Installation Instructions

Aluminium-pillar

Aluminium-pillar LS 550-v2.0

Art. 819 000 000 / Art.819 000 104

Aluminium-pillar LS 1100-v2.0

Art. 819 000 001 / Art. 819 000 110

Aluminium-pillar ST 1100-v2.0

Art. 819 000 100 / Art. 819 000 112

Aluminium-pillar ST 1850-v2.0

Art. 819 000 102 / Art. 819 000 114

Aluminium-pillar CK 1100-v2.0

Art. 819 000 101 / Art. 819 000 113

Aluminium-pillar CK 1850-v2.0

Art. 819 000 103 / Art. 819 000 115

Translation of original operating instructions

D-ID: V1_0 – 05.22

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1 General information

These operating instructions must be available on site at all times. It should be read thoroughly by all persons who use, service or transport the units. Improper usage or servicing – or ignoring the operating instructions – can be harmful and/or result in physical damage. If the meaning of any part of these instructions isn't clear, then please contact ELKA-Torantriebe GmbH u. Co. Betriebs KG (hereinafter referred to as "ELKA") before putting the unit into operation.

This applies to all setup procedures, troubleshooting, material disposal, care and servicing of the unit. The accident prevention regulations and applicable technical regulations (e.g., safety or electrical), as well as the environmental protection regulations of the country in which the unit is used, also apply.

All repairs to the unit must be carried out by qualified persons. ELKA accepts no liability for damage which is caused by using the unit for purposes other than those for which it is intended.

ELKA cannot recognise every possible source of danger in advance. If the unit is used other than in the recommended manner, the user must ascertain that no danger to themself or others will result from this use. They must also ascertain that the planned use will have no detrimental effect on the unit itself. The unit should only be used when all safety equipment is available and in working order. All faults which could be a source of danger to the user or to third persons must be eliminated immediately. All warning and safety notices on the unit must be kept legible.

All electrical periphery equipment which is connected to the unit must have a CE Mark, which ensures that it conforms to the relevant EEC regulations. Neither mechanical nor electrical alterations to the unit, without explicit agreement of the manufacturer, are permitted. All alterations or extensions to the unit must be carried out with parts which ELKA have defined as suitable for such alterations, and be carried out by qualified personnel. Please note that with any alteration of the product, no matter whether mechanical or electrical, the warranty expires and the conformity is revoked. Only the use of ELKA accessories and original ELKA spare parts is allowed. In case of any contravention, ELKA disclaims liability of any kind.

INFORMATION!

The operation of the system within CEN countries must also be conformant with the European safety-relevant directives and standards.

We reserve the right to make technical improvements without prior notice.

1.1 Symbol explanation

WARNING!

Remarks regarding the safety of persons and the barrier opener itself are marked through the use of special symbols. These remarks must be absolutely observed in order to avoid accidents and physical damage.

DANGER!

…indicates an imminent dangerous situation, which can cause death or serious injuries if it is not avoided.

WARNING!

…indicates a potentially dangerous situation, which can cause death or serious injuries if it is not avoided.

ATTENTION!

…indicates a potentially dangerous situation, which can cause minor or slight injuries if it is not avoided.

ATTENTION!

…indicates a potentially dangerous situation, which can cause property damage if it is not avoided.

REMARK!

Important notice for installation or functioning.

1.2 Copyright

The operating manual and the contained text, drawings, pictures, and other depictions are protected by copyright. Reproduction of any kind – even in extracts – as well as the utilization and/or communication of the content without written release certificate are prohibited. Any violations will obligate to compensation for damages. We reserve the right to make further claims.

2 Safety

2.1 Non-factory technical alterations and extensions

Non-factory technical alterations and/or extensions may result in hazards as well as interfere with the function of the barrier.

DANGER!

Danger due to voltage!

Risk of death by electric shock!

- Technical alterations may only be performed by authorised personnel and only in accordance with the manufacturer's instructions.

CAUTION!

Danger of injury through defective components!

Mechanical and electrical alterations can influence the functioning of the barrier!

- Technical alterations may only be performed by authorised personnel and only in accordance with the manufacturer's instructions.

CAUTION!

Malfunctioning of the barrier!

Mechanical and electrical alterations can influence the functioning of the barrier!

- Technical alterations may only be performed by authorised personnel and only in accordance with the manufacturer's instructions.

2.2 Personnel requirements – professional skills, knowledge and qualifications

WARNING!

Risk of injury through inadequate qualification!

Improper handling during installation, maintenance, repair work or dismantling can result in personal injury and/or property damage.

- Work during installation, maintenance, repair and dismantling must be performed by skilled personnel only.

(Service) specialist - is a person with suitable technical training, knowledge and experience who can recognize and avoid hazards.

Electrician - In German-speaking countries, a skilled electrician is the name of a person who is allowed to carry out and supervise electrotechnical work commercially. According to EN 50110-1, they are defined as "a person with suitable technical training, knowledge and experience so that they can recognize and avoid hazards that may be caused by electricity".

Instructed person - is a person who has been instructed in operation and use.

2.3 Personal protective equipment

During installation, maintenance, repair work and dismantling suitable personal protective equipment must be worn.

CAUTION!

Bruising/jamming/driving over (e.g. by material handling equipment, industrial trucks) the feet, contusion by falling heavy objects, cutting injuries by stepping into pointed/sharp objects.

Foot injuries

- Wearing of suitable safety shoes during the installation, maintenance, repair work and dismantling protects against serious foot injuries with long-lasting consequences.

CAUTION!

Falling heavy objects hitting the head

Head injuries

- Wearing of a suitable safety helmet during the installation, maintenance, repair work and dismantling protects against serious head injuries with long-lasting consequences.

CAUTION!

