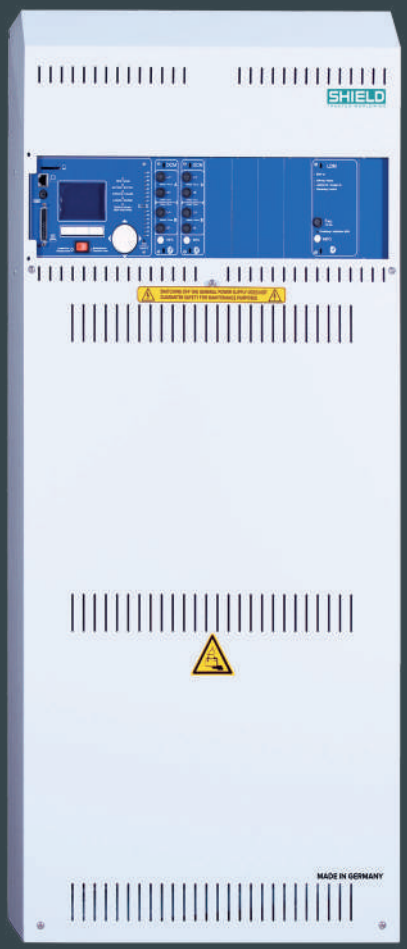
EMERGENCY LIGHTING
Central Battery System

SHIELD®
TRUSTED WORLDWIDE

TÜVRheinland®
CERTIFIED



SHIELD®

TRUSTED WORLDWIDE

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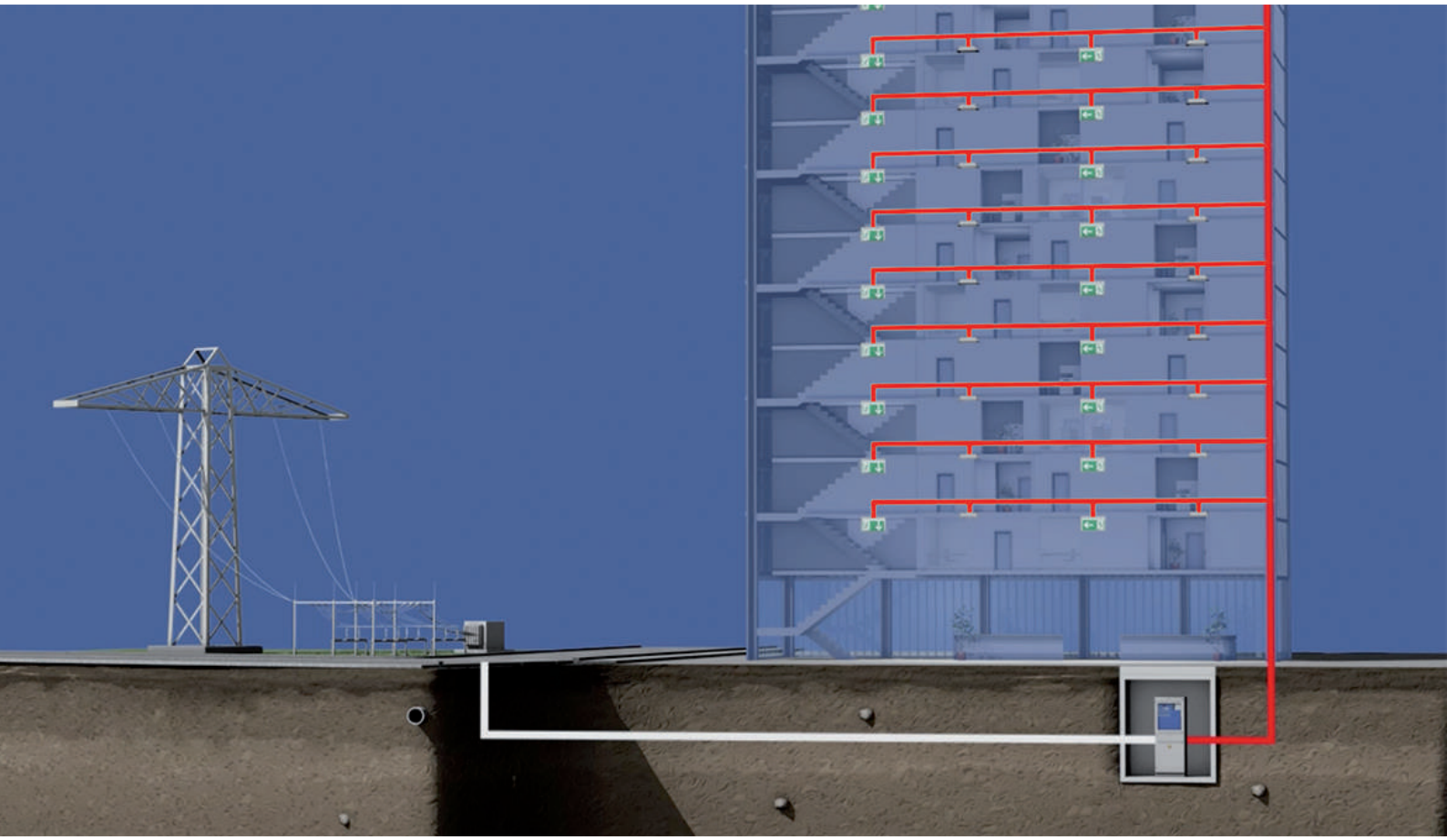
Central Battery System



The concept of the central battery system provides a supply of the connected safety and emergency luminaires from a central point.

Installed in an operating room central battery systems are connected with fire resistant wires to the lights.

Per 19" cabinet up to 96 circuits and 1,920 operated lamps can be realized.

Up to 256 main stations includs MC6, MNXL, MD32 & ML96 can be linked together with PC via TCP/ IP with one another and thus can be monitored together. This increases the possible number of lamps more than a million.

Our central power supply systems can be built in various housing sizes or types. All housings are in-house developments and have been designed according to the requirements and standards (EN 50171, EN 50272-2). In principle, the electronic components are accommodated separately from the battery.

Depending on the request, the power supply system is available in two separate enclosures (electronics and battery cabinet) as a wall or standing cabinet. There is also the possibility of using a combination cabinet (as shown) , which incorporates the electronic components and the battery in a single cabinet, but separated from each other by an internal partitioning.

The painting is done by default using textured paint in the color RAL 7035. In order to ensure optimal operating and service comfort, the electronic components are built as a 19“-rack, 3U height, in a combination of swing frame and cabinet door which can be optionally equipped with a transparent door. Required racks to accommodate the 19“-modules are mounted in the 180° swiveling door of the cabinet.

Standard cabinets are supplied with a protection class IP20 and IP21*. Production in a higher degree of protection, for example IP54** is also possible.

The connection panel is located inside the cabinet on a mounting plate and is used to connect the appliance to the general power supply, to external reporting and controls, and the connection to the load circuits. As shown in the image, the electronics cabinet provides generous wiring space for wiring the connecting cables without the need for an additional jumper.

Even in swung-open position of the cabinet door the connector panel is easily accessible and not hidden.

Cable inlets are, depending on housing choice, either from the top or bottom possible. Vents provide the necessary air circulation in the electronics and battery compartment.

The battery is located on flat floors. All electronics and battery cabinets can be used as wall or standing cabinet set up individually or combined with each other.

** IP21 Option available only for ML96 series panels upto 24 circuits.*
*** IP54 Option available only for MC6, MN, MNXL, MD32 & ML96 (MLG, MLS & MLW) series panel with additional cost.*

Shield - MC6 Series Panel

The MC6 series works in switched mode 230VAC or 216VDC and can be equipped with up to 6 main circuits. One additional circuit is installed by default. This assures the possibility to connect conventional luminaires with electronic ballast and an input voltage of 230V AC/DC. In combination with our innovative LED luminaires energy efficiency, durability, and lighting improvements in all parts of the building can be optimized.

The integrated browser-based visualization software makes the system capable to monitor all connected emergency and rescue route luminaires and report immediately in case of failure.

A certified E30-cabinet is available optional.

Specifications	
Mounting	Wall / Surface Mounted
Case Material	Steel-sheet RAL 7035
Dimensions (H X W X D)	660 x 350 x 230 (mm)
Protection Class	IP20 (Optional IP54*)
Insulaiton Class	I
Voltage	230V AC 50/60Hz +/- 10%
Switched Mode	230V AC / 216V DC +/- 15%
Battery	216V DC 18 x 12V / 5.2Ah
Battery Power	3h: 0.92A /~200W
Permissible Temp	10 °C to 35 °C
Max. Connected Load AC	200W (3 hour)

** IP54 Cabinet can be provided with additional cost.*

Model	Circuit	Max: Luminaires
SMI102	2	40
SMI104	4	80
SMI106	6	120

Features

- Automated monitoring system acc. to DIN EN 62034 for regular testing of all connected luminaires.
- Independent system with combined switching for non-maintained, maintained and switched maintained luminaires.
- Service friendly 19” modular case.
- Test records are stored at least 5 years.
- Different interface languages possible.
- Management and failure monitoring for up to 20 luminaires per circuit.
- Max. 6 main circuits, as 650VA (SCM32) module and one circuit in non-maintained or maintained mode with max. 150 VA (programmable).
- Maximum connected load (mains) of 2000 VA.
- Information reports about the system, circuits and luminaires as plain text and Control-LED.
- Up to 6 control inputs can be assigned to each circuit.
- Networking of multiple devices via Ethernet (TCP/IP).
- Integrated Web-Server for remote maintenance of the system, visualization of floor plans and much more.

Option	Model
Line Monitor (three phase net monitoring)	SLM
Remote Supervision Tableau with LCD Display (Flush Mounted Version available)	SLCD-15
Switch Query Module	SDM24
External Printer	BDEXT
Power Control	SPC230
Polycarbonate Cover Plate to Protect Against Unauthorized Access (lockable)	PLXMI
Certified E30 Cabinet (918 X 711 X 365)	E30MIC

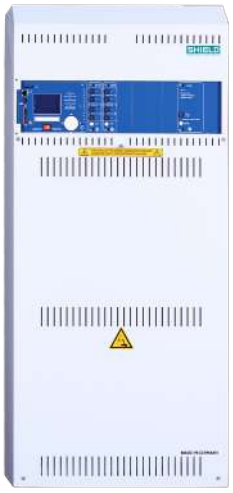
Central Battery System

Shield - MNXL Series Panel

The MNXL series works in switched mode 230VAC or 216VDC and can be equipped with up to 12 main circuits for MN12 panel and up to 32 main circuit MNXL panel. One additional circuit is installed by default for MN12 panel. This assures the possibility to connect conventional luminaires with electronic ballast and an input voltage of 230V AC/DC.
In combination with our innovative LED luminaires energy efficiency, durability and lighting improvements in all parts of the building can be optimized.

The integrated browser-based visualization software makes the system capable to monitor all connected emergency and rescuer route luminaires and report immediately in case of failure.

A certified E30-cabinet (not suitable for MNXL) is available optionally.



MN12

MN32XL

Specifications	
Case Material	Steel-sheet RAL 7035
Dimensions (H x W x D)	MN12 - 1100 x 500 x 230mm MN32XL - 1470 x 571 x 230mm
Protection Category	IP20 (Optional IP54*)
Protection Class	I
Voltage	230V AC 50/60Hz +/- 10%
Switched Mode	230V AC / 216V DC ± 15%
Battery	216V DC (18 x 12V / 17Ah)
Battery Power (incl. 25% aging reserve)	3h: 2.3A / ~500W
Permissible Temp	10 °C to 35 °C
Max. Connected Load AC	2000 VA
Max. Connected Load AC	500W (3 hour)

** IP54 Cabinet can be provided with additional cost.*

Model	Circuit	Max: Luminaires
SMN102	2	40
SMN104	4	80
SMN106	6	120
SMN108	8	160
SMN110	10	200
SMN112	12	240
SMNXL116	16	320
SMNXL118	18	360
SMNXL120	20	400
SMN1XL22	22	440
SMNXL124	24	480
SMNXL130	30	600
SMNXL132	32	640

Central Battery System

Features

- Central Battery system acc. to DIN EN 50171 for security lighting systems acc. to DIN EN 50172 and systems acc. to DIN VDE 0100-718.
- Automated monitoring system acc. to DIN EN 62034 for regular testing of all connected luminaires.
- Max. 32 main circuits, as 650VA- (SCM32) module and one programmable circuit as maintained or non-maintained circuit.
- Management and failure monitoring for up to 20 luminaires per circuit.
- Use of 230V AC /DC luminaires possible.
- Independent system with combined switching for non-maintained, maintained and switched maintained luminaires.
- Service friendly 19" modular case.
- Test records are stored for 5 years.
- Different interface languages possible.
- Information reports about the system, circuits and luminaires as plain text and Control-LED.
- Connectivity for additional external modules like SDM24, SLM or LCD-15 via RS485 interface.
- Up to 6 control inputs can be assigned to each circuit.
- Networking of multiple devices via Ethernet (TCP/IP).
- Integrated Web-Server for remote maintenance of the system, visualization of floor plans and much more.
- A lockable polycarbonate cover for the controls of the micro control is available as option to protect against unauthorized access.

Option	Model	
Line Monitor (three phase net monitoring)	SLM	
Remote Supervision Tableau with LCD Display (Flush Mounted Version available)	SLCD	
Switch Query Module	SDM24	
External Printer	BDEXT	
Power Control	SPC230	
Polycarbonate Cover Plate to Protect Against Unauthorized Access (lockable)	PLXMI	
E30 Cabinet (1388 X 861 X 365Mm)	E30MIN	

Shield - MD32 Series Panel

Shield - MD32 series panels are a preconfigured central battery system with single luminaire monitoring without additional wires, free programmable circuits and 5-year log book for connecting emergency and security luminaires with LED, fluorescent or halogen lamps. Available either with one or two chargers to 2.5A. The biggest version equipped with 55 Ah batteries, preforms an output of 2300 W for 3 hours.

The circuit module supplies all connected luminaires to the system with electricity. Each outlet can be programmed for circuit monitored systems and for single luminaire monitoring. A combined operation is also possible. The MD32 can hold up to 16 modules of types SCM42 for up to 32 final circuits.

Each module is designed for 2 output circuits, each with up to 20 lights. Each circuit can be programmed as continuous light, maintained light, switched maintained light or a staircase light. Maintained lights and emergency lights can be operated combined. This allows up to 640 emergency or safety lights to be supplied.

Type	Fusing Per Circuit	Maximum Load Per Circuit
SCM42	2 x F6.3A	4A / 860 VA

Specifications	
Case Material	Steel-sheet RAL 7035
Dimensions (H X W X D)	1950 x 600 x 450mm
Protection Category	IP20 (Optional IP54*)
Insulation Class	I
Voltage	3 x 230V AC 50/60Hz +/- 10%
Output Voltage (switched mode)	230V AC / 216V DC
Permissible Temperature	10 °C to 35 °C
Battery (not included)	Maintenance-Free, Closed Lead Acid Cell OGiV, OGi or OPzS
Performance Data	
Incl. 25% Aging Reserve	3h
with 33 Ah battery	≤ 1337 W
With 55 Ah battery	1338 - 2300 W

** IP54 Cabinet can be provided with additional cost.*

The built-in web interface with visualization software allows to set up and monitoring the system and the connected lights very comfortable from any networked PC. The position of the installed luminaires can be shown on a stored building plan.

