



TECHNIVOLT

Installation Instructions



TECHNIVOLT 100 (Plug socket model)

TECHNIVOLT 101 (Cable model)

Charging station for charging
electric vehicles

DE

EN



1	Introduction	33
2	Intended use	33
3	Safety instructions in this manual	33
4	Safety instructions on the device	34
5	General safety information	34
5.1	Safety instructions for the earthing system.....	35
5.2	Safety instructions for mains cable, mains plug and charging cable	36
5.3	Safety instructions for wall mounting	36
6	Information about the charging station.....	36
6.1	Scope of delivery.....	36
6.2	Type plate.....	37
6.3	Identification of the product variants	37
6.4	Operating elements and connections.....	38
6.5	Device dimensions.....	39
7	Technical Specifications.....	40
7.1	General points.....	40
7.2	Input / power connection.....	40
7.3	Output / vehicle connection.....	40
7.4	Fuses.....	40
7.5	Authorisation.....	40
7.6	Communication.....	40
7.7	Mechanical properties.....	40
7.8	Operating conditions.....	40
7.9	Storage conditions	41
8	Installing the charging station.....	41
8.1	Recommended tools.....	41
8.2	Installation steps.....	41
8.2.1	Opening the cover on the charging station.....	42
8.2.2	Wall mounting.....	43
9	Connecting the charging station.....	45
9.1	Mains connection.....	45
9.2	Data cable connection	47
10	Settings for the charging station	48
10.1	Setting the charging current.....	48
10.2	Optional settings using a DIP switch.....	49
10.2.1	Activating control of the external charging function (function ON / OFF) 49	
10.2.2	Locked cable function (only TECHNIVOLT 100).....	51
10.2.3	Intelligent charging control - load management.....	52
11	Load shedding	55
12	Monitoring welded relay contacts	56
13	Shutdown and re-start of the charging station	57
14	Disposal	57
15	CE mark and declaration of conformity.....	58
16	Contact address	58
17	Service instructions	58
18	Copyright.....	58

1 Introduction

These instructions describe the mechanical and electrical installation of the charging station **TECHNIVOLT 100** and **TECHNIVOLT 101**. It is addressed to a qualified electrician who, on account of his technical training, knowledge and experience and knowledge of the applicable standards can assess, execute and detect any possible dangers associated with the working steps described in these instructions.

These operating instructions are an integral part of the product and must be kept safely for its entire service life.

Please read these instructions in full before installation or commissioning.

2 Intended use

The charging station is designed exclusively for charging electric vehicles using charging mode 3 (Mode 3 in accordance with the standard IEC 61851-1. Connecting other devices is not permitted.

Intended use of this device always includes compliance with the operating instructions.

3 Safety instructions in this manual

The following symbols and warning instructions are used in this manual and they must be observed.



DANGER

Indicates a danger that can lead to death or severe injury if it is not avoided.



WARNING

Indicates a dangerous situation that can lead to death or severe injury if it is not avoided.



CAUTION

Indicates dangers that can lead to damage to the device itself or to other electrical consumers.



NOTE

Indicates important information and special features.



Warns about electric danger



Disconnect the power before working.

4 Safety instructions on the device

Safety signs are mounted on the charging station and must be complied with.



Read the installation instructions before you open the charging station or start installation of the charging station.



A dangerous electrical voltage may be present inside the charging station after opening the housing.

5 General safety information



DANGER

Danger to life from electrical power.

All assembly and installation work should be carried out by an expert electrician. A skilled person is someone who, on account of their technical training and experience, has adequate knowledge in the field of the installation to be tested, and who is acquainted with the applicable governmental safety at work regulations, accident prevention regulations, guidelines and the generally-accepted rules of technology (e.g. DIN standards, VDE stipulations) to an extent that he can assess the safe working status of the installation. Skilled persons can be persons such as works engineers, master craftsmen, technical staff and fitters.

The person carrying out the installation must be fit for the work involved in accordance with DGUV Regulation 103-011 "Working on live electrical systems and operating material".



WARNING

Never permit persons (including children) with limited physical, sensoral or mental capacities, or with a lack of experience and / or knowledge to use the electrical equipment unsupervised!

Non-observance of these warnings can lead to death and severe injury.



NOTE

The alternating current mains connection and the loading plan for the charging station for electric vehicles must be checked and approved by the authorities in accordance with the applicable regional or national regulations and standards for electric vehicles. The loading plan must be created accordingly for installations with several charging stations for electric vehicles. The manufacturer is not liable, either directly or for any other reason, for damage and risks produced by errors caused by the mains connection or load planning.

For your own protection, please read through the safety instructions carefully prior to installation.

- Keep these installation instructions safe. These safety and installation instructions must be kept in safe keeping for consultation at a later date.

- Check the voltage stated on the type plate and use the charging station only with a suitable power supply voltage.
- Do not continue using the device if you are unsure whether it is functioning correctly, or may be damaged - switch it off and set the main power circuit breaker and residual current device to OFF. Contact your local dealer.
- The ambient temperature must be between $-35\text{ }^{\circ}\text{C}$ and $+55\text{ }^{\circ}\text{C}$, without direct sunlight, and relative humidity must be between 5 % and 95 %. The charging station must be only used within these operating conditions.
- The device must be located in a position that avoids excessive heating up of the charging station. High operating temperatures, caused by direct sunlight or sources of heat, can reduce the charging current or can temporarily interrupt the charging process.
- The charging station is designed for both outdoor and indoor use.
- In order to reduce the danger of fire and the danger of electrocution or product damage, do not expose the device to rain, snow, thunderstorms or other severe weather events. In addition, the charging station must not be exposed to spillages or sprayed fluids.
- Do not touch the connection terminals, the electric vehicle plug and all other live parts on the charging station with sharp metal objects.
- Avoid contact with sources of heat and locate the device at a safe distance from flammable, potentially explosive, reactive, and combustible materials, chemicals and vapours.
- Explosion risk This device has parts within it that may cause electric sparks and discharges and which should never come into contact with flammable vapours. It must not be installed in recesses or cellar rooms.
- The device is intended only for the charging of electric vehicles whose charging can be carried out without ventilation.
- In order to prevent the danger of an explosion or electrocution, make sure that the stipulated line protection switch and the ground fault circuit interrupter are correctly connected to the electric mains in the building.
- The bottom of the charging plug socket (TECHNIVOLT 100) should be located at a height of 1 m to 1.5 m above floor level.
- One must not use adapters or conversion adapters. Cable extension leads must not be used.
- The charging station must not be installed in areas where there is a danger of high water.

