

ALS-mini-sx-100Im

Technical Manual



EDITED 2025-07-03 Christoph Kreil	STATUS Approved	SECURITY LEVEL External		
APPROVED Click or tap to enter a date.	DOCUMENT TYPE Manual			
RESPONSIBLE ORGANIZATION ABB Electrification Smart Power	DOCUMENT ID. 9AKK108471A4042	REV. B	LANG. EN	PAGE 1/28

Notes on this manual

In the manual, instructions and warnings are indicated by symbols which have the following meaning:



WARNING!

Means that death or serious bodily injury can occur if the corresponding precautions are not taken.

CAUTION!

Means that property damage or minor personal injury can occur if the appropriate precautions are not taken.

ATTENTION

Means that material damage can occur if the appropriate precautions are not taken.



The device bears the CE mark.

The corresponding declarations of conformity are available at ABB AG.



The device complies with the ROHS Directive (Directive 2011/65/EU).

The corresponding confirmation of conformity is available at ABB AG.



Disposal instructions:

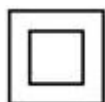
The device can be recycled as electronic waste in accordance with legal regulations.



The technical manual can be downloaded from the Internet at www.aski-energy.at.



The latest ASKI firmware can be downloaded from the Internet at www.aski-energy.com (download area). New firmware can, for example, include new functions and improvements.



Protection class II

Contact address:

ABB AG
Irrseeblick 47
A 4893 Zell am Moos, www.aski-energy.com

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	2/28

Document: ALS_Mini_sx_100lm_V1.0e_Manual_EN_ASKI-ABB_9AKK108471A4042.pdf

Firmware: V20.9j

Pages: 28

File name: ALS_Mini_sx_100lm_V1.0e_Manual_EN_ASKI-ABB_9AKK108471A4042.pdf

(C) ASKI Industrie Elektronik GmbH 2022

We reserve the right to make changes in the interests of technical development. Information is provided without guarantee.

Subject to errors and technical changes. We protect our rights.

All intellectual property, including trademarks and copyrights, is the property of their respective owners.

Any unauthorized use of such intellectual property is expressly prohibited.

ABB AG, Irrseeblick 47, 4893 Zell am Moos, Austria www.aski-energy.com

Contact details

ABB AG

Irrseeblick 47
4893 Zell am Moos
Austria

T +43 6234 200 10-0

F +43 6234 200 10-50

aski-office@at.abb.com

www.aski-energy.com

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	3/28

Contents

1. ASKI ALS-mini-sx	5
2. Important information	6
2.1.1. Safety instructions	6
2.1.2. Intended use	7
2.1.3. About this manual	7
3. Intelligent load management	8
3.1.1. Who is ASKI?	8
4. Instructions for use	8
4.1.1. Maintenance instructions	9
4.1.2. Repair and adjustment	9
4.1.3. Front film	9
5. Installation instructions	9
6. Installation	9
7. First steps:	10
Symbol description	10
8. Current values on the display	11
9. Set the setpoint and pulse value:	12
10. System settings:	13
11. ALARMS ON THE DISPLAY:	14
12. Network settings:	15
13. Web server:	16
14. Technical data:	18
15. Notes	27
16. Additional Information	28
16.1. Listing of related documents	28
17. Addendum	28
18. Revisions	28

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	4/28

ASKI ALS-mini-sx

Intelligent energy management controller and energy management system for peak load optimization by means of predictive 15-minute trend calculation and intelligent load shifting through switching, cycling, control and synchronization with grid meters to reduce ¼ h load peaks without endangering quality, safety or comfort and blackout protection (peak shaving). Optional extensions for e-mobility, battery storage, heat pump and photovoltaic surplus optimization.

Performance features

Power limit 100 kW or 200 A

Integration of an external Modbus meter RTU or TCP

Synchronization with EVU or internally (period duration 15 minutes), including external tariff switching

Controls individually adjustable

Load parameterization: Priorities, max/min switching and cycle times, switching interval, hysteresis, alarm behavior, number of pulses, cyclical swapping, etc.

Variable cycling for optimal kitchen optimization and other electrical devices

Display indication: current instantaneous power, period time, maximum current year, maximum last period, cumulative power, trend value, etc.

Integrated web server for parameterization, online visualization and querying load profiles using a PC, tablet or smartphone via a browser

Additional visualization of the data in the ASKI portal (cloud) – access via browser

Extension options

Connection and control of charging stations (up to max. 32 charging stations)

Connection and control (surplus optimization) of inverters (up to max. 40 inverters)

Connection of additional Modbus meters RTU or TCP (up to max. 40 meters)

Connection of a battery storage system

Connection of a heat pump controller (dynamic)

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	5/28

2. Important information

2.1.1. Safety instructions



WARNING!

Failure to observe the safety instructions can result in danger to life, injury and damage to the device!
ASKI Industrie Elektronik GmbH accepts no liability for any resulting claims!

Electrical hazard!

The appliance must only be installed by qualified personnel in accordance with the safety regulations and instructions! Depending on the application, additional legal and safety regulations must be observed when using the device.

- Qualified personnel are persons who are familiar with the installation, assembly, commissioning and operation of the product and have the appropriate qualifications for their work, e.g:
 - training or similar authorization to switch circuits and devices on and off, disconnect, ground and label them in accordance with safety engineering standards.
 - training or similar authorization in relation to the standards of safety engineering in the care and use of the relevant safety equipment.

In the upper connection area (inputs and outputs, control lines, bus connections and Ethernet) only connect voltages and circuits that have safe separation from hazardous voltages.

All screw connections must be checked for tightness before commissioning!

Unauthorized repair work, conversions, modifications, etc. are not permitted. Repair and adjustment work can only be carried out at the manufacturer's factory

Do not remove any markings such as: identification signs or line markings!

The controller does not have its own power switch! The mains isolating device is the RCD and circuit breaker of the building installation.

Make sure that the controller does not come into contact with heat sources, dirt or water.



CAUTION!

5 safety rules:

- Disconnect!
- Secure against re-connection!
- Verify absence of voltage!
- Ground and short-circuit!
- Cover or barricade adjacent live parts!

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	6/28

**ATTENTION!**

Risk of damage!

Take care not to damage the controller through improper handling.

**ESD**

Instructions for specialists who are authorized to open the device:

Risk of damage! Electronic components can be destroyed by touching them!

Before handling assemblies, carry out an electrical discharge by touching a metallic, grounded object!

2.1.2. Intended use

The appliance is the central system for a load control and energy management system that can specifically influence consumption and thus avoid expensive peak loads. The installation is carried out on a DIN rail, whereby the respective national regulations must be observed here. The same applies to the connection of the controller. The specified ambient conditions are complied with when the appliance is used as intended.

The relevant safety standards were observed during the development, manufacture, testing and documentation of the device. Therefore, the product itself, when used as intended and in accordance with the safety instructions, does not pose any risk of damage to property or personal health.

If the instructions contained in this manual are not followed, the safety devices may no longer be effective and new sources of danger may arise. In the event of use, the relevant safety and accident prevention regulations must be observed independently of the safety instructions in this manual.

2.1.3. About this manual

This manual is valid for appliances of the type:

- ALS-mini-sx-100lm 15 min trend calculation, load control up to 100 kW / 200 A peak

Use of this manual:

The illustrations and explanations contained in this manual refer to a typical version of the appliance. The design of your device may differ from this.

The controller settings can be made directly on the device or via the ALS-Visual V9 energy management software, which provides an easier and better overview of the settings. You can find this software in the download area of our homepage at www.aski-energy.com. A manual for this is also listed there. Please note that a paid license key is required for the software after 30 days.

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	7/28

3. Intelligent load management

3.1.1. Who is ASKI?

A head start through innovation

For over three decades, the name ASKI has stood for first-class solutions in the field of energy management and energy cost reduction. With our intelligent load management systems, we have been the Austrian market and innovation leader for many years and are certainly the provider with the best-selling systems in the entire German-speaking region.

In the rapidly growing field of energy monitoring and controlling, we have built up an exceptional market position in recent years, not least thanks to our extensive experience and accumulated expertise. We have hundreds of installed systems and projects as references. From simple solutions for a few metering or measuring points to industrial applications with cross-border group solutions and store chains with hundreds of locations.

i-energy by ASKI™ is the brand and at the same time the motto under which ASKI is constantly developing new products and improving existing systems. This means concentrated know-how packaged in state-of-the-art technology, for future-oriented energy management, for a secure and economical energy supply.

i-energy by ASKI™ stands above all for intelligence in functionality and system design. This means

- precise, meaningful, comprehensible information about energy use that can be accessed at any time
- fully automatic monitoring and alerting, as well as permanently available live data
- optimized, efficient load profile and, as a result, lower consumption and lower electricity prices

A unique feature of ASKI is the ability to combine high-end energy data management and highly efficient load management in a single system. This makes it a forward-looking tool for the modern, economical and efficient use of energy in times of nuclear power phase-out, the energy transition to renewable energies and constantly rising energy prices.

Whether company owners, plant operators, building technicians or energy officers of companies with ISO 50001 certification, with the ASKI systems both experts and non-experts are able to retrieve meaningful, comprehensible and reliable data at the touch of a button and thus understand procedures, processes and temporal-technical relationships.

4. Instructions for use

The **device must only be installed by qualified personnel** in accordance with the safety regulations and instructions! Depending on the application, additional legal and safety regulations must be observed when using the device.

Qualified personnel are persons who are familiar with the installation, assembly, commissioning and operation of the product and have the appropriate qualifications for their work, e.g:

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	8/28

- training or similar authorization to switch circuits and devices on and off, disconnect, ground and label them in accordance with safety engineering standards.
- training or similar authorization in relation to the standards of safety engineering in the care and use of the relevant safety equipment.

4.1.1. Maintenance instructions

The device is subjected to various safety checks and labeled before delivery. If a device is opened, all safety checks must be repeated.



Attention! No warranty can be given for devices that have not been opened at the manufacturer's plant.

4.1.2. Repair and adjustment

Repair and adjustment work can only be carried out at the manufacturer's plant.

4.1.3. Front film

The front film can be cleaned with a soft cloth and a standard household cleaning agent. Do not use acids or acidic agents.

5. Installation instructions

The ALS-mini-sx 100ml controller is intended for fixed installation in low and medium voltage switchgear. The installation position should be horizontal.

Measuring and auxiliary voltage

Before the ALS-mini-sx controller is connected to the auxiliary voltages, a disconnecting device (switch or circuit breaker) and an overcurrent protection device (2-10A) must be installed in the building installation in between.

