods and align it using a level.
7. Install the upper washers and nuts and tighten to the specified torque.
8. Verify stability and service hatch operation.

Anchor rod type, embedment depth, edge distances and tightening torque must follow the project specification and anchor manufacturer instructions where applicable.

Keep the base plate slightly above finished ground level (10–30 mm recommended). Increase stand-off only where required by site conditions (up to 50 mm as specified by the project design).

If required, protruding anchor rod length may be trimmed after final tightening to allow fitting of protective caps. Remove burrs and restore thread quality after trimming.

5.3.2 Installation option B

This option is used when the product is mounted directly to an existing hard surface (e.g., concrete or asphalt over a load-bearing substructure) using approved anchors. No excavation is required. The mounting surface must be structurally suitable and in good condition.

WARNING!

Eye protection and respiratory protection must be used when drilling. Keep bystanders at a safe distance.

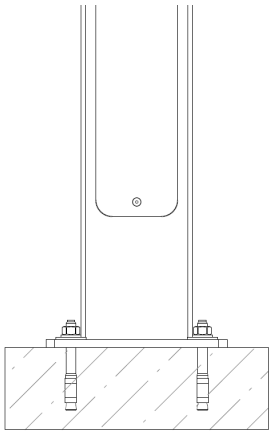


Figure 13 – Installing directly to asphalt or concrete

Anchor selection and minimum requirements:

- Anchors must be approved for the base material and installed according to the anchor manufacturer instructions.
- The substrate must be structurally sound (no loose, crumbling or severely cracked material in the anchor area).
- Anchor size and embedment depth must follow the project specification and anchor manufacturer requirements.
- Minimum edge distances and anchor spacing must follow the anchor manufacturer instructions.
- Use suitable washers to fully support the base plate holes/slots.

Asphalt is not a load-bearing anchor substrate. When mounting on asphalt surfaces, anchors must be installed into the load-bearing substructure (typically concrete) as specified by the project design.

Installation:

1. Confirm that the mounting surface thickness and condition meet the project specification.
2. Position the product and mark the hole pattern using the base plate as a template.
3. Drill holes to the specified diameter and depth.
4. Clean drilled holes as required by the anchor manufacturer (blow–brush–blow or equivalent).
5. Install approved anchors strictly according to the anchor manufacturer instructions.
6. Install washers and nuts/fasteners.
7. Tighten all fasteners to the specified torque.
8. Verify stability and service hatch operation.

Tightening torque must follow the project specification and anchor manufacturer instructions where applicable.

Keep the base plate flush with the finished surface wherever possible to avoid trip hazards. Ensure that drainage prevents standing water around the base.

5.3.3 Assembling the Core Groundbase (C)

Before moving on to the installation option C, (installing using the Core Groundbase), follow these steps for assembly of the Core Groundbase pedestal:

1. The Core Groundbase is supplied as flat pieces, which must be bent into to shape on site by hand (using appropriate hand tools).

WARNING!

Wear protective gloves and keep hands clear of pinch points when bending the sheet metal. Sharp edges may cause cuts.

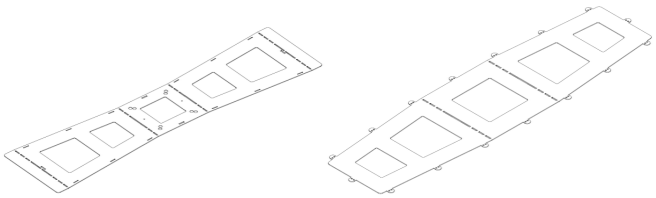


Figure 14 – Flat sheets of the Core Groundbase

2. Fold the two outer side flanges downwards along the bend lines to an angle of 95°. Verify the angle after forming.

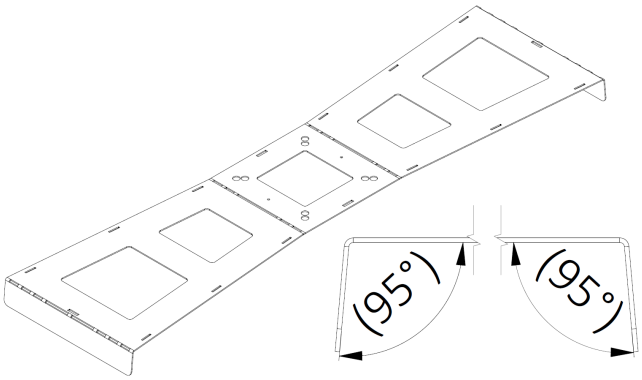


Figure 15 – Bending outer flanges

3. Fold the inner flanges upwards along the bend lines until the final angle is 95°, forming the required U-profile. Verify all bend angles and correct if required.

