EBS
Technical information

ETAP


ETAP
ETAP BATTERY SYSTEM
DYNAMIC

ETAP central battery system EBS

Central emergency lighting can offer a suitable solution in specific situations. Think, for example, of the renovation of existing installations, industrial environments with high light levels, or architectural buildings where the escape route and anti-panic lighting is fully integrated into the lighting system. A central battery may also be indicated where the emergency lighting is not readily accessible or where evacuation takes more time and a long duration is desirable.

Emergency power supply devices	Electronics cabinet Charging and charge preservation device Switching gear for maintained and non-maintained lighting Control and monitoring device
Central battery	
Luminaires:	In all ETAP series (K1, K2, K3, K4, K5, K6, K8 and K9) you can find versions for central power suppy. These luminaires can have the option to be equiped with a module for central control. With LED luminaires it provides monitoring of the electronics, with luminaires with another lamp it provides control of the light source and the electronics.

For detailed information please contact your ETAP expert.

EBS Static

EBS Group

EBS Dynamic

Product overview

EBS Static

Fully automatic, processor controlled monitoring system
19-inch modular technique
Steel plate free-standing cabinet
Freely programmable for maintained or non-maintained mode
Built-in freely selectable individual luminaire or circuit monitoring
Central monitoring, also for substations
Free programming of all system and customer data possible via PC
Individual luminaire monitoring with location indicated in plain text
Internal and external bus system
Integrated monitoring book (according to EN 50172) for tests and events over a period of more than 2 years
Automatic hardware detection, also for retrofitted series connections at the end of the electrical circuit

EBS Group

Fully automatic, processor controlled monitoring system
19-inch mounting technique
Steel plate free-standing cabinet
Individually switchable output circuits with free programming for maintained and non-maintained mode, switched maintained light and stairwell lighting circuit
Mixed operation of all types of system modes within one circuit (option)
Built-in freely selectable individual luminaire or circuit monitoring
Free programming of all system and customer data possible via PC
Integrated monitoring book (according to EN 50172) for tests and events over a period of more than 2 years
Individual luminaire monitoring with location indication in plain text

EBS Dynamic

Fully automatic, processor controlled monitoring system
19" mounting technique on swivel frame
Steel plate free-standing cabinet with transparent door
Individually switchable output circuits with free programming for maintained and non-maintained mode, switched maintained light and stairwell lighting circuit (option)
Built-in freely selectable individual luminaire or circuit monitoring
Central monitoring, also for substations
Free programming of all system and customer data possible via PC
Individual luminaire monitoring with location indication in plain text

Selection table

	EBS Static	EBS Group
Connecting capacity	Unlimited	**1500 W / 1 h, 500 W / 3 h**
Number of output circuits	Unlimited	4 / 8 / 12 / 16 / 20
Subdistributor	Possible	
DC voltage*	24V / 216V	216V
Mounting of series connections for the lighting circuit		Modular module
Output circuits	**Fixed wired** (maintained/non-maintained)	Programmable
FLEX technology**		Optional
Circuit monitoring	Included	Included
Individual luminaire monitoring	Optional [1]	Included [1]
Visualisation		Optional
Device connection		
Availability	On demand	**From stock**
Diagram	Page 6	Page 8

** other voltages on demand [1] monitoring module in luminaires required ** mixed operation in the output circuit*

Mixed operation of all types of system modes within one circuit
Internal and external bus system
Integrated monitoring book (according to EN 50172) for tests and events over a period of more than 2 years
Automatic hardware detection, also for retrofitted series connections at the end of the electrical circuit

EBS Dynamic Light

Fully automatic, processor controlled monitoring system
19" mounting technique
Steel plate free-standing cabinet with or without control panel cover
Individually switchable output circuits with free programming for maintained and non-maintained lighting, switched maintained light and stairwell lighting
Built-in freely selectable individual luminaire or circuit monitoring
Free programming of all system and customer data possible via PC
Individual luminaire monitoring with location indication in plain text
Integrated monitoring book (according to EN 50172) for tests and events over a period of more than 2 years

EBS Dynamic Light

EBS Superior

Fully automatic, processor controlled monitoring system
Modular technique on DIN rail
Steel plate free-standing cabinet
Compactly structured central unit and substations
Mixed operation of all types of system modes within one circuit (option)
Programming of each individual luminaire via the master unit
Freely selectable power source (battery, emergency power supply, 2nd network)
Individual luminaire monitoring for DC and AC mains
Built-in freely selectable individual luminaire or circuit monitoring
Free programming of all system and customer data possible via PC
Single-wire technique for subdistributors
High level of reliability through use of intelligent substations with submaster for independent operation
Integrated monitoring book (according to EN 50172) for tests and events over a period of more than 2 years
Remote maintenance via Internet or telephone
Luminaire monitoring with location indication in plain text

EBS Superior

EBS Dynamic	EBS Dynamic Light	EBS Superior
Unlimited	**21.000 W / 1 h, 7.000 W / 3 h**	Unlimited
Unlimited	20 / 32 / 44	Unlimited
Possible		Possible
216V	216V	216V
Modular module	Modular module	DIN rail
Programmable	Programmable	Programmable
Optional		Optional
Included	Included	Included
Included [1]	Included [1]	Included [1]
Optional	Optional	Optional
Included		Included
On demand	**From stock**	On demand
Page 10	Page 12	Page 14

EBS Static

EBS Static series connections

EBS Static contains all necessary and prescribed notification and monitoring devices. All switching, charging and monitoring devices are accommodated in common housing. The consumer output circuits are located in a separate housing section. It is also possible to incorporate a hermetically sealed battery compartment.

EBS Static basically comprises the following series connections:
- charging and charge preservation device with IU diagram
- switching gear for maintained (ML) and non-maintained (NL) lighting
- consumer output circuits for ML and NL mounted in a separate housing section, with a Neozed, Diazed or LS switch
- control and monitoring device p. 16
- optional auxiliary devices
- device and battery cabinet p. 19