5.1 Safety instructions for the earthing system

- The charging station must be connected to a centrally earthed system. The earth line that goes into the charging station must be connected to the grounding lug of the device. This must be carried out with power circuit conductors while connected to the earthing rail of the device or on the charging station. Connection to the charging station is the responsibility of the installer and the purchaser. In order to reduce the danger of electrocution, connect the device using only properly earthed plug sockets.
- **WARNING!** Make sure that the charging station is constantly and properly earthed during installation and use.

5.2 Safety instructions for mains cable, mains plug and charging cable

- Make sure that the charging cable at the side is compatible with the charging station.
- A damaged charging cable can cause fires or electrocution. Do not use this product if the flexible charging cable or the vehicle cable is frayed, has damaged insulation, or displays other indications of damage.
- Make sure that the charging cable is positioned in such a way that nobody can step on it or trip over it, and that it is neither damaged nor over-stretched.
- Never forcefully pull on the charging cable and do not damage it with sharp objects.
- Never touch the mains cable or the plugs with wet hands since this may cause a short-circuit or electrocution.
- In order to avoid the danger of fire or electrocution, the device must not be used with extension cables. If the mains cable or the vehicle charging cable are damaged, they must be replaced by the manufacturer, his customer service engineers or a similarly qualified person in order to avoid hazards.

5.3 Safety instructions for wall mounting

- Do not install the charging station on the ceiling or an inclined wall.
- The charging station must only be operated when mounted vertically.
- The charging station must not be installed in enclosed cabinets.
- Use only the screws and accessories provided for wall mounting
- The device is designed for use indoors and outdoors. If the device is to be installed outdoors, all the connection devices for outdoor operation must be designed and properly installed so as to ensure that the prescribed IP protection rating is retained.

6 Information about the charging station

6.1 Scope of delivery

1 **TECHNIVOLT** charging station

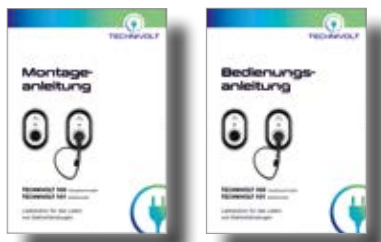
1 set of assembly instructions

1 instruction manual

1 installation template

1 set of installation accessories:

- 4 plastic plugs, M8 x 50 mm
- 4 safety screws, Torx T25, M6 x 75 mm
- 1 safety angle wrench, Torx-TR 20
- Wrenches for cable connections M20 and M32



1 Master RFID card



2 user RFID cards



6.2 Type plate

The type plate is located on the right-hand side of the charging station. The following image shows all details on the type plate.

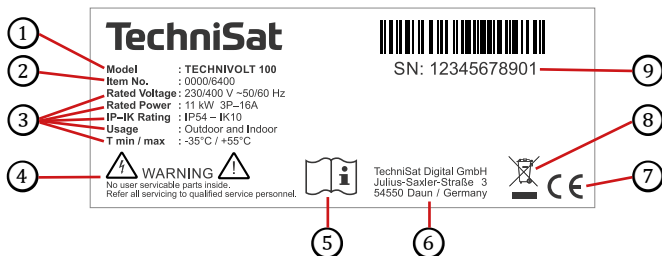


Illustration 1: Type plate

1	Product designation	6	Distributing company
2	Item number	7	CE marking
3	Technical data	8	Disposal instructions
4	Safety advice	9	Serial number
5	Read the installation instructions		

6.3 Identification of the product variants

The article number is relevant for identification of the charging station (see Illustration 1, No. 2).

Item number	Designation	Variants
0000/6400	TECHNIVOLT 100	An 11 kW charging station with integrated charging plug socket built in accordance with IEC 62196-2 Type 2
0000/6401	TECHNIVOLT 101	An 11 kW charging station with charging cable firmly connected built in accordance with IEC 62196-2 Type 2

6.4 Operating elements and connections

TECHNIVOLT 100

With integrated charging plug socket

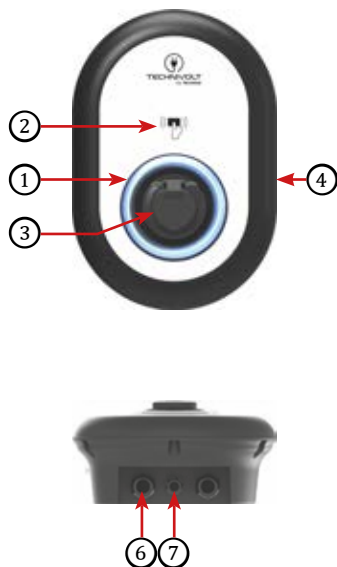


Illustration 2: TECHNIVOLT 100

TECHNIVOLT 101

With charging cable firmly connected

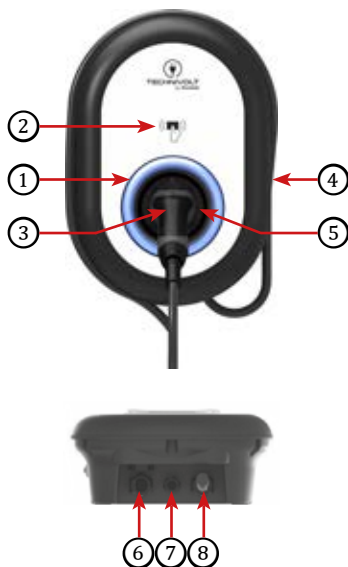


Illustration 3: TECHNIVOLT 101

1 LED status indicator	1 LED status indicator
2 RFID reader	2 RFID reader
3 Charging plug socket type 2	3 Charging plug type 2
4 Type plate	4 Type plate
5 -	5 Blind socket for charging plug
6 Input AC infeed, M32 M32 bushing	6 Input AC infeed, M32 bushing
7 Input communication cable, M20 bushing	7 Input communication cable, M20 bushing
	8 Charging cable