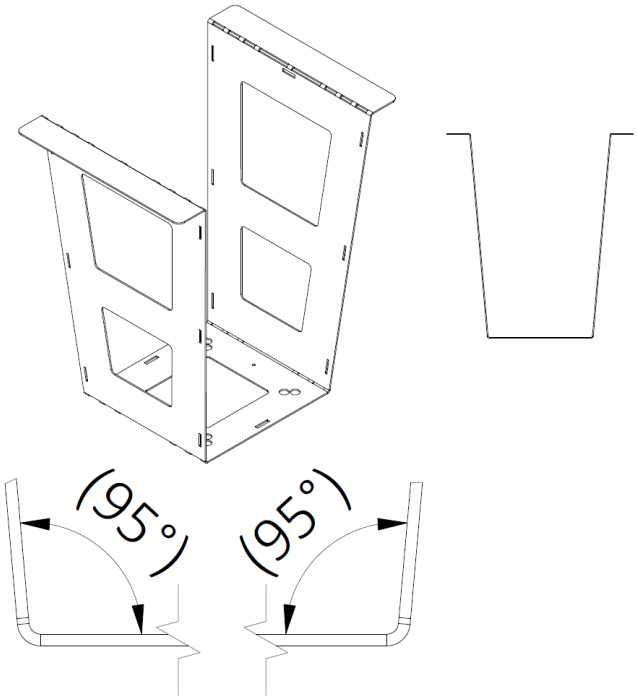


Figure 16 – Bending inner flanges

4. Fold the two side flanges of the second part along the bend lines until the final angle is 85°. Verify the angle after forming and correct if required. Ensure both sides are symmetrical.

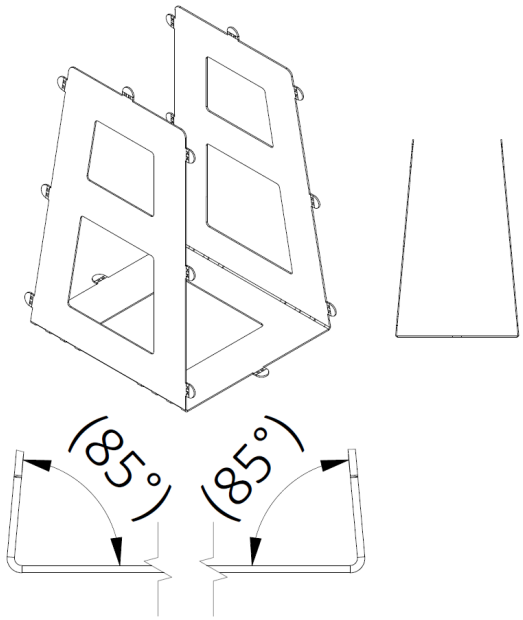


Figure 17 – Bending the second piece

5. After bending, the parts must match the shapes shown below:

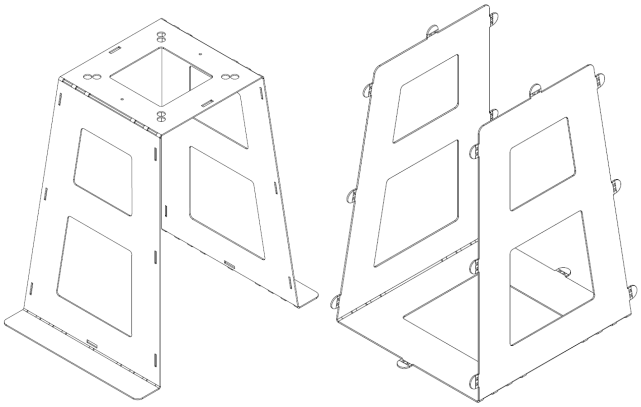


Figure 18 – Two pieces of the Core Groundbase

6. Align the tabs with the slots and press the two parts together until fully seated and flush. If fitment is poor, adjust the bend angles and reassemble.

