



Product catalogue

# Emergi-Lite

## Emergency lighting & central power supply systems

 **EMERGI-LITE®**

Power and productivity  
for a better world™



# Legend

	BSI Kitemark approved		Insulation class II. This luminaire must not be earthed
	Tested and certified by an independent European certification agency such as KEMA		Luminaire may be attached to a flammable surface
	Luminaire complies with CE		Indicates ingress protection class (IP value)
	Surface mounted luminaire		Classification for the degree of protection provided by enclosures against external mechanical impacts
	Recess mounted luminaire		Explosion proof
	The light source of the product is a fluorescent tube		Indicates the viewing distance of the (illuminated) pictogram in metres
	Product comes with an LED light source		3 hours autonomy (battery-powered light operating time)
	Tungston filament		3-5 valve regulated lead acid battery
	Self-contained: in case of power failure, the luminaire is battery powered		24 hours recharge period
	Maintained / non maintained luminaire		Includes daylight sensor
	Non-maintained luminaire		Operates down to -25°C
	Rear plate		
	Protection kit		
	Side wall bracket		
	Ceiling bracket		
	Suspension kit		
	Recess kit		
	Self-Test product		
	Fitted with an infrared module		
	Available with Naveo addressable, testing and remote management facility		

# Emergi-Lite

## Emergency lighting & central power supply systems

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## Emergi-Lite Experts in emergency lighting

- Efficient emergency lighting solutions
- With you every step of the emergency lighting process
- The life-cycle
- Training for emergency lighting

# Emergi-Lite

## Experts in emergency lighting

By choosing Emergi-Lite as your emergency lighting partner, you'll be placing your projects, your systems, and essentially your people, in safe hands.

When choosing a partner for emergency lighting, you need a supplier capable of delivering a solution whenever the need arises, whether you're planning a new build project, overseeing an installation, or considering renewal of a long-standing system.

Emergi-Lite is a leading life safety solutions provider, delivering state-of-the-art systems and products into the emergency lighting marketplace.

We focus on supporting our customers at all points of the emergency lighting life-cycle, whether planning, installing, managing or renewing.

### Years of experience

Supporting emergency lighting projects on all scales, backed by friendly service, technical expertise and our continual drive towards new product innovation makes Emergi-Lite the number one choice for emergency lighting.

Construction engineers and installers are assured that orders can be easily placed, deliveries arrive promptly, and that any issues are resolved quickly to a satisfactory outcome.

Our products and services are specifically designed to provide the most effective protection and safety, in line with customer needs, relevant standards and industry regulations. These solutions start at the planning stage for emergency lighting systems, with advice on product selection and system requirements, through to delivery of certified technical drawings.

With project time-lines tight and budgets constrained, choosing the right partner for emergency lighting system design is imperative. By choosing Emergi-Lite, you'll be making the right start.

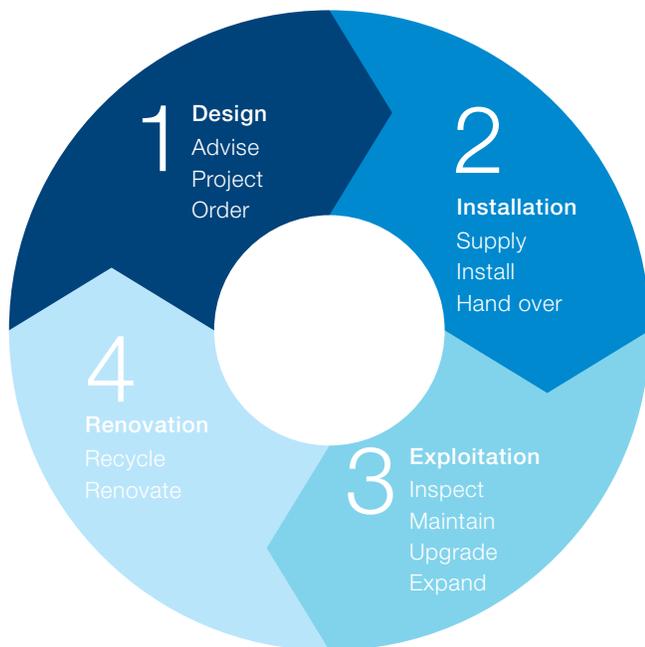
Emergi-Lite works at the heart of this complex process, assisting designers, specifiers, and final customers with all manner of emergency lighting need.



# Efficient emergency lighting solutions

## Life-cycle

**1** The Emergi-Lite concept is clear and simple. Providing you a reliable, total solution for safe evacuation. The way in which we do this is what makes the difference. We offer advantages to everybody involved throughout the life-cycle process. That way, you know that Emergi-Lite is always the right choice, for both you and your customers.



### Advice and information during the design phase

Each phase requires different input from us. In the design phase, it is important for you to have all the information. If desired, we can provide you with that in the form of specific project advice, based on the most recent regulations, standards and safety requirements. Emergi-Lite always offers you the necessary information in the most compact form, so that you quickly have an overview of all the available information. For example, you can use this brochure to put your product together in three simple steps. It is up to you whether to go for digital information via deep links on your wholesale website or whether to use a hard copy of the Quick Guide. We offer you both options.

### Speed and materials during the installation phase

Speed and timing are essential during the installation phase, because the easy-to-install materials must be at the construction site at the right time. That is why luminaires such as Serenga, Horizon and Aqualux are always in stock. If you perform the installation yourself, clear assembly instructions, packaging instructions and a modular system give you a head start.

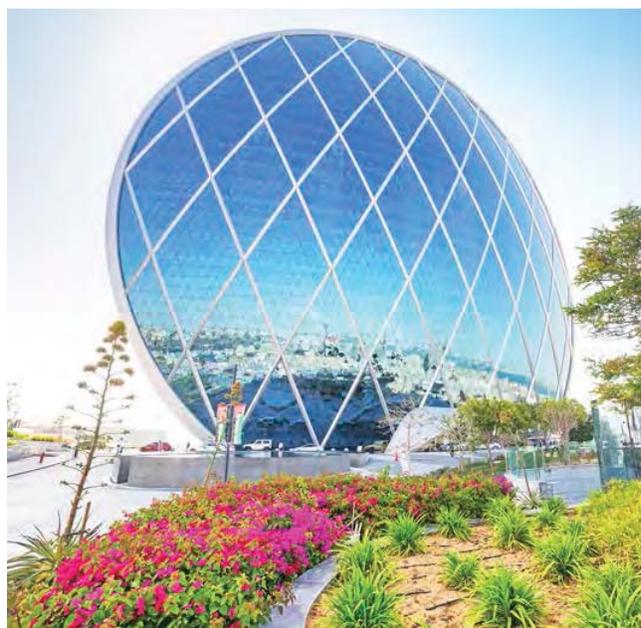
For example, with our quick-assembly modules, you do not have to climb a stepladder so often. Emergi-Lite offers you practical solutions to give you an immediate advantage, which only makes everything so much easier for you.

### Support during the exploitation phase

During the exploitation phase, we can document your emergency lighting installation and make sure it is up to date. That way, you guarantee optimal safety at minimum exploitation costs, thanks to low energy consumption and easy-to-replace parts and, if necessary, the people who are working, shopping, relaxing or sleeping in the building can quickly and safely find their way out.

### Altering and separating during the renovation phase

The new generation of Emergi-Lite products is ready for the renovation phase. We go further than the normal use of durable, environmentally-friendly, recyclable materials. The products are easy to disassemble and easy to dispose of separately in the legally required return and recycling flows. It is also easy to alter the new generation of luminaires using the individual modules.



# Efficient emergency lighting solutions

## Life-cycle

Renewal and refurbishment completes the emergency lighting life-cycle. Inevitably, all emergency lighting systems require renewal, as new products develop, standards change, and the ongoing cost of maintaining the current system becomes excessive.

At this point our products and services continue to play a major part. In addition to keeping you up-to-date with new industry developments, our sales and technical teams are happy to review existing plans and specifications to advise on new and better product options.

### Emergency lighting commissioning

Emergency lighting systems must be commissioned following installation, prior to use.

Emergi-Lite can provide advice and assistance for commissioning self-contained emergency lighting systems. Furthermore, our service team provides a commissioning service for our central addressable testing and central power supply systems, to ensure the installation meets with the necessary approvals.

### Product development & recycling

Emergi-Lite products are designed with the future in mind. Our focus on new product development ensures we're always in a strong position to deliver new innovations into the emergency lighting marketplace.

Our products are manufactured using sustainable, environmentally friendly materials and many now benefit from modular construction and LED technology, promoting longer lifetimes and lower recycling demand.

In addition, since we're a member of Lumicom, recycling of our luminaires is a quick and easy process (see [www.lumicom.com](http://www.lumicom.com)).

Emergi-Lite also has battery recycling registration to meet the requirements of the Battery Directive (Battery Producer registration number BPRN00373).



### Emergi-Lite official WEEE Registration number: WEE/DH0073UQ Waste Electrical and Electronic Equipment Regulations 2006 ("The WEEE Regulations")

This applies to emergency lighting luminaires supplied in UK, and those other territories where ABB Ltd Emergi-Lite has responsibility as a producer.

### Producer Responsibility

The company meets the producer responsibility via membership of the Lumicom Producer Compliance Scheme (registration no. WEEE/DH0073UQ). Under this scheme, de-polluted luminaires (i.e. those with the lamps, batteries and liquid

filled capacitors removed), which are being replaced by our fittings, will be recycled in an environmentally sound manner.

### Recycling Cost

Producers are required to finance the environmentally sound disposal of non-household luminaires and the gas discharge lamps within them. Therefore there will be a recycling charge, which may vary from time to time.

### Battery Directive

Battery Producer recycling registration number: BPRN00373.



Hq assessed to BS EN/ISO 9001 2000 for the management of emergency lighting and fire detection equipment and the modification of mains luminaires for emergency lighting applications. Cert no: FM09470

# Emergi-Lite

## With you every step of the emergency lighting process

1

During building construction or refurbishment, the focus for emergency lighting shifts from planning and design, to delivery and installation. Emergi-Lite provides solutions that impact at all points of the emergency lighting life-cycle.



### Easy-to-install product range

Many of our products are engineered to a modular design format, which promotes straightforward, cost-effective installation and maintenance.

Modular design enables first-fix installation of the key wiring components with later connection of geartrays, diffusers and legends etc, for easy management and replacement of parts.



### Certified technical design

Central to emergency lighting is the technical design drawing. It defines luminaire positioning and spacing, drives the installation effort and provides the key control for commissioning and approval.

Our technical design team is on hand to prepare drawings for all types of emergency lighting system, to the latest relevant standards, with full certification for added confidence and peace of mind.



### Project support

Our project engineers and internal sales support teams are available to provide guidance on products and project updates/delivery schedules etc. This catalogue makes for a great starting point when considering emergency lighting, but is only a small part of our service.



### Project consultation

You can count on us to help with your emergency lighting planning. We offer expert assistance in emergency lighting scheme design, as well as clear, concise advice on product selection. Our dedicated team are able to assist you at your premises, and arrange for emergency lighting schemes to be prepared at our design office.

# Emergi-Lite

With you every step of the emergency lighting process



1

The purpose of an emergency lighting system is to protect and safeguard life. Once commissioned and in operation, the emergency lighting system must function correctly throughout its lifetime and therefore requires ongoing management, maintenance and testing.

## Standards and legislation

The need for testing and servicing is enforced by legislation, with both The Regulatory Reform (Fire Safety) Order 2005/ Fire (Scotland) Act 2005 and The Work Place Directive 89/654 making reference to proper maintenance of emergency lighting systems.

Any faults found need to be rectified as quickly as possible. For many building owners/occupiers, who have legal responsibility for these systems, maintenance, testing and access to replacement parts are of paramount importance. With this in mind, it's clear to see that maintaining the partnership with your emergency lighting supplier, even after commissioning, is highly important.

Our fully certified engineering team can provide support and advice on maintenance and servicing of emergency lighting. We have certification under BAFA SP203-4 (Emergency lighting systems) and BAFA SP203-1 (Alarm detection systems). This demonstrates compliance to the safety standards required when designing and maintaining systems in either discipline.

## Maintenance & servicing

Our team of qualified and experienced service engineers is available to service emergency lighting systems and to ensure full working order, in line with appropriate British Standards.

**Term maintenance contracts are available. Contact our service team today to discuss your maintenance needs.**

## System testing & upgrades

Owner/occupiers are legally obliged to test and maintain emergency lighting to BS 5266-1 and -8 (Simplified Testing Regime EN 50172).

Emergi-Lite manufactures a range of testing solutions for self-contained emergency lighting - Self-Test, IR2 and Naveo addressable testing - to accommodate all levels of testing requirement.

# Emergi-Lite

## Guidance for emergency lighting

1



We can provide guidance to improve understanding of emergency lighting and central power supply standards and practices, determining both the design and implementation of these systems.

### Emergency lighting

We maintain up to date knowledge and materials related to the latest emergency lighting requirements, regulations and standards.

During meetings and in site visits, a member of our field sales team will be able to provide expert and in-depth understanding of emergency lighting legislative and testing requirements.

The imperative is to highlight the correct procedures for testing and monitoring all emergency lighting, in accordance with British Standards, Codes of Practice and current Working Directives, along with the methodologies best used to maximise effectiveness and efficiency of your installations.

### Product & standards awareness

We endeavour to provide seminars/sessions with clients to help improve understanding of emergency lighting and central power systems.

Topics include:

- **Emergency lighting, testing & monitoring**
- **Central power supply systems**
- **ICEL risk assessment**

We also cover selection and installation of emergency lighting as appropriate to meet Section 534 of BS 7671, to achieve a satisfactory electrical installation.

# Luminaires & exit signs

## Product selection chart

	Planning					Installing			Managing							Renewing	Page
	Low energy LED	Project-wide application	High ceiling application	In-built self test	Choice of trims	Modular design	First-fix installation	Mounting options	High ingress rating	Night/security lighting	Light sensor	Low temperature	Long-life performance	Dimmable lighting	Low maintenance LED	Extended warranty (2yr+)	

### Serenga 2

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### Guideway

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### Horizon

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### Endurance

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# Luminaires & exit signs

## Product selection chart

1

	Planning					Installing			Managing							Renewing	Page	
	Low energy LED	Project-wide application	High ceiling application	In-built self test	Choice of trims	Modular design	First-fix installation	Mounting options	High ingress rating	Night/security lighting	Light sensor	Low temperature	Long-life performance	Dimmable lighting	Low maintenance LED	Extended warranty (2yr+)		Retrofit LED geartray
<b>Aqualux</b>																		
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<b>Decorative Hy-Lite</b>																		
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<b>Corniche</b>																		
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<b>Silver-Lite</b>																		
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<b>Serenga</b>																		
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	Planning					Installing			Managing							Renewing	Page
	Low energy LED	Project-wide application	High ceiling application	In-built self test	Choice of trims	Modular design	First-fix installation	Mounting options	High ingress rating	Night/security lighting	Light sensor	Low temperature	Long-life performance	Dimmable lighting	Low maintenance LED	Extended warranty (2yr+)	

Escape Line

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Industrial & hazardous area

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## Serenga 2 Project covering & stylish

- High power, low energy consumption LED solutions
- Specially designed lenses for optimised light distribution
- Modular, First-Fix installation
- Round or square shapes to suit design requirements





# Serenga 2

## Project covering & stylish



### Anti-panic lighting - Recessed

- Injection moulded - high grade polycarbonate body
- Specially designed lens for optimised light distribution
- Modular, First-Fix installation
- Round or square trim shapes are available as interior design choices



### Luminaire

Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
SR2-DAD-M3	220-240 Vac, 50 Hz	REC M3 AUTOTEST OA-L4M WH	2 x LED 0.85W = 1.9W	4.74 / 4.0	M3	5 - 40	0.6
CTSR2-DAD-M3		REC M3 CT-NAVEO OA-L4M WH		4.74 / 4.0	M3	5 - 40	0.6
SR2-DAD-230		REC 230V OA-L4M WH		5.0 / 4.83	230V	0 - 40	0.3
SR2-DAD-230LT		REC 230V EMEX OA-L4M WH		5.0 / 4.83	230V	0 - 40	0.3
SR2Q-DAD-M3		REC-SQ M3 AUTOTEST OA-L4M WH		4.74 / 4.0	M3	5 - 40	0.6
CTSR2Q-DAD-M3		REC-SQ M3 CT-NAVEO OA-L4M WH		4.74 / 4.0	M3	5 - 40	0.6
SR2Q-DAD-230		REC-SQ 230V OA-L4M WH		5.0 / 4.83	230V	0 - 40	0.3
SR2Q-DAD-230LT		REC-SQ 230V EMEX OA-L4M WH		5.0 / 4.83	230V	0 - 40	0.3

Versions with IR2 remote testing are available.

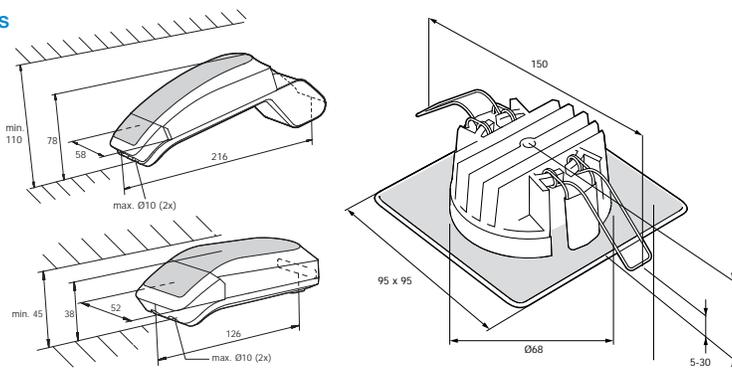


### Accessories

Order code	Description
SR2-CCAW	WH circular adaptor

Interchangeable lenses are available.

### Dimensions



# Serenga 2

## Project covering & stylish

2



### Escape route - Surface mount

- Injection moulded - high grade polycarbonate body
- Specially designed lens for optimised light distribution
- Modular, First-Fix installation
- Ease of installation - unique moulded construction to retain IP rating without additional protection



### Luminaire

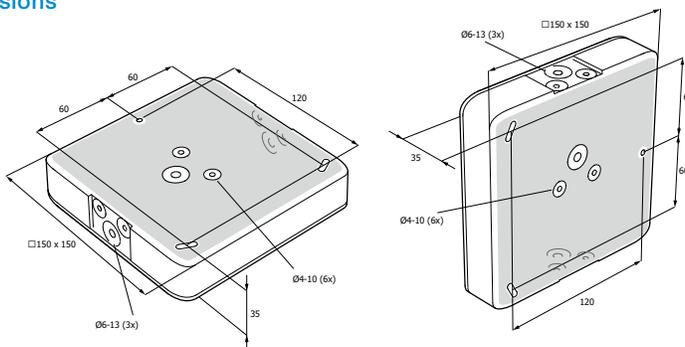
Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
SR2-SEM3-A1	220-240 Vac, 50 Hz	SFC M3 AUTOTEST ESC-L4M WH	2 x LED 0.85W = 1.9W	4.74 / 4.0	M3	5 - 40	1.0
CTSR2-SEM3-A1		SFC M3 CT-NAVEO ESC-L4M WH		4.74 / 4.0	M3	5 - 40	1.0
SR2-SE230-A1		SFC 230E ESC-L4M WH		5.0 / 4.83	230V	0 - 40	0.75
SR2-SE230LT-A1		SFC 230E EMEX ESC-L4M WH		5.0 / 4.83	230V	0 - 40	0.75

Versions with IR2 remote testing are available.



Interchangeable lenses are available.

### Dimensions





# Serenga 2

## Project covering & stylish

2



### Escape route - Surface mount 12m

- Injection moulded - high grade polycarbonate body
- Specially designed lens for optimised light distribution - ideal for high ceiling areas, up to 12 metres
- Modular, First-Fix installation
- Ease of installation - unique moulded construction to retain IP rating without additional protection



### Luminaire

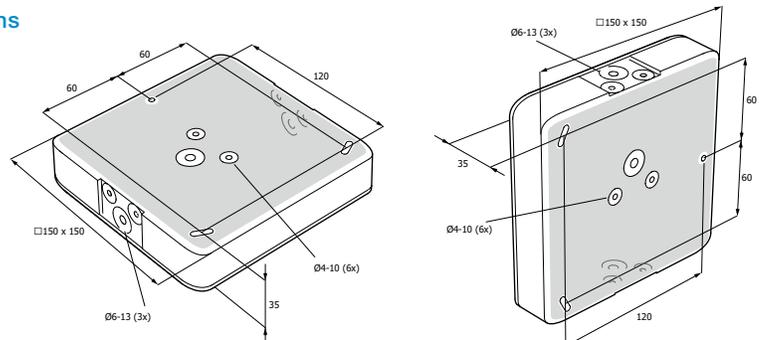
Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
SR2-SEM3-BC1	220-240 Vac, 50 Hz	AUTOTEST SFC ESC-MH12M 2L M3	2 x LED 0.85W = 1.9W	4.74 / 4.0	M3	5 - 40	1.0
CTSR2-SEM3-BC1		CT-N SFC ESC-MH12M 2L M3		4.74 / 4.0	M3	5 - 40	1.0
SR2-SE230-BC1		SFC ESC-MH12M 2L 230V 50Hz		5.0 / 4.83	230V	0 - 40	0.75
SR2-SE230LT-BC1		SFACE ESC-MH12M 2L 230V 50Hz LTC WH		5.0 / 4.83	230V	0 - 40	0.75

Versions with IR2 remote testing are available.



Interchangeable lenses are available.

