

Central Battery System ZB-S with STAR Technology



- Shortened inspection effort due to **CEWA GUARD** technology; automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by **STAR-technology**; freely programmable mixed operation of the switching modes per luminaire in one circuit
- Less installation costs as no data line is required to the luminaires
- Automatic luminaire search function
- Plain text display on the control module down to the last luminaire
- Flexible data storage for test log and system configuration with memory card
- Modular charging technology in the range of 5.5 to 1,000 Ah
- Energy-saving and increased service life via alternating switching of the charging modules and optimised efficiency

As well as providing a dependable supply of power (230V AC/220 V DC) to safety and exit luminaires, the central battery system ZB-S tests itself automatically and individually monitors each CG-S luminaire (up to 20 per circuit), and it does all this using the power supply cable alone.

The new type of STAR technology allows the switching mode of every connected CG-S luminaire to be freely programmed within a 50 or 60 Hz supply network using the central battery system's controller. This means that maintained light, switched maintained light and non-maintained light modes can be combined in one and the same circuit – there is no need for separate data cables!

The control module with its nonvolatile program memory and large graphic display monitors and controls the central battery system. It automatically tests all functions of the devices and emergency luminaires connected to it, and reports any faults that occur.

An integral search function automatically detects all system-dependent luminaires and modules that are assigned an address during installation. A central monitoring device can be connected via an interface.

What is STAR?

S_{TAR}
TECHNOLOGY

S = Switching
T = Technology
A = Advanced
R = Revision

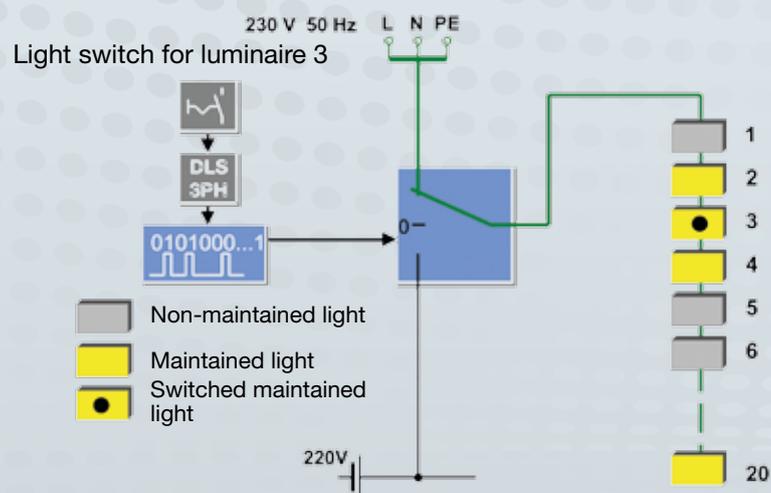
Switch to safety!

The continuing development of the CEWA GUARD monitoring system has led to the creation of the

S
T
A
R

or **STAR** for short. This **CG-STAR** technology allows different switching modes to be implemented in one and the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

As a result, this technology offers not just the proven CEWA Guard safety when it comes to operating a safety lighting system, it also gives planners the confidence and flexibility of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.



Operation of the STAR technology

STAR-Technology – Easy Planning

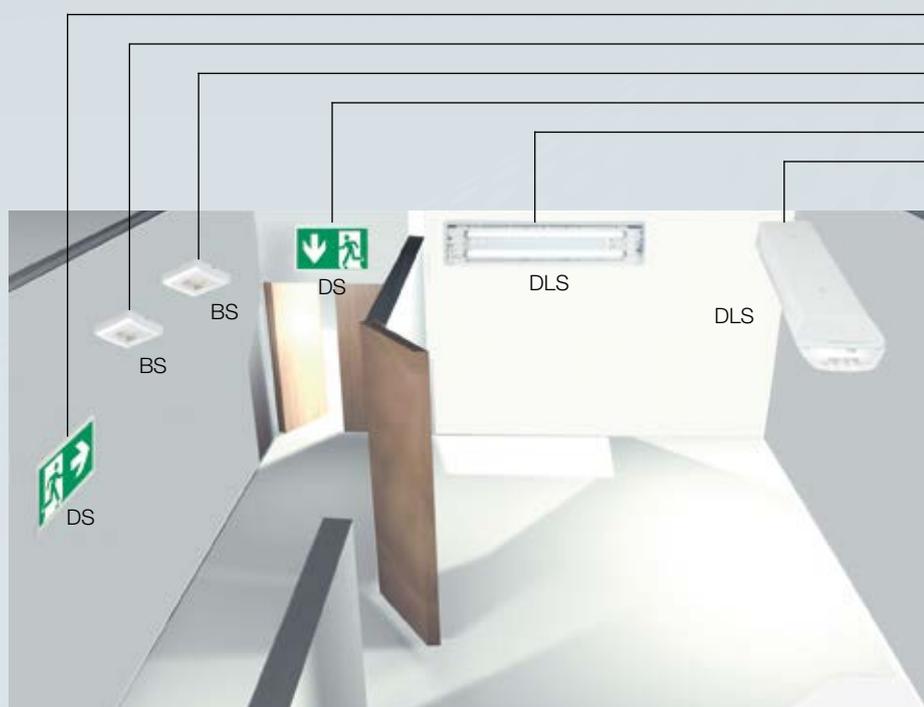
STAR TECHNOLOGY

Your Advantages:

The number of outgoing circuits needed can be sharply reduced, since continuously operating, stand-by and switchable permanent lighting can be realised in one common circuit.

