

# Parking Columns unlimited

Manual and operational description

**SKIDATA**<sup>™</sup>  
access unlimited

**Parking Column AS 450 PA00**  
**Parking Column AS 450 PA00-E**  
**Parking Column AS 450 PA00-GC**  
**Parking Column AS 450 PE00**  
**Parking Column AS 450 PE00-E**  
**Parking Column AS 450 PE00-GC**  
**Parking Column AS 450 SA00 BLL**  
**Parking Column AS 450 PA00-US**  
**Parking Column AS 450 PA00-E-US**  
**Parking Column AS 450 PA00-GC-US**  
**Parking Column AS 450 PE00-US**  
**Parking Column PE00-E-US**  
**Parking Column PE00-GC-US**  
**Parking Column SA00 BLL-US**

Version April 2004

**SKIDATA AG**

Technical Documentation  
Untersbergstrasse 40  
A-5083 Gartenau  
Telephone +43 6246 888-0,  
Telefax +43 6246 888-7  
Internet <http://www.skidata.com>  
e-mail [docu@skidata.com](mailto:docu@skidata.com)

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**Declaration of Conformity**

The Parking Columns unlimited except the model versions where the name ends with the characters "-US" have been developed, designed and manufactured in accordance with the following EU directive:

R&TTE (99/5/EC)

**CE 0408**

**Important :** The FCC-specific notes apply only to the model version "AS 450 SA00 BLL-US"

#### **FG.9**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### **FG.21**

**IMBANT** : Any changes to or modifications of the AS 450 SA00 BLL-US unless expressly approved by SKIDATA AG, may void the user's authority to operate this device.

**Note:** The model versions

- AS 450 PA00-US
- AS 450 PA00-E-US
- AS 450 PA00-GC-US
- AS 450 PE00-US
- AS 450 PA00-E-US
- AS 450 PE00-GC-US

contain the modular transmitter with the FCC-ID "QSS-MECH450".

## **Parking Columns unlimited** **1**

### **Document Management – Version Table**

*Tab. 1: Document Version Table for Installation & Maintenance Instructions*

<b>Section</b>	<b>Document</b>	<b>Pages</b>	<b>Version</b>	<b>Date</b>
1	Parking Columns unlimited	29	2.1	2004-04-24

# 1

## **Parking Column unlimited**

Version 2.1  
29 pages  
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## 1.1 Contents

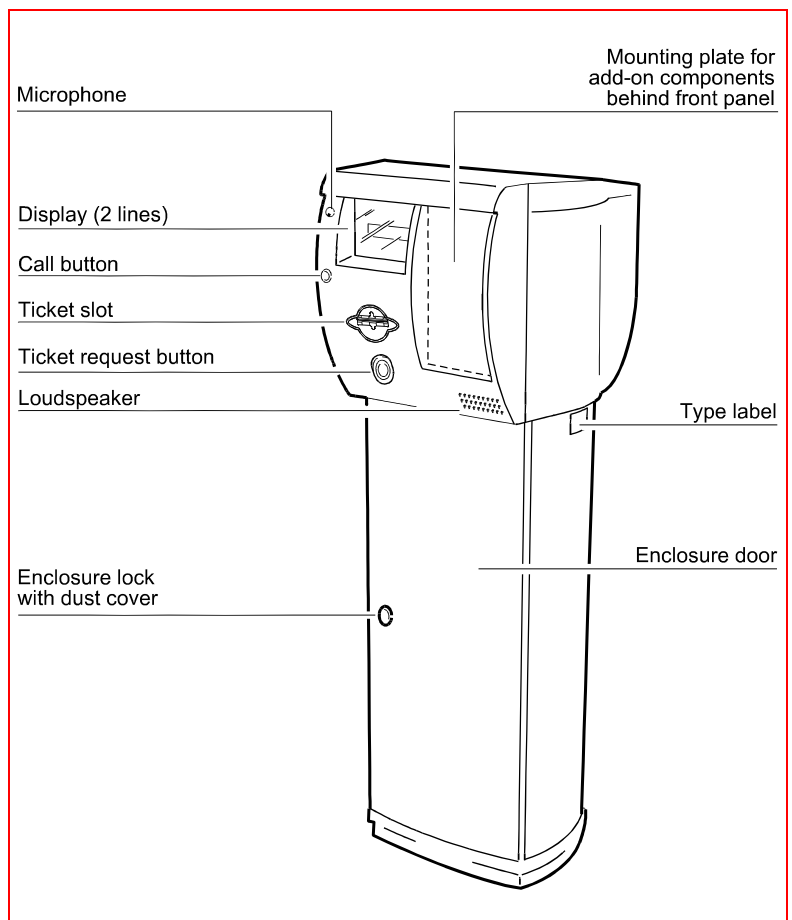
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## 1.2 System APT 450 – Columns unlimited

### 1.2.1 Versions of Parking Column Unlimited

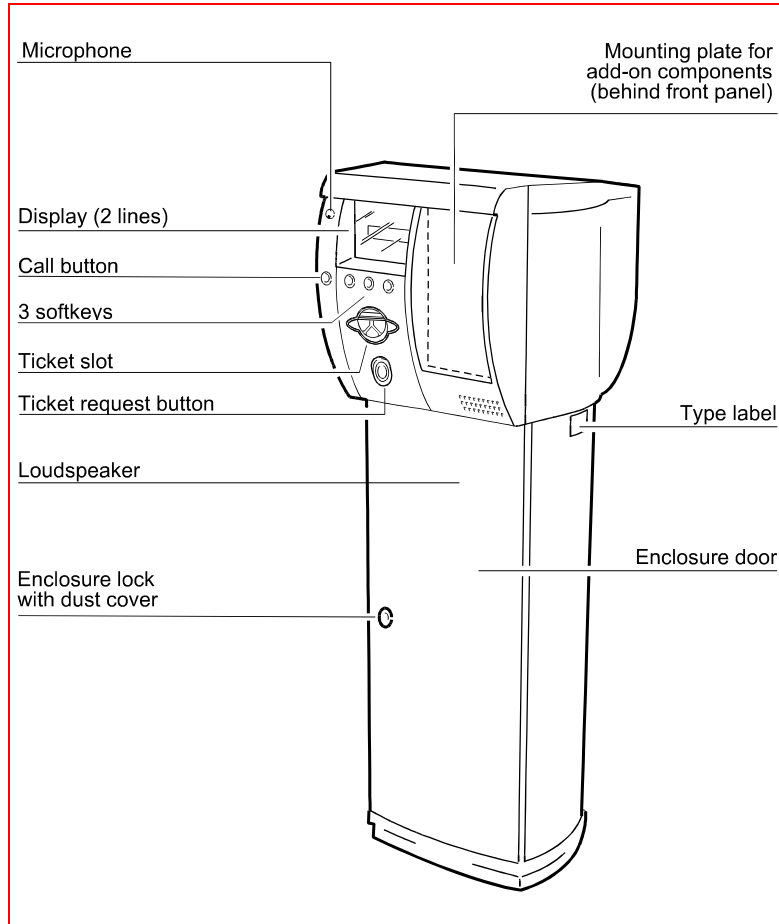
#### 1.2.1.1 Parking column unlimited – “Standard” (AS 450 PA00, AS 450 PE00, AS 450 PA00-US, AS 450 PE00-US)

Fig. 1:  
Parking Column unlimited –  
“Standard”



**1.2.1.2 Parking column unlimited – “Extended”  
(AS 450 PA00-E, AS 450 PE00-E, AS 450  
PA00-US, AS 450 PE00-US)**

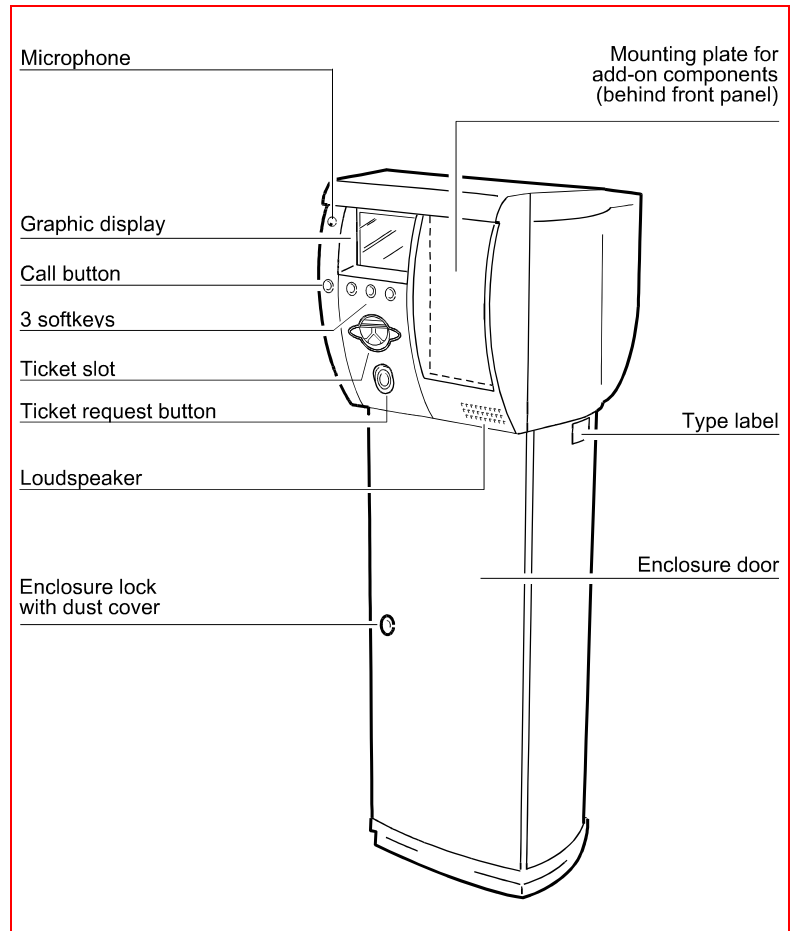
Fig. 2:  
Parking Column unlimited - “Ex-  
tended”