Cutting injuries resulting from pointed/sharp objects

Hand injuries

- Wearing of suitable safety gloves during the installation, maintenance, repair work and dismantling protects against serious hand injuries with long-lasting consequences.

CAUTION!

Injuries resulting from drilling chips or saw dust

Eye injuries

- Wearing of suitable safety goggles during the installation and repair work protects against serious eye injuries with long-lasting consequences.

3 Declaration of conformity

CE ELKA

Declaration of conformity
as defined by the Low Voltage Directive 2014/35/EC

The manufacturer: ELKA-Torantriebe GmbH u. Co. Betriebs KG
Dithmarscher Str. 9
25832 Tönning, Germany

hereby declares that for the following product

Product name:	Aluminium-pillar
Type designation:	Aluminium-pillar LS 550-v2.0 Aluminium-pillar LS 1100-v2.0 Aluminium-pillar ST 1100-v2.0 Aluminium-pillar ST 1850-v2.0 Aluminium-pillar CK 1100-v2.0 Aluminium-pillar CK 1850-v2.0
From serial number:	8190000002222001 / 8190001102222001 for aluminium-pillar LS 550-v2.0 8190000012222001 / 8190001112222001 for aluminium-pillar LS 1100-v2.0 8190001002222001 / 8190001122222001 for aluminium-pillar ST 1100-v2.0 8190001022222001 / 8190001142222001 for aluminium-pillar ST 1850-v2.0 8190001012222001 / 8190001132222001 for aluminium-pillar CK 1100-v2.0 8190001032222001 / 8190001152222001 for aluminium-pillar CK 1850-v2.0

as far as the scope of delivery permits, complies with the essential requirements of the following directives:

2014/35/EU	Low voltage directive
2014/30/EU	EMC directive
2011/65/EU	RoHS directive

This also includes the installation of ELKA accessories carried out by ELKA-Torantriebe GmbH u. Co. Betriebs KG.

External accessories not listed and installed by ELKA are expressly excluded from this CE declaration. For these items, an additional CE declaration is required with regard to the accessory and the installation. This additional CE declaration must be drawn up by the installer of the complete system.

Authorised representative for documentation:
ELKA-Torantriebe GmbH u. Co. Betriebs KG, Dithmarscher Str. 9, 25832 Tönning, Germany

This declaration does not warrant the characteristics as defined by the Product Liability Law. Comply with the instruction manual's safety instructions.

Tönning, 01.06.2022

i.V. Oliver Nave
Graduate Engineer (FH)
Mechanical Engineering

Head of Development / Design

Drawing 1

3.1 Declaration of conformity – complete system

If technical modifications have been made to the aluminium-pillar, e.g. additional fittings, the person responsible must issue an EC declaration of conformity for the entire system.

3.2 Nameplate

The type plate for the aluminium columns is attached to the inside of the housing.

4 Transportation and storing

4.1 Transportation inspection

The shipment has to be inspected for transportation damage immediately after receipt. In case of any damage record the type and extent on the delivery receipt or refuse acceptance.

Inform ELKA immediately in the event of damage.

In case the above points are not observed claims will be denied due to insurance regulations.

4.2 Lifting heavy loads

WARNING!

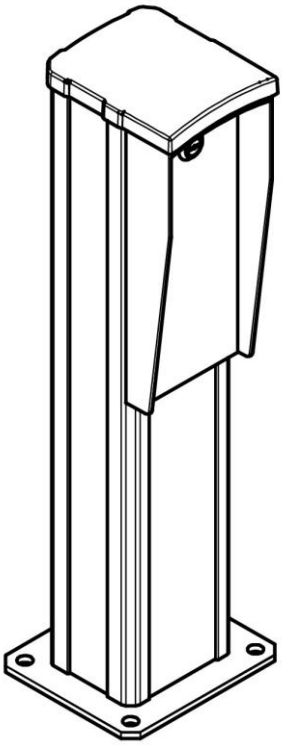
Risk of injury from lifting heavy loads!

Lifting heavy loads can cause serious injuries.

- Never lift the item alone.
- Lift the item with a suitable lifting device.
- Wear suitable safety footwear.

4.3 Scope of delivery

4.3.1 Scope of delivery aluminium-pillar



Drawing 2

Item	Designation
1	Aluminium-pillar
	2 x Keys per lock (in bag, not illustrated)

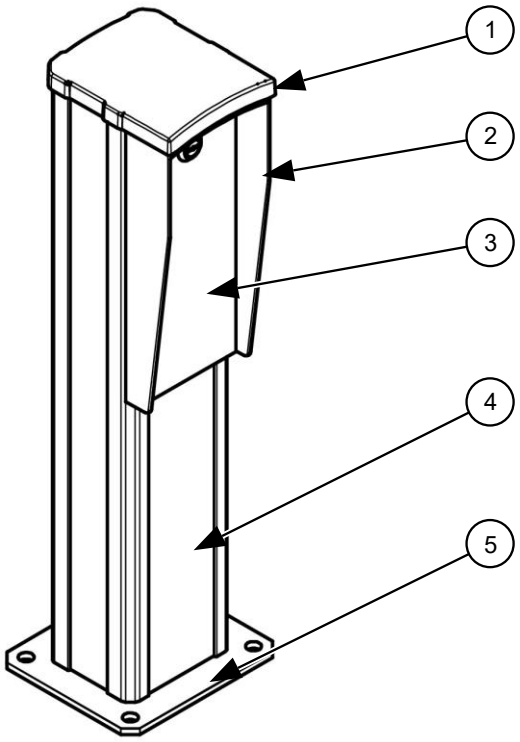
Table 1

5 Function description

The aluminium columns offer space for built-in components, e.g. light barrier, key switch etc., and optional LED lighting. Different models are available according to the areas of application (vehicle types - car, truck, bus).

