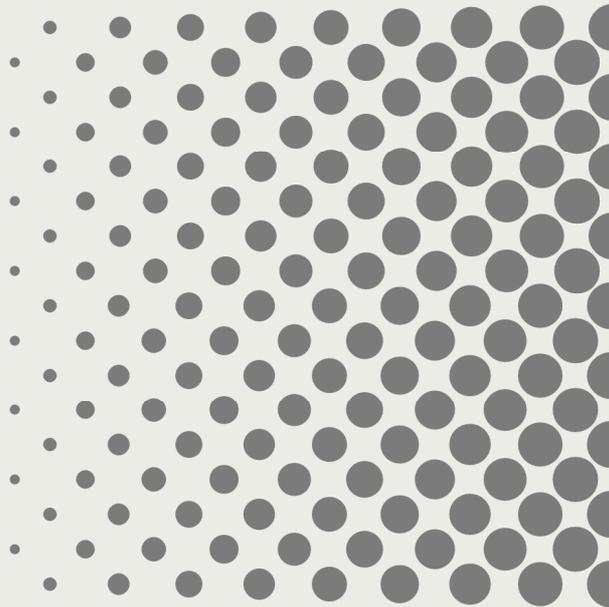




# Emergency Lighting



centralized supply system  
decentralized supply system

Date:	27.07.2023
Revision:	0
Software version – S-230Z:	1.28.1.28
Software version – S-24Z / S-24G:	1.61.1.61



English

SHORT INSTRUCTION

SICURO

LOGICA 230/24



## Table of contents

	Page:
Information of the short instruction .....	2
Symbol explanation.....	2
Manufacturer, further documents.....	2
Type codes .....	3
Preface .....	3
General installation notes .....	4
Step 1 – unpacking and check of the equipment.....	4
Step 2 – assembly and erection of the equipment.....	4
Step 3 – connection of mains and battery supply .....	5
Step 4 – connection of the critical circuit .....	6
Step 5 – connection of the battery middle tapping.....	7
Step 6 – connection of the device supply voltages .....	8
Step 7 – connection of the switch inputs .....	8
Step 8 – connection of the control contact for fans.....	9
Step 9 – connection of the measure contact "temperature sensor".....	9
Step 10 – connection of the message contact for insulation failures.....	10
Step 11 – connection of the message contact mains failures .....	11
Step 12 – connection of the message contact "operational condition" .....	11
Step 13 – connection of the message contact "collective fault" .....	11
Step 14 – connection of the message contact "battery operation" .....	12
Step 15 – connection of the auxiliary contacts.....	12
Step 16 – connection of the station buses.....	13
Step 17 – connection of the device bus.....	16
Step 18 – connection of the LAN port (network).....	16
Step 19 – connection of the LSSA switch inputs .....	18
Step 20 – connection of the output circuits.....	19
Step 21 – retorquing and check of electrical connections .....	21
General operating of the device .....	22
Menu structures .....	28
Cold start / warm start .....	31
Operating modes of the emergency light station, deep discharge protection .....	32
Device function "FUNCTION TEST".....	34
Device function "DURATION TEST" .....	34
Device function "INSULATION TEST".....	34
Device function "DEEP DISCHARGE TEST" .....	34
Device function "OPERATIONAL CONDITION".....	35
Device function "MAINTAINED MODE".....	36
Device function "MANUAL RESET" .....	37
Addressing types ID and Rotary, luminaire positions .....	37
Assignment signs, language abbreviations.....	38
Notes .....	39

**Information of the short instruction****Important instructions**

According to EN 50110-1:2004-11 any work on the installation has to be executed by qualified electricians only.

Other activities described in this short instruction have to be executed only by persons who:

- have been instructed by qualified persons.
- have fully understood their tasks and the functions of the installation.
- are under observation and being checked regularly by qualified persons.

Please observe the local rules and regulations.

**Symbol explanation****The following symbols must be observed.****Attention:**

Indicates hazards that may be the cause for damage to human, plant or environment as well as very important instructions.

**Note:**

Provides information and advice for navigating within the described plant, components or functions.

**Manufacturer, further documents**

Manufacturer:

**Beghelli PRÄZISA Deutschland GmbH**

Internet: [www.beghelli.de](http://www.beghelli.de)

E-mail: [kontakt@beghelli.de](mailto:kontakt@beghelli.de)

Further documents:

**Catalogues**  
**SICURO**

The catalogue contents are also available over the internet – [www.beghelli.de](http://www.beghelli.de).

## Type codes

Designation:	Station type:	Mains monitoring:	Mains supply:	Battery supply:	Mains output voltage:	Battery output voltage:
SICURO-230Z	main station	3~	400 V AC 50/60 Hz 3~	216 V DC	230 V AC 50/60 Hz 1~	216 V DC
SICURO-230Z	main station	1~	230 V AC 50/60 Hz 1~	216 V DC	230 V AC 50/60 Hz 1~	216 V DC
SICURO-230Z	sub station	3~	400 V AC 50/60 Hz 3~	216 V DC from main station	230 V AC 50/60 Hz 1~	216 V DC
SICURO-230Z	sub station	1~	230 V AC 50/60 Hz 1~	216 V DC from main station	230 V AC 50/60 Hz 1~	216 V DC
SICURO-230Z	sub station	/	230 V AC 50/60 Hz 1~ from main station, combined with battery supply	216 V DC from main station, combined with mains supply	230 V AC 50/60 Hz 1~	216 V DC
SICURO-24Z	sub station	/	230 V AC 50/60 Hz 1~ from main station, combined with battery supply	216 V DC from main station, combined with mains supply	24 V DC	24 V DC
SICURO-24G	main station	1~	230 V AC 50/60 Hz 1~	24 V DC	24 V DC	24 V DC



### Attention:

The specified mains and battery output voltages are only valid if output cards of the types AKS 1/2/4 EÜ/SÜ, eAK 2x32 EÜ/SÜ resp. AK24V are used.

### Mains output voltage:

- > The mains output voltage designates the voltage with which the output circuits of an emergency light station can be operated if no supply failure is present.
- > The mains output voltage designates the voltage with which the output circuits of an emergency light station are operated if a partial supply failure is present.

### Battery output voltage:

- > The battery output voltage designates the voltage with which the output circuits of an emergency light station are operated if a general supply failure is present.
- > The battery output voltage designates the voltage with which the output circuits of an emergency light station are operated if a function test, a duration test, an insulation test or a read-in is executed.

## Preface

This short instruction covers all standard switchboard configurations. Device properties and device connections are documented. The information provided conforms to the latest scope of delivery. The information of this document can be supplemented by the use of the documentations regarding the single equipment as well as the operating instruction and the installation instruction. Additional information can be requested from the above mentioned address.

The technical content of this short instruction is correct at time of print.  
Subject to change without prior notification.



### Attention:

**This short instruction should only be used as a quick guide for the product. The full information content results in the use of the individual documentation of the product as well as the operating instruction and the installation instruction.**

## General installation notes

Switchboards with devices are custom manufactured products which are every time adapted to the respective technical requirements of the object and the customer of Beghelli PRÄZISA Deutschland. This leads to individual switchboard configurations. The connection of a switchboard as well as the execution of the most important device functions can basically be divided in the following steps. Additional steps regarding the connection and the device functions should be planned and performed concerning the respective technical requirements and the installed equipment of the ready manufactured switchboard. With the aid of the individual documentation of the product well as the operating instruction and the installation instruction it is possible to get an overview of all properties. These documents can be used to plan and perform additional steps.

**Note:**

**If contact designations are not described in detail in the following steps respective information can be found in the individual documentation.**

### Step 1 – unpacking and check of the equipment

During the unpacking a check of all equipment should be done regarding the delivered quantities in correspondence with the respective order numbers. Viewing the individual documentation of the product as well as the operating instruction and the installation instruction can help to assign the delivered equipment better. In case of deviations to the ordered equipment please contact Beghelli PRÄZISA Deutschland.

**Attention:**

**During this and all following steps special attention must be paid to all equipment which is signed with safety signs. This short instruction as well as all additional supplied documentations of other manufacturers (first and foremost material safety datasheets) must be read before the beginning of any activities.**

### Step 2 – assembly and erection of the equipment

The assembly and erection of all equipment should be done concerning the general cabling topology of all emergency light stations. The following steps, the individual documentation of the product well as the operating instruction and the installation instruction are providing information how to install respective cables und external equipment.

**Attention:**

**During this and all following steps all activities must be done without voltage on the equipment. This includes all kinds of mains supply voltages, battery supply voltages and every other kind of voltage independently of their usage.**

**Step 3 – connection of mains and battery supply**SICURO-230Z – main station:

- > Every SICURO-230Z system consists at least of one main station and a maximum of 128 main stations.
- > Every main station must be supplied with a mains and a battery supply.
- > Depending on the configuration the battery supply source can be placed inside the main station switchboard or external.
- > The handoff points to connect the mains and battery supply to the main station are located at terminal clamps inside the switchboard. The contacts are designated inside the individual documentation.

SICURO-230Z – sub station without combined mains and battery supply.SICURO-230Z – external output card without combined mains and battery supply:

- > Every sub station / external output card must be supplied with a mains and a battery supply.
- > Depending on the configuration the mains and the battery supply for the sub stations can be wired in a row or starred.
- > A main station can have up to 32 connected sub stations / external output cards. A combination with sub stations of the SICURO-24Z system is possible.
- > The handoff points to connect the mains and battery supply to the sub station / external output card are located at terminal clamps inside the switchboard. The contacts are designated inside the individual documentation.

SICURO-230Z – sub station with combined mains and battery supplySICURO-230Z – external output card with combined mains and battery supply:

- > Every sub station / external output card must be supplied with a combined mains and battery supply.
- > Depending on the configuration the combined mains and battery supply for the sub stations / external output cards can be wired in a row or starred.
- > A main station can have up to 32 connected sub stations / external output cards. A combination with sub stations of the SICURO-24Z system is possible.
- > The handoff point to connect the combined mains and battery supply to the sub station / external output card is located at terminal clamps inside the switchboard. The contact is designated inside the individual documentation.

**SICURO-24Z – sub station with combined mains and battery supply:**

- > Every sub station must be supplied with a combined mains and battery supply.
- > Depending on the configuration the combined mains and battery supply for the sub stations can be wired in a row or starred.
- > A main station can have up to 32 connected sub stations / external output cards. A combination with sub stations of the SICURO-230Z system is possible.
- > The handoff point to connect the combined mains and battery supply to the sub station is located on the I/O card. The contact is designated with "Netz/Mains" and "N-/L+/PE".