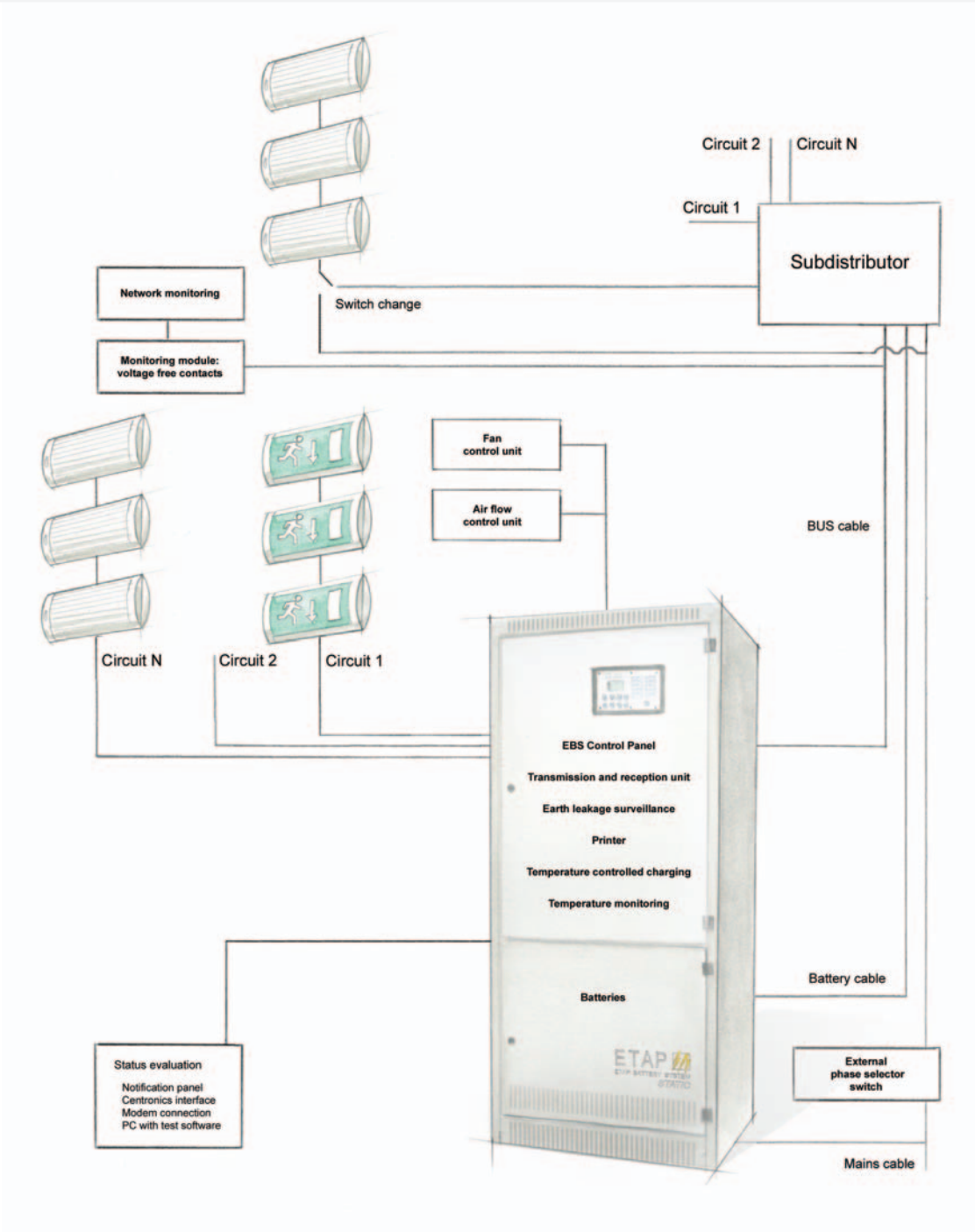
Auxiliary devices for EBS Static

Components
- Network monitoring in subdistributor (UV) p. 20

Options
- Transmission and reception unit for individual luminaire monitoring p. 21
- Individual luminaire monitoring module p. 21
  - basic
  - flex module for mixed operation in the output circuit (flex control to be provided)
- Automatic staircase switch (inverter to be provided) p. 22
- Fan control p. 23
  - time delayed
  - with contactor and motor protection relay
  - with fan
  - with explosion proof fan
- Air flow control unit p. 23
- Fuse distributor p. 23
- Subdistributor (SD)
  - module cabinets without functionality maintenance p. 23
  - module cabinets with 30 minute functionality maintenance (E30) p. 24
- Annunciator panel p. 25
  - with back-up battery
  - without back-up battery
- Printer for operating status notifications and test reports p. 25
  - parallel Centronix interface
  - printer without take-up spool
  - printer with take-up spool
- Telephone modem p. 26
- Temperature monitoring of battery with indication in display p. 26
- Temperature controlled charging p. 26
- Subdistributor power failure notification p. 26
- Earth leakage surveillance p. 26
- External phase selector switch p. 27
- Test software with ECM interface p. 18

Installation diagram

For subdistributor with bus connection, please note that the maximum length of the bus is 1000 m. The bus can be wired in a series or in a star configuration (max. 6 star points)



EBS Group series connections

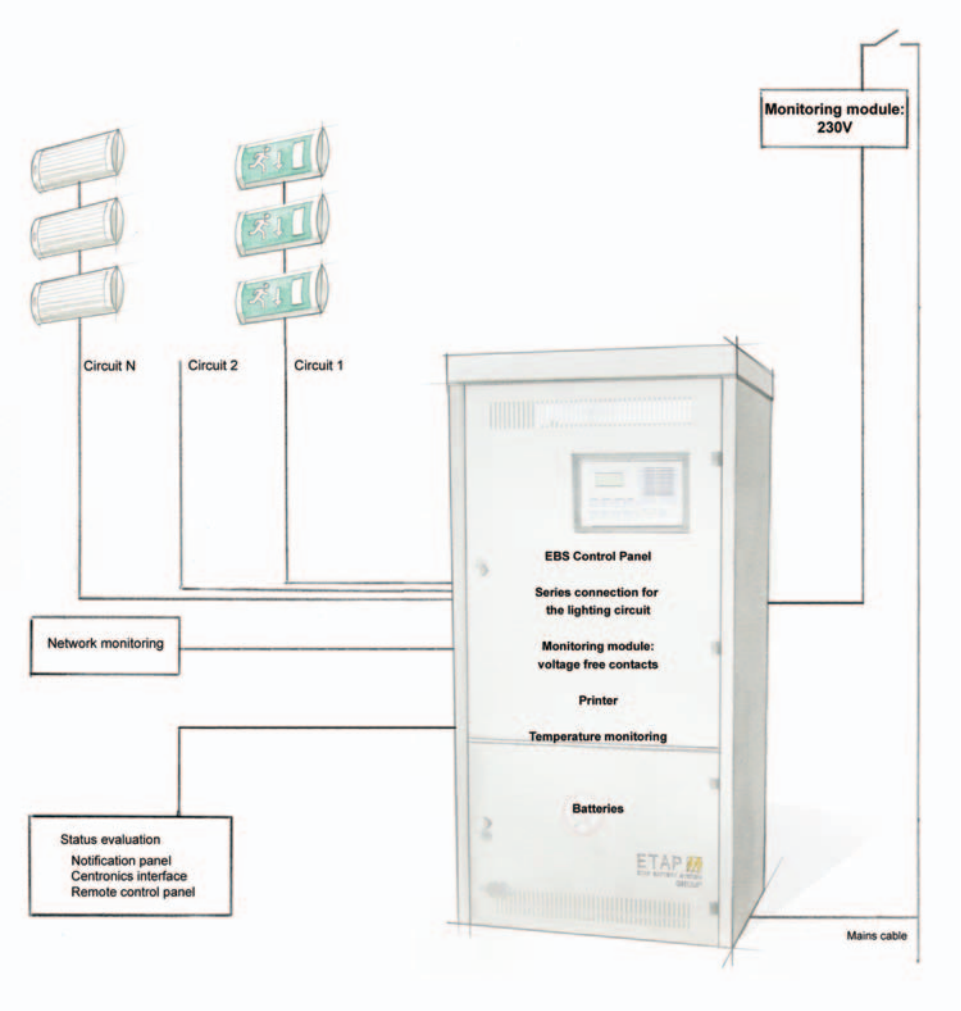
Group power supply EBS Group is supplied standard with a maintenance-free sealed OGiV battery with a 5-year design life conform to Eurobat. It contains all necessary and prescribed notification and monitoring devices.
The maximum connecting capacity is 1500 W/1h or 500 W/3 h and is available with up to 20 output circuits.