6. Installation

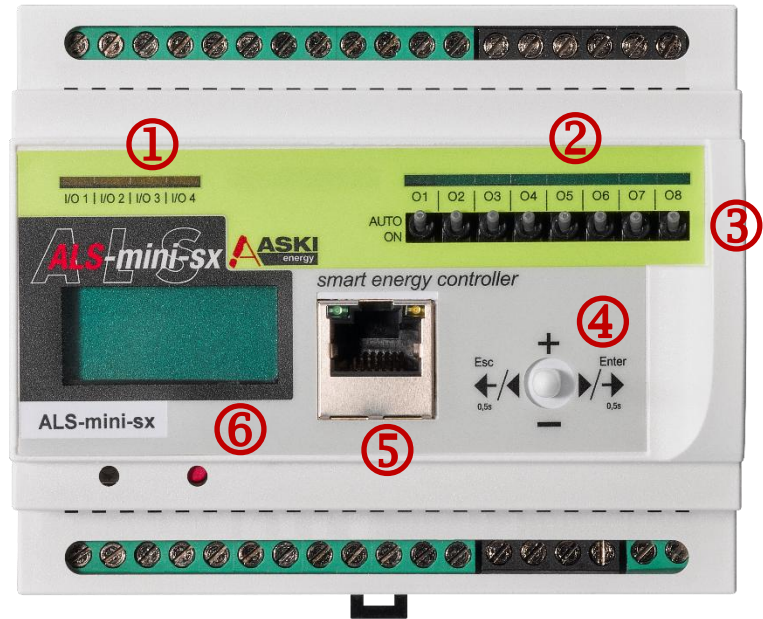
Commissioning and installation of the ALS-mini should be carried out as follows:

- **Install the device**
- **Apply auxiliary voltage**
- **Connect the network cable**

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	9/28

7. First steps:

- 1: Inputs LED
- 2: Relay status LED
- 3: Manual switches
- 4: Joystick
- 5: TCP connection
- 6: Display with backlight



Menu access:

To access the settings menu, press the joystick for at least 0.5 sec to the right (ENT). To get out again, press it at least 0.5 sec to the left (ESC).





Navigate:

To go to the next menu, press the joystick briefly to the right. To return, press it briefly to the left.

Change parameters:

To change a parameter, press the joystick down or up. To save or to exit the settings menu again, press the joystick to the right at least 0.5 seconds.

Symbol description:

-  ENT joystick at least 0.5 seconds to the right
-  ESC joystick at least 0.5 seconds to the left
-  Joystick briefly to the right
-  Joystick briefly to the left

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	10/28














+ Joystick up


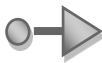


- Joystick down

8. Current values on the display


	10:45:00 HZ: 50	Time and current instantaneous value (HZ) in kW, or current period (PD) in minutes / current tariff (if active)
	Alarms: Synch-Al	Pending alarms. Alarms that have already been acknowledged but are still active are also displayed here.
	Pt: 1.5m T:Off-P	Current period duration and tariff.
	10:45:00 18/10/10	Time and date
	IO-01:I 72.0 kW	Type and current values of the inputs/outputs
	IP-Adr.	Display of the currently set IP address
	ALS-M-XP Mx:100kW	Type of ALS-mini-sx and the maximum connected load
	BUS-G: 5 E-Mob: 5	Number of licensed bus devices and e-charging stations
	V:x18.0g SNr:1000	Version and serial number of the ALS-mini-sx
	MAC:0050 C271E25A	Set MAC address. Do not change!
	SD-Card: 3.60 GB	Size of the SD card

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	11/28

In each of the displays, you can  switch between the basic screen and  the operating menu. 0.5 sec 0.5 sec

9. Set the setpoint and pulse value:

```
10:45:00
HZ: 50
```

1. Press the joystick to the right for 0.5 seconds. 

```
10:45:00
HZ: 50
```

2. In the operating menu, move the joystick down to "Auswahl Lastktr", then press to the right until the display shows "Soll T1," where the setpoint can be entered in kW.

```
Soll T1:
20.0 kW
```

To change the value, move the joystick up or down.

Press the joystick to the right to save. "Save" appears briefly on the display.

```
Auswahl:
Ein/Ausg
```

```
Auswahl:
IO-2
```

3. Press the joystick down in the operating menu until the display shows "Ein/Ausg." Then move the joystick to the right and select the corresponding I/O with up/down. I/O must be on "Eingang". Continue with joystick to the right and set "Engy." The pulse value is entered in Wh/Imp. To change the value, press the joystick up or down.

```
IO-2:I?O
Eingang
```

```
IO-2:<--
Fkt:Engy
```

To save, move the joystick to the right. "Save" appears briefly on the display. The pulse value is specified at the meter and must be multiplied by the transducer ratio if necessary.

```
IO-2:IW:
20.0 Wh
```

```
IO-2:<--
P-Zt:Sy
```

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	12/28

Example:

Imp. value

Indication on the meter: K1:1 imp=0.5 Wh (+A) Transducer: 500/5
C= 100

Pulse value: 0.5 Wh x **100=50 Wh**

Imp/kWh

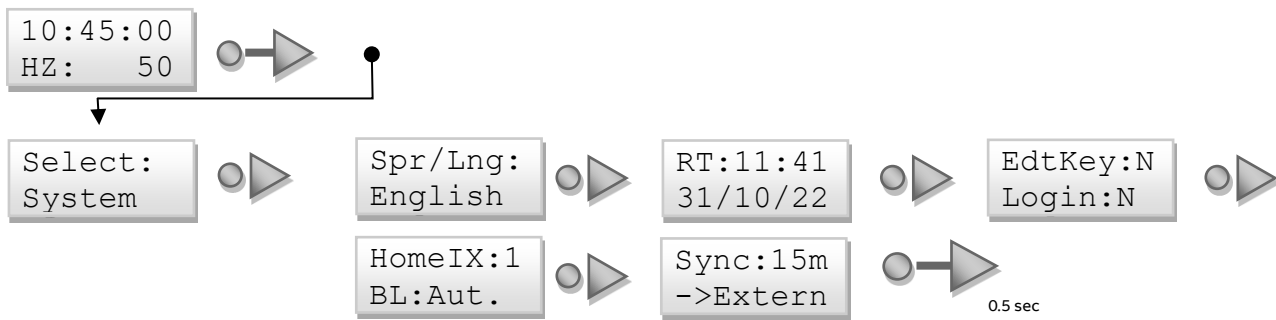
Indication on the meter: 5000 Imp/kWh Transducer: 500/5
C=100

Pulse value: 5000 Imp / 100 = **50 Imp/kWh**

To exit or cancel programming, press the joystick to the left for 0.5 seconds.



10. System settings:



- Spr/Lng.:** Set language (German/English)
- Date / Time** Setting the date and time
- Edt.Key:** Direct input on the device is only possible using a key combination; "not permitted" appears on the display when a parameter is changed. If you still want to save the parameter, press the joystick upwards while the message is displayed.
- BL:** Backlight
On, Off, Aut=Automatic
- HomeIx:** Basic screen instantaneous values
- Time synchr:** Synchronize time with synchronous pulse

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	13/28

11. ALARMS ON THE DISPLAY:

States of the alarms.

Pending alarms can be acknowledged with "Acknowledge." To do this, press to the right for 1.5 seconds.

"Synch-AI"	Synchronization alarm. Periods of synchronous pulse are missing. The signal from the energy supply company, which should arrive once every 15 minutes to restart the calculation, does not arrive here. Therefore, please check the cable from the energy supply company to the mini-controller. If present, check the relay (e.g. KOP1 or KOP2) to see if it is still transmitting the pulse correctly. As soon as the fault has been found, the alarm can be acknowledged.
"Max.Val"	Setpoint exceeded.
"Ext.bus"	Bus failure of a bus device
"Estop-AI"	Emergency stop alarm. Emergency stop curve exceeded.
"Main-Mtr"	Main meter alarm. Power impulse is missing. No signal is received from the power supply company. See Syn-Alarm. If a PV system is installed in the company, it is possible that no pulse will be received as soon as the system feeds in more power. Please deactivate the meter alarm in the main menu.
"TCP mod."	TCP module alarm. The TCP module had an internal error. Please acknowledge.
"MAN-Sw."	Manual consumer switch active. This alarm is displayed when one or more toggle switches have been pressed to "ON."
"Watchdog"	Watchdog alarm was triggered due to an internal program cycle error. Restart has been performed.
"File-AI"	File Error Alarm. One or more files on the SD memory card are faulty.
"E-mobile"	Bus device alarm. Connection to one or more e-mobility charging stations is interrupted.
"Data-AI"	Data from ALS-Profi main station not received
"E-mail"	E-mail alert. An error has occurred while sending an e-mail.
"SNTP-AI"	Connection to SNTP time server failed
"UST-AI"	Substation alarm. Connection to one or more substations has failed.

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	14/28

„KNX/EIB“ KNX/EIB connection faulty.

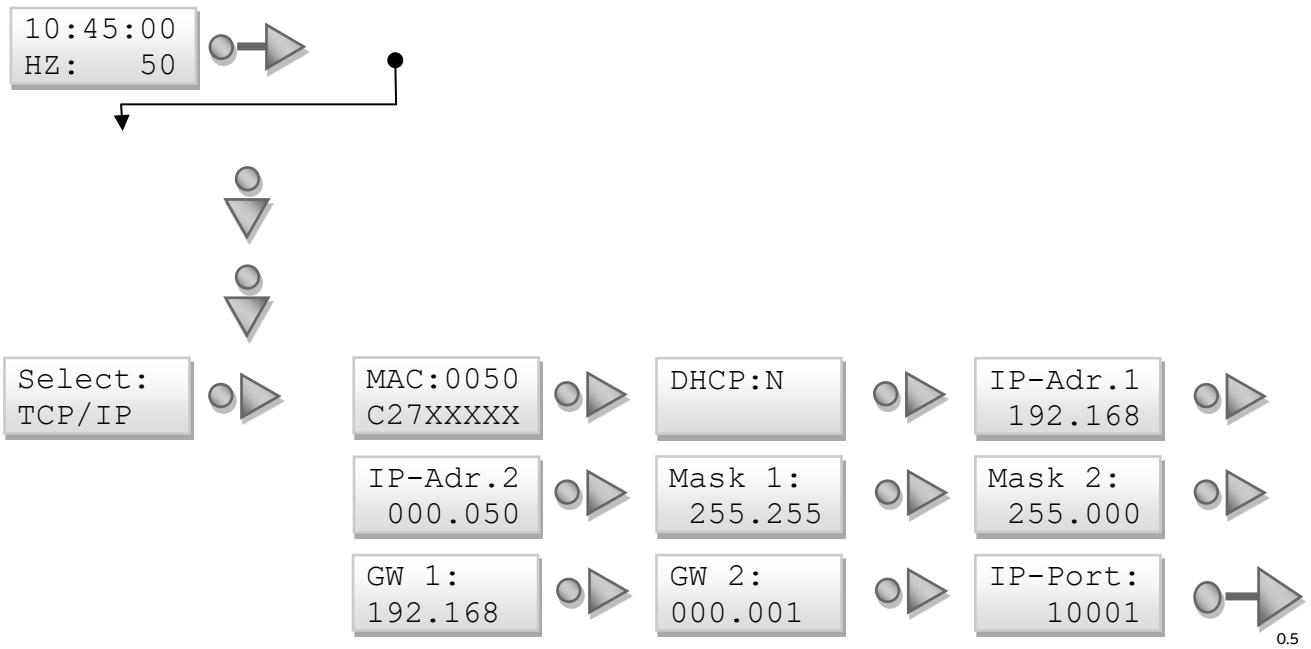
"FTP-C" Error when sending data to an FTP server

If the alarm has been acknowledged and should no longer be active, but is still displayed, the control unit must be switched off and switched on again after 5 seconds.