### Dimensions









## Guideway Innovative & stylish

- Injection moulded - aluminium base construction
- Bright & uniformed light distribution with 500 cd/m<sup>2</sup>
- Versatile mounting options with First-Fix control gear
- Unique frameless legend design with click-lock assembly

# Guideway

## Innovative & stylish

3



### Guideway 22m - Recessed

- Bright and uniformed light distribution with 500 cd/sq.m
- Versatile mounting options with First-Fix control gear
- Unique frameless legend design with click-lock assembly
- Quick release legend panels



### Luminaire

Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
EGR3LS1-S22	220-240 Vac, 50 Hz	LED sign M3 recessed	LED strip 1.8W	4.2 / 4.2	M3	5 - 35	0.93
CTEGR3LS1-S22		LED sign M3 recessed, CT-NAVEO		4.2 / 4.2	M3	5 - 35	0.93
EGR1LS1-S22		LED sign 230V HF recessed		4.2 / 4.2	230V	0 - 35	0.93
EGR1LS1LTC-S22		LED sign 230V EMEX test recessed		4.2 / 4.2	230V	0 - 35	0.93

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.  
Self-contained 60Hz versions available on request

### Single sided

Part No.	Legends
<b>ISO 7010 legend format</b>	
XEN2EG22	
XEN3EG22	
XEN6EG22	
XEN5EG22	
<b>Arabic legend format</b>	
XBN1EG22	

### Flag mounted

Part no.	Legends
<b>ISO 7010 legend format</b>	
XEN602EG22	
XEN603EG22	
XEN606EG22	
XEN605EG22	

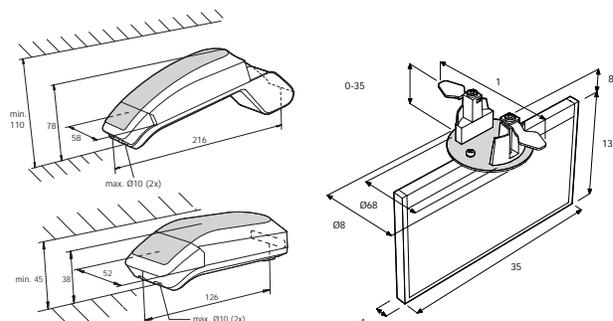


ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Accessories

Order code	Description	Colour
EG-T4SG	Cover discs, 2+2 self contained	
EG-T4EG	Cover discs, 2+2 slave	

### Dimensions



# Guideway

## Innovative & stylish



### Guideway 32m - Recessed

- Bright and uniformed light distribution with 500 cd/sq.m
- Versatile mounting options with First-Fix control gear
- Unique frameless legend design with click-lock assembly
- Quick release legend panels

3



### Luminaire

Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
EGR3LS1-S32	220-240 Vac, 50 Hz	LED sign M3 recessed	LED strip 3.6W	6.0 / 6.0	M3	5 - 35	1.11
CTEGR3LS1-S32		LED sign M3 recessed, CT-NAVEO		6.0 / 6.0	M3	5 - 35	1.11
EGR1LS1-S32		LED sign 230V HF recessed		6.3 / 6.3	230V	0 - 35	1.29
EGR1LS1LTC-S32		LED sign 230V EMEX test recessed		6.3 / 6.3	230V	0 - 35	1.29

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.  
Self-contained 60Hz versions available on request

### Single sided

Part No.	Legends
<b>ISO 7010 legend format</b>	
XEN2EG32	
XEN3EG32	
XEN6EG32	
XEN5EG32	
<b>Arabic legend format</b>	
XBN1EG32	

### Flag mounted

Part no.	Legends
<b>ISO 7010 legend format</b>	
XEN602EG32	
XEN603EG32	
XEN606EG32	
XEN605EG32	

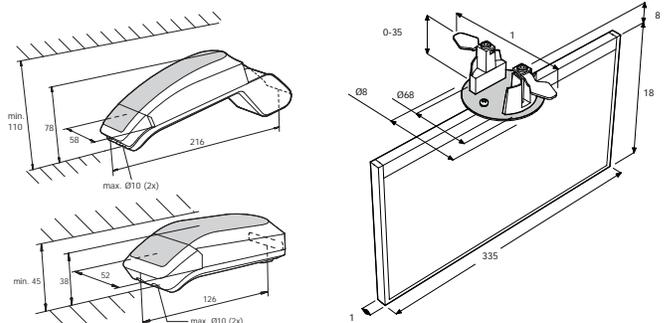


ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Accessories

Order code	Description	Colour
EG-T4SG	Cover discs, 2+2 self contained	
EG-T4EG	Cover discs, 2+2 slave	

### Dimensions



# Guideway

## Innovative & stylish

3



### Guideway 22m - Surface

- Bright and uniformed light distribution with 500 cd/sq.m
- Versatile mounting options with First-Fix control gear
- Unique frameless legend design with click-lock assembly
- Quick release legend panels



### Luminaire

Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
EG3LS1-S22	220-240 Vac, 50 Hz	LED sign M3 surface mount	LED strip 1.8W	4.2 / 4.2	M3	5 - 35	1.11
CTEG3LS1-S22		LED sign M3 surface mount, CT-NAVEO		4.2 / 4.2	M3	5 - 35	1.11
EG1LS1-S22		LED sign 230V HF surface mount		4.2 / 4.2	230V	0 - 35	1.00
EG1LS1LTC-S22		LED sign 230V EMEX test surface mount		4.2 / 4.2	230V	0 - 35	1.00

Includes back to wall mounting accessory as standard.  
 60 hrs charge at first commissioning, 24 hrs re-charge thereafter.  
 Self-contained 60Hz versions available on request

### Single sided

Part No.	Legends
<b>ISO 7010 legend format</b>	
XEN2EG22	
XEN3EG22	
XEN6EG22	
XEN5EG22	
<b>Arabic legend format</b>	
XBN1EG22	

### Flag mounted

Part no.	Legends
<b>ISO 7010 legend format</b>	
XEN602EG22	
XEN603EG22	
XEN606EG22	
XEN605EG22	

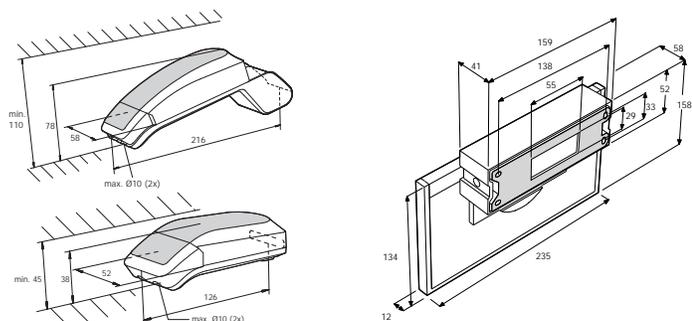


ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Accessories

Order code	Description
EG-TKIT50	Tube suspension kit (0.5 m)
EG-TKIT100	Tube suspension kit (1 m)

### Dimensions



# Guideway

## Innovative & stylish



### Guideway 32m - Surface

- Bright and uniformed light distribution with 500 cd/sq.m
- Versatile mounting options with First-Fix control gear
- Unique frameless legend design with click-lock assembly
- Quick release legend panels



### Luminaire

Order code	Input voltage	Description	Lamp type	Power consumption (VA/W)	Operation / duration (hrs)	Environment temp. (°C)	Weight (kg)
EG3LS1-S32	220-240 Vac, 50 Hz	LED sign M3 surface mount	LED strip 3.6W	6.0 / 6.0	M3	5 - 35	1.58
CTEG3LS1-S32		LED sign M3 surface mount, CT-NAVEO		6.0 / 6.0	M3	5 - 35	1.58
EG1LS1-S32		LED sign 230V HF surface mount		6.3 / 6.3	230V	0 - 35	1.48
EG1LS1LTC-S32		LED sign 230V EMEX test surface mount		6.3 / 6.3	230V	0 - 35	1.48

Includes back to wall mounting accessory as standard.  
 60 hrs charge at first commissioning, 24 hrs re-charge thereafter.  
 Self-contained 60Hz versions available on request

### Single sided

Part No.	Legends
<b>ISO 7010 legend format</b>	
XEN2EG32	
XEN3EG32	
XEN6EG32	
XEN5EG32	
<b>Arabic legend format</b>	
XBN1EG32	

### Flag mounted

Part no.	Legends
<b>ISO 7010 legend format</b>	
XEN602EG32	
XEN603EG32	
XEN606EG32	
XEN605EG32	

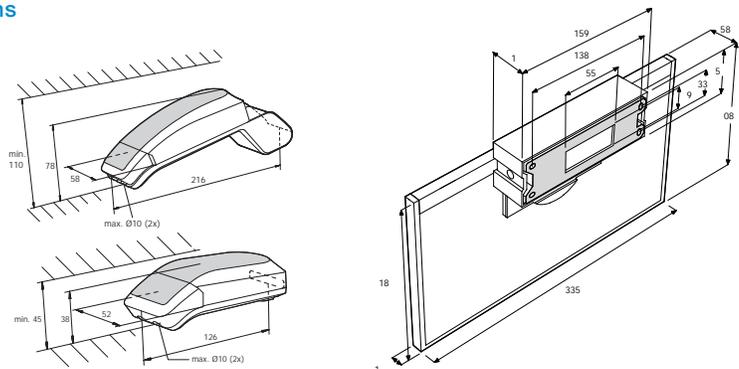


ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Accessories

Order code	Description
EG-TKIT50	Tube suspension kit (0.5 m)
EG-TKIT100	Tube suspension kit (1 m)

### Dimensions





## Horizon Traditional & versatile

- Clip on legend with frame
- Shaped diffuser and contoured reflector
- First-Fix aluminium base, polycarbonate body
- Available for surface and recessed mounting

# Horizon

## Traditional & versatile



### Back-lit LED exit sign

- Choice of IP40 surface mount (OH) or IP20 recessed (OZ) installation with LED lamp
- Shaped diffuser and contoured reflector
- First-Fix aluminium base with white polycarbonate luminaire body
- Clip-on legend panel
- Designed and manufactured to meet the requirements of BS EN 60598.2.22

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### LED base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
OH3L261	220 - 240 Vac, 50 Hz	2 x 1W LED	9.9 / 5.1	M3	0 - 25	1.7
OH1L261HF	220 - 240 Vac, 50/60 Hz		6.8 / 3.1	230V	0 - 40	1.5
OZ3L261	220 - 240 Vac, 50/60 Hz		9.9 / 5.1	M3	0 - 25	1.7
OZ1L261HF	220 - 240 Vac, 50/60 Hz		6.8 / 3.1	230V	0 - 40	1.5

Slave versions available with LTC

### Legends

Part no.	Pictogram
XEN2H	
XEN3H	
XEN6H	
XEN5H	
XLF-SN802	
XLF-SN803	

Legends are screen printed. ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139. Special legends for extinguishers and hose reel are also illustrated.

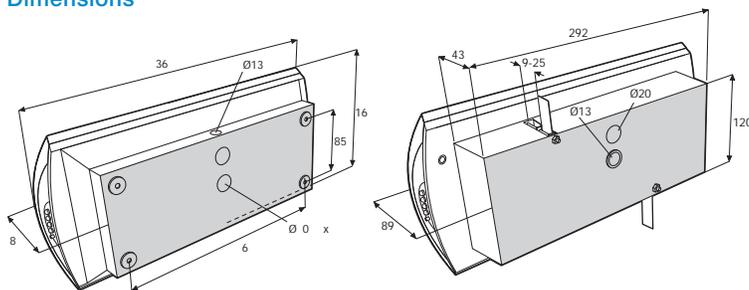


### Accessories

Order code	Description
OH/BCM	Ceiling bracket, vertical mount, for back-lit sign
OH/WG	Protective wire guard

For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

### Dimensions



# Horizon Traditional & versatile

4



### Edge-lit LED exit sign

- Choice of IP40 surface mount (OHD) or IP20 recessed (OZD) installation with LED lamp
- Shaped diffuser and contoured reflector
- First-Fix aluminium base with white polycarbonat luminaire body
- Legend panel with slotted aluminium frame
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### LED base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/duration (hrs)	Environment temp. (°C)	Weight (kg)
OHD3LS61	220 - 240 Vac, 50 Hz	2 x 1W LED	9.9 / 5.1	M3	0 - 25	1.7
OHD1LS61HF	220 - 240 Vac, 50/60 Hz		6.8 / 3.1	230V	0 - 40	1.5
OZD3LS61	220 - 240 Vac, 50/60 Hz		9.9 / 5.1	M3	0 - 25	1.7
OZD1LS61HF	220 - 240 Vac, 50/60 Hz		6.8 / 3.1	230V	0 - 40	1.5

### Legends

Single sided		Double sided	
Part No.	Pictogram	Part No.	Pictogram
XEN20HS		XE36HD	
XEN30HS			
XEN60HS			
XEN50HS			
XLF802HS			
XLF803HS			



Slave versions available with LTC

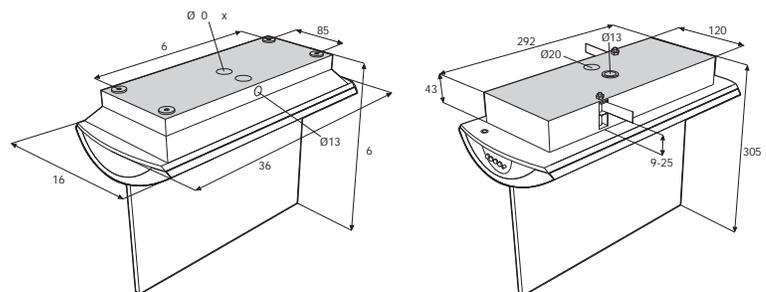
ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139. Special legends for extinguishers and hose reel are also illustrated.

### Accessories

Order code	Description
OH/BWM	Wall bracket for edge-lit sign/luminaire

For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

### Dimensions







## Endurance Compact & modern

- Wide variety of mounting options available
- Energy efficient LED technology
- Simple 'click' fix legend panels
- BSI Kitemark approved

# Endurance Compact & modern



## Edge-lit exit sign

- LED lamp, for long life expectancy with low power consumption
- Intelligent Self-Test as standard
- Range of mounting accessories
- Designed and manufactured to meet the requirements of BS EN 60598.2.22
- Order base unit, legend and mounting accessory separately



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## Base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)	Colour
ENV50-001	220 - 240 Vac, 50 Hz	1 W LED strip	9.5 / 4.7	M3	0 - 25	1.4	<input type="text"/>



## Legends

### Single sided

Part no.	Pictogram
ESN012	
ESN010	
ESN011	
ESN013	

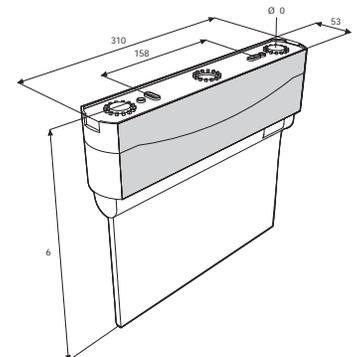
### Double sided

Part no.	Pictogram
EDN020	
EDN021	
EDN022	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

For further information on Naveo emergency luminaire testing format, see pages 79 - 81.

## Dimensions



# Endurance

## Compact & modern

5



### Horizontal mounting EMH

The horizontal mounting attachment allows the luminaire to be mounted horizontally with the sign-plate hanging vertically. This kit consists of a reflector to redirect light to the sign-plate, an alternative sign-plate cover and screws to secure the sign plate. Ideal for use above doors where space is limited.

Order code	Description	Trim colour
EMH-001	Horizontal	<input type="text"/>



### Recessed mounting EMF

Comprising a recessing cage, trim plate and fasteners. The recessing cage has side wings that are used to secure the cage to the ceiling. The luminaire is installed by simply pressing it into place and replacing the cover.

Order code	Description	Trim colour
EMF-001	Recessing kit	<input type="text"/>



### Wall brackets EMV

The bracket moulding features a ratchet detail allowing the sign to be angled at virtually any angle to the wall, including parallel and perpendicular mountings.

Order code	Description	Trim colour
EMV-001	Wall bracket	<input type="text"/>

# Endurance

## Compact & modern



### Wire suspension EMS

The wire suspension kit includes an adjustment device and clutch mechanism through which the wire is pulled until the desired length is reached. Excess wire can then be cut away. The cut end does not enter the first-fix plate so cannot chafe wiring or compromise safety. Variable wiring length makes this version suitable for angled mounting surfaces.

Order code	Description	Trim colour
EMS-001	Adjustable wire suspension kit	<input type="text"/>

5

### Tube suspension

Tube suspension kits are available for heights of 0.3, 0.5 and 1 metre.

Order code	Description	Trim colour
EMR-TWKIT-001	Suspension kit (For use with 1114000*/30)	<input type="text"/>
11140002/30	Aluminium tube, D16, length 300mm	<input type="text"/>
11140004/30	Aluminium tube, D16, length 500mm	<input type="text"/>
11140005/30	Aluminium tube, D16, length 1 meter	<input type="text"/>

When ordering a suspension tube set: Choose an aluminium tube length x 2. To complete the set add the kit (TWKIT).



## Previs Quick & practical

- Quality in its simplicity
- Lighting and signalisation in one, depending on the model
- Installation within three minutes

# Previx

## Quick & practical



### Back-lit LED exit sign

- Manufactured from high grade polycarbonate in white
- Straightforward installation, with First-Fix base
- Suitable for surface mounting
- Intelligent Self-Test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)	Includes Legend
PX3LS1	220 - 240 Vac, 50 Hz	1W LED strip	10.3 / 5.2 [NM-4/1.5]	M3	0 - 25	1.0	
PX1LS1HF	220 - 240 Vac, 50/60 Hz		7.7 / 3.8	230V	0 - 40	0.9	
PX1LS1LTC	220 - 240 Vac, 50/60 Hz		8.6 / 3.8	230V	0 - 40	1.0	

### Legends

Part no.	Pictogram
XEN2PX	
XEN3PX	
XEN6PX	
XEN5PX	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

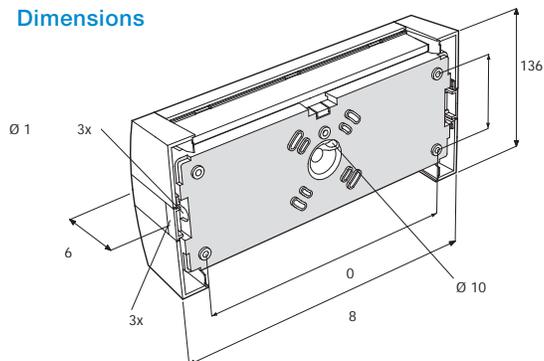


### Accessories

Order code	Description
BK XL	Protective wire guard
PX/BCM	Ceiling bracket, vertical mount
PX/BWM	Wall bracket, for flag sign mount
PX/LENS4	Set of 4 lenses (for enhanced spacing in general use)

For further information on Naveo emergency luminaire testing format, see pages 79 - 81.

### Dimensions



# PreviX Quick & practical



## Edge-lit LED exit sign

- Manufactured from high grade polycarbonate in white
- Straightforward installation, with First-Fix base
- Options for surface (PX) or recessed (PXR) mount
- Intelligent self-test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



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## Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)	Includes Legend
PX3LS1	220 - 240 Vac, 50 Hz	1W LED strip	10.3 / 5.2 [NM-4/1.5]	M3	0 - 25	1.0	
PXR3LS1	220 - 240 Vac, 50 Hz		10.3 / 5.2 [NM-4/1.5]	M3	0 - 25	1.4	
PX1LS1HF	220 - 240 Vac, 50/60 Hz		7.7 / 3.8	230V	0 - 40	0.9	
PX1LS1LTC	220 - 240 Vac, 50/60 Hz		8.6 / 3.8	230V	0 - 40	1.3	
PXR1LS1HF	220 - 240 Vac, 50/60 Hz		7.7 / 3.8	230V	0 - 40	0.9	
PXR1LS1LTC	220 - 240 Vac, 50/60 Hz		8.6 / 3.8	230V	0 - 40	1.3	

## Legends

Single sided		Double sided	
Part no.	Pictogram	Part no.	Pictogram
XEN2PX		XEN3PX / XEN6PX	
XEN3PX			
XEN6PX			
XEN5PX			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

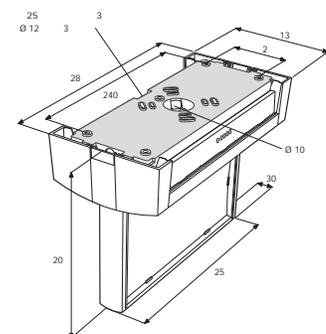


## Accessories

Order code	Description
PX/DSLKIT	Double sided exit sign kit, includes

For further information on Naveo emergency luminaire testing format, see pages 79 - 81.

## Dimensions



# Previz

## Quick & practical



### LED emergency luminaire

- Manufactured from high grade polycarbonate in white
- Straightforward installation, with First-Fix base
- Options for surface (PX) or recessed (PXR) mount
- Increased spacing achieved with optional lens kit (PX/LENS4)
- Intelligent Self-Test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Luminaire

Order Code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
PX3LS1	220 - 240 Vac, 50 Hz	1W LED strip	10.3 / 5.2 [NM-4/1.5]	147 lumens	M3	0 - 25	1.0
PXR3LS1	220 - 240 Vac, 50 Hz		10.3 / 5.2 [NM-4/1.5]	147 lumens	M3	0 - 25	1.4
PX1LS1HF	220 - 240 Vac, 50/60 Hz		7.7 / 3.8	185 lumens	230V	0 - 40	0.9
PX1LS1LTC	220 - 240 Vac, 50/60 Hz		8.6 / 3.8	185 lumens	230V	0 - 40	1.3
PXR1LS1HF	220 - 240 Vac, 50/60 Hz		7.7 / 3.8	185 lumens	230V	0 - 40	0.9
PXR1LS1LTC	220 - 240 Vac, 50/60 Hz		8.6 / 3.8	185 lumens	230V	0 - 40	1.3

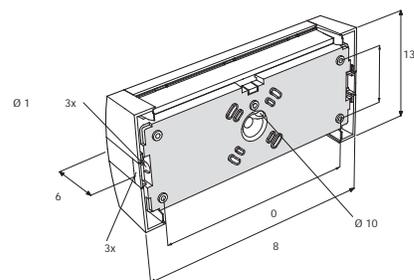


### Accessories

Order code	Description
PX/LENS4	Set of 4 lenses

For Previz spacing data, please see pages 134 - 136. For further information on Naveo emergency luminaire testing format, see pages 79 - 81.