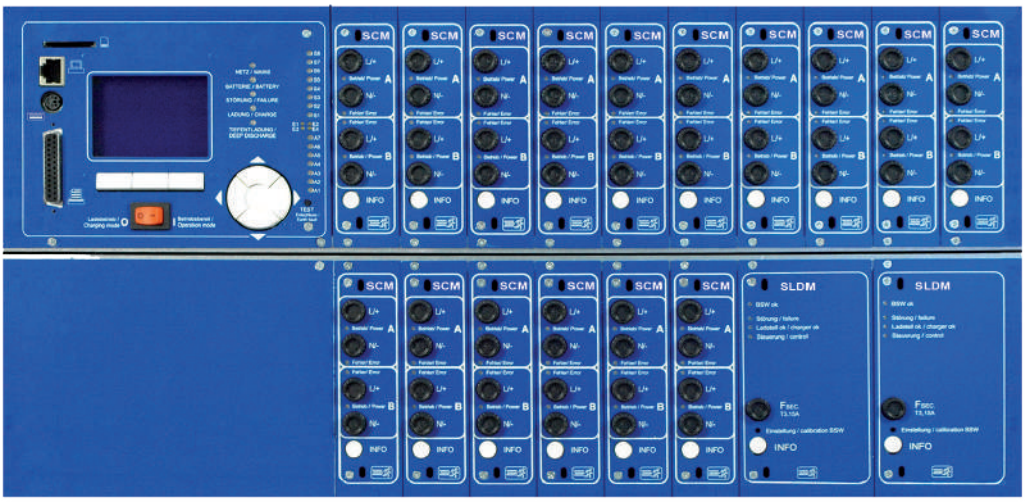
Up to 256 panels can be linked with PC via TCP / IP.

Model	Charger	Circuit	SCM42	Max: Luminaires
MD32	5A	32	16	640

Central Battery System

Features

- Central power supply system acc. to DIN EN 50171 for security lighting systems acc. to DIN EN 50172 and systems acc. to DIN VDE 0100-718.
- Automated monitoring system acc. to DIN EN 62034 for regular testing of all connected luminaires.
- Microprocessor-based function control system.
- Memory for test results over 5 years.
- Illuminated large LCD display with plain text display.
- Multilingual switch-selectable.
- Password protected.
- Service contact preprogrammed.
- Easy and understandable programming with 8 buttons.
- Extern PC keyboard for the fastly configuration of the device (PS2).
- Memory-Card (Multi Media Card) Slot for software updates.
- RS-232 interface.
- Centronics printer interface included.
- Ethernet interface.
- Control and monitoring over webbrowser.
- Display of lamp positions and state in a building ground plan.
- Free programmable circuits.
- Up to 6 control inputs can be assigned to each circuit .
- Adaptive mains monitoring at every circuit.
- Selective earth fault check of every circuit.
- Up to 32 circuits in one 19” cabinet.
- Use of electrical circuits modules SCM42.
- Battery charger with IUTQ characteristic for a maximum of battery life.
- Extern modules (network guardian etc.) can be connected and controlled over a bus system.
- Integrated stand socket.



Option	Model
Line Monitor (three phase net monitoring)	SLM
Remote Supervision Tableau with LC Display (flush mounted version available)	SLCD-15
Switch Query Module – External Mounting Only	SDM24
Printer	BD04
Power Control	SPC230
Polycarbonate Cover Plate to Protect Against Unauthorized Access (lockable)	PLXMD
Service Plug	SSD
BAT-LOGG® Interface for Battery Monitoring	BTLG-INTF
BAT-LOGG® Sensor (measuring module for one battery)	BTLG-SENS
BAT-LOGG® Set for MidiControl Plus System (18x BTLG-SENS / 1x BTLG-INTF)	BTLG-MC18

Shield - ML96 Series Panel

ML96 panel is a modular 19” central battery system according to EN 50171 and BGV A3 featuring single light monitoring without additional wiring, free programmable circuits and a 5-year log-book. The system is available in different cases with internal or external battery compartment.

The built-in Web interface with integrated visualization software makes it possible to display even large projects clearly on a building plan. In addition, the test results and incidents of a particular date are retrieved and displayed together with all relevant operating parameters. This minimizes the maintenance costs. The system can be configured by keyboard, on the device itself or through a TCP / IP network connection to a remote PC. The 19” rack design allows to upgrade or exchange modules individually.

The circuit module supplies all connected luminaires to the system with electricity. Each outlet can be programmed for circuit monitored systems and for single luminaire monitoring. A combined operation is also possible. The combined case can hold up to 48 modules for up to 96 electrical circuits modules. Each module is designed for 2 output circuits, each with up to 20 lights. Each circuit can be programmed as continuous light, maintained light, switched maintained light or a staircase light. Maintained lights and emergency lights can be operated combined.

Specifications	
Case Material	Steel-sheet, Gray RAL 7035
Dimensions (H x W x D)	Various
Protection Category	IP20 (Optional IP21*, IP54**)
Insulation Class	I
Dimensions (H x W x D)	MLW: 900 x 600 x 450 mm (without battery cabinet) MLX: 1850 x 800 x 600 mm MLS: 1800 x 600 x 450 mm MLG: 1500 x 600 x 450 mm MLK: 1000 x 600 x 450 mm
Cable Entry	from top (900 mm cabinet from below also)
Voltage	3 x 230V AC 50/60Hz +/- 10%
Output Circuits	Max. 96 circuits with switchover for non-maintained or maintained operation
Battery	Maintenance-free, closed lead acid cell OGiV, OGi, OPzS or low-maintenance NiCd batteries
Output Voltage	230 V AC / 216V DC
Permissible Temperature	10 °C to 35 °C

** IP21 option available only for ML96 series panels upto 24 circuits.*
*** IP54 option available only for MC6, MN, MNXL,MD32 & ML96 (MLG, MLS & MLW) series panel with additional cost.*

Type	Fusing	Maximum Load Per Module
SCM32	2 x F5A	3A / 2 x 650 VA
SCM42	2 x F6.3A	4A / 2 x 860 VA
SCM62	2 x F10A	6A / 2 x 1300 VA
SCM12E	2 x F5A	A / 2 x 250 VA

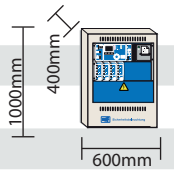
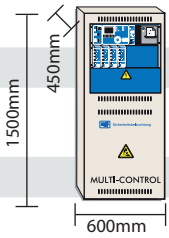
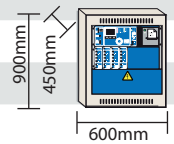
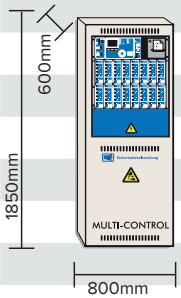
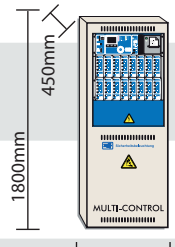
The ML96 panel allows the connection of LED lamps, fluorescent lamps or low-voltage halogen lamps. Up to 256 main stations and 32 substations per panel can be linked via a serial or TCP / IP connection to a network. This allows a maximum of a million lights to be connected and monitored to the whole system.

Central Battery System

Features

- Central power supply system acc. to DIN EN 50171 for security lighting systems acc. to DIN EN 50172 and systems acc. to DIN VDE 0100-718.
- Automated monitoring system acc. to DIN EN 62034 for regular testing of all connected luminaires.
- Microprocessor-based function control system.
- Redundancy in CPU.
- Memory for test results over 5 years.
- Illuminated LC-Display with plain text display.
- Multilingual switch-selectable.
- Password protected.
- Service contact pre-programmed.
- Easy and understandable programming with 8 buttons.
- External PC keyboard for fast configuration of the device (PS/2).
- Memory-Card slot (Multi Media Card) for software updates.
- Optionally recessed printer.
- Ethernet interface.
- Control and monitoring over web browser.
- Display of lamp positions and state in a building ground plan.
- Mains circuits SCM with 1A, 3A, 4A and 6A nominal current
- Free programmable circuits.
- Adaptive mains monitoring at every circuit.
- Selective earth fault check of every circuit.
- Up to 96 circuits in one cabinet.
- Battery charger with IUTQ characteristic to maximize the battery life.
- Extern modules (network guardian etc.) can be connected and controlled over a bus system.

EXTRACT FROM THE DEVICE LIST – MORE CONFIGURATIONS ARE POSSIBLE

	Version	Model	Charger	Max. Circuits	Max. SCM
	**Combi device incl. charger, battery compartement for up to 17Ah, AC feeding 1x, 2x or 3 x 230V/50Hz, Case - 1000 x 600 x 400 mm**				
	ML96 12/2.5A Kombi 1000	MLK112	2.5A	12	6
	ML96 24/2.5A Kombi 1000	MLK124	2.5A	24	12
	ML96 36/2.5A Kombi 1000	MLK136	2.5A	36	18
	**Combi device incl. charger, battery compartment for up to 45Ah, AC-feeding 1x, 2x or 3x 230V/50Hz, Case - 1500 x 600 x 450 mm**				
	ML96 12/2.5A Kombi 1500	MLG112	2.5A	12	6
	ML96 plus 24/2.5A Kombi 1500	MLG124	2.5A	24	12
	ML96 36/2.5A Kombi 1500	MLG136	2.5A	36	18
	**Basic device incl. charger, AC-feeding 1x, 2x or 3x 230V/50Hz, Case - 900 x 600 x 450 mm**				
	ML96 900 12	MLW212, 312	5.0A, 7.5A	12	6
	ML96 900 24	MLW124, 224, 324	2.5A, 5.0A, 7.5A	24	12
	ML96 900 36	MLW136, 236, 336	2.5A, 5.0A, 7.5A	36	18
	ML96 900 48	MLW148, 248, 348	2.5A, 5.0A, 7.5A	48	24
	**Combi device incl. charger, battery compartment for up to 110Ah - OGIV/150Ah, AC-feeding 1x, 2x or 3x 230V/50Hz, Case - 1850 x 800 x 600 mm**				
	ML96 1850 12	MLX112, 212, 312, 412	2.5A, 5.0A, 7.5A, 10.0A	12	6
	ML96 1850 24	MLX124, 224, 324, 424	2.5A, 5.0A, 7.5A, 10.0A	24	12
	ML96 1850 36	MLX136, 236, 336, 436	2.5A, 5.0A, 7.5A, 10.0A	36	18
	ML96 1850 48	MLX148, 248, 348, 448	2.5A, 5.0A, 7.5A, 10.0A	48	24
	ML96 1850 60	MLX160, 260, 360	2.5A, 5.0A, 7.5A	60	30
	Basic device incl. charger, AC-feeding 1x, 2x or 3x 230V/50Hz, Case - 1800 x 600 x 450 mm				
	ML96 1800 12	MLS112, 212, 312, 412, 512, 612, 712, 812, 912, 1012	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A, 17.5A, 20.0A, 22.5A, 25.0A	12	6
	ML96 1800 24	MLS124, 224, 324, 424, 524, 624, 724, 824, 924, 1024	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A, 17.5A, 20.0A, 22.5A, 25.0A	24	12
	ML96 1800 36	MLS136, 236, 336, 436, 536, 636, 736, 836, 936, 1036	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A, 17.5A, 20.0A, 22.5A, 25.0A	36	18
	ML96 1800 48	MLS148, 248, 348, 448, 548, 658, 748, 848, 948, 1048	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A, 17.5A, 20.0A, 22.5A, 25.0A	48	24
	ML96 1800 60	MLS160, 260, 360, 460, 560, 760, 860, 960, 1060	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A, 17.5A, 20.0A, 22.5A, 25.0A	60	30
	ML96 1800 72	MLS172, 272, 372, 472, 572, 672, 772, 872, 972, 1072	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A, 17.5A, 20.0A, 22.5A, 25.0A	72	36
	ML96 1800 84	MLS184, 284, 384, 484, 584, 684	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A	84	42
	ML96 1800 96	MLS196, 296, 396, 496, 596, 696	2.5A, 5.0A, 7.5A, 10.0A, 12.5A, 15.0A	96	48

Further configurations on request (i.e. larger chargers)

***Notice:** When connecting substations or sub-distributions this may cause a reduced number of electrical circuit modules or chargers in the main station. Please refer to our technical department before ordering.

Option	Model
Electric Circuit Modules	
Electric circuit modules unit 2 x 1A (Fusing: 5A) all modes possible non-maintained/maintained, single luminaire switching	SCM12-E
Electric circuit modules unit 2 x 3A (Fusing: 5A) all modes possible non-maintained/maintained	SCM32
Electric circuit modules unit 2 x 4A (Fusing: 6,3A) all modes possible non-maintained/maintained	SCM42
Electric circuit modules unit 2 x 6A (Fusing: 10A) all modes possible non-maintained/maintained	SCM62
Accessories	
1x AC/DC Switchover 6kW, 1x Output for sub-distribution TSC incl. output for data cable	MCABUV-E60
1x AC/DC Switchover 9kW, 1x Output for sub-distribution TSC incl. output for data cable	MCABUV-E90
1x AC/DC Switchover 15kW, 1x Output for sub-distribution TSC incl. output for data cable	MCABUV-E150
Output extension parallel	MCABUV-E
Output for sub-distribution	MCABUV
Output for substation	MCABUS
Critical current interface for closed current loop	CCIF
Cooling fan mounted in door	LUINT
Floating cooling fan contact (up to 0,5A)	LUAN1
Cooling fan contact (up to 0,5A)	LUAN2
Cooling fan contact 3-phase with motor protection	LUAN3
BAT-LOGG® Set for ML96 systems (18x BTLG-SENS / 1x BTLG-INTF)	BTLG-MC18
BAT-LOGG® Set for ML96 systems in external housing (18x BTLG-SENS / 1x BTLG-INTF)	BTLG-MC18-SPS
BMS Modbus/TCP, OPC gateway incl. software	MC-MODBUS1
BMS Bacnet gateway incl. Software	WAGO
SDM24 module mounted	SDM24
Log printer BD04	SP3296
Additional output terminals per circuit	ABKL
Selective circuit splitting with fusing	APSI
Door locker	TFST
Service plug	SSD
Map-Server, USB2.0 Hard disk	MC-MSERV

Option	Model
Accessories	
Fire Resistant Case E30 H2100xB1062xT634g	ULE30-K
Case in IP54	AP IP54
Vent in- and Outlet, Mounted (for IP54 cabinet)	NW100
Polycarbonate Door for 900mm Cabinet	PLX90
Polycarbonate Door for 1000mm Cabinet	PLX100
Polycarbonate Door for 1500mm Cabinet	PLX150
Polycarbonate Door for 1800mm Cabinet	PLX180
SDM24 Module	SDM24
Line Monitor Module	SLM
Power-Control	SPC230
Supervision Tableau with LCD Text-display	SLCD-15
Supervision Tableau with LCD Text-display and Key Switch	SLCD-15S
Recessed Mounted Supervision Tableau with LCD Text-display	SLCD-15U
Recessed Mounted Supervision Tableau with LCD Text-display and Key Switch	SLCD-15SU

Combination Cabinets

Cabinet	MLW	MLK	MLG	MLS	MLX
Type	Wall Mounted	Stand Cabinet / Wall Mounted	Stand Cabinet	Stand Cabinet	Stand Cabinet
Dimensions in mm	900 x 600 x 450	1000 x 600 x 400	1500 x 600 x 450	1800 x 600 x 450	1850 x 800 x 600
Cable Input	Top Insertion	Top Insertion	Top Insertion	Top Insertion	Top Insertion
Max. Charging Current	7.5 A	2.5 A	2.5 A	20 A	10 A
Max. Output Circuits	48	36	48	96	60
Mains Connection	3 x 230V AC 50/60Hz +/- 10%	3 x 230V AC 50/60Hz +/- 10%	3 x 230V AC 50/60Hz +/- 10%	3 x 230V AC 50/60Hz +/- 10%	3 x 230V AC 50/60Hz +/- 10%

ML96 SUBSTATIONS

Substations offer the same features as the ML96 main system. The substation features all programming options and interfaces of the main system. Substations offer single luminaire monitoring without additional wiring like the main system. Also available in E30 version.

Specifications	
Case Material	Steel-sheet, Gray RAL 7035
Protection Category	IP20 (opt. IP54*)
Insulation Class	I
Cable Entry	from Top (900 mm cabinet below also)
Voltage	3 x 230V AC 50/60Hz +/- 10%
The Whole System (central unit or substation) is Capable to Handle up to 96 Circuits.	