Alarms:
OK

Pending alarms. Alarms that have already been acknowledged but are still active are also displayed here.

12. Network settings:



- IP address (Part1/2):** IP address
- MASK: P1/2:** Subnet mask
- Gateway: P1/2:** Gateway address
- IP-Port:** 10001
- MAC T1/T2:** MAC address, do not change (MAC address was officially acquired from the IEEE)

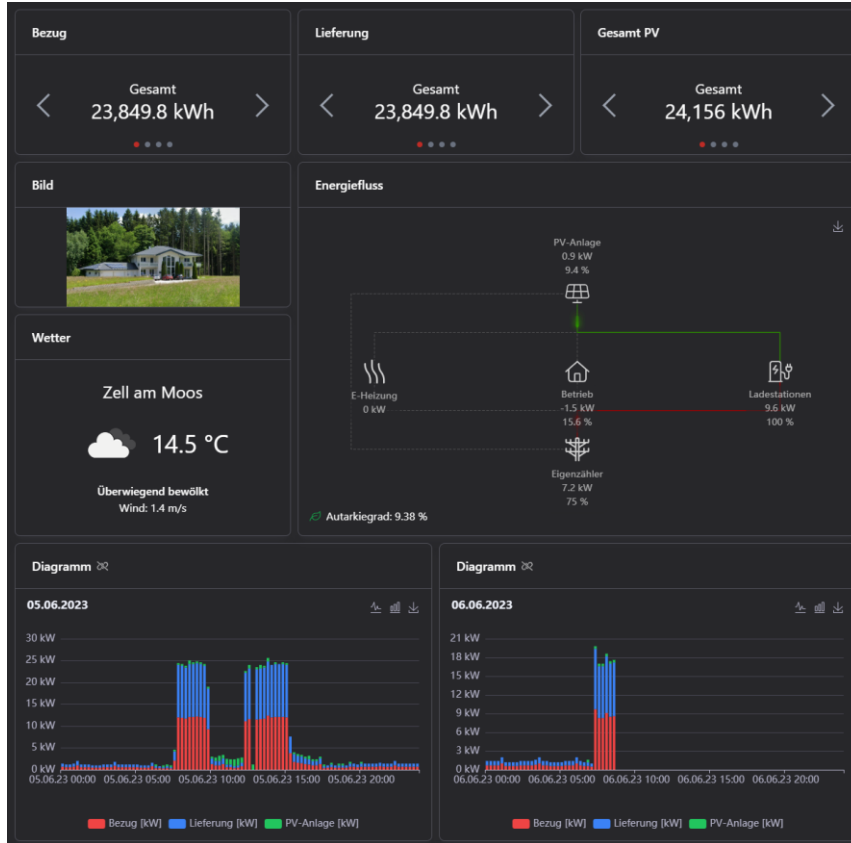
STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	15/28

13. Web server:

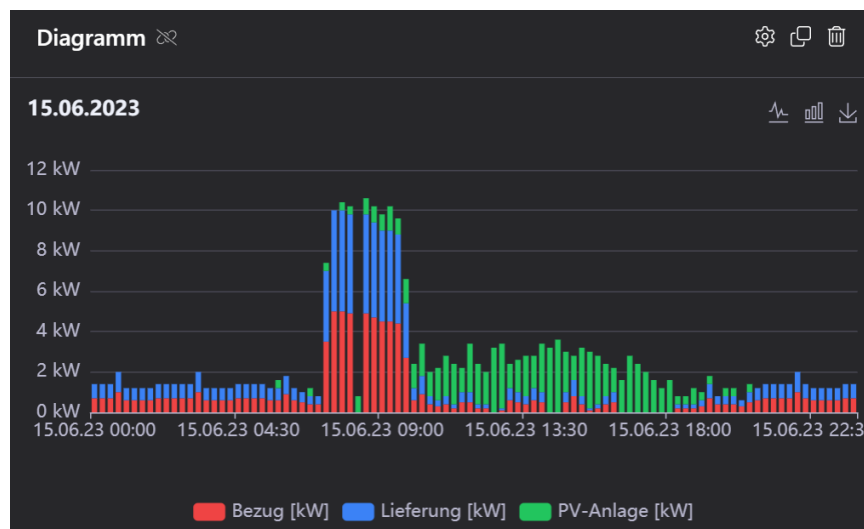
The ASKI ALS-mini-sx can also be parameterized via a web browser. In addition, load profiles and current online data can be displayed on the screen of a PC or on a smartphone.

For access via the web browser, the IP address of the ASKI ALS-mini-sx must be entered in the address bar of the browser.

Dashboard:

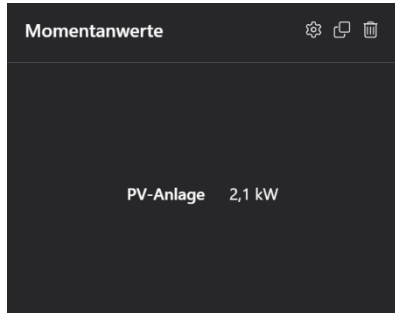


Data analysis:

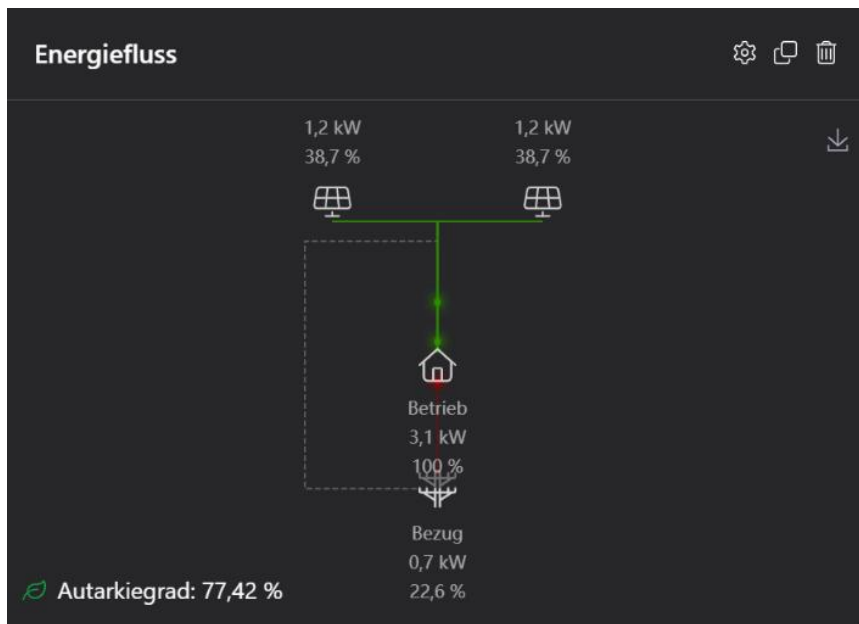


STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	16/28

Instantaneous values and speedometers:



Energy flow:



STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	17/28

14. Technical data:

- Supply voltage: 230 V AC +/-10% 50 Hz (optional 24 V DC / 150 mA)
- Connections: Screw terminals for wires up to 2.5 mm²
- Housing: ABS plastic
- Housing dimensions: approx. H x W x D: 86 x 105 x 60 mm (6TE)
- Assembly: 35 mm top-hat rail (DIN 46277/3, EN 50022)
- Protection class: IP20, only indoors up to max. 2000 m above sea level
- Temperature range: 0 - 40°C (storage -20 to +60°C)
- Relative humidity (operation): 0 – 80%
- Digital inputs/outputs: 4x I/O; optional inputs 24 V DC 10 mA, input delay 10 ms, max. 25 Hz, or outputs 24 V DC 50 mA
- Relay contacts: 8 relay contacts, 6 A 250 V AC, 6 A 30 V DC, 1 changeover contact, monostable, coil power 170 mW
- Interfaces: Ethernet LAN 100Base-T RJ45, RS485
- Display: 8-digit, 2-line LCD display with backlighting
- Operation: 2-axis joystick operation
- Weight: approx. 300 g
- Mains interruption: Data backup and automatic restart
- Independent output: Max. 28 VA at 230 V AC / Max. 4 VA 24 V DC, 150 mA
- Overvoltage category: II
- Degree of contamination: PD2
- Origin: Made in Austria

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	18/28

Possible danger due to voltage differences between 24 V supply and input terminal:

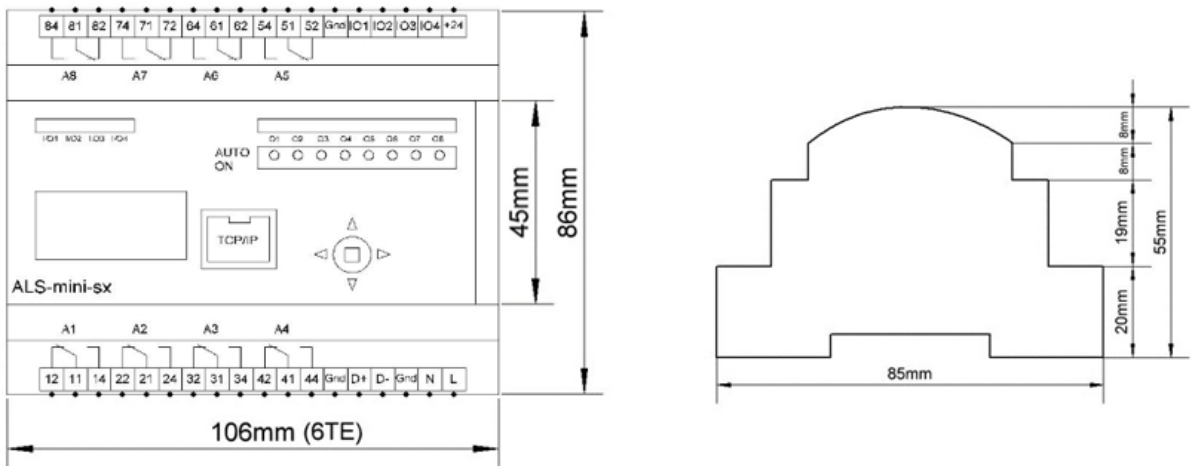
If multiple 24 V voltage sources are used, the individual 24 V domains may differ significantly from one another (DC voltage difference, influence of load, ripple, etc.).