### Dimensions





## Aqualux Durable & high performance

- Waterproof enclosures to IP65 & IP67
- Optimal LED performance
- Ease of maintenance with in-built Self-Test

# Aqualux

## Durable & high performance



### Back-lit LED exit sign

- Attractive aluminium modular enclosure
- Clear polycarbonate broad delivery diffuser
- Intelligent Self-Test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### LED base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
OW3L261	220 - 240 Vac, 50 Hz	2 x 1W LED	9.9 / 5.1	M3	0 - 25	2.2
OW3L261LS	220 - 240 Vac, 50 Hz		26.9 / 22.1	M3	0 - 25	2.3
OW1L261HF	220 - 240 Vac, 50/60 Hz		6.8 / 3.1	230V	0 - 40	1.8
OW1L261LTC	220 - 240 Vac, 50/60 Hz		8.0 / 3.5	230V	0 - 40	1.9

OW3L261LS includes light sensor.

### Legends

Part no.	Pictogram
XEN2W	
XEN3W	
XEN6W	
XEN5W	
XLF802W	
XLF803W	

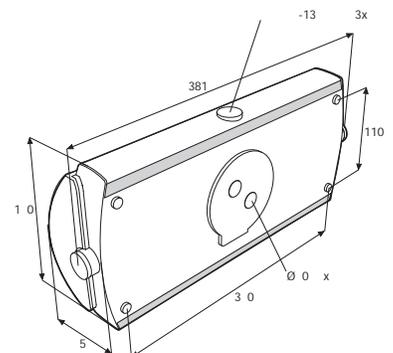
ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139. Special legends for extinguishers and hose reel are also illustrated.



### Accessories

Order code	Description
OW/BCM	Ceiling bracket, vertical mount
OW/BWA	Wall bracket, angled mount

### Dimensions



# Aqualux

## Durable & high performance



### Edge-lit LED exit sign

- Attractive aluminium modular enclosure
- Clear polycarbonate broad delivery diffuser
- Intelligent Self-Test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



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### LED base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/duration (hrs)	Environment temp. (°C)	Weight (kg)
OW3L261	220 - 240 Vac, 50 Hz	2 x 1W LED	9.9 / 5.1	M3	0 - 25	2.2
OW3L261LS	220 - 240 Vac, 50 Hz		26.9 / 22.1	M3	0 - 25	2.3
OW1L261HF	220 - 240 Vac, 50/60 Hz		6.8 / 3.1	230V	0 - 40	1.8
OW1L261LTC	220 - 240 Vac, 50/60 Hz		8.0 / 3.5	230V	0 - 40	1.9

OW3L261LS includes light sensor.

### Legends

Single sided		Double sided	
Part no.	Pictogram	Part no.	Pictogram
RSEN2W		RSEN3W/RSEN6W	
RSEN3W		RSEN2W/RSEN2W	
RSEN6W			
RSEN5W			

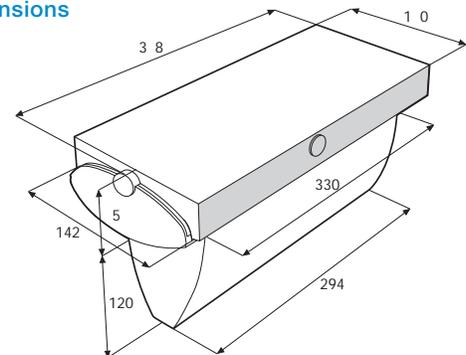
ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.



### Accessories

Order code	Description
OW/BWM	Wall mount end cantilever bracket
OW/DSC	Blank double sided diffuser

### Dimensions



# Aqualux

## Durable & high performance



### High power open area luminaire

- Choice of 8W or 11W fluorescent lamps
- Attractive aluminium modular enclosure
- Clear polycarbonate broad delivery diffuser
- Includes light sensor for overnight security lighting application
- Intelligent Self-Test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Luminaire

Order code	Input voltage	Lamp type	Lamp output	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
OW23161	220 - 240 Vac, 50 Hz	8W T5	156 lumens	2.3 / 1.7	NM3	0 - 25	2.0
OW33161	220 - 240 Vac, 50 Hz	8W T5	156 lumens	18.2 / 11.0	M3	0 - 25	2.2
OW13161HF	220 - 240 Vac, 50/60 Hz	8W T5	303 lumens	16.0 / 8.0	230V	0 - 40	1.8
OW13161LTC	220 - 240 Vac, 50/60 Hz	8W T5	303 lumens	16.0 / 7.6	230V	0 - 40	1.9
OW26161	220 - 240 Vac, 50 Hz	11W PL	252 lumens	3.7 / 3.1	NM3	0 - 25	2.0
OW36161	220 - 240 Vac, 50 Hz	11W PL	252 lumens	16.5 / 10.0	M3	0 - 25	2.2
OW16161HF	220 - 240 Vac, 50/60 Hz	11W PL	675 lumens	16.0 / 8.0	230V	0 - 40	1.8
OW16161LTC	220 - 240 Vac, 50/60 Hz	11W PL	675 lumens	22.0 / 10.0	230V	0 - 40	1.9

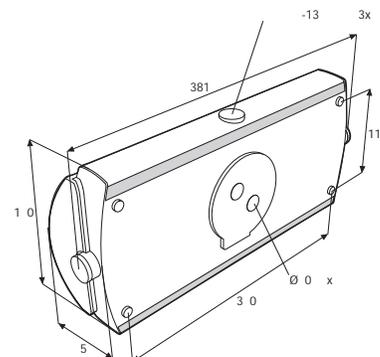


### Accessories

Order code	Description
OW/BCM	Ceiling bracket, vertical mount
OW/BWA	Wall bracket, angled mount
OW/BWM	Wall mount end cantilever bracket

For Aqualux spacing data, see pages 134 - 136.

### Dimensions



# Aqualux Freez-Lite

## Durable & high performance



### High power open area luminaire

- Choice of 8W or 11W fluorescent lamps
- Attractive aluminium modular enclosure
- Clear polycarbonate broad delivery diffuser
- Operates down to minus 25 °C
- Intelligent Self-Test as standard
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



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### Luminaire

Order code	Input voltage	Lamp type	Lamp output	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
STF23161	220 - 240 Vac, 50 Hz	8W T5	156 lumens	2.3 / 1.7	NM3	-25 - +25	2.0
STF33161	220 - 240 Vac, 50 Hz	8W T5	156 lumens	35.2 / 28.0	M3	-25 - +25	2.2
STF13161HF	220 - 240 Vac, 50/60 Hz	8W T5	303 lumens	38.0 / 25.0	230V	-25 - +40	1.8
STF26161	220 - 240 Vac, 50 Hz	11W PL	252 lumens	21.1 / 20.5	NM3	-25 - +25	2.0
STF36161	220 - 240 Vac, 50 Hz	11W PL	252 lumens	44.0 / 33.5	M3	-25 - +25	2.2
STF16161HF	220 - 240 Vac, 50/60 Hz	11W PL	675 lumens	38.0 / 25.0	230V	-25 - +40	1.8

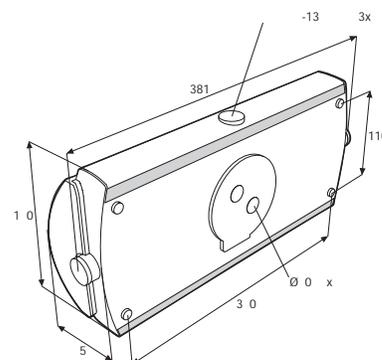


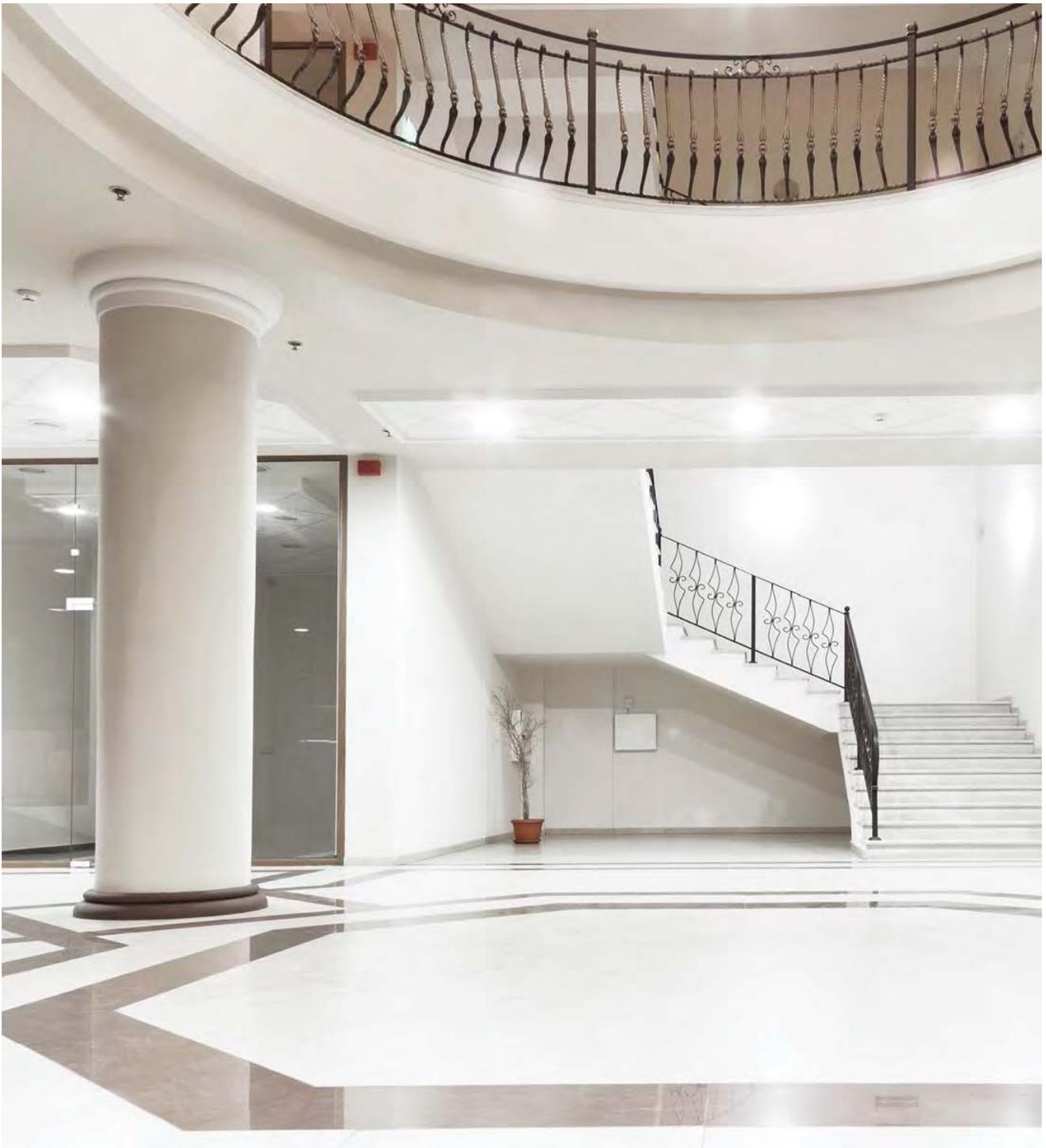
### Accessories

Order code	Description
OW/BCM	Ceiling bracket, vertical mount
OW/BWA	Wall bracket, angled mount
OW/BWM	Wall mount end cantilever bracket

For Aqualux spacing data, see pages 134-136

### Dimensions





## Decorative Hy-Lite Elegant LED lighting

- Simple installation
- High output LED luminaires
- Aesthetically pleasing designs

# Camarque

## Elegant LED lighting



### Aesthetically pleasing, decorative LED luminaire

- Fire-resistant polycarbonate luminaire body with opal diffuser
- Angled and banded trim options in a range of finishes
- Semi-recessing accessory available
- Designed and manufactured to meet the requirements of BS EN 60598.2.22 and EN 60598-1



### Luminaire

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Order code	Voltage input	Lamp type	Power consumption (VA/W)	Lamp output	Operation duration (hrs)	Environment temp. (°C)	Weight (kg)
CLQ4L81	220-240V 50/60Hz	LED	26.5 / 24.7	237	CNM3	0 - 25	3.2
CLQ1L601		LED	20.2 / 18.9	2370	230V	0 - 40	2.8
CLQ28M		28W2D	25.8 / 25.0	250	M3	0 - 25	3.2
CLQ28PHF		28W2D	28.1 / 27.2	1800/ -	230V	0 - 40	2.2

Slave versions available with LTC

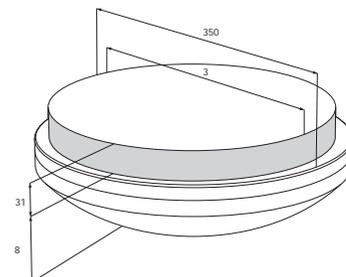


### Accessories

Order code	Description
CLQ/SR	Semi-recessing kit

For Camarque spacing data, see page 134 - 136. For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

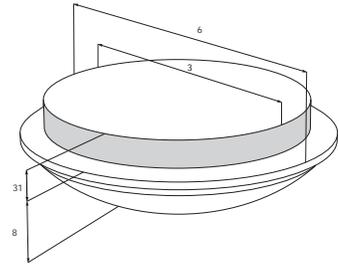
### Dimensions



Cable entry via 20 mm hole on rear of unit.  
Ceiling cutout 330 mm when semi-recessing.

# Camarque

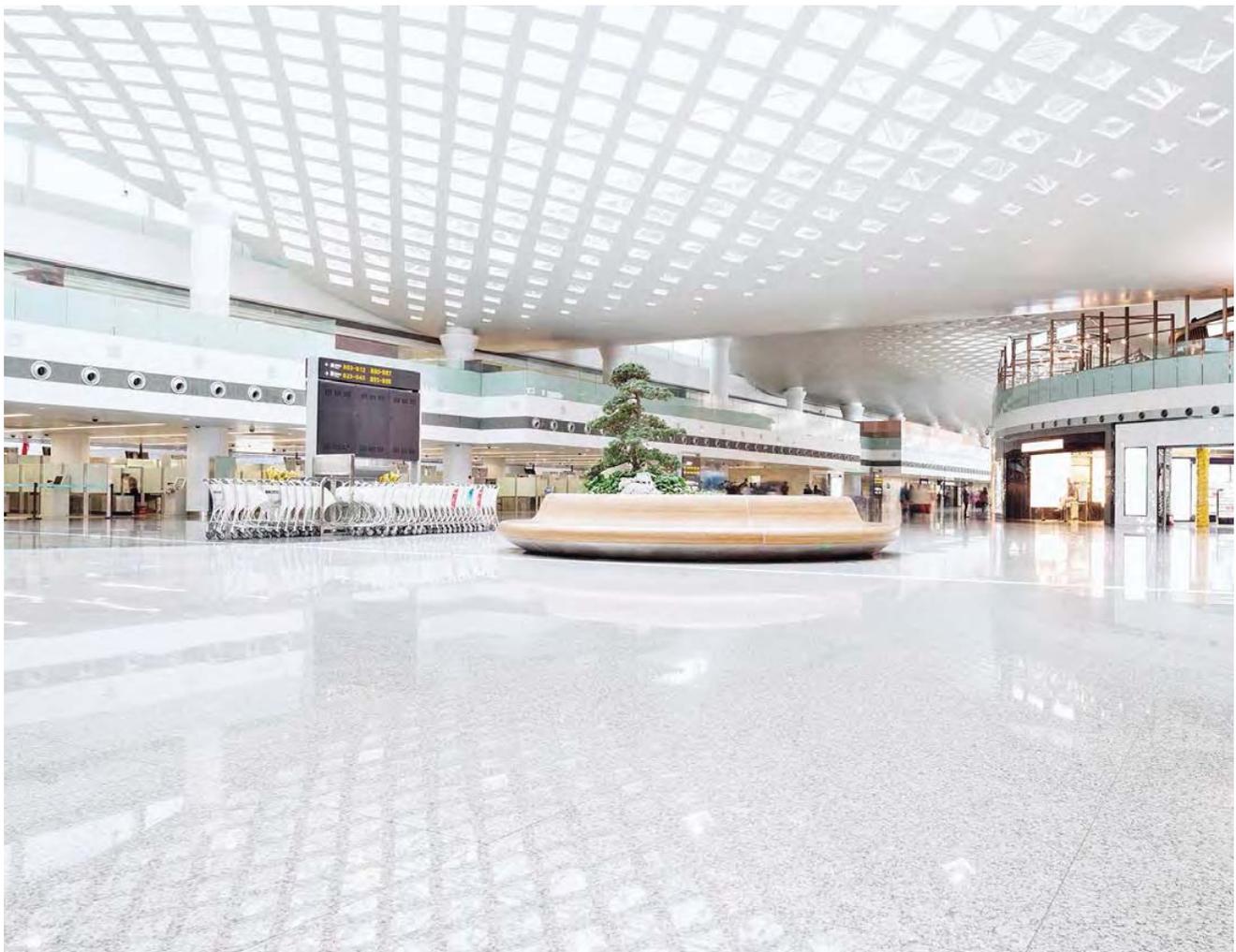
## Elegant LED lighting



### Angled trim accessory

Order code	Trim colour
CLQ/GA	
CLQ/SA	
CLQ/WA	
CLQ/BKA	
CLQ/SR	Semi-recessing kit

Ceiling cutout 330 mm when semi-recessing



# Cordona

## Elegant LED lighting



### IP65 decorative LED luminaire

- LED light source/ optional fluorescent
- Designed for escape route and open area lighting
- Polycarbonate luminaire body with clear or translucent diffuser
- Hinged geartray for easy access
- Semi-recessing accessory available
- Designed and manufactured to meet the requirements of BS EN 60598.2.22 and EN 60598-1

Clear diffuser illustrated



### Luminaire

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Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
CPW4L814	220-240V 50/60Hz	LED	26.5 / 24.7	237	CNM3	0-25	3.2
CPW1L6014		LED	20.1 / 18.9	2370	230V	0-40	2.8
CPW28M		28W2D	25.8 / 25.0	250	M3	0-25	3.0
CPW28HF		28W2D	28.1 / 27.2	1800/ -	230V	0-40	2.8

4 = Translucent diffuser

Slave versions available with LTC



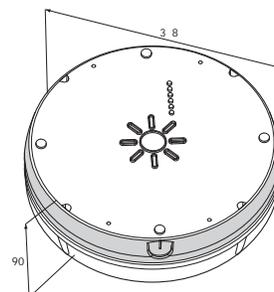
Codes shown: LED version with translucent diffuser, Fluorescent with clear diffuser

### Accessories

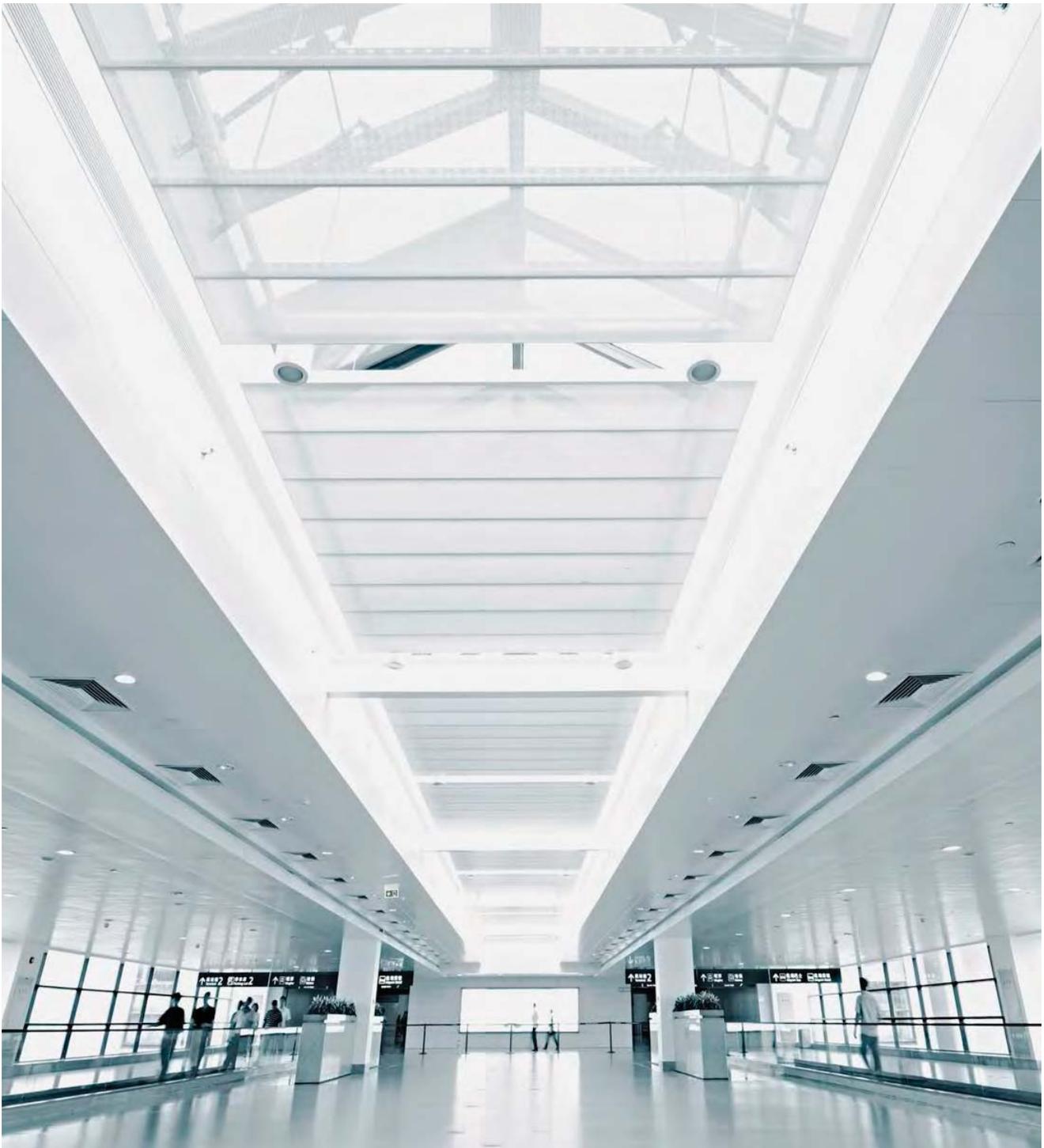
Order code	Description
------------	-------------

For Cordona spacing data, see page 134 - 136. For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

### Dimensions



Ceiling cutout 346 mm when semi-recessing.