6.5 Device dimensions

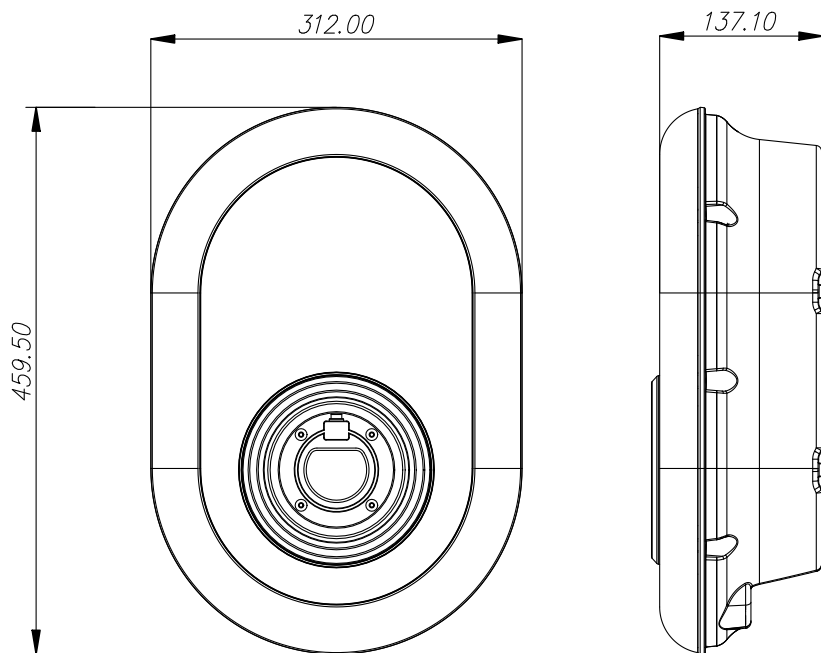


Illustration 4: Device dimensions

DE

EN

7 Technical Specifications

7.1 General points		
Model	TECHNIVOLT 100	TECHNIVOLT 101
Item number:	0000/6400	0000/6401
EAN	4019588064003	4019588064020
IEC protection class	Class I	Class I
7.2 Input / power connection		
Nominal voltage	230 / 400 V	230 / 400 V
Nominal current rating	16 A, 3-phase	16 A, 3-phase
Rated frequency	50 / 60 Hz	50 / 60 Hz
Power consumption on standby	3.5 W	3.5 W
Mains infeed	5 x 4 mm ² (< 50 m), 15-21 mm dia.	5 x 4 mm ² (< 50 m), 15-21 mm dia.
7.3 Output / vehicle connection		
Charging operating mode	Mode 3, IEC61851-1	Mode 3, IEC61851-1
Charging connection	Plug socket type 2, IEC-62196	Charging cable 5m with type 2 coupling, IEC-62196-2
Output voltage	230 / 400 V	230 / 400 V
Maximum charging current	16 A per phase	16 A per phase
Maximum charging power	11 kW	11 kW
7.4 Fuses		
DC residual current detection	RCM internal, $I_{An} \geq 6$ mA	RCM internal, $I_{An} \geq 6$ mA
Line protection switch (MCB) in input / power connection	Trigger characteristics C For details, see Chapter 10.1	Trigger characteristics C For details, see Chapter 10.1
Ground fault circuit interrupter (RCCB) in input/power connection	4P-20A-30mA, type A	4P-20A-30mA, type A
7.5 Authorisation		
RFID	ISO-14443A/B and ISO-15693	ISO-14443A/B and ISO-15693
7.6 Communication		
Data interface	RS484, Modbus	RS484, Modbus
7.7 Mechanical properties		
Casing material	Plastic, flame-resistant	Plastic, flame-resistant
Bushing for mains infeed	M32, for cable 15-21 mm dia.	M32, for cable 15-21 mm dia.
Bushing for data cable	M20, for 2 cables \emptyset	M20, for 2 cables \emptyset
Weight device	4.315 kg	
Device dimensions	315 mm (width) x 460 mm (height) x 135 mm (depth)	315 mm (width) x 460 mm (height) x 135 mm (depth)
Weight, including packaging	6.315 kg	
Packaging dimensions	398 mm (width) x 520 mm (height) x 237 mm (depth)	398 mm (width) x 520 mm (height) x 324 mm (depth)
7.8 Operating conditions		
Protection class	IP54	IP54
Impact resistance	IK10	IK10
Temperature	-35 °C to 55 °C (without direct sunlight)	-35 °C to 55 °C (without direct sunlight)

Humidity	5 % to 95 % (relative, non-condensing)	5 % to 95 % (relative, non-condensing)
Operating height	0 to 4,000 m above Sea level	0 to 4,000 m above Sea level
7.9 Storage conditions		
Temperature	-40 °C to 80° C (without direct sunlight)	-40 °C to 80° C (without direct sunlight)
Humidity	5 % to 95 % (relative, non-condensing)	5 % to 95 % (relative, non-condensing)
Operating height	0 to 5,000 m above Sea level	0 to 5,000 m above Sea level

8 Installing the charging station

8.1 Recommended tools










		
Drill bit, 8 mm dia.	Hammer drill	Spirit level
		
Voltmeter	Torx-TR 25 safety screwdriver	EVC tester
		
Screwdriver (width 2-2.5 mm)	Centre punch or pencil	Angle adapter hex-bit & Torx-TR 20 safety bit

Table 1: Recommended tools

8.2 Installation steps



CAUTION!

- Make sure that the earthing resistance of the installation is less than 100 Ohms
- Read these instructions before mounting your charging station on the wall.
- Do not install the charging station on the ceiling or an inclined wall.
- Use only the screws and accessories provided for wall mounting
- This charging station is designed for installation indoors and outdoors. If the device is installed outside the building, the hardware used to connect the cables to the charging device must be compatible with outdoor use, and the charging station must be installed in such a way that the IP54 protection rating is retained.

8.2.1 Opening the cover on the charging station



DANGER

Danger to life from electrical power.

There is an immediate danger to life by electrocution if you touch live parts. De-energise the installation before starting work.

Observe the 5 safety rules to prevent electrical accidents.

- Release.
- Secure against restarting.
- Validate that the power is off.
- Earth and short-circuit.
- Cover or cordon off any adjacent live parts.

Open the charging station as described in Illustration .

1. Remove the cover screws using the Torx TR 20 safety angle wrench or the angle adapter with the Torx TR 20 safety bit.
2. Open the cover.