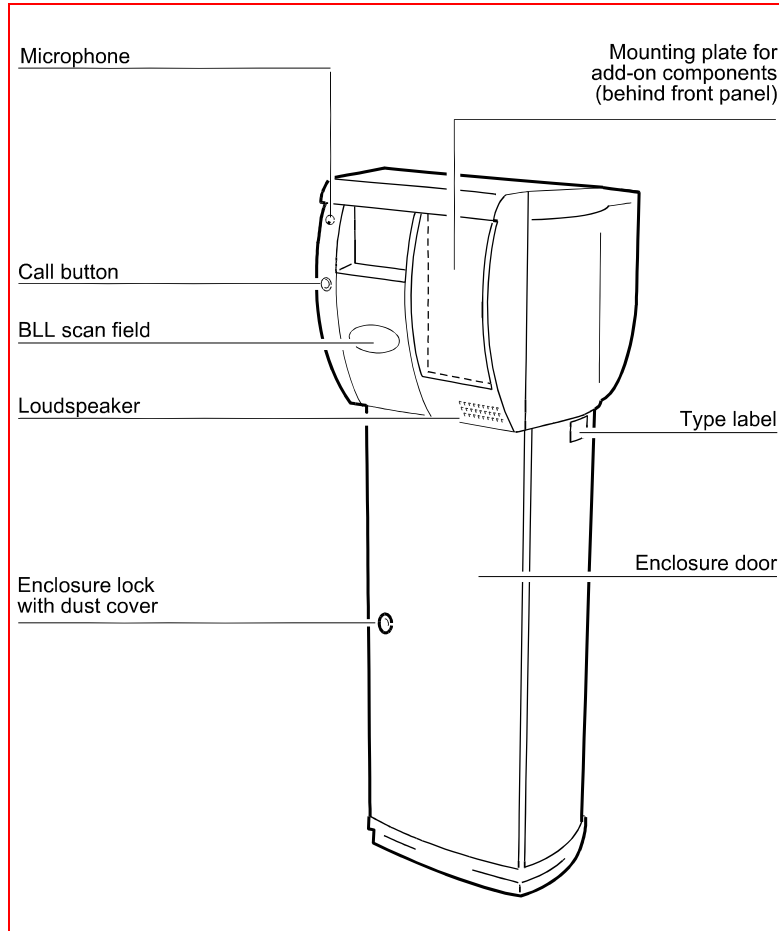
**1.2.1.3 Parking column unlimited – “Graphic”  
(AS 450 PA00-GC, AS 450 PE00-GC, AS 450  
PA00-GC-US, AS 450 PE00-GC-US)**

Fig. 3:  
Parking Column unlimited -  
“Graphic”



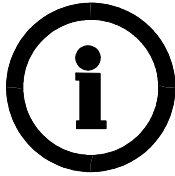
**1.2.1.4 Parking column unlimited – “handsfree”  
(AS 450 SA00- BLL, AS 450 SA00 BLL-US)**

Fig. 4:  
Parking Column unlimited -  
“handsfree”



## 1.2.2 Installation of Parking column unlimited

### 1.2.2.1 Warning



#### **General Warning:**

PCBs are sensitive to electrostatic discharge and should be handled with great care to avoid damage to the circuitry. Avoid touching the boards unnecessarily. Before mounting the column, check the entire device for possible transport damage. Before accessing electrical or mechanical parts, the entire device must be disconnected from the mains.

### 1.2.2.2 Preparation for Installation

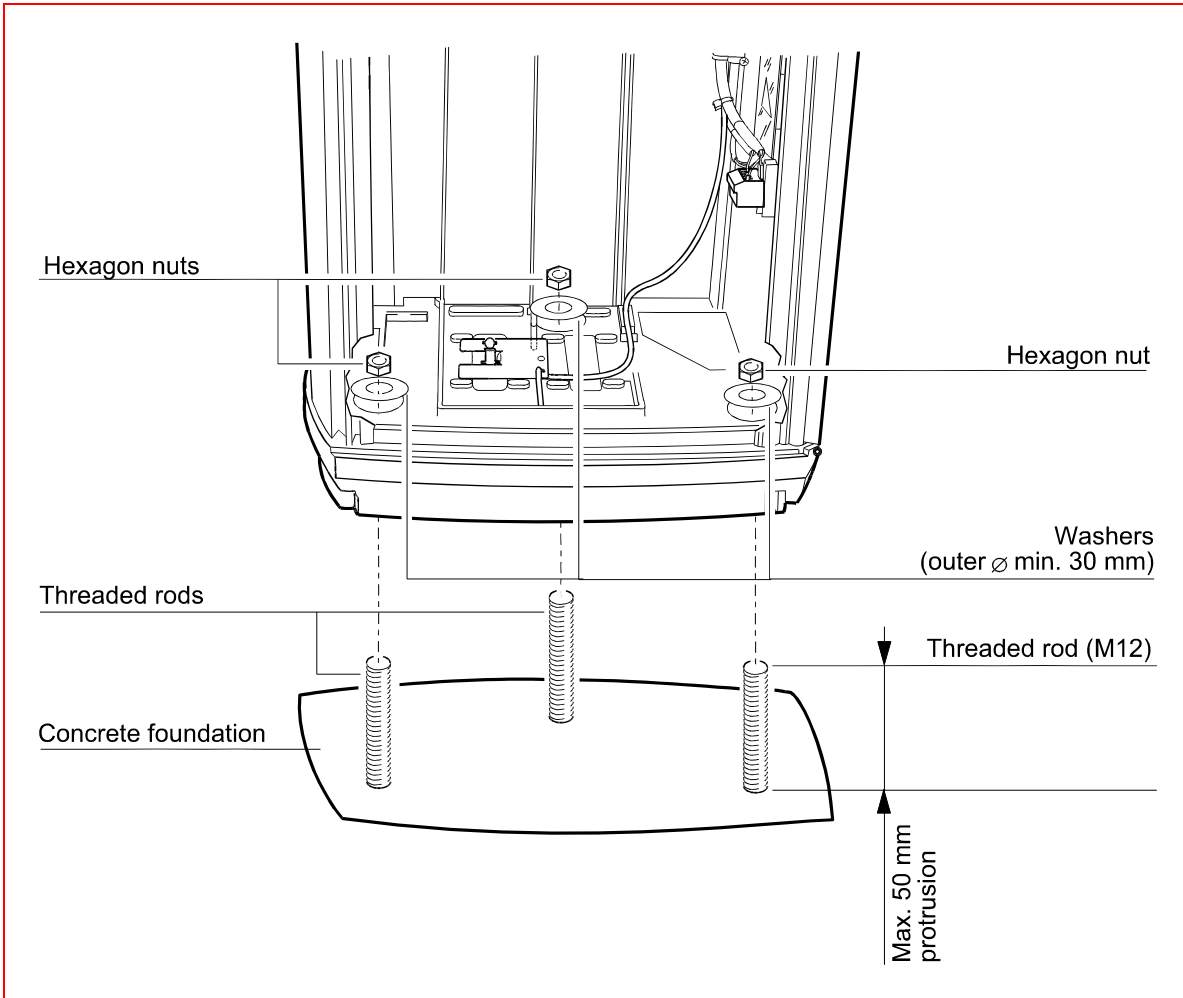
Ensure the following before proceeding with the installation:

- The concrete foundation must be exactly horizontal. Installing the device on an uneven surface may cause the chassis to become warped or damaged. If levelling of the surface is not possible, the parking column must be level-adjusted, e.g. by using additional hexagon nuts; in that case the threaded rods must be allowed to protrude further.
- The surface of the concrete foundation must be even and exactly horizontal
- Cable protection tubes should be cut approx. 2 cm above the concrete surface

### 1.2.2.3 Installation

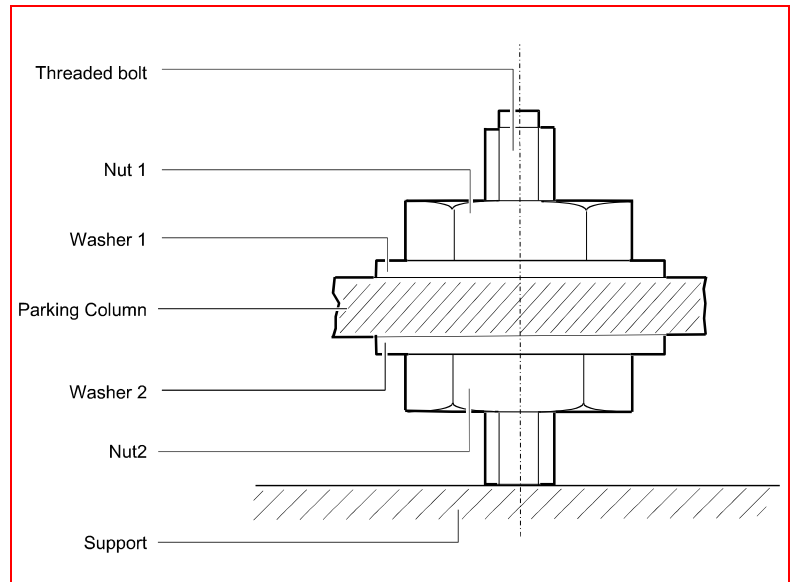
- The threaded rods should protrude approx. 50 mm from the concrete surface
- The fastening tension of the hexagon nuts must not exceed **20 Nm**
- Use washers with large outer diameter ( $\varnothing = 30$  mm, as per UN 737 standard)
- The parking column must be aligned exactly horizontally

Fig. 5: Column installation



**1.2.2.4 Installation on non-level surfaces (applies only in exceptional circumstances)**

*Fig. 6:  
Hexagon nuts as spacers*



All three No. 2 washers must be absolutely level (use a spirit level if necessary).

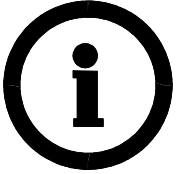


**Important:**

Avoid drilling dust from getting into the device during installation, as electrostatically charged dust may cause damage to the electronic assemblies inside the column.

### 1.2.3 Power supply

#### 1.2.3.1 Note

**Important notes:**

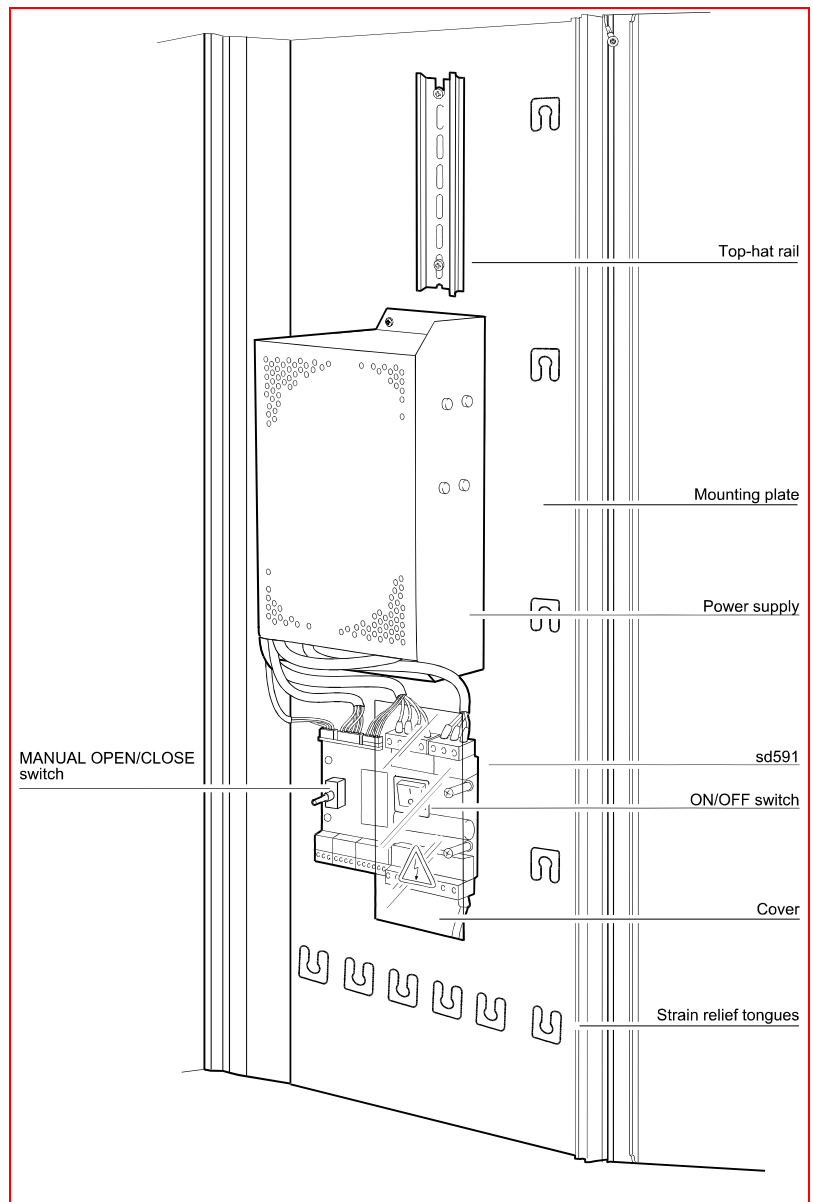
**Electric installation and maintenance work may be carried out only by appropriately qualified, licensed electrical technicians.**

**Mains connections must be hardwired.**

Please ensure full compliance with all applicable national and international rules and regulations concerning electric connections, and all applicable safety regulations.

- When all electric lines are properly connected, replace and fasten the cover

Fig. 7:  
Column interior:  
Mounting plate configuration



**Ensure the following before proceeding with electrical connections:**

- Check for proper mains supply voltage (120 or 230 VAC); see type label
- Mains connections must comply with national standards and directives
- When using flexible stranded wires, all filaments must be placed inside the terminal clamps (use wire-end sleeves, if necessary)

- The mains supply line must be fused in accordance with applicable regulations (6 A fuse recommended)
- Check the **isolation resistance of the cables** to make sure it **exceeds 0,5 MΩ**
- Fix cables to mounting plate by way of tension relieve tongues and cable ties
- Check the network cables to ensure the proper loop impedance



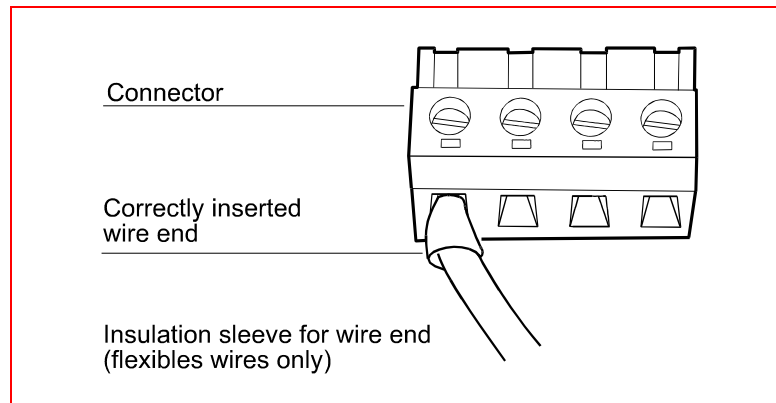
**Important:** Always make sure that the device is completely disconnected from the mains while fitting electric wiring.

### 1.2.3.2 Stripping connection wires

To avoid danger of short circuit with wires or chassis parts, wires should not be stripped by more than 6 mm (recommended value). Uninsulated wire sections must be inserted completely into the connection terminals.

When attaching connecting wires, the insulation should cover the wire up to the point where it connects to the terminal.