EBS Group basically comprises the following series connections:
- electronics cabinet
- charging and charge preservation device with IU diagram
- series connection for the lighting circuit KCUUE4/220 p. 20
- control and monitoring device: EBS Control Panel p. 16
- optional auxiliary devices
- combi housing with battery compartment p. 19
- maintenance-free sealed OGiV battery (5-year design life conformto Eurobat) p. 27

Auxiliary devices for EBS Group

Components
- Network monitoring in subdistributor (UV) p. 20

Options
- Module for individual luminaire monitoring p. 21
  - basic
  - flex module for mixed operation in the output circuit
  - (flex control to be provided)
- Monitoring module p. 22
- Remote control panel for the bus p. 25
- Notification panel p. 25
  - with back-up battery
  - without back-up battery
- Printer for operating status notifications and test reports p. 25
  - parallel Centronix interface
  - printer without take-up spool
  - printer with take-up spool
- Temperature monitoring of battery with indication in display p. 26
- Test software with interface p. 18


Monitoring module:
230V
Circuit N
Circuit 2
Circuit 1
EBS Control Panel
Series connection for
the lighting circuit
Monitoring module:
voltage free contacts
Printer
Temperature monitoring
Batteries
Network monitoring
Status evaluation
Notification panel
Centronics interface
Remote control panel
Mains cable

EBS Dynamic

EBS Dynamic series connections

EBS Dynamic contains all necessary and prescribed notification and monitoring devices.

EBS Dynamic basically comprises the following series connections:

- electronics cabinet with swivel frame and transparent door p. 19
- charging and charge preservation device with IU diagram p. 19
- series connection for the lighting circuit p. 20
- control and monitoring device: EBS Control Panel p. 16
- optional auxiliary devices
- battery housing p. 19

Auxiliary devices for EBS Dynamic

Components

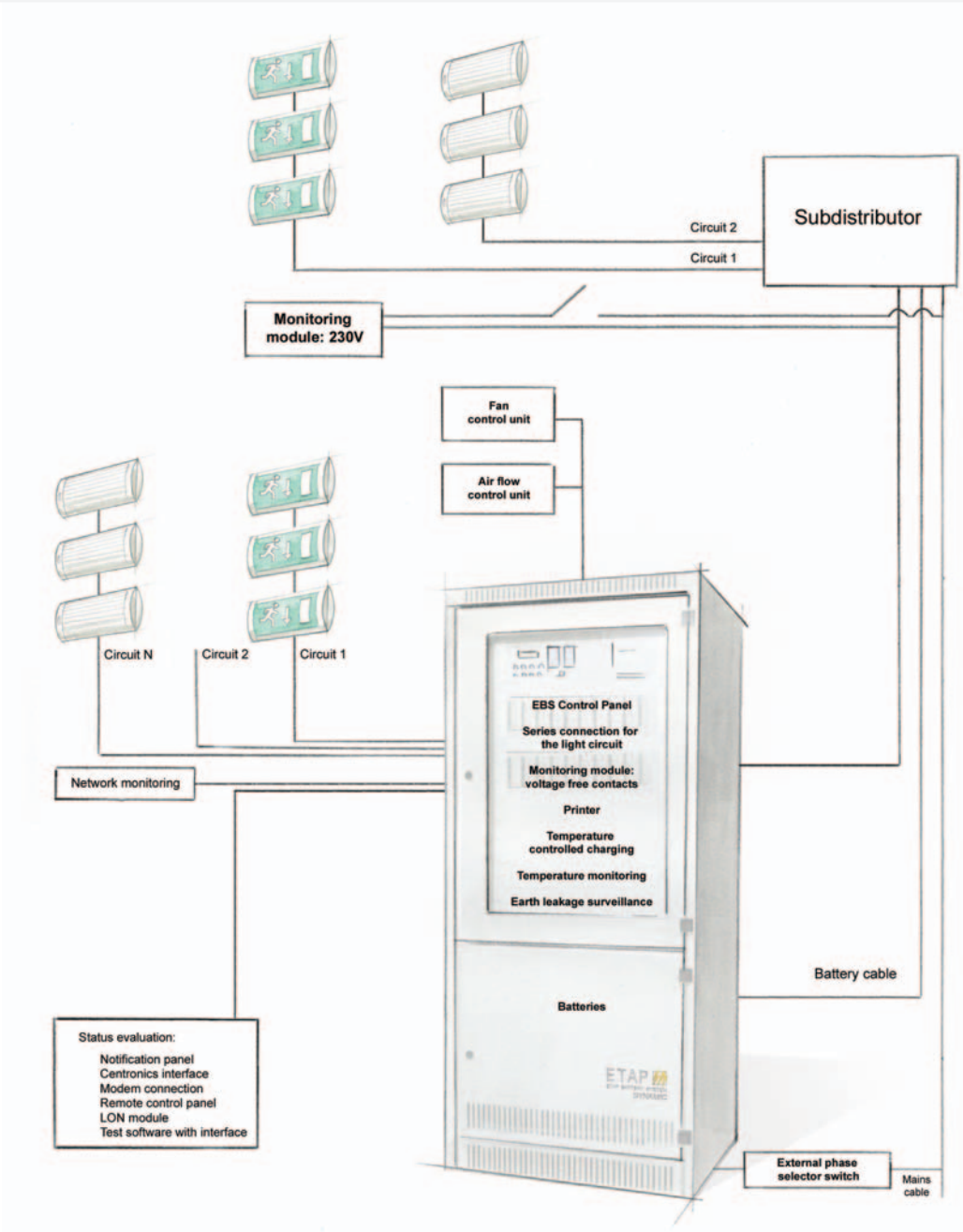
- Network monitoring in subdistributor (UV) p. 20