## Corniche Classical & timeless

- Traditional style suitable for many environments
- BSI Kitemark approved
- Available in a variety of finishes to suit the application

# Corniche

## Classical & timeless



### Distinctive edge-lit exit sign

- Mains connector block seated in support pod
- Includes chain for maximum 0.5 m suspension
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Exit sign

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Weight (kg)
NB3LS*	220-240V 50/60Hz	LED	6.27 / 4.91	M3	2.5
NB1LS*HF			2.36 / 1.92	230V	
NB1LS*LTC			2.36 / 1.92	230V	

\* = 1 - [White Trim], =4 - [Brass Trim], =5 [Stainless Steel Trim] [Ordering example, NB3LS1 reflects Corniche LED, M3 hours Duration, White Trim]

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### Legends

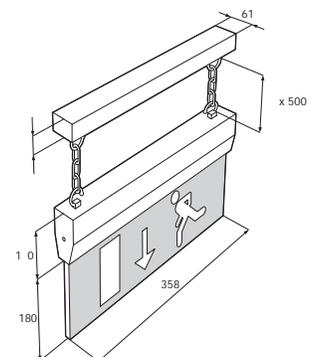
Single sided		Double sided	
Part no.	Pictogram	Part no.	Pictogram
XEN2NT31		XEN36NT32	
XEN3NT31		XEN22NT32	
XEN6NT31			
XEN5NT31			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

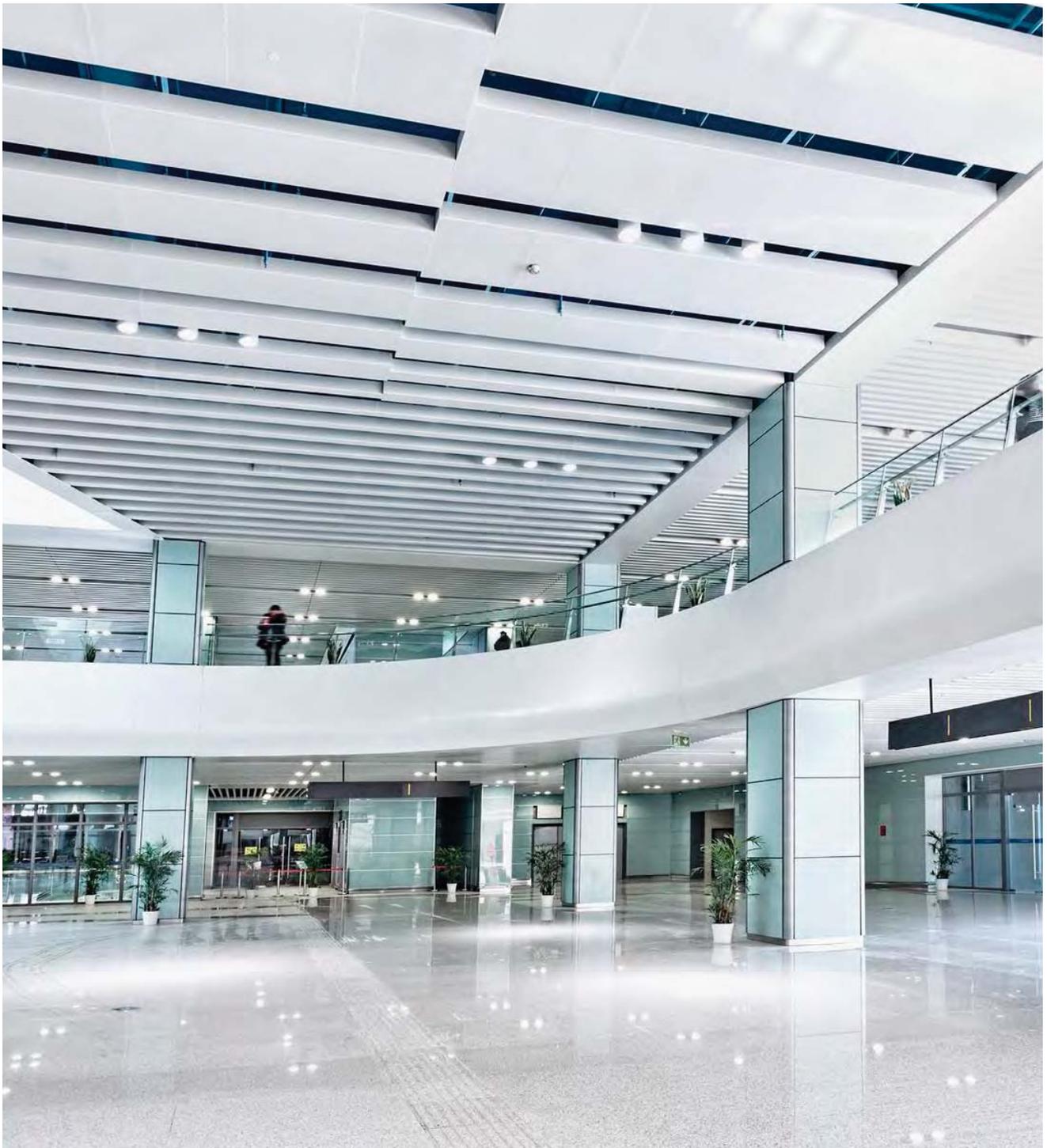


For accessory drawings, please contact Emergi-Lite. For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

### Dimensions



Cable entry via BESA in support pod.



## Silver-Lite Compact & modern

- Available in a variety of coloured finishes to suit the application
- Heavy duty steel enclosures to IP20
- Recessed designs for compact installation

# Silver-lite Compact & modern



## Recessed exit sign

- Available with stainless steel, brushed silver aluminium, white or mirror finish brass trim plate
- Heavy duty steel enclosure with wing fixings for recessed application with separate slotted metal trim plate to support legend
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



## Recessed unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
AR3LS	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	M3	0 - 25	2.0

Fluorescent = NiCaD, LED = NiMH. Silver-Lite exit sign available with slim profile trim plate, to special order. Slave versions available with LTC.

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## Legends

Single sided		Double sided	
Part no.	Pictogram	Part no.	Pictogram
XEN02A31		XEN03/6A32	
XEN03A31		XEN02/2A32	
XEN06A31			
XEN05A31			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

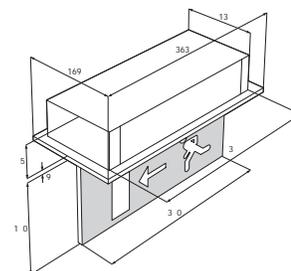


## Trim plate

Order code	Description
AE01	White slotted trim plate
AE04	Brass slotted trim plate
AE05	Stainless steel slotted trim plate
AE06	Brushed aluminium slotted trim plate

For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

## Dimensions



Cable entry via 20 mm knockouts on rear and end of unit. Ceiling cutout 325 mm x 140 mm.

# Silver-lite

## Compact & modern



### Recessed luminaire

- Available with stainless steel, brushed silver aluminium, white or mirror finish brass trim plate
- Heavy duty steel enclosure with wing fixings for recessed application
- Separate metal trim plate with light-optimised diffuser
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Recessed unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
AR2LS	220 - 240 Vac, 50/60 Hz	LED strip	2.81 / 1.5	137 lumens	NM3	0 - 25	1.8
AR3LS	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	137 lumens	M3		2.0
ARV23	220 - 240 Vac, 50/60 Hz	8WT5	4.0 / 3.7	100 lumens	NM3		1.8
ARV33	220 - 240 Vac, 50/60 Hz	8WT5	13.9 / 10.8	100 lumens	M3		2.0

Fluorescent = NiCaD, LED = NiMH.  
Slave versions available with LTC.

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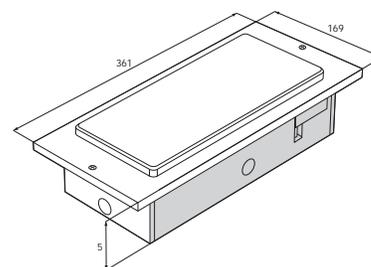


### Trim plate

Order code	Description
AR011	White trim
AR041	Brass trim
AR051	Stainless steel trim
AR061	Aluminium trim

For Silver-Lite spacing data, see page 134 - 136. For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

### Dimensions



Cable entry via 20 mm knockouts on rear and end of unit.  
Ceiling cutout 325 mm x 140 mm.



## Serenga In harmony with the interior

- Manufactured from high grade polycarbonate
- First-Fix with optional mounting accessories
- High output LED luminaires
- Lightweight design for ease of installation

# Serenga

## In harmony with the interior



### LED escape route illumination, plastic frame, aluminium trim Normal legend face

- 2 surface mount orientations
- 4 LED (2-downlighters) exit sign or 2 LED exit sign
- First-Fix with optional mounting accessories
- High output down-lighters for points of emphasis



### Control assembly

Order code	Input voltage	Description	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
SER-M3-003	220 - 240 Vac, 50 Hz	Serenga M3 control module & battery pack, 50 Hz	M3	5 - 25	0.8
CTSER-M3-003	220 - 240 Vac, 50 Hz	Serenga M3 control module & battery pack, CT version, 50 Hz	M3	5 - 25	0.9
CTSER-M3V2-003	220 - 240 Vac, 60 Hz	Serenga M3 control module & battery pack, CT version, 60 Hz	M3	5 - 25	0.9
SER-M3V2-003	220 - 240 Vac, 60 Hz	Serenga M3 control module & battery pack, 60 Hz	M3	5 - 25	0.8
SER-230-003	85 - 240 Vac, 50/60 Hz	Serenga control module 230V mains	230V	0 - 40	0.8
SER-230LTC-003	85 - 240 Vac, 50/60 Hz	Serenga control module 230V, LTC version	230V	0 - 40	0.8

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.

### Smart-Frame

Order code	Lamp type	Description	Power consumption self contained (VA/WA)	Power consumption slave (VA/WA)	Weight (kg)
SER-FE2D	2 x 1W LED	Serenga smart frame 2 LED - normal face	17.5 / 8.6	8.0 / 3.5	0.9
SER-FE4D	4 x 1W LED	Serenga smart frame 4 LED - normal face			
SER-FE2DS	2 x 1W LED (Side Wired)	Serenga smart frame 2 LED - normal face/ flag format			
SER-FE4DS	4 x 1W LED (Side Wired)	Serenga smart frame 4 LED - normal face/ flag format			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Legends

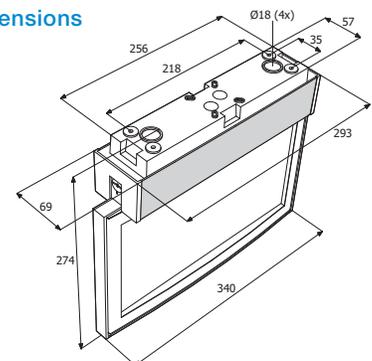
Part no.	Pictogram
<b>ISO 7010 legend format</b>	
SER-SNN10	
SER-SNN11	
SER-SNN12	
SER-SNN13	
<b>Safety signs</b>	
SER-SN802	
SER-SN803	

### Accessories

Order code	Description
SER-BZKIT	Recessing kit
SER-RKIT150	Tube suspension kit (0.15 m)
SER-RKIT300	Tube suspension kit (0.3 m)
SER-RKIT500	Tube suspension kit (0.5 m)
SER-RKIT1000	Tube suspension kit (1 m)

For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

### Dimensions



# Serenga

## In harmony with the interior



LED escape route illumination, plastic frame, aluminium trim  
(C model = CURVED on both sides)

- 2 surface mount orientations
- 4 LED exit sign with downlighters or 2 LED exit sign
- First-Fix with optional mounting accessories
- High grade polycarbonate body with aluminium trim



### Control assembly

Order code	Input voltage	Description	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
SER-M3-003	220 - 240 Vac, 50 Hz	Serenga M3 control module & battery pack, 50 Hz	M3	5 - 25	0.8
CTSER-M3-003	220 - 240 Vac, 50 Hz	Serenga M3 control module & battery pack, CT version, 50 Hz	M3	5 - 25	0.9
CTSER-M3V2-003	220 - 240 Vac, 60 Hz	Serenga M3 control module & battery pack, CT version, 60 Hz	M3	5 - 25	0.9
SER-M3V2-003	220 - 240 Vac, 60 Hz	Serenga M3 control module & battery pack, 60 Hz	M3	5 - 25	0.8
SER-230-003	85 - 240 Vac, 50/60 Hz	Serenga control module 230V mains	230V	0 - 40	0.8
SER-230LTC-003	85 - 240 Vac, 50/60 Hz	Serenga control module 230V, LTC version	230V	0 - 40	0.8

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.

### Smart-Frame

Order code	Lamp type	Description	Power consumption self contained (VA/WA)	Power consumption slave (VA/WA)	Weight (kg)
SER-FS2D	2 x 1W LED	Serenga smart frame 2 LED - curved face	17.5 / 8.6	8.0 / 3.5	0.9
SER-FS4D	4 x 1W LED	Serenga smart frame 4 LED - curved face			
SER-FS2DS	2 x 1W LED (Side wired)	Serenga smart frame 2 LED - curved face/ flag format			
SER-FS4DS	4 x 1W LED (Side wired)	Serenga smart frame 4 LED - curved face/ flag format			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Legends

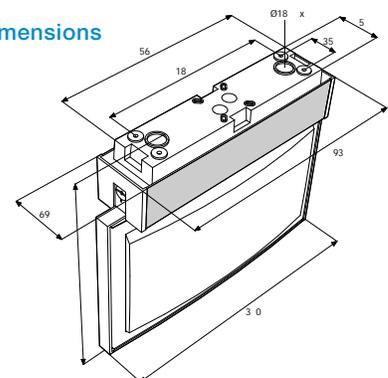
Part no.	Pictogram
<b>ISO 7010 legend format</b>	
SER-SCN10	
SER-SCN11	
SER-SCN12	
SER-SCN13	
<b>Safety signs</b>	
SER-SC802	
SER-SC803	

### Accessories

Order code	Description
SER-BZKIT	Recessing kit
SER-RKIT150	Tube suspension kit (0.15 m)
SER-RKIT300	Tube suspension kit (0.3 m)
SER-RKIT500	Tube suspension kit (0.5 m)
SER-RKIT1000	Tube suspension kit (1 m)

For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

### Dimensions



# Serenga

## In harmony with the interior



LED escape route illumination, back to wall mount, plastic frame, aluminium trim (FB model = CURVED on front face, back to wall)

- 2 surface mount orientations
- 4 LED exit sign with downlighters or 2 LED exit sign
- First-Fix mounting
- High output down-lighters for points of emphasis



### Control assembly

Order code	Input voltage	Description	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
SER-M3-003	220 - 240 Vac, 50 Hz	Serenga M3 control module & battery pack, 50 Hz	M3	5 - 25	0.8
CTSER-M3-003	220 - 240 Vac, 50 Hz	Serenga M3 control module & battery pack, CT version, 50 Hz	M3	5 - 25	0.9
CTSER-M3V2-003	220 - 240 Vac, 60 Hz	Serenga M3 control module & battery pack, CT version, 60 Hz	M3	5 - 25	0.9
SER-M3V2-003	220 - 240 Vac, 60 Hz	Serenga M3 control module & battery pack, 60 Hz	M3	5 - 25	0.8
SER-230-003	85 - 240 Vac, 50/60 Hz	Serenga control module 230V mains	230V	0 - 40	0.8
SER-230LTC-003	85 - 240 Vac, 50/60 Hz	Serenga control module 230V, LTC version	230V	0 - 40	0.8

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.

### Smart- Frame

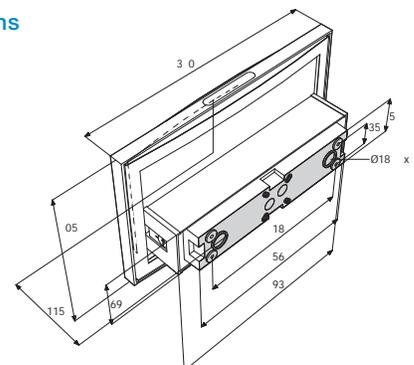
Order code	Lamp type	Description	Power consumption self contained (VA/WA)	Power consumption slave (VA/WA)	Weight (kg)
SER-FB2D	2 x 1W LED	Serenga smart frame 2 LED - wall mount/curved	17.5 / 8.6	8.0 / 3.5	0.9
SER-FB4D	4 x 1W LED	Serenga smart frame 4 LED - wall mount/curved			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

### Legends

Part no.	Pictogram
<b>ISO 7010 legend format</b>	
SER-SCN10	
SER-SCN11	
SER-SCN12	
SER-SCN13	
<b>Safety signs</b>	
SER-SC802	
SER-SC803	

### Dimensions





## Escape Line Practical & durable

- High performance LED modules
- Slim, functional emergency luminaires
- High grade polycarbonate enclosures
- Light optimised diffusers

# J-LED

## Practical & durable



### Recessed LED light source

- Polycarbonate enclosure finished in white
- Versions for escape route (Suffix E) or open area (Suffix A) use available
- Single point high performance LED
- Battery and control pack slot through a 39 mm ceiling cut-out
- Plug and socket supplied for mains connection
- Designed and manufactured to meet the requirements of BS EN 60598.2.22 and BS EN 60598-1



### Single point LED

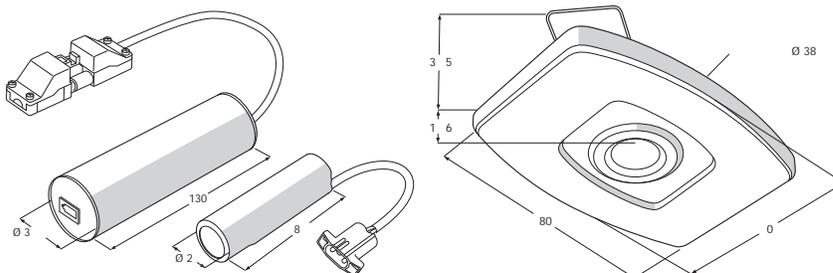
Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
LR2L1*	220 - 240 Vac, 50/60 Hz	1 x 1W LED	2.69 / 1.44	110 lumens	NM3	0 - 25	0.6
LR3L1*	220 - 240 Vac, 50/60 Hz		6.54 / 5.2		M3	0 - 25	
LR1L1*HF	110 - 230 Vac, 50/60 Hz		2.36 / 1.92		230V	-	

\* = A - [Open area], E - [Escape route]  
 Slave 24 - 50V versions are available  
 Slave versions available with LTC



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### Dimensions



Ceiling cutout 39 mm diameter.  
 For spacing data, please contact Emergi-Lite.

# Surf-LED

## Practical & durable



### Surface mount LED light source

- Folded metal enclosure finished with white epoxy coat
- Versions for escape route (Suffix E) or open area (Suffix A) use available
- Single point high performance LED for extended life
- Styled to be a slim, functional emergency luminaire
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Single point LED

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (Kg)
LS3L1*	220 - 240 Vac, 50/60 Hz	1 x 1W LED	2.69 / 1.44	110 lumens	NM3	0 - 25	0.7
LS2L1*	220 - 240 Vac, 50/60 Hz		6.54 / 5.2		M3	0 - 25	
LS1L1*HF	110 - 230 Vac, 50/60 Hz		2.36 / 1.92		230V	-	

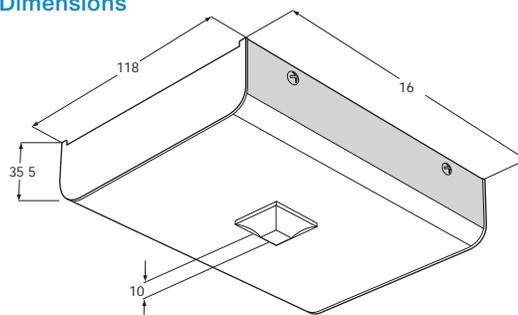
\* = A - [Open area], E - [Escape route]  
 Slave 24 - 50V versions are available  
 Slave versions available with LTC.

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Cable entry via rear BESA.  
 For spacing data, please contact Emergi-Lite.

### Dimensions



# Day-Lite Ex-cel Practical & durable



## Surface mounted luminaire

- Sturdy, general use luminaire with screw-fix diffuser
- Light optimised diffuser
- LED version is suitable for fluorescent replacement requirements
- Designed and manufactured to BS EN 60598.2.22



## Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
XW2LS11	220 - 240 Vac, 50/60 Hz	1W LED strip	2.81 / 1.5	137 lumens	NM3	0 - 25	1.1
XW3LS11	220 - 240 Vac, 50/60 Hz	1W LED strip	6.27 / 4.91	137 lumens	M3	0 - 25	1.3
XXW23111	220 - 240 Vac, 50/60 Hz	8W T5	4.0 / 3.7	170 lumens	NM3	0 - 25	1.2
XXW33111	220 - 240 Vac, 50/60 Hz	8W T5	13.9 / 10.8	170 lumens	M3	0 - 25	1.5
XW1LS11HF	110 - 240V AC/DC	LED strip	2.36 / 1.92	137 lumens	Slave	0 - 30	1.2
XW8LS11	24 - 50V AC/DC	LED strip	3.07 / 1.9	137 lumens	Slave	0 - 30	1.2

Slave versions available with LTC.