Fig. 8:  
Correct connector wiring





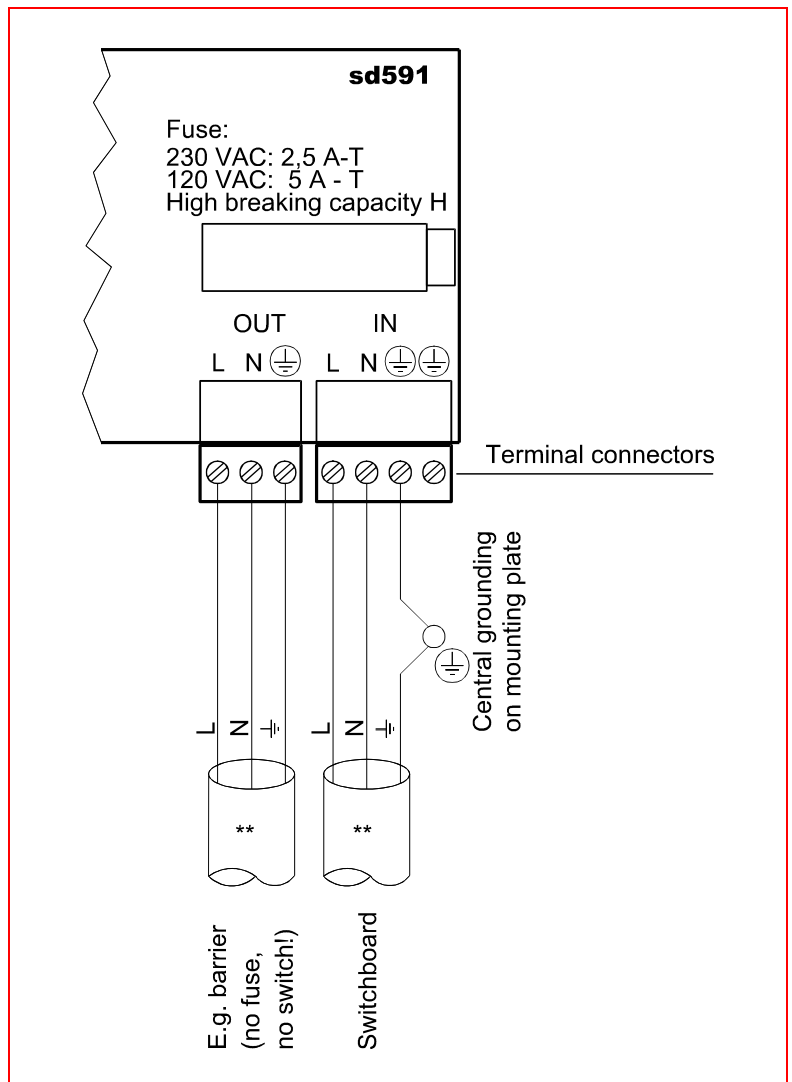
### 1.2.3.3 Cross-sectional area of cable leads

Tab. 1: Cable leads – Technical characteristics

wires	Max. torque at terminals	Rigid Solid	Flexible Twisted
*	0,22 – 0,25 Nm	0,14 – 1,5 mm <sup>2</sup>	0,14 – 1,5 mm <sup>2</sup>
**	0,5 – 0,6 Nm	0,20 – 2,5 mm <sup>2</sup>	0,20 – 2,5 mm <sup>2</sup>
***	0,22 – 0,25 mm <sup>2</sup>	0,14 – 1,5 mm <sup>2</sup>	0,14 – 1,0 mm <sup>2</sup>

### 1.2.3.4 Power supply

Fig. 9:  
Power supply on sd591

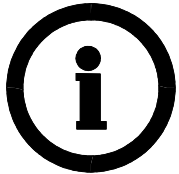


\*\* see Section 1.2.3.3



**Caution:**

The OUT terminal on connection control board sd591 is not fused and cannot be deactivated by way of the on-board mains switch.



**Note:**

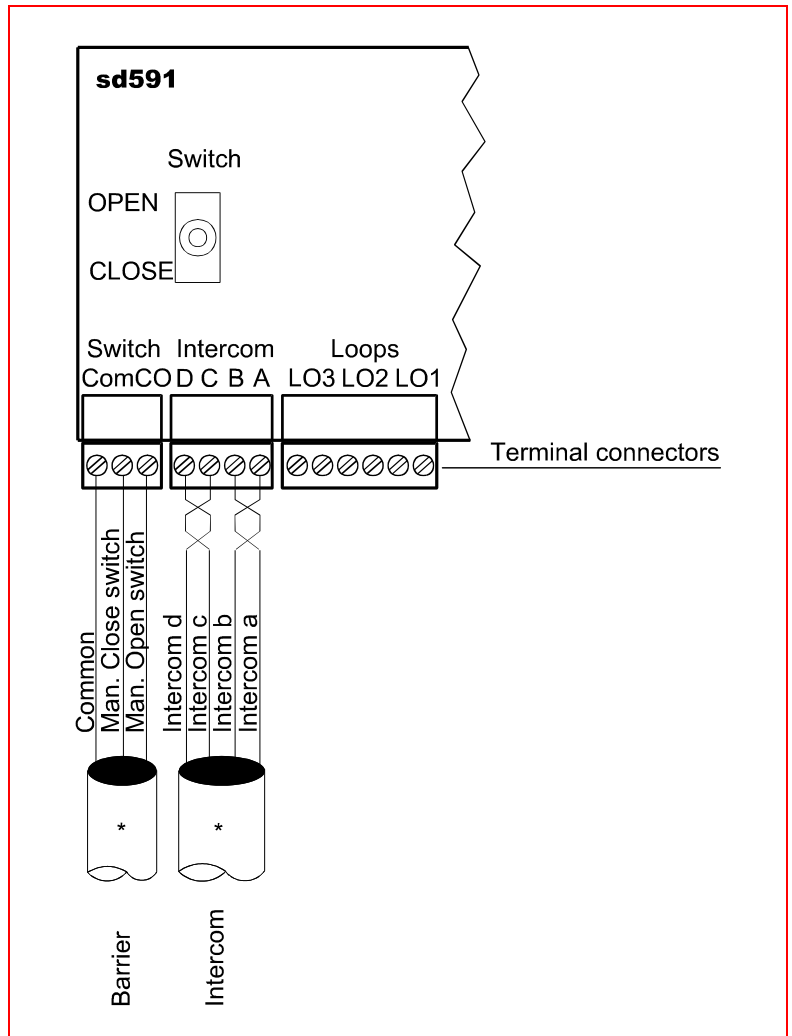
Electrical leads and wires must comply with applicable national guidelines concerning

- mechanical stress
- tension resistance
- cross-sectional area with respect to voltage drop
- current carrying capacity and short-circuit rating

- To install electrical fittings, you must first remove the cover of control board sd591

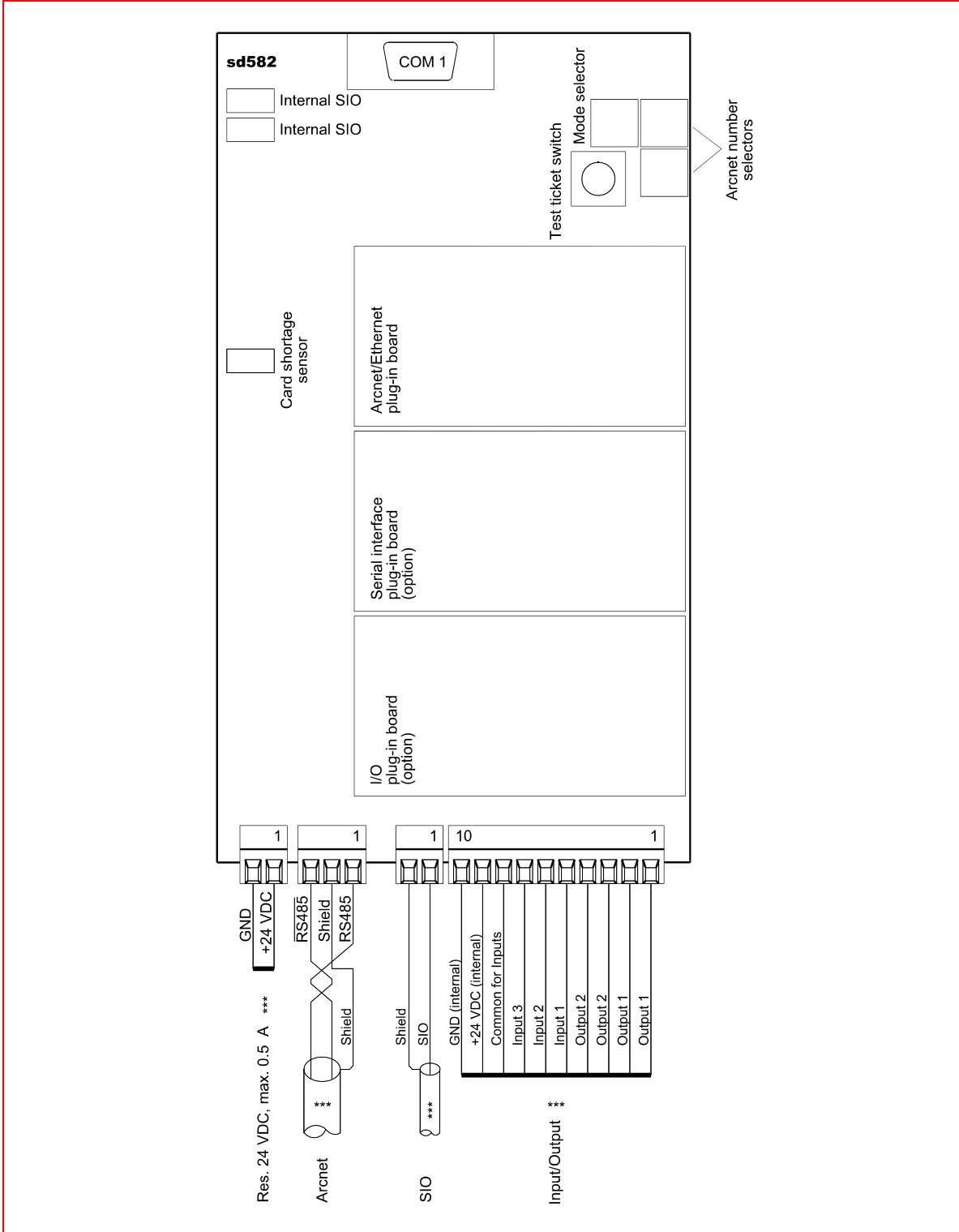
**1.2.3.5 Connection terminals for control lead and intercom**