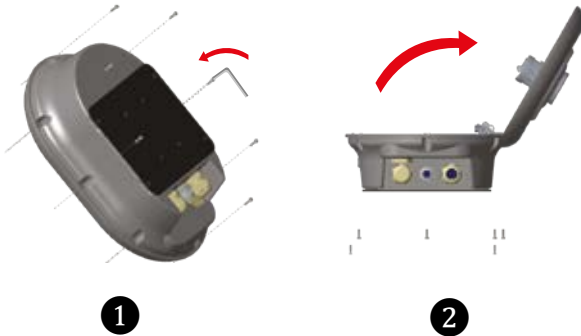
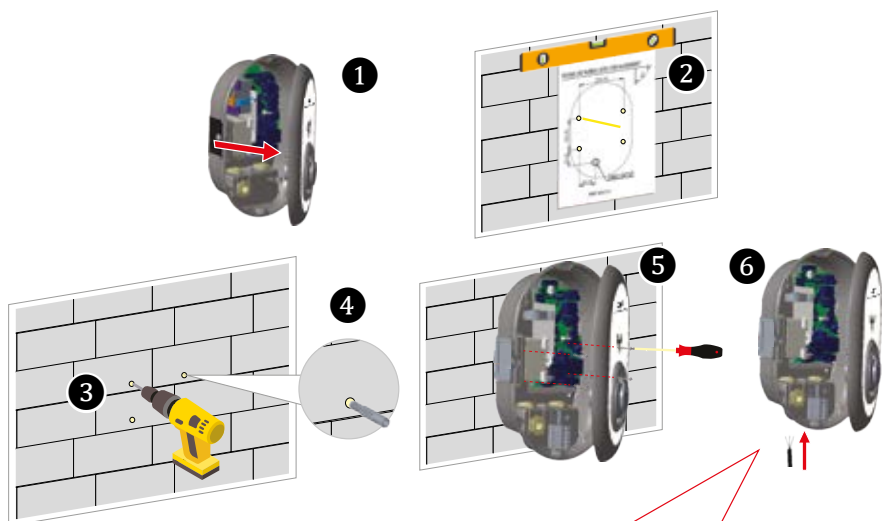


Illustration 5: Opening the charging station

8.2.2 Wall mounting



Before taking the next step (7), read the instructions in Chapter „9 Connecting the Charging Station“, Page 45.

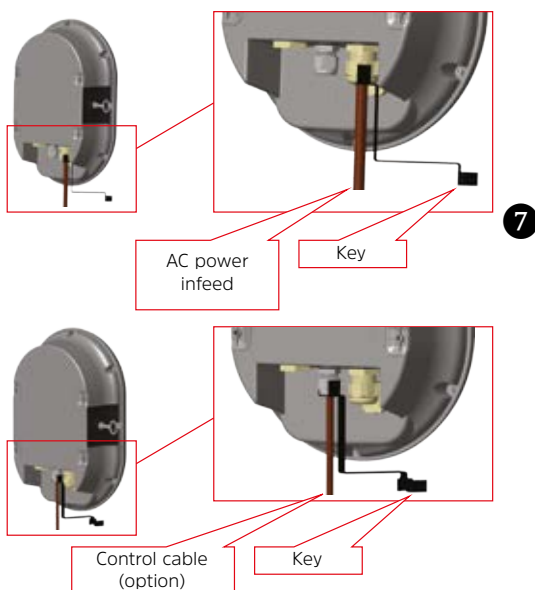


Illustration 6: Wall mounting

Before closing the cover on the charging station, follow the instructions in Chapter „10 Settings for the Charging Station“, Page 48 and in the following sections from there if using functions with reference to these sections.

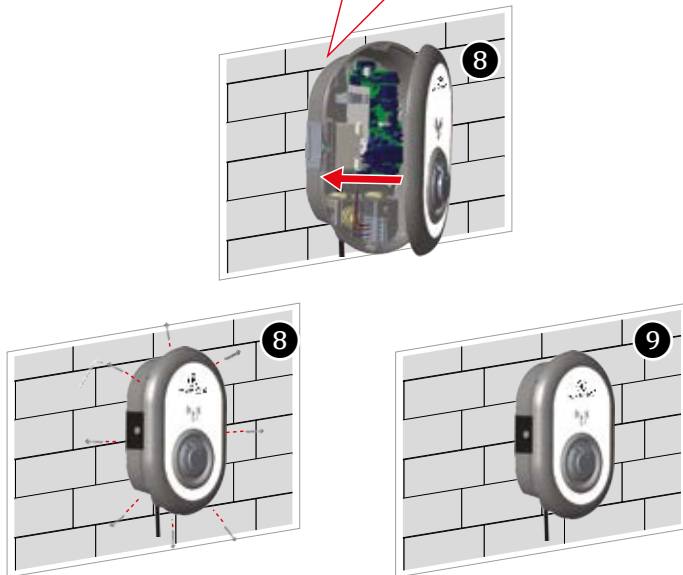


Illustration 7: Wall mounting

1. Open the front cover on the product in accordance with the instructions in „8.2.1 Opening the cover on the charging station“, Page 42.
2. Centre the charging station with the aid of the drilling template and mark the holes with a pencil.
3. Drill the wall at the marked points using the hammer drill (8 mm drill bit).
4. Insert the plugs into the holes.
5. Tighten the safety screws (M6 x 75) on the product using the Torx TR 25 safety screwdriver.
6. Direct the open connection cables through the hole on the left at the bottom into the charging station. Follow the instructions for establishing a mains connection (see Section 9.1) and setting the charging current (see Section 10.1).
7. Tighten the cable screwed connections as shown in the figure. Before closing the cover on the charging station, follow the instructions in Chapter „10 Settings for the Charging Station“, Page 48 and in the following sections from there if using functions with reference to these sections.
8. To close the cover on the charging station, tighten the previously removed cover screws using the Torx TR20 safety angle wrench, or the right-angle angled adapter hexagon bit with the Torx TR20 safety bit.
9. The installation of the charging station on the wall is now complete.

9 Connecting the charging station

The following chapter describes the 3-phase mains connection of the charging station.

9.1 Mains connection



DANGER

Danger to life from electrical power.

There is an immediate danger to life by electrocution if you touch live parts.

De-energise the installation before starting work.

Observe the 5 safety rules to prevent electrical accidents.

- Release.
- Secure against restarting.
- Validate that the power is off.
- Earth and short-circuit.
- Cover or cordon off any adjacent live parts.

You must dimension the mains infeed at least as described in Chapter „7 Technical Specifications“, Page 40. The outside diameter of the mains infeed line must be between 15 mm and 21 mm.