## Legends

Part no.	Pictogram
RSEN2X	
RSEN3X	
RSEN6X	
RSEN5X	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139 or contact Emergi-Lite.



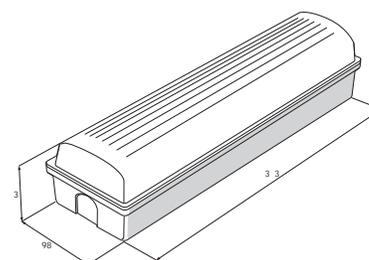
12

## Accessories

Order code	Description
XTR	Semi-recessing bezel in white

See Silver-Scape (pages 60 - 61) for recessed version. For Day-Lite Ex-cel spacing data, see pages 134 - 136. For further information on IR2 and Self-Test emergency luminaire testing formats, see pages 82 - 84.

## Dimensions



Cable entry via BESA on rear and 20 mm drill holes on rear and ends of unit. Ceiling cutout 342 mm x 95 mm when semi-recessing.

# Silver-Scape

## Practical & everyday



### Recessed emergency luminaire

- Suitable for application in suspended ceilings
- Polycarbonate enclosure with wing fixings for recessed application
- Optically engineered diffuser
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Recessed unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
RB2LS1	220 - 240 Vac, 50/60 Hz	LED strip	2.81 / 1.5	137 lumens	NM3	0 - 25	1.1
RB3LS1	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	137 lumens	M3	0 - 25	1.3
RB2311	220 - 240 Vac, 50/60 Hz	8WT5	4.0 / 3.7	100 lumens	NM3	0 - 25	1.1
RB3311	220 - 240 Vac, 50/60 Hz	8WT5	13.9 / 10.8	100 lumens	M3	0 - 25	1.3
RB1LS1HF	110 - 240V AC/DC	LED strip	2.36 / 1.92	137 lumens	Slave	0 - 30	1.2
RB8LS1	24 - 50V AC/DC	LED strip	3.07 / 1.9	137 lumens	Slave	0 - 30	1.2

Slave versions available with LTC.

12

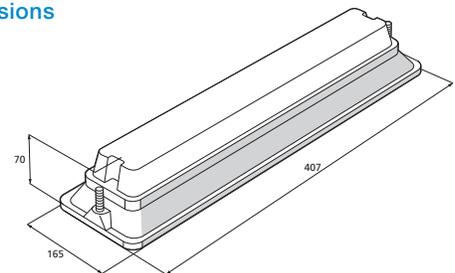


### Diffuser panel

Order code	Description
RB00	Recessed diffuser panel

For Silver-Scape spacing data, see pages 134 - 136. For further information on IR2 and Self-Test emergency luminaire testing formats, see pages 82 - 84.

### Dimensions



Cable entry via 20 mm knockouts on rear of unit.  
Ceiling cutout 380 mm x 136 mm.

# Silver-Scape Practical & everyday



## Recessed emergency exit sign

- Suitable for application in suspended ceilings
- Polycarbonate enclosure with wing fixings for recessed application
- Diffuser panel with slot for exit sign legend
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



## Recessed unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
RB3LS1	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	137 lumens	M3	0 - 25	1.3
RB1LS1HF	110 - 240V AC/DC		2.36 / 1.92		Slave	0 - 30	1.2
RB8LS1	24 - 50V AC/DC		3.07 / 1.9		Slave	0 - 30	1.2

Legend to be ordered separately.  
Slave versions available with LTC.

## Legends

Single sided		Double sided	
Part no.	Pictogram	Part no.	Pictogram
XEN2A31		XEN36A32	
XEN3A31		XEN22A32	
XEN6A31			
XEN5A31			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

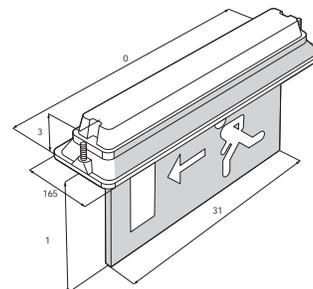


## Diffuser panel

Order code	Description
RE00	Recessed diffuser panel with sign panel slot

For further information on IR2 and Self-Test emergency luminaire testing formats, see pages 82 - 84.

## Dimensions



Cable entry via 20 mm knockouts on rear of unit.

# Navigator compact

## Practical & everyday



### Compact, folded metal emergency exit sign

- Downlight panel provides additional illumination at floor level
- Available in white, gold and stainless steel colours.
- Designed and manufactured to meet the requirements of BS EN 60598.2.22. BSI Kitemarked, ICEL1001 registration scheme



### Base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
VE3LS*	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	137 lumens	M3	0 - 25	2.2
VE1LS*HF	110 - 240V AC/DC		2.36 / 1.92		Slave	0 - 30	2.1
VE8LS*	24 - 50V AC/DC		3.07 / 1.9		Slave	0 - 30	2.1

Fluorescent = NiCaD, LED = NiMH.

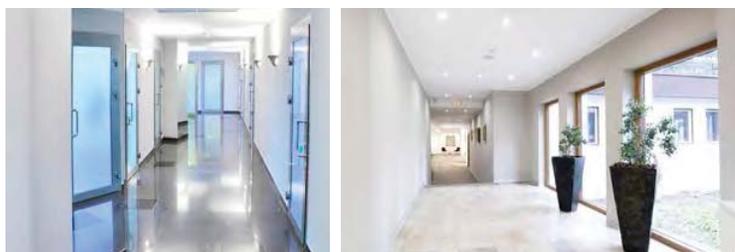
\* = 1 - [White], 5 - [Stainless steel], 7 - [Gold]

Slave versions available with LTC.

### Legends

Part no.	Pictogram
XEN2V31	
XEN3V31	
XEN6V31	
XEN5V31	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.



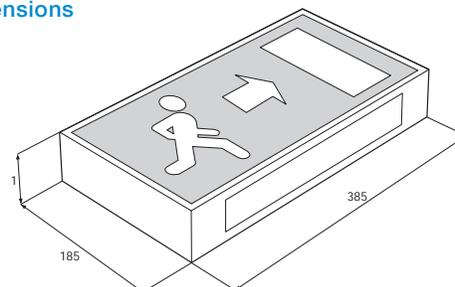
12

### Accessories

Order code	Description
VEBACK	Rear trim plate for a flat back when required for ceiling mounting

For DVE drawing, please contact Emergi-Lite. For further information on IR2 and Self-Test emergency luminaire testing formats, see pages 82 - 84.

### Dimensions



Cable entry via 20 mm knockouts on rear of unit.

# Way-Fer Compact & modern



### Slim-profile, back-lit exit sign

- Manufactured from high grade polycarbonate
- Self-adhesive PVC legend creates back-lit sign
- Ingress rated to IP42 when back mounted
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
PL2LS1	220 - 240 Vac, 50/60 Hz	LED strip	2.81 / 1.5	137 lumens	NM3	0 - 25	1.7
PL3LS1	220 - 240 Vac, 50/60 Hz		M3		0 - 25	1.9	
PL1LS1HF	110 - 240V AC/DC		Slave		0 - 30	1.8	
PL8LS1	24 - 50V AC/DC		Slave		0 - 30	1.8	

Naveo version available  
Slave versions available with LTC.

### Legends

Part no.	Pictogram
RSEN 2PL	
RSEN 3PL	
RSEN 6PL	
RSEN 5PL	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

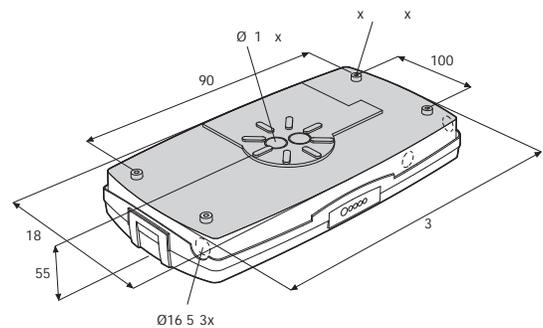


### Accessories

Order code	Description
PL/WG	Protective wire guard
PL/BCM	Ceiling bracket, top mount

For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

### Dimensions



# Way-Fer Compact & modern



## Slim-profile, edge-lit exit sign

- Manufactured from high grade polycarbonate
- Screen printed legend creates edge-lit sign
- Ingress rated to IP54 when ceiling mounted
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



## Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
PL2LS1	220 - 240 Vac, 50/60 Hz	LED strip	2.81 / 1.5	137 lumens	NM3	0 - 25	1.7
PL3LS1	220 - 240 Vac, 50/60 Hz		6.27 / 4.91		M3	0 - 25	1.9
PL1LS1HF	110 - 240V AC/DC		2.36 / 1.92		Slave	0 - 30	1.8
PL8LS1	24 - 50V AC/DC		3.07 / 1.9		Slave	0 - 30	1.8

Naveo version available  
Slave versions available with LTC.

## Legends

Single sided		Double sided	
Part no.	Pictogram	Part no.	Pictogram
XEN2PL		XEN36PLD	
XEN3PL		XEN22PLD	
XEN6PL			
XEN5PL			

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.

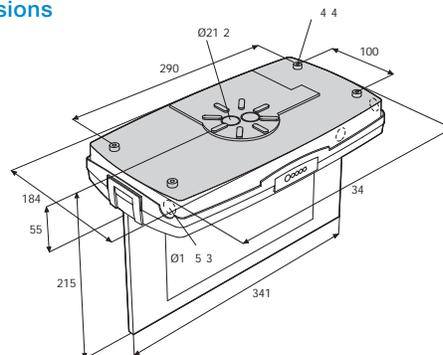


## Accessories

Order code	Description
PL/BPM	Pendant bracket, back mount

For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

## Dimensions



# Way-Fer Compact & modern



## Slim-profile luminaire

- Manufactured from high grade polycarbonate
- Light optimised diffuser
- Ingress rated to IP42 (back mount) or IP54 (ceiling mount)
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



## Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
PL2LS1	220 - 240 Vac, 50/60 Hz	LED strip	2.81 / 1.5	137 lumens	NM3	0 - 25	1.7
PL3LS1	220 - 240 Vac, 50/60 Hz		6.27 / 4.91		M3	0 - 25	1.9
PL1LS1HF	110 - 240V AC/DC		2.36 / 1.92		Slave	0 - 30	1.8
PL8LS1	24 - 50V AC/DC		3.07 / 1.9		Slave	0 - 30	1.8

Naveo version available  
Slave versions available with LTC.



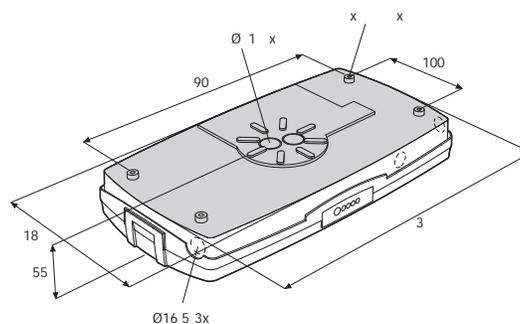
12

## Accessories

Order code	Description
PL/WG	Protective wire guard
PL/BPM	Pendant bracket, back mount
PL/BCM	Ceiling bracket, top mount

For Way-Fer spacing data, see page 134 - 136. For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

## Dimensions



# Weatherforce

## Practical & durable



### Practical, robust double sided exit sign

- High grade polycarbonate enclosure with fixed legends
- Semi-recessing accessory available
- Designed and manufactured to meet the requirements of BS EN 60598.2.22
- Cast aluminum base versions also available (Prefix: DWA)



### Exit sign

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
DV3LS1XE*	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	137 lumens	M3	0 - 25	2.1
DV3311XE*		8WT5	13.9 / 10.8	100 lumens	M3	0 - 25	2.1
DB1LS1HEXE*		LED strip	2.36 / 1.92	137 lumens	Slave	0 - 30	2.0
DWA1311HFXE*		8WT5	2.36 / 1.92	184 lumens	Slave	0 - 30	2.0

Slave versions available with LTC.

See legends table where \* is for viewing distances available



12

### Legends

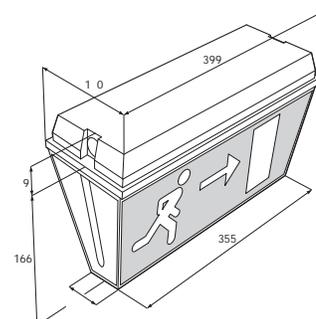
Part no.	Pictogram
36	
22	
55	

### Accessories

Order code	Description
BBZ	Semi-recessing bezel kit in white

For further information on Naveo, IR2 and Self-Test emergency luminaire testing formats, see pages 79 - 84.

### Dimensions



Cable entry via BESA on rear and 20 mm drill holes on ends of unit. Ceiling cutout 390 mm x 130 mm when semi-recessing.

# Weatherforce

## Practical & durable



### Surface mounted luminaire

- Simple, vandal resistant design
- Available with high grade polycarbonate (B) or cast aluminium (WA) enclosure
- Opal diffuser as standard with clear polycarbonate diffuser option available
- Converts easily to exit sign with addition of self-adhesive legend
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Luminaire

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
B2LS1	220 - 240 Vac, 50/60 Hz	LED strip	2.81 / 1.5	NM3	0 - 25	1.7
B3LS1	220 - 240 Vac, 50/60 Hz	LED strip	6.27 / 4.91	M3	0 - 25	2.1
B2311*	220 - 240 Vac, 50/60 Hz	8WT5	4.0 / 3.7	NM3	0 - 25	1.7
B3311*	220 - 240 Vac, 50/60 Hz	8WT5	13.9 / 10.8	M3	0 - 25	1.9
B4321*	220 - 240 Vac, 50/60 Hz	8WT5	13.9 / 10.8	CNM3	0 - 25	2.0
WA2321*	220 - 240 Vac, 50/60 Hz	2 x 8WT5	4.0 / 3.7	NM3	0 - 25	2.1
B1LS1HF	110 - 240 Vac, 50/60 Hz	LED strip	2.36 / 1.92	Slave	0 - 30	2.0
B1311*HF	220 - 240 Vac, 50/60 Hz	8WT5	2.36 / 1.92	Slave	0 - 30	1.9

\*- Suffix 1 for clear prismatic diffuser.  
Slave versions available with LTC.

### Legends

Part no.	Pictogram
RSEN2120	
RSEN3120	
RSEN6120	
RSEN5120	
RSEN120	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.  
Battery: Nimit-LED, NiCAD

### Accessories

Order code	Description
NB/BFM07	Cantilever wall bracket in gold
NB/BWM07	Back-to-wall bracket in gold

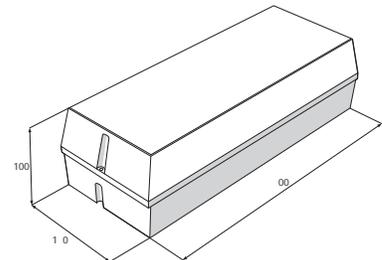
For Weatherforce spacing data, see page 134 - 136. For further information on Naveo, IR2, see pages 79-84.

### Options

Order code	Description
Suffix 1	Clear prismatic diffuser

12

### Dimensions



Cable entry via BESA on rear and 20 mm drill holes on ends of unit.  
Ceiling cutout 390 mm x 130 mm when semi-recessing.

# Navigator/navigator performa

## Practical & everyday



### Large, highly visible exit sign

- Generous downlight panels provide additional illumination at floor level (EE versions)
- EE versions available in white
- Navigator Performa unit available in black trim, with black and green legend, for cinemas, auditoria etc
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Base unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)	Trim colour
EE3311	220 - 240 Vac, 50/60 Hz	8W T5	13.9 / 10.8	M3	0 - 25	3.0	
EE4323		2 x 8W T5		CNM3		3.2	

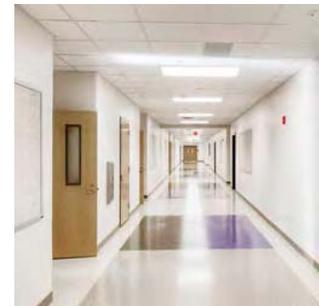
Slave versions available with LTC.

### Legends

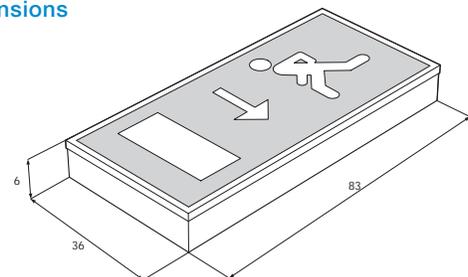
#### Navigator

Part no.	Pictogram
XEN2E31	
XEN3E31	
XEN6E31	
XEN5E31	

ISO 7010 pictogram legends are shown. Euro format legends are available to order see pages 138 - 139.



### Dimensions



Cable entry via 20 mm knockouts on rear of unit.

# Portable Work-Lite Practical & versatile



## Portable emergency luminaire

- High brightness, high power, focused beam LED light source
- Ideal for installers, maintenance or security personnel
- Durable polycarbonate body with clear polycarbonate diffuser
- Half power illumination (45 lumens for 3 hours) or full power (100 lumens for 1 hour)
- Carrying handle with variable ratchet positioning
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



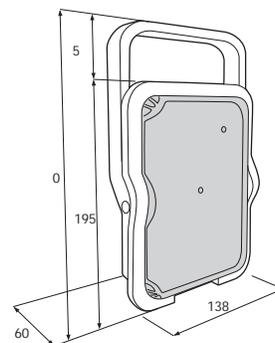
## Luminaire

Order code	Input voltage	Lamp type	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
PWL113E	220 - 240 Vac, 50/60 Hz	LED	100 / 45 lumens	NM1 / NM3	0 - 25	0.7



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## Dimensions



The slim-line Portable Work-Lite includes a wall mount and recessed socket for mains connection, plus adjustable carry handle for directional emergency lighting.



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## Industrial & hazardous area Resilient emergency lighting for unique applications

- Robust ingress protection designs
- Energy saving LED technology
- Ideal for indoor or outdoor open areas
- Designed to cope with the most demanding environments

# Range-Lite

## Robust & high output



### Twin beam emergency lighting (20w)

- Ideal for indoor use in smaller warehouses, factory spaces and industrial open areas
- Can be mounted upright on a wall or stanchion
- 20 Watt tungsten halogen lamps with polycarbonate lenses
- Mild steel enclosure with white powder coat
- Optional battery retaining clamp, or time delay feature
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



### Twin beam unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
HV203	220 - 240 Vac, 50/60 Hz	2 x 20W TH	22.0 / 17.5	2 x 300 lumens	NM3	0 - 25	7.8

Slave versions available with LTC.

### Options

Order code	Description
Suffix TD	20W self-contained version only

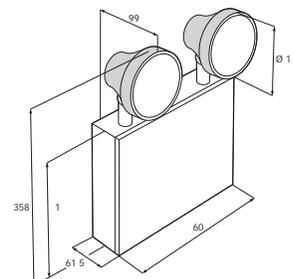
### Accessories

Order code	Description
HVBC	Battery retaining clamp
HLWG	Protective wire guard

For Range-Lite spacing data, please contact Emergi-Lite. For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.



### Dimensions



Cable entry via 20 mm knockouts on rear and sides of unit.

# Range-Lite Robust & high output



## Twin beam emergency lighting (55w)

- Ideal for indoor use in larger warehouses, factory spaces and industrial open areas
- Can be mounted upright on a wall or stanchion
- 55 Watt tungsten halogen lamps
- Mild steel enclosure
- Single lamp option available
- Optional time delay feature to support slow start mains luminaires
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



## Twin beam unit

Order code	Input voltage	Lamp type	Power consumption (VA/A)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
HL551*	220 - 240 Vac, 50/60 Hz	2 x 55W TH	22.0 / 17.5	2 x 900 lumens	NM1	0 - 25	7.8
HL551PC		2 x 55W TH		2 x 900 lumens	NM1		
HL1553		1 x 55W TH		900 lumens	NM3		

Slave versions available with LTC.

## Options

Order code	Description
*Suffix TD	20W self-contained version only

## Accessories

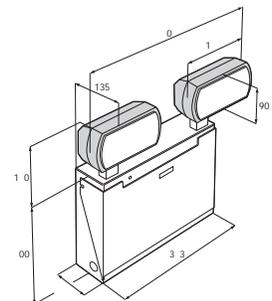
Order code	Description
HLWG	Protective wire guard



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For Range-Lite spacing data, please contact Emergi-Lite. For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

## Dimensions



Cable entry via 20 mm knockouts on rear and sides of unit.

# Range-Lite

## Robust & high output



### Twin beam emergency lighting

- Rated for external use with battery and electronics enclosure sealed to IP65
- Remote mounting lamps with horizontal and vertical head adjustment
- Polycarbonate enclosure with screw locked front panel
- Meets the anti-glare requirement when projectors mounted at least 30° above the line of sight
- Optional time delay feature to support slow start mains luminaires
- Designed and manufactured to meet the requirements of BS EN 60598.2.22



22 / 17.5

### Twin beam unit

Order code	Input voltage	Lamp type	Power consumption (VA/W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
HL203E3	220 - 240 Vac, 50/60 Hz	2 x 20W TH	22 / 17.5	2 x 300 lumens	NM3	0 - 25	7.6
HL551E3		2 x 55W TH		2 x 900 lumens	NM1		



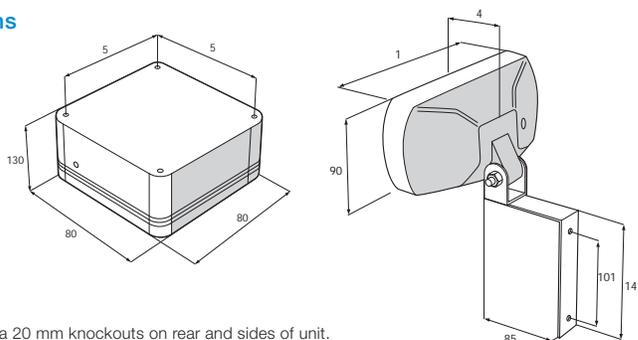
13

### Options

Order code	Description
Suffix TD	20W self-contained version only

For Range-Lite spacing data, please contact Emergi-Lite. For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.