6 Overview of aluminium-pillar

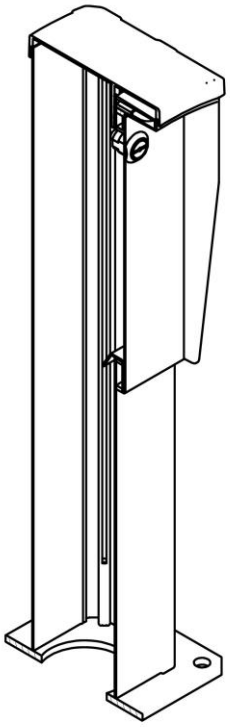
External view:



Drawing 3

1 Cap
2 Frame
3 Front panel
4 Pillar
5 Foot plate

Internal view:



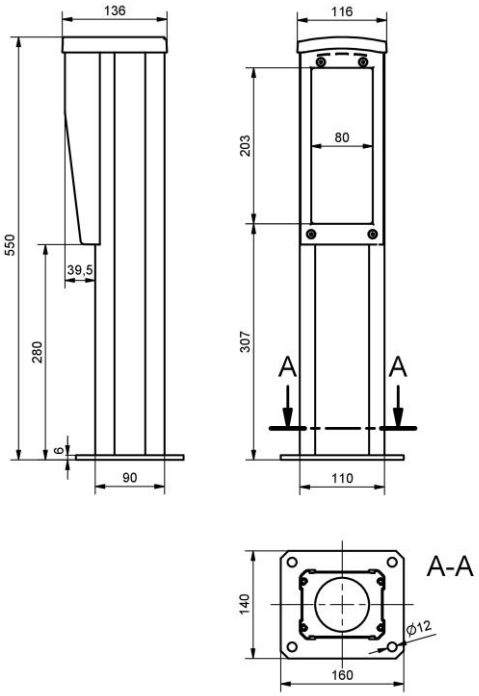
Drawing 4

7 Installation and mounting dimensions

All measurements are stated in millimetres.