1. Guide the cables into the device and the terminal rail as shown in Figure Illustration .

2. Tighten the screws on the terminal rail as shown in Figure Illustration to a tightening torque of 2.5 Nm.

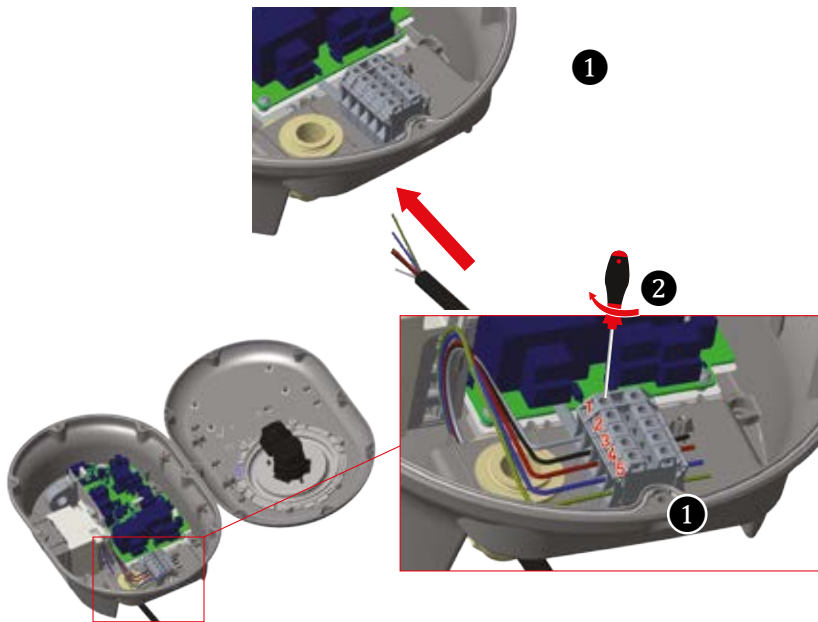


Illustration 8: Mains connection, 3-phase

**NOTE**

The charging station can also be connected with a single phase. The maximum charging power then is 3.7 kW (230 V x 16 A x 1).

We recommend a 3-phase connection to the charging station in order to achieve the maximum charging power of 11 kW (230 V x 16 A x 3).

The individual wires in the mains infeed must be connected to the terminal rail as described in the following .

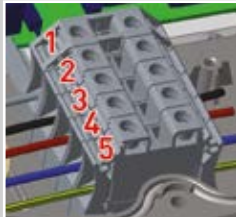
Mains connection terminal  No.	Cable colour, mains infeed	
	3-phase	1-phase
1	L3 (grey)	
2	L2 (black)	
3	L1 (brown)	L1 (brown)
4	Neutral wire (blue)	Neutral wire (blue)
5	Protection wire (green-yellow)	Protection wire (green-yellow)

Table 2: Mains connection

**NOTE**

The standard charging current is set to 16 A

Changing the charging current is described in Chapter „10.1 Settings for the Charging Current“, Page 48.

9.2 Data cable connection

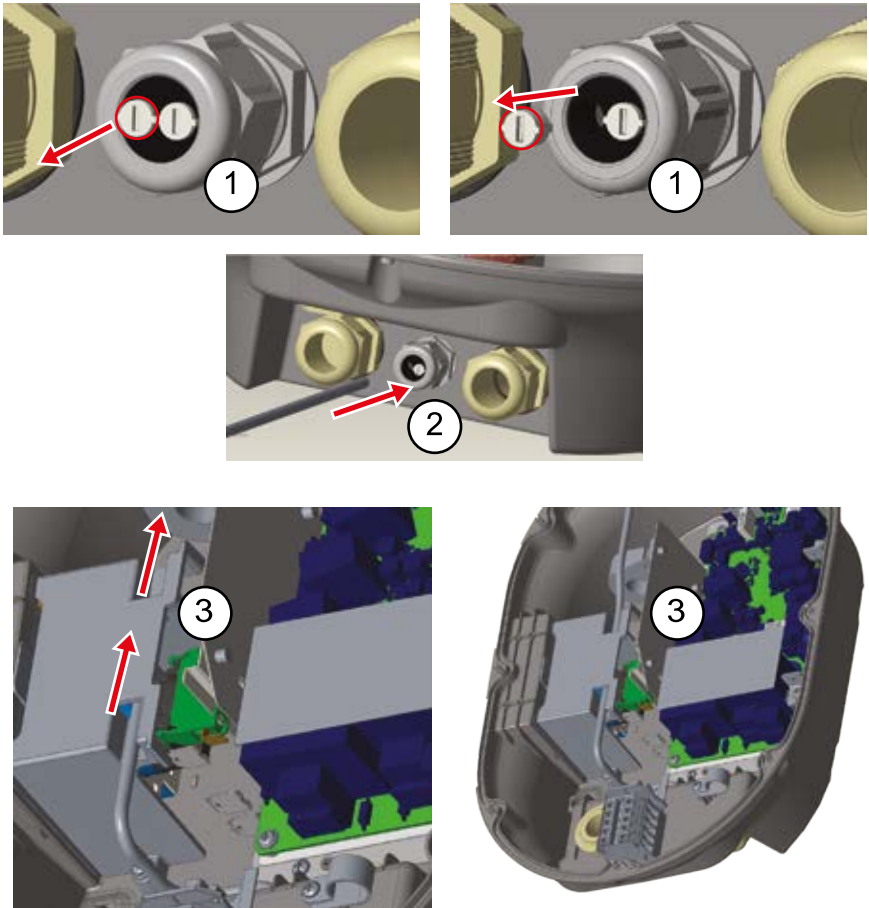


Illustration 9: Figure 8

1. Remove the rubber closure.
2. Guide the cable through the cable opening.
3. Guide the cable through the openings in the holding bracket (as shown in the photograph).
4. Follow the additional information in chapters 10.2.1, 10.2.3, 11 or 12 to connect the wires, depending on the function(s) to be used.

DE
EN

10 Settings for the charging station

10.1 Setting the charging current



CAUTION

Power line overload.

The charging current should never be set higher than the rating of the line fuse.

The charging current on the charging station must be set in accordance with the line fuse in the building. The charging current is set using the rotary knob SW2.

The arrow in the centre of the rotary knob SW2 (see Illustration) is set to the desired current level position by carefully turning it with a flat screwdriver (tip width 2.0-2.5 mm) (see Tabelle 3).

The standard charging current is set to 16 A.