**SICURO-24G – main station:**

- > Every SICURO-24G system consists at least of one main station and a maximum of 128 main stations.
- > Every main station must be supplied with a mains and a battery supply.
- > Depending on the configuration the mains supply for the main stations can be wired in a row or starred. An external distribution box is necessary for the wiring in a row.
- > The battery supply source is placed inside the main station switchboard.
- > A main station can have no connected sub stations.
- > The handoff point to connect the mains supply to the main station is located on the I/O card. The contact is designated with "Netz/Mains" and "N-/L+/PE".
- > The handoff point to connect the battery supply to the main station is located on the I/O card. The contact is designated with "Batterie Battery" and "-/+".

**Step 4 – connection of the critical circuit****Properties of the critical circuit:**

- > All SICURO systems are equipped with a critical circuit.
- > The critical circuit is equipped on its measure contact with a loop monitoring which works together with an end resistor (10 kΩ).
- > The end resistor (10 kΩ) mounted on the measure contact at delivery condition must be connected together with the last external monitoring module.
- > The critical circuit measures on its measure contact the presence of the end resistor (10 kΩ). If the measured resistance value deviates positive or negative from a determined value, then a mains failure is detected by the emergency light station.
- > The handoff point to connect the critical circuit to the emergency light station is located on the I/O card.

The measure contact is designated with "KSK" and "-/+" at SICURO-230Z systems.

The measure contact is designated with "KSK" and "+/-" at SICURO-24Z systems and SICURO-24G systems.

#### Properties of external monitoring modules:

- > The critical circuit is used for the sub-distribution monitoring of the general lighting. In the course of this external monitoring modules (standardly DS3-UV) are installed inside every sub-distribution which must be monitored.
- > Each external monitoring module monitors presence and value of the mains voltage.
- > The last external monitoring module must be connected together with the end resistor (10 kΩ).
- > An external monitoring module must open the critical circuit to enable the measuring of the end resistor (10 kΩ) by the measure contact of the critical circuit when no mains failure is present.
- > An external monitoring module must close the critical circuit low-ohmic to enable the measuring of a short circuit by the measure contact of the critical circuit the when a mains failure is present.



#### **Attention:**

**The critical circuit must be wired in a row. A starred wiring is not possible, because the loop monitoring must consist of only one defined end with an end resistor.**

#### **Step 5 – connection of the battery middle tapping**

##### SICURO-230Z – main station:

- > Every main station of a SICURO-230Z system is equipped with one or more measure contacts for battery middle tapplings.
- > Every main station must be connected to all present battery middle tapplings.
- > Battery middle tapplings are placed inside the main station switchboard.
- > Depending on the configuration the battery supply of a main station can consist of one or more battery strings. One battery middle tapping is used per battery string.
- > The handoff points to connect battery middle tapplings to the main station are located at the following fuses:
  - Fuse F 23 for battery string 1. The measuring contact is designated with "F 23".
  - Fuse F 24 for battery string 2. The measuring contact is designated with "F 24".
  - Fuse F 25 for battery string 3. The measuring contact is designated with "F 25".
  - Fuse F 26 for battery string 4. The measuring contact is designated with "F 26".

##### SICURO-230Z – sub station:

- > The sub stations of a SICURO-230Z system are not equipped with a measure contact for a battery middle tapping. The sub stations are operated without a battery middle tapping.

##### SICURO-24Z – sub station:

- > The sub stations of a SICURO-24Z system are not equipped with a measure contact for a battery middle tapping. The sub stations are operated without a battery middle tapping.

### SICURO-24G – main station:

- > Every main station of a SICURO-24G system is equipped with a measure contact for a battery middle tapping.
- > Every main station must be connected to a battery middle tapping.
- > The battery middle tapping is placed inside the main station switchboard.
- > The handoff point to connect the battery middle tapping to the emergency light station is located on the I/O card. The measuring contact is designated with "Batterie Battery" and "1/2".

**Note:**

**The handoff point to connect the battery middle tapping to the emergency light station is pre-wired if the batteries are placed inside the switchboard at delivery condition. In this case the respective contacts are not intended as a connection for the customer at standard switchboard configurations.**

### **Step 6 – connection of the device supply voltages**

#### SICURO-230Z:

- > All SICURO systems are equipped with one device supply voltage.
- > The voltage source supplies the voltage level 24 V DC.
- > The handoff point of the device supply voltage is located at terminal clamps inside the switchboard. The contacts are designated with "X21", "24+" and "0".
- > The voltage source can be used for additional devices which are placed internal or external related to the switchboard.

**Note:**

**If additional internal devices are included in the switchboard configuration a respective pre-wiring is existent at delivery condition.**

#### SICURO-24Z and SICURO-24G:

- > All SICURO systems are equipped with one device supply voltage.
- > The voltage source supplies the voltage level 24 V DC.
- > The handoff point of the device supply voltage is located on the I/O card. The contacts are designated with "24V Ext." and "+/-".
- > The voltage source can be used for additional devices which can be placed external related to the switchboard.

### **Step 7 – connection of the switch inputs**

- > All SICURO systems are equipped with two switch inputs.
- > The switch contacts are carried out as circuits with a switch voltage of 24 V DC.
- > The command uptake for all switch inputs is binary and done by a low-ohmic contact closing (short circuit).

- > The command initiation for the switch input "maintained mode on/off" is software controlled and can not be influenced by a programming.
- > The command initiation for the switch input "user definition" is software controlled and can be influenced by a programming.
- > The handoff point of the switch input "maintained mode on/off" is located on the I/O card.  
The contacts of SICURO-230Z systems are designated with "DS" and "-/+".  
The contacts of SICURO-24Z and SICURO-24G systems are designated with "DS" and "+/-".
- > The handoff point of the switch input "user definition" is located on the I/O card.  
The contacts of SICURO-230Z systems are designated with "Aux In" and "-/+".  
The contacts of SICURO-24Z and SICURO-24G systems are designated with "Aux In" and "+/-".
- > The switch inputs can be used for control purposes together with additional devices which can be placed internal or external related to the switchboard.


**Attention:**

The switch inputs are only free available if no optional signalling and switching module (MSM) is included in the switchboard configuration. Depending on the type of the signalling and switching module (MSM) the switch inputs are partly or completely used.

<b>Step 8 – connection of the control contact for fans</b>
--

SICURO-230Z:

- > For the integration of fans the three auxiliary contacts "auxiliary contact 1", "auxiliary contact 2" and "auxiliary contact 3" on the I/O card can be used in combination with a respective software programming for control purposes.


**Note:**

**Regarding the wiring of the auxiliary contacts the step "connection of the auxiliary contacts" (see step 15) must be observed.**

SICURO-24Z:

- > The SICURO-24Z systems without fire protection enclosures are not equipped with a contact for fans. The emergency light stations are operated without a fan.
- > The SICURO-24Z systems with fire protection enclosures are equipped with a contact for fans. This contact is combined with the contact for the output of the mains module.

SICURO-24G:

- > The SICURO-24G systems without fire protection enclosures are not equipped with a contact for fans. The emergency light stations are operated without a fan.
- > The SICURO-24G systems with fire protection enclosures are equipped with a contact for fans. This contact is combined with the contact for the connection of the mains supply.

<b>Step 9 – connection of the measure contact "temperature sensor"</b>
--

SICURO-230Z:

- > Every main station of a SICURO-230Z system is equipped with a measure contact for a temperature sensor.

- > The measure contact is carried out as a circuit with a measure voltage of 3 V DC and software monitored.
- > The handoff point to connect a temperature sensor to the main station is located on the I/O card. The measure contact is designated with "Temp. NTC".
- > The measure contact is used for monitoring purposes together with a temperature sensor which is placed as follows depending on the switchboard configuration:
  - Combi switchboard: Pre-installed in the battery chamber of the switchboard.
  - Battery switchboard: By customer in the switchboard.
  - Battery rack: By customer in the battery room.

**Note:**

**The handoff point to connect a temperature sensor to the measure contact is pre-wired in combi switchboards and located at the terminal clamps of the I/O card. The contacts "Temp. NTC" are not intended as a connection for the customer at combi switchboards.**

- > The sub stations of a SICURO-230Z system are not equipped with a measure contact for a temperature sensor. The sub stations are operated without a temperature sensor.

SICURO-24Z:

- > The sub stations of a SICURO-24Z system are not equipped with a measure contact for a temperature sensor. The sub stations are operated without a temperature sensor.

SICURO-24G:

- > Every main station of a SICURO-24G system is equipped with a measure contact for a temperature sensor.
- > The measure contact is carried out as a circuit with a measure voltage of 3 V DC and software monitored.
- > The handoff point to connect a temperature sensor to the main station is located on the I/O card. The measure contact is designated with "Temp. NTC".
- > The measure contact is used for monitoring purposes together with a pre-installed temperature sensor which is placed in the battery chamber of the switchboard.

**Note:**

**The handoff point to connect a temperature sensor to the measure contact is pre-wired and located at the terminal clamps of the I/O card. The contacts "Temp. NTC" are not intended as a connection for the customer at standard switchboard configurations.**

<b>Step 10 – connection of the message contact for insulation failures</b>
--

SICURO-230Z:

- > For the integration of a message contact for insulation failures the three auxiliary contacts "auxiliary contact 1", "auxiliary contact 2" and "auxiliary contact 3" on the I/O card can be used in combination with a respective software programming for control and monitoring purposes purposes.



**Note:**

**Regarding the wiring of the auxiliary contacts the step "connection of the auxiliary contacts" (see step 15) must be observed.**

#### SICURO-24Z and SICURO-24G:

- > The SICURO-24Z and SICURO-24G systems are not equipped with a message contact for signaling an insulation failure. The emergency light stations are operated without an insulation monitoring.

#### **Step 11 – connection of the message contact mains failures**

- > For the integration of a message contact for mains failures the three auxiliary contacts "auxiliary contact 1", "auxiliary contact 2" and "auxiliary contact 3" on the I/O card can be used in combination with a respective software programming for control and monitoring purposes purposes.



**Note:**

**Regarding the wiring of the auxiliary contacts the step "connection of the auxiliary contacts" (see step 15) must be observed.**

#### **Step 12 – connection of the message contact "operational condition"**

- > All SICURO systems are equipped with a message contact for the status "operational condition".
- > The message contact is carried out as a potential-free closer and software controlled.
- > The handoff point of the message contact "operational condition" is located on the I/O card. The message contact is designated with "Betr." and "C/NO".
- > The rating of the contacts amounts to 4 A at 250 V AC resp. 4 A at 30 V DC.
- > The message contact can be used for control or monitoring purposes together with additional devices which can be placed internal or external related to the switchboard.