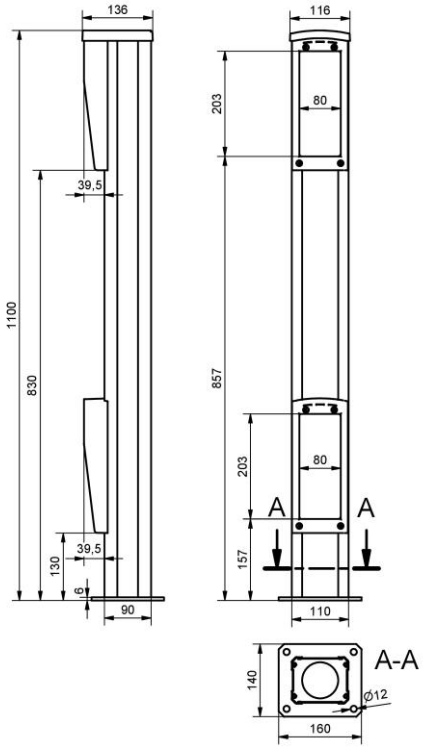
7.1 Aluminium pillar LS and ST

Aluminium-pillar LS 550-v2.0



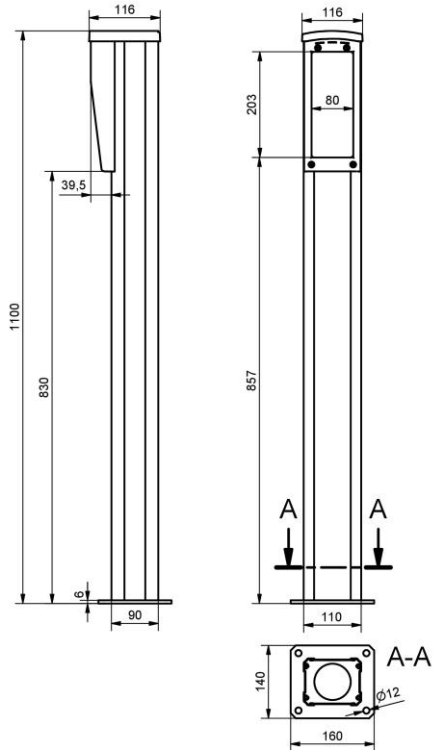
Drawing 5

Aluminium-pillar LS 1100-v2.0



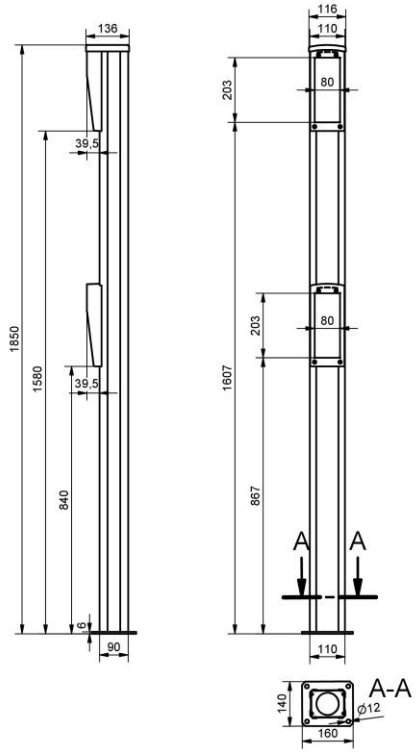
Drawing 6

Aluminium-pillar ST 1100-v2.0



Drawing 7

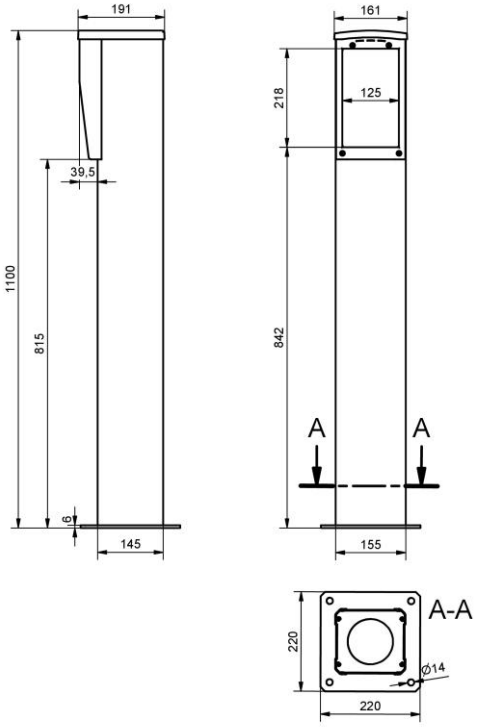
Aluminium-pillar ST 1850-v2.0



Drawing 8

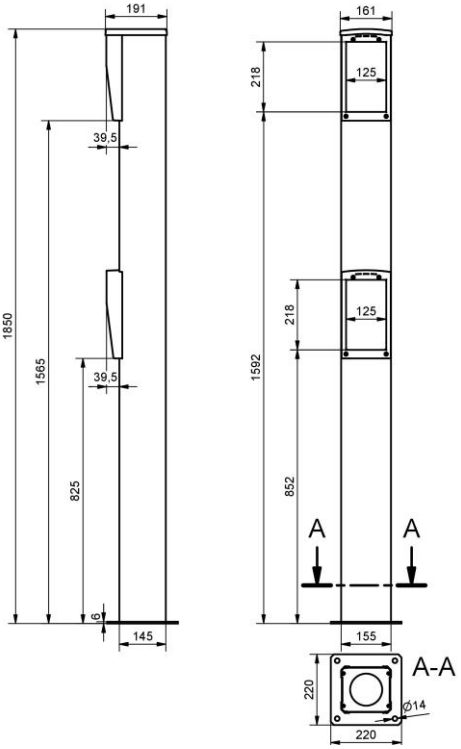
7.2 Aluminium pillar CK

Aluminium-pillar CK 1100-v2.0



Drawing 9

Aluminium-pillar CK 1850-v2.0



Drawing 10

7.3 Technical data

Aluminium-pillar LS

Data	Aluminium-pillar LS 550-v2.0	Aluminium-pillar LS 1100-v2.0
Weight	2,0kg	3,5kg
Protection type	IP54	IP54
Heavy duty anchor	Min. M8, recommended M10 Strength class 8.8	Min. M8, recommended M10 Strength class 8.8
Foundation, frost-free, at least (WxDxH)	260x240x800mm	260x240x800mm

Table 2

Aluminium-pillar ST

Data	Aluminium-pillar ST 1100-v2.0	Aluminium-pillar ST 1850-v2.0
Weight	3,1kg	5,0kg
Protection type	IP54	IP54
Heavy duty anchor	Min. M8, recommended M10 Strength class 8.8	Min. M8, recommended M10 Strength class 8.8
Foundation, frost-free, at least (WxDxH)	260x240x800mm	260x240x800mm

Table 3

Aluminium-pillar CK

Data	Aluminium-pillar CK 1100-v2.0	Aluminium-pillar CK 1850-v2.0
Weight	5,5kg	8,8kg
Protection type	IP54	IP54
Heavy duty anchor	Min. M8, recommended M10 Strength class 8.8	Min. M8, recommended M10 Strength class 8.8
Foundation, frost-free, at least (WxDxH)	320x320x800mm	320x320x800mm

Table 4

8 Foundation dimensions

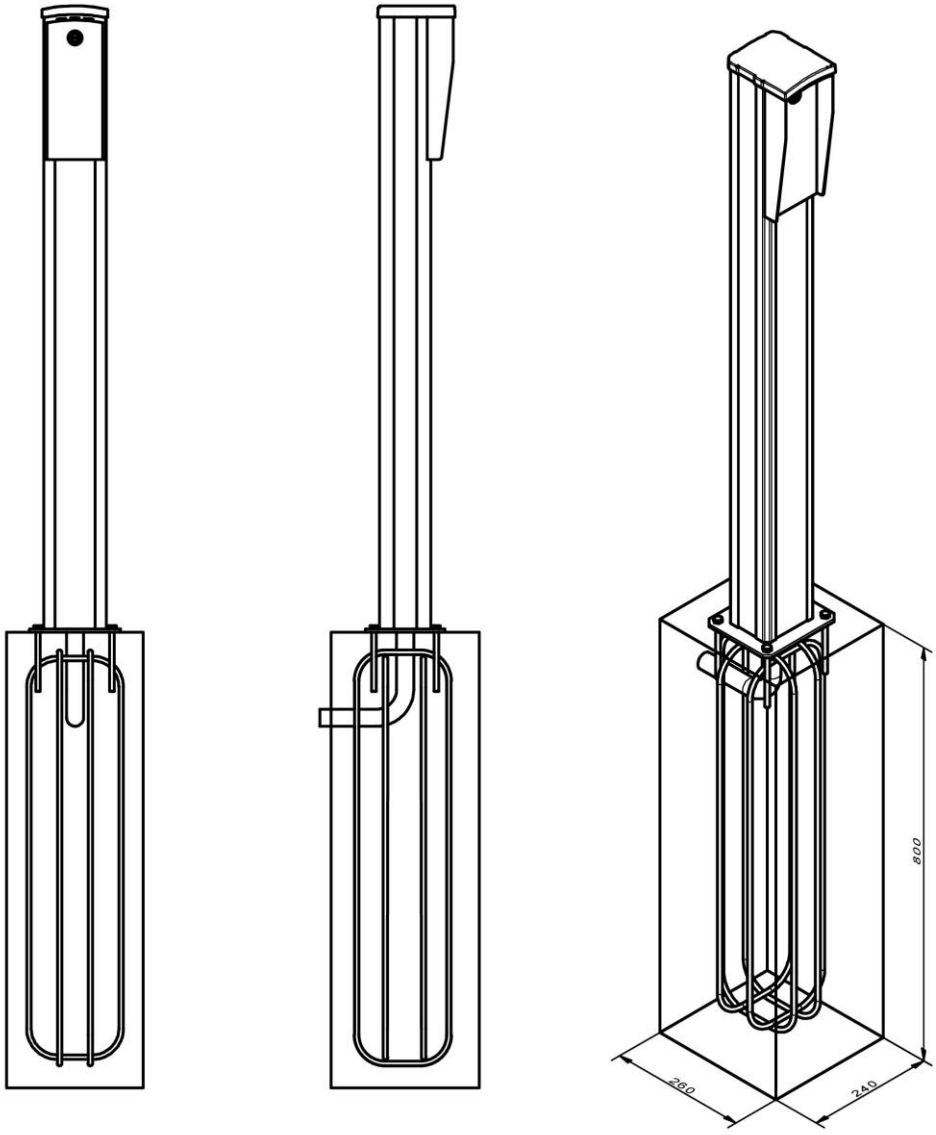
WARNING!