If devices that are supplied from different sources are connected directly to each other, the voltage differences and resulting equalizing currents can damage the hardware.

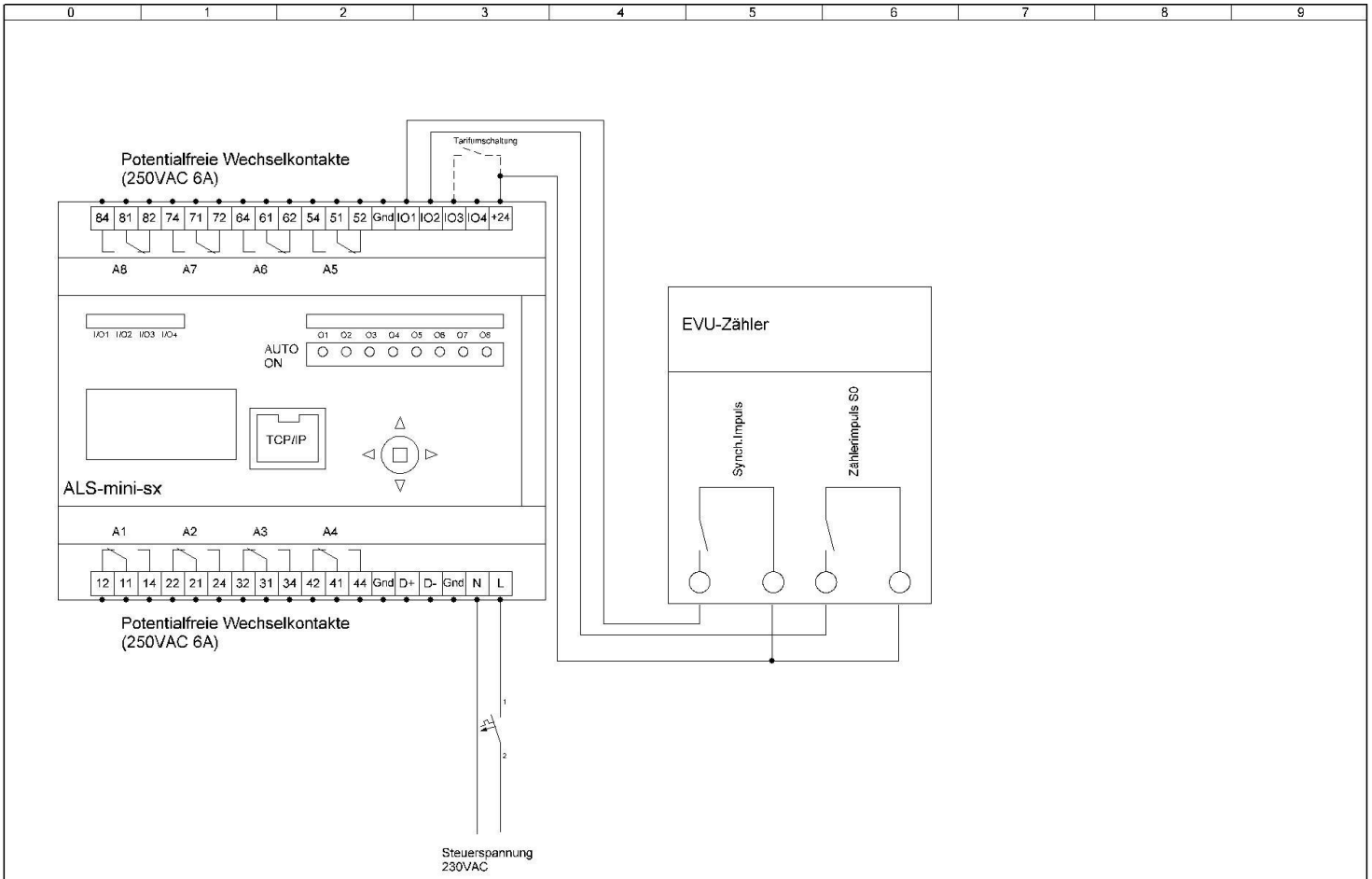
It must be ensured that there is no significant voltage difference between the 24 V supply and the 24 V input voltages.

This is achieved either by supplying all devices connected to the ASKI controller via a common power supply unit or by feeding in signals from other 24 V voltage sources in an electrically isolated manner (e.g. via modules with relays or optocouplers).

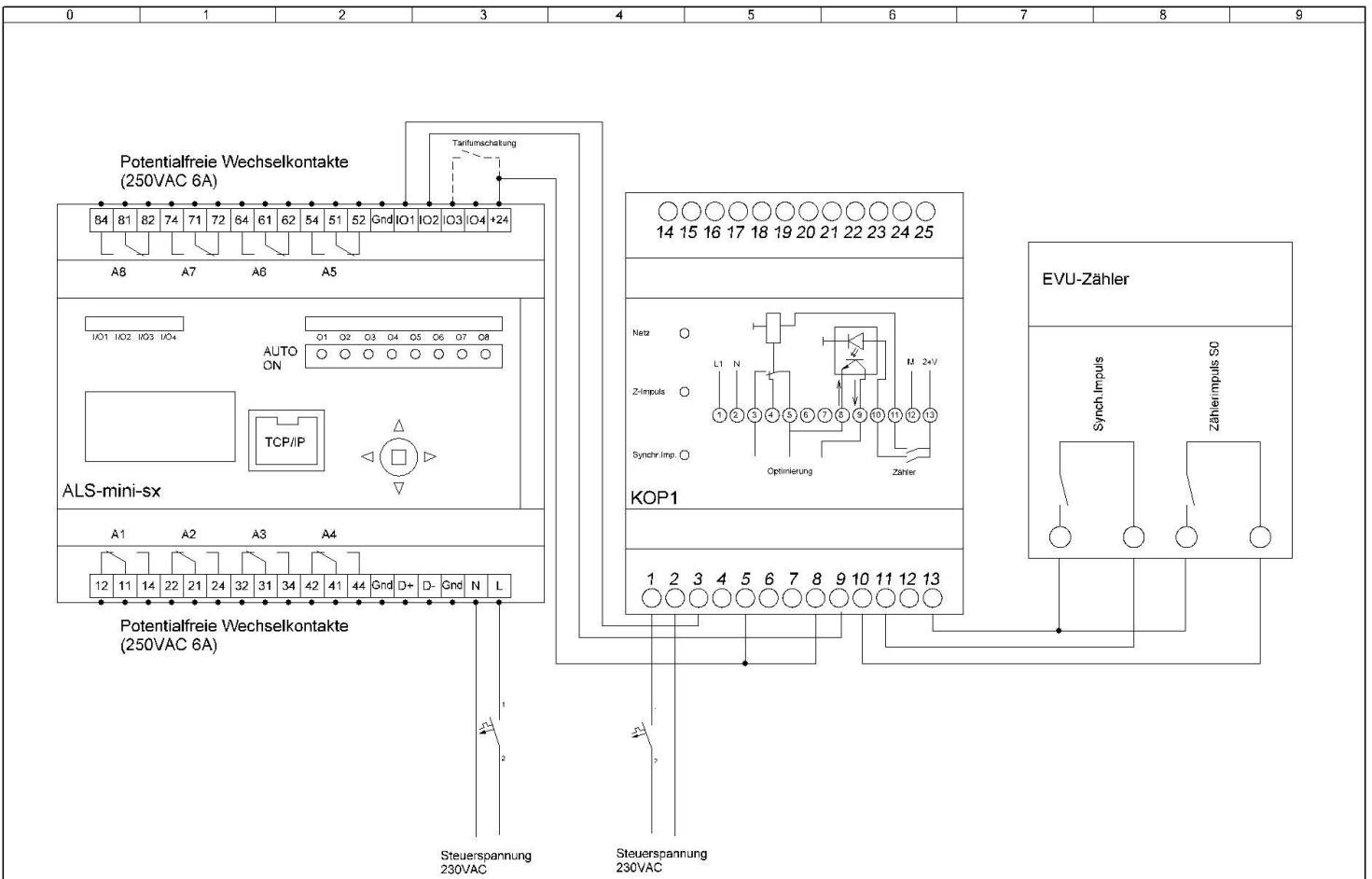
Dimensions:



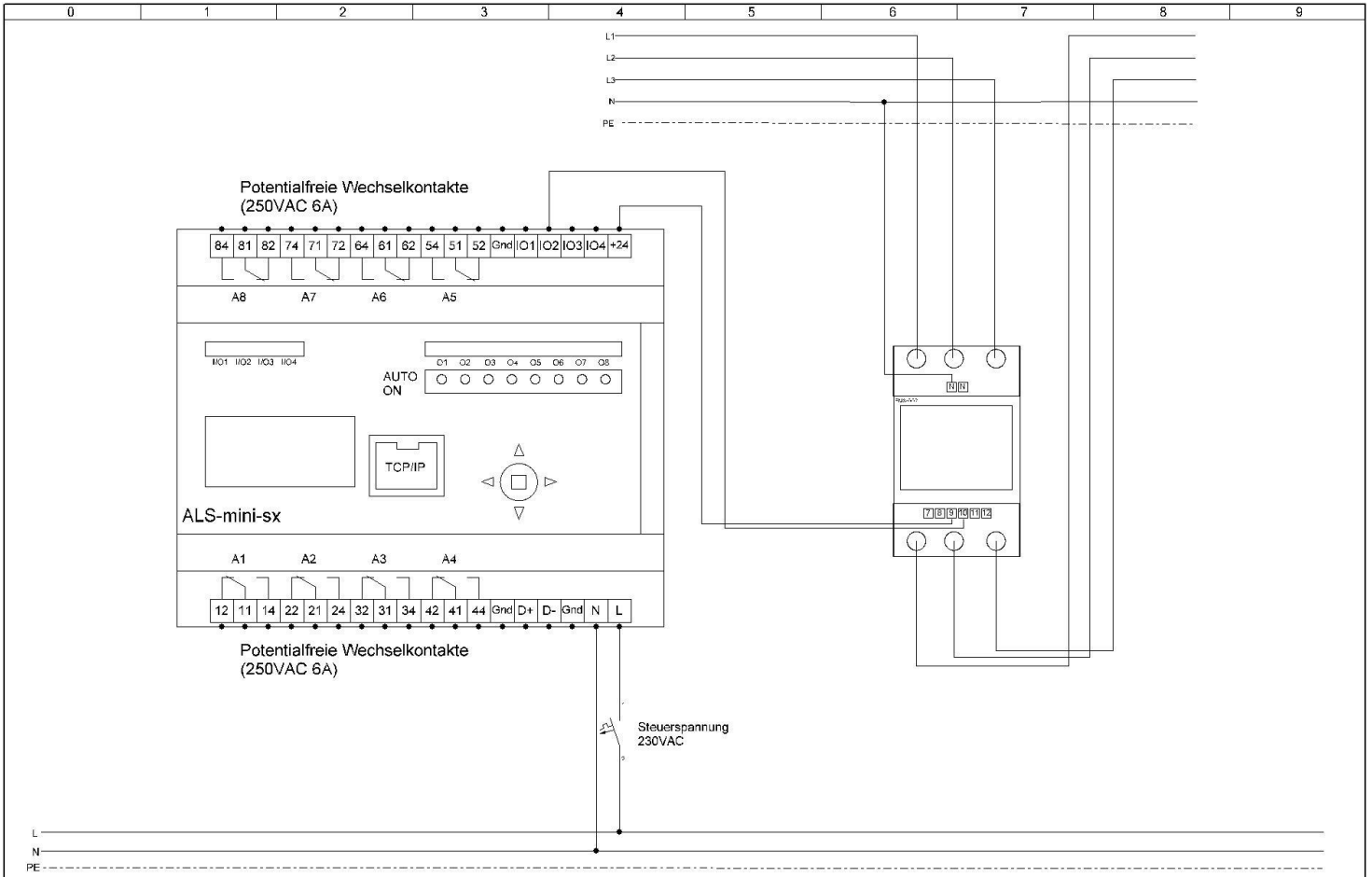
STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	19/28