This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – **without encroachment in the lighting installation**. This enables simple project planning without having to take all possible types of operation into account.

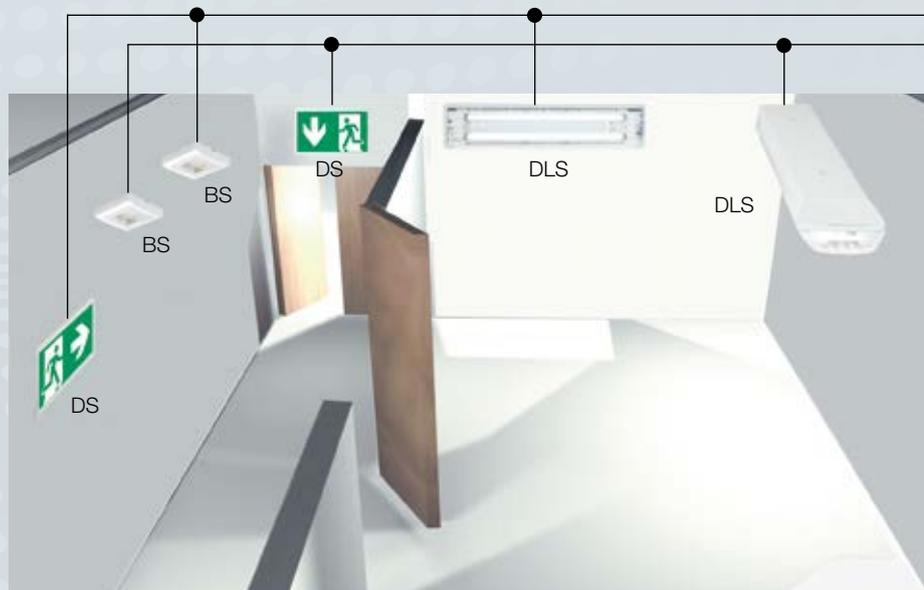
As with CEWA GUARD technology, the patented STAR technology requires no additional data cable to the luminaires.



Conventional Installation:

Maintained light 1 (DS)
Non-maintained light 1 (BS)
Non-maintained light 2 (BS)
Maintained light 2 (DS)
Switched maintained light 1 (DLS)
Switched maintained light 2 (DLS)

- Each type of switching mode requires two circuits
- Only one type of switching mode is possible per circuit
- Any later modifications involve a large amount of work and expense

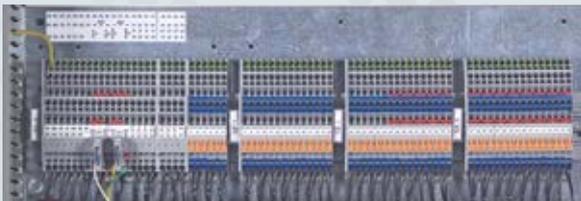
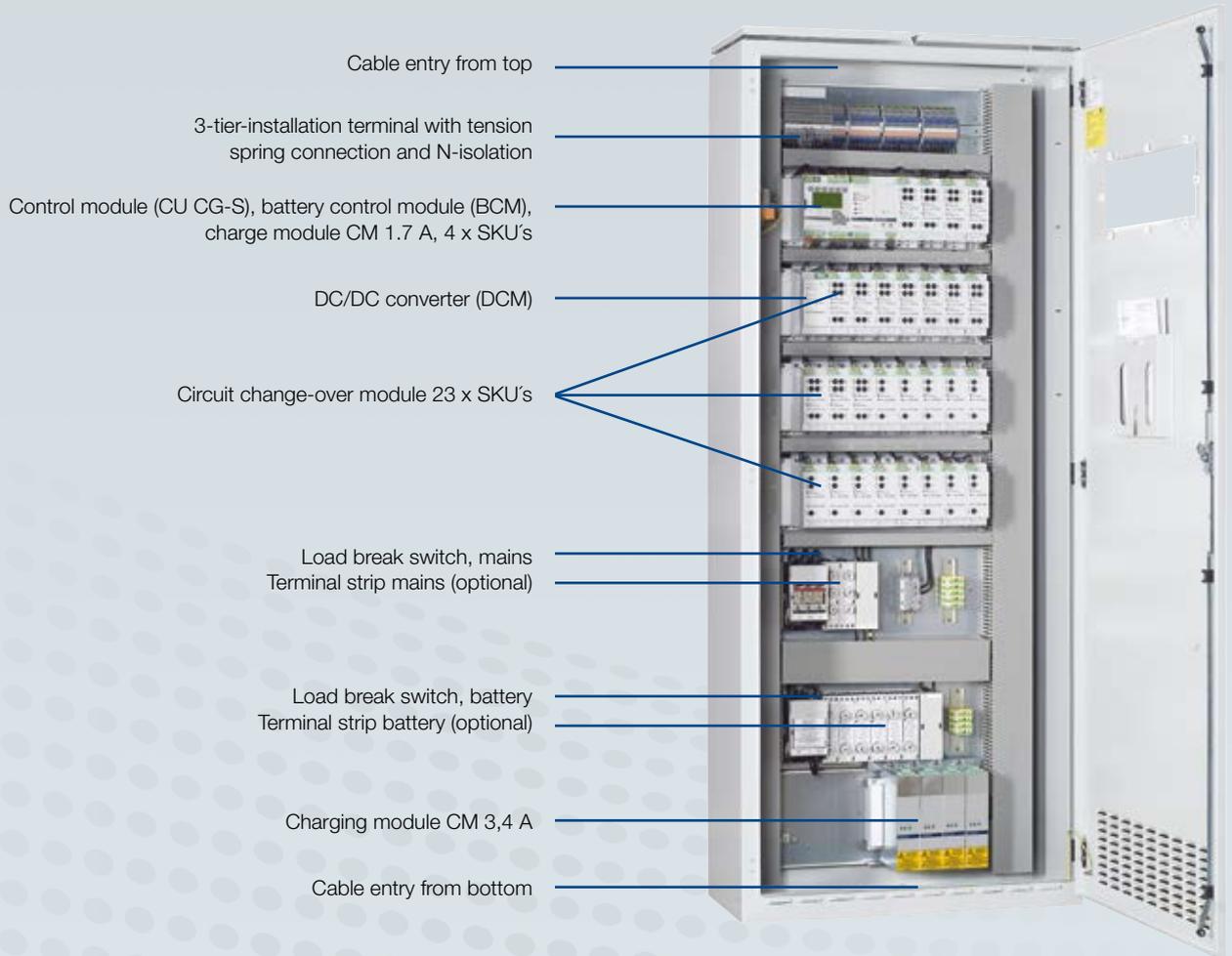