Fig. 10:  
Connection terminals for control  
lead and intercom



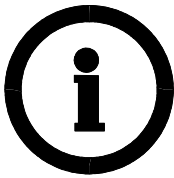
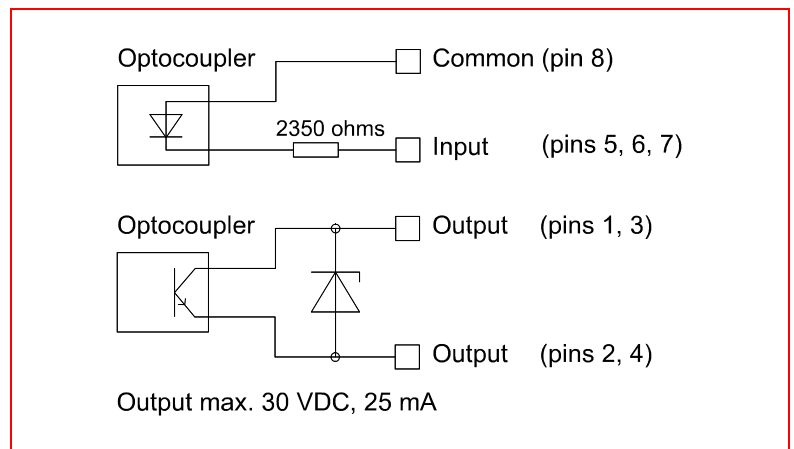
\* see Section 1.2.3.3

Fig. 11: Connections on control board sd582



\*\*\* siehe 1.2.3.3

Fig. 12:  
sd582 – I/O circuit connections



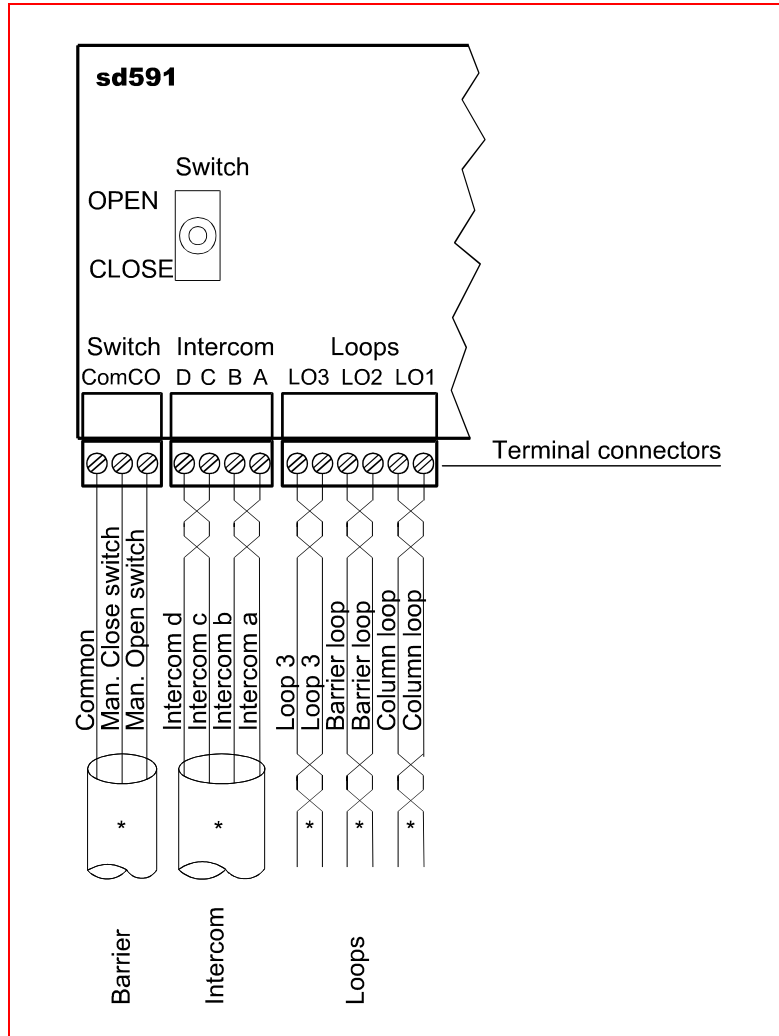
**Note on wire twisting:**

When connecting Arcnet and loop cables, make sure that the wires are **twisted up to the connection terminal** (approx. 5 twists per 10 cm).

Shield connections must be as short as possible and insulated against contact with the chassis wall by means of a protective tube.

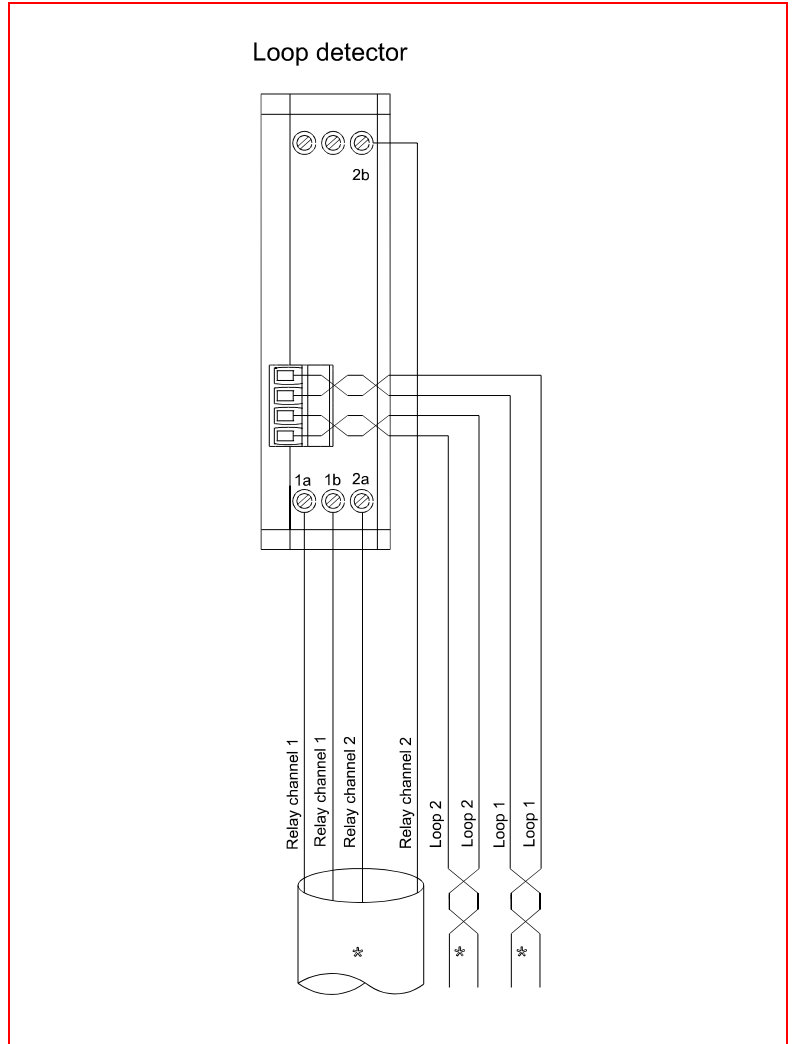
### 1.2.3.6 Loop Connections, Standard-Version, Graphics-Version, Handsfree-Version

Fig. 13: Loop connections, Standard-Version, Graphics-Version, Handsfree-Version)



### 1.2.3.7 Loop connections, Extended-Version

Fig. 14: Loop connections, Extended-Version)



### 1.2.3.8 Earthing connection

The protective earth conductor of the lead must be attached to the central earthing point by way of a ring lug (see connection layout in Fig. 9).