** IP54 Cabinet can be provided with additional cost.*

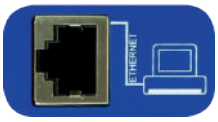
Version Substations (with CPU)	Model	Cabinet	Max Circuits	Max. SCM
ML96 Substation UCW012	UCW012	550 x 600 x 450mm	12	6
ML96 Substation UCW024	UCW024	550 x 600 x 450mm	24	12
ML96 Substation UCW036	UCW036	900 x 600 x 450mm	36	18
ML96 Substation UCW048	UCW048	900 x 600 x 450mm	48	24
ML96 Substation UCW060	UCW060	900 x 600 x 450mm	60	30
ML96 Substation UCW072	UCW072	900 x 600 x 450mm	72	36
ML96 Substation UCW084	UCW084	900 x 600 x 450mm	84	42
ML96 Substation UCW096	UCW096	900 x 600 x 450mm	96	48

Electric Circuit Modules	
Electric Circuit Modules Unit 2 x 1A (Fusing: 5A) All Modes Possible Non-maintained/Maintained, Single Luminaire Switching	SCM12E
Electric Circuit Modules Unit 2 x 3A (Fusing: 5A) All Modes Possible Non-maintained/Maintained	SCM32
Electric Circuit Modules Unit 2 x 4A (Fusing: 6,3A) All Modes Possible Non-maintained/Maintained	SCM42
Electric Circuit Modules Unit 2 x 6A (Fusing: 10A) All Modes Possible Non-maintained/Maintained	SCM62

	MC6	MNXL	MD32	ML96
Cabinet	660 x 350 x 230mm	1100 x 500 x 230mm 1470 x 571 x 230mm	1950 x 600 x 450mm	Various
Max. Circuits	6 + 1	12 + 1 (MN12) & 32 (MNXL)	32	96
Max. Current Per Circuit	3A	3A	4A	3,4,6 A
Mains Circuit Modules	SCM 32	SCM 32	SCM42	SCM 32/42/62
Connection of 230 V Luminaires	✓	✓	✓	✓
Max. Connected Load DC (total)	200 W / 3h	500 W / 3h	2,300 W / 3h	30,000 W / 3h
Automatic Test Facility According to DIN EN 62034	✓	✓	✓	✓
Single Luminaire Switching and Monitoring Without Additional Wires	✓	✓	✓	✓
Programmable Mains Circuits	✓	✓	✓	✓
Networking of Several Systems	✓	✓	✓	✓
Control and Monitoring by Webinterface	✓	✓	✓	✓
Floor Plans in Webinterface	✓	✓	✓	✓
Substations / Subdis-tributions possible	✗	✗	✓	✓

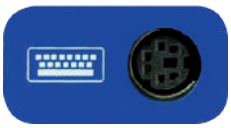
The system software of the NLSR is developed and improved by a development team constantly. With the integrated MMC-Slot a firmware update is a breeze.

The integrated boot loader gives the electrician the opportunity to perform system maintenance without any programming knowledge. Thus it is easy to adapt the system to future changes in regulations.



The built-in control unit Ethernet interface allows the system completely to be programmed and monitored via the web.

Moreover, in case of service a remote maintenance by the manufacturer is possible. The power supply is integrated into the existing building network.

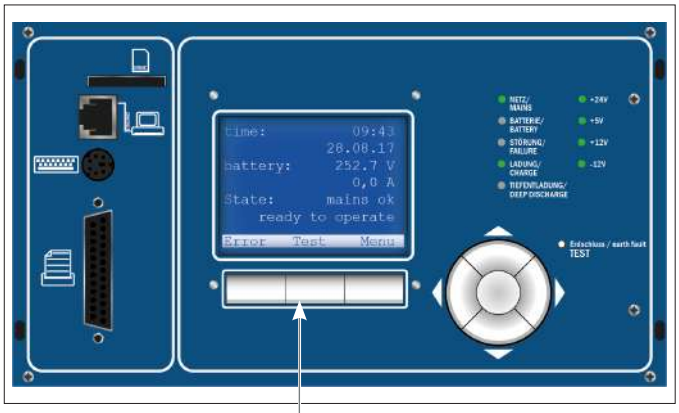


If there's no laptop or network connection available to set up the system it is of course possible to configure the system with any standard PS/2 keyboard.

The simple navigation with the cursor keys to select the configuration is simply out of hand.

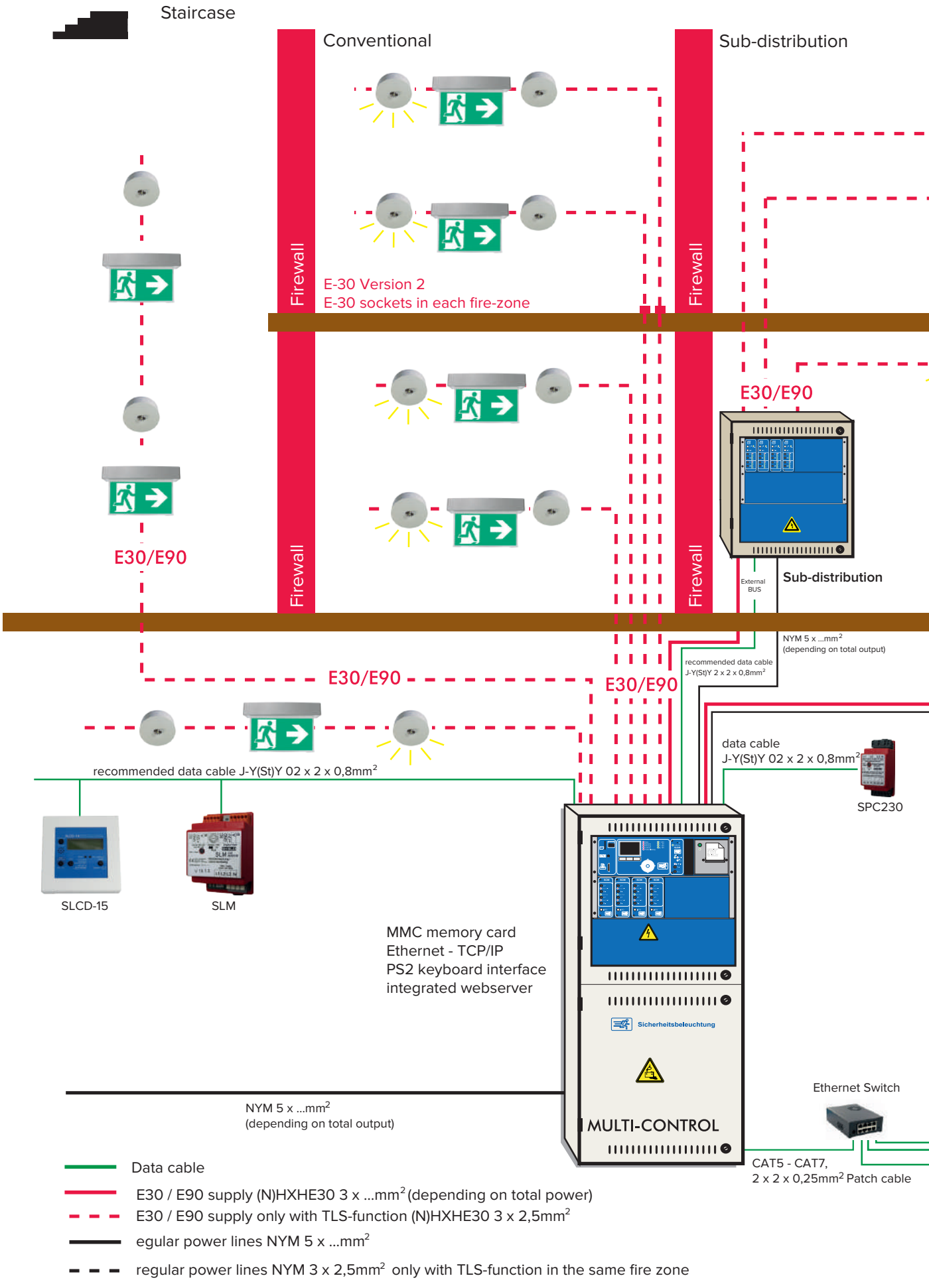
The built-in centronics interface makes the use of PCL6 standard printers for printing status reports possible.

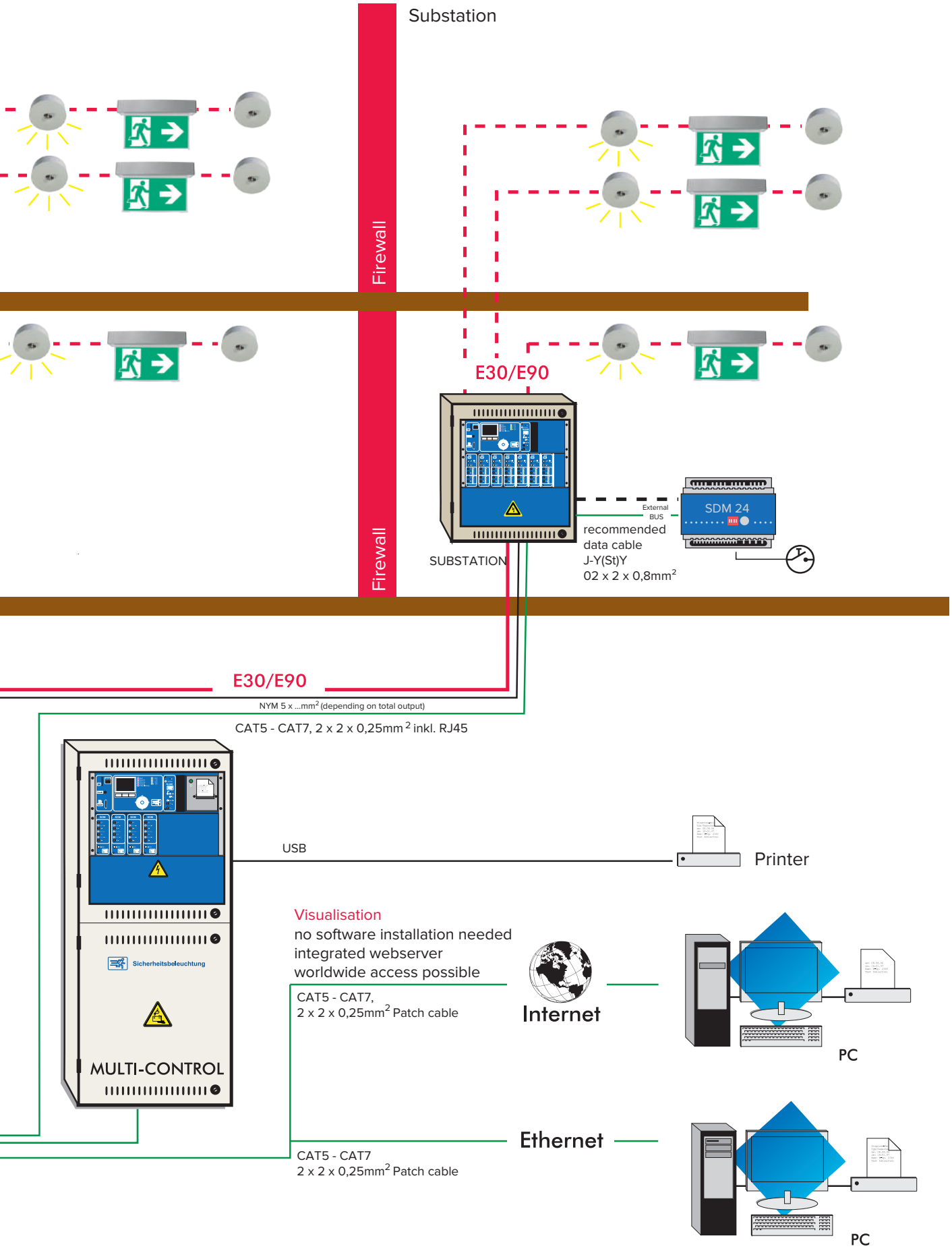
In most cases a built-in printer is obsolete.



Three quick keys directly below the display are alternately used for the main commands.

Even without external input or control device the navigation of the system softwares menu structure is no problem – thanks to the 4-way navigation buttons.


Staircase
Conventional
Sub-distribution
Firewall
Firewall
Firewall
Firewall
E-30 Version 2
E-30 sockets in each fire-zone
E30/E90
E30/E90
E30/E90
E30/E90
External BUS
Sub-distribution
NYM 5 x ...mm²
(depending on total output)
recommended data cable
J-Y(St)Y 2 x 2 x 0,8mm²
recommended data cable J-Y(St)Y 02 x 2 x 0,8mm²
data cable
J-Y(St)Y 02 x 2 x 0,8mm²
SPC230
SLCD-15
SLM
MMC memory card
Ethernet - TCP/IP
PS2 keyboard interface
integrated webserver
Sicherheitsbeleuchtung
MULTI-CONTROL
Ethernet Switch
NYM 5 x ...mm²
(depending on total output)
CAT5 - CAT7,
2 x 2 x 0,25mm² Patch cable
Data cable
E30 / E90 supply (N)HXHE30 3 x ...mm² (depending on total power)
E30 / E90 supply only with TLS-function (N)HXHE30 3 x 2,5mm²
egular power lines NYM 5 x ...mm²
regular power lines NYM 3 x 2,5mm² only with TLS-function in the same fire zone


Substation
Firewall
Firewall
E30/E90
SUBSTATION
External BUS
SDM 24
recommended
data cable
J-Y(St)Y
02 x 2 x 0,8mm²
E30/E90
NYM 5 x ...mm² (depending on total output)
CAT5 - CAT7, 2 x 2 x 0,25mm² inkl. RJ45
USB
Printer
Visualisation
no software installation needed
integrated webserver
worldwide access possible
CAT5 - CAT7,
2 x 2 x 0,25mm² Patch cable
Internet
PC
Ethernet
CAT5 - CAT7
2 x 2 x 0,25mm² Patch cable
PC
Sicherheitsbeleuchtung
MULTI-CONTROL

EMERGENCY / EXIT PRODUCT RANGE

M10

UNIVERSAL MOUNT EMERGENCY LUMINAIRE

M20

ALL-ROUNDER SERIES OF EMERGENCY LUMINAIRE

M30

UNIVERSAL MOUNT EMERGENCY LUMINAIRE

M40

COMPACT EMERGENCY LUMINAIRE

M50

WALL / CEILING MOUNT EMERGENCY LUMINAIRE

X10

UNIVERSAL MOUNT EMERGENCY / EXIT LUMINAIRE

X20

WALL / CEILING MOUNT EXIT LUMINAIRE

X30

UNIVERSAL MOUNTING EXIT LUMINAIRE

X40

WALL MOUNT HIGH POWER EMERGENCY / EXIT LUMINAIRE

X50

CORD SUSPENSION / RESESSED WALL / SURFACE MOUNT EXIT LUMINAIRE

X60

WALL / CELING MOUNT EXIT LUMINAIRE

X70

UNIVERSAL MOUNT EXIT LUMINAIRE

X80

UNIVERSAL MOUNT EXIT LUMINAIRE

X120

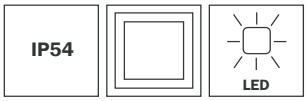
CELING / WALL MOUNT EMERGENCY / EXIT LUMINAIRE

M10

Compact emergency luminaire for lighting of escape routes with prismatic cover for optimized light distribution. The optional recessed mounting frame hides the luminaire elegant within the ceiling.