Illustration10: Rotary knob SW2 for charging current setting

Position SW2	Current threshold		
	Phase	Power	Power rating
0	1-phase	10 A	2.3 kW
1		13 A	3 kW
2		16 A	3.7 kW
3		-	
4		-	
5		-	
6		-	
7		-	
8	3-phase	10 A	6.9 kW
9		13 A	9 kW
A		16 A	11 kW
B		-	
C		-	
D		-	
E		-	
F		-	

Table 3: Setting the charging current

The prescribed line protection switch in the AC power infeed	
Rotary knob SW2 set to	MCB, C curve
10 A	13 A
13 A	16 A
16 A	20 A

Table 4: Dimensioning the line protection switch

10.2 Optional settings using a DIP switch

Optional functions of the charging station can be activated using a DIP switch. The DIP switch is located on the PCB in the charging station.

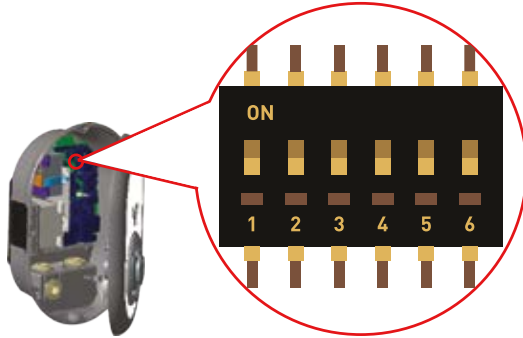


Illustration.11:DIP switch on the PCB

The descriptions of the DIP switch settings are given in the following table.

Switch number	Description
1	RFID Master and user card reset
2	„Activating control of the external charging function (function ON/)“, Chapter 10.2.1
3	„Locked cable function (only TECHNIVOLT 100)“, Chapter 10.2.2
4 / 5 / 6	„Intelligent charging control - load management“, Chapter 10.2.3

Table 5:DIP switch

10.2.1 Activating control of the external charging function (function ON/OFF)

Your charging station has an external potential-free activation/deactivation function which can be used for integration of your charging station in a multi-storey carpark automation system, ripple control receivers for energy suppliers, timers, photovoltaic power inverters, auxiliary load check switches, external key-switches etc. DIP switch no. 2 serves to activate and deactivate this function.

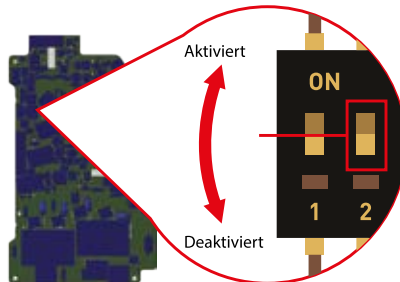


Illustration 12:DIP switch no. 2

You can connect potential-free input signals as shown in Illustration.13.

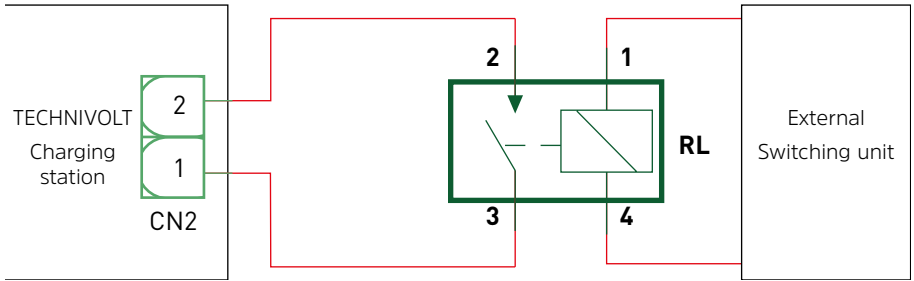


Illustration 13: Function circuit "External Charging Function"

Connecting the control line to the charging station is carried out as follows Illustration .



NOTE

Introduction of the control line into the charging station is described in Chapter „9.2 Data cable connection“, Page 47.

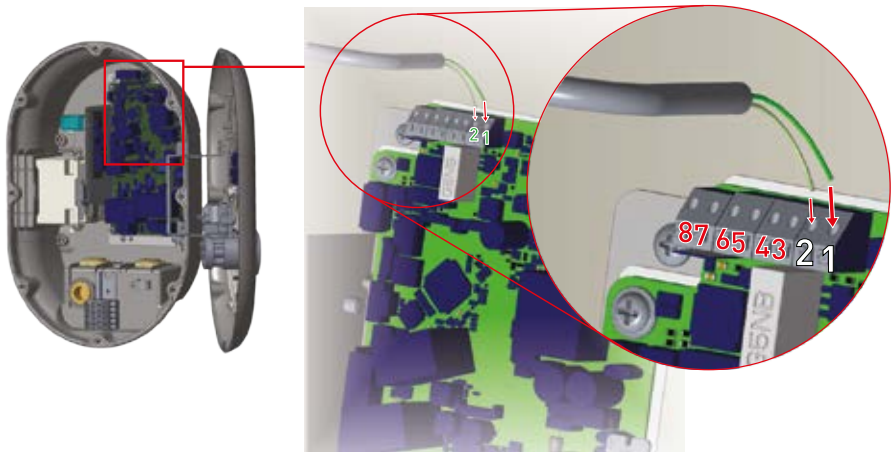


Illustration 14: Cable connection "External Charging Function"

Cable connection	Cable colour
1 (CN2-1)	Green
2 (CN2-2)	Green + white green

Table 6: Cable connection "External Charging Function"

10.2.2 Locked cable function (only TECHNIVOLT 100)

The charging plug socket is equipped with a locking function. If the charging plug on the charging cable is in the charging plug socket, and the function is activated, it is no longer possible to remove the charging plug from the charging plug socket. Anti-theft protection!

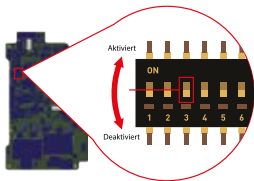
1. Switch the charging station off at the line protection switch.



2. Open the charging station as described in 8.2.1.



3. Switch DIP switch no. 3 to ON using a pointed plastic tool to activate the cable locking function. The position of the DIP switches is shown in the following illustration.



4. Close the charging station as described in 8.2.2.



5. Open the front cover on the plug socket and insert the charging cable into the plug socket.



6. Switch the charging station on. The charging cable is locked and the charging station behaves like a cable model.



NOTE

The charging cable cannot be withdrawn if this function is active (PIN 3 is switched on). The plug is not unlocked until this function is deactivated (PIN 3 is OFF).