Options

- Individual luminaire monitoring module p. 21
  - basic
  - flex module for mixed operation in the output circuit
  - (flex control to be provided)
- Automatic staircase switch (inverter to be provided) p. 22
- Monitoring module for light switch position p. 22
- Fan control p. 23
  - with contactor and motor protection relay
  - with fan
  - with explosion proof fan
- Air flow control unit p. 23
- Subdistributor
  - module cabinets without functionality maintenance p. 23
  - module cabinets with 30 minute functionality maintenance (E30) p. 24
  - compact
- Remote control panel for the bus p. 25
- Notification panel p. 25
  - with back-up battery
  - without back-up battery
- Printer for operating status notifications and test reports p. 25
  - parallel Centronix interface
  - printer without take-up spool
  - printer with take-up spool
- LON module p. 26
- Telephone modem p. 26
- Temperature monitoring of battery with indication in display p. 26
- Temperature controlled charging p. 26
- Subdistributor power failure notification p. 26
- Earth leakage surveillance p. 26
- External phase selector switch p. 27
- Test software with interface p. 18

Installation diagram

For subdistributor with bus connection, please note that the maximum length of the bus is 1000 m. The bus can be wired in series or in a star configuration (max. 6 star points)



EBS Dynamic Light

EBS Dynamic Light series connections

The standard version of EBS Dynamic Light is available from stock and can therefore be used in projects at very short notice. It contains all necessary and prescribed notification and monitoring devices.

EBS Dynamic Light basically comprises the following series connections:

- electronics cabinet with control panel cover
- charging and charge preservation device with IU diagram
- series connection for the lighting circuit KCUUE4/220 for a total of 20, 32 or 44 circuits p. 20
- control and monitoring device: EBS Control Panel p. 16
- monitoring module for light switch position p. 22
- optional auxiliary devices
- combi housing with battery compartment p. 19

Auxiliary devices for EBS Dynamic Light

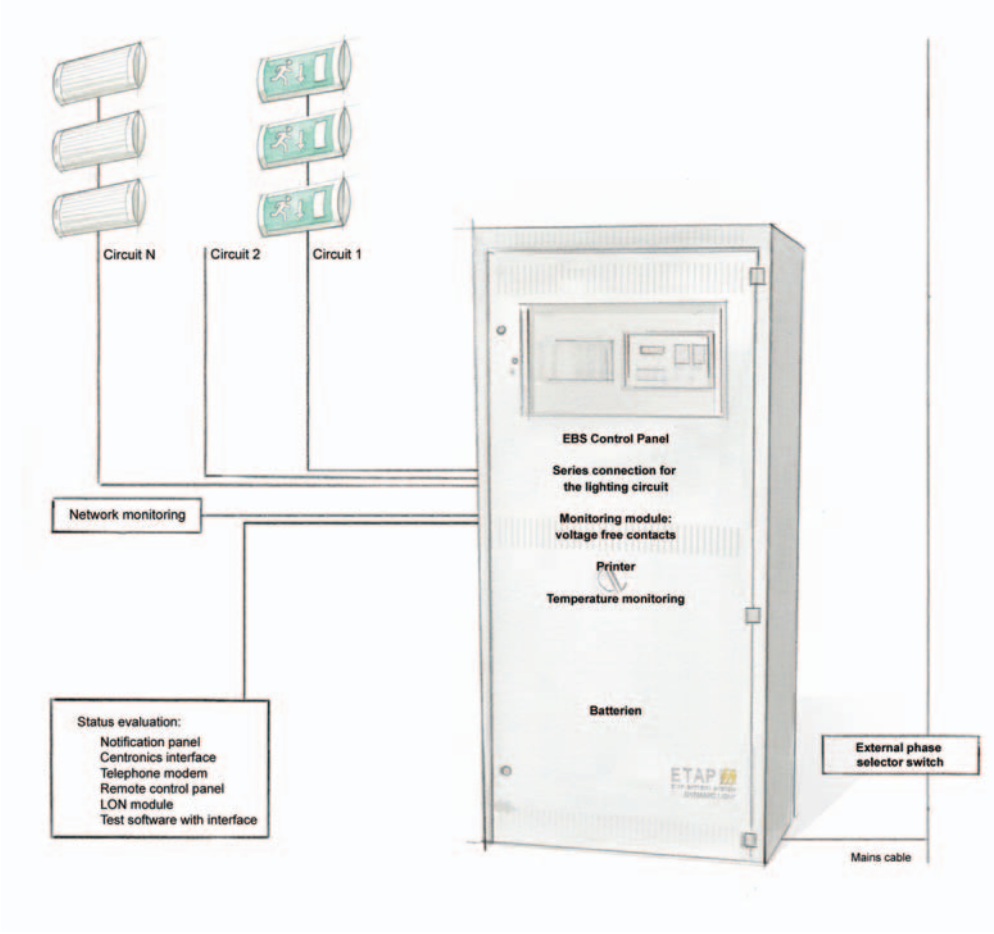
Components

- Network monitoring in subdistributor (UV) p. 20

Options

- Module for individual luminaire monitoring p. 21
  - basic
- Remote control panel for the bus p. 25
- Notification panel p. 25
  - with back-up battery
  - without back-up battery
- Printer for operating status notifications and test reports p. 25
  - parallel Centronix interface
  - printer without take-up spool
  - printer with take-up spool
- LON module
- Telephone modem p. 26
- Temperature monitoring of battery with indication in display p. 26
- External phase selector switch p. 27
- Test software with interface p. 18

Installation diagram



EBS Superior

EBS Superior series connections

EBS Superior is a modular and therefore highly compact emergency lighting system. It contains all necessary and prescribed notification and monitoring devices.