### Dimensions



Cable entry via 20 mm knockouts on rear and sides of unit.

# Tunnelway

## Robust & energy efficient



### High specification road tunnel safety luminaire

- Designed to cope with the most demanding environments - tunnels, industrial complexes etc
- Self-contained or slave/mains versions are available
- Ideal where substantial directional sign viewing distances are required
- Angulated style for improved passageway visibility
- Stainless steel body, opal polycarbonate diffuser
- Legend to suit user requirement



### Exit sign

Order code	Input voltage	Environment temp. (°C)	Weight (kg)
ETULNM3-005	220 - 240 Vac, 50/60 Hz	0 - 25	7.2

### Legends



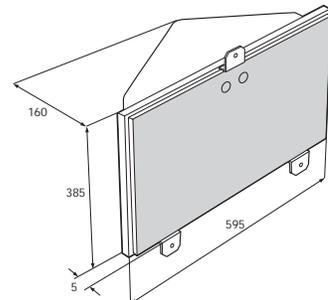
13

Alternate legends can be supplied to special order, including 'Fire extinguisher', 'Hose reel'.

Part no.	Legends
SER-SC802	
SER-SC803	

For specific projects, legend information will differ dependent on location and particular requirements. To specify this product please contact Emergi-Lite technical sales department.

### Dimensions



Cable entry via 25 mm glanded entry point on rear of unit.

# Hazard-Lite

## Compact & explosion proof



### Explosion proof luminaire

- IP66 to IEC 529 rated - explosion proof and waterproof
- Suitable for Zone 1 and Zone 2
- 2 x M20 - ISO (1 plugged) cable entry
- Corrosion resistant light alloy body and end cap with a polycarbonate overtube
- 4 wire and earth terminals with loop facility (max. cable size 4 mm<sup>2</sup>)
- Certification Code: EEx d IIC T6; Certification
- Standard: EN 50014-018; Certifying Authority: SIRA, ATEX



### Luminaire

Order code	Input voltage	Description	Lamp type	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
XPL3LS83		Explosion proof LED M3 IP67			M3		
XPL1LS83HF	220 - 240 Vac, 50/60 Hz	Explosion proof LED 230V, 50HZ HF IP67	LED set	150 lumens	Slave	-20 to +50	4.7
XPL1LS83LTC		Explosion proof LED 230V, 50HZ LTC IP67			Slave		

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.

### Information summary for guidance only

For detailed information on hazardous area requirements please consult the British Standard code, BS 5345.

### Code of Practice

BS 5345, the UK Standard for hazardous area equipment, installation and maintenance gives guidance relating to:

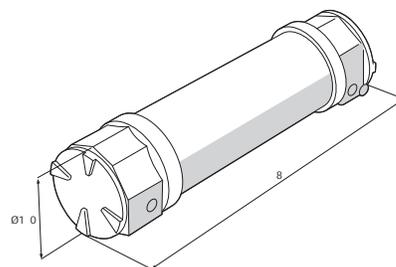
- The degree of protection suitable for the hazardous zone
- The gas groups of any gases or vapours
- The temperature classification of the gases or vapours

For further information on this product, or for discussion of hazardous area lighting using the Hazard-Lite or DTS product range of explosion proof luminaires, contact Emergi-Lite.

### Zone Classification

- Zone 0: An explosive gas-air mixture exists continuously, or for long periods.
- Zone 1: An explosive gas-air mixture is likely in normal circumstances.
- Zone 2: An explosive gas-air mixture is not likely to occur in normal operation and then only for a short time.

### Dimensions



EEx d IIC T6 flameproof luminaire, to Gas Group IIC (hydrogen), capable of withstanding a maximum temperature of 85°C

# HyLED

## Powerful & reliable



### Energy efficient, high output LED luminaire

- 360 degrees turnable lamp unit, steady in position
- High ceilings industrial environments
- Sealed IP65 loop in, loop out cabling system
- Mounting and assembly flexibility onto pillars, ceilings, etc.



### Luminaire

Order code	Input voltage	Description	Lamp type	Power consumption (W)	Lamp output	Operation/ duration (hrs)	Environment temp. (°C)	Weight (kg)
HY3L2	230 - 240v 50Hz	LED M 3 hour duration, surface	LED matrix	<3.5w	1000 lumens	M/NM	0 - 25	7.8
HY1L2HF		LED 230v 50Hz, surface					0 - 30	

60 hrs charge at first commissioning, 24 hrs re-charge thereafter.

Slave versions available with LTC

### Accessories

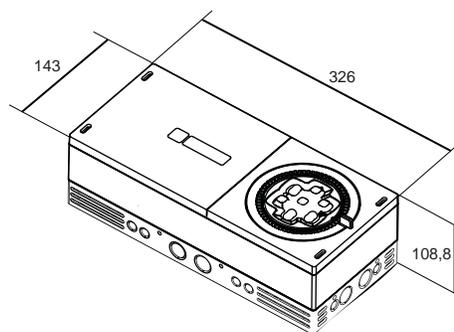
Order code	Description
HY-MBK	Wall mounting/coupling bracket recessing kit

For Hy-LED spacing data, see page 134 - 136. For further information on Naveo and IR2 emergency luminaire testing formats, see pages 79 - 83.



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### Dimensions



# Emergency lighting

## Inspection, maintenance & testing solutions

### Naveo

Inspection and maintenance software	79
24/7 control at your fingertips	80
Customisable solutions	81

### IR2

Infra-Red emergency lighting testing system	82
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### Testing solutions

Self-Test	84
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## Emergency lighting Inspection, maintenance & testing solutions

- Simplified testing regime
- Customisable testing solutions
- Pre-programmable emergency lighting testing
- Cloud based electronic record keeping

# Naveo

## Inspection and maintenance software

Addressable emergency lighting testing with cloudbased remote management and monitoring. Naveo delivers the ultimate solution to managing emergency lighting, by allowing you to control the entire emergency lighting installation, inspection and maintenance process from any point, with system information and reports available at any time.

Naveo combines pre-programmable emergency lighting testing with cloud-based electronic record keeping and system management, to dramatically reduce the expense and burden that manual testing, maintenance and fault checking brings.

- Comprehensive range of emergency lighting testing solutions for all sizes of project
- Removing the disruption that manual luminaire testing brings to the busy, modern business environment
- All testing solutions compliant to IEC 62034

Building on the success of Emergi-Lite's Centrel addressable testing system, Naveo places control firmly at your fingertips, with immediate access available anywhere via smartphone, tablet, laptop or PC. This innovative approach enables end users to manage multi-site emergency lighting systems wirelessly, with system performance and maintenance records held 'in the cloud'.

Furthermore, Naveo is responsive and promotes increased building safety, by supplying maintenance and fault updates via email or text to repair teams, with parts listings by PDF, enabling forward planning of maintenance and spares ordering with ease.

### The benefits of Naveo are significant:

- Naveo offers a customisable solution for emergency lighting testing
- Naveo makes your time and resources more productive by saving valuable time spent every year on manual collection and recording of emergency lighting data
- The internet based version of Naveo control software holds all system testing and maintenance data securely within an external server, for access by PC or similar smart device
- Naveo software updates are automatically applied, with new luminaire parts and product information automatically updated in the background
- All Naveo emergency lighting luminaires are individually addressed, making fault assessment and location a simple task

- Automated pre-programmable test schedules provide the status of the lamp, battery and PCB, and upload directly to remote server
- Most of the inspection work can be completed onscreen by simply ticking off emergency luminaire status as 'OK' or 'Defective' on your mobile device or PC
- Preventative alerts and fault updates are provided, with spares requirements by PDF, for optimal forward planning of maintenance
- At the push of a button you have an overview of potential and current maintenance issues, allowing you to structure the data you require
- After an inspection, the Naveo software can generate an EN 50172-compliant PDF log for on-site record keeping and inspection by the relevant authorities, as appropriate
- Naveo system is backwards compatible with CT ('Centrel') luminaires
- Naveo uses the protocol SNMP (Simple Network Management Protocol), which can enable a link to a BMS system for the DCP information



# Naveo

## 24/7 control at your fingertips

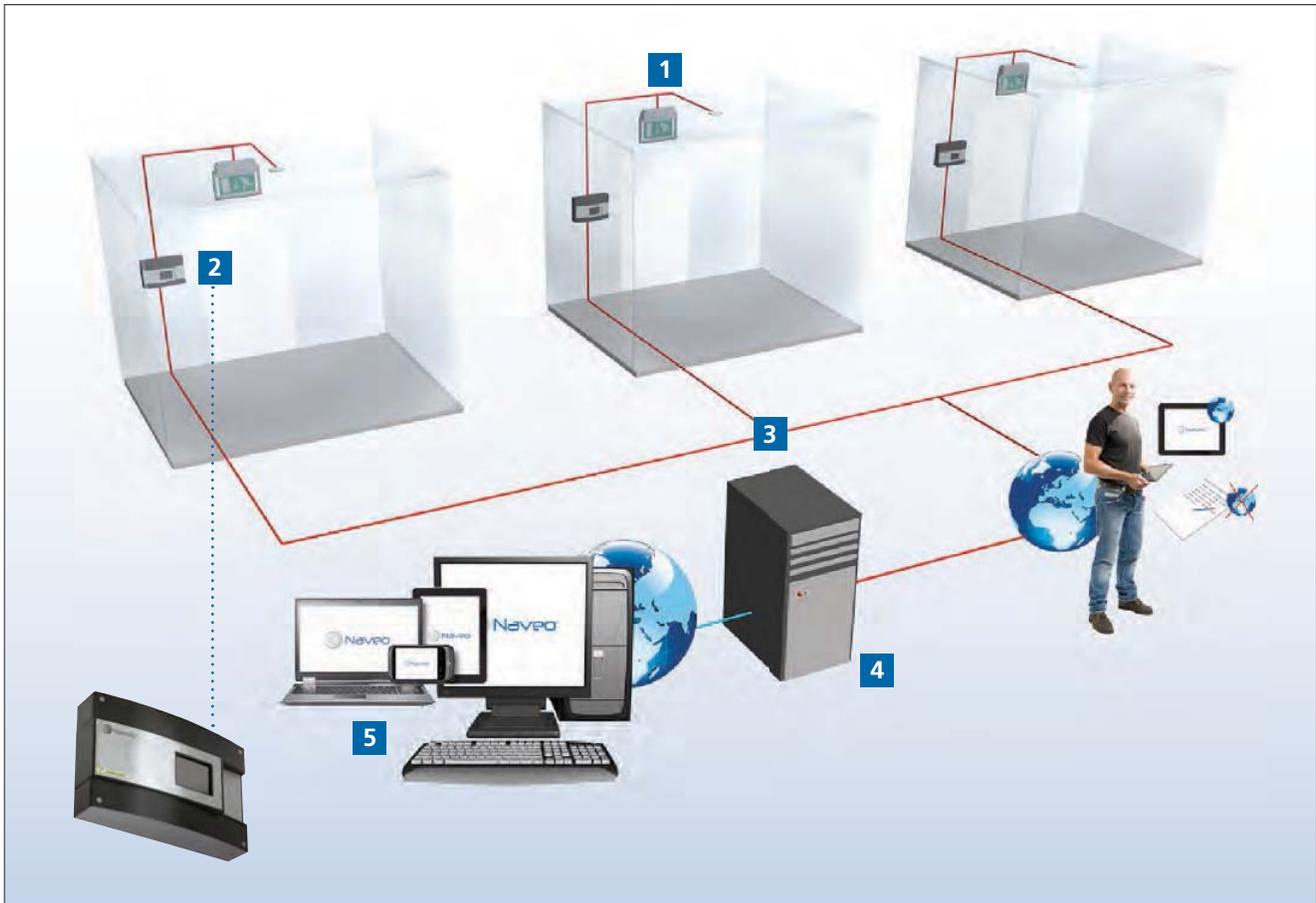


Illustration showing the internet based version of Naveo

- 1 Bus communication cable
- 2 Data Collection Panel (DCP)
- 3 Internet connection
- 4 Naveo external server with all DCP information
- 5 PC, smartphone or tablet

### How does Naveo operate?

Each emergency lighting unit includes an individually addressed testing module which conducts functional and duration tests and communicates results to the DCP (2). Each DCP is designed to collate test data from up to 500 emergency lighting units.

The DCP transfers all data to the Naveo secure external server 4 via an encrypted internet connection 3.

All test results are collated and processed at the external server, with maintenance requirements and faults logged and transmitted to maintenance teams for action, either to PC, laptop, smartphone or tablet 5.

Status information and test reports can be accessed securely from anywhere and any device with internet connection, making maintenance planning simple.

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# Naveo

## Customisable solutions

### Naveo offers a fully customisable solution to managing emergency lighting:

The Naveo solution offers a convenient range of pricing packages dependent on the size and scope of the installation,

enabling customers to tailor to their specific needs.

Additional upgrades can be added at any time to include new emergency luminaires into the system, making the solution highly scalable.

#### 1. Setup

– Programming

– Commissioning

- Programming
- Commissioning
- Inspection
- Status report
- Preventative alerts
- Visual inspection
- Inspection log
- Shopping list
- Maintenance
- Maintenance sheet
- Certificate

Site manager -  
system access  
(total fittings  
covered)

#### 3. System expansion

Additional numbers of addressed luminaires can be added to the system provided the total is within the maximum recommended per DCP

### When do you need to test?

Fire Safety Regulations require emergency lighting to be tested in accordance with BS 5266-8 (EN 50172).

### Simplified Testing Regime

- Daily check central power supply indicators for healthy operation
- Monthly functional check
- Yearly duration check
- Always keep documented records
- Automatic test devices should meet IEC 62034

### What needs to be checked & tested?

- Mains present and healthy
- Battery present
- Battery charging
- Inverter circuit in emergency operation
- Lamp functions and in circuit
- Duration

### Effective testing with Naveo

Naveo's comprehensive, technologically advanced approach ensures testing to meet the requirements of BS 5266-8 (EN 50172):

- Naveo tests can be run either manually or automatically
- Unattended tests can be performed using the schedule program
- All automatic test schedules can be easily programmed for the type of test required and for the time the test is to be performed
- For the internet based system, results of tests are stored on the remote server for recall at a later date
- Each luminaire is programmed with an address which is used for interrogation and fault diagnosis

### Supporting Naveo installations

Naveo is fully supported through our project sales and technical teams, including:

- Design of the emergency lighting system with Naveo compatible emergency luminaires
- Practical advice on installation matters, such as power and data cable structure, system set-up etc
- Full commissioning of the system, pre-operation, from our highly experienced field service team
- Maintenance contracts, available as required to support the installation, for added peace of mind
- Project after-sales support, with project files retained by our service department so that preparation of additional luminaires as required is a straightforward task

### Technical literature & advice

Please contact a member of our sales team for full details and advice on Naveo, including:

- Technical design guide, providing in-depth technical information on the system
- System demonstrations, arranged at your own premises or at our head office for an informed assessment of the system and software capabilities

Additionally, a separate brochure explaining the Naveo solution in full is available on request.

# IR2

## Infra-Red emergency lighting testing system

Advanced infra-red emergency lighting testing system IR2 is a safe, fast and easy way to test emergency lighting, offering the user a simple walk test process to interact with the emergency lighting system.

IR2 offers unprecedented flexibility including:

- Choice of automatic or manual testing
- Upload and download capability
- Simple Self-Test as standard
- Handheld interaction with luminaires so no need for ladders or keyswitches
- Luminaire status information indicated by green/amber LED
- Choice of a simple 'test-only' transmitter (IR2-TX) or intelligent bi-directional handset (IR2-TESTWARE™)
- Data management via PC

Testing can be done using the IR2-TX, 'test-only' transmitter, or the intelligent bi-directional handset (IR2-TESTWARE™ package), which tests, interrogates and reports. IR2-TESTWARE™ allows the user to view the results on small screen, or, as desired to download them to a PC to produce automated reports.

### Key benefits and features

- Easy to operate: users become familiar with the control device in a very short amount of time - indicator interpretation is straightforward
- Effective testing: luminaire status is clearly given.
- The user will be able to fault find and plan maintenance efficiently
- No extra wiring: Eliminates the need for key switches
- Zero impact: the fabric of the building remains unaffected (no additional wiring, no building works and no need for redecoration)
- Promotion of safety awareness: users find the test method interesting and interactive
- Cost and time savings: reduced installation effort with less wiring and lower maintenance times allied with the ability to plan maintenance schedules better
- Regulation compliance: BS and EN standards requirements for testing emergency lighting luminaires are met by using the IR2 system
- Compatibility with existing schemes: new product developments are backwards compatible with the original Flashpoint IR system
- Proven reliability: IR2 has been proven in the field for many years. Recent hardware and software updates have maintained technical advancements

### Optional Self-Test operation

- Self-Test is an option, which is pre-set in the factory and can be programmed from the bi-directional IR2-TESTWARE™ handset
- If a test is not performed in 12 months an automatic duration Self-Test will take place. The 'Self-Test' interval can be programmed between 2 and 365 days (factory pre-set to 12 months)
- Self-Test can be inhibited
- Internal timing in the luminaire is synchronised with the mains frequency for accurate control
- LED indicators on the emergency luminaire identify faults locally. A Self-Test status report can be downloaded to the bi-directional handset

### LED indication

Each luminaire has a transmitter/ receiver module fitted with green and amber LED indicators. The LED lit colours give the luminaire status.

	Normal operation - OK
	24 hour recharge needed
	Mains failure mode
	Fault: battery not charging
	Battery not charging & in 24 hr charge period after mains re-connection
	Charging OK, but other fault present [emergency lamp or battery capacity / voltage]
	Luminaire in test
	Flashing LED

Display and fault indications may vary.

# IR2

## Infra-Red emergency lighting testing system



### IR2-TESTWARE™

Bi-directional handset, PCLINK software and USB interconnect cable.

- For testing, interrogating and reporting the condition of IR2 fitted luminaires
- OLED (organic LED) screen
- 4 button menu system with large control buttons
- Backwards compatible with Flashpoint IR (IR1) systems
- Optional password entry protection
- The unit gives instant status report of all emergency luminaires in detail
- Onboard memory with storage capacity for 2,000 records
- Download information into a spreadsheet format for automated record keeping and assessment
- USB socket, USB interconnect cable provided for PC link
- Allows maintained to non-maintained switching

Order code	Description
IR2-TESTWARE™	Intelligent control package; hand-held luminaire interrogator/tester, PC-LINK software, USB cable and instructions



### IR2-TX

Initiates test sequence (tests for a 3 hour duration and automatically resets back to the normal condition).

- Status notified by green and yellow LED indicators on the luminaire
- Reset the luminaire to normal operation (to test for brief operation)
- Backwards compatible to Flashpoint IR (IR1) USB socket, USB interconnect cable provided for PC link
- Allows maintained to non-maintained switching

Order code	Description
IR2-TX	IR2 test transmitter

# Testing solutions

## Self test

Current regulations stipulate mandatory periodic testing of an emergency lighting system to ensure the correct operation of the system in the event of a mains failure, together with compilation of all corresponding documentation.

The Regulatory Reform (Fire Safety) Order 2005 and Fire (Scotland) Act 2005 place responsibility for the testing of emergency lighting systems firmly with the owner or occupier of the building.

Manual testing and the compilation of records can prove expensive, time-consuming, and disruptive to commercial activities.

Emergi-Lite Self-Test offers an easy and cost effective solution for regular testing of emergency lighting, without requiring programming or complex set-up procedures.

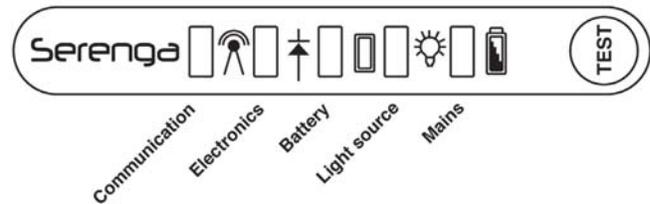
It provides continuous monitoring of the mains and battery status, together with a regular testing regime designed to meet mandatory requirements.

### Key features of Self-Test

- Simple and dependable automatic testing
- Easy installation
- Tests the battery, charger and lamp
- Each luminaire works independently in the event of an emergency
- Available in a variety of luminaire types
- Visual fault identification
- Runs tests in background mode
- Ability to stagger luminaire testing

### Automatic compliance to prescribed intervals

An Emergi-Lite Self-Test automatically runs a commissioning routine when the mains is switched on initially. An onboard clock/calendar microprocessor ensures the appropriate tests are carried out at the allocated time-period. Test functions include continuous monitoring, monthly, annual and staggered periodic testing plus a push-button test.



### Test operation

Serenga, Guide-Way, Horizon LED, Aqualux and Previx self-contained models have self-test fitted as standard. A self-test feature is available with other products including Escapeline.