Fig. 15:  
Earthing point

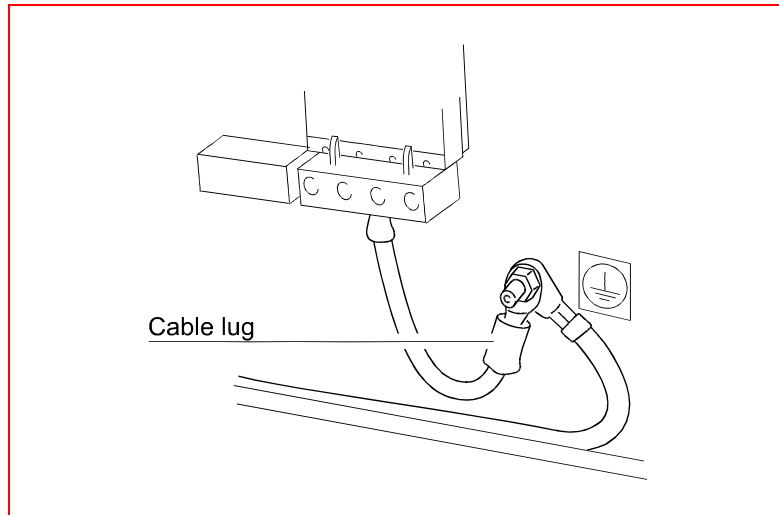
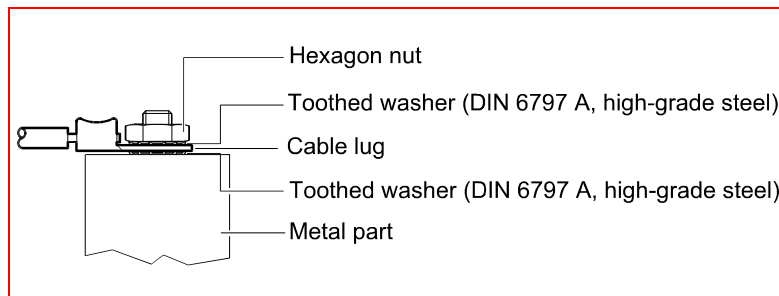


Fig. 16:  
Protective earth conductor



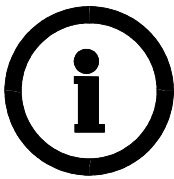
- After installation, ensure proper metal contact of all aluminium parts, i.e. the cable lug and/or metal part (check by measuring)
- If necessary, mill off any aluminium parts at the contact point to ensure proper conductivity (the resistance of the earth conductor must not exceed 0,1  $\Omega$ )

#### After connecting the earth conductor, proceed as follows:

- Check the strain relief clamps for proper fit
- Check to make sure the cables leading to the connection terminals are properly placed in accordance with applicable norms



- Perform a visual check of the insulation to ensure it is in proper condition
- Slightly tug at the wires to check whether the terminal screws are fastened properly
- Check to ensure the connectors are plugged in properly
- Reattach the cover of sd591
- Perform a visual check and manual inspection of the earthing connection
- Check to make sure that none of the wires are strained

**Note:**

If the Parking Column is powered up at temperatures below 2 °C, the control assembly will not start up to prevent possible damage. In that case, the built-in temperature control system will activate the heater (make sure that all doors are closed to allow for the device to warm up as quickly as possible).

**1.2.3.9 Changing the fuse****Important Note:**

A blown fuse indicates a device defect that requires the attention of a **trained service technician**. The fuse must be replaced by a new one of the same type and technical characteristics (see below). Before replacing the fuse, the lead in the power distributor must be deactivated (i.e., disconnected from the mains).

**Fuse characteristics:**

120 VAC = 5 A–T  
230 VAC = 2,5 A–T

Model: Schurter  
Type: SPT 5x20  
Time lag: T  
High breaking capacity: H  
Ceramic tube

**1.2.3.10 Surge protection for external devices**

In case additional devices (e.g., relays, controls, etc) are installed inside the chassis (on the top-hat rail) any relay contacts and coil connections must be protected against transient voltage by means of appropriate components (e.g., diodes, RC elements, varistors, etc).

### 1.2.4 Weather protection



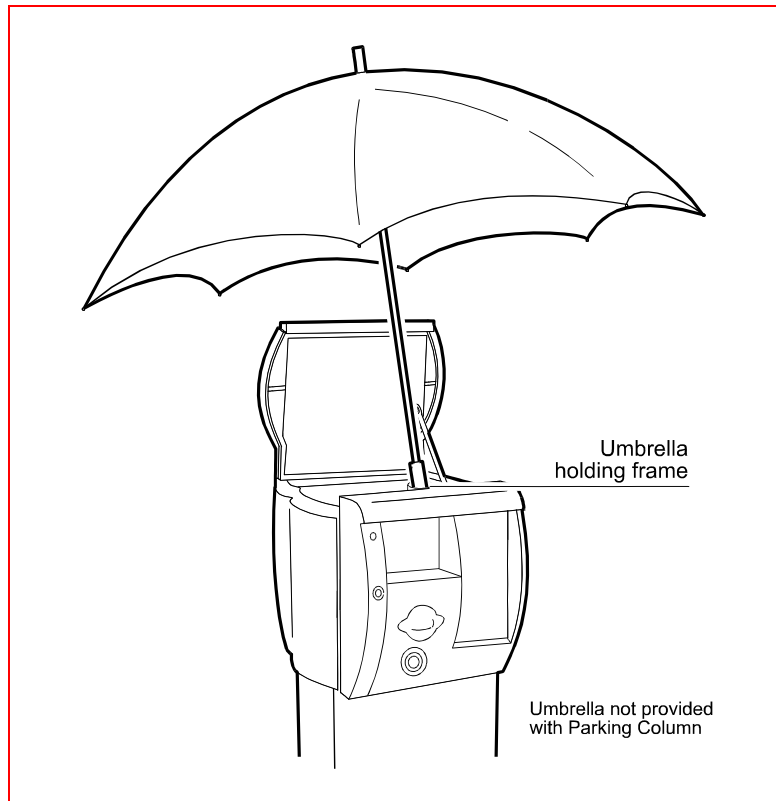
**Important:**

Opening the device while it is exposed to rain or snowfall may cause damage to the components inside.

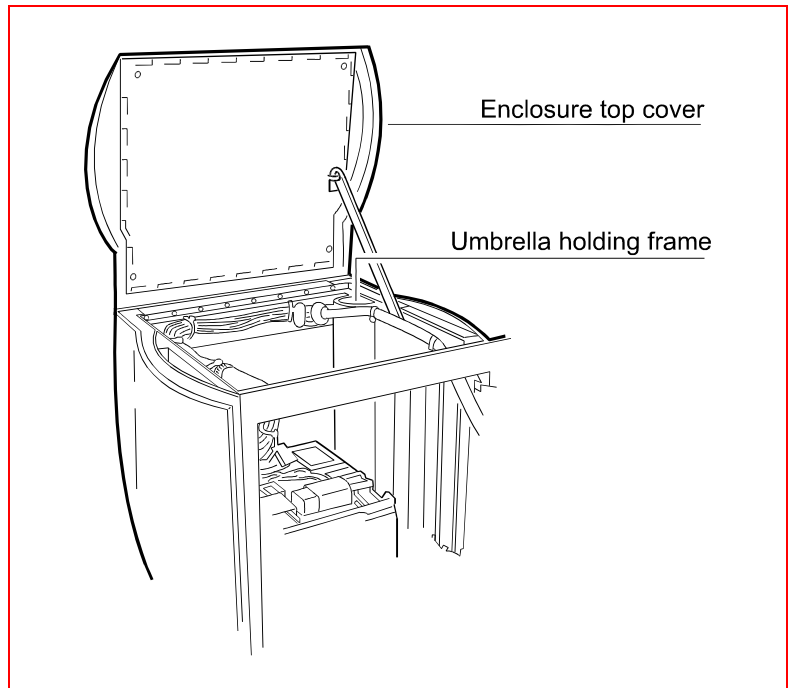
To avoid moisture damage when performing installation work, you can protect the open device against moisture by means of an umbrella (see illustration below).

Before opening the device during or shortly after a rain or snow shower, use a cloth to wipe down the top cover and upper edge of the front panel to avoid moisture getting inside the device.