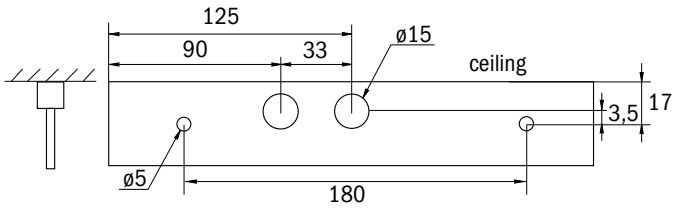
Model	Description
M10UL	Universal Mount Emergency Luminaire

Technical Data	
Emergency Duration	3 hours
Max. Consumption	3.2 W LED
Lumen Output	200 lm
Ambient Temperature	-10 °C up to +40 °C
Ingress Protection Rating	IP54
Protection Class	II
Mounting Type	Surface, Recessed & Wall
Housing	Polycarbonate, White
RAL Code	9003

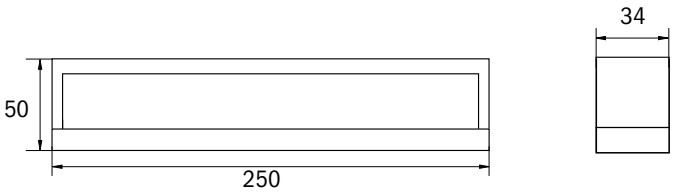


Accessories

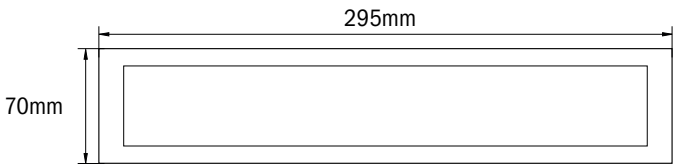
Drilling distances wall / ceiling



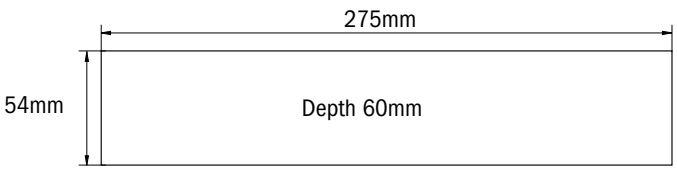
Dimensions



Dimensions recessed frame



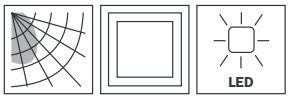
Hole cut-out recessed frame



M20

The M20 LED emergency luminaire is a true all-rounder series of emergency lights. They are ready for almost all requirements and provide always the right solution. As many as four different lenses for different light distribution are available and make a perfect adaptation to the respective mounting situation possible. These units can be used in surface and recessed mount locations.

Model	Description
M20CSH	Corridor Illumination Surface Mount, IP40
M20CRH	Corridor Illumination Recessed Mount, IP20
M20RSH	Radial Illumination Surface Mount, IP40
M20RRH	Radial Illumination Recessed Mount, IP20
M20HSH	High Ceilings Surface Mount, IP40
M20HRH	High Ceilings Recessed Mount, IP20
M20SSH	Spotlight High Ceiling Surface Mount, IP40
M20SRH	Spotlight High Ceiling Recessed Mount, IP20

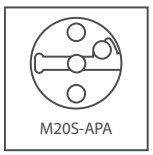


Technical Data	
Emergency Duration	3 hours
Max. Consumption	4.6 W LED
Lumen Output	360 lm
Ambient Temperature	-5 °C up to +40 °C -20 °C up to +30 °C (in M20 - IP65 housing)
Ingress Protection Rating	IP20 (recessed) IP40 (surface)
Protection Class	II
Mounting Type	Surface, Recessed
Housing	Polycarbonate, White
RAL Code	9003

Accessories

IP65 housing for surface mount luminaires (white or anthrazite).

Square covers.



Adapter plate for lateral cable feed to surface luminaires.

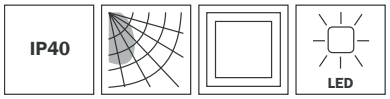
For easy opening of recessed luminaires, an optional opener is available.

M30

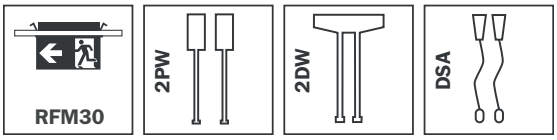
M30 Compact Polycarbonate luminaire for universal mounting for the lighting of escape and rescue routes according to DIN EN 60598-1, DIN EN 60598-2-22 and EN 1838. Available for central power systems.

Model	Description
M30UH	Universal Mount Emergency Luminaire

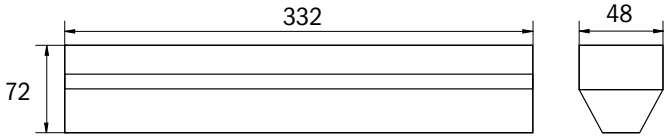
Technical Data	
Emergency Duration	3 hours
Max. Consumption	5.2 W LED
Lumen Output	520 lm
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP40
Protection Class	II
Mounting Type	Universal
Housing	Polycarbonate, White
RAL Code	9003



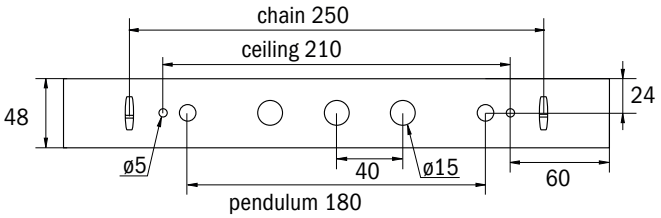
Accessories

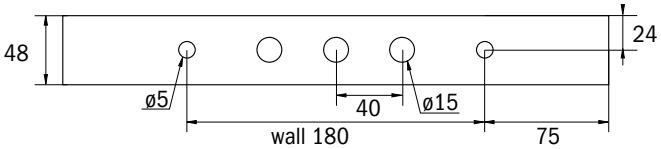


Dimensions wall / ceiling

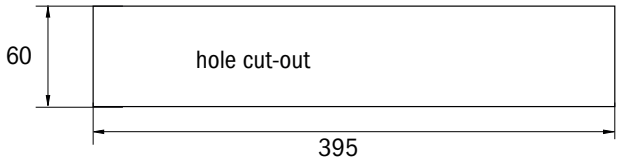


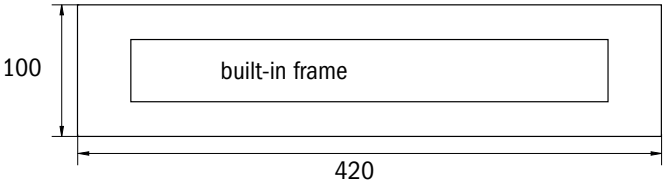
Drilling distances wall / ceiling





Hole cut-out recessed



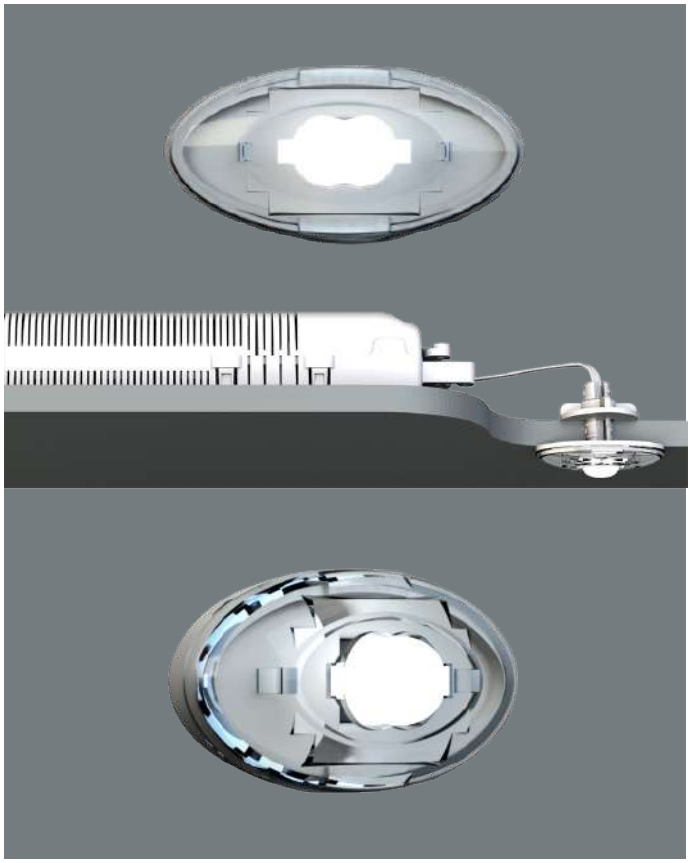


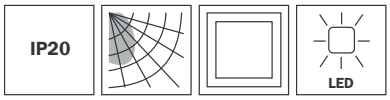
M40

Compact Emergency lighting unit with oval lighting luminaire for the lighting of escape and rescue routes according to DIN EN60598-1, DIN EN 60598-2-22 and EN 1838. Transparent body material makes the luminaire a perfect match in any setting. Available including electronics box or as bulk version for application in existing luminaire cases.

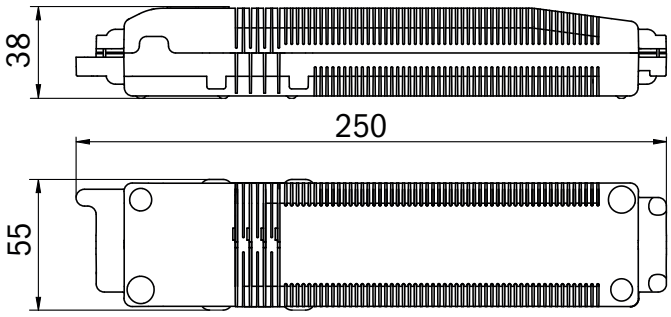
Model	Description
M40R	Compact Emergency Light

Technical Data	
Emergency Duration	3 hours
Max. Consumption	2.8 W LED
Lumen Output	140 lm
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP20
Protection Class	II
Mounting Type	Recessed
Housing	Polycarbonate, White
RAL Code	9003

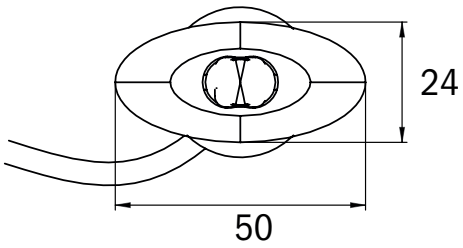


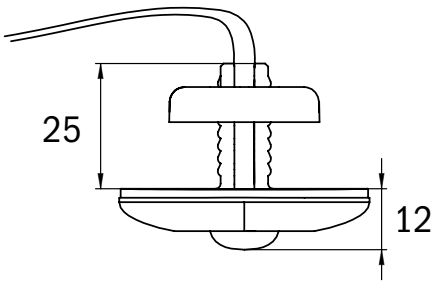


Electronics Box



Dimensions



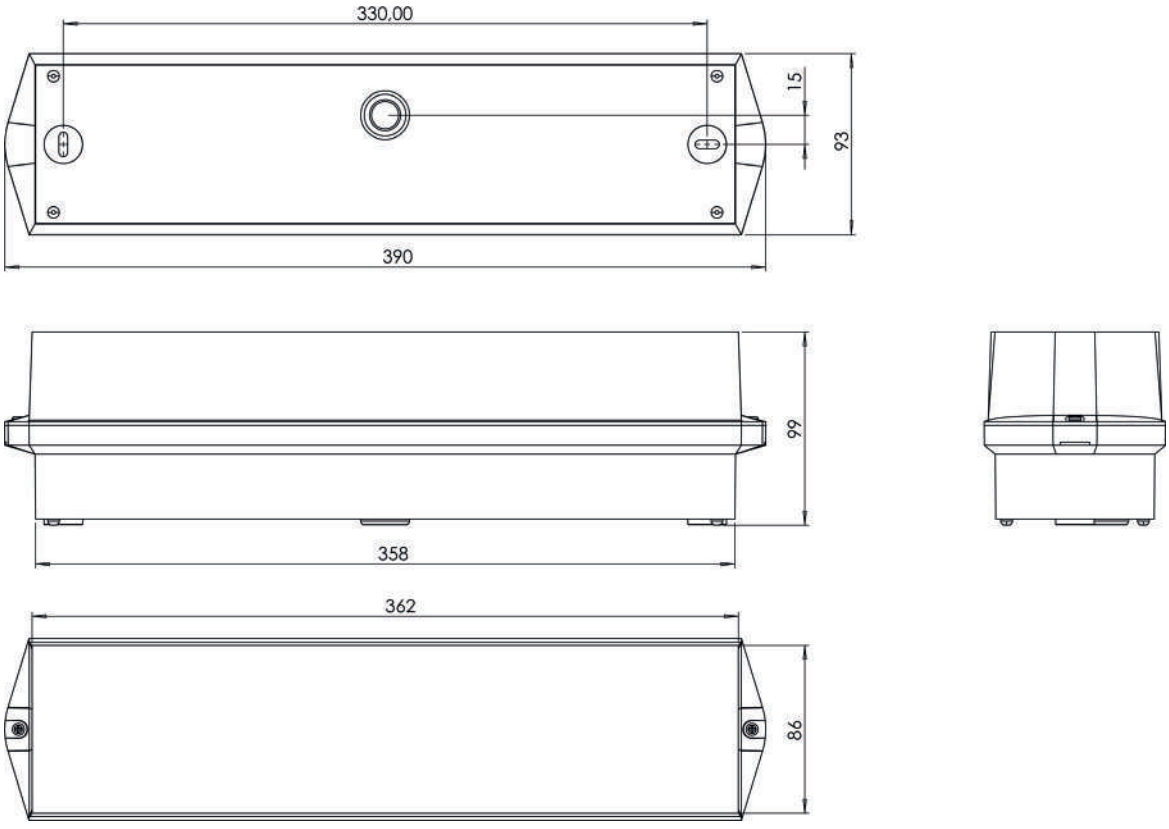


M50

Classic bar-shaped polycarbontate luminaire for wall or ceiling mounting. Straight lines as well as the robust construction with a high ingress protection allow versatile use.

Technical Data	
Mounting	Universal
Illuminant	LED
Housing material	Polycarbonate
Colour	RAL 9003
Mechanical rating IP	65
Impact resistance IK	6
Protection class	2
Power consumption max.	9,4 W
Weight	0.67 Kg
Lumien Output	1050

Model	Description
M50UH	Wall/Ceiling Mount Emergency Luminaire, IP65, Shield



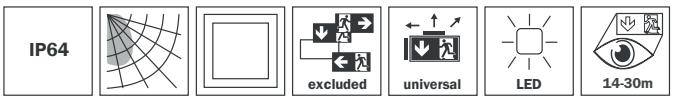
X10

LED exit sign / emergency light according to DIN EN 60598-1, EN 60598-2-22, EN 7010 and DIN EN 1838.

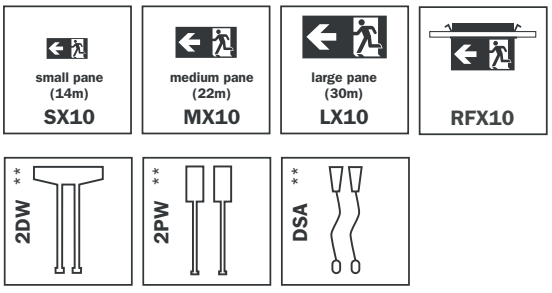
Cuboid Polycarbonate housing, discreetly reduced on the significant in design lamp. Modular design and universal mounting for use as emergency luminaire with and without the application of pictograms. The modular system allows the light to be converted at any time without dismantling and tools to a exit sign luminaire.