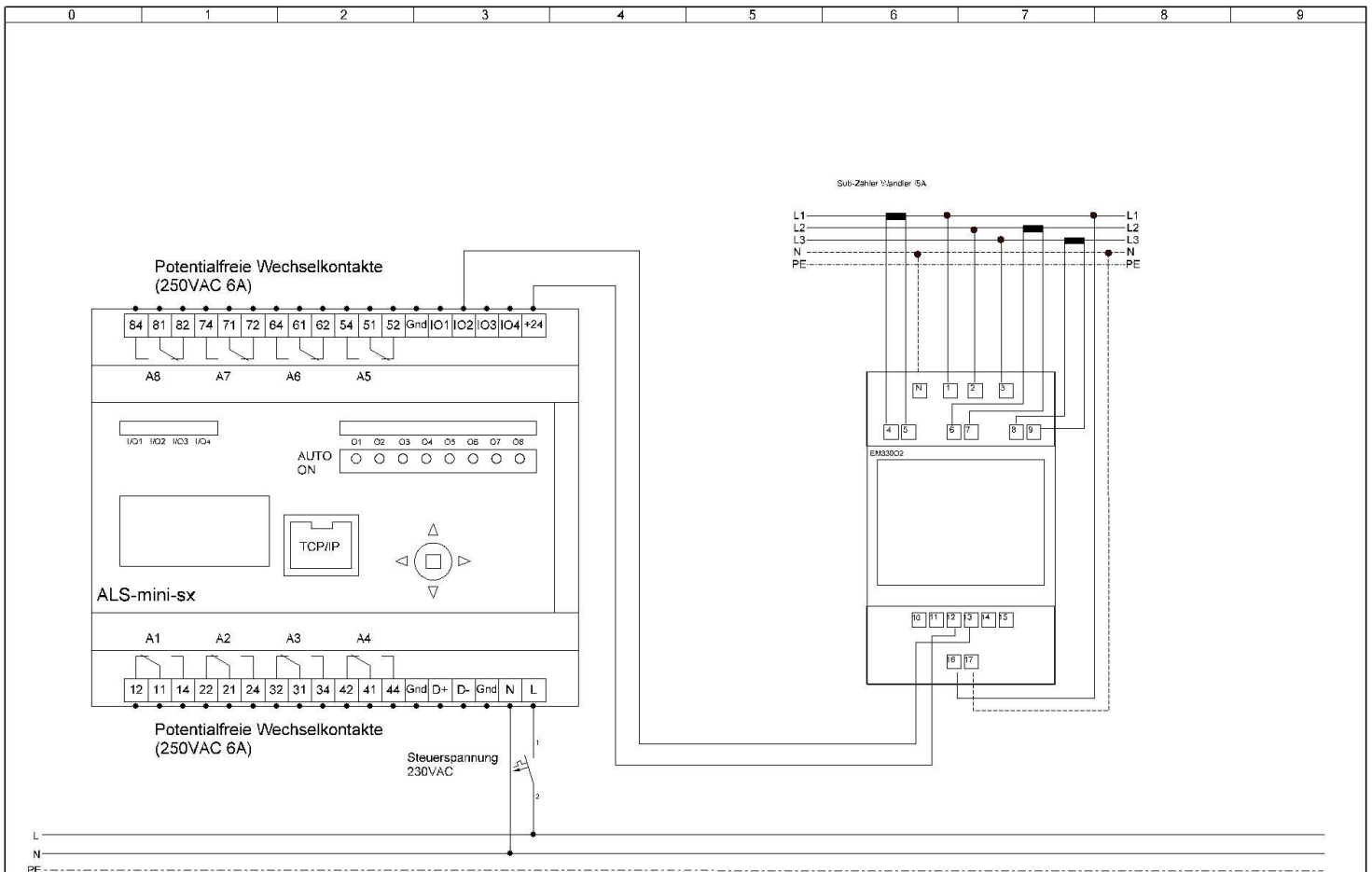
	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-sx EVU	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-sx EVU.sp7	Blatt:
Name:	SAN	CKR					



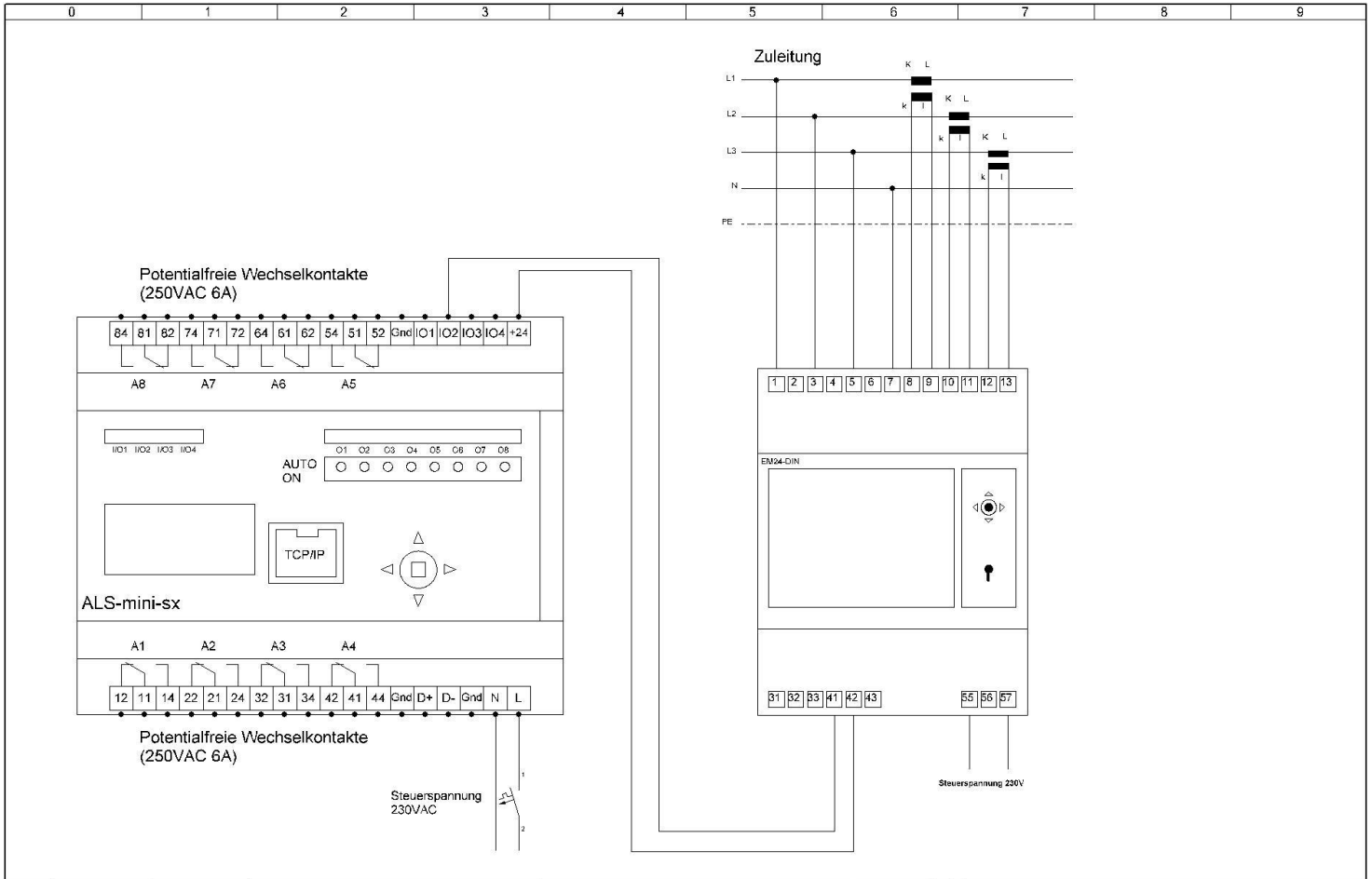
	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-sx KOP1+EVU	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-sx KOP1+EVU.sp7	Blatt:
Name:	SAN	CKR					