Fig. 17:  
Using an umbrella for moisture protection when performing maintenance work

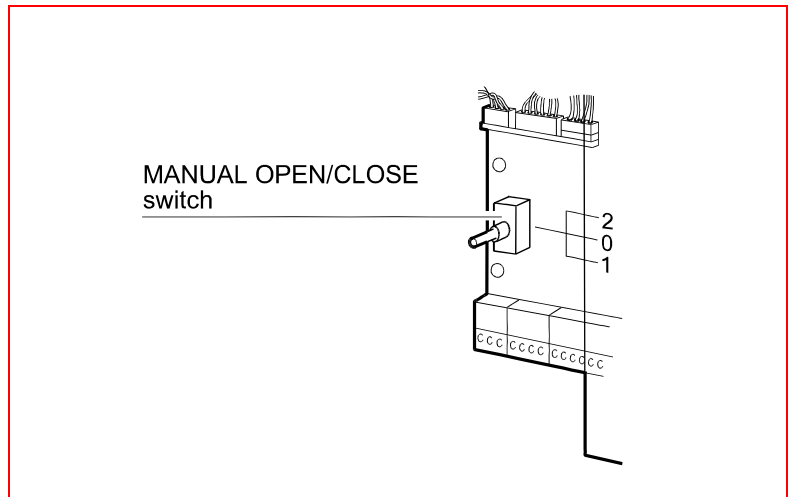


*Fig. 18:*  
*Column top – Detail: umbrella*  
*holding frame*



### 1.2.5 MANUAL OPEN/CLOSE switch

*Fig. 19:*  
*OPEN/CLOSE switch on sd591*



#### Switch positions

- Position 0: Normal operation
- Position 1: Keep CLOSED
- Position 2: Keep OPEN

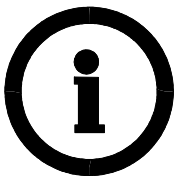
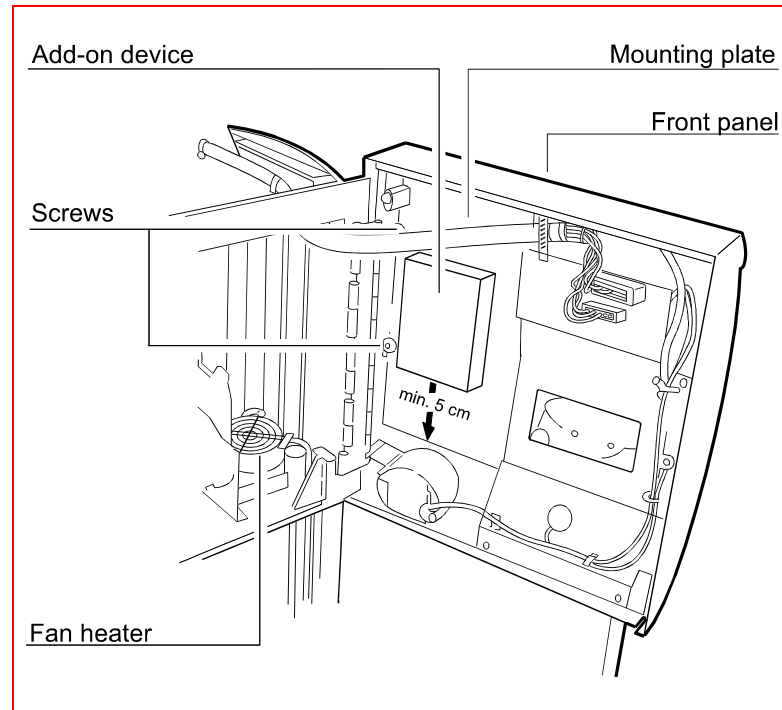
#### Single gate passage

- Briefly set the switch to position 2; after the barrier opens, set it back to the 0 position

- If no vehicle passes through the gate, the barrier will close automatically after approximately ten seconds

### 1.2.6 Installing devices in the front panel

Fig. 20:  
Installing devices in the front panel



**Important:** Devices and cables intended for subsequent installation **must** bear a CE label (EU countries) or UL/CSA label (USA; Canada) and must comply with all national and international standards and guidelines. Installation of such components may only be performed by qualified electricians.

**CAUTION:**

When installing devices in the front panel, ensure a minimum clearance of 5 cm above the fan-heater (see illustration).

**The fan-heater must never be covered to avoid the danger of fire.**

To avoid damage to the device, make sure that the fastening screws of the mounting plate are not screwed in too tightly (max. torque 0,5 Nm).

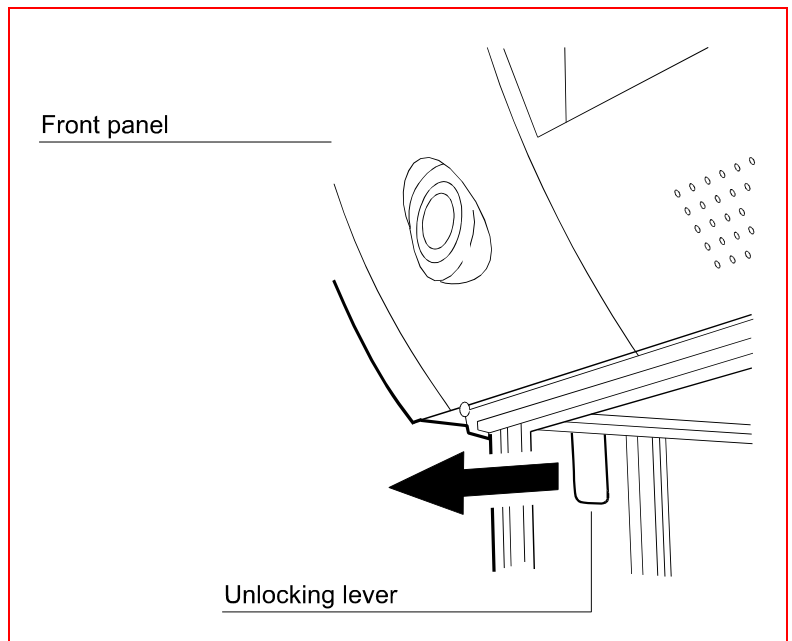
When cutting out the metal plate, make sure it is not warped, as this may cause water to leak into the device.

After installing the desired device(s), check the chassis for tightness against water and snow.

**1.2.7 Opening the front panel**

To open the front panel, open the column door and pull the locking lever on the inside of the chassis wall forward (see illustration).

Fig. 21:  
Opening the front panel

**1.2.8 Closing the Parking Column**

- Close the top cover and the front panel
- After locking the column door, slide the dust cover back over the lock (see Fig. 1)

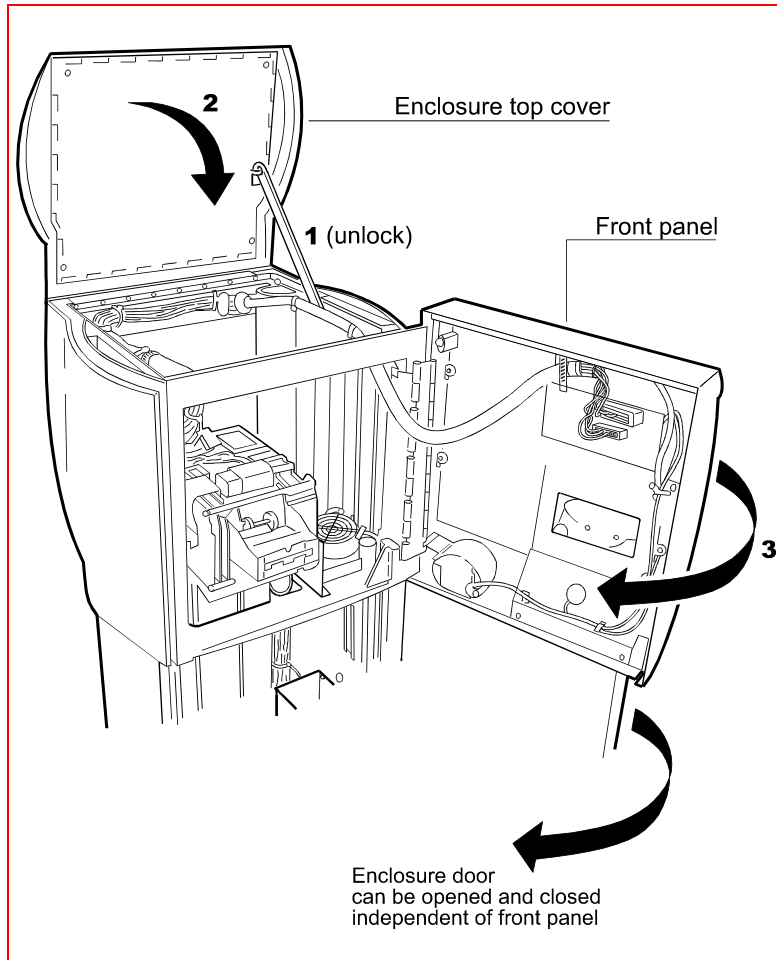


**Important:**

If the front panel is not closed tightly, water or snow may get inside the device, causing damage to the electronic assemblies.