Illustration 15: Locked cable function

10.2.3 Intelligent charging control - load management



NOTE

This function requires an optional energy meter (MID) which is available separately.

In intelligent charging control, the total current taken from the charging station and from the other domestic equipment via the main infeed line of the building is measured by an energy meter (MID) integrated in the main power line.

The MID is connected to the charging station to be controlled with a twin-core cable. Communication is according to the Modbus protocol.

The house connection value (in amps) is set using the DIP switch in the charging station. In accordance with the threshold value set by the user, the charging station adapts its output charging current dynamically to suit the measurement of the main power line. The charging station regulates the charging power of the electric vehicle according to the load on the main infeed to the house.

If the total current taken up by the charging station and the house equipment reaches the threshold value set on the DIP switch, the charging power on the charging station is reduced.

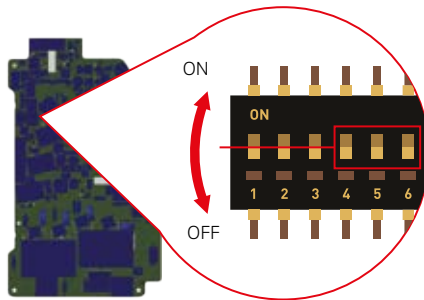


Illustration 16: DIP switches no. 4, 5, 6

The DIP switches no. 4, 5, and 6 correspond to the binary figures of the maximum current value, as shown in the following . The intelligent control system is deactivated if switches 4, 5, and 6 are in the OFF position.

DIP switch positions			Maximum house connection value	
4	5	6		
OFF	OFF	OFF	Intelligent control system deactivated	
OFF	OFF	On	16 A	11 kW
OFF	On	OFF	20 A	13.8 kW
OFF	On	On	25 A	17 kW
On	OFF	OFF	32 A	22 kW
On	OFF	On	40 A	27.6 kW
On	On	OFF	63 A	43.5 kW
On	On	On	80A	55.2 kW

Table 7: Settings of DIP switches no. 4, 5, 6

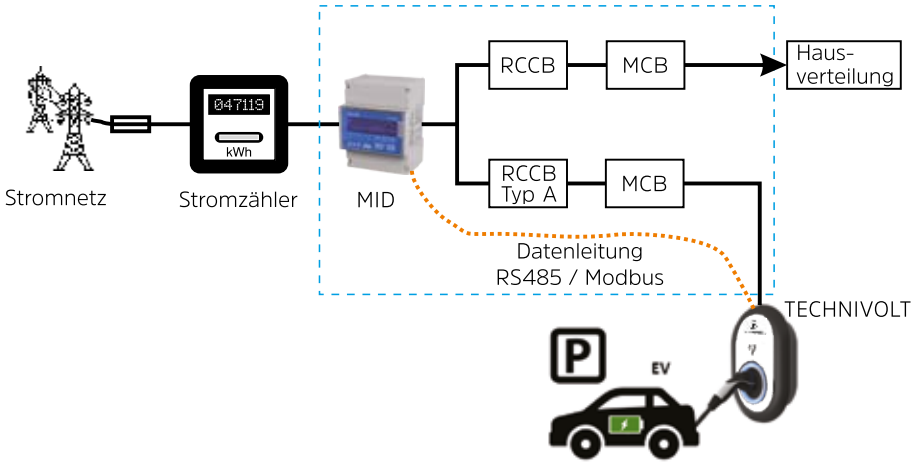


Illustration 17: Schematic of the intelligent control system

The energy meter (MID) should be installed immediately after the domestic electricity meter (see Illustration).

The cabling of the energy meter (MID) can be produced in accordance with the following information.

Three phase	Single phase
<p>Illustration 18: MID 3-phase</p>	<p>Illustration 19: MID 1-phase</p>
<p>Pins 22-23: A-B (COM) Modbus connection via RS485 for a three-phase connection.</p>	<p>Pin 10-11: A-B (COM) Modbus connection via RS485 for a single-phase connection.</p>

Connecting the data line to the charging station is carried out as follows Illustration .



NOTE

Introduction of the data line into the charging station is described in Chapter „9.2 Data cable connection“, Page 47.

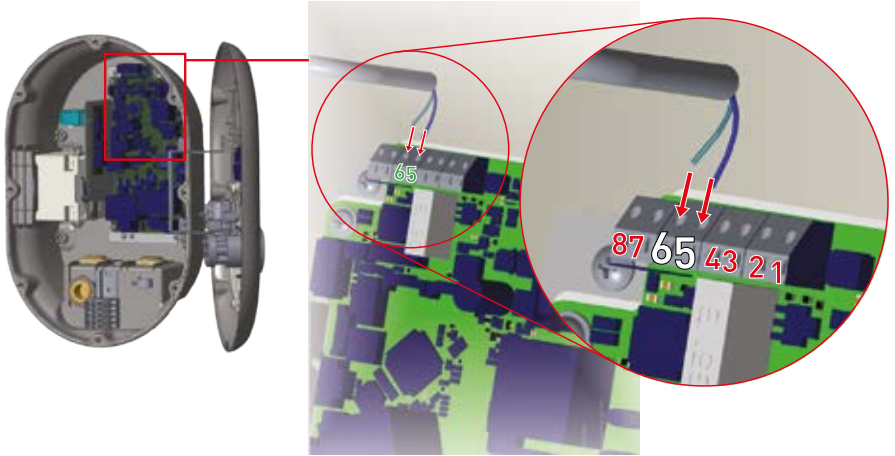


Illustration 20: Connection data line MID

Cable connection	Cable colour	Description
6 (CN20-2)	White blue	A (COM)
5 (CN20-1)	Blue	B (COM)

Table 8: Connection data line MID

11 Load shedding

This charging station supports the load shedding function which permits an immediate reduction in the charging current if the supply is limited. The load shedding triggering signal is a dry contact signal which needs to be provided externally.

The charging current is reduced to 8A when load shedding is activated. The charging process continues at the maximum available current when load shedding is deactivated.