Software command "operational condition" PRESENT:

The message relay is not energized and the contacts "C" and "NO" are opened.

Software command "operational condition" NOT PRESENT:

The message relay is energized and the contacts "C" and "NO" are closed.



**Attention:**

**The message contact "operational condition" is only free available if no optional signalling and switching module (MSM) is included in the switchboard configuration.**

#### **Step 13 – connection of the message contact "collective fault"**

- > All SICURO systems are equipped with a message contact for the status "collective fault".
- > The message contact is carried out as a potential-free closer and software controlled.
- > The handoff point of the message contact "collective fault" is located on the I/O card. The message contact is designated with "Stoer." and "C/NO".
- > The rating of the contacts amounts to 4 A at 250 V AC resp. 4 A at 30 V DC.

- > The message contact can be used for control or monitoring purposes together with additional devices which can be placed internal or external related to the switchboard.

Software command "collective fault" PRESENT:

The message relay is not energized and the contacts "C" and "NO" are opened.

Software command "collective fault" NOT PRESENT:

The message relay is energized and the contacts "C" and "NO" are closed.



**Attention:**

**The message contact "collective fault" is only free available if no optional signalling and switching module (MSM) is included in the switchboard configuration.**

#### **Step 14 – connection of the message contact "battery operation"**

- > All SICURO systems are equipped with a message contact for the status "battery operation".
- > The message contact is carried out as a potential-free closer and software controlled.
- > The handoff point of the message contact "battery operation" is located on the I/O card. The message contact is designated with "Batt." and "C/NO".
- > The rating of the contacts amounts to 4 A at 250 V AC resp. 4 A at 30 V DC.
- > The message contact can be used for control or monitoring purposes together with additional devices which can be placed internal or external related to the switchboard.

Software command "battery operation" PRESENT:

The message relay is not energized and the contacts "C" and "NO" are opened.

Software command "battery operation" NOT PRESENT:

The message relay is energized and the contacts "C" and "NO" are closed.



**Attention:**

**The message contact "battery operation" is only free available if no optional signalling and switching module (MSM) is included in the switchboard configuration.**

#### **Step 15 – connection of the auxiliary contacts**

- > All SICURO systems are equipped with three auxiliary contacts.
- > The auxiliary contacts are carried out as potential-free changeovers and software controlled. The software control can be influenced by a programming.
- > The handoff point of the auxiliary contact "auxiliary contact 1" is located on the I/O card. The auxiliary contact is designated with "Aux Out 1" and "NC/C/NO".
- > The handoff point of the auxiliary contact "auxiliary contact 2" is located on the I/O card. The auxiliary contact is designated with "Aux Out 2" and "NC/C/NO".

- > The handoff point of the auxiliary contact "auxiliary contact 3" is located on the I/O card. The auxiliary contact is designated with "Aux Out 3" and "NC/C/NO".
- > The rating of the contacts amounts to 4 A at 250 V AC resp. 4 A at 30 V DC.
- > The auxiliary contacts can be used for control or monitoring purposes together with additional devices which can be placed internal or external related to the switchboard.

Software commands for standard control and fan control OFF:

The control relay is not energized and the contacts "C" and "NC" are closed.

Software commands for standard control and fan control ON:

The control relay is energized and the contacts "C" and "NO" are closed.



**Attention:**

**It should be noted that a normal auxiliary voltage is not present during a general supply failure. Therefore a connected fan can not work during this circumstance.**

#### Step 16 – connection of the station buses

SICURO-230Z – main station:

- > Every SICURO-230Z system consists at least of one main station and a maximum of 128 main stations.
- > Single main stations can be wired together on the main station bus or in the same network for combined control and monitoring purposes. The main station bus can be furthermore used to connect different converter units for adaption purposes to computers resp. to a building management system (BMS) or a remote panel.
- > Every SICURO-230Z system can have up to 128 connected main stations on the main station bus resp. over the network. A combination with main stations of the SICURO-24G system is not possible.



**Note:**

**Single main stations in a SICURO-230Z system are autonomous working units regarding the required basic functionality. It is not mandatory to wire single main stations together on the main station bus or in the same network.**

SICURO-230Z – sub station.

SICURO-230Z – external output card:

- > Every sub station must be wired to the associated main station of the SICURO-230Z system on the sub station bus or in the same network to provide the required system functionality.
- > Every external output card must be wired to the associated main station of the SICURO-230Z system on the sub station bus to provide the required system functionality.

- > A main station of the SICURO-230Z system can have up to 32 connected sub stations / external output cards on the sub station bus resp. over the network. A combination with sub stations of the SICURO-24Z system is possible.



**Attention:**

**Single sub stations / external output cards in a SICURO-230Z system are not autonomous working units regarding the required basic functionality. It is mandatory to wire sub stations / external output cards together on the sub station bus resp. in the same network of the associated main station of the SICURO-230Z system.**

SICURO-24Z – sub station:

- > Every sub station must be wired to the associated main station of the SICURO-230Z system on the sub station bus or in the same network to provide the required system functionality.
- > A main station of the SICURO-230Z system can have up to 32 connected sub stations / external output cards on the sub station bus resp. over the network. A combination with sub stations of the SICURO-230Z system is possible.



**Attention:**

**Single sub stations in a SICURO-24Z system are not autonomous working units regarding the required basic functionality. It is mandatory to wire sub stations together on the sub station bus resp. in the same network of the associated main station of the SICURO-230Z system.**

SICURO-24G – main station:

- > Every SICURO-24G system consists at least of one main station and a maximum of 128 main stations.
- > Single main stations can be wired together on the main station bus or in the same network for combined control and monitoring purposes. The main station bus can be furthermore used to connect different converter units for adaption purposes to computers resp. to a building management system (BMS) or a remote panel.
- > Every SICURO-24G system can have up to 128 connected main stations on the main station bus resp. over the network. A combination with main stations of the SICURO-230Z system is not possible.



**Note:**

**Single main stations in a SICURO-24G system are autonomous working units regarding the required basic functionality. It is not mandatory to wire single main stations together on the main station bus or in the same network.**

General wiring:

- > The main station bus as well as the sub station bus must be wired in a row. A starred wiring is not allowed.
- > To wire the main station bus as well as the sub station bus a shielded cable with twisted-pair wires must be used. On the first main station a functional earthing for the cable must be installed.

- > An additional converter unit for the main station bus can be placed internal or external related to the switchboard.



**Note:**

**Regarding the wiring in the network the step "connection of the LAN port (network)" (see step 18) must be observed.**



**Attention:**

**A maximum of one converter unit can be connected on the main station bus. The simultaneous operation of several converter units is not possible. The simultaneous operation of a converter unit together with a remote panel is possible.**



**Note:**

**If an additional internal converter unit is included in the switchboard configuration a respective pre-wiring is existent at delivery condition.**

General properties of the main station bus and sub station bus:

- > Every EVA unit of a SICURO system is equipped with station buses.
- > The station buses are carried out as RS485 interfaces. There is a division in a main station bus and a sub station bus.
- > Main station bus: to create an overordinated connection at the EVA unit of a main station the contacts which are designated with "RS485 Main" and "G/+/-" must be used.
- > Sub station bus: to create a subordinated connection at the EVA unit of a main station the contacts which are designated with "RS485 Sub" and "G/+/-" must be used. To create a subordinated connection at the EVA unit of a sub station the contacts which are designated with "RS485 Main" and "G/+/-" must be used.



**Attention:**

**SICURO-230Z / SICURO-24Z: at the EVA unit of a sub station the contacts which are designated with "RS485 Sub" and "G/+/-" have no function and must not be used.**

**SICURO-24G: at the EVA unit of a main station the contacts which are designated with "RS485 Sub" and "G/+/-" must not be used. It is not allowed to wire a sub station bus at SICURO-24G systems.**

**A combination of the main station buses of SICURO-230Z and SICURO-24G systems is not possible.**

- > The main station bus can be used for control or monitoring purposes together with a converter unit or / and a remote panel and further main stations.
- > The sub station bus is only used for control or monitoring purposes together with sub stations.
- > The main station bus provides no bidirectional communication exchange between the connected main stations. A bidirectional communication exchange is only possible between a converter unit as well as a remote panel and the connected main stations.

- > The sub station bus provides a bidirectional communication exchange between a main station and connected sub stations.

### Step 17 – connection of the device bus

- > Additional devices for control and monitoring purposes can be wired on the device bus of an emergency light station.
- > Each emergency light station can have up to 96 connected devices on the device bus.

#### General wiring:

- > The device bus must be wired in a row. A starred wiring is not allowed.
- > To wire the device bus a shielded cable with twisted-pair wires must be used.
- > An additional device for the device bus can be placed internal or external related to the switchboard.

#### General properties of the device bus:

- > Every EVA unit of a SICURO system is equipped with a device bus.
- > The device bus is carried out as RS485 interface.
- > To create a connection at the EVA unit of an emergency light station the contacts which are designated with "RS485 Ext." and "G/+/-" must be used.
- > The device bus provides a bidirectional communication exchange between the emergency light station and connected devices.
- > The device bus can be used to connect LSSA modules. A connection of converter units for adaption purposes to computers resp. to a building management system (BMS) is not possible.

### Step 18 – connection of the LAN port (network)

#### SICURO-230Z – main station:

- > Every SICURO-230Z system consists at least of one main station and a maximum of 128 main stations.
- > Single main stations can be wired together in the same network or on the main station bus for combined control and monitoring purposes. The LAN port of a main station can be furthermore used to connect computers resp. a building management system (BMS). Over a router or a switch a remote panel can be integrated in the same network.
- > Every SICURO-230Z system can have up to 128 connected main stations over the network resp. on the main station bus. A combination with main stations of the SICURO-24G system is not possible.

**Note:**

**Single main stations in a SICURO-230Z system are autonomous working units regarding the required basic functionality. It is not mandatory to wire single main stations together in the same network or on the main station bus.**

#### SICURO-230Z – sub station:

- > Every sub station must be wired to the associated main station of the SICURO-230Z system in the same network or on the sub station bus to provide the required system functionality.
- > A main station of the SICURO-230Z system can have up to 32 connected sub stations / external output cards over the network resp. on the sub station bus. A combination with sub stations of the SICURO-24Z system is possible.



**Attention:**

**Single sub stations in a SICURO-230Z system are not autonomous working units regarding the required basic functionality. It is mandatory to wire sub stations together in the same network or on the sub station bus of the associated main station of the SICURO-230Z system.**

#### SICURO-24Z – sub station:

- > Every sub station must be wired to the associated main station of the SICURO-230Z system in the same network or on the sub station bus to provide the required system functionality.
- > A main station of the SICURO-230Z system can have up to 32 connected sub stations / external output cards over the network resp. on the sub station bus. A combination with sub stations of the SICURO-230Z system is possible.