After closing the front panel, pull at it slightly to make sure it is properly closed and locked shut.

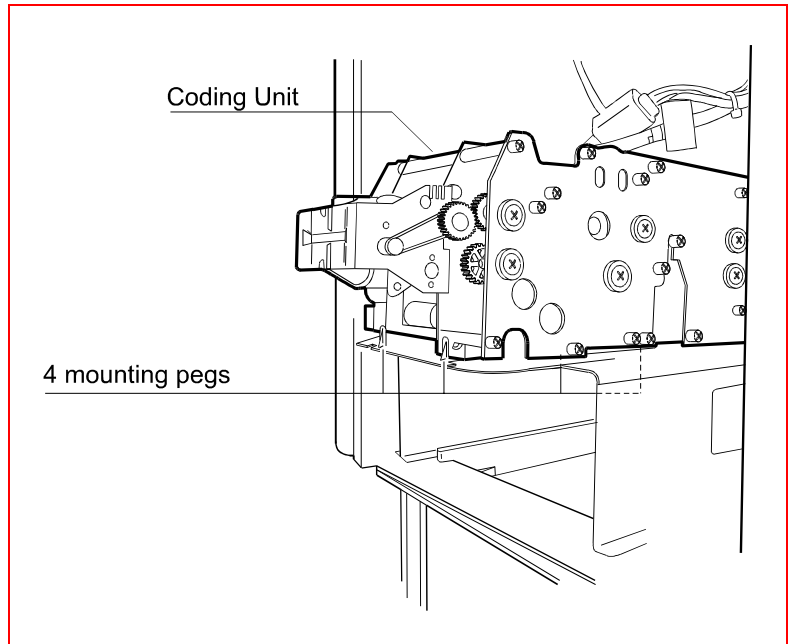
Fig. 22:  
Closing the column top section



### 1.2.9 Installing and Deinstalling the Coding Unit (except Handsfree-Version and OEM-Version)

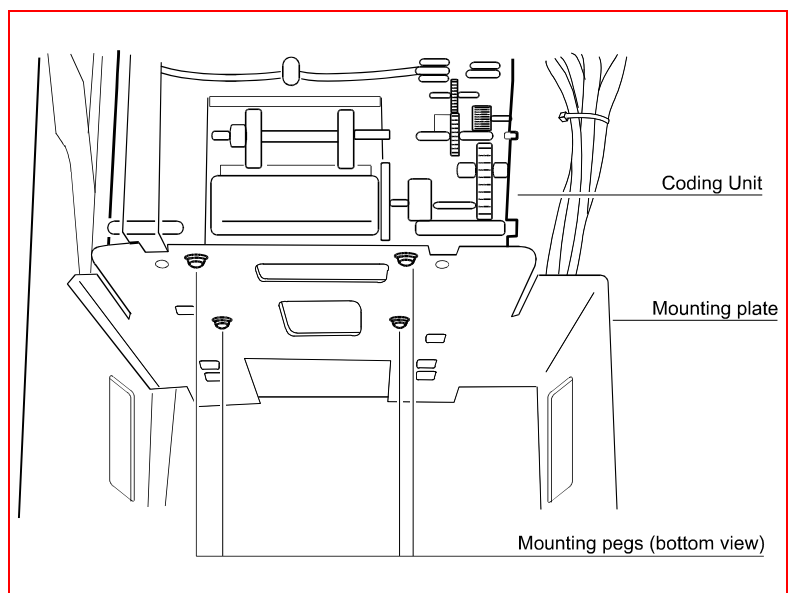
To be able to access the Coding Unit for maintenance purposes, you must first open the front panel (see illustration).

Fig. 23:  
Parking Column unlimited – Coding Unit



The device is secured to the draw-out support plate by means of four mounting pegs (indicated by arrows in the illustration below).

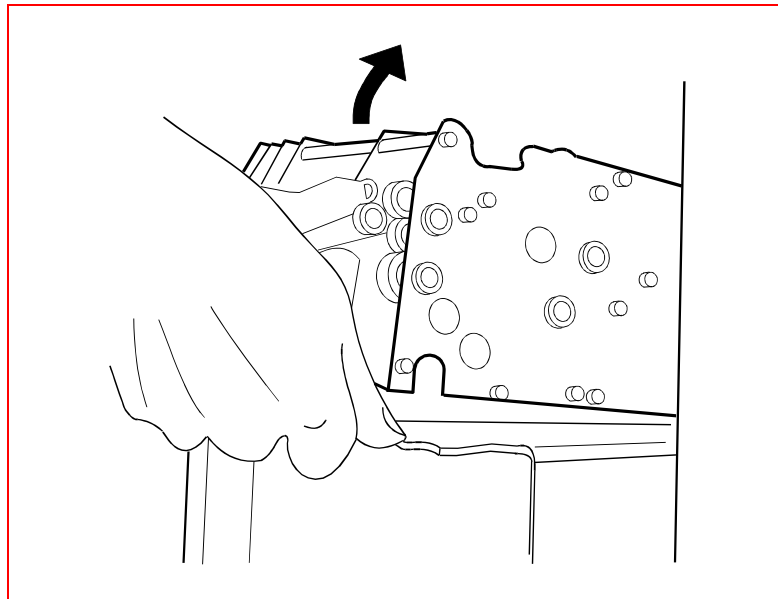
Fig. 24:  
Coding Unit mounting pegs (Bottom view)



### Deinstallation

- Before you dismantle the coding unit, it is essential that you unplug all cables and disconnect the Column from the power supply
- Using your thumb to give you leverage, detach the front panel of the Coding Unit from the support plate (see illustration below) and lift it out of its anchoring (note that you will need to overcome a resistance to do so)

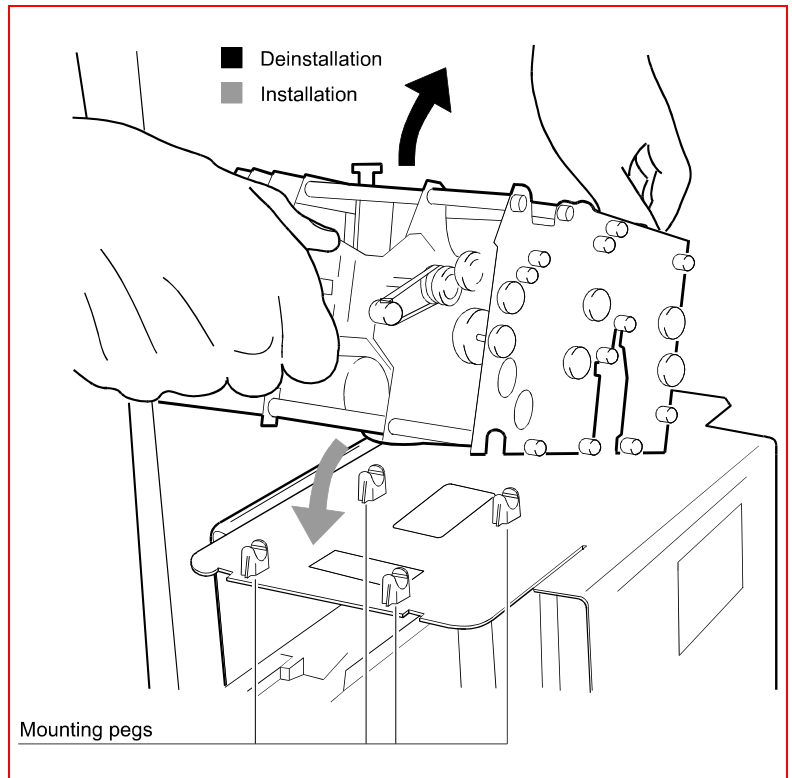
Fig. 25:  
Lifting the front section of the  
Coding Unit



- Next, hold the Coding Unit by the ticket slot, raise it out of its rear anchoring (again overcoming a slight resistance) and lift it off the support plate



Fig. 26:  
Deinstalling and installing the  
Coding Unit



### Installation

- To reinstall the Coding Unit, hold it by the ticket slot, place it on the rear pegs and press it down until it locks into place
- Next, place the front panel of the Coding Unit on the two front pegs and press it down until it also locks into place (in doing so, place your hand against the support plate to avoid it getting warped)
- When re-installing the coding unit, use one hand to apply counter-pressure to the mounting plate from below as you press down the coder into place with your other hand. This is to prevent the mounting plate from warping as a result of the downward pressure being applied during the installation.
- Finally, push the support plate back in as far as it will go

### Wear protection

- After locking the column door, remember to slide the dust cover over the lock to prevent dust and dirt from getting inside