Model	Description
X10UL	Universal Mount Emergency Luminaire, 340 lm
X10UH	Universal Mount Emergency Luminaire, 560 lm

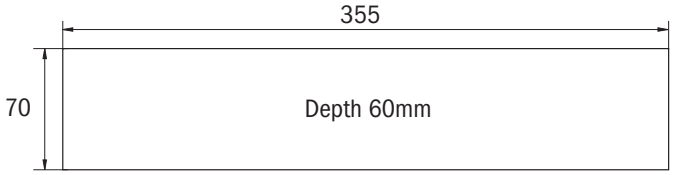
Technical Data	
Emergency Duration	3 hours
Max. Consumption	5.2 W LED
Ambient Temperature	-30 °C up to +40 °C
Ingress Protection Rating	IP64
Protection Class	II
Mounting Type	Universal
Housing	Polycarbonate, White
Lumen Output	340 lm, 560 lm
RAL Code	9003



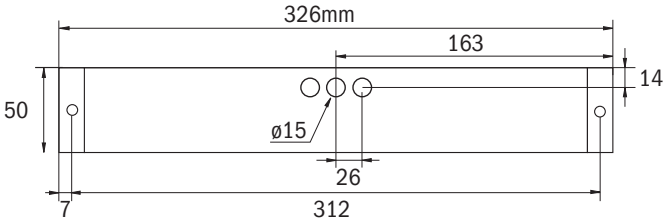
Accessories



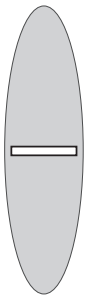
Hole cut-out for recessed frame



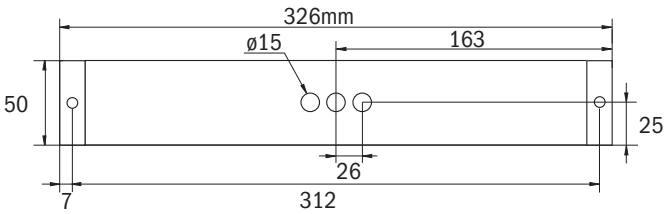
Drilling distances wall



Light distribution



Drilling distances ceiling

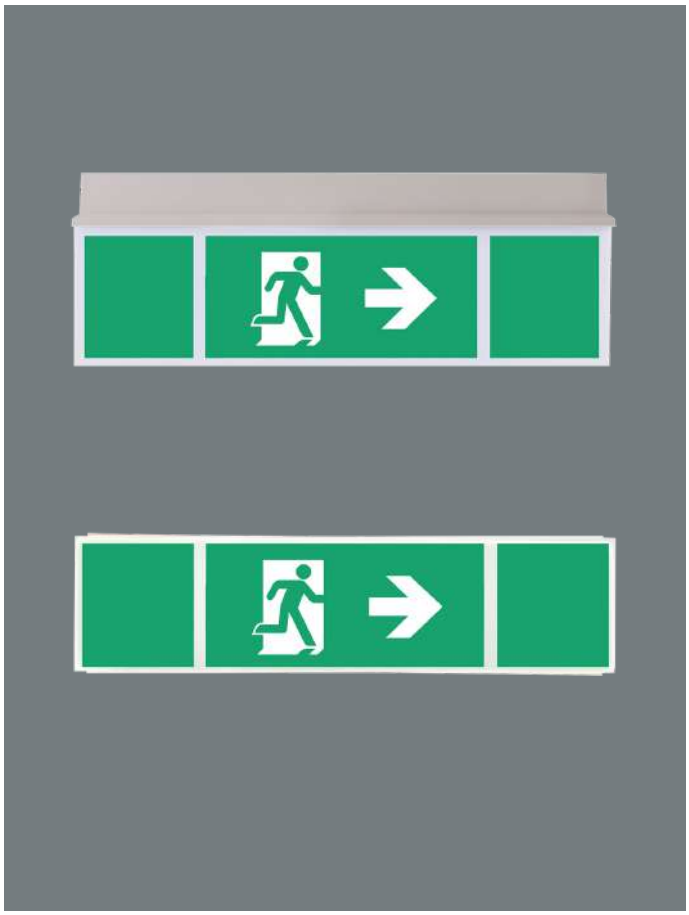


X20

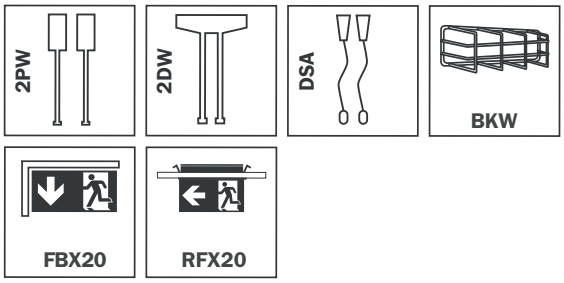
Classic high-grade Polycarbonate luminaire for wall or ceiling mounting. Pictogram set included. Improved reliability through easy to install universal use of pictograms. Signs according EN 60598-1, EN 60598-2-22 and EN 1838 norms.

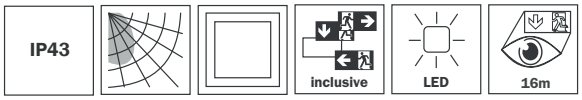
Model	Description
X20WL	Wall Mount Exit Luminaire
X20SL	Ceiling Mount Exit Luminaire

Technical Data	
Emergency Duration	3 hours
Max. Consumption	5.2 W LED
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP43
Protection Class	II
Mounting Type	Surface, Recessed & Wall
Housing	Polycarbonate, White
RAL Code	9003

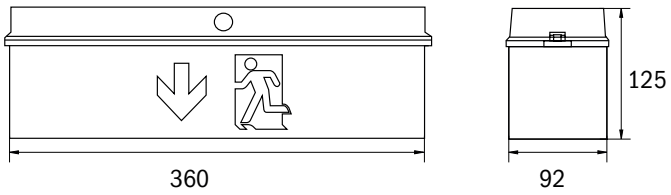


Accessories

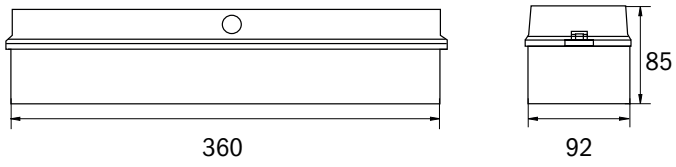




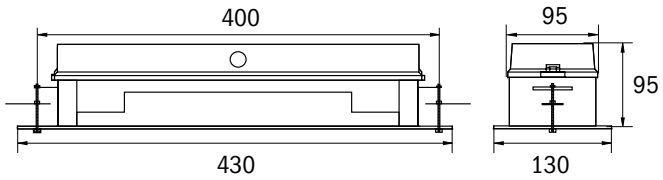
Dimensions ceiling



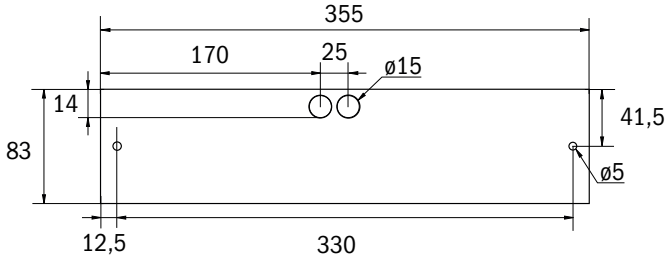
Dimensions wall



Dimensions recessed frame



Dimensions Driling distances wall / ceiling

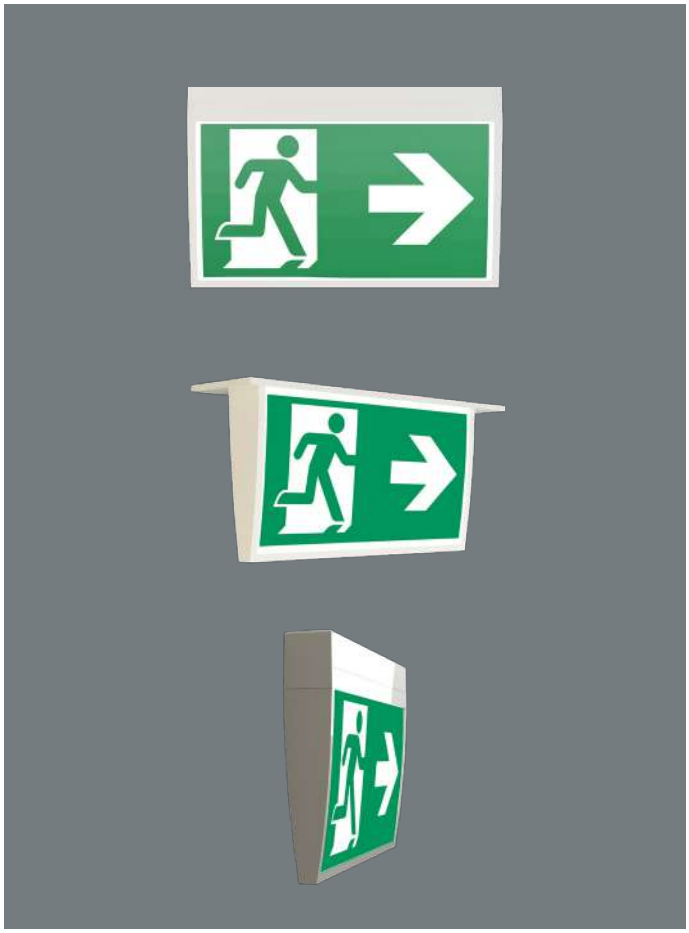


Exit Luminaires

X30

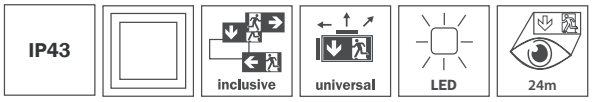
Emergency sign luminaire in accordance to DIN EN 60598-1, DIN EN 60598-2-22 and DIN EN 1838.

Slim, elegant, synthetic luminaire tilted towards the viewer, continuously symmetrically tapered towards the bottom. For universal mounting (wall/ceiling surface mount/integrated ceiling mount/brackets). For mounting convenience, the luminaire consists of only 3 parts. Tool free mountable on the quick assembly integrated ceiling mounting or wall mounting system. The luminaire has zero potential when dismantled. Suitable for continuous mode or stand-by mode. Reliable planning due to a tool free and variable, on-site use of the pictograms. Set of pictograms (left, right, bottom, neutral) is included in the scope of delivery.

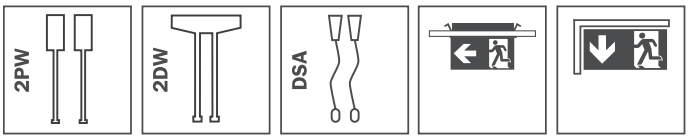


Model	Description
X30UL	Universal Mounting Exit Luminaire

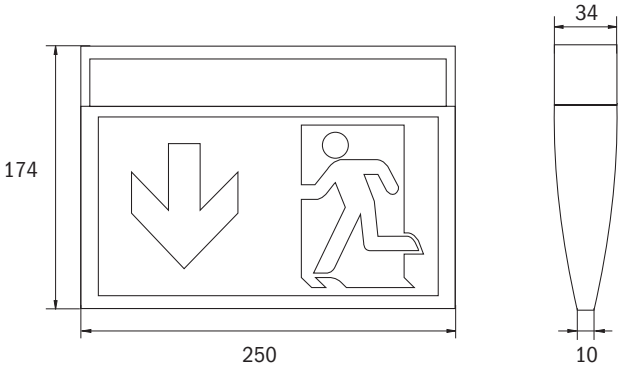
Technical Data	
Emergency Duration	3 hours
Max. Consumption	3.2 W LED
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP43
Protection Class	II
Mounting Type	Universal
Housing	Polycarbonate, White
RAL Code	9003



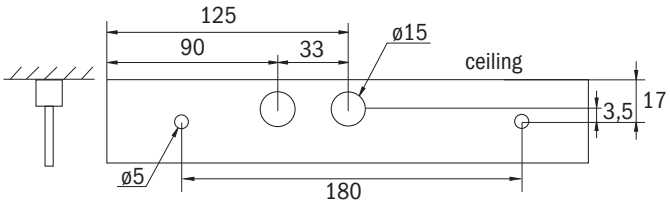
Accessories

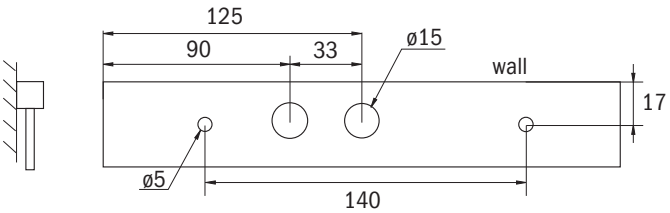


Dimensions



Drilling distances wall / ceiling





Emergency & Exit Luminaires

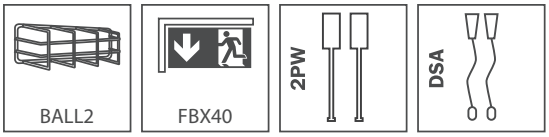
X40

Slightly curved high-grade exit sign and emergency luminaire in Polycarbonate for Universal mounting. Signage with pluggable, solvent-free, internally mounted pictogram. Pictogram set included. This luminary can be used without pictogram as an emergency lighting luminary with a clear cover. Escape route/ Exit sign/ emergency luminary according EN 60598-1, EN 60598-2-22 and EN 1838 norms.

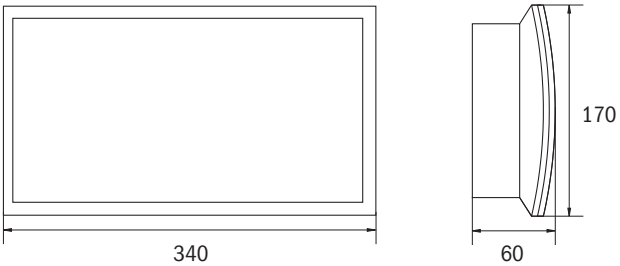
Model	Description
X40WL	Universal Mount Emergency / Exit Luminaire, 300 lm
X40WH	Universal Mount High Power Emergency Luminaire, 520 lm

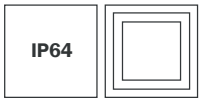
Technical Data	
Emergency Duration	3 hours
Max. Consumption	5.2 W LED
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP64
Protection Class	II
Mounting Type	Universal Mount
Housing	Polycarbonate, White
Lumen Output	340 lm, 560 lm
RAL Code	9003
Viewing Distance	30m (Exit)

Accessories

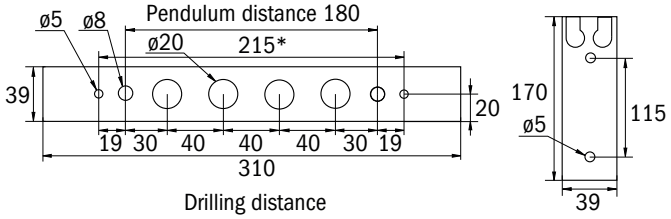


Dimensions wall





Drilling distances wall



Exit Luminaires

X50

LED escape route luminaire in accordance with DIN EN 60598-1, EN 60598-2-22, EN 7010 and DIN EN 1838.

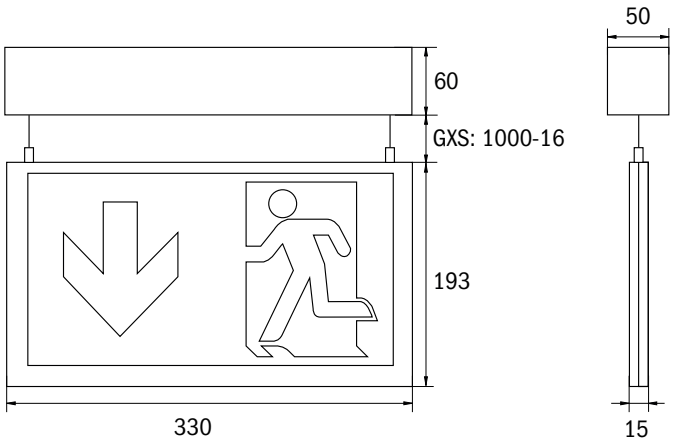
The versatile LED frame luminaire is available for wall, ceiling or cors suspended mounting. It shines alongside straight forward design with a homogeneous illumination of the pictogram. Planning security you get by variable use and change of pictograms without tools on site.