Risk of injury due to insufficient fastening!

Components that tip over can cause serious injuries.

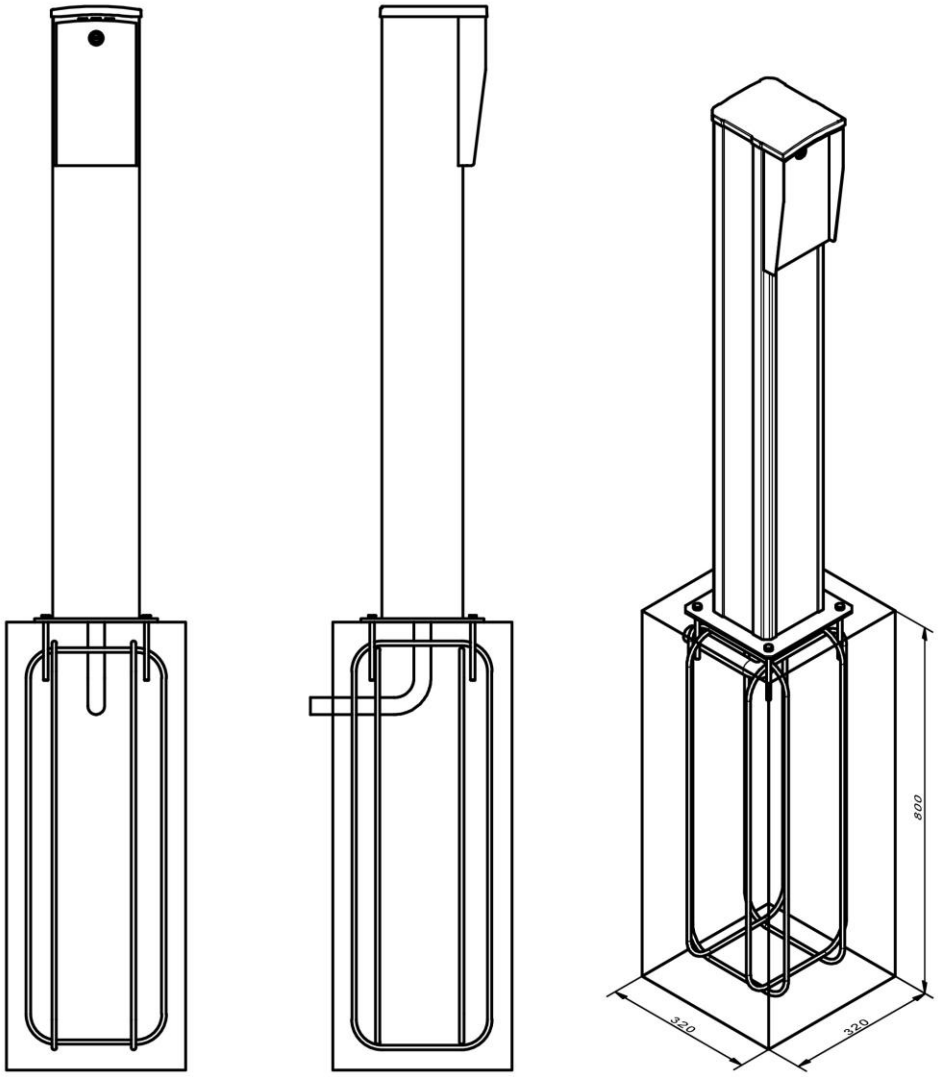
- Before assembly, ensure that the aluminium-pillar is secure; if necessary, store the aluminium-pillar lying down before assembly.
- Mount the aluminium-pillar as specified.
- Use the recommended heavy-duty anchors M10, but min. M8.
- As part of maintenance, check the aluminium-pillar for proper fastening to the foundation.