ZB-S Installation with STAR-Technology:

All types of switching modes
All types of switching modes

- Only two outgoing circuits for all types of switching modes
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problems

ZB-S: Inspired engineering for the switch cabinet



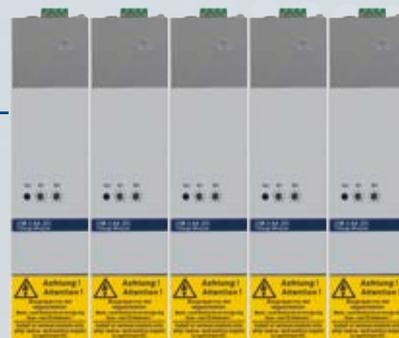
Plenty of connection space for convenient wiring

All connections are run to 3-level neutral disconnect terminals at the top of the switch cabinet.

The wiring of the control module and the battery control module is standard. Wiring of the SKUs to 4 mm² triple deck installation terminals with spring connection and N disconnect terminal is optional.

Charge modules CM 3.4 A each with a charging current of 3.4 A

The battery control module (BCM) drives up to 32 Charge modules CM 3.4 A to which the standby power batteries with a rated capacity of up to 1,000 Ah that are installed outside the switch cabinet are connected.



ZB-S: Inspired engineering for the switch cabinet

Freely programmable control module

separate keys for
 Test (emergency function) ●
 Function test ●
 Duration test ●

Connections for phase monitor and blocking switch with differential loop monitoring

Test book and device configuration easily stored on SD-Card. Easy programming from PC using SD-card-reader and CEAG's software.

LEDs for operation display

Terminals for data bus

Three potential-free alarm contacts, freely assignable, two potential-free alarm contacts with definite assignment

three function keys, freely assignable

128 x 64 pixel graphic display, backlit, contrast and brightness adjustable

Seven control buttons for user-friendly navigation

four 24 V-inputs, freely allocated

External DLS/3PH-Bus-Module

for common switching of safety- and general lighting

Freely programmable assignment of independent DLS inputs (2.5 mm²) per emergency lighting circuit or per light

8 DLS-inputs with LED display

can be used as phase monitor module and for light switch monitoring

Circuit change-over module SKU CG-S 2 x 3 A

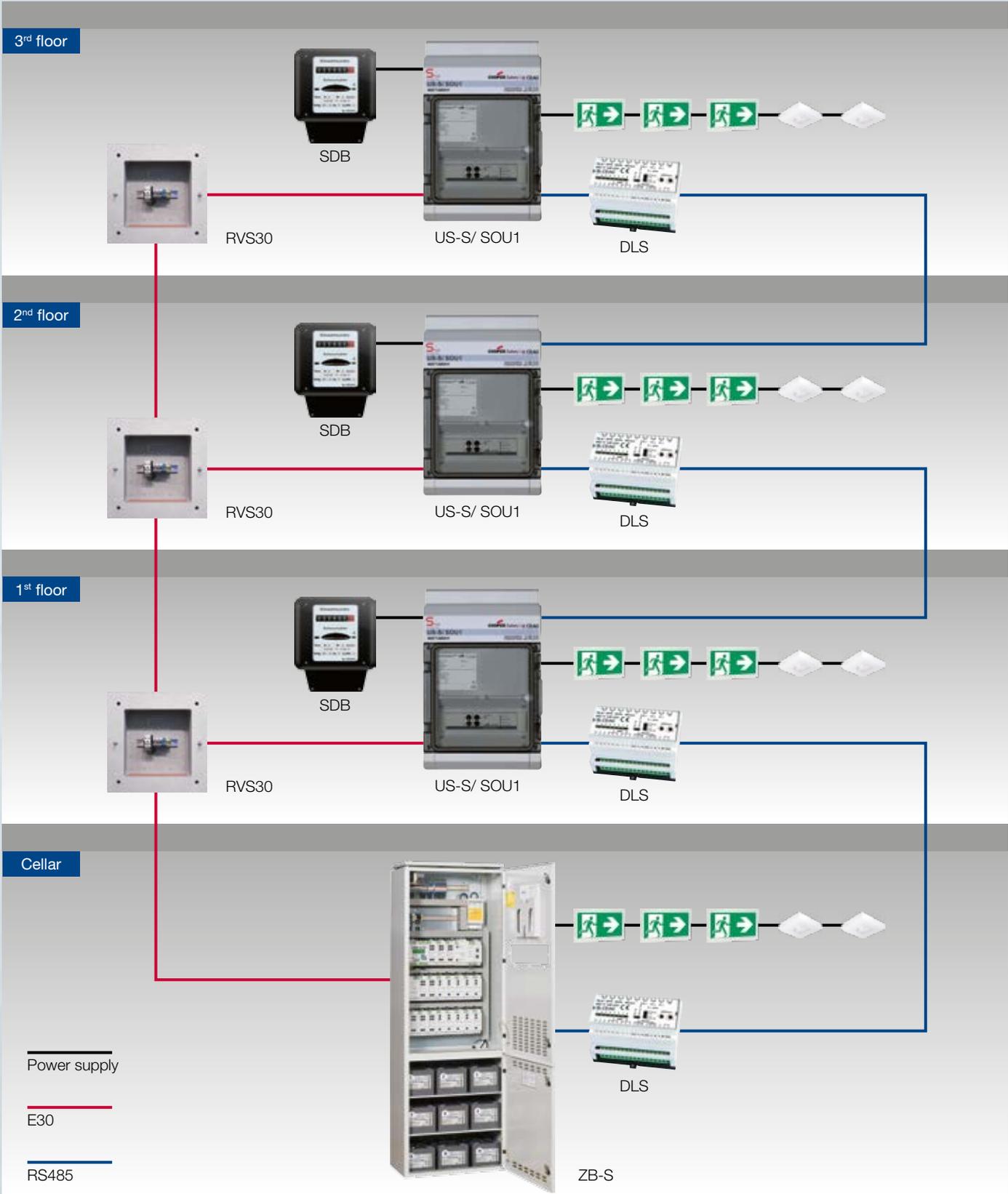
separate fuse protection for mains- and battery operation (two-pole) fuses on front side of the module, easily accessible