Model	Description
X50SL	Surface Mount Exit Luminaire
X50HL	Cord Suspension Exit Luminaire
X50RWL	Resessed Wall / Surface Mount Exit Luminaire

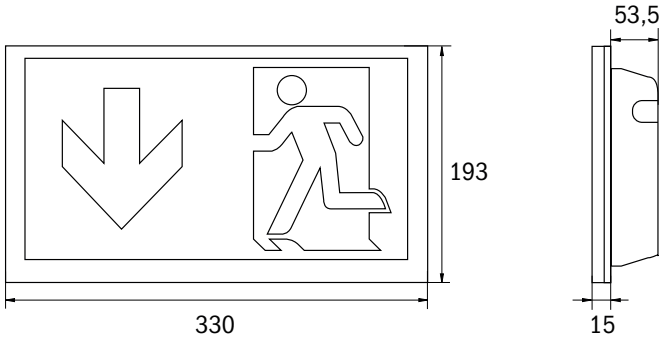
Technical Data	
Emergency Duration	3 hours
Max. Consumption	2.2 W LED
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP40
Protection Class	II
Mounting Type	Surface, Wall & Cord Suspended Ceiling
Housing	Polycarbonate, White
RAL Code	9003

Accessories

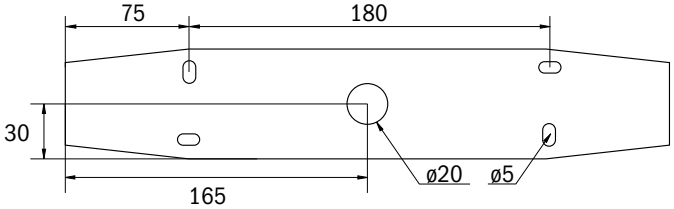
Dimensions X50SL / X50HL



Dimensions X50RWL



Drilling distances X50SL / X50HL



Exit Luminaires

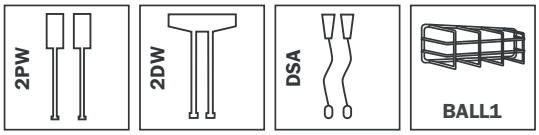
X60

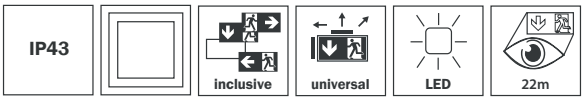
Slim design high-grade Polycarbonate luminaire for universal mounting (wall/ ceiling or eventual at wall bracket through supplied adapter). This luminaire provides additional downward lighting to enhance safety at the egress route. Applicability; maintained or non-maintained operation mode. Improved reliability through easy to install universal use of pictograms. Signs according EN 60598-1, EN 60598-2-22 and EN 1838 norms.

Model	Description
X60UL	Wall / Celing Mount Exit Luminaire

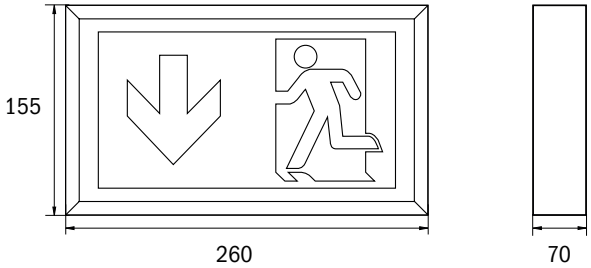
Technical Data	
Emergency Duration	3 hours
Max. Consumption	5.2 W LED
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP43
Protection Class	II
Mounting Type	Wall / Celing
Housing	Polycarbonate, White
RAL Code	9003

Accessories

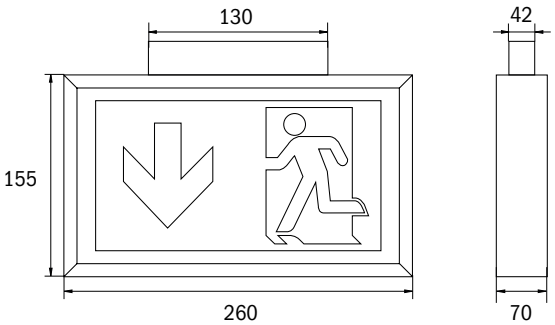




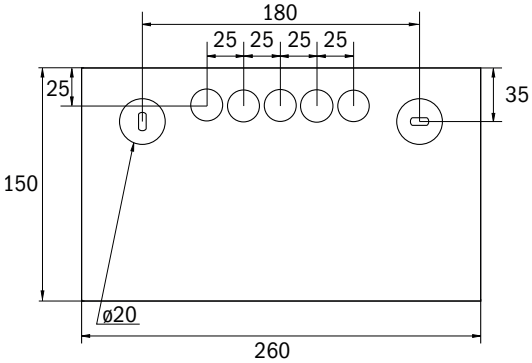
Dimesions wall



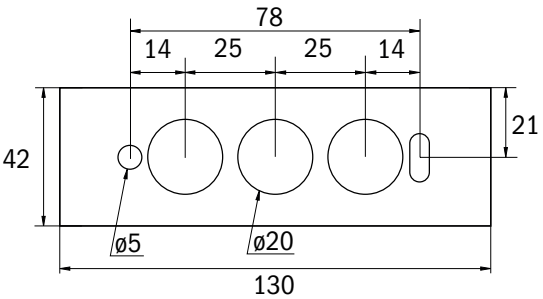
Dimesions celling



Drilling distances wall



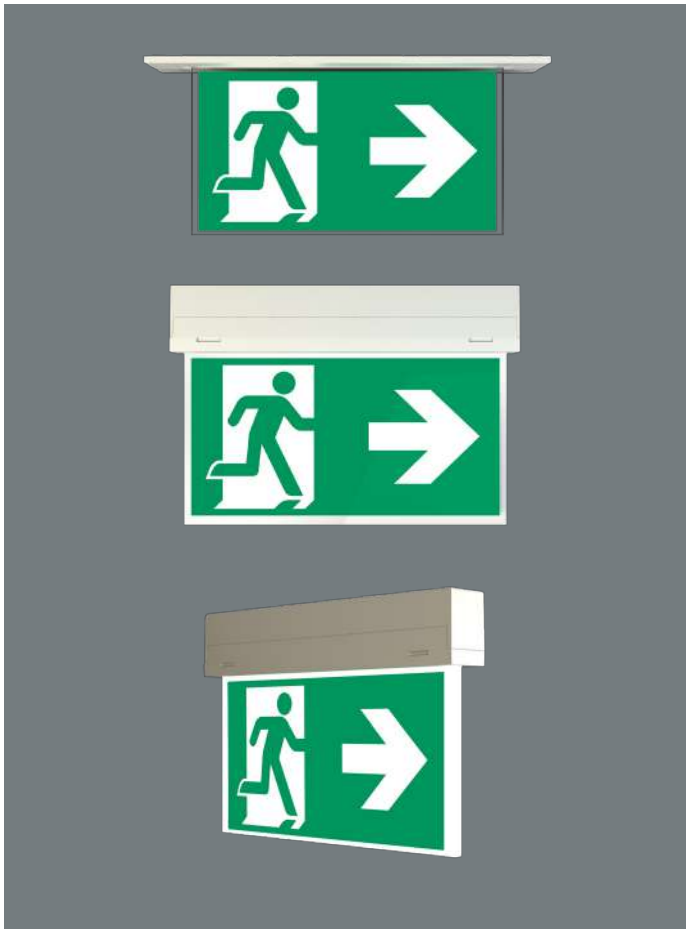
Drilling distances celling



Emergency & Exit Luminaires

X70

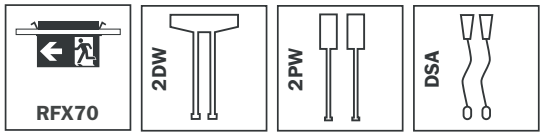
Innovative high-grade Polycarbonate edge LED luminare for universal mounting. This luminaire has the simplest installation using in the design only 3 parts. Applicability; maintained or non-maintained operation mode. Improved reliability through easy to install universal use of pictograms. Universal pictogram set (left, right, down, neutral) included. Signs according EN 60598-1, EN 60598-2-22 and EN 1838 norms.



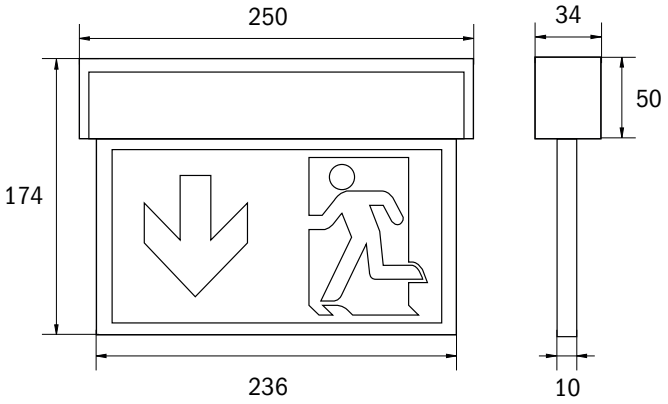
Model	Description
X70UL	Universal Mount Exit Luminaire

Technical Data	
Emergency Duration	3 hours
Max. Consumption	3.2 W LED
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP54
Protection Class	II
Mounting Type	Universal
Housing	Polycarbonate, White
RAL Code	9003

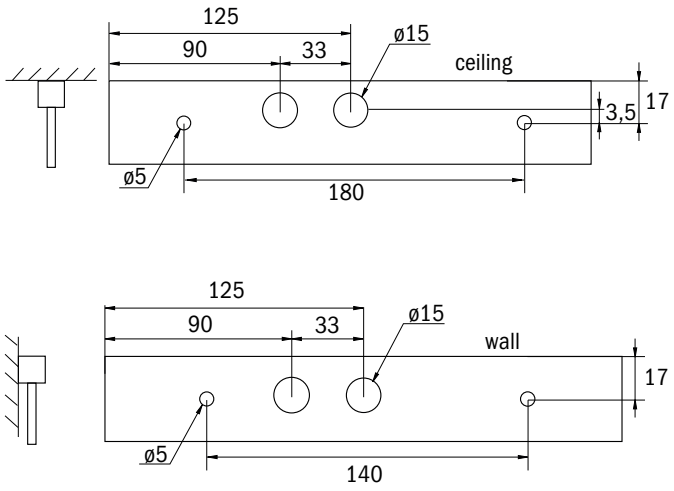
Accessories



Dimensions



Drillling distances wall / ceiling



Emergency & Exit Luminaires

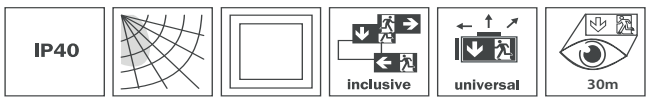
X80

Innovative high-grade Polycarbonate edge luminaire for universal mounting wall/ceiling/recessed ceiling/pendant. Tapered design housing for appealing area perception. Applicability; maintained or non-maintained operation mode. Improved reliability through easy to install universal use of pictograms. Universal insert pictogram set (left, right, down, neutral) included. Signs according EN 60598-1, EN 60598-2-22 and EN 1838 norms.

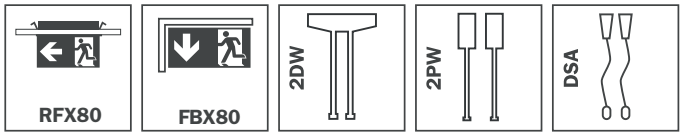
- Also available as combined safety light/rescue sign with ERT-LED and clear cover
- Simple pictogram mounting (one and double-sided), plugging technique

Model	Description
X80U2L	Universal Mount, White Cover, 2.2 W
X80U3L	Universal Mount, Clear Cover, 5.2 W
X80UH	Universal Mount, Clear Cover, 5.2 W - 520 lm

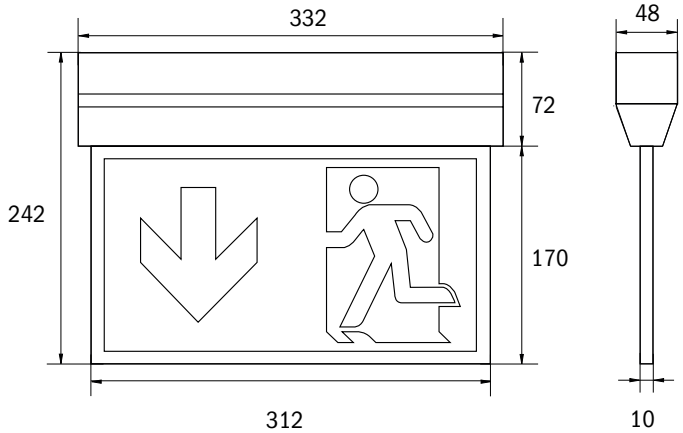
Technical Data	
Emergency Duration	3 hours
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP40
Protection Class	II
Mounting Type	Universal
Housing	Polycarbonate, White
RAL Code	9003



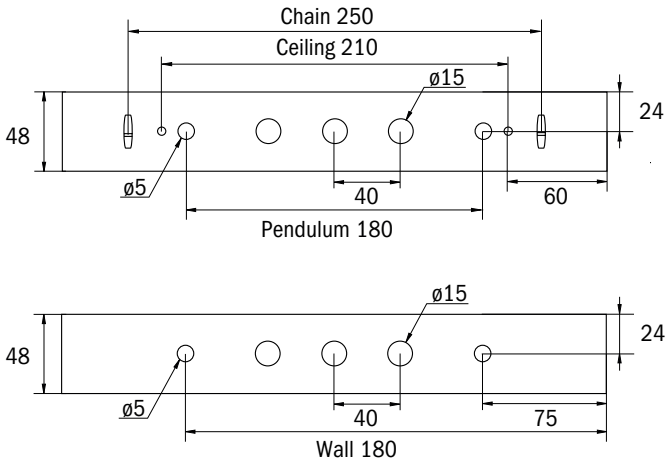
Accessories



Dimensions



Drillling distances



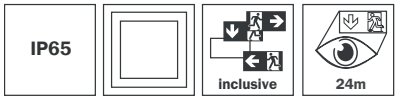
Emergency & Exit Luminaires

X120

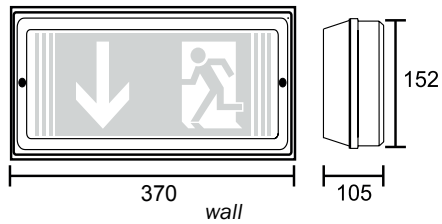
Polycarbonate luminaire for the marking and lighting of escape and rescue routes according to DIN EN 60598-1, DIN EN 60598-2-22 and EN 1838. For single or double sided labelling.

Model	Description
X120-LED-D	Celing Mount Exit Luminaire
X120-LED-W	Wall Mount Exit Luminaire
X120-LED-H	Wall Mount Emergency Luminaire

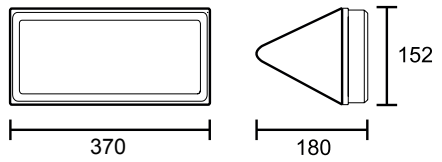
Technical Data	
Emergency Duration	3 hours
Max. Consumption	5.2 W
Ambient Temperature	-5 °C up to +40 °C
Ingress Protection Rating	IP65
Protection Class	II
Lumen Output	300 lm
Mounting Type	Wall / Celing
Housing	Polycarbonate, White
RAL Code	9003



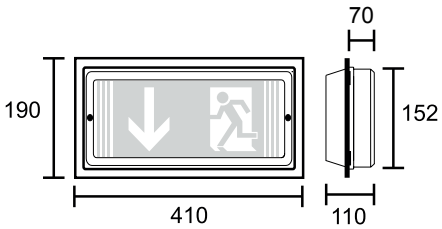
Dimensions



wall

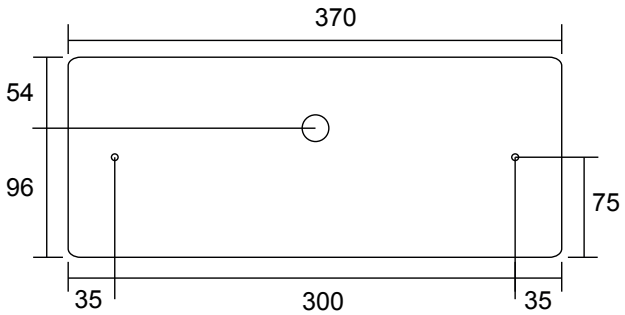


ceiling



recessed

Drilling distances



Modules

Electric circuit modules

The mains circuit module **SCM** is an electronic module in service-friendly 19" rack technology and used for the power supply of safety and rescue sign luminaires in mains circuits of security lighting. The circuit module is equipped with two separate circuits inclusive of hedging, each circuit has its own independent switching. For different output powers the following circuit modules are available:

TYPE	FUSING PER CIRCUIT	MAXIMUM LOAD PER MODULE
SCM12E	2x F5A	2x 250 VA
SCM32	2x F5A	2x 650 VA
SCM42	2x F6.3A	2x 860 VA
SCM62	2x FF10A	2x 1300 VA

Each circuit module is able to monitor up to 20 lights with single luminaire monitoring and/or can set up a self-calibrating circuit monitoring.