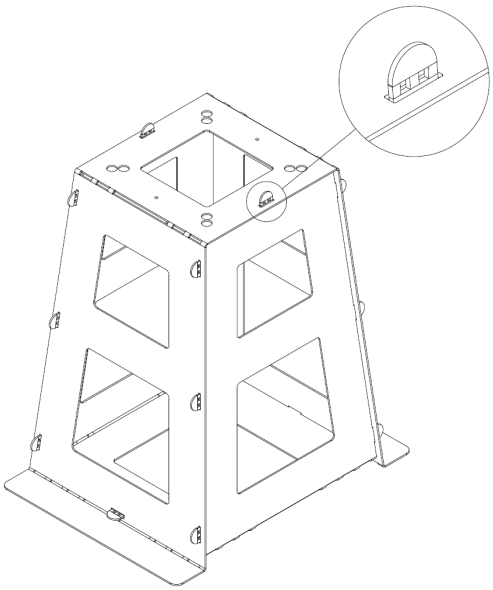


Figure 19 – Joining the two pieces together

7. Fold each tab fully down against the sheet metal until it sits flush and locks the parts together, thus finishing the assembly.

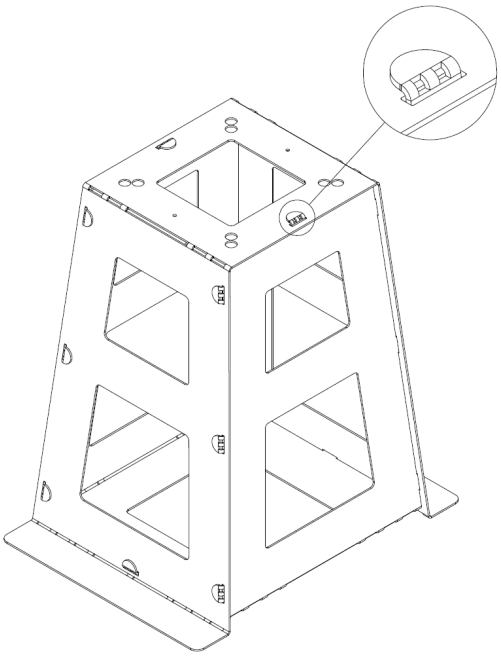


Figure 20 – Finished pedestal

5.3.4 Installation option C

This option is used when the product is mounted to the Core Groundbase embedded into the ground. The Core Groundbase must provide sufficient load-bearing capacity and drainage to prevent settlement and frost-related movement. A compacted granular base layer and compactable granular backfill are used to support the pedestal and maintain long-term stability.

WARNING!

Underground utilities must be identified before digging. Excavation work must be performed in accordance with site safety rules.

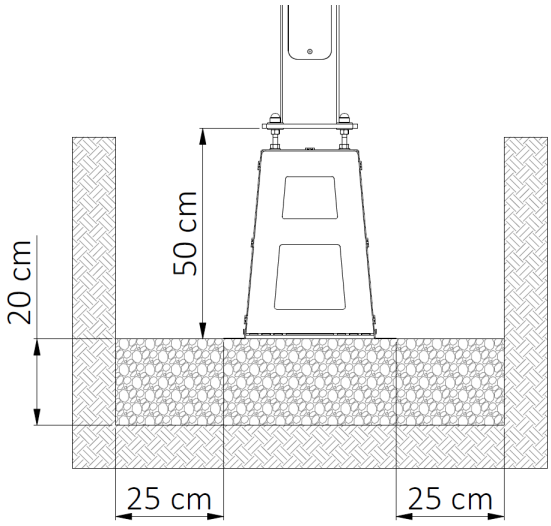


Figure 21 – Installing using the Core Groundbase

- Excavate the installation pit to the required dimensions and provide at least 250 mm clearance around the pedestal for backfill placement and compaction.
- Install geotextile where fine soils are present to prevent contamination of the granular layer.
- Place a 200 mm compacted granular base layer (crushed stone/gravel) and level the surface.
- Position the Core Groundbase and ensure correct alignment and verticality.
- Backfill using compactable granular material (crushed stone/gravel) and compact in 150–200 mm layers.
- Ensure the surrounding surface drains away from the Core Groundbase and does not allow standing water to accumulate.

Keep the base plate slightly above finished ground level (recommended 10–30 mm). Increase stand-off where heavy splash, snow or dirt accumulation is expected (up to 50 mm as specified by the project design).

Embedment depth, foundation dimensions, backfill specification and compaction requirements must follow the project specification and local requirements.

5.3.5 Final inspection

General checks:

- Verify that all fasteners are installed and tightened to the specified torque.
- Confirm that the product is vertical and stable (no wobble).
- Check service door operation and clearances.
- Inspect the coating for scratches or chips and repair if required.
- Ensure that cable routing and internal mounting do not create pinch points.
- Ensure surface drainage prevents standing water around the base.