**Attention:**

**Single sub stations in a SICURO-24Z system are not autonomous working units regarding the required basic functionality. It is mandatory to wire sub stations together in the same network resp. on the sub station bus of the associated main station of the SICURO-230Z system.**

#### SICURO-24G – main station:

- > Every SICURO-24G system consists at least of one main station and a maximum of 128 main stations.
- > Single main stations can be wired together in the same network or on the main station bus for combined control and monitoring purposes. The LAN port of a main station can be furthermore used to connect computers resp. a building management system (BMS). Over a router or a switch a remote panel can be integrated in the same network.
- > Every SICURO-24G system can have up to 128 connected main stations over the network resp. on the main station bus. A combination with main stations of the SICURO-230Z system is not possible.



**Note:**

**Single main stations in a SICURO-24G system are autonomous working units regarding the required basic functionality. It is not mandatory to wire single main stations together in the same network or on the main station bus.**

#### General wiring:

- > To wire the LAN port a shielded patch cable with twisted-pair wires of the type CAT-5 (or superior) must be used.



**Note:**

**Regarding the wiring of the station buses the step "connection of the station buses" (see step 16) must be observed.**

General properties of the LAN port:

- > Every EVA unit of a SICURO system is equipped with a LAN port.
- > The LAN port is carried out as RJ-45 interface.
- > To create a connection at the EVA unit of an emergency light station the port which is designated with "RJ-45" must be used.
- > The LAN port can be used for control or monitoring purposes.
- > The LAN port provides no bidirectional communication exchange between the connected main stations. A bidirectional communication exchange is only possible between computers resp. a building management system (BMS) as well as a remote panel and the connected main stations.

**Step 19 – connection of the LSSA switch inputs**

SICURO-230Z:

- > The SICURO-230Z systems are not equipped with LSSA switch inputs on the I/O card.
- > For the integration of LSSA switch inputs additional LSSA modules can be used for control purposes which can be placed internal or external related to the switchboard.

SICURO-24Z and SICURO-24G:

- > All SICURO-24Z and SICURO-24G systems are equipped with four LSSA switch inputs.
- > The LSSA switch contacts for the inputs 1 to 4 are carried out as circuits for a switch voltage of 230 V AC.
- > The handoff points of the LSSA switch inputs are located on the I/O card.
- > The contacts are designated with:

"LSSA1" and "N/L" for LSSA switch input 1.

"LSSA2" and "N/L" for LSSA switch input 2.

"LSSA3" and "N/L" for LSSA switch input 3.

"LSSA4" and "N/L" for LSSA switch input 4.

- > The LSSA switch inputs can be used for control purposes together with additional devices which can be placed external related to the switchboard.
- > The command uptake for the inputs 1 to 4 is binary and done by a connection of a voltage of 230 V AC.
- > The command initiation for the inputs 1 to 4 is software controlled and can be influenced by a programming.
- > For the integration of further LSSA switch inputs additional LSSA modules can be used for control purposes which can be placed external related to the switchboard.

## Step 20 – connection of the output circuits

### SICURO-230Z:

- > All SICURO-230Z systems can be equipped with output cards of the monitoring types EÜ and SÜ. The output contacts of the output cards are carried out as circuits with supply voltages of 230 V AC and 216 V DC.
- > The output circuits are primary used to supply the connected luminaires with their operating voltages.
- > The output circuits can be secondary used for control and monitoring purposes of the connected luminaires together with additional luminaire modules.
- > Output cards of the type EÜ provide a single monitoring of luminaires with luminaire modules by communication over the cable of the output circuit.
- > Output cards of the type SÜ provide a circuit monitoring of luminaires without communication over the cable of the output circuit.
- > Depending on the configuration the handoff points of the output circuits can be located at the terminal clamps of the card frame or be wired to further terminal clamps inside the switchboard.



#### Attention:

**The output circuits of a SICURO-230Z system are using a direct voltage of 216 V DC. All equipment connected to this output circuits must be fully suitable for direct voltages regarding emergency light applications.**

**Depending on the type of the installed output card it can be that the respective terminal clamps are partly not used. Only output cards with four output circuits are using the respective terminal clamps completely. All equipment must be connected according to this.**

**The slide-in slots on all card frames of a SICURO-230Z system have no mechanical coding against wrong installed cards. All cards must be installed into the respective slide-in slots.**

- > The contacts of the card frame 8 AK are designated with:

"L1", "N1" and "PE1" for slide-in slot 1 / output circuit 1.  
 "L2", "N2" and "PE2" for slide-in slot 1 / output circuit 2.  
 "L3", "N3" and "PE3" for slide-in slot 1 / output circuit 3.  
 "L4", "N4" and "PE4" for slide-in slot 1 / output circuit 4.  
 "L5", "N5" and "PE5" for slide-in slot 2 / output circuit 1.  
 "L6", "N6" and "PE6" for slide-in slot 2 / output circuit 2.  
 "L7", "N7" and "PE7" for slide-in slot 2 / output circuit 3.  
 "L8", "N8" and "PE8" for slide-in slot 2 / output circuit 4.  
 "L9", "N9" and "PE9" for slide-in slot 3 / output circuit 1.  
 "L10", "N10" and "PE10" for slide-in slot 3 / output circuit 2.  
 "L11", "N11" and "PE11" for slide-in slot 3 / output circuit 3.  
 "L12", "N12" and "PE12" for slide-in slot 3 / output circuit 4.  
 "L13", "N13" and "PE13" for slide-in slot 4 / output circuit 1.  
 "L14", "N14" and "PE14" for slide-in slot 4 / output circuit 2.  
 "L15", "N15" and "PE15" for slide-in slot 4 / output circuit 3.  
 "L16", "N16" and "PE16" for slide-in slot 4 / output circuit 4.  
 "L17", "N17" and "PE17" for slide-in slot 5 / output circuit 1.  
 "L18", "N18" and "PE18" for slide-in slot 5 / output circuit 2.  
 "L19", "N19" and "PE19" for slide-in slot 5 / output circuit 3.  
 "L20", "N20" and "PE20" for slide-in slot 5 / output circuit 4.

"L21", "N21" and "PE21" for slide-in slot 6 / output circuit 1.  
"L22", "N22" and "PE22" for slide-in slot 6 / output circuit 2.  
"L23", "N23" and "PE23" for slide-in slot 6 / output circuit 3.  
"L24", "N24" and "PE24" for slide-in slot 6 / output circuit 4.  
"L25", "N25" and "PE25" for slide-in slot 7 / output circuit 1.  
"L26", "N26" and "PE26" for slide-in slot 7 / output circuit 2.  
"L27", "N27" and "PE27" for slide-in slot 7 / output circuit 3.  
"L28", "N28" and "PE28" for slide-in slot 7 / output circuit 4.  
"L29", "N29" and "PE29" for slide-in slot 8 / output circuit 1.  
"L30", "N30" and "PE30" for slide-in slot 8 / output circuit 2.  
"L31", "N31" and "PE31" for slide-in slot 8 / output circuit 3.  
"L32", "N32" and "PE32" for slide-in slot 8 / output circuit 4.

> The card frame 8 AK can be maximally operated with an electrical power of 9000 W. The configuration of the used output cards may not lead to an exceedance of this maximum value.

> The contacts of the card frame 5 AK 2 LT are designated with:

"L1", "N1" and "PE1" for slide-in slot 3 / output circuit 1.  
"L2", "N2" and "PE2" for slide-in slot 3 / output circuit 2.  
"L3", "N3" and "PE3" for slide-in slot 3 / output circuit 3.  
"L4", "N4" and "PE4" for slide-in slot 3 / output circuit 4.  
"L5", "N5" and "PE5" for slide-in slot 4 / output circuit 1.  
"L6", "N6" and "PE6" for slide-in slot 4 / output circuit 2.  
"L7", "N7" and "PE7" for slide-in slot 4 / output circuit 3.  
"L8", "N8" and "PE8" for slide-in slot 4 / output circuit 4.  
"L9", "N9" and "PE9" for slide-in slot 5 / output circuit 1.  
"L10", "N10" and "PE10" for slide-in slot 5 / output circuit 2.  
"L11", "N11" and "PE11" for slide-in slot 5 / output circuit 3.  
"L12", "N12" and "PE12" for slide-in slot 5 / output circuit 4.  
"L13", "N13" and "PE13" for slide-in slot 6 / output circuit 1.  
"L14", "N14" and "PE14" for slide-in slot 6 / output circuit 2.  
"L15", "N15" and "PE15" for slide-in slot 6 / output circuit 3.  
"L16", "N16" and "PE16" for slide-in slot 6 / output circuit 4.  
"L17", "N17" and "PE17" for slide-in slot 7 / output circuit 1.  
"L18", "N18" and "PE18" for slide-in slot 7 / output circuit 2.  
"L19", "N19" and "PE19" for slide-in slot 7 / output circuit 3.  
"L20", "N20" and "PE20" for slide-in slot 7 / output circuit 4.

> The card frame 5 AK 2 LT can be maximally operated with an electrical power of 9000 W. The configuration of the used output cards may not lead to an exceedance of this maximum value.



**Attention:**

**The slide-in slots 1 and 2 are reserved for the use of charger cards at the card frame 5 AK 2 LT.**

#### SICURO-24Z and SICURO-24G:

> All SICURO-24Z and SICURO-24G systems are equipped with output cards of the type EÜ. The output contacts of the output cards are carried out as circuits with a supply voltage of 24 V DC.

- > The output circuits are primary used to supply the connected luminaires with the operating voltage.
- > The output circuits can be secondary used for control and monitoring purposes of the connected luminaires together with additional luminaire modules.
- > Output cards of the type EÜ provide a single monitoring of luminaires with luminaire modules by communication over the cable of the output circuit.
- > The handoff points of the output circuits are located on the output card.



**Attention:**

**The output circuits of the SICURO-24Z and SICURO-24G systems are using a direct voltage of 24 V DC. All equipment connected to this output circuits must be fully suitable for direct voltages regarding emergency light applications.**

- > The contacts of the output card AK24V are designated with:

"1+" and "1-" for output circuit 1.

"2+" and "2-" for output circuit 2.

"3+" and "3-" for output circuit 3.

"4+" and "4-" for output circuit 4.

- > The output card AK24V can be maximally operated with an electrical power of 72 W per output circuit, if no fire protection enclosure is used.
- > The output card AK24V can be maximally operated with an electrical power of 65 W per output circuit, if a fire protection enclosure is used.