Through the combined operation of non-maintained light, maintained light and switched maintained light, the number of mains circuits needed can be reduced.

The circuit module monitors the connected lights or the circuit on: lights error, power failure, ground fault in the circuit, Overload the circuit, Output fuse blown and shows this by means of the integrated fault LED. Using the INFO button a status query of the module is shown in the display of the central unit.

Closed current loop, line monitor

The three-phase power supply monitoring **SPC230** primarily serves to monitor AV networks (voltage supply to general lighting).

A maximum of. 3 phases which lead an alternation voltage from 230V against the neutral conductor are checked. The switching threshold for recognising a mains failure or a severe mains fluctuation lies at 85% of the nominal mains voltage (230V AC), i.e. at approx. 195V AC. For evaluation, two changeover contacts are used with a maximum rating of 2A at 30V DC or 230V AC. The shift-in occurs automatically. Enclosure for DIN-rail TS35. Dimensions: H=44mm, W=54mm, L=96mm.

Modules

Charger module

The charging module **SLDM25** is an module in service-friendly 19" rack technology and is used for charging of battery packs in safety power supply systems according to European and national standards.

The charging module SLDM25 works in conjunction with a isolated transformer according to IUP (TS) which is necessary for galvanic isolation and adjusted to the output power. Charging characteristic according to EN 50272-2. All SLDM25 charging modules run a software controlled charging process and thus operate independently of the central processing unit.

To save energy and extend the life of the batteries and charging modules, the SLDM25 operates according to a predetermined temperature curve stated by the battery manufacturer and depending on the battery voltage symmetry.

The SLDM25 limits depending on the system requirements the output current to 0.5A , 1.0A or 2.5 A. To increase the output charging current multiple charging modules are connected in parallel.

Further more the charging characteristics of various batteries can be programmed. The pre-programmed charging characteristics of the battery types, NiCd, OGI/OpzS/OPzV or OGiV can be chosen. An integrated, redundant battery voltage monitor (BSW) protects the battery from overcharging again.

Luminaire monitoring module

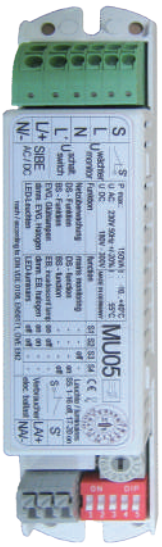
The **MU05** module is a addressable controller for use in a safety luminaire. This controller offers all switching modes and can operate a single luminaire survey. The consumers can be monitored with an auxiliary line. The general advantages are:

- compact design
- consumers load 4 up to 200 VA
- 2,5mm2 connectors with bypass connection
- local power supply monitoring
- S S disable external dimming voltage

The power supply monitor allows connected luminaires being operated in maintained and non-maintained mode. In case of a general mains failure all luminaires are switched on.

The MU05 is designed to work with power supply systems of the following types: MC6, MNXL, MD32 & ML96 Panels.

Dimensions: H=22mm, W=29mm, L=142mm.



Modules

Input and output module, light switch query module

The **switching input and output module IO** has 7 relay outputs 230V / 6A with potential-free changeover contacts. The IO module no. 1 is programmed to connect a conventional alarm panels.

Furthermore, the IO module has 4 isolated switching inputs 18V DC – 120V DC with selectable polarity. Individual message texts are possible.

Factory default assignment of Inputs and Outputs

K1:	Emergency light blocked	(20-21)	Operative	(19-20)
K2:	Charger error	(22-23)	Charger okay	(23-24)
K3:	Mod. stand-by	(25-26)	Normal operation	(26-27)
K4:	Device error	(28-29)	Device okay	(29-30)
K5:	Deep discharge battery	(31-32)	No deep discharge	(32-33)
K6:	Fan off	(34-35)	Fan on	(35-36)
K7:	Mains operation	(17-18)	Battery operation	(16-17)

E1:	Connection external operating mode selector	Voltage on – emergency light blocked; 0 volts – operative
E2:	Connection temperature sensor	Voltage on – temperature too high / low; 0 volts – temp okay
E3:	Connection air stream monitor	Voltage on – fan error; 0 volts – fan okay
E4:	Connection external test switch or shutdown for firefighter emergency switch	Voltage on – test function; 0 volts– no test function Voltage on – emergency lighting system off; 0 volts – operative

The switch query module **SDM24** can be used for the common query of light switches of the general lighting and safety lighting. The module is equipped with 8 (7+1) switching inputs which can be connected either with 185-255 VAC and / or 18-255 VDC.

In addition, the SDM24 has an integrated, activatable 3-phase monitor to monitor the supply voltage of the general lighting. Additional switching lines to the security lights are not required. The module has two RS 485 bus connectors for continuity and/or star-shaped wiring for additional SDM or SLM modules. The supply carried over the bus-line can be boosted on the module using the activated repeater function.

An integrated bus-line monitoring activates in case of short-circuit or open-circuit detection the immediate switching on of all the circuits of the system.

Addressing is performed using a rotary coding switch. The color red LED indicate general errors, switching states of the inputs and normal operation. Freely programmable assignment of independent inputs of each emergency lighting circuit and the designation of the inputs in plain text per bus module are set up in the central control unit. Enclosure for DIN-rail TS35.
Dimensions: H=65mm, W=85mm, D=105mm

Modules

Control panel

The **SLCD15** is a remote display, which ensures the Notifications of the safety power supply system to be shown even in case of a mains failure by a power supply. This remote panel is optional available with a button or key switch as operating mode selector.

With the help of this button/key switch blocking of the emergency operation is possible during off-season periods or holidays. With the key switch unauthorized use of the remote display is also prevented. The blocking of the emergency operation does not affect the batteries in charge conservation in mains operation.

The 3-line display with 16 characters per line states information in plain text about the following status information of the safety light system :

- Battery voltage
- Mains voltage
- Battery ambient temperature
- System error

An integrated bus-line monitoring activates in case of short-circuit or open-circuit detection the immediate switching on of all the circuits of the system.
Three additional LED indicators provide visual information on:

- System ready
- Battery-/mains
- System error

An acoustic signal is given in case of failures.

	SLCD-15	SLCD-15S	SLCD-15U / SLCD-15SU
Terminals	0.4 - 0.8mm^2 Rigid or Flexible	0.4 - 0.8mm^2 Rigid or Flexible	0.4 - 0.8mm^2 Rigid or Flexible
Recommended Connecting Cable Mounting	Wall	Wall	Recessed Wall
Cable Feed	Top / Back / Side	Top / Back / Side	Back
Dimensions in mm	117 x 117 x 26 (H x W x D)	117 x 117 x 26 (H x W x D)	20 x 120mm Cutout 120 x 120mm

Modules

Line monitor

The **SLM** (Line Monitor) serves to monitor AV networks (voltage supply to general lighting).

The SLM line monitors for connection to the emergency lighting system.

With the SLM it is possible to monitor three phases, e.g. a general mains distribution. The switching threshold for recognising a mains failure or a severe mains fluctuation is between 60% and 85% of the nominal mains voltage (230V AC), i.e. at approx. 195V AC.

The SLM is connected to the system with a monitored BUS line. This makes the installation of fire-resistant cables obsolete.

Dimensions: H=54mm, W=54mm, D=96mm.

Ethernet switch

The **Industrial Ethernet Switch** is a 5 or 8 port switch with each port featuring Auto-negotiation and auto MDI/MDI-X detection for networking of several power supply devices or connecting a device to the building control. Existing 10Mbps networks can now be upgraded effortlessly to higher speed 100Mbps Fast ETHERNET networks.

By supply of the switch from the central battery system the communication between the system, a central point or remote maintenance is possible even in case of power failure.

Building control engineering access

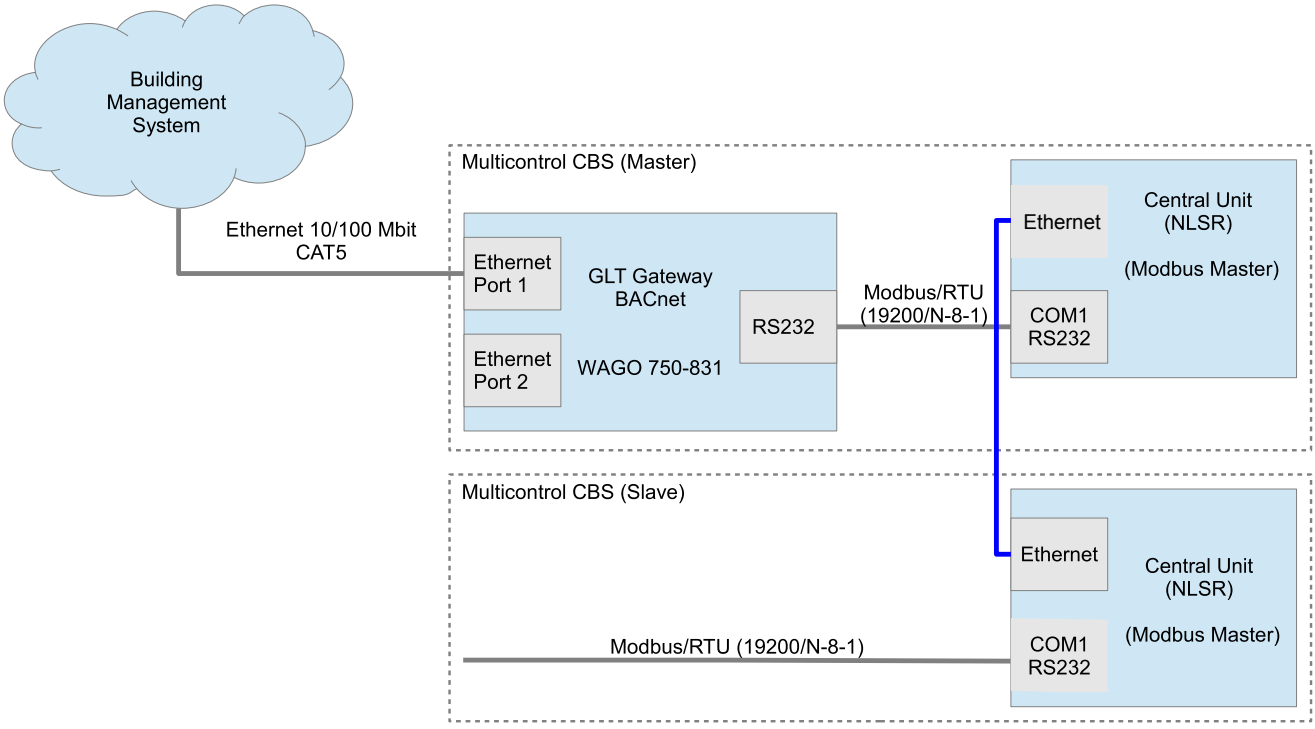
For connection to building control systems GLT Gateway supports the Modbus or BACnet protocol.

The access of the GLT to the system data is performed via Modbus/TCP or OPC (KNX on request). All typical BACnet features like BBC-profile for standard BACnet-building-controller are supported.

Depending on the desired depth the information can be programmed from the panel up to single luminaire level. Light errors for each light, circuit errors for each circuit (insulation, fuse, current monitoring), condition of the system (BAS, collective malfunction, etc.), error messages of the station (error memory), measurement values (mains, battery, etc.) are read off.

When networking several devices it is possible to equip the master system with a full GLT Gateway only and query the substations with limited information only.

Custom made programming are possible on request.



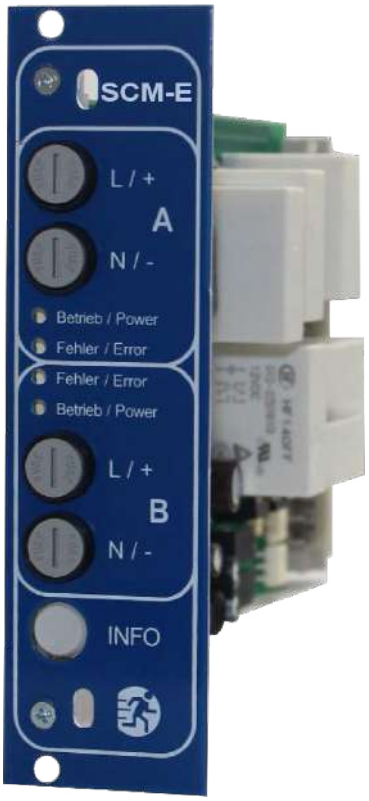
Single luminaire switching

Current luminaires and luminaire modules can be switched individually and without additional line in connection with the use of the SCM12-E circuit module.

In contrast to the conventional SCM32/42/62, it is possible to assign the operating mode of individual luminaires via the emergency lighting system. The configuration of the operating mode via the DIP switches on the luminaire is not necessary. The addressing of the luminaire, as well as the mains monitor function, must also be confi gured according to the description on the luminaire (DIP switch). The setting of the different dimming stages / flashing types is also configured on the luminaire (DIP switch / jumper), please refer to the respective product information.

The SCM12-E mains circuit module is a circuit module for use in systems of the multiControl plus safety lighting systems series, such as MD32, MNXL & ML96. Like the SCM32/42/62, the SCM12E is equipped with two circuits (“circuit A” and “circuit B”), each circuit being designed for a maximum output current of 1A (250VA). Of course, the SCM12E has a current, circuit and luminaire monitoring as usual.

The confi guration of the circuit parameters (number of luminaires, mode of operation and switching commands) can be conveniently done via the web interface (see the following figure). The mixing of conventional luminaires (modules) with single luminaire switching-capable luminaires is not permissible.



Batteries

Battery cabinets

Cabinet	BATT90	BATT60	BATT11	BATT18	BATT20
Type	Wall Mounted or Stand Cabinet, Door Stop Left	Wall Mounted or Stand Cabinet, Door Stop Left	Wall Mounted or Stand Cabinet, Door Stop Left Incl. 50mm Socket	Stand Cabinet, Door Stop Left	Stand Cabinet, Door Stop Left Incl. 50mm Socket
Steel Sheet Housing	RAL 7035, IP20	RAL 7035, IP20	RAL 7035, IP20	RAL 7035, IP20	RAL 7035, IP20
Dimensions in mm	900 x 600 x 450	900 x 600 x 600	1100 x 600 x 450	1800 x 600 x 450	1850 x 800 x 600
Cable Input	Top Insertion	Top Insertion	Top Insertion	Top Insertion	Top Insertion
Oder Number	BATT90	BATT60	BATT11	BATT18	BATT20
Optional:	Door Stop Right Socket 100mm Socket 200mm	Door Stop Right Socket 100mm Socket 200mm	------	Door Stop Right Socket 100mm Socket 200mm	------

The integrated ventilation slots are designed for the maximum possible battery capacity.

Battery Monitoring Module

BAT-LOGG® – Battery Monitoring for Central Battery Systems

Regularly monitoring the battery condition helps to detect defects in time in order to replace defective batteries before they cause damage to the remaining ones.

But let's face it: Nobody likes to tamper with a multitude of batteries in narrow space. That's reason enough to consider introducing an automatic monitoring system, especially as the amendment standard EN 50171 requires that battery conditions be checked every 5 minutes... e.g. using BAT-LOGG®!

BAT-LOGG® is an automatic monitoring system for batteries which checks and logs the status of each single battery block in a system in short time intervals. By doing so, BAT-LOGG® not only contributes to the safety and reliability of the system, but also helps to reduce maintenance efforts and costs. BAT-LOGG® was specifically designed for easy installation in narrow locations, and is also extremely cost-saving thanks to its minimalist design.