LED display for operation/ON and failure of each circuit

Service key for direct display in clear text at the control module of the change-over module status

Distribution Board US-S/ SOU1

Installation example Emergency lighting system ZB-S with distribution board US-S/ SOU1



Distribution Board US-S/ SOU1

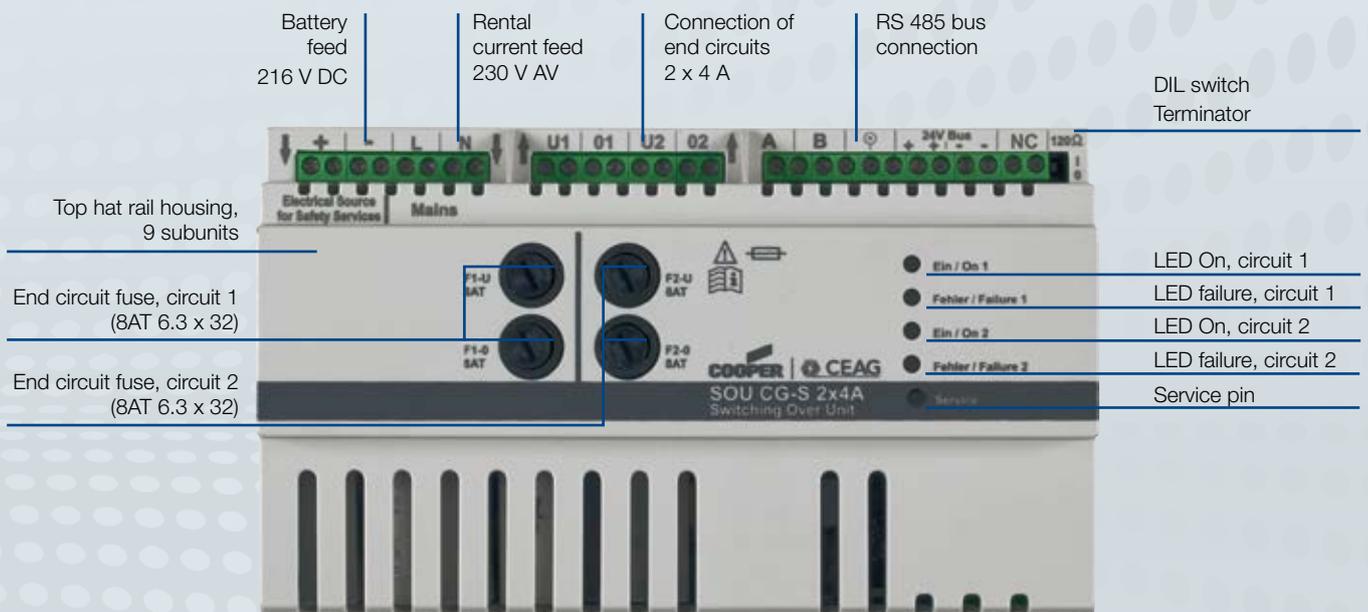


Distribution Board US-S/ SOU1

- Area by area installation
- Electricity costs allocation per rental area
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problem