You can connect the potential signal for free load shedding as shown below

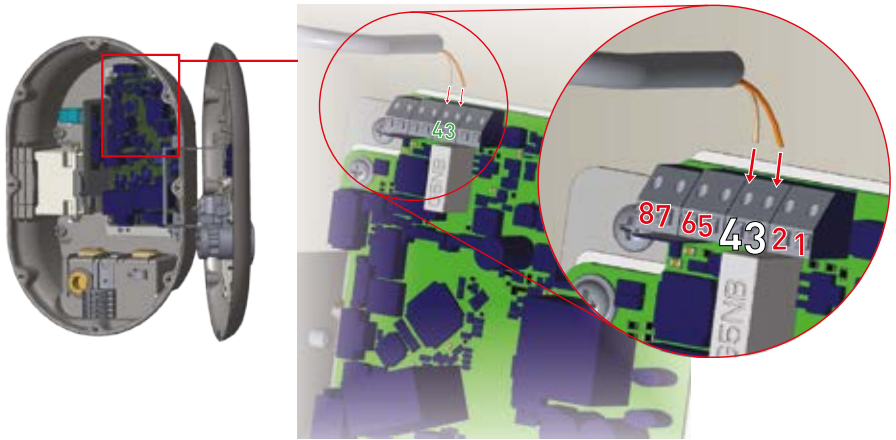


Illustration 21: Connection data line load shedding

Cable connection	Input
3	Load shedding input +
4	Load shedding input -

Table 9: Connection of control line for load shedding

Load shedding input status	Behaviour
Open contact	Charging at max. available current
Closed contact	Charging at min. current (8A)

Table 10: Load shedding behaviour



NOTE

Introduction of the control line into the charging station is described in Chapter „9.2 Data cable connection“, Page 47.

12 Monitoring welded relay contacts

The **TECHNIVOLT** charging station has a function for detecting welded relay contacts in accordance with the requirements of IEC 61851-1 and EV/ZE Ready. This information is provided by the PCB.

The output terminals of the plug CN33 are used to detect welded relay contacts.

A 230 V voltage will be present at the plug CN33 in the event of welded relay contacts. This can be used to trigger a working current trigger remotely. The working current trigger is linked mechanically with the line protection switch and switches it off if triggered. This interrupts the mains power to the charging station.

The connection of the working current trigger is shown in the following Illustration .

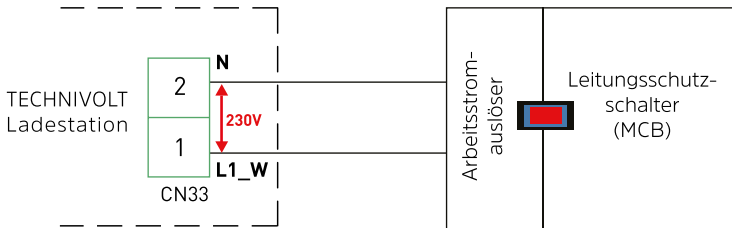


Illustration22: Connection working current trigger"

Connecting the control line to the charging station is carried out as follows Illustration .

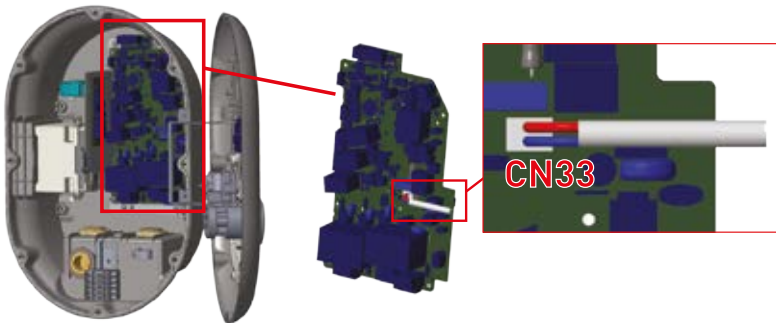


Illustration. 23: Connection control line for working current trigger



NOTE

Introduction of the control line into the charging station is described in Chapter „9.2 Data cable connection“, Page 47.

13 Shutdown and re-start of the charging station

The **TECHNIVOLT** charging station does not have its own mains switch.

The charging station can be taken out of service temporarily or for the long-term if required. Carry out the following steps:

1. Switch off the upstream line protection switch.
2. Switch off the upstream residual current device.

The charging station is now not able to carry out any charging processes. You can now carry out electrical dismantling.

Carry out the following steps to put the charging station back into service:

1. Switch on the upstream line protection switch.
2. Switch on the upstream residual current device.

The charging station is now being supplied with power. The charging station can be used for charging electric vehicles again after the internal charging controller has booted up.

Electrical dismantling must always be carried out by a qualified electrician.



DANGER

Danger to life from electrical power.

There is an immediate danger to life by electrocution if you touch live parts.

De-energise the installation before starting work.

Observe the 5 safety rules to prevent electrical accidents.

- Release.
- Secure against restarting.
- Validate that the power is off.
- Earth and short-circuit.
- Cover or cordon off any adjacent live parts.

14 Disposal

Electronic devices do not belong in the household waste and must be disposed of properly in accordance with Directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL dated January 27, 2003 concerning waste electrical and electronic equipment. Please return this device to the designated public collection point for disposal at the end of its service life.

The symbol on the device indicates this requirement.



15 CE mark and declaration of conformity



The **TECHNIVOLT** charging station has the CE mark.

TechniSat hereby declares that the **TECHNIVOLT** 100 and **TECHNIVOLT** 101 equipment complies with Directive 2014/53/EU. The full text of the EU conformity declaration is available at the following Internet address:

TECHNIVOLT 100: <http://konf.tsat.de/?ID=23267>

TECHNIVOLT 101: <http://konf.tsat.de/?ID=23266>

16 Contact address

TechniSat Digital GmbH

Julius-Saxler-Str.

D-54550 Daun, Germany

Web www.technisat.de

17 Service instructions

This product is quality-tested and furnished with the legally-specified warranty period of 24 months from the date of purchase. Please keep your receipt as proof of purchase. In the event of warranty claims, please contact the product dealer.

If the device has to be sent to us for any reason, please use only the following address:

TechniSat Digital GmbH

Service Center

Nordstr. 4a

39418 Stassfurt, Germany

Email service@technivolt.de

You can issue repair orders directly at: www.technisat.de/reparatur.

18 Copyright

The information provided in this document has been checked with great care. However, no liability or guarantee can be assumed that all information is complete, correct and up-to-date at all times. You can find the current version of the manual in PDF format in the download area of the TechniSat home page.

Copying and reproduction of this document, even in part, requires the written approval of the publisher.

TechniSat is a registered trademark of:

TechniSat Digital GmbH • Julius-Saxler-Str. 3 • D-54550 Daun, Germany

TechniVolt is a registered trademark of:

TechniVolt GmbH • Julius-Saxler-Str. 3 • D-54550 Daun, Germany