How it Works

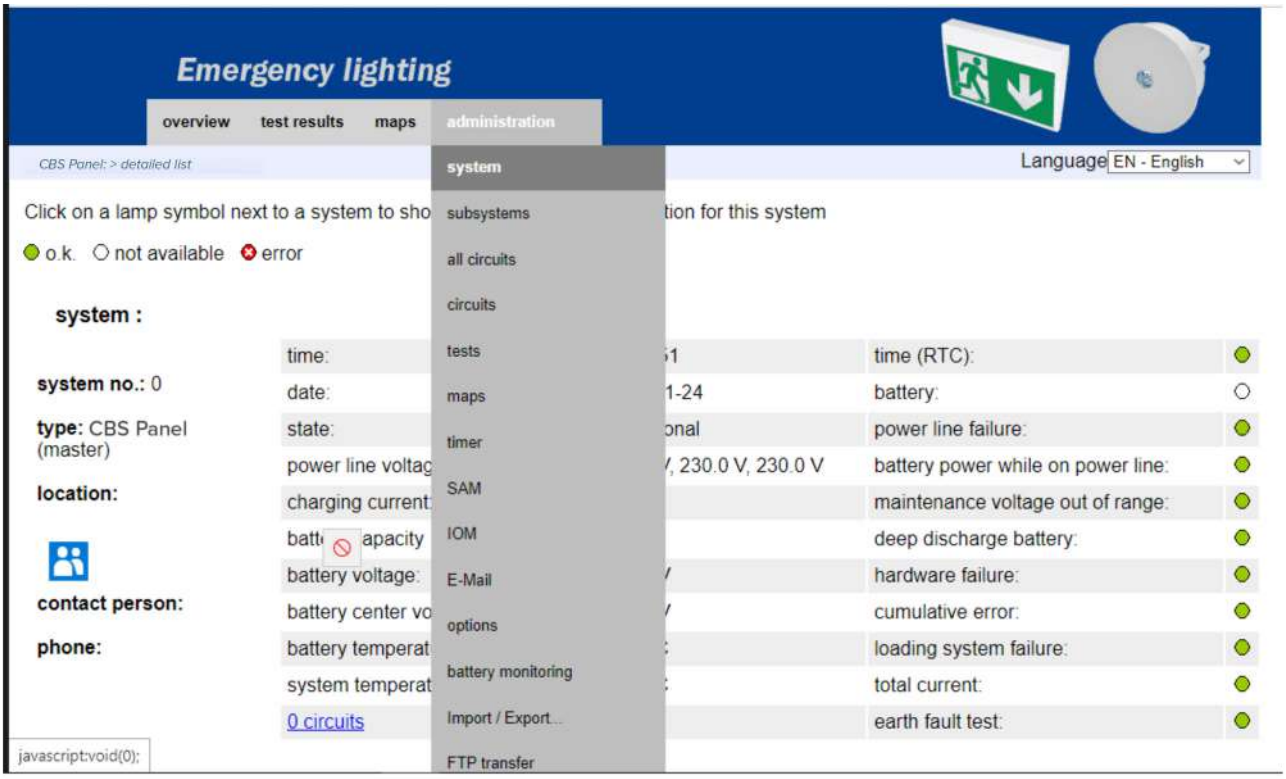
BAT-LOGG® Sensor modules measure the voltage and temperature of each single battery. Each module is simply connected to the poles of a battery and glued to the battery case in order to measure its temperature reliably.

The measurement data is transmitted over the power line to a BAT-LOGG® Interface module. The module checks all measurement values and generates an error message if one or more of them lie outside the preset limits. Further, a potential-free relay contact notifies of any error event (collective fault).

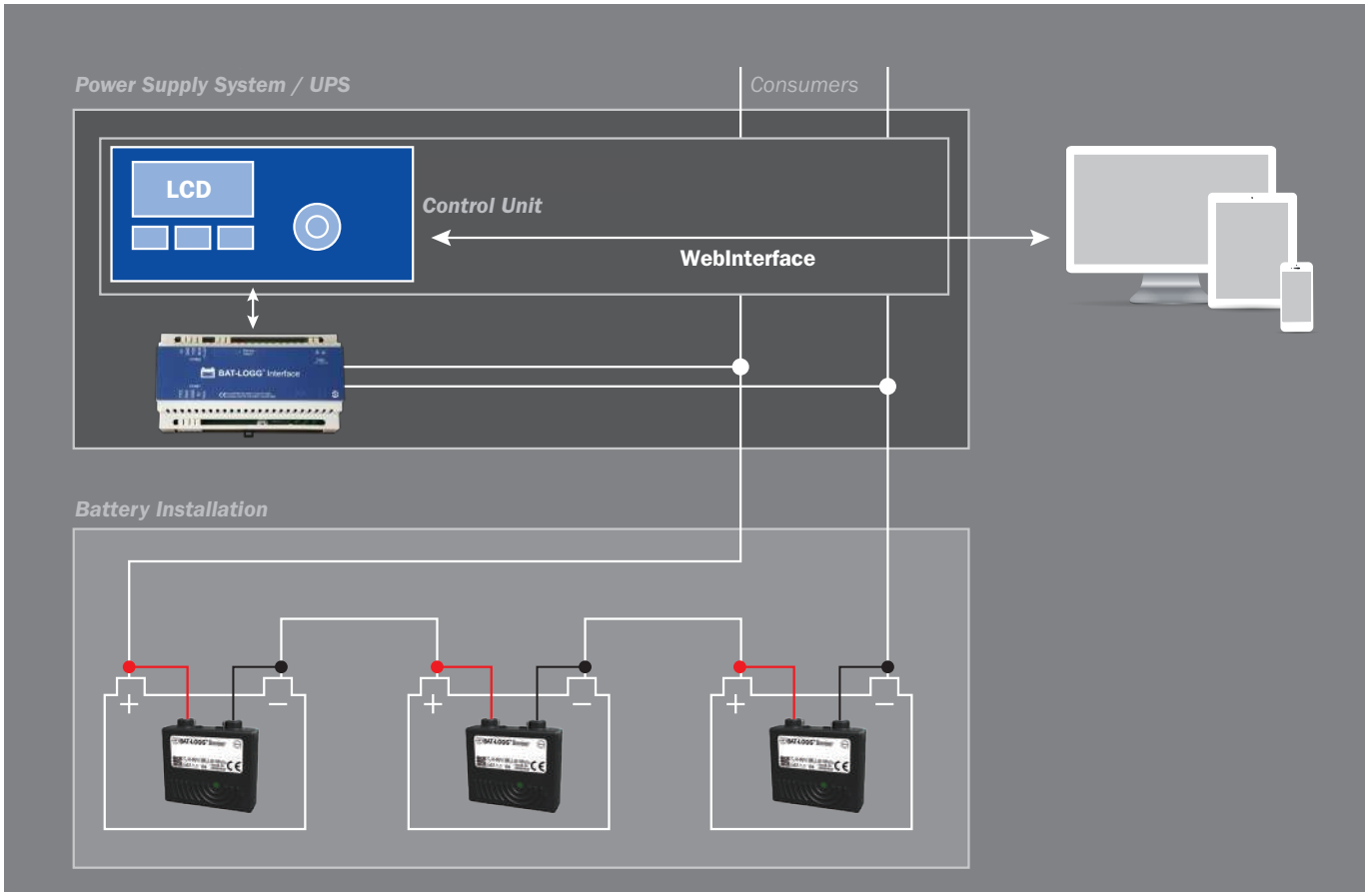
The control unit of the power supply system retrieves all measurement data and error messages via a serial communication port and stores them. Messages and data regarding each single battery, including current measurement values and data log, can be viewed using the system's LC display panel and Web Interface.

Batteries

Battery Monitoring



Measurement Data Display



Batteries

System Specifications

Specifications	
Monitored Battery Type	Lead-acid Batteries with 12V Block Voltage (nominal)
Maximum System Voltage	800V DC
Voltage Measurement Range (Accuracy)	9.0V - 16.0V (±0.1V)
Temperature Measurement Range (Accuracy)	0°C - 60°C (±3°C)
Max. Number of Sensors Supported	Max. 160 BAT-LOGG® Sensor Modules
Measured Values	• Battery Voltage • Battery Temperature 1) • Discharging Voltage 2)
Measuring Frequency	Once per 15-20 Seconds
Data Logging Functions 3)	• Once a Day, Minimum and Maximum Value of Voltage and Temparture Over The Last 24 Hours, and Status Information on Each Battery • Upon Each Test: Measurement Values Taken Before and After The Test, Including Discharging Voltage of Each Battery
Monitoring Functions	• Display of All Measurement Values 3) • Display of The Daily Data Log and Test-Related Data 3) • Notification Issued • On Data Transfer and Communication Failure • On Over-/Undervoltage in any Battery • On Excessive Voltage Deviation from Average • On Over-/Undertemperature in any Battery • On Excessive Temperature Deviation from Average
Other Functions	• Operation Hour Counter for each Battery • Histogram Analysis for Assessment of The Operation Conditions of Each Battery 4)

BAT-LOGG® Sensor	
Operating Voltage	12V (nominal) from Lead-Acid Battery
Led Indicator	Measurement Activity + Battery Voltage
Measurements (W X H X D)	54mm X 54mm X 15mm
Protection Marking Acc. Din En 60529	Ip 40
Protection Class Acc. IEC 61140	II
Flammability of Housing Material Acc. UI94	V-0
Connection / Mounting	• Connection to Battery Poles with 6mm Faston Connectors • Glue to Battery Housing
Connection Cable	Double-Isolated, Short-Circuit Proof Cable, Length: Approx. 28cm
Average Current Consumption	< 0.2mA (1.76Ah/Year)
Mounting Location Requirements	Degree of Pollution Rated 1 or 2 Acc. EN 50178

Batteries

System Specifications

BAT-LOGG® Interface	
Operating Voltage	216V DC or 230V AC (nominal)
Supported Number of Batteries	Max. 160 BAT-LOGG® Sensor Modules
Interfaces	• 2 Serial COM Communication Interfaces for Data Exchange • Single-pole Switchover Relays Contact for Collective Fault Indication
LED Indicators	• Collective Fault (red) • COM-communication (green) • Measurement Data Received (green) • Power On (green)
Measurements (W x H x D)	(DIN Hat-rail Module, 31 HP)
Flammability of Housing Material Acc. UL94	• Degree of Pollution Rated 1 Acc. EN 50178 • For Nominal System Voltages > 216 V DC, an Additional Protection Cover is Required

Annotations: 1) Measured on the outer side of each battery. 2) Lowest voltage measured in each discharging cycle. 3) Functions available only in connection with emergency lighting systems of type MD32 firmware version 1.7.9 or higher. Full functionality is available through the Web Interface of the system; however, part of the functionality is not available in the LCD menu for technical reasons. 4) Separately counting the operating hours for which voltage and temperature were inside pre-define ranges (six voltage and six temperature ranges); these values allow for a verification of the thermal conditions and the charging/discharging operation of each battery. 5) LED flashing signals the carrying-out of a measurement and the transmission of the measured values. LED flashing twice: battery voltage is > 10,8V; LED flashing once: battery voltage is ≤ 10,8V. 6) Connecting tabs for M5/6/8 screw poles are included with the modules. 7) Double-sided adhesive strips are included with the modules. 8) Cable with Faston connector, connected to the module.

Benefits from Using BAT-LOGG®

The BAT-LOGG® system can be installed quickly and inexpensively. Through automatic measuring, it saves valuable working time during the regular on-site inspection, and guarantees traceable measurement data without gap over each battery's entire period of use.

Other benefits: Less on-site operations, no more routine measurements, reduced time for traveling and maintenance, reduced operational hazards (such as electric shock), price advantage for the end user.

Batteries

System Built-up Details

The table below helps you selecting the correct system configuration: First, find the total number of circuits of your system in the leftmost column. The column "System Type" shows you the matching system types. Now, in the column corresponding to the required Supply Time (3h), look for the row showing a battery power (value in Watts to the left of the slash*) greater than or equal to the required total DC power consumption of the planned system. The value to the right of the slash now gives the number of charger modules the system must have**, while the right-most column shows you the Battery Type required***.

* Maximum actual total DC power consumption of the planned system.
** The number of charger modules given ensures that the batteries will be re-charged to 80% of their nominal capacity within 12 hours according to EN 50171
*** This battery type selection takes into account 25% of additional reserve as required by EN 50171. System Types and Battery types can only be combined as given in the table. Thus, even for a smaller number of circuits, a bigger system type might be required.

Circuits	System Type	3h	Battery Type
≤ 6	MC6	200 W / 1 SLDM	OGiV 1252 LP
≤ 12 (≤ 32)	MN12 / MN32 XL	500 W / 1 SLDM	OGiV 12170 LP
≤ 32	MD32	1337 W / 1 SLDM	OGiV 12330 LP
		1338 W to 2300 W / 2 SLDM	OGiV 12550 LP
≤ 96	ML96	2301 W to 12834 W / Max. 6 SLDM	OGiV 12550 LP to OGiV 122600 L

Batteries

Battery – OGiV Type

In case of emergency the safety and rescue sign luminaires are powered by maintenance free acid batteries of type OGiV in all emergency light systems. These are designed according to DIN EN 50272-2 and DIN EN 50171.

The designed lifetime of these batteries is in 20° C ambient temperature 12 years.

Type	OGiV 1236 LP	OGiV 1252 LP	OGiV 1270 LP	OGiV 1290 LP	OGiV 12120 LP	OGiV 12170 LP	OGiV 12260 LP	OGiV 12280 L	OGiV 12330 LP	OGiV 12400 LP	OGiV 12450 LP	OGiV 12550 LP
Battery Capacity Ah	3,6	5	7	9	12	17	26	28	33	40	45	55
Output max. 3h in W*	198 (158)	346 (276)	355 (284)	501 (401)	674 (539)	944 (755)	1,501 (1,201)	1,544 (1,236)	1,642 (1,313)	2,117 (1,693)	2,376 (1,901)	3,256 (2,604)
Number of Cabinets Needed for a Set (18 pcs) of Batteries of The Entire Capacity												
MC-Cabinet 1000mm	1	1	1	1	1	1	-	-	-	-	-	-
MC-Cabinet 1500mm	1	1	1	1	1	1	1	1	1	1	1	-
Battery Cabinet BATT90 900 x 600 x 450mm	1	1	1	1	1	1	1	1	1	1	1	1
Battery Cabinet BATT60 900 x 600 x 600mm	1	1	1	1	1	1	1	1	1	1	1	1
Battery Cabinet BATT11 1100 x 600 x 450mm	1	1	1	1	1	1	1	1	1	1	1	1
Battery Cabinet BATT18 1800 x 600 x 450mm	1	1	1	1	1	1	1	1	1	1	1	1
Battery Cabinet BATT20 1850 x 800 x 600mm	1	1	1	1	1	1	1	1	1	1	1	1
Required Air Circulation per Battery Set												
Air Stream with Technical Ventilation At Least (m3/h)	0.2	0.3	0.4	0.4	0.6	0.8	1.2	1.3	1.5	1.8	2.0	2.4
Profile of the Air Inlet Pipe With Natural Ventilation (cm2)	5.6	8.4	11.2	11.2	16.8	22.4	33.6	36.4	42	50.4	56	67.2

OGiV 12600 LP	OGiV 12650 LP	OGiV 12750 LP	OGiV 12800 LW	OGiV 12800 LPL	OGiV 12900 LP	OGiV 121000 LP	OGiV 121200 LPS	OGiV 121200 LP	OGiV 121340 LP	OGiV 121500 LP	OGiV 122000 LPE	OGiV 122000 LP	OGiV 122600 L
60	65	75	80	80	90	100	120	120	134	150	200	200	260
3,262 (2,609)	3,359 (2,687)	4,104 (3,283)	4,104 (3,283)	4,212 (3,370)	4,666 (3,732)	5,238 (4,190)	5,746 (4,596)	6,318 (5,054)	7,366 (5,892)	7,700 (6,160)	9,979 (7,983)	11,988 (9,590)	12,834 (10,267)
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	1	-	-	-	-	-	3	3	3	-	-	-
1	-	1	1	-	-	-	-	2	-	-	-	3	-
-	-	-	-	-	-	-	-	3	3	3	-	-	-
1	1	1	1	1	1	1	1	2	2	2	3	3	3
1	1	1	1	1	1	1	1	1	1	1	1	1	2
2.6	2.9	3.3	3.5	3.5	3.9	4.4	5.2	5.2	5.8	6.5	8.7	8.7	11.3
72.8	81.2	92.4	98	98	109.2	123.2	145.6	145.6	162.4	182	243.6	243.6	316.4

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