Reinforcement for aluminium-pillar LS and ST:



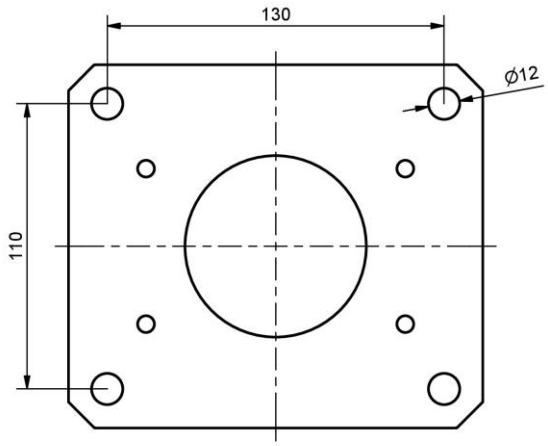
Drawing 11 - Aluminium-pillar LS and ST with foundation incl. reinforcement and empty conduit

Reinforcement for aluminium-pillar CK:



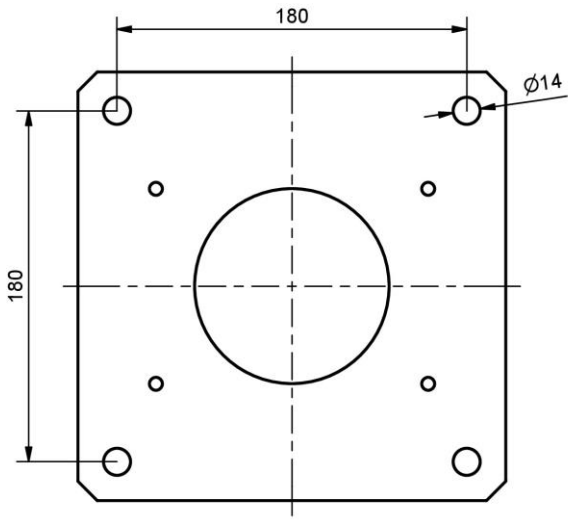
Drawing 12 - Aluminium-pillar CK with foundation incl. reinforcement and empty conduit

Foot plate for aluminium-pillar LS and ST:



Drawing 13

Foot plate for aluminium-pillar CK:



Drawing 14

For fastening the aluminium-pillar to the foundation, use the recommended heavy-duty anchors M10, but min. M8 (holding force min. 2,4 kN).

Depending on the application, we recommend the use of empty conduits. Care must be taken that no moisture penetrates.

Seal the empty conduits. Ensure that no water / condensate could enter the housing through the conduits.

The foundation is to be reinforced according to structural aspects, taking into account any required installation parts.
Selected in our example:
Aluminium-pillar LS and ST:

- 2x Ø8mm - 162 x 722mm
- 2x Ø8mm - 162 x 700mm

Aluminium-pillar CK:

- 2x Ø8mm - 242 x 722mm
- 2x Ø8mm - 242 x 700mm

REMARK!
For the filling floor of the foundation, a non-cohesive soil with square structure (gavel sand) is required:

- Bulk density γ ≥ 18kN/m³ with φ ≥ 32.5°
- Friction angle δp°10.83°
- Bonding depth t = 0.8m

REMARK!
For the foundation, a frost-free ground is essential!
The embedment depth (foundation depth) must be designed under consideration of the local conditions, but in any case at least depth t ≥ 0.8m!

Basic foundation requirements

- For the foundation a flat mounting surface is required. The inside micrometer must not exceed max. 2mm/m. The mounting area must be horizontal.
- The aluminium pillar must be mounted on the surface without gap.
- Concrete strength class:
  - The concrete strength class must be at least C25/30 (XC3, XD1, XF1, WO) if the foundation is poured indoors, e.g. in car parks.
  - The concrete strength class must be at least C35/45 (XC2, XD3, XF2, WF) if the foundation is exposed to the influence of outdoor weather and outdoor environmental influences.
- The use of heavy duty anchor bolts (recommended M10, at least M8 is required).
- Observe the foundation requirements observed in this manual. The installation distance between the housing and the foundation edge has to be approx. 100mm.

- Use different conduits for the power line and control leads.
- Use an additional (separate) conduit for each induction loop.
- The distance between the conduits should be as large as possible.

The aluminium pillar must be sealed to the foundation with a sealing compound, e. g. silicone.

9 Installation

WARNING!
Risk of injury due to improper installation!
Improper installation can lead to serious injuries and property damage!
- All assembly and adjustment work may only be carried out by qualified personnel or electricians.
- Sufficient freedom of assembly must be ensured before and during the work. Mounting materials, components or tools are obstacles and sources of danger!
- The fastening data (foundation and anchoring / screws) are minimum requirements and must be adhered to.

WARNING!
Risk of injury in the assembly area!
Unauthorized persons may be injured during assembly in the non-secured assembly area!
- The assembly area must be clearly blocked or secured.
- Unauthorized persons and vehicles must not be present in the assembly area.

DANGER!
Mortal danger from electric voltage!
Keep moisture away from live components (terminal row, switches, etc.).
- If housing parts, e.g. the housing door, have to be removed for installation, repair or maintenance, the live parts must be protected from moisture and dirt by suitable measures.

DANGER!
Danger to life through electrical voltage!
Damaged insulation of cables or components can be life-threatening!
- If the insulation of cables or components is damaged, switch off the power supply immediately.
- The replacement of the defective components must be performed by skilled personnel only.

DANGER!
Danger to life through electrical voltage!
Damaged or removed protective conductor terminals can be life-threatening!
- Before initial start-up, during repairs and maintenance, check the correct connection and fastening of the protective conductor terminals.

9.1 Tools

The following tools are required for the installation of the aluminium-pillar:

- Ring or open-end spanner 13mm
- Ring or open-end spanner 17mm
- Allen key 3mm
- Cutter knife / scissors

For mounting the aluminium-pillar on the foundation, use the recommended heavy-duty anchors M10, but min. M8.