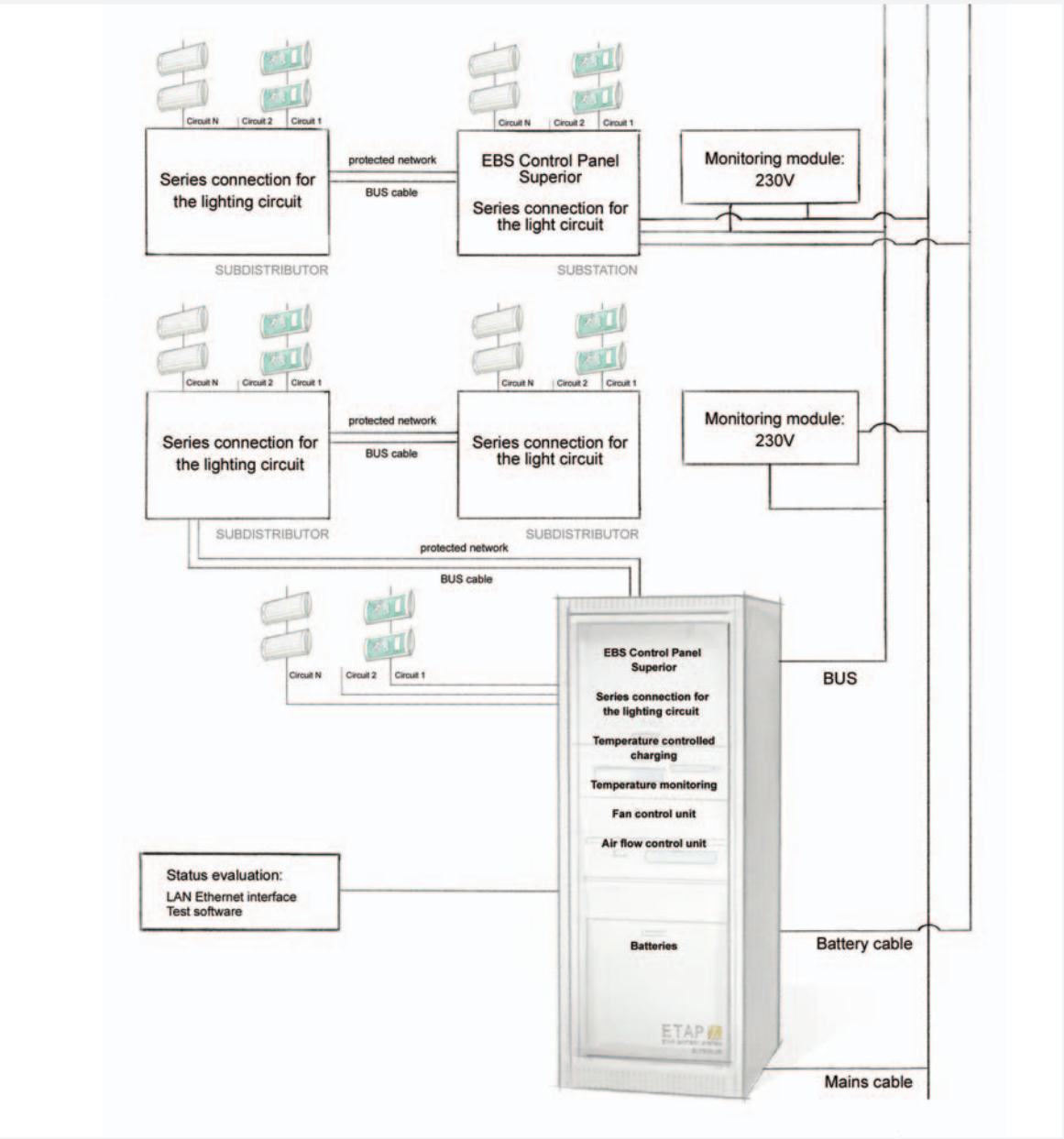
EBS Superior basically comprises the following series connections:

Auxiliary devices for EBS Superior

Components

Options

Installation diagram



EBS Control Interface

Control and monitoring device: EBS Control Panel

Communication interface for
- EBS Static
- EBS Dynamic
- EBS Dynamic Light
- EBS Group

General
- Central unit in 19" technique
- Simple maintenance by plug and socket connections on all modules
- If the deep discharge voltage falls below the threshold, the current is reduced to a few mA
- All subunits have decentralised intelligence

Operation
- Foil keyboard
- Data protection via password and factory settings via PC protocol
- Flexible programming of switching circuits
- Configuration of all parameters via PC with service software
- Output circuits are individually programmable as maintained or non-maintained lighting or switched maintained lighting (on EBS Static, only the switchover devices are programmable)
- Automatic detection of connected devices and units
- Easy retrofitting of output circuits or additional options
- 4 integrated timers for control of the maintained lighting circuits
- Staircase lighting circuit (1 to 15 minutes)
- Continuous or on-demand printing of messages

Testing
- Freely programmable, automatic function test
- Duration test with evaluation of battery capacity
- DC isolation monitoring is standard
- Battery monitoring with freely selectable taps
- Battery voltage monitoring: max/min
- Charge current monitoring: max/min

Indicators
- Illuminated plain text display, 4 lines of 16 characters each
- Charge and discharge current in display
- Maintained/non-maintained lighting currents are displayed as effective values
- Voltage of all 3 power supply phases is indicated in the display
- Buffer memory for messages and function tests over 2-year period
- Documentation of all factory settings via PC protocol
- Log of function tests in internal memory
- Log of duration tests in internal memory

Control
- Adjustable fan run-on
- Adjustable fan interval

Connection
- Easy connection of subunits via BUS
- Standard serial RS232 interface for connection of a PC for data acquisition
- Connection for temperature sensor for monitoring and display of battery temperature
- Central process control interface: all messages via opening/closing contacts
- High reliability against interference through potential separation of the processor part
- Internal communication via CAN-BUS for high reliability against interference. The entire bus system is isolated via opto-couplers.
- All data on the BUS are available for evaluation and control

Control and monitoring device: EBS Control Panel Superior

Communication interface for
- EBS Superior

General
- Microprocessor controlled
- Visualisation of the entire system via built-in or connected PC
- Optional use of the master unit in substations as submaster system

Operation
- Foil keyboard
- Data protection via password and factory settings via PC protocol
- Easy parameterisation via PC with service software or via menu keys
- Quick access to frequently used functions via programmable function keys
- Programming of each individual luminaire possible
- Remote maintenance via telephone or Internet
- Automatic detection of connected devices and units
- Easy retrofitting of output circuits or additional options
- 4 integrated timers for control of the maintained lighting circuits
- Staircase light circuit (1 to 15 minutes)

Testing
- Automatic function and duration tests

Indicators
- Operating status messages via LED
- All messages are indicated as plain text
- Illuminated plain text display, 4 lines of 20 characters each
- Buffer memory for messages and function tests over 2-year period

Control
- Adjustable fan run-on
- Adjustable fan interval

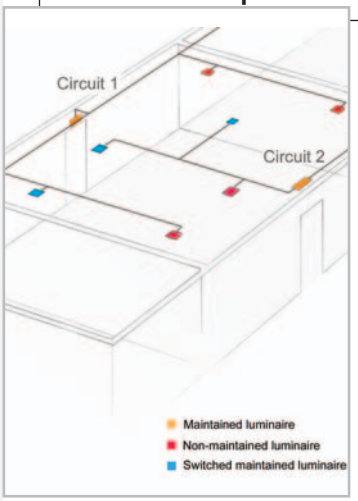
Connection
- USB 2.0 interface for connection of a PC
- Parallel Centronic-printer interface (optional)
- 8 digital inputs for connection of voltage free contacts