Switching over unit SOU CG-S 2 x 4 A



Central Battery System ZB-S with STAR Technology



Ordering details

| Type | Scope of supply | Order No. |
|-----------------------------------|--|-------------|
| Central battery system ZB-S/26 | Central battery system type ZB-S/26 incl. CU CG-S, BCM and DC/DC.2 26 free module slots*1 | 40071347080 |
| Central battery system ZB-S/18 | Central battery system type ZB-S/18 incl. CU CG-S, BCM and DC/DC.2 18 free module slots*1 | 40071347081 |
| Central battery system ZB-S/LAD | Central battery system type ZB-S/LAD incl. CU CG-S, BCM and DC/DC.2 (2 free module slots possible) | 40071347099 |
| Central battery system ZB-S/10 C | Central battery system type ZB-S/10 C incl. CU CG-S, BCM and DC/DC.2 10 free module slots*1 | 40071347082 |
| Central battery system ZB-S/26 C6 | Central battery system type ZB-S/26 C6 incl. CU CG-S, BCM and DC/DC.2 26 free module slots*1 | 40071689064 |
| Central battery system ZB-S/18 C6 | Central battery system type ZB-S/18 C6 incl. CU CG-S, BCM and DC/DC.2 18 free module slots*1 | 40071689062 |
| Central battery system ZB-S/10 C6 | Central battery system type ZB-S/10 C6 incl. CU CG-S, BCM and DC/DC.2 10 free module slots*1 | 40071347083 |
| Central battery system ZB-S/18 C3 | Central battery system type ZB-S/18 C3 incl. CU CG-S, BCM and DC/DC.2 19 free module slots | 40071347084 |
| Central battery system ZB-S/10 C3 | Central battery system type ZB-S/10 C3 incl. CU CG-S, BCM and DC/DC.2 11 free module slots | 40071347085 |
| Central battery system ZB-S/2 C3 | Central battery system type ZB-S/2 C3 incl. CU CG-S, BCM and DC/DC.2 3 free module slots | 40071360201 |
| Substation US-S/36 | Substation type US-S/36 incl. CU CG-S and DC/DC.2 36 free module slots | 40071347086 |
| Substation US-S/28 | Substation type US-S/28 incl. CU CG-S and DC/DC.2 28 free module slots | 40071347087 |
| Substation US-S/21 | Substation type US-S/21 incl. CU CG-S and DC/DC.2 21 free module slots | 40071347088 |
| Substation US-S/13 | Substation type US-S/13 incl. CU CG-S and DC/DC.2 13 free module slots | 40071347089 |
| Substation US-S/5 | Substation type US-S/5 incl. CU CG-S and DC/DC.2 5 free module slots | 40071347090 |
| Substation US-S/ SOU2 | Substation type US-S/ SOU2 incl. 2 x SOU CG-S 2 x 4 A | 40071360510 |
| Substation US-S/ SOU1 | Substation type US-S/ SOU1 incl. 1 x SOU CG-S 2 x 4 A | 40071360511 |
| Substation ESF-E30/13-S | Substation type ESF-E30/13-S, incl. control module ST-S, DC/DC.2-converter, 13 free module slots | 40071347710 |
| Substation ESF-E30/28-S | Substation type ESF-E30/28-S, incl. control module ST-S, DC/DC.2-converter, 28 free module slots | 40071347780 |
| Distribution board ESF-RVS30 | Fire proof distribution board with D02-NEOZED fuses | 40071347920 |

*1 Plus max. two additional slots in correlation of CM 1.7 A and CM 3.4 A placement.

Central Battery System ZB-S with STAR Technology

Ordering details

| Type | Order No. |
|---|-------------|
| 4 pcs. DIN-mounting rail incl. mounting accessories | 40071347125 |
| 3 pcs. C-section rail incl. mounting accessories | 40071347126 |
| Base 200 mm for ZB-S, depth 400 mm | 40071347121 |
| Base 100 mm for ZB-S, depth 400 mm | 40071347120 |
| Base 200 mm for ZB-S/18C3 and 10C3, depth 330 mm | 40071360049 |
| Base 800 x 600 x 200 mm for ZB-S/10C6-18C6 and 26C6 | 40071689084 |
| 3-piece baseplate for ZB-S, depth 400 mm, mouse-proof | 40071347124 |
| Cable support rail | 40071347123 |
| Metal flange plate undrilled for battery cabinet ZB-S | 40071346225 |
| Flange plate for foam rubber for battery cabinet ZB-S | 40036070164 |
| Fireproof dowel M10 for E30 substation, Set of = 12 pcs., for installation in concrete walls | 40036070298 |
| Optional wall mounting plate for wall mounting for ESF-E30/13-S | 40071347726 |
| Door with left hinge for ZB-S/18 and ZB-S/26 | 40071689081 |
| Door with left hinge for ZB-S/10C3 | 40071689082 |
| Door with left hinge for ZB-S/10C and ZB-10C6 | 40071689083 |