The configuration of the used output card may not lead to an exceedance of this maximum values.

### Step 21 – retorquing and check of electrical connections

After all electrical connections are finished a retorquing of all screwable connections must be done. Thereupon all electrical connections must be check for proper execution.

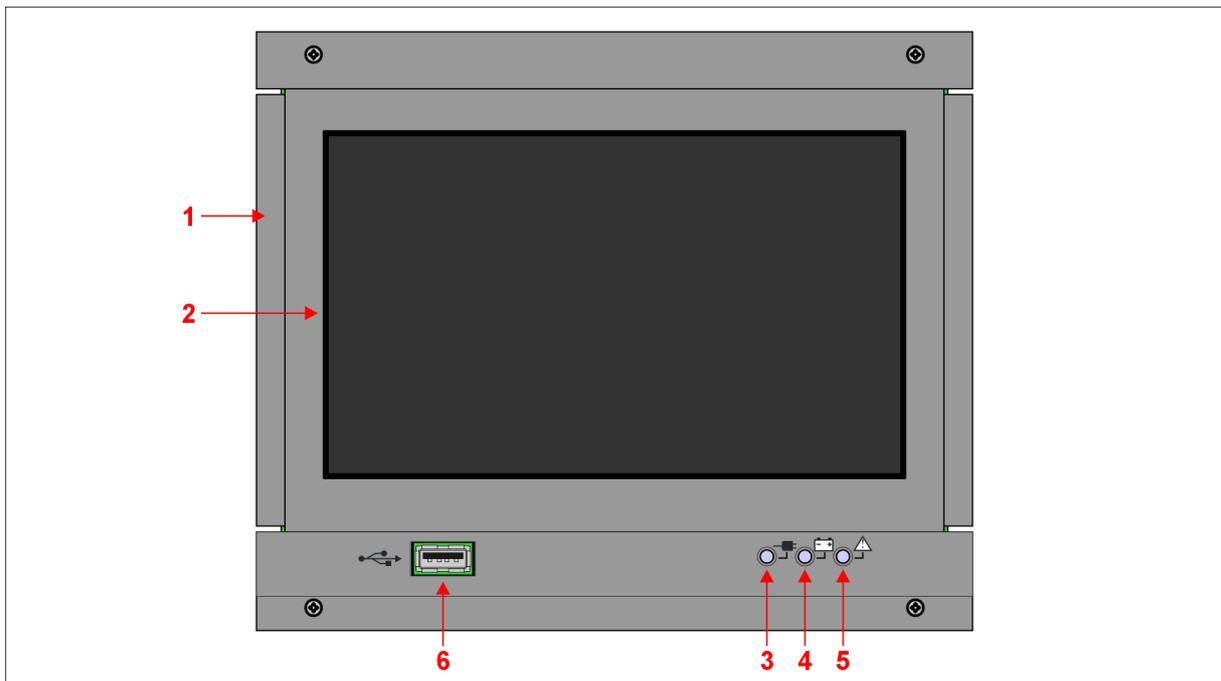
## General operating of the device

EVA unit (white, RAL9003) – 321004014,

EVA unit (grey, RAL7016) – 321004015:

EVA unit for input, process and output purposes of SICURO systems.

- "1": cover
- "2": touchscreen
- "3": optical indication for mains operation (green)  
indication on – green: mains operation present  
indication off: mains operation not present
- "4": optical indication for battery operation (orange)  
indication on – orange: battery operation present  
indication off: battery operation not present
- "5": optical indication for collective fault (red)  
indication on – red: collective fault present  
indication off: collective fault not present
- "6": USB port (type: A)



Output card AKS 1 SÜ – 292613201.

Output card AKS 1 EÜ – 292613200.

Output card AKS 2 SÜ – 292613203.

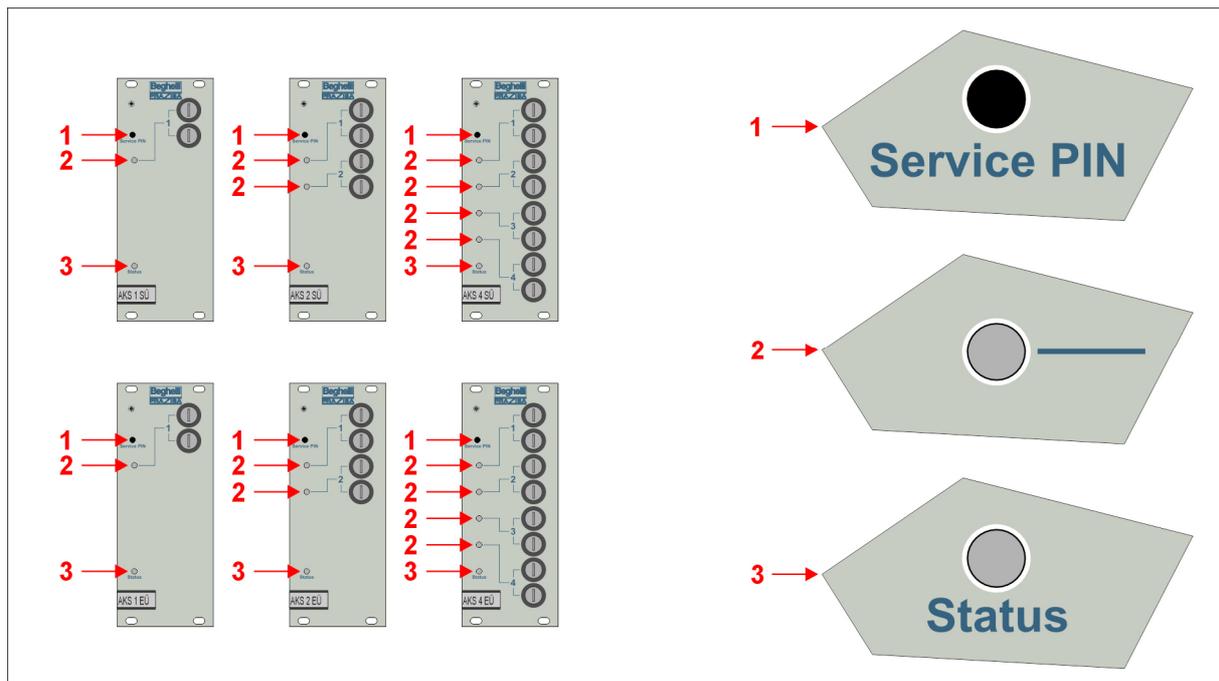
Output card AKS 2 EÜ – 292613202.

Output card AKS 4 SÜ – 292613205.

Output card AKS 4 EÜ – 292613204.

Output cards for supply of the output circuits of SICURO-230Z systems.

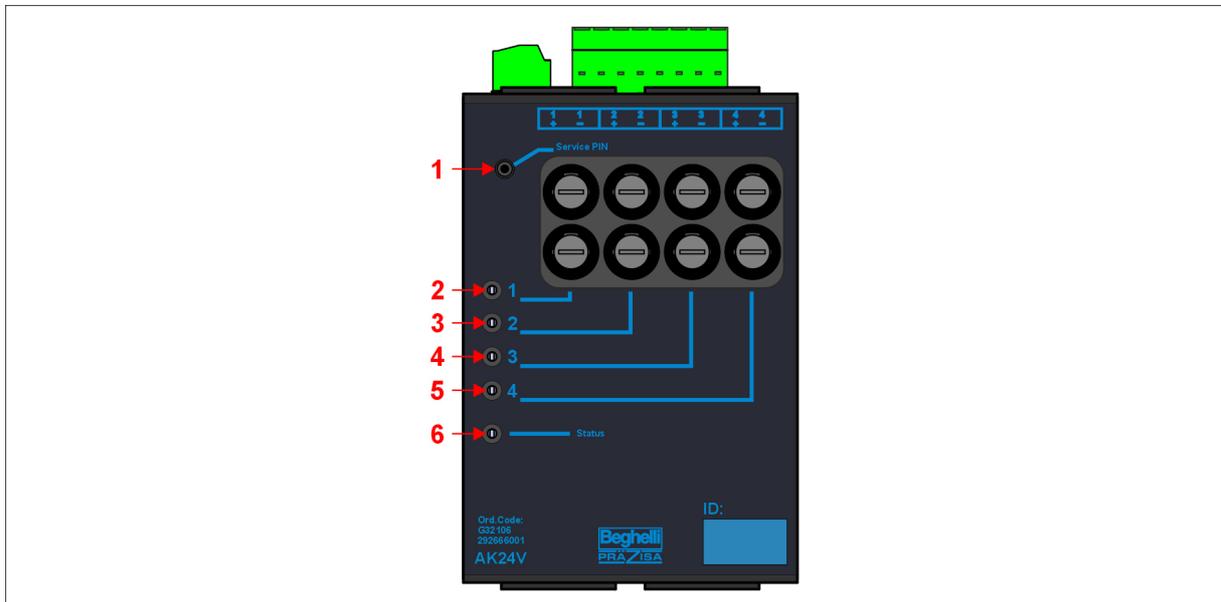
- "1": button "Service PIN" for read-in of output cards
- "2": optical indication for mains operation / battery operation / failure on the respective output circuit  
(green / orange / red)  
indication on – green: mains operation present  
indication on – orange: battery operation present  
indication blinks – red: failure present  
indication off: output circuit switched off
- "3": optical indication for status of the output card  
(green / orange / red)  
indication on – green: supply voltage of 230 V AC present on AC input  
indication on – orange: supply voltage of 216 V DC present on AC input / read-in procedure  
indication on – red: supply voltage of 230 V AC not present on AC input  
indication off: device supply voltage of 24 V DC not present  
indication blinks – green / orange / red: communication



### Output card AK24V – 292666001 / G32106:

Output card for supply of the output circuits of SICURO-24Z and SICURO-24G systems.