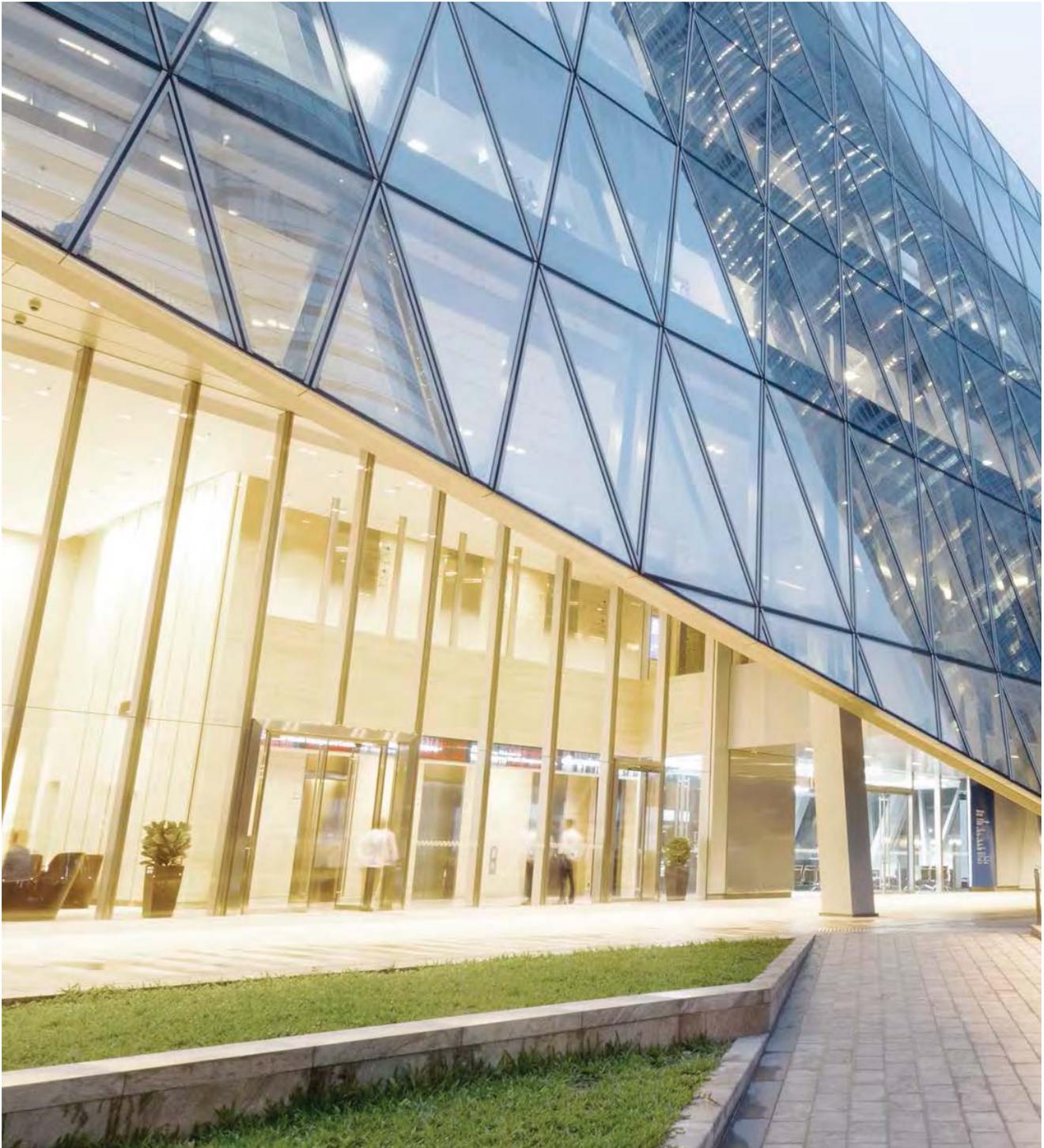
Green LED indicates normal operation



Amber LED indicates a fault  
Self-test indicator colours may vary

### Product example - Serenga Escape

The illustration (right) highlights the intelligent Self-Test testing facility built into the base of the smart-frame of all Serenga Escape exit signs.



## Emergi-Lite EMEX central power supply solutions

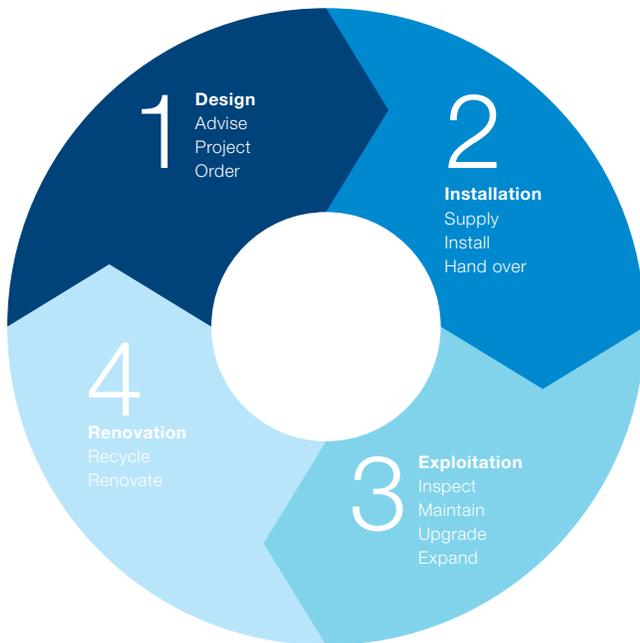
- Reliable central back up power
- Available for AC/AC and AC/DC power supply systems
- Exceptional overload performance
- Entire modular build for quick and simple component replacement

# Emergi-Lite

## Experts in central power supply systems

When choosing a partner for emergency lighting, you need a supplier capable of delivering a solution whenever the need arises. Emergi-Lite focuses on supporting our customers at all points of the emergency lighting life-cycle, whether planning, installing, managing or renewing.

By choosing Emergi-Lite as your emergency lighting partner, you'll be placing your projects, your systems, and essentially your people, in safe hands. As a leading life safety solutions provider, we deliver state-of-the-art systems and products into the emergency lighting marketplace.



### 1. Advice and information during the design phase

From project consultations at customer premises, to drafting certified technical drawings, Emergi-Lite is ready to support all your emergency lighting needs.

In the design phase, it is important for you to have all the information. If desired, we can provide you with that in the form of specific project advice, based on the most recent regulations, standards and safety requirements.

### 2. Speed and materials during the installation phase

The right products, delivered at the right time, to ensure your installations run smoothly - on time and within budget. Emergi-Lite offers you practical solutions to give you an immediate advantage, which only makes everything so much easier for you.

### 3. Support during the exploitation phase

The clear and precise after-sales support you would expect from a leading emergency lighting supplier, including servicing, maintenance and readily-available replacement parts.

### 4. Altering and separating during the renovation phase

Keeping you up-to-date with the latest standards, industry developments and new product innovations, making renewing your emergency lighting a simple, straightforward process.



# Introduction

## What is a central power supply system?

A Central Power Supply system (CPS) is essentially a large set of batteries at a single central location. In the event of a mains failure in the building, the batteries are used to provide reliable power for emergency lighting purposes.

### Central Power Supply System (CPS):

This is essentially a large set of batteries at a single central location.

#### Features:

- The CPS output will typically be 24V, 50V, 110V, or 220/230/240/380/400V, according to type & regional requirement.
- Output is usually AC/DC for the lower voltages, and AC when mains voltage.
- The CPS will be sized according to the load required.
- The battery will be rated to achieve a specified duration, typically 1, 2, or 3 hours.
- A larger project may use one single large CPS, or a number of smaller CPS units.

### How does it work?

The CPS effectively stores energy in the battery set whilst the mains supply is healthy, and draws upon this reserve when required in times of mains failure. If the failure is limited to part of the building (local), the CPS may provide power using its incoming supply without discharging the battery.

Mains failures are detected by sub-circuit monitoring relays to ensure the automatic, fail-safe operation of the emergency lighting. These are situated around the building where required, or may be located within the CPS itself.

Power from the CPS is distributed to dedicated emergency luminaires and exit signs, or converted slave 230V luminaires. Standard, unmodified slave 230V luminaires can be used on a mains-voltage CPS. Distribution cables need to be fire protected, according to local regulations and/or risk assessment.

### Who decides?

The voltage of the CPS is influenced by the size and nature of the project. The final decision may be taken by the consultant, end user, or contractor.

The duration or autonomy of the CPS is often dictated by national Standards (eg BS 5266), or local authority requirements.

### What are its benefits?

A CPS system gives a higher light output per point when compared to a self-contained installation, and therefore will use fewer emergency lights per area.

A CPS solution offers great savings in ongoing testing, maintenance, and replacement battery costs when compared to a self-contained emergency lighting installation.

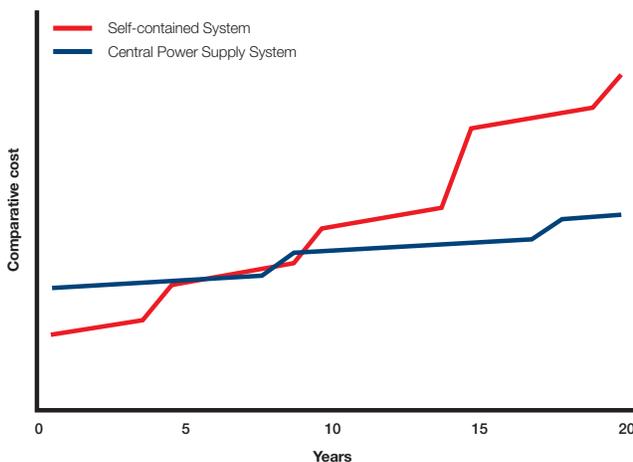


figure 1. Cost of ownership (CBS vs Self-contained)

# Introduction

## Which category fits your needs?

Central systems fall into two categories: AC/AC static inverter systems and AC/DC power supply systems. Both types of central system operate on the same principle. The luminaire is fed, via emergency sub-distribution, from the central system.

### Two categories central systems:

- AC/AC static inverter systems
- AC/DC power supply systems.

### Same principal:

The luminaire is fed, via emergency sub-distribution, from a single supply source (the central system).

### Static inverter:

The term 'static inverter' is derived from the lack of moving parts within the equipment, as opposed to rotary motor / generator converter designs.

### Static Inverter Systems (AC/AC)

Static inverter systems operate in a similar manner to AC/DC Central Power Supply Systems, with the exception that the system constantly gives a 230V AC output. The advantages of this approach are numerous. Firstly, luminaires do not need to be converted, as any slave 230V luminaire can be used (there are some restrictions to this on the grounds of suitability for emergency lighting). Luminaires also operate at full light output, as they are being fed from a full mains voltage supply, meaning fewer luminaires are required for equivalent light outputs.

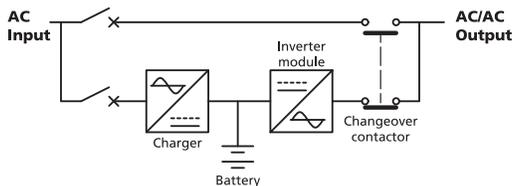


Figure 2. Static Inverter Systems (AC/AC)

### Advantages

- Suitable for medium to large installations
- Almost any luminaire may be used
- Easy to maintain
- 10 to 25 year design life batteries
- Distribution is standard 230V AC (standard DBs)
- Reduced volt-drop problems on output cabling
- Luminaires operate at full light output
- Ideal for modern LED lighting installations to capitalise on energy reduction

### Disadvantages

- Bigger systems are physically large and may require a special battery room
- Smaller installations are ideal for EMEX mini installations (See EMEX mini section for suitable solution)

### Central Power Supply Systems (AC/DC)

Central Power Supply Systems provide low voltage AC power (nominally 24V, 50V or 110V AC) whilst mains to the system is healthy, and low voltage DC (of the same voltage) when mains fails. The battery voltage selected will depend upon the number of luminaires, the rating, their type and their distance from the central system. Central Power Supply Systems require each emergency luminaire to be converted for use on the low voltage supply. The cost of this conversion may be prohibitive on larger installations. Another important factor is that converted luminaires only provide a small percentage of their normal light output when running in emergency mode.

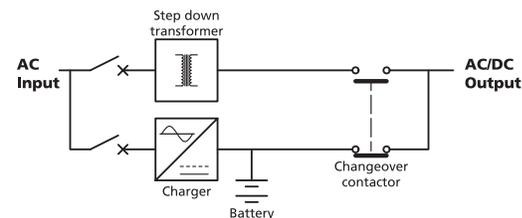


Figure 3. Central Power Supply Systems (AC/DC)

### Advantages

- Reduced cost for smaller installations
- Small physical size
- Easy to maintain
- 5 to 25 year design life batteries

### Disadvantages

- Not cost effective for large numbers of luminaires
- Cable restrictions to avoid volt-drop
- Luminaires must be converted for use on AC/DC
- Reduced light output in emergency mode

# Introduction

## Practical insights on self contained battery life

Principle types of emergency lighting system are 'self-contained' or 'centrally fed'. In a self-contained system, each emergency luminaire has an on-board battery and charger unit. A Central Power Supply System operates on the principle that the luminaires are fed, via sub-distribution, from a single supply source.

### Self-contained System

Batteries/charger contained in individual luminaires

### Advantages

- Simple installation
- No special cabling
- Economic for smaller installations with a limited total number of luminaires

### Disadvantages

- Limited light output
- Multi-point maintenance
- Battery replacement 3 – 5 years
- System design life 15 years maximum

### Insights on battery replacement

A typical self-contained emergency power pack has an operational design life of 10 – 15 years, and will require a replacement battery every 3 – 5 years. The installation is straightforward and, by definition, each luminaire is installed and maintained independently of all others on the site.

### Battery life 1-3 years:

In the first 3 years of life, few battery faults would be expected, provided a test and maintenance schedule (manual walk test at least) was in place.

### Battery life 3-5 years:

The instance of battery failures may increase, resulting in the possibility of further unplanned maintenance visits to replace battery sets.

### Battery life after 5 years:

It is recommended that battery condition is reviewed on a regular basis. Typically following 5 years use, a full battery replacement should be carried out.

### Considerations

It can be considered that self-contained products will require 2 or more complete sets of replacement batteries during the first 10 years of operation. Approaching 15 years, it is likely that the luminaires within a self-contained system will need to be changed. It should be noted, that a more rigorous and beneficial planned maintenance schedule can be achieved, utilising a suitable automatic or controlled test and monitoring system, to check the luminaires and their batteries ('Centrel', IR2, Naveo: available from Emergi-Lite).



# Introduction

## Choosing the right system for emergency lighting

There are a variety of ways in which back-up power can be provided, however, even though certain methods are suitable for critical applications, they may not necessarily be suitable for emergency lighting.

### General information on Uninterruptible Power Supply (UPS) systems, for guidance:

#### Why is it different?

This is because an Emergency Lighting system has unique load characteristics. Since emergency lighting is a critical life-safety installation, it is vital that a central power supply system selected to power emergency lighting is designed with these load characteristics in mind.

EMEX Power central inverter systems are specifically designed to provide emergency power for lighting systems in a mains fail or evacuation situation.

In choosing the right AC system to support emergency lighting it is important to consider the following questions:

#### • Cold load startup performance

BS EN 50171 requires that an inverter must be able to start the full load without the mains supply present. How does the system perform in a total power failure (ie is the system able to start the load without the bypass supply being available)?

#### • Repeat duty

BS EN 50171 requires a Central Power Supply System to fully recharge within 24 hours. Is the charger able to recharge the batteries sufficiently quickly (80% in 12 hours or 100% after 24 hours)?

#### • Energy consumption and heat dissipation

Is the inverter and charger permanently running, reducing the battery life, generating heat and wasting energy?

Are cooling fans running continuously, generating noise and reducing component life?

#### • Maintenance

Is the system easy to service and maintain? Is the system designed in a modular format, or would the failure of even a minor component require the whole system to be shut down and stripped for repair?

#### • Recharge period

UPS systems which are designed primarily for computer back-up generally offer short back-up times, and consequentially employ small chargers. To provide the longer durations specified for emergency lighting, a much larger capacity battery is fitted. However, if the charger is not uprated then the system will not be capable of recharging sufficiently quickly. Hence the battery rating is sometimes increased even further so that it is not fully discharged at the end of the rated duration period (and is thus capable of "repeat duty" with limited further recharge). This results in a much larger system that is actually required for the load, increasing both the physical space required and future battery replacement costs.

#### • Overload and short circuit performance

An emergency lighting load imposes large 'in-rush' currents when starting lamps from cold. However, UPS systems are often designed to shut down at only 125% overload and revert to the incoming supply. During a total power failure situation, this could result in total failure of the emergency lighting system. Furthermore, a UPS may fail to clear a protective device on a lighting circuit, meaning that a single short circuit fault could result in loss of the entire emergency lighting provision.

#### • Energy consumption and battery life

Most UPS systems operate in the 'on-line' mode, whereby the inverter runs constantly to supply the load, and power is taken from the battery with the charger running constantly. This places an excessive ripple on the battery (in contravention of the advice given by most battery manufacturers). Also, the system is constantly generating heat which has a further detrimental effect on battery life. There are energy cost implications to run an on-line system, and deal with the heat generated.

#### • Neutral isolation

Some UPS systems use the incoming neutral conductor as the output neutral, with no isolation. Quite apart from that fact that this does not comply with electricity supply regulations, should the input neutral be lost in some way (for example if it were broken due to a fire or other physical damage to the building) then the output neutral would also be lost, resulting in the failure of the entire emergency lighting provision.

## Technical reference

### Manufacturing & certification

The emergency lighting system and all of its components shall be manufactured and certified to meet the requirements of BS EN 50171, ICEL 1009, and the system should be CE marked.

#### Central inverter system

The system should offer the following standard features as summarised below and further detailed in sections 3.0, 4.0, 5.0, 6.0 & 7.0:

- True AC/AC 50/60Hz output
- Ability to use standard proprietary AC distribution and protection devices on outgoing circuits
- Rated for any load power factor, zero to unity, at any output power up to the maximum rated kVA
- Compatibility with addressable test package using EMEX technology
- Excellent overload capability in full emergency mode: 200% for 10 seconds without reduction in output voltage
- Excellent recharge capability – 80% after 12 hours following rated discharge
- MCB protection throughout – no fuses
- EMEX Power true modular construction with common spares (inverter, charger, control PCB, and system interface common across the full system range)
- Individual MCB protection for each module – AC and DC circuits
- Individual cooling fans for all modules with on-demand operation (not continuously running)
- Split parallel charger above 10 amps – enhanced integrity with the ability to operate with one or more charger modules isolated (subject to increased recharge time)
- Integral maintenance bypass facility (ability to support output load in bypass mode whilst maintenance is performed)
- Temperature compensated charger
- Comprehensive display
- Charger and inverter alarm pack
- Momentary “push to test” button
- Fire alarm interface
- Final exit interlock
- Internal and external MCB monitoring
- Local/remote maintained circuit control
- Sub-circuit monitor connection
- Two sets of volt-free alarm relay contacts
- Inverter-inhibit engineers’ switch
- Remote Alarm Unit option
- Easy front panel access
- Inter-cabinet trunking for battery cables
- Fork-lift plinth
- Lifting eyes for crane lift as standard
- Cabinet levelling feet available
- Installation pack with tools included
- Detailed instruction manual
- Transfer time both directions max. 0.5 seconds



# Technical reference

## EMEX technology

The system should use EMEX Technology to provide full addressable monitoring of the complete emergency lighting system including the EMEX Power Central Power Supply System(s).

**The system must be capable of monitoring fluorescent, cold cathode fluorescent, filament, LED, or halogen luminaires.**

### Software

System should use EMEX Test software to schedule the automatic regular testing of emergency lighting system components. The system should automatically generate and collate test reports. These reports should be automatically date-stamped and should be available in a notepad format such that engineer's notes can be added.

### CPS capacity

The system should support up to 64 Central Power Supply Systems (CPS). Each CPS must be able to communicate with up to 4,000 luminaires.

### Communication

The system must use data cable to link the control computer to the CPS unit(s), and from each CPS to the associated luminaire interfaces only. Data cables will NOT be fitted direct to any luminaires. Up to 100 substations may be fed from the internal transmitter within the CPS.

### MXD4 substation

The system must offer remote MXD4 substations having 4 separate outputs, each capable of monitoring up to 4 no. fluorescent, filament, LED, or halogen luminaires completely without modification to the luminaire. The systems should be capable of monitoring a lamp wattage of up to 230 watts. The substation should provide minimum 8 no. monitoring inputs, free programmable switched or unswitched with mixed mode of operation (maintained, non-maintained, switched maintained).

### MXC substation

The system must offer remote MXC substations each having 2 outputs, which are capable of monitoring up to 40 no. luminaires / 10 amps in total. The substation should provide minimum 8 no. monitoring inputs, free programmable switched or unswitched. Luminaires must share the same supply cable with mixed mode of operation (maintained, non-maintained, switched maintained).

### LTC luminaire module

Luminaires for use with MXC each require a local LTC module. Each LTC must provide 1 no. switched and 1 no. unswitched local monitoring input to act directly on the luminaire in addition to any communication received from the substation. A full range of exit signs, bulkhead luminaires, decorative luminaires, and twinspace units must be available ready fitted with LTC modules. LTC modules must also be available loose and in remote enclosures for the adaptation of standard slave 230V luminaires to the MXC system.

Each LTC must be capable of switching up to 230 watts. The LTC module must retain the existing mains ballast in the luminaire.

### Flexibility

The system must permit both MXD4 and MXC solutions on the same system, controlled from a single PC.

### Cable specification

Cable must be 2 core with additional earth or drain wire and must be a composite screened cable. The conductor cross section must be a minimum of 1mm<sup>2</sup> and must be rated for 230V AC. General data cables do not meet this requirement.

These requirements can be met by using FP200 or similar fireproof cable or LSFOH type cable.