Table of Covers

Technical data ZB-S

| Type | ZB-S/26 | ZB-S/18 | ZB-S/LAD | ZB-S/10 C | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------|--|
| Modules: | | | | | |
| Control module: CU CG-S | 1 | 1 | 1 | 1 | |
| DC/DC.2-converter (DCM) ⁵ | 1 | 1 | 1 | 1 | |
| BCM | 1 | 1 | 1 | 1 | |
| Circuit module SKU CG-S ⁵ | 0-26 ⁸ | 0-18 ⁸ | 0-2 ² | 0-10 ⁸ | |
| Maximum number of SWR 150 due to 100% luminous flux and max. rated power | 7 | 7 | 2 | 7 | |
| Charging module 1,7 A | 0-2 | 0-2 | 0-2 | 0-2 | |
| Charging module 3,4 A | 0-6 ¹ | 0-6 ¹ | 0-10 | 0-1 ³ | |
| Electrical cabinet construction: | | | | | |
| Rated voltage | 400/230 V | 400/230 V | 400/230 V | 230 V | |
| Rated frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | |
| Conductor order and system of earthing in mains power operation/battery operation | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | |
| Max. ambient temperature ⁹ | -5 °C up to +35 °C | |
| Insulation class | 1 | 1 | 1 | 1 | |
| Degree of protection | IP21 | IP21 | IP21 | IP21 | |
| Max. current rating mains [Σ L1, L2, L3] [A] | 80 | 80 | 100 | 60 | |
| Max. rated power mains [KW] | 18.4 | 18.4 | 23 | 13.8 | |
| Max. current rating battery [A] | 80 | 80 | 100 | 35 | |
| Max. rated power battery [KW] | 17.3 | 17.3 | 21.6 | 7.6 | |
| Three-phase distribution | yes | yes | yes | no | |
| Conductor size for mains and battery supply | 50 mm ² | 50 mm ² | 50 mm ² | 16 mm ² | |
| Outgoing circuits | 0 - 6 Feeders | 0 -6 Feeders | 0 - 15 Feeders | 1 Feeder | |
| Conductor size | 16 mm ² | 16 mm ² | 16 mm ² | 35 mm ² | |
| Max. conductor size final circuits | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² | |
| Max. number of final circuit terminals | 80 | 68 | 8 | 40 | |
| Mechanical cabinet construction: | | | | | |
| Dimensions H x W x D (mm) | 2050 x 800 x 400 | |
| Material / Design | Sheet steel / Cabinet | Sheet steel / Cabinet | Sheet steel / Cabinet | Sheet steel / Compact cabinet | |
| Door stop | right | right | right | right | |
| Outer coating | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint | |
| Colour | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 | |
| Partial viewing door | Yes | Yes | No | Yes | |
| Lock | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way | |
| Cable entry from above | yes | yes | yes ⁷ | yes | |
| Cable entry from below | yes | yes | yes ⁷ | no | |
| Base (optional) | 100/200 | 100/200 | 100/200 | 200 | |
| Weight (without batteries) | approx. 180 kg | approx. 170 kg | approx. 170 kg | approx. 155 kg | |
| Battery capacity, installed in: | | | | | |
| Compact cabinet | - | - | - | 23.3-53.7 Ah | |
| Battery cabinet | 23.3-245 Ah ⁶ | 23.3-245 Ah ⁶ | 23.3-308 Ah ⁶ | - | |
| Battery rack | 23.3-245 Ah ⁶ | 23.3-245 Ah ⁶ | 23.3-308 Ah ⁶ | - | |

Other battery sizes on application

*1 When 6 charging modules CM 3,4 A are fitted an additional charging module rack 2-way is necessary.

*2 Max. 8 charging modules are possible when 2 SKUs are fitted.

*3 When 1 charging module CM 3,4 A is fitted an additional charging module rack 1-way is necessary.

*4 When 2 charging modules CM 3,4 A are fitted an additional charging module rack 2-way is necessary. (>240 Ah Special design)

*5 After more than 13 SKU CG-S 4 x 1.5 A or 26 SKU CG-S 2 x 3 A / 1 x 6 A a second DC/DC converter is needed.

Please observe that all DC/DC-converters are operated on the same module assembly frame next to each other.

Table of Covers

Technical data ZB-S

| | ZB-S/26 C6 | ZB-S/18 C6 | ZB-S/10 C6 | ZB-S/18 C3 | ZB-S/10 C3 | ZB-S/2 C3 |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0-26 ⁸ | 0-18 ⁸ | 0-10 ⁸ | 0-19 | 0-11 | 0-3 | |
| 7 | 7 | 7 | 7 | 7 | 2 | |
| 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 1 | |
| 0-2 ^{3/4} | 0-2 ³ | 0-2 ^{3/4} | - | - | - | |
| 400/230 V | 400/230 V | 230 V | 230 V | 230 V | 230 V | |
| 50/60 Hz | |
| TN-C-S / IT | |
| -5 °C up to +35 °C | -5 °C up to +35 °C |
| 1 | 1 | 1 | 1 | 1 | 1 | |
| IP21 | IP21 | IP21 | IP21 | IP21 | IP21 | |
| 63 | 63 | 63 | 25 | 25 | 15 | |
| 14.5 | 14.5 | 14.5 | 5.8 | 5.8 | 3.5 | |
| 63 | 63 | 63 | 25 | 25 | 12 | |
| 13.6 | 13.6 | 13.6 | 5.4 | 5.4 | 2.6 | |
| yes | yes | no | no | no | no | |
| 35 mm ² | 35 mm ² | 16 mm ² | 16 mm ² | 16 mm ² | 16 mm ² | |
| 2 Feeders | 2 Feeders | 1 Feeder | 1 Feeder | 1 Feeder | - | |
| 35 mm ² | 35 mm ² | 35 mm ² | 16 mm ² | 16 mm ² | - | |
| 4 mm ² | |
| 60 | 60 | 40 | 50 | 40 | 12 | |
| 2250 x 800 x 600 | 2050 x 800 x 600 | 2050 x 800 x 600 | 1800 x 600 x 350 | 1800 x 600 x 350 | 1000 x 600 x 300 | |
| Sheet steel / Compact cabinet | |
| right | right | right | right | right | right | |
| Textured powder paint | |
| RAL 7035 | |
| Yes | Yes | Yes | Yes | Yes | No | |
| 3 mm | |
| Two-way | Two-way | Two-way | Two-way | Two-way | Two-way | |
| yes | yes | yes | yes | yes | yes | |
| no | no | no | no | no | no | |
| - | - | - | 200 | 200 | - | |
| approx. 250 kg | approx. 205 kg | approx. 206 kg | approx. 120 kg | approx. 115 kg | approx. 50 kg | |
| 5.5-89.4 Ah | 5.5-89.4 Ah | 5.5-89.4 Ah | 5.5-23.3 Ah | 5.5-23.3 Ah | 5.5-14 Ah | |
| - | - | - | - | - | - | |
| - | - | - | - | - | - | |

*6 Higher battery capacities =>118 Ah are achieved by connecting several battery sets in parallel.