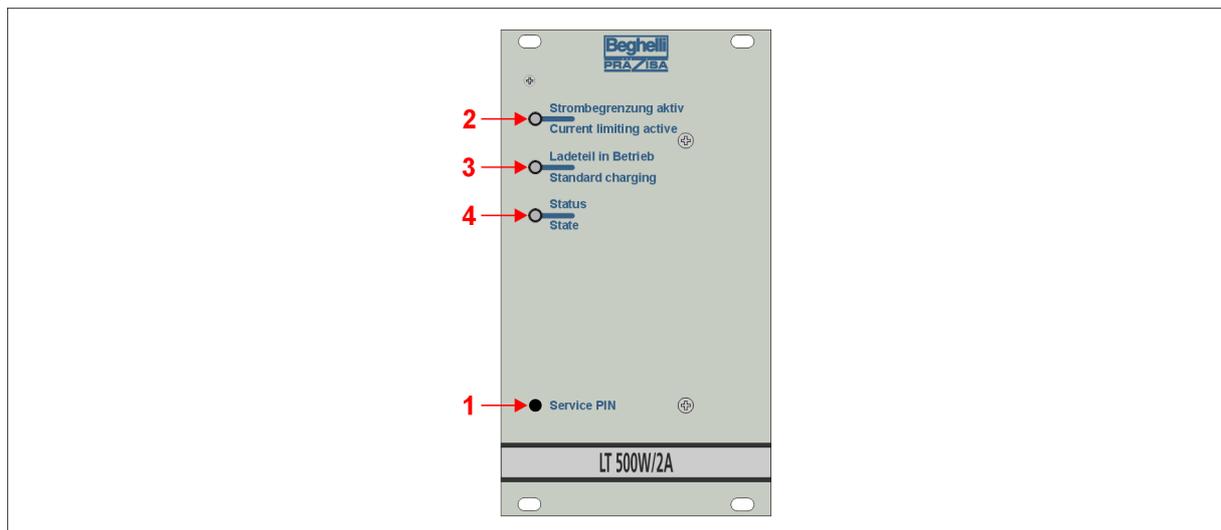
- "1": button "Service PIN" for read-in of output cards
- "2-5": optical indication for mains operation / battery operation / failure on the respective output circuit (green / orange / red)  
indication on – green: mains operation present  
indication on – orange: battery operation present  
indication blinks – red: failure present  
indication off: output circuit switched off
- "6": optical indication for status of the output card (green / orange / red)  
indication on – green: supply voltage of 24 V DC present on input  
indication on – orange: read-in procedure  
indication on – red: supply voltage of 24 V DC not present on input  
indication off: device supply voltage of 24 V DC not present



### Charger card LT 500W/2A – 292622003:

#### Charger card for charging the batteries of SICURO-230Z systems.

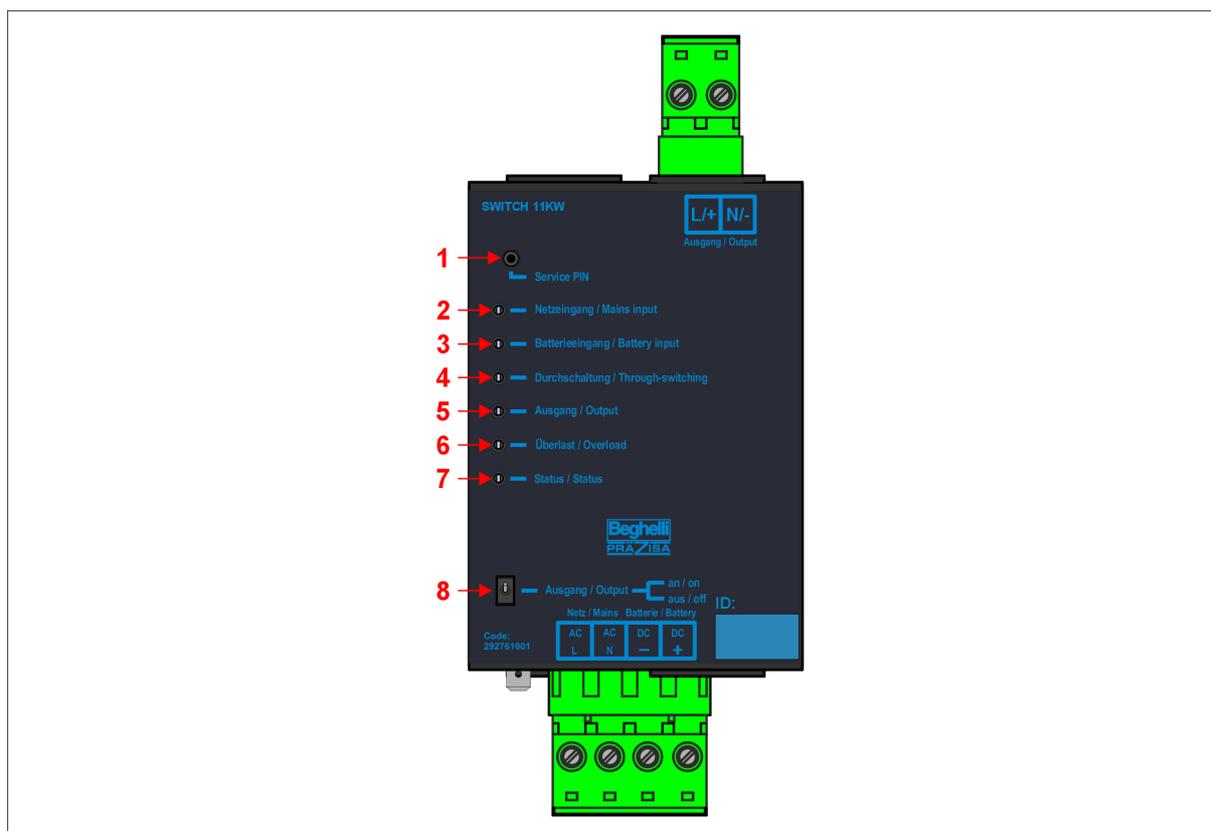
- "1": button "Service PIN" for read-in of charger cards
- "2": optical indication for boost charge (orange)  
indication on – orange: boost charge present, current limitation at 2 A  
indication off: no boost charge present
- "3": optical indication for operation of the charger card (green)  
indication on – green: operation  
indication off: no operation
- "4": optical indication for status of the charger card (green / red)  
indication on – green: charge with maximum current of 2 A  
indication blinks – green: charge below the maximum current, current proportional to switch-on duration of the indication  
indication blinks – red: failure present on battery supply  
indication off: device supply voltage of 24 V DC not present, generated by input voltage of 230 V AC



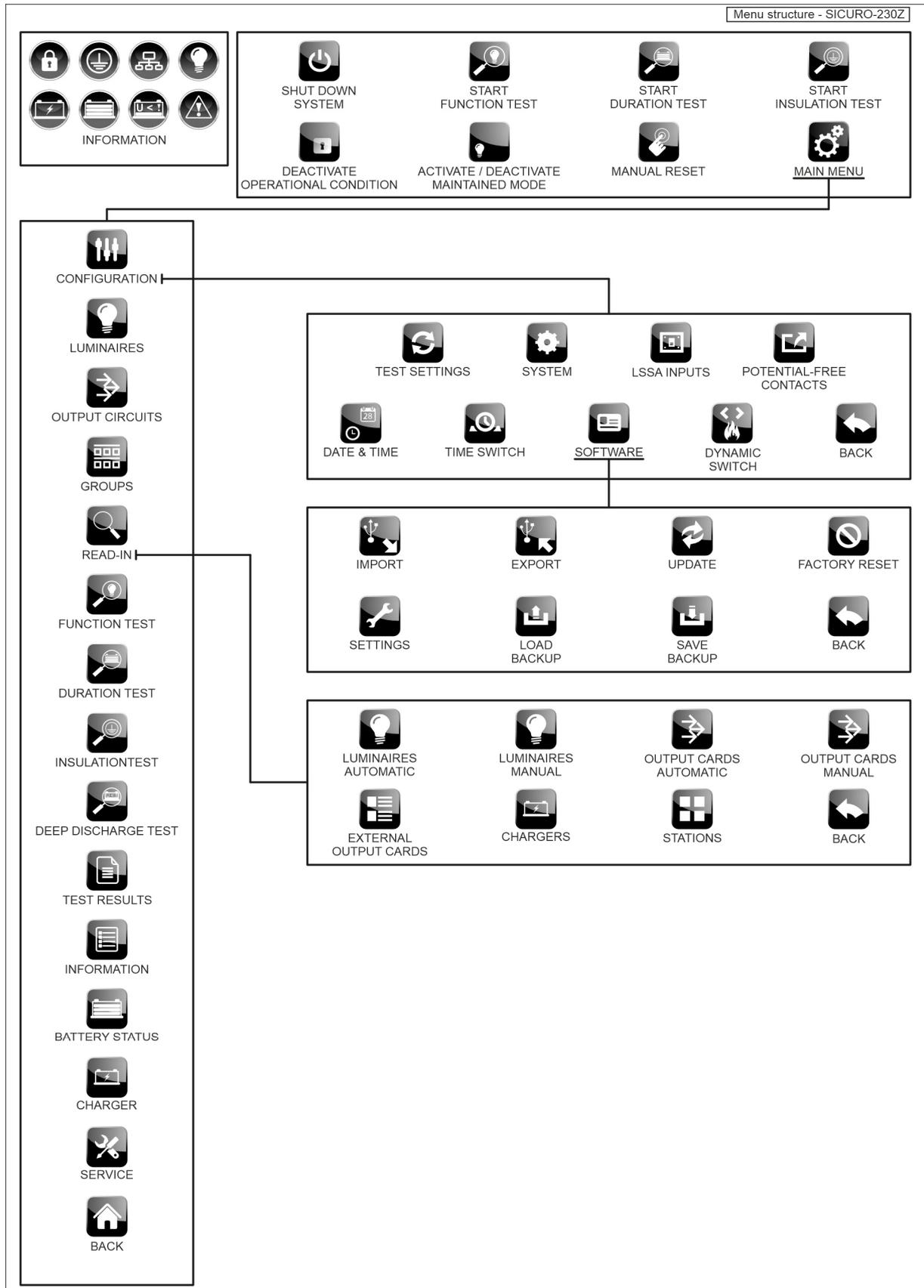
### Switchover card – 292761001 / G32107:

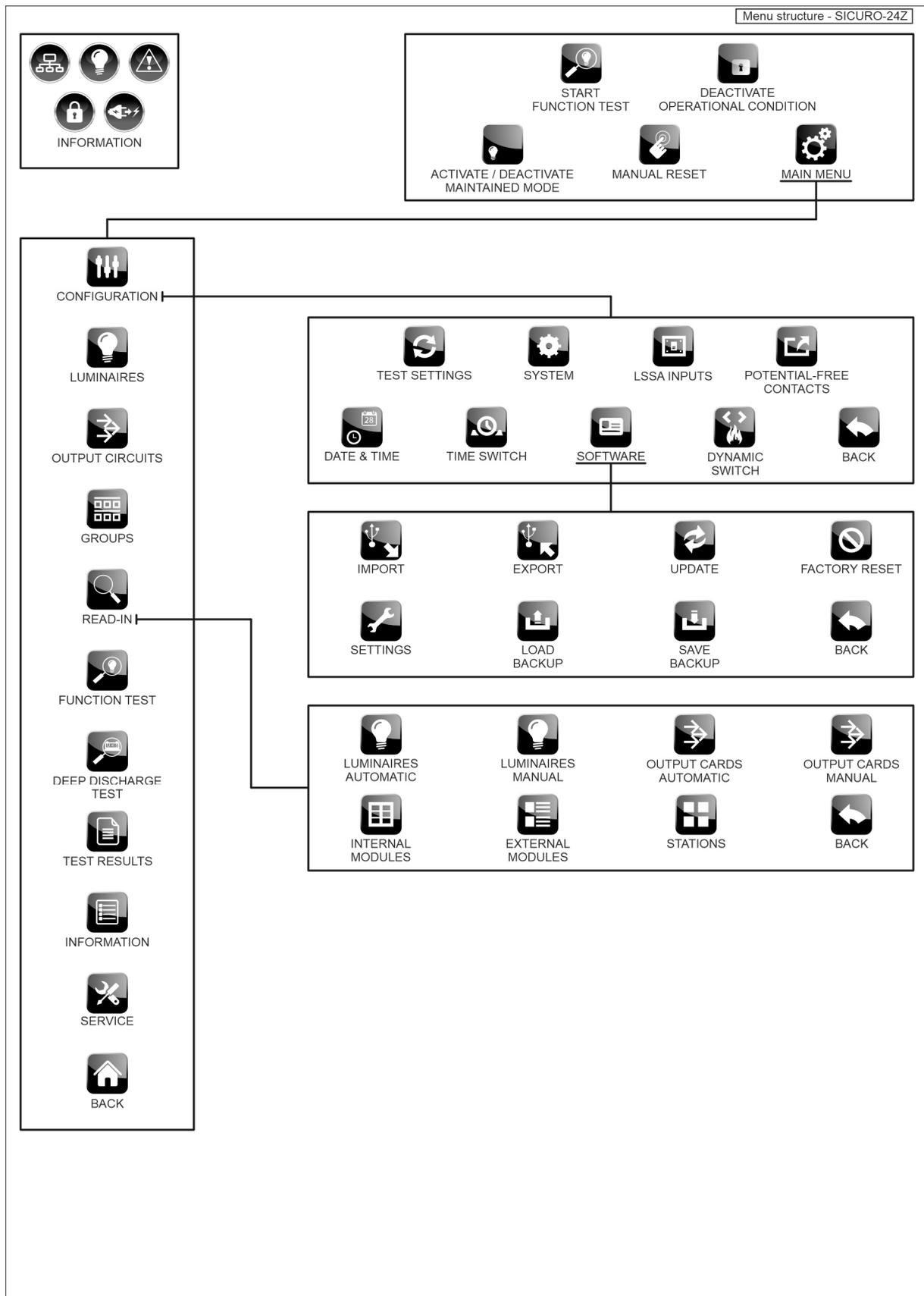
Switchover card for use of one cable as combined mains and battery supply.

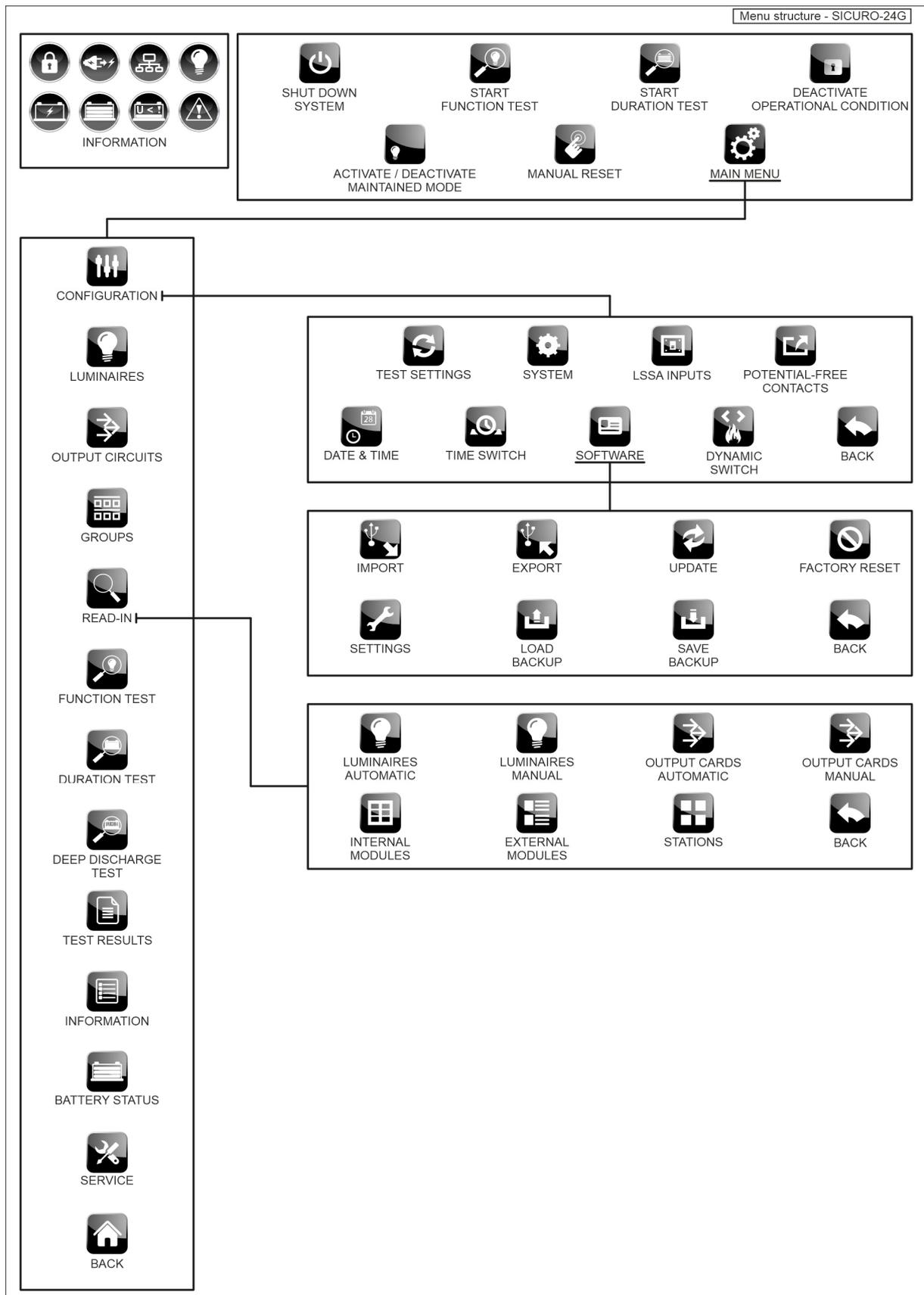
- "1": button "Service PIN" for read-in of switchover cards
  
- "2": optical indication for mains supply voltage (230 V AC) on the input (green)  
indication on: mains supply voltage present  
indication off: mains supply voltage not present
  
- "3": optical indication for battery supply voltage (216 V DC) on the input (orange)  
indication on: battery supply voltage present  
indication off: battery supply voltage not present
  
- "4": optical indication for through-switching to output (green / orange / red)  
indication on – green: input of mains supply switched to output  
indication on – orange: input of battery supply switched to output  
indication on – red: no input switched to output
  
- "5": optical indication for mains supply voltage (230 V AC) / battery supply voltage (216 V DC) on the output (green / orange / red)  
indication on – green: mains supply voltage present  
indication on – orange: battery supply voltage present  
indication on – red: no supply voltage present
  
- "6": optical indication for overload (red)  
indication blinks – red: overload present  
indication off: no overload
  
- "7": optical indication for status of the switchover card (green / orange / red)  
indication on – green: device supply voltage of 24 V DC present  
indication on – orange: read-in procedure  
indication on – red: button "Service PIN" actuated for read-in procedure  
indication off: device supply voltage of 24 V DC not present
  
- "8": flip switch – blocking of the output



**Menu structures**







## Cold start / warm start

### Cold start:

The cold start is executed during the final inspection of the emergency light station at Beghelli PRÄZISA Deutschland. The operating system switches into the automatic operation after the cold start. At a cold start the factory settings apply for all data. Afterwards a pre-programming of the software according to the individual switchboard configuration is carried out by Beghelli PRÄZISA Deutschland.



**Attention:**

During a cold or warm start **no** interruption of the mains or battery supply may be done, because this can lead otherwise to data loss.

During the execution of a saving procedure **no** simultaneous interruption of the mains and battery supply may be done, because this can lead otherwise to data loss.



**Note:**

After a new cold start we recommend a following commissioning by our service technicians to ensure the correct function of the operating system.

### Warm start:

In case of interruption of mains **and** battery supply the emergency light station executes a warm start if at least one of the two supplies recurs. Already programmed data are being retained. The operating system switches into the automatic operation after the warm start.



**Note:**

A cold start as well as a warm start can take up to 5 minutes. During this time it can happen that the EVA unit indicates no messages.



**Attention:**

If a simultaneous interruption of the mains and battery supply takes place during the execution of a test procedure or in emergency operation, a manual function test must be executed after an ended warm start for reset of the operating modes for the luminaire modules on the respective emergency light station.

## **Operating modes of the emergency light station, deep discharge protection**

The operating system supports three operating modes – automatic operation, manual operation and emergency operation.

### Automatic operation:

In automatic operation current information of the emergency light station are indicated. Device functions can be initiated over the touchscreen of the EVA unit or executed automatically. Furthermore bus connections as well as in- and outputs for control resp. monitoring purposes of the emergency light station are available. After expiration of a selectable time in automatic operation without an actuation of the touchscreen the operating system can indicate a screensaver provided this device function is activated. During the indication of the screensaver the automatic operation is still active. By an actuation on any position of the touchscreen the automatic operation will be visible again.

### Manual operation:

By the actuation of certain button fields the operating system switches into the manual operation. Within the menu structure settings can be changed and device functions can be executed. Two minutes after the touchscreen was lastly actuated the operating system leaves automatically the respective menu level and returns to the previous menu level until the operating menu is reached. However, this does not apply for menus which contain in- and output functions for special programming.

### Emergency operation – general supply failure:

SICURO-230Z – main station,  
SICURO-230Z – sub station without combined mains and battery supply,  
SICURO-24G – main station:

If a general supply failure is detected on the mains supply of the emergency light station (mains failure on phase conductor or neutral conductor) the operating system switches into the emergency operation with battery supply (battery operation – DC). Depending on the respective programming of the operating mode the output circuits resp. luminaire modules of the affected emergency light station will be switched on. The access to the menus of the operating system will be restricted.