EBS Control Interface

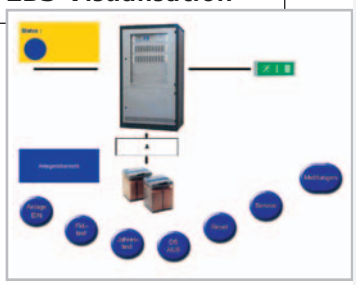
FLEX technique

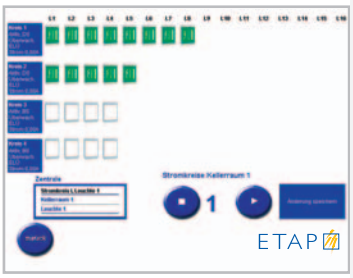
Only two instead of six output circuits for maintained lighting, non-maintained lighting and switched maintained lighting modes.
Fewer cables
Reduced fire load
Decreased installation costs
Allocation of individual luminaires can be modified at all times
Simplified project management

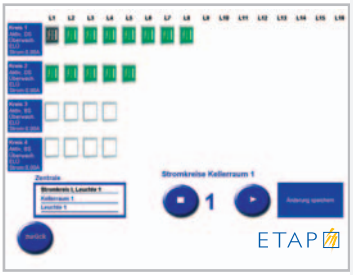
EBS Mixed Operation



EBS Visualisation







Visualisation

ETAP Central Battery Manager – ECM

The ECM visualisation system allows central monitoring and operation of EBS emergency lighting systems with the following functions:
- Visual representation of all system information
- Display of all luminaire or circuits with indication of the configuration
- Display of all individual circuit currents
- Display of faults with detailed fault data
- Display of defective luminaires
- Display, storage or print-out of the test logbook
- System overview with free naming for all subdistributors, circuits and luminaires
- Integrated service module for programming of the system and output circuits
- Remote system control: system ON/OFF, maintained luminaires ON/OFF, test initiation, circuit calibration

Configuration
- CD-ROM incl. CAN dongle / bus interface to be provided
- with PC desktop version / bus interface to be provided
- Industrial PC built into EBS Dynamic
- with built-in laptop

Central Battery System – Technical Specifications

EBS Static, EBS Dynamic, EBS Dynamic Light, EBS Superior

Mains connection:	single phase 230 V / 50 Hz or (depending on the output) three-phase 400 V / 50 Hz
Supply voltage:	U_N ±10 %
Form factor:	approx. 1.1 with three-phase current / approx. 1.4 with alternating current
Radio interference suppression:	N (VDE 0875)
Enclosure:	IP21
Protection class:	I
Noise:	max. 60 dB (A), measured at 1 m distance
Perm. ambient temperature:	0° to 40°C at max. installation height of 1000 m above sea level
Residual hum:	<5 % with parallel-connected battery
Paint:	RAL 7032
Door:	right-hinged / max. opening angle: 180°

Dimensions

Dimensions H x W x D (mm)	Battery compartment dimensions H x W x D (mm)	Max. number of output circuits D01/D02	Max. number of series connections for the lighting circuit	Max. number of SK modules
Device cabinet				
1200 x 600 x 430		30		
1400 x 800 x 600		57		
1800 x 600 x 600		45		5
1800 x 600 x 400				10
1800 x 600 x 400				15
1800 x 800 x 600		79	11*	
1800 x 800 x 600		79	22*	
1800 x 800 x 600		79	33* **	
Combi housing				
1800 x 800 x 600	600 x 750 x 555	35	11*	10
Battery housing				
1200 x 600 x 430	990 x 570 x 360°			
1400 x 600 x 600	1190 x 555 x 555°			
1400 x 800 x 600	1190 x 750 x 555°			
1800 x 600 x 600	1590 x 555 x 555°			
1800 x 800 x 600	1590 x 750 x 555°			
2000 x 900 x 600	1790 x 850 x 555°			
1800 x 800 x 800	1590 x 755 x 750°			
1800 x 1000 x 800	1590 x 950 x 750°			

** Optionally also available with 450 mm depth*

*** Additional distributor box is recommended*

° Each housing is standard supplied with 2 grid floors for the installation of batteries (capacity 250 kg)

OPTION: housing base 100 – 400 mm
additional grid floor

EBS Group

Mains connection:	230 V / 50 Hz
Enclosure:	IP21
Charger:	1.5 A
Battery:	Maintenance-free sealed lead battery 18 x 12 V / 12 Ah
Bridging duration:	1500 W / 1h – 500 W / 3 h
Paint:	RAL 7032
Door:	right-hinged / max. opening angle: 180°
Dimensions (HxWxD):	1200 x 600 x 430 mm

EBS Technical Specifications

Serial connection for lighting circuit, KCUUE4/220

Serial connection for lighting circuit, KCSKM

EBS Components

Mains monitoring module KCWMU

Control and monitoring module of charge device, KCCMC

for EBS Group, EBS Dynamic, EBS Dynamic Light

Art. No.:	**KCUUE4/220**
Model:	19" module
Number of outputs:	*4*
suitable for:	circuit or individual luminaire monitoring mixed individual luminaire and circuit monitoring operation
Luminaires:	20 per output – 16 per output (with individual monitoring)
Switching from circuit to Individual luminaire monitoring	possible without hardware changes
Fuse:	6.3 A (2-pole)
Max. switching capacity:	relay 6 A 220 V DC / circuit
Dimensions (HxWxD):	129 x 35 x 170 mm

for EBS Superior

Art. No.:	**KCSKM**
Model:	DIN rail mounting
Number of outputs:	4
suitable for:	circuit or individual luminaire monitoring mixed individual luminaire and circuit monitoring operation protection of a single fire compartment
Used in:	main station – substation – individually
Connection to master unit:	via 2-wire system bus
Luminaires:	20 per output
Switch commands:	via mains cable
Fuse:	6.3 A (2-pole)
Max. switching capacity:	815 W / circuit
Dimensions (HxWxD):	90 x 105 x 66 mm (6 TE)

Functionality and technical specifications – components

Mains monitoring module

Functionality:	Mains monitoring in the case of subdistributors for the detection of undervoltage and mains failure in the single or three-phase mains
Art. No.:	**KCWMU**
Supply voltage:	230/400 V 50 Hz
Tripping value:	85% of nominal voltage
Power input:	3 VA
Contacts:	2 changeover voltage free contacts
Mounting:	DIN rail
Display:	LED 'OFF' in case of mains failure
Dimensions (HxWxD):	59 x 35 x 59 mm