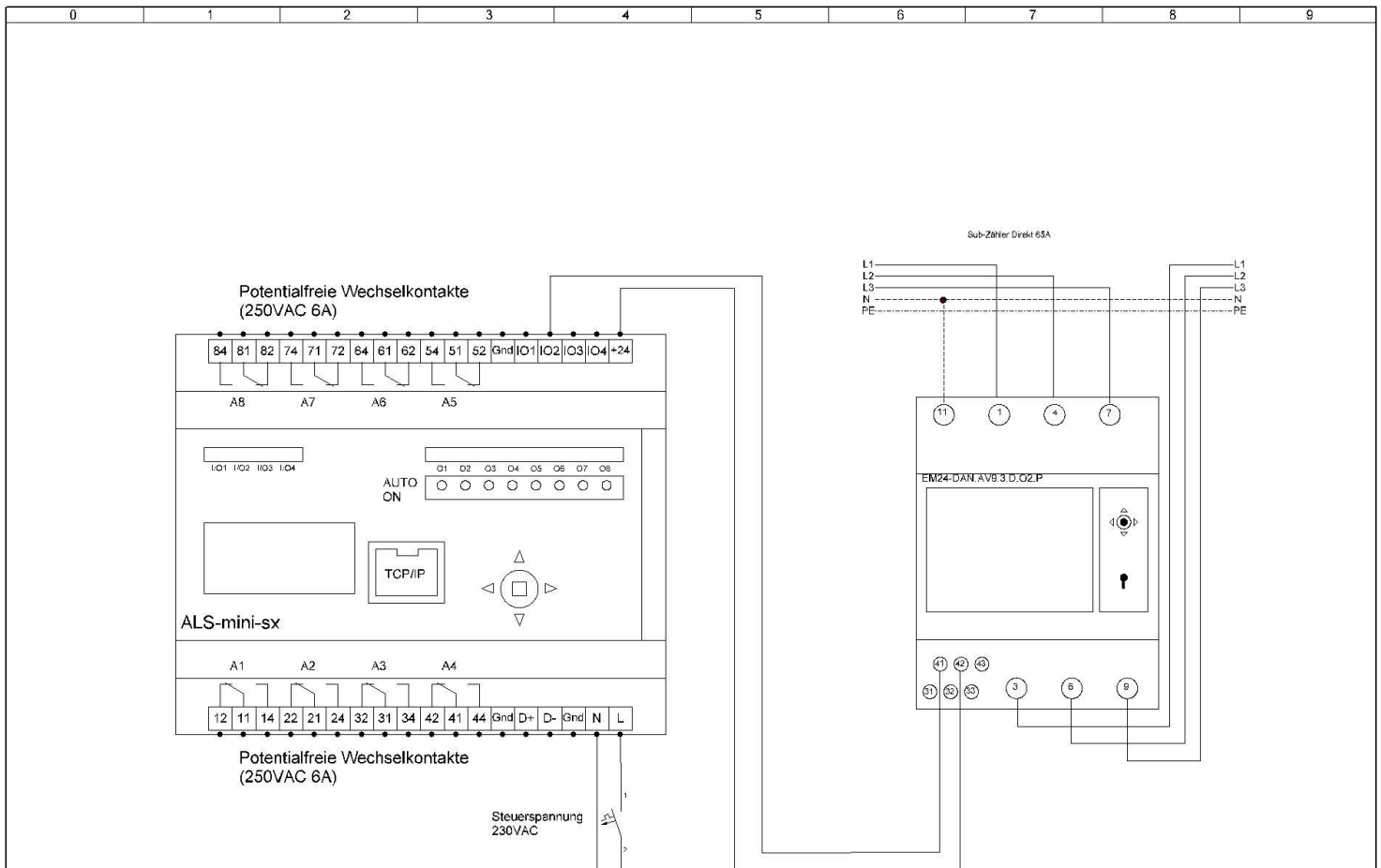
	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-sx + EM340 O2	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-sx + EM340 O2.sp7	Blatt:
Name:	MAY	CKR					



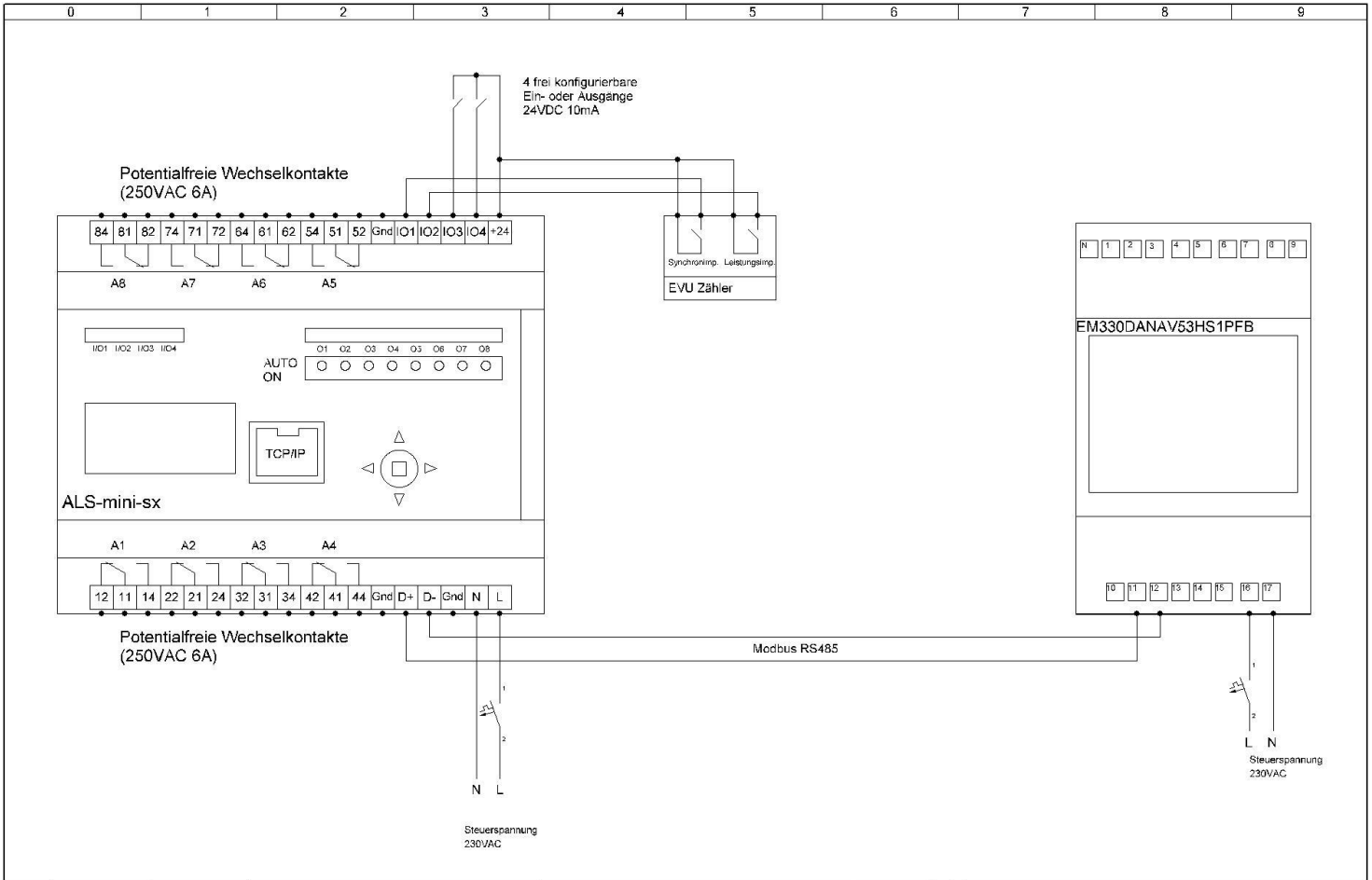
	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-Mini-sx + EM330 O2	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-sx + EM330 O2.sp7	Blatt:
Name:	MAY	CKR					



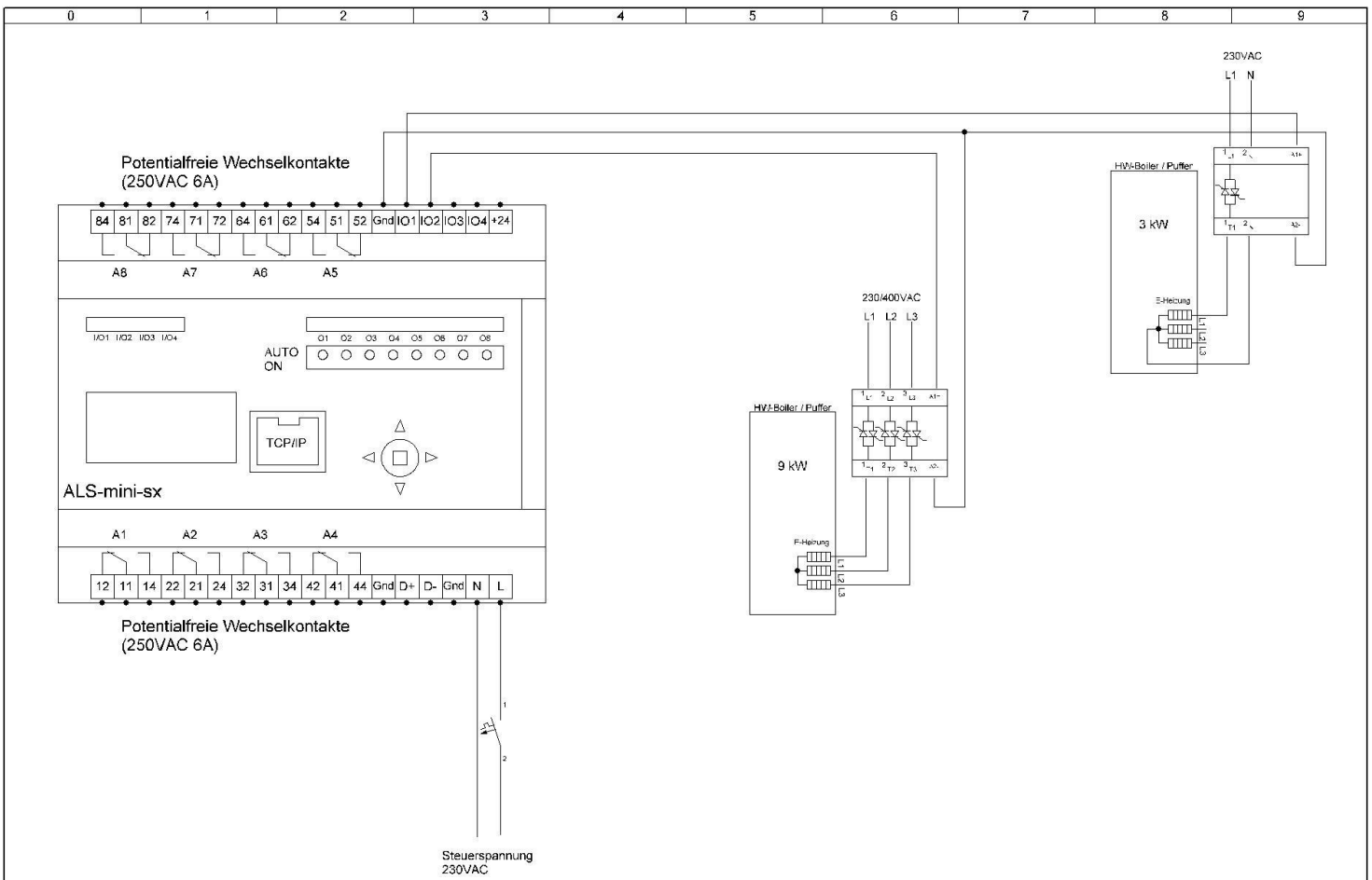
	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-sx + EM24	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-sx + EM24.sp17	Blatt:
Name:	SAN	CKR					