After 8 h discharge the maximum battery capacity will be 195.4 Ah.

*7 Please indicate the cable entry when planning the system.

*8 Plus max. two additional slots in correlation of CM 1.7 A and CM 3.4 A placement.

*9 Optimal ambient battery temperature +20 °C.

Table of Covers

Technical data ZB-S

| Type | US-S/36 | US-S/28 | US-S/21 | US-S/13 |
|---|-----------------------|-----------------------|----------------------------|----------------------------|
| Modules: | | | | |
| Control module: CU CG-S | 1 | 1 | 1 | 1 |
| DC/DC.2-converter (DCM) ^{*1} | 1 | 1 | 1 | 1 |
| Circuit module SKU CG-S ^{*1} | 0-36 | 0-28 | 0-21 | 0-13 |
| Maximum number of SWR 150 due to 100% luminous flux and max. rated power | 7 | 7 | - | - |
| Electrical cabinet construction: | | | | |
| Rated voltage | 400/230 V | 400/230 V | 230 V | 230 V |
| Rated frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Conductor order and system of earthing in mains power operation/battery operation | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| Max. ambient temperature | -5 °C up to +35 °C | -5 °C up to +35 °C | -5 °C up to +35 °C | -5 °C up to +35 °C |
| Insulation class | 1 | 1 | 1 | 1 |
| Degree of protection | IP54 | IP54 | IP54 | IP54 |
| Max. current rating mains [Σ L1, L2, L3] [A] | 80 | 80 | 50 | 50 |
| Max. rated power mains [KW] | 18.4 | 18.4 | 11.5 | 11.5 |
| Max. current rating battery [A] | 80 | 80 | 50 | 50 |
| Max. rated power Battery [KW] | 17.3 | 17.3 | 10.8 | 10.8 |
| Three-phase distribution | yes | yes | no | no |
| Conductor size for mains and battery supply | 35 mm ² | 35 mm ² | 35 mm ² | 16 mm ² |
| Outgoing circuits | - | - | - | - |
| Max. conductor size final circuits | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| Max. number of final circuit terminals | 80 | 80 | 52 | 24 |
| Mechanical cabinet construction: | | | | |
| Dimensions H x W x D (mm) | 2050 x 800 x 400 | 2050 x 800 x 400 | 1200 x 600 x 300 | 800 x 600 x 250 |
| Material / Design | Sheet steel / Cabinet | Sheet steel / Cabinet | Sheet steel / Wall cabinet | Sheet steel / Wall cabinet |
| Door stop | right | right | right | right |
| Outer coating | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint |
| Colour | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| Partial viewing door | Yes | Yes | No | No |
| Lock | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way |
| Cable entry from above | yes | yes | yes | yes |
| Cable entry from below | yes | yes | no | no |
| Base (optional) | 100/200 | 100/200 | 300 | - |
| Weight (without batteries) | approx. 170 kg | approx. 165 kg | approx. 110 kg | approx. 75 kg |

Other battery sizes on application

*1 After more than 13 SKU CG-S 4 x 1.5 A or 26 SKU CG-S 2 x 3 A / 1 x 6 A a second DC/DC converter is needed.

Please observe that all DC/DC-converter are operated on the same module assembly frame next to each other.

*2 With admittance no. Z-86.2-1. The supply cabinets ESF-E30 must be mounted on a solid wall with fire resistance of at least 30 minutes.

*3 The housing has insulation class II. The earth conductor must however be routed in the housing.

*4 IP54 with optional IP54 hood.