SICURO-230Z – sub station with combined mains and battery supply,  
SICURO-24Z – sub station with combined mains and battery supply:

If a general supply failure is detected on the mains supply of the emergency light station with the respective switchover card (mains failure on phase conductor or neutral conductor) the operating system of this emergency light station switches into the emergency operation with battery supply (battery operation – DC). Depending on the respective programming of the operating mode the output circuits resp. luminaire modules of the affected emergency light station will be switched on. The access to the menus of the operating system will be restricted.

### Emergency operation – partial supply failure:

If a partial supply failure is detected on the critical circuit or on an accordingly programmed LSSA switch input of the emergency light station (mains failure on sub-distribution monitoring), the operating system switches into the emergency operation with mains supply (mains operation – AC). Depending on the respective programming of the operating mode the output circuits resp. luminaire modules of the affected emergency light station will be switched on. The access to the menus of the operating system will be restricted.

### Protocolling of the supply failures:

All supply failures are indicated and protocolled on the touchscreen. If no supply failure is detected during an emergency operation the emergency light station returns into the automatic operation. Depending on the programming a manual reset of the operating modes for output circuits resp. luminaire modules can be necessary after this on the emergency light station.

**Note:**

**Detailed information regarding the mains and battery supply as well as the mains and battery output voltage of the SICURO systems are to be found at the type codes (see type codes).**

### Deep discharge protection:

All emergency light stations are capable of a deep discharge protection for the battery supply. If the voltage of the battery supply has reached the switch-on value for the deep discharge protection then the deep discharge protection is activated by the operating system whereby a deactivation of the emergency operation with battery supply (battery operation – DC) takes place. This will be indicated over the optical indication for collective fault (red) as well as over the button field "INFORMATION" (collective fault and deep discharge red) on the EVA unit. In the operating menu text fields for additional information are indicating further details.

If the voltage of the battery supply has reached the switch-off value for the deep discharge protection then the deep discharge protection stays activated with respective indications but without deactivation of the emergency operation with battery supply (battery operation – DC). An actuation of the button field "MAIN MENU" calls up an input prompt to execute a manual reset where the operating system deactivates the deep discharge protection. This reset function is only available at main stations.

**Attention:**

**At activated deep discharge protection the emergency light stations can not switch into the emergency operation with battery supply (battery operation – DC) as long as the switch-off value for the deep discharge protection is not reached.**

**Device function "FUNCTION TEST"**

"Main menu" – "Function test":

Execution of a manual function test regarding emergency light stations resp. output circuits.



**Attention:**

**SICURO-230Z: Every executed function test includes in conclusion an insulation test of the battery supply and the output circuits if the insulation test was activated in the sub menu "SERVICE".**

**Device function "DURATION TEST"**

"Main menu" – "Duration test":

Execution of a manual duration test regarding emergency light stations. This device function is only available on a main station.



**Attention:**

**Every executed duration test includes a function test in advance. Defective luminaires are affecting the test result of the duration test regarding the emergency duration.**

**Device function "INSULATION TEST"**

"Main menu" – "Insulation test":

Execution of a manual insulation test regarding emergency light stations. This device function is only available on a main station of a SICURO-230Z system and is not available at SICURO-24Z systems and SICURO-24G systems.



**Note:**

**In the sub menu "SERVICE" the device function for the insulation test can be activated, deactivated and configured. During the automatic operation and manual operation the operating system executes an insulation test in intervals regarding the battery supply, if the device function for the insulation test is activated. The interval time is configurable in the sub menu "SERVICE".**

**Device function "DEEP DISCHARGE TEST"**

"Main menu" – "Deep discharge test":

Execution of a manual deep discharge test regarding emergency light stations. This device function is only available on a main station.

## Device function "OPERATIONAL CONDITION"

"Operating menu" – "Operational condition":

Deactivation of the operational condition regarding emergency light stations.



**Attention:**

**During the deactivated operational condition the operating system of the respective emergency light station switches not into the emergency operation at occurring supply failures. This does apply in case of a general supply failure as well as in case of a partial supply failure. During a present supply failure a deactivation of the operational condition ends the emergency operation of the respective emergency light station prematurely. This does apply in case of a general supply failure as well as in case of a partial supply failure.**

Main station:

An actuation of the button field "DEACTIVATE OPERATIONAL CONDITION" deactivates the operational condition and all operating modes of the output circuits of all output cards on the respective main station. Outputs of switchover cards will not be deactivated. At deactivated operational condition the main station can not switch into the emergency operation with mains supply (mains operation – AC) or the emergency operation with battery supply (battery operation – DC). By the deactivation of all operating modes the output circuits of all output cards are switched off as well if no general or partial supply failure is present.

Sub station:

An actuation of the button field "DEACTIVATE OPERATIONAL CONDITION" deactivates the operational condition and all operating modes of the output circuits of all output cards on the respective sub station. Outputs of switchover cards will not be deactivated. At deactivated operational condition the sub station can not switch into the emergency operation with mains supply (mains operation – AC) or the emergency operation with battery supply (battery operation – DC). By the deactivation of all operating modes the output circuits of all output cards are switched off as well if no general or partial supply failure is present.

## Device function "MAINTAINED MODE"

"Operating menu" – "Maintained mode":

Deactivation of the maintained mode regarding emergency light stations.



**Attention:**

**During the deactivated maintained mode the operating system of the respective emergency light station switches into the emergency operation at occurring supply failures in case of a general supply failure.**

**During the deactivated maintained mode the operating system of the respective emergency light station switches into the emergency operation at occurring supply failures in case of a partial supply failure, if the supply failure was detected by the critical circuit.**

**During the deactivated maintained mode the operating system of the respective emergency light station switches not into the emergency operation at occurring supply failures in case of a partial supply failure, if the supply failure was detected by a LSSA switch input with the query function "Sub-distribution".**

Main station:

An actuation of the button field "ACTIVATE / DEACTIVATE MAINTAINED MODE" activates / deactivates the operating mode "Maintained mode" of the output circuits on the respective main station together with all connected sub stations where appropriate.

- > At deactivated maintained mode the output circuits are operated in the operating mode "Non-maintained mode", if the operating mode "Maintained mode" is programmed. The operating modes "Time switch", "Stairway pushbutton" and "Switchable" of the output circuits will not be deactivated.
- > At deactivated maintained mode the luminaire modules are not operated. The operating modes "Maintained mode", "Non-maintained mode" and "Groups" of the luminaire modules will be deactivated.

Sub station:

An actuation of the button field "ACTIVATE / DEACTIVATE MAINTAINED MODE" activates / deactivates the operating mode "Maintained mode" of the output circuits on the respective sub station.

- > At deactivated maintained mode the output circuits are operated in the operating mode "Non-maintained mode", if the operating mode "Maintained mode" is programmed. The operating modes "Time switch", "Stairway pushbutton" and "Switchable" of the output circuits will not be deactivated.
- > At deactivated maintained mode the luminaire modules are not operated. The operating modes "Maintained mode", "Non-maintained mode" and "Groups" of the luminaire modules will be deactivated.

## Device function "MANUAL RESET"

"Operating menu" – "Manual reset":

Manual reset of operating modes regarding output circuits resp. luminaire modules.

An actuation of the button field "MANUAL RESET" or a command initiation over the switch input "user definition" executes the manual reset of operating modes for output circuits resp. luminaire modules. The reset can not be used selective and is related to all output circuits resp. all connected luminaire modules of the respective emergency light station.

## Addressing types ID and Rotary, luminaire positions

Addressing types ID and Rotary:

Before mounting of the luminaires and all other equipment which includes luminaire modules, it must be decided whether an automatic or manual addressing of the luminaire modules is desired.

- > The addressing type ID is required for an automatic addressing of the luminaire modules.
- > For the automatic addressing the integrated rotary switch of the luminaire modules is not used. It is recommended to leave the rotary switch at all luminaire modules in factory setting with the address 16 (tagging 0). However the setting of other addresses is not affecting the automatic addressing.
- > The addressing type Rotary is required for a manual addressing of the luminaire modules.
- > For the manual addressing the integrated rotary switch of the luminaire modules is used. All connected luminaire modules of an output circuit must be addressed continuously by the rotary switch. A setting with double addresses may not be done.

Luminaire positions – SICURO-230Z, SICURO-24Z and SICURO-24G with addressing type ID:

The luminaire positions from 1 to 32 correspond to the module addresses from 1 to 32. At the read in of connected luminaire modules the module addresses are assigned communication-related by the operating system.

- > A respective assignment of the module addresses regarding the physical connection sequence is not possible at an automatic read in on an output circuit which is wired in a row.
- > An always identical assignment of the module addresses regarding steady connected luminaire modules is ensured at multiple read in.
- > An always identical assignment of the module addresses regarding changes at the connected luminaire modules (adding, removal or exchange) is not ensured at multiple read in.

At already read in luminaire modules the luminaire positions can be changed manually over the operating system to establish an adaption to the documentation of the installation.

Luminaire positions – SICURO-230Z with addressing type Rotary:

The luminaire positions from 1 to 32 correspond to the module addresses from 1 to 32. At the read in of connected luminaire modules the module addresses are assigned by the manual setting on the rotary switch.

- > After changes regarding the connected luminaire modules (adding, removal or exchange) a renewed read-in is necessary.

At already read in luminaire modules the luminaire positions can not be changed manually over the operating system to establish an adaption to the documentation of the installation.

### **Assignment signs, language abbreviations**

#### Assignment signs:

The operating system is using assignment signs for unique assignment of equipment and their properties. The assignment signs are indicated in various menus.

"L": luminaire module with driver function or switch function,  
LED driver 230 V,  
LED driver 24 V,  
Switch 500 W

"I": luminaire module with inverter function,  
LED inverter 230 V,  
LED inverter 24 V

#### Language abbreviations:

"ITA": language Italian  
"GER": language German  
"ENG": language English  
"DUT": language Dutch  
"SLO": language Slovenian  
"HEB": language Hebrew  
"CRO": language Croatian  
"FRA": language French  
"POL": language Polish  
"CZH": language Czech  
"NOR": language Norwegian  
"CHS": language simplified Chinese  
"CHT": language traditional Chinese  
"SWE": language Swedish









Beghelli PRÄZISA Deutschland GmbH  
Lanterstraße 34  
46539 Dinslaken  
Germany

Phone: +49 (0)2064 9701 - 0  
Fax: +49 (0)2064 9701 - 99  
E-mail: [info@beghelli.de](mailto:info@beghelli.de)  
Internet: [www.beghelli.de](http://www.beghelli.de)