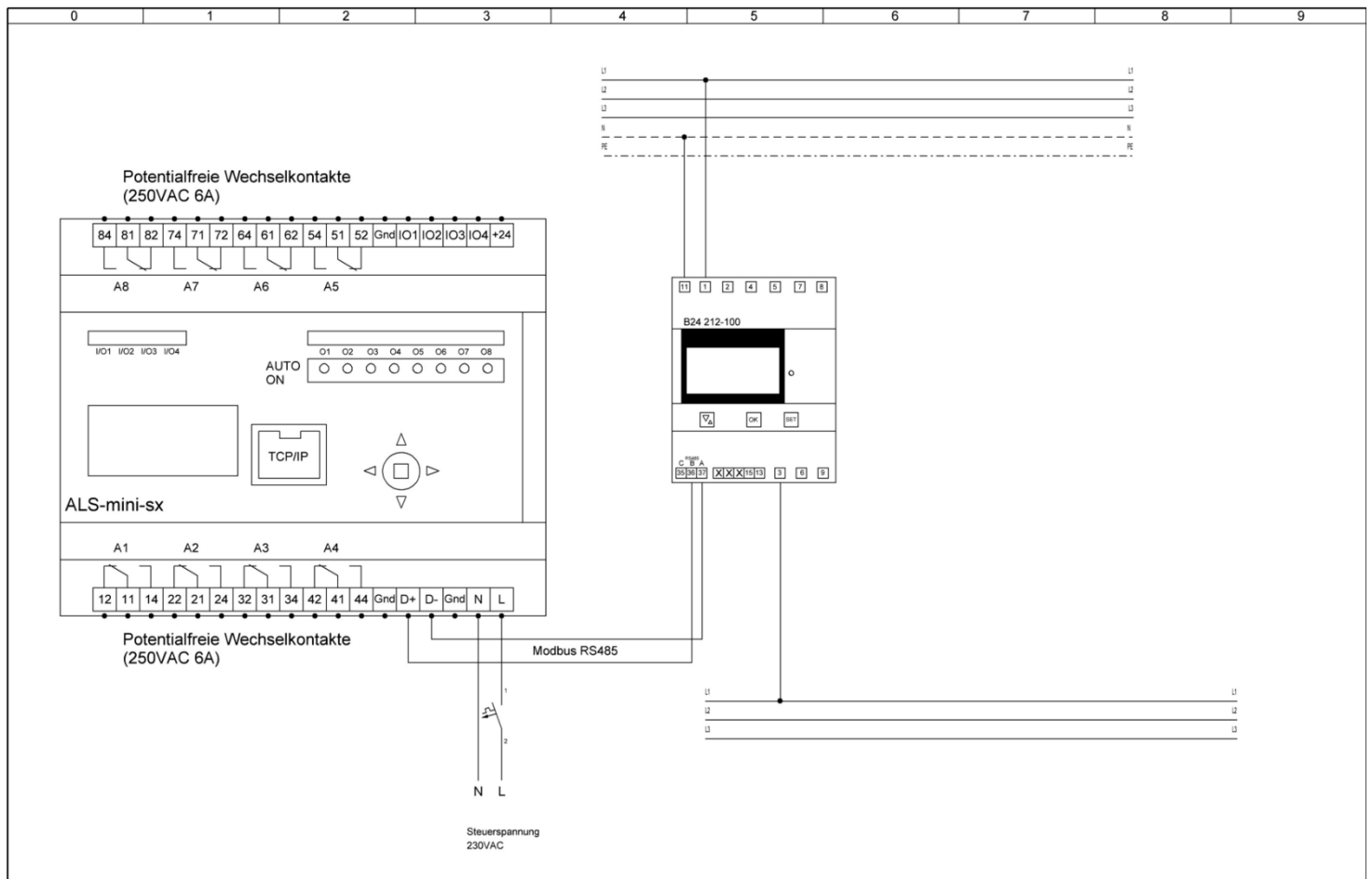
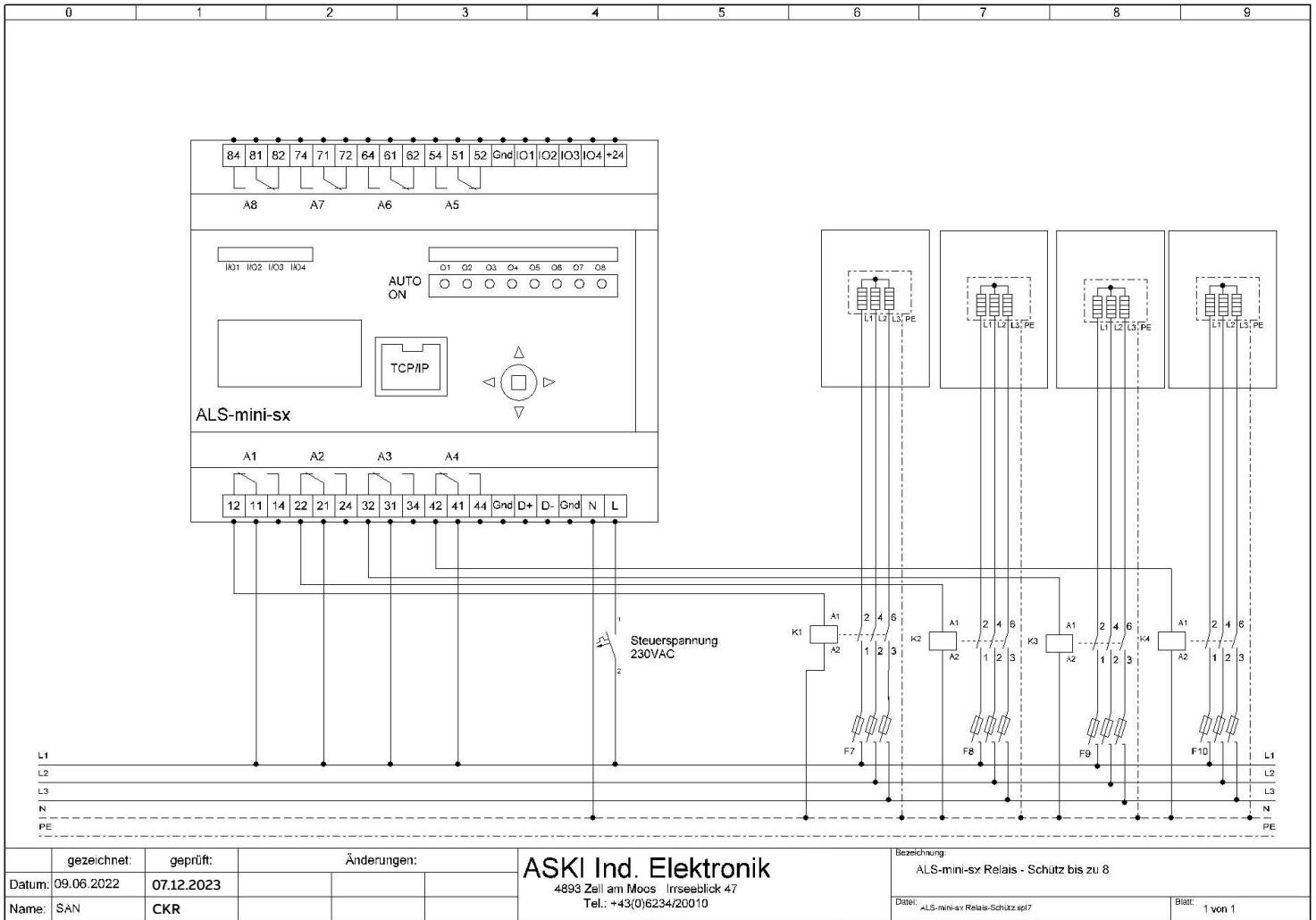
	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-sx + EM24 AV93 Direkt	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-sx + EM24 AV93 Direkt.sp17	Blatt:
Name:	MAY	CKR					

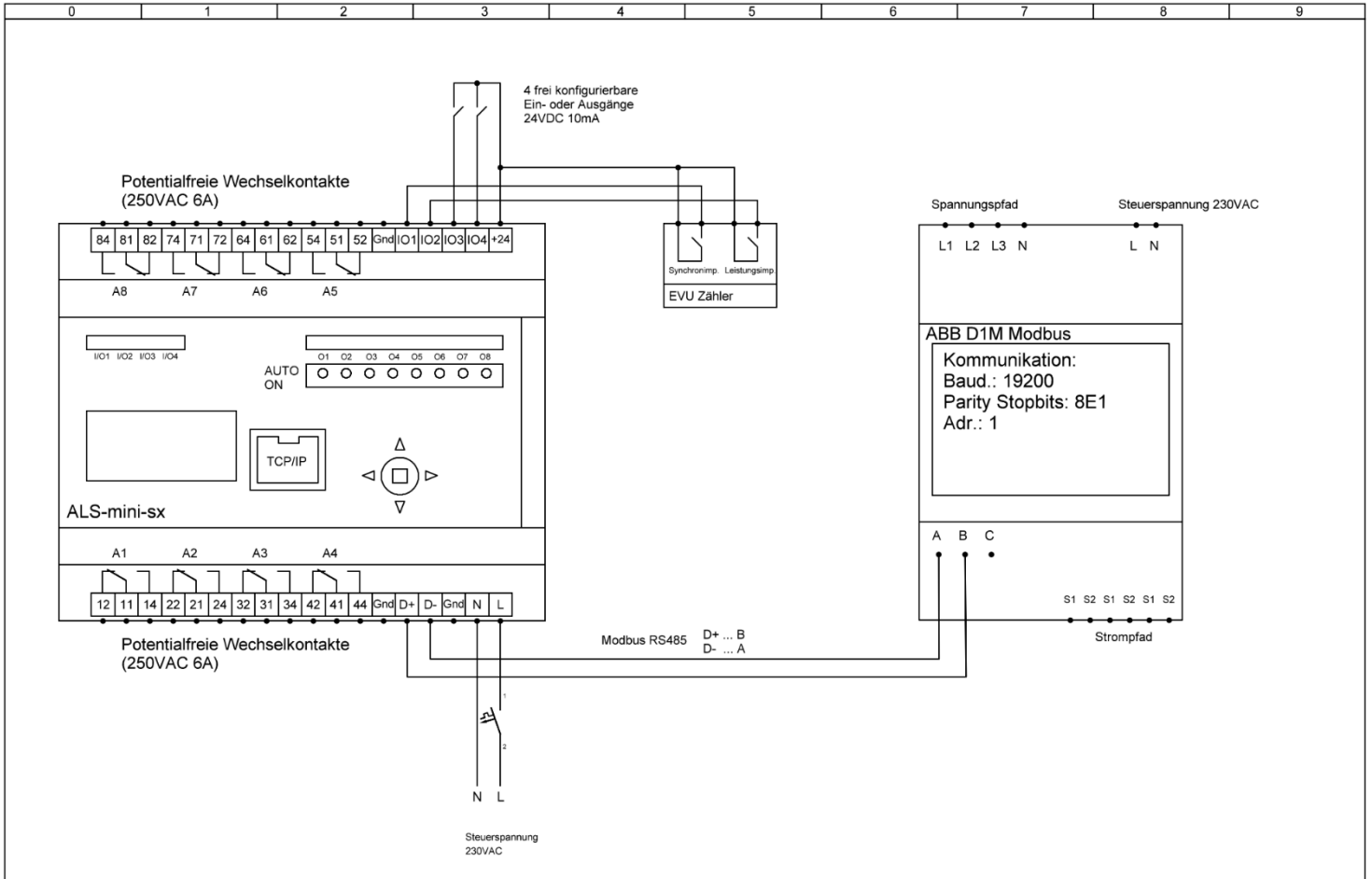


	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-ex + EM330 + I/Os	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-ex + EM330 + IOs.sp7	Blatt:
Name:	MAY	CKR					