Control and monitoring module of the charge device for EBS Superior

Art. No.:	**KCCMC**
Functionality:	Control and monitoring of the charge device for the Batteries

Functionality and technical specifications – options

Transmission and reception unit for individual luminaire monitoring for EBS Static

Functionality:	for luminaire and circuit monitoring, built into central System

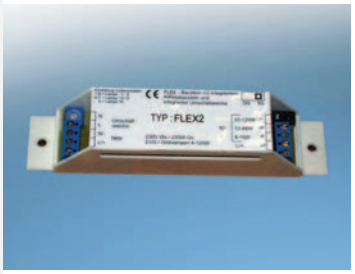
Individual luminaire monitoring module

Art. No.:	**KCADB01**
Functionality:	Setting of luminaire addresses via an externally accessible rotary encoding switch
Protection class:	IP 20
Input voltage:	230 V AC/DC
Ambient temperature:	-10°C to +50°C
Output range:	2 - 120 W
Dimensions (HxWxD):	106 x 36 x 24 mm

Monitoring module KCADB01

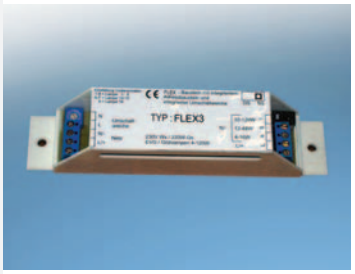
Art. No.:	**KCFLEX1** for EBS Static, EBS Group, EBS Dynamic **KCFLEX2** for EBS Superior
Functionality:	Module for individual luminaire monitoring Maintained / non-maintained lighting switch Integrated changeover switch for switched maintained light
Protection class:	IP 20
Input voltage:	230 V AC/DC
Ambient temperature:	-5°C to +50°C
Output range:	4 - 120 W
Dimensions (HxWxD):	165 x 36 x 35 mm

Monitoring module KCFLEX1



Monitoring module KCFLEX2

Art. No.:	**KCFLEX3** for EBS Superior
Functionality:	Module for individual luminaire monitoring Individual luminaire switching in AC/DC mains via I/O unit (switched maintained light, sML) Setting of luminaire addresses via an externally accessible rotary encoding switch or Programming of maintained lighting (ML) / non-maintained Lighting (NML) via the master unit
Protection class:	IP 20
Input voltage:	230 V AC/DC
Ambient temperature:	-10°C to +50°C
Output range:	2 - 120 W
Dimensions (HxWxD):	137 x 36 x 26 mm



Monitoring module KCFLEX3

Luminaire changeover switch

Art. No.	**KCUWE1** (switching capacity: 250 VA)
Functionality:	Use of luminaires for general and emergency lighting
Input voltage:	General lighting: 230 V / 50 Hz Emergency lighting: 180-270 V / AC/DC
Protection class:	IP 20
Dimensions (HxWxD):	130 x 46 x 31 mm

Changeover switch KCUWE1

EBS Options

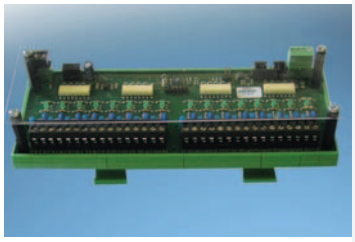
Changeover switch KCUWE2

Distributor changeover switch

Art. No.:	**KCUWE2** (switching capacity: 250 VA) **KCUWE3** (switching capacity: 500 VA)
Functionality:	Use of luminaires for general and emergency lighting
Input voltage:	General lighting: 230 V / 50 Hz Emergency lighting: 180-270 V / AC/DC
Protection class:	IP 20
Dimensions (HxWxD):	96 x 48 x 50 mm

Automatic staircase switch

Functionality:	Staircase lighting switch (SLS)
Input voltage:	General lighting: 230 V / 50 Hz AC Emergency lighting: 220 V DC
for EBS Static	
Type:	AC/DC multi-function relay without additional inverter Automatic staircase switch (additional inverter required)
for EBS Dynamic, Dynamic Light	
Type:	200 W inverter for key illumination



Light switch module KCLSM230

Light switch position monitoring module for EBS Group, EBS Dynamic, EBS Dynamic Light

Functionality:	Switching of output circuits during mains operation via switches/contactors of the general lighting system
Input channels:	16
Input:	Assignable to one or more output circuits of a series connection for the lighting circuit, KCUUE4/220 or Flex unit (individual switching) or programmable as staircase lighting switch of emergency luminaires (1 to 15 min.)
Monitoring: art. No.: **KCLSM24**	via voltage free contacts
art. No.: **KCLSM230**	via a 230 V AC external voltage
art. No.: **KCLSM24/230**	inputs 1-8: 230 V AC external voltage Inputs 9-16: voltage free contacts
Max. bus cable length:	100 m

Light switch module KCIOM24

Light switch module KCIOM230

Light switch position monitoring module for EBS Superior

Functionality:	Switching of output circuits during mains operation via switches/contactors of the general lighting system with LED status indication per input
Monitoring: art. No.: **KCIOM24**	via voltage free contacts
Input channels:	16
Input:	Assignable to one or more output circuits of lighting circuit module KCSK module or KCFLEX3 unit (individual switching) or programmable as staircase lighting switch of emergency luminaires (1 to 15 min.)
Monitoring: art. No.: **KCIOM230**	via a 230 V AC external voltage
Input channels:	9
Input:	9 x 230 V AC switching input 6 x 230 V AC switching input + mains monitor, 3-phase 8 x 230 V AC switching input + mains monitor, 1-phase
Max. bus cable length:	500 m

Fan control for EBS Static, EBS Dynamic, EBS Dynamic light

Type: with contactor and motor protection relay
with fan
with explosion proof fan

Air flow control for EBS Static

Functionality: Air direction relay

Fuse distributor

Functionality: Decentralised fuse protection of output circuits
Number of output circuits: max. 16 / 24 with fuses D01-D02 or max. 14 / 21 with LS switch
Dimensions (HxWxD): 600 x 400 x 250 / 800 x 400 x 250 (mm)

Subdistributor module cabinet without functionality maintenance

for EBS Static

Functionality: Changeover device, circuit monitoring, individual luminaire monitoring, bus connection to main device

Dimensions H x W x D (mm)	Max. number of fuses	Max. number of LS switches
800 x 600 x 250	24	18
1800 x 800 x 400	79	60

for EBS Dynamic

Housing: Electronics cabinet with lockable door
Functionality: decentralised fuse protection of output circuits
19" rack chassis for lighting circuit module KCUUE220/4
bus connection to main device via 3-wire bus (CAN)
easily accessible terminals for the output circuits
for main station: connection of up to 31 subdistributors