Table of Covers

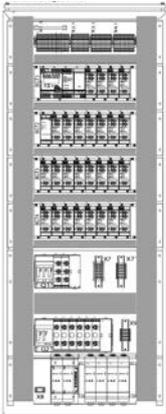
Technical data ZB-S

| | US-S/5 | US-S/ SOU2 | US-S/ SOU1 | ESF-E30/13-S ² | ESF-E30/28-S ² |
|--|----------------------------|---------------------------------------|---------------------------------------|---|--|
| | 1 | - | - | 1 | 1 |
| | 1 | - | - | 1 | 1 |
| | 0-5 | incl. 2 x SOU CG-S 2 x 4 A | incl. 1 x SOU CG-S 2 x 4 A | 0-13 | 0-28 |
| | - | - | - | - | - |
| | 230 V | 230 V | 230 V | 230 V | 400/230 V |
| | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| | -5 °C up to +35 °C | -5 °C up to +35 °C | -5 °C up to +35 °C | -5 °C up to +35 °C | -5 °C up to +35 °C |
| | 1 | 2 ³ | 2 ³ | 1 | 1 |
| | IP54 | IP65 | IP65 | IP41 ¹⁴ | IP41 ¹⁴ |
| | 30 | 16 | 8 | 35 | 50 |
| | 6.9 | 3,6 | 1,8 | 8.1 | 11.5 |
| | 30 | 16 | 8 | 35 | 50 |
| | 6.5 | 3.4 | 1.7 | 7.6 | 10.8 |
| | no | no | no | no | yes |
| | 16 mm ² | 10 mm ² | 10 mm ² | 16 mm ² | 16 mm ² |
| | - | - | - | - | - |
| | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| | 20 | 4 | 2 | 26 | 56 |
| | 600 x 400 x 250 | 583 x 295 x 129 | 458 x 295 x 129 | 1150 x 885 x 405 | 2190 x 885 x 405 |
| | Sheet steel / Wall cabinet | Plastic / Small distribution board | Plastic / Small distribution board | Sheet steel / func. endurance 30 min. / Wall cabinet | Sheet steel / func. endurance 30 min. / Stand alone cabinet |
| | right | right | right | right | right |
| | Textured powder paint | - | - | Textured powder paint | Textured powder paint |
| | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| | No | Yes | Yes | No | No |
| | 3 mm Two-way | On request | On request | 3 mm Two-way | 3 mm Two-way |
| | yes | yes | yes | yes | yes |
| | no | no | no | no | no |
| | - | - | - | - | - |
| | approx. 42 kg | approx. 8.8 kg | approx. 7.5 kg | approx. 235 kg | approx. 390 kg |

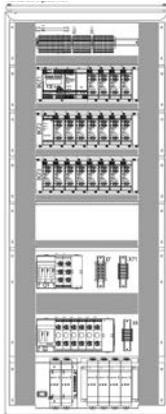
ZB-S Appendix Overview Cabinets

Overview cabinets

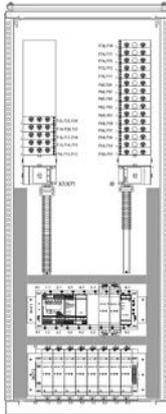
ZB-S/26



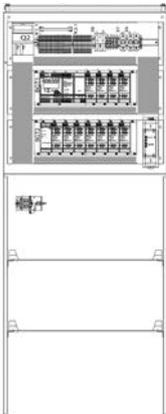
ZB-S/18



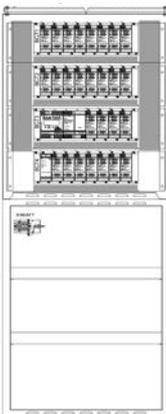
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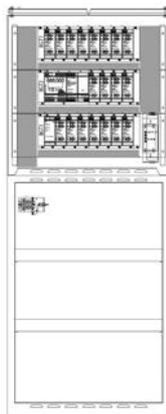
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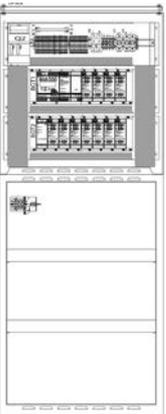
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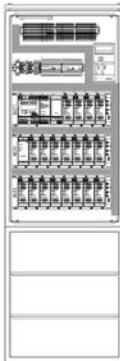
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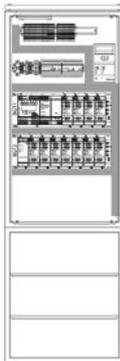
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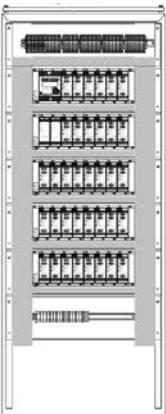
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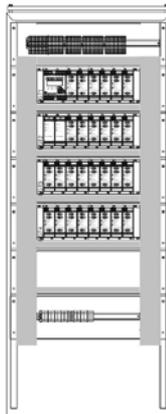
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US-S/36

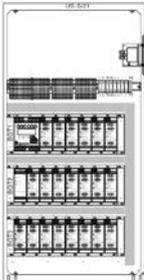


US-S/28

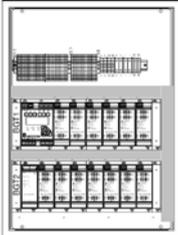


ZB-S Appendix Overview Cabinets

US-S/21



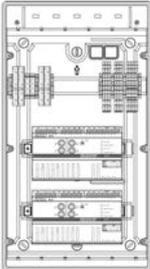
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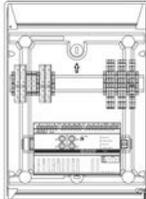
US-S/5



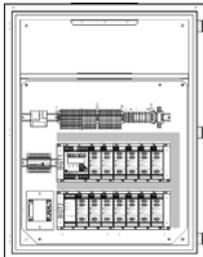
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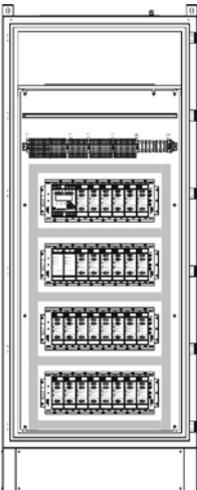
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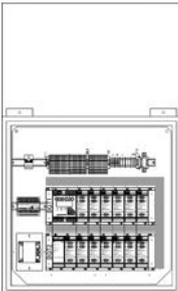
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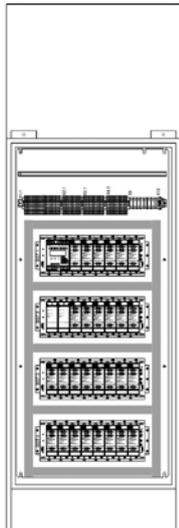
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ESF-E30/13S-P



ESF-E30/28S-P



2