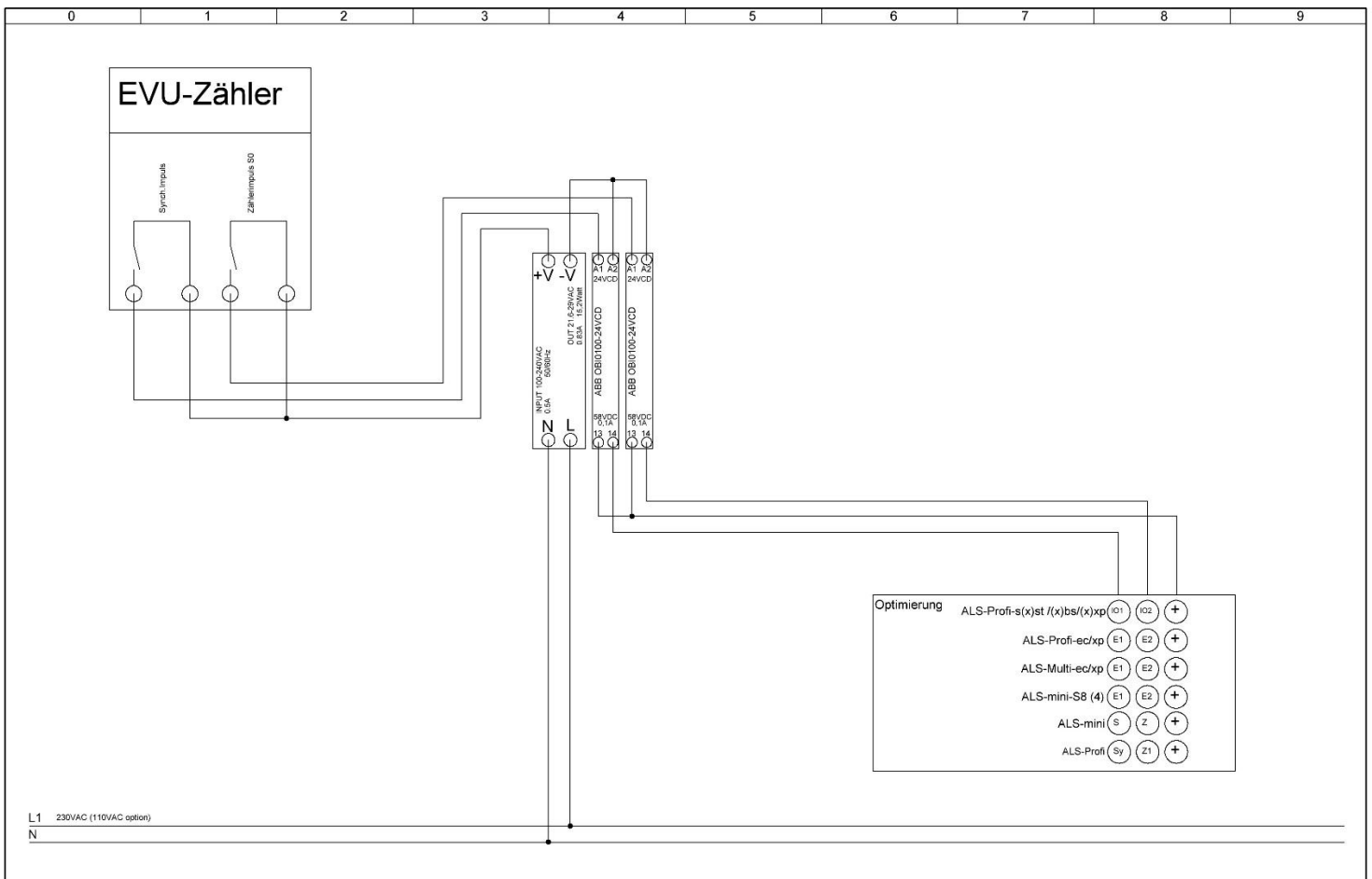


	gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS-mini-sx Boiler Halbleiterschütz bis zu 4	
Datum:	09.06.2022	07.12.2023			Datei:	ALS-mini-ex Halbleiterschütz Boiler.sp7	Blatt:
Name:	SAN	CKR					



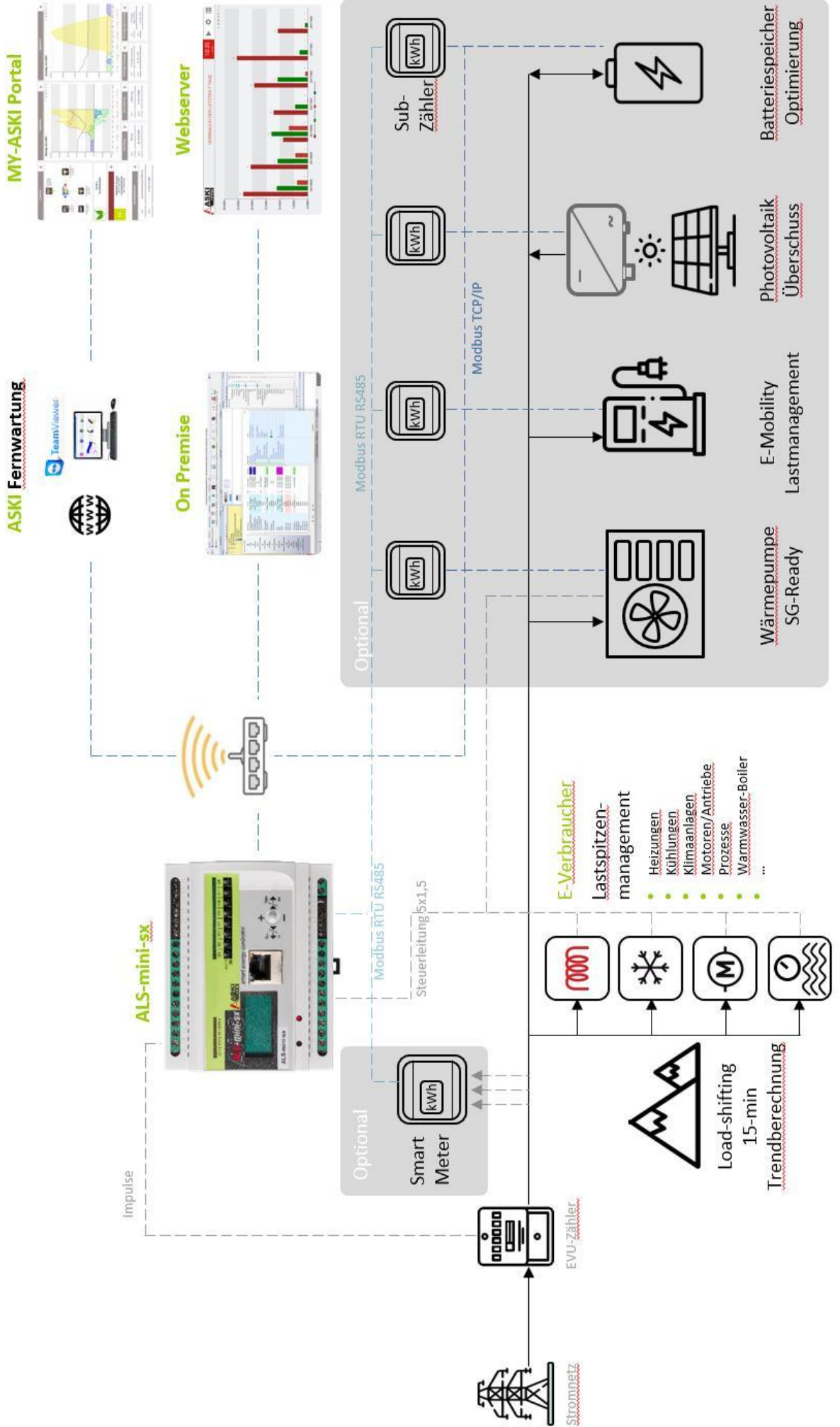


gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irrseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	ALS (AZS) - mini-sx + ABB D1M15 oder D1M20 Modbus	
Datum:	19.02.2025	19.02.2025		Datei:	Blatt:	1 von 1
Name:	ARM	CKR				



gezeichnet:	geprüft:	Änderungen:	ASKI Ind. Elektronik 4893 Zell am Moos Irrseeblick 47 Tel.: +43(0)6234/20010	Bezeichnung:	Optokoppler R600 KOP Anschlussplan	
Datum:	01.09.2025	01.09.2025		Datei:	Blatt:	1 von 1
Name:	SAN	CKR				

Schema ALS-mini-sx-100lm Lastmanagement- und Energieleittechnik-Controller



16. Additional Information

16.1. Listing of related documents

Ref #	Document Kind, Title	Document No.

17. Addendum

18. Revisions

Rev.	Page (P) Chapt. (C)	Description	Date Dept./Init.
A		Creation of basic document	November 01, 2023 / CKR
A		Technical manual ALS-mini-sx-100lm V1.0c	November 20, 2023 / CKR
A		Technical manual ALS-mini-sx-100lm V1.0d	December 01, 2023/ CKR
A		Technical manual ALS-mini-sx-100lm V1.0e	December 07, 2023/ CKR
A		Change contact details	January 14, 2025/ CKR
B		Revision and updating	July 04, 2025/ CKR
B		English translation of the German base document	May 12, 2026/ CKR

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Approved	External	9AKK108471A4042	B	EN	28/28