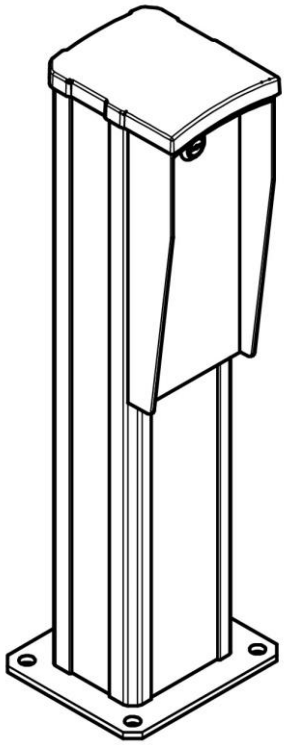
NOTE!
The standard values of the tightening torques are shown in the table below.
Deviating tightening torques are indicated under the relevant points in this manual!

Thread diameter	Tightening torques, standard values [Nm] - Strength class 8.8
M5	6.5
M6	11
M8	25
M10	45
M12	90

Table 5

9.2 Assembly / disassembly of aluminium-pillar

Opening the aluminium pillar:



Drawing 15

Unlock the front panel:

- The front panel is locked - the lock opening is vertical.
- Insert the key into the lock of the front panel.
- Turn the key 90° clockwise.
- Pull the front panel forward.
- Place the front panel on the floor with the inner side upward.

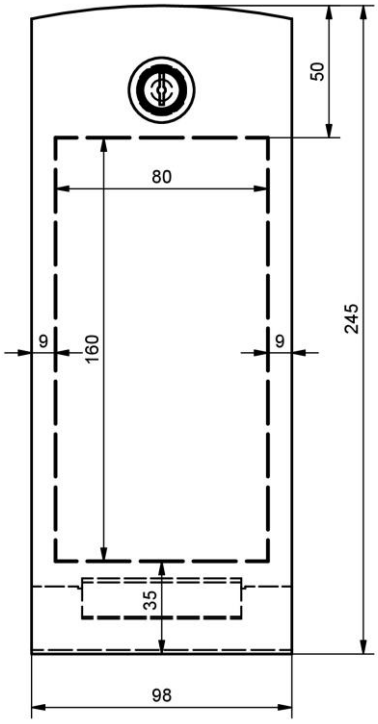
Close the front panel:

- Place the front panel at an angle in the lower opening area of the aluminium column.
- The lock opening is horizontal.
- Insert the key into the lock of the front panel.
- Turn the key 90° counterclockwise.
- The front panel is locked.

Installation range for fittings in the front panel:

Aluminium-pillar LS and ST:

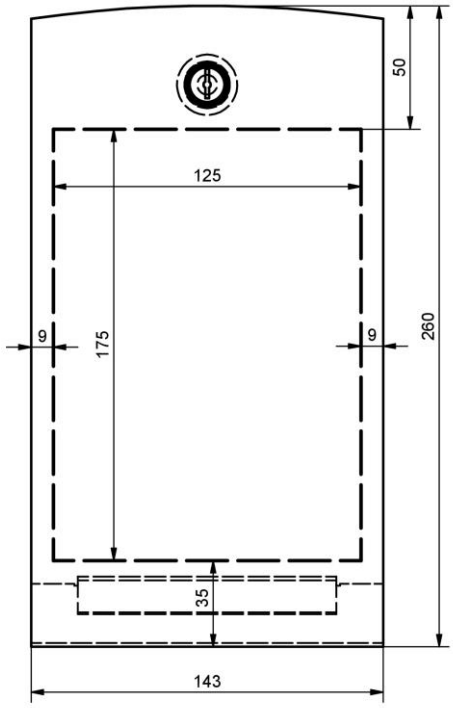
The maximum installation depth is 90mm



Drawing 16 - Installation range (160mm x 80mm) for fittings in the front panel

Aluminium-pillar CK:

The maximum installation depth is 145mm



Drawing 17 - Installation range (175mm x 125mm) for fittings in the front panel

ATTENTION!
A minimum web width of 10mm must remain between the mounted components in the front panel to ensure the stability of the front panel.

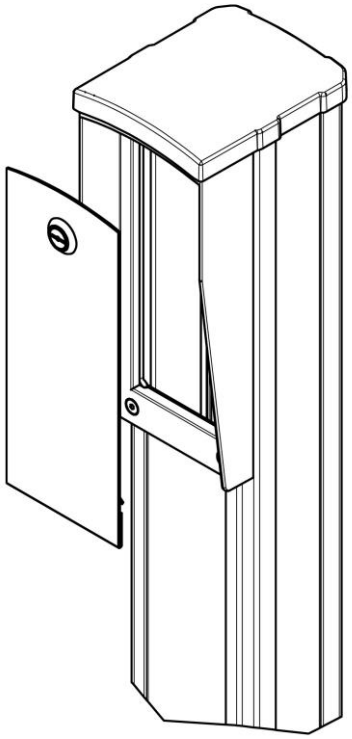
10 Accessories

The optional accessories are listed below and the installation is explained. If the accessories are ordered pre-assembled, the correspondingly described installation steps are omitted.

The following instructions and figures are for mounting an LED set on the aluminium pillar ST 550.
All instructions and figures are to be implemented analogously for mounting on the other columns.