Option-specific checks (A):

- Confirm that the base plate stand-off above finished ground level is within the specified range.
- Verify that drainage prevents standing water around the base.

Option-specific checks (B):

- Verify that anchors are installed correctly and meet the specified embedment depth.
- Confirm that the base plate is flush with the finished surface and does not create a trip hazard.

Option-specific checks (C):

- Verify that the granular base layer and backfill have been compacted in layers as specified.
- Confirm that the interface is rigid and does not introduce vibration.
- Verify corrosion protection compatibility and isolation measures (if specified).

6 Maintenance and cleaning

The product should be inspected at intervals suitable for the environment and usage (recommended minimum: every 6 months). Increase inspection frequency in coastal, industrial, or high traffic areas.

- Normal environment: every 6 months.
- Coastal / road salt / industrial: every 3 months.
- High traffic / vandalism risk: monthly visual check.

Inspection points:

- Check product (Core) stability and foundation condition.
- Verify fastener tightness (re-torque if required).
- Inspect coating condition (scratches, chips, corrosion).
- Verify service door function and sealing surfaces (if applicable).
- Check for water or dirt accumulation at the base, restore drainage where required.

6.1 Cleaning

- Clean using water and a mild, non-abrasive detergent.
- Rinse with clean water and wipe dry if required.
- **Solvents, abrasive pads, and high-pressure washing directly at seals must not be used.**

7 Troubleshooting

This section provides guidance for identifying common issues and corrective actions. Perform checks in the order listed. If the issue cannot be resolved using the steps below, stop work and contact the manufacturer.

Stop installation or service work if structural damage, unstable mounting, or anchor/foundation failure is suspected.

Symptom	Cause	Action
Service or Product door does not open	1. Fasteners not fully removed or seized 2. Dirt/ice blocks the edges	1. Remove all fasteners, apply penetrating oil, replace damaged fasteners 2. Carefully remove dirt/ice, avoid damaging coating or product
Service or Product door does not close	1. Cable or component blocking closing 2. Dirty or damaged mating surface 3. Fastener cross-threaded	1. Re-route and secure cables, remove pinch points 2. Clean surfaces, replace damaged parts if required 3. Remove and reinstall, replace damaged fasteners
Core is wobbling	1. Loose anchor or fastener 2. Uneven interface or not seated 3. Backfill not compacted	1. Check torque, tighten to specification 2. Re-level, use shims if specified, re-torque 3. Re-compact backfill in layers, restore drainage
Product not vertical	1. Tightened before alignment 2. Shims missing or incorrect	1. Loosen fasteners, level the product, re-torque 2. Install/adjust shims, re-torque
Water around the base	1. Surface slope or drainage insufficient	1. Shape surface to drain away, clear debris, restore drainage

Symptom	Cause	Action
Coating damage or corrosion	1. Coating damaged during handling 2. Salt/dirty environment 3. Dissimilar metals	1. Clean and touch up coating 2. Increase cleaning and inspection, use only mild detergent 3. Add isolation measures
Fasteners loosen over time	1. Incorrect torque 2. Vibration or cyclic load	1. Verify torque, re-torque to application 2. Check foundation rigidity, apply approved locking method
Internal mounting difficult	1. Wrong mounting points or incompatible parts 2. Limited access due to cabling	1. Use specified positions and components 2. Re-route cabling, install in recommended sequence

Table 10 – Troubleshooting

8 Disposal and recycling

Dispose of packaging materials according to local regulations.

Metal components should be recycled where facilities exist.

Electrical components (if any) must be disposed of according to applicable WEEE/local requirements.

9 Warranty

The product is covered by a 2-year warranty from the date of delivery, provided that installation and use have been performed in accordance with this manual and applicable regulations.

The warranty does not cover damage resulting from:

- Incorrect installation or unsuitable foundation or anchoring type.
- Unauthorized electrical work.
- Modifications not approved by the manufacturer.
- Misuse, vandalism, accidents, or environmental conditions outside the specified limits.
- Improper cleaning agents or methods.

9.1 Spare parts and service

Replacement parts must match the original specification. For spare parts and service support, contact the manufacturer and provide the following information:

- Product name and variant (Core Standard / Core Pro).
- Document number and revision of this manual.
- Product identification label data.
- Description of the required part and quantity.
- Photos of the affected area (if applicable).