Dimensions H x W x D (mm)	Max. number of KUUE220/4	Max. number of output circuits
600 x 400 x 250	5	20
800 x 600 x 250	11	44
1800 x 800 x 450	11	44
1800 x 800 x 450	22	88
1800 x 600 x 450	33	132*

** additional distribution cabinet 1800 x 600 x 450 mm required*

Subdistributor module cabinet with 30-minute functionality maintenance (E30)

for EBS Static

Functionality: Changeover device, circuit monitoring, individual luminaire monitoring, bus connection to main device

Dimensions* H x W x D (mm)	Max. number of output circuits with D01/D02 fuses	Max. number of output circuits with LS switches
1000 x 722 x 400	12	18
1150 x 972 x 400	30	30
2050 x 722 x 400	60	72
2050 x 1222 x 400	120	120

** under reserve*

Subdistributor in E30

for EBS Dynamic

Housing: Electronics cabinet in E30 with lockable door

Functionality: decentralised fuse protection of output circuits
19" rack chassis for lighting circuit module KCUUE220/4
bus connection to main device via 3-wire bus (CAN)
easily accessible terminals for the output circuits

for main station: connection of up to 31 subdistributors

Dimensions H x W x D (mm)	Max. number of KUUE220/4	Max. number of output circuits
1000 x 722 x 400	5	20
1150 x 872 x 400	11	44
2050 x 1222 x 400	22	88

Subdistributor Compact for EBS Dynamic

Functionality: incl. integrated lighting circuit modules KCNLE4/220
light switch position monitoring module KCLSM (type upon request, see above) bus interface board
easily accessible terminals for the output circuits

Dimensions H x W x D (mm)	Number of NLE4/220 plug-in units	Number of output circuits
600 x 400 x 250	2	8
600 x 400 x 250	3	12
600 x 400 x 250	4	16
600 x 400 x 250	5	20
800 x 600 x 250	7	28
800 x 600 x 250	9	36
800 x 600 x 250	11	44

Bus compatible remote control panel for EBS Dynamic and EBS Dynamic Light

Art. No.:	**KCMTB bus**
Functionality:	Intelligent annunciator and control panel
	Remote control of the emergency lighting system
	Functions identical to those of the EBS Control Panel
	- switch system ON/OFF
	- switch maintained luminaires ON/OFF
	- initiation of function and duration tests
	- isolation test
	- LED test
	- selection of configuration and information menus
	Use as display unit for substations
Indications in the display:	Indication of battery voltage
	Indication of charge and discharge current
	Digital indication of all consumer currents
	Indication of voltage of all 3 power supply phases
	Indication of test logbook
	Indication of luminaire faults
	Indication of all faults in plain text (4 lines of 16 chars each)
	Indication of battery temperature (optional)
LED indicators:	Ready/malfunction
	Mains operation / battery operation
	Maintained lighting ON / Non-maintained lighting ON
	Test mode
	Deep discharge
Supply voltage:	220 V DC
Data transmission:	via 3-wire MTB bus cable: 2 x 2 x 0.8
Dimensions (HxWxD):	219 x 185 x 115 mm

Remote control panel KCMTB-Bus

Annunciator panel

Art. No.:	**KCMS** (with back-up battery) / **KCMB** (no back-up battery)
Functionality:	Indicators: ready, mains operation, battery operation,
	Series interference
	Switch: maintained switching range ON/OFF
Signalling device:	Buzzer with release key
Protection class:	IP 20
Dimensions (HxWxD):	261 x 150 x 90 mm

Notification table

Printer for operating status messages and test reports

Art. No.:	**KCPSC**
Functionality:	Written reports in accordance with DIN EN 50172
	- all faults and system status changes
	- end of faults
	- function and duration test results
	- all data with date and time
	Parallel Centronic interface
	Printer without take-up spool
	Printer with take-up spool

Printer

EBS Options

LON module

LON module

Functionality:	Connection of an EBS Dynamic or Dynamic Light System to a LON bus Conversion of system data/commands into LON format
Possible commands:	System ON/OFF; maintained lighting ON/OFF; start function test; start duration test; reset (abort test)
Data provided:	battery voltage; charge current; discharge current; battery temperature; time; various fault messages; various system states; various error messages after function test

Telephone modem

for EBS Static, EBS Group, EBS Dynamic, Dynamic Light

Alarm:	*8 permanently programmed messages*

for EBS Group, EBS Dynamic, EBS Dynamic Light

Alarm:	permanently programmed messages or plain text on mobile phone, e-mail, radio receiver, fax or PC

Temperature monitoring of the battery with indication in display

Functionality:	Temperature sensor for monitoring the battery temperature with indication in the display

Temperature controlled charging

Functionality:	Charging of the battery as a function of its temperature

Subdistributor power failure notification

Functionality:	Visual indication of a power failure of a subdistributor at the main station

Earth leakage surveillance AC

Functionality:	Isolation monitoring of IT networks (additional separating transformer required)

External phase selector switch

Functionality: Changeover to an intact phase upon failure of one or two phases

Enclosure: ISO

Output, one-phase

Art. No.: **KCPSW30**
Input voltage: 3 x 400 V
Output voltage: 230 V
Nominal current: 30 A
Signal contact: phase failure; no phase

Output, three-phase

Art. No.: **KCPSW90**
Input voltage: 3 x 400 V
Output voltage: 3 x 400 V
Nominal current: 90 A (3 x 30 A)
Signal contact: phase failure; no phase

Phase selection circuit

Batterien

Type of battery *		OGiV	OGi	OPzS
Model		sealed, block	enclosed, block	enclosed, block
Mounting position		upright, horizontal	upright	upright
Capacity range in Ah		17-200	25-300	50-300
Nominal voltage in V		12	6/12	6/12
Battery / cell construction	positive elektrode	grid	grid	tubular plates
	alloy	lead-calcium	lead-antimony	lead-antimony
	pole	screw pole	screw pole	screw pole
	elektrolyte	AGM vlies	fluid	fluid
	housing material	ABS	SAN	SAN
	plug / valve	safety valve	plug	plug
Water refill		not possible	approx. 2 years	approx. 2 years
Self-discharge in % per month		3	3	3
Temperature range in °C		-10 to +40	-10 to +40	-10 to +40
Ventilation requirement as per		DIN 50 272-2	DIN 50 272-2	DIN 50 272-2
Design life as per Eurobat (years)		10-12		
Design life (years)			12-15	>15
Standard		DIN EN 60896-21 & 22	DIN EN 60896-11	DIN EN 60896-11

* other batteries upon demand

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