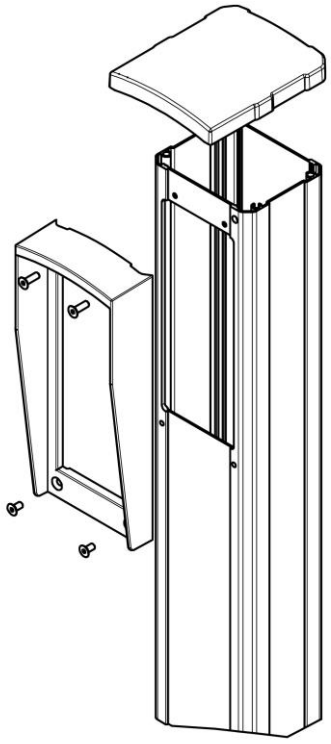
Designation	Quantity	comprising:	Order number
LED set for aluminium-pillar			819 000 104
	1	LED rope light with supply cable	
	2	Self-adhesive cable clips	

Table 6



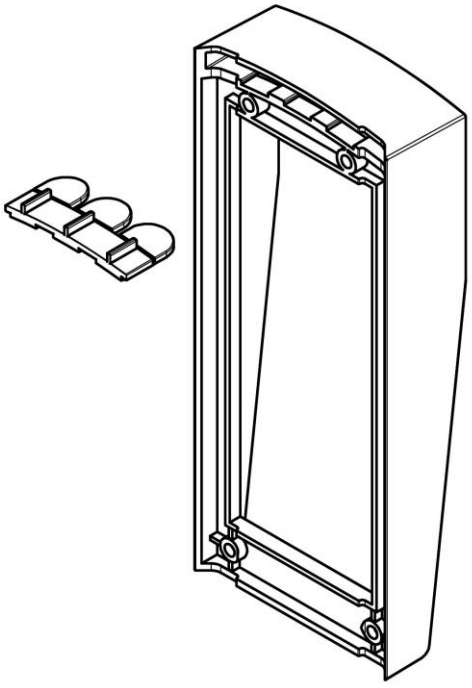
Drawing 18

- Unlock the front panel with the corresponding key and remove it.



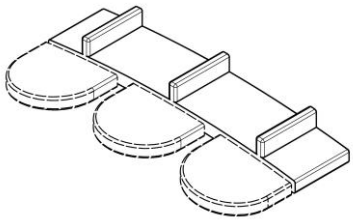
Drawing 19

- Loosen the four screws. Then loosen the cap and then the frame from the pillar.

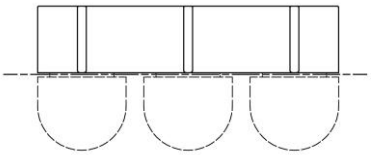


Drawing 20

- Remove the panel from the frame.

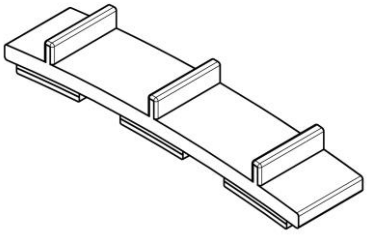


Drawing 21

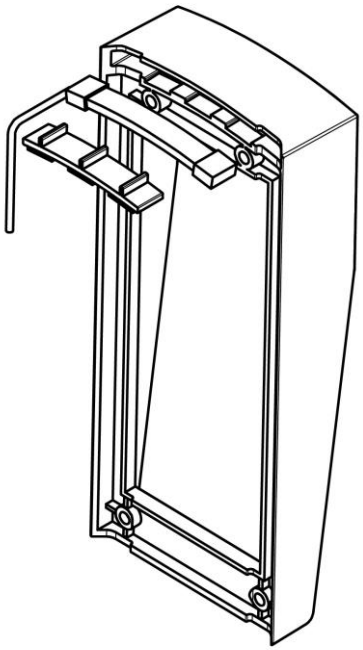


Drawing 22

- Separate the three tabs using scissors or a knife.

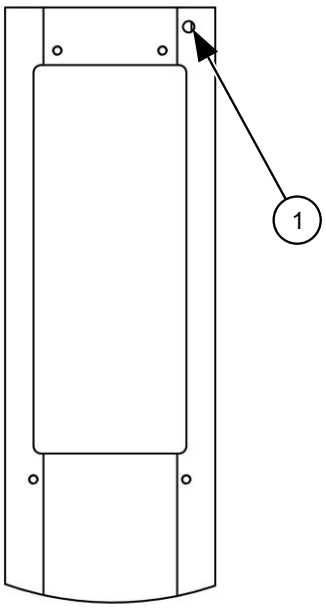


Drawing 23



Drawing 24

- Glue the LED strip into the frame, then insert the remaining part of the panel. Make sure that the translucent side of the LED strip is facing down.



Drawing 25

1 Feed-through hole

- Feed the cable of the LED strip through the feed-through hole, then fit the cap and frame. Finally, insert the front panel into the frame and lock it in place.

11 Cleaning

DANGER!
Electric voltage!
Life-threatening danger due to electric voltage!
- ➢ Switch off power supply.
- ➢ Check for the absence of power.
- ➢ Secure against reactivation.

WARNING!
Danger from entering the danger area!
Entering the danger area can cause injuries!
- ➢ Switch off power supply.
- ➢ Ensure absence of voltage.
- ➢ Secure against restarting.

- Use only mild detergent and no scratching or abrasive cleaners.

Do not bring electrical components in contact with moisture.

Never clean the aluminium-pillar with steam or high-pressure cleaners.

12 Decommissioning

A product that is no longer usable should not be recycled as complete unit, but recycled according to material types. Non-recyclable materials have to be disposed of in an environmentally compatible manner.

- The decommissioning, disassembly and disposal of the product must be carried out by qualified persons.
- The disassembly has to be carried out in reverse order to the assembly.
- The product has be disposed of according with respective country-specific regulations.

12.1 Disposal

For any related questions to proper disposal of the electrical and electronic components contact ELKA or competent specialist dealer.

INFORMATION!

Environmental hazard due to inappropriate disposal of the product (or parts thereof)!

Incorrect disposal can cause damage to the environment.

- ➢ The applicable environmental standards must always be observed.
- ➢ After appropriate dismantling and disassembly, use the dismantled components for recycling.
- ➢ Separate the valuable substances and recycle the relevant material.

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