# Technical reference

## Static inverter specification

### Static inverter specification

#### LED indications

Mains healthy	Green
Maintained circuit on	Green
Battery high volts	Amber
Battery low volts	Amber
Supply from battery	Red
Charge fail	Red
System fault	Red
Common alarm	Red
Battery discharged	Red
System inhibited	Red

#### Inverter modules

Nominal output	220V – 240V 50/60Hz AC
Rating	1.5kVA or 3kVA rating with Master or Slave configuration
Overload	120% continuous with full output 125% for 20 minutes with full output 150% for 1 minute with full output 200% for 10 seconds with full output
Short Circuit	350% for 5 seconds
Cooling	Integral fan (on-demand operation)
Protection	AC 2 pole type D DC 2 pole type B
Module Dimensions	360mm x 170mm x 575mm
Handling	Recessed handles front and rear
Weight	50kg

#### Charger modules

Constant voltage current limited with temperature compensation.

Voltage control to  $\pm 1\%$  with full mains supply variations.

Rating	10 amp minimum
Cooling	Integral fan (on-demand operation)
Protection	AC 2 pole type D DC 2 pole type B
Module dimensions	360mm x 170mm x 575mm
Handling	Recessed handles front and rear
Weight	50kg

#### Metering

DC metering	Combined digital battery voltage and charge/discharge current
AC metering	Combined digital AC output Voltage and current

#### Controls

Final exit interlock	Requires volt-free contact
Sub-circuit monitor	24V control loop
Maintained circuit control	24V control loop
Fire Alarm Control	12/24V DC from fire panel
Remote MCB monitoring	24V control loop
Changeover device	Four pole contactor to BS 5424 and EN 60947

#### Mechanical

Input / Output Terminals	10mm/50mm dependant on rating
Control Terminals	2.5mm

# Technical reference

## Static inverter specification

### Battery

Battery should be comprised of one or more strings of no more than 120V nominal voltage.

The batteries shall be maintenance free sealed lead acid, gas recombination type with a minimum design life of 10 years. They shall have extremely low gas generation, low self-discharge and have sealed pressure release vents. Other battery technologies to be available upon special request.

The batteries shall be sized to power the complete system for the rated duration following mains failure at 100% light output of all emergency lamps.

### Environmental conditions

Ambient temperature of the installation (switch room) should be in the range 15 – 25°C. Air conditioning is required where normal ambient will exceed 25°C. This is to achieve optimum battery life expectations.

NOTE: Batteries must not be subject to prolonged extreme temperatures prior to installation and must be stored in a suitable environment.

### Indoor equipment categorized

Ambient Temperature (Nominal)	5°C – 35°C
Extreme Temperature	0 – 40°C
Humidity (non-condensing)	40 – 85%
Noise Level at 1 metre	55 dBA
Altitude without extra ventilation	2,500 metres

### Inverter and battery cabinets

Nominal output	220V – 240V 50/60Hz AC
Construction	Modular without welds; battery cubicles can be flat-packed for ease of access to site
Ingress protection	IP21
Colour	RAL 5015 gloss (Medium Blue) Other RAL colour finishes available to special order
Lifting & handling	M12 lifting eyes and 110mm plinth
Levelling	Levelling feet available
Access	Single door with 8mm square block key Front access only required - opening angle 180° Key lockable doors on request Removable top gland plate
Ventilation	Ventilation in rear and front only – cubicles can be mounted adjacent to each other (no side ventilation)
Dimensions	1800mm x 750mm x 725mm (Dimensions are inclusive of 75mm ventilation back-stop)

### Transient overvoltage protection

To protect against damage caused by transient overvoltages, factory fitted Furse ESP transient overvoltage protectors should be available as an option.



# EMEX Mini

## Space saving & high performance central power supply system

### Features and benefits

- True AC/AC 50Hz output
- 1.5kVA rating with 525W for 3 hours, 700W for 2 hours and 1200W for 1 hour
- Ability to use standard proprietary AC distribution and protection devices on outgoing circuits
- Compatibility with addressable test package using EMEX technology
- Excellent overload capability in full emergency mode
- Excellent recharge capability: 80% after 12-14 hours following rated discharge
- MCB protection throughout – no fuses
- Individual MCB protection for AC and DC circuits
- Cooling with on-demand operation (not continuously running)
- Integral maintenance bypass facility (ability to support output load in bypass mode whilst maintenance is performed)
- Maintained output as standard (switchable to non- maintained)
- IP21 rate cabinet as standard
- Easy front panel access
- Simple installation
- Dimensions: H:1210 mm x D: 240 mm x W: 610 mm



BS EN 50171  
KM542294



# Emex Mini Specification

## Emex mini specification

<b>Part no.</b>	<b>ELD8000.015</b>
Description	Static Inverter EMEX Mini 1.5kVA 1-3H SPN
<b>Mains supply</b>	
Voltage	230V to UK standards
Frequency	50/60Hz
Phase	1 phase
Current	10A Max
<b>Output (mains healthy)</b>	
Voltage	230V (as supply)
Power	1500VA
Phase	1
<b>Inverter output</b>	
Voltage	230V
Frequency	50/60Hz
Duration	1, 2 or 3 hour(s)
THD	< 5%
Waveform	Sinusoidal
Power factor range	0.9 lead to 0.7 lag
Phase	1
<b>Inverter nominal rating</b>	
VA	1,500 VA
Wattage	1200W 1 hour
Wattage	700W 2 hours
Wattage	525W 3 hours
<b>Battery</b>	
Ampere hour	24 Ah
Type	Valve regulated lead acid (VRLA)
<b>Physical dimensions</b>	
Input terminals	2.5mm
Output terminals	2.5mm
Auxiliary terminals	2.5mm
Cabinet	610mm wide x 240mm deep x1210mm tall
Weight (Including battery)	166kg Top entry gland plate
<b>LED indications</b>	
Mains healthy	
Supply from battery (mains failure or fault)	
<b>Meters</b>	
Non fitted as standard - Optional extra on request	

# EMEX Power

## Modular AC/AC central power supply system

The EMEX Power inverter and charger modules utilise solid state electronics of the highest reliability to provide a rugged, easy to maintain system with exceptional performance for emergency lighting use.



### System design

The system has been designed solely for emergency lighting, and not modified from other less essential power supply requirements. As such, the system has exceptional overload performance without the need to over-specify the rating of the inverter to ensure faults can be cleared.

Each module has input and output protection and each module measures and limits its own current, making it a self-contained unit.

Alarms and status indicators are provided on the front panel display, which provides clear and concise information.

### System performance

EMEX Power has been designed to operate solely as an emergency lighting power supply, and as such is equipped with the following features:

- An overload performance of 120% continuous, 125% for 20 minutes with full output, 150% for 1 minute and 200% for 10 seconds without reduction in output voltage
- Short-circuit currents of 350% for 5 seconds
- The ability to strike the full load on mains failure without using a bypass supply
- Four pole contactor complying with EN 60947-4-1 (BS 5424)
- Available in single phase input/output, true three phase input – three phase output (4 wire)



BS EN 50171  
KM542294



# EMEX Power

## Modular AC/AC central power supply system



### Quality assurance

Designed and manufactured in the UK, EMEX Power combines cutting edge design to quality components and assured build quality. This results in products providing both high performance and reliability. Constant product development by dedicated in-house engineers ensures Emergi-Lite Central Power Supply Systems will always meet even the most stringent demands.

### The cabinet

The cabinet has been engineered to allow the housing of the inverter and charger modules, battery or a combination of both. All connections are in the top control section of the cabinet. A top entry gland plate is provided for ease of installation, as is inter-cabinet steel trunking to allow safe connection of battery cables between control and battery cabinets.

All cabinets have an integral lifting frame and are supplied with lifting eye bolts fitted to allow crane lifting. Cabinets also have an integrated plinth for fork-lift or pallet truck.

### System modules

EMEX Power utilises standard modules to give reliable operation, reduces the need to carry extensive and costly spares and gives a 'low mean' time to repair.

Both the inverter and the charger utilise this modular approach, allowing a much higher power density than similar non-modular systems. The number of modules fitted, together with the appropriate sized battery, determines the rating of the system.

All modules connect to a common control bus via IDC connectors. Main connections to modules are via five front panel terminals giving quick and easy access to terminations, allowing a module to be changed in a matter of minutes.

Each module has two recessed handles to aid lifting. No side or rear access is required.

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Entry to equipment is via the front door only, allowing the cabinet to be located directly against wall at sides and rear ie can be located in corner of room. Cubicle spacers are provided to prevent equipment located direct to wall with no ventilation space (75mm required at rear).

# EMEX Power

## System benefits

### Benefits for the installer

- EMEX Power installation is easy and trouble free.
- All tools required to install and maintain the system are included (insulated battery spanner, Allen key, etc)
- All cables are provided
- Inter-cabinet trunking connects adjacent cabinets allowing battery cables to safely pass between battery and control cabinets without the need for an external cable tray. All cabinets are pre-drilled and rubber grommets are fitted for battery cables
- The battery voltage does not exceed 120V DC.
- Larger systems utilise banks of batteries in parallel, each with its own circuit breaker in the control cabinet. There is no high DC voltage (some inverter systems utilise battery voltages up to 600V DC)
- A large top entry gland plate provides enough room for all connection needs
- Cabinet levelling feet available to cope with uneven floors (optional)
- A comprehensive instruction manual is included showing all battery connections, full electrical schematic and commissioning instructions
- All cabinets are supplied with lifting eyes and have been certified for crane lifting, even when full. Alternatively, a 110mm plinth is fitted to all cabinets to allow fork-lift access
- No side ventilation is required. Cabinets can be positioned directly adjacent to walls and other cabinets. This reduces floor space requirements in the plant room
- Equipment is supplied 'Ready to install'. Simply connect the mains supply, battery and output circuits

### Benefits for the end-user

- Emergi-Lite is the manufacturer of the system, providing a single source of technical support, spares, service and repair
- All equipment is designed and manufactured at our Leeds facility in the UK
- EMEX Power operates in a low power mode; the load is supplied via the incoming mains supply, with the inverter on standby for immediate start. This can provide substantial cost savings for the customer, as the inverter is not running continuously, generating waste heat that has an effect on battery life. Cooling fans only operate when on load and are high reliability types

- Minimal servicing is required on the inverter system, reducing maintenance costs. Greater savings on maintenance can be made if the inverter system is integrated with an automatic testing system
- EMEX Power is built around five major components; master inverter module, slave inverter module, charger module, changeover contactor and display unit. Regardless of the number of systems on a site, spares holding will be similar for all systems. This greatly reduces spares cost
- Owing to the modular nature of the entire system, any component can be replaced in approximately 15 minutes, reducing down time should a fault occur
- 'Distributed System' modular concept – It could be possible that all the emergency lighting is lost owing to a single Central Power Supply System failure.
- The EMEX Power modular format, however, allows the user to design different sizes of system into the scheme, thus overcoming the potential risk. This 'distributed' concept, where several smaller units (5kVA for example) replace a larger single 20kVA unit, is a worthy and practicable consideration where circumstances suit where higher integrity is required.
- No fuses are used in the system. All fault devices are miniature circuit breakers. This gives easy correction of overload tripping without the need to search for replacement fuses. An alarm is raised if ANY circuit breaker trips. This scheme can be extended to remote distribution boards if required
- Equipment is designed solely for emergency lighting, and is not modified as a secondary consideration. This gives the customer peace of mind that the equipment is suitable for this important task
- On request special systems can be supplied part populated for expansion later, reducing initial capital cost
- Remote output MCB distribution panels are recommended. MCB Distribution panels are designed and manufactured to different product standards, enhancing a safer higher quality system solution. Integral out going distribution infringes the BSI Kitemark certification.

# EMEX Power

## System overview

EMEX Power offers a host of standard features and benefits, as listed below. Note that some items will be optional, extra cost items on other systems, or may not be available at all if the system is not designed specifically and solely for emergency lighting use.

### Standard features: EMEX Power system overview

For further detail, please refer to the 'EMEX Power detailed specification'.

#### Performance

- True AC/AC 50/60 Hz output
- Ability to use remote standard proprietary AC distribution and protection devices on outgoing circuits
- Rated for any load power factor, zero to unity, at any output power up to the maximum rated kVA
- Compatibility with addressable test package using EMEX technology
- Excellent Overload Capability in full emergency mode: 200% for 10 seconds without reduction in output voltage
- Excellent recharge capability: 80% after 12 hours following rated discharge
- MCB protection throughout – no fuses
- EMEX Power true modular construction with common spares (inverter, charger, control PCB, and system interface common across the full system range)
- Individual MCB protection for each module - AC and DC circuits
- Individual cooling fans for each module with on-demand operation (not continuously running)
- Split parallel charger above 10 amps – enhanced integrity with the ability to operate with one or more charger modules isolated (subject to increased recharge time)
- Integral maintenance bypass facility (ability to support output load in bypass mode whilst maintenance is performed)
- Temperature compensated charger
- Maintained output as standard (switchable to non-maintained)

#### Alarms and instrumentation

- Comprehensive display
- Charger and inverter alarm pack
- Momentary “push to test” button
- Fire alarm interface
- Final exit interlock
- Internal and external MCB monitoring
- Local/remote maintained circuit control
- Sub-circuit monitor connection
- Two sets of volt-free alarm relay contacts
- Inverter-inhibit engineers' switch
- Remote Alarm Unit option

#### Mechanical

- IP21 rated cabinet as standard
- Easy front panel access
- Inter-cabinet trunking for battery cables
- Fork-lift plinth
- Lifting eyes for crane lift as standard
- Installation pack with all tools required
- Detailed instruction manual

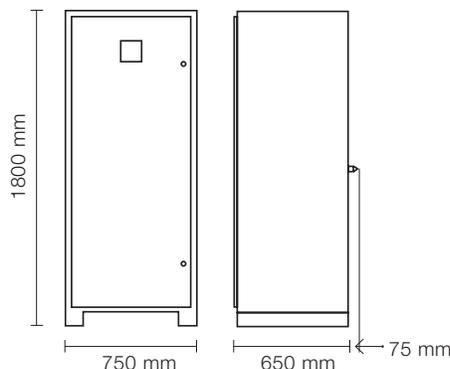
#### Batteries

Standard systems are supplied with Valve Regulated Lead Acid (VRLA) batteries, also known as 'Sealed Lead Acid'. These batteries are sealed for their design life of 10 years. Lead Acid Planté and Nickel Cadmium batteries are available upon request, however, these batteries require a much larger physical area, and emit potentially explosive gases, meaning the battery room must be adequately ventilated.

These reasons, along with the additional capital cost, generally outweigh the additional life obtained, as demonstrated below.

Battery	Initial cost	Design life	Maintenance
VRLA	££	YY	££
Ni-CAD	£££££	YYYYY	£££££
Planté	££££	YYY	££££

15



# EMEX Power

## System selection

Design of centrally-powered emergency lighting systems is a complex process. For each system, it is imperative that sufficient battery power is made available to operate all emergency luminaires in the event of a mains failure.

### Choosing the right system

Selecting a sufficiently powerful system at the outset is key to avoiding increased costs or revised installation requirements at a later point in the project.

Emergi-Lite's Central Power Supply Department has substantial experience of designing Central Power Supply Systems and of providing technical advice on all aspects of centrally-powered emergency lighting schemes. Our team of engineers provides comprehensive support to parties involved in scheme design and is available to assess your specific requirements and prepare a relevant quotation as required.

To discuss your requirements in detail please contact our Central Power Supply Department on +44 (0)113 281 0600. To assist our engineers, consideration should be given to the following to help specify the level of CPS required.

### Luminaire specification

To determine the size of CPS required, our engineers will need the following information about the luminaires intended for the emergency lighting scheme:

- Luminaire type & manufacturer (including luminaire part numbers if available)
  - Quantity of luminaires in the scheme (per type)
  - Specifically luminaire circuit wattage, VA consumption and inrush characteristics
  - Luminaire power consumption for each luminaire type.
- Note:** particular attention should be given to low wattage luminaires not operating to unity power factor

### Central power unit specification

Emergi-Lite EMEX Central Power Supply Systems are dual rated to allow selection of an appropriate system to either commercial or ICEL ratings. The ICEL rating would be the recommended usable rating to allow all aging, continuous overload and derating factors in line with EN 50171.

ICEL rated systems are de-rated by 20% from their commercial equivalent system.

Second consideration is to determine the size of central power unit required. From the luminaire data supplied, Emergi-Lite's CPS department can advise the most

appropriate size of CPS unit from our standard range of static inverters displayed on page 102. Note, higher rated systems require multiple cabinets to be installed and therefore consideration should be given to the space these cabinets will require. Calculation of space requirements is straightforward as Emergi-Lite only supply one standard size of cabinet – as shown below.

Finally, consider the additional components required. Emergi-Lite offers two types of standard unit, EMEX Power or EMEX TS, plus a range of EMEX Test components on pages 113-126 for enhanced management and monitoring of the CPS.

### EMEX Power range of static inverter systems

EMEX Power has been the standard-bearer for centrally-powered emergency lighting systems for many years and continues to offer significant benefits to those considering a Central Power Supply System.

EMEX Power offers true modular construction for easy maintenance and hassle-free replacement of parts, enhanced protection with MCB's throughout (no fuses) and excellent overload and recharge capabilities following a mains failure.

Fully compatible with EMEX Test software and components, EMEX Power offers a comprehensive solution to providing emergency power to large and complex installations.

Full details of our standard range of EMEX Power units is provided in the tables on the following pages.

### EMEX TS range of static inverter systems

EMEX TS offers all the benefits of the EMEX Power range of static inverters with the added benefit of an on-board EMEX Test monitoring capability.

EMEX TS is supplied complete with MXKP addressable interfaces, panel mount touch screen monitor (pre-loaded with EMEX Test software).

To select an EMEX TS product, simply add suffix /TS to the standard product order codes (part numbers) on pages 102-104.

# EMEX Power

## Order codes

Suffix	Description
/60	60 Hz system - USA batteries only
/U	USA origin batteries
/N	Nicad cells
/TS	Touch screen
/XB	Excluding batteries
<b>Note:</b>	XB code will generally be used to split order to delay battery delivery and will not show on documentation or product in this instance. When used to supply system without battery the code will need to show on documentation.
/NL	Dutch version
/M	Mexico origin batteries

**Example:**

ELD9110.015/N/TS  
 ELD9110.015/60/TS  
 ELD9110.015/NL/XB  
 ELD9110.015/NL/XB

Part Code Key:  
 ELD **A B C D . E F G**

- A = Power factor - 9 for 0.85PF or 8 for 1.0 Unity PF
- B (C) = Duration: 1 for 1hr, 15 for 1.5 hr, 2 for 2 hr and 3 for 3hr
- C (D) = Phase - 1 for Single and 3 for 3 Phase
- EFG = kVA (multiplied by 0.1)

**Example:**

ELD9110.015 = 0.85PF, 1 hr, 1 Phase @ 1.5 kVA  
 ELD9151.015 = 0.85PF, 1.5 hr, 1 Phase @ 1.5 kVA

### 0.85 PF designed systems

#### EMEX Power - Single phase 220-240 V 50/60 Hz

Commercial rating		ICEL rating		1 hour duration	1.5 hour duration	2 hour duration	3 hour duration
VA	Watts	VA	Watts	EMEX Power part no.	EMEX Power partno.	EMEX Power part no.	EMEX Power part no.
1500	1275	1250	1063	ELD9110.015	ELD9151.015	ELD9210.015	ELD9310.015
3000	2550	2500	2125	ELD9110.030	ELD9151.030	ELD9210.030	ELD9310.030
4500	3825	3750	3188	ELD9110.045	ELD9151.045	ELD9210.045	ELD9310.045
6000	5100	5000	4250	ELD9110.060	ELD9151.060	ELD9210.060	ELD9310.060
7500	6375	6250	5313	ELD9110.075	ELD9151.075	ELD9210.075	ELD9310.075
9000	7650	7500	6375	ELD9110.090	ELD9151.090	ELD9210.090	ELD9310.090
10500	8925	8750	7438	ELD9110.105	ELD9151.105	ELD9210.105	ELD9310.105
12000	10200	10000	8500	ELD9110.120	ELD9151.120	ELD9210.120	ELD9310.120
13500	11475	11250	9563	ELD9110.135	ELD9151.135	ELD9210.135	ELD9310.135
15000	12750	12500	10625	ELD9110.150	ELD9151.150	ELD9210.150	ELD9310.150
16500	14025	13750	11688	ELD9110.165	ELD9151.165	ELD9210.165	ELD9310.165
18000	15300	15000	12750	ELD9110.180	ELD9151.180	ELD9210.180	ELD9310.180
19500	16575	16250	13813	ELD9110.195	ELD9151.195	ELD9210.195	ELD9310.195
21000	17850	17500	14875	ELD9110.210	ELD9151.210	ELD9210.210	ELD9310.210
22500	19125	18750	15938	ELD9110.225	ELD9151.225	ELD9210.225	ELD9310.225
24000	20400	20000	17000	ELD9110.240	ELD9151.240	ELD9210.240	ELD9310.240

# EMEX Power

## Order codes

### EMEX Power - Three phase 220-240 V 50/60 Hz

Commercial rating		ICEL rating		1 hour duration	1.5 hour duration	2 hour duration	3 hour duration
VA	Watts	VA	Watts	EMEX Power part no.			
4500	3825	3750	3188	ELD9130.045	ELD9153.045	ELD9230.045	ELD9330.045
9000	7650	7500	6375	ELD9130.090	ELD9153.090	ELD9230.090	ELD9330.090
13500	11475	11250	9563	ELD9130.135	ELD9153.135	ELD9230.135	ELD9330.135
18000	15300	15000	12750	ELD9130.180	ELD9153.180	ELD9230.180	ELD9330.180
22500	19125	18750	15938	ELD9130.225	ELD9153.225	ELD9230.225	ELD9330.225
27000	22950	22500	19125	ELD9130.270	ELD9153.270	ELD9230.270	ELD9330.270
31500	26775	26250	22313	ELD9130.315	ELD9153.315	ELD9230.315	ELD9330.315
36000	30600	30000	25500	ELD9130.360	ELD9153.360	ELD9230.360	ELD9330.360
40500	34425	33750	28688	ELD9130.405	ELD9153.405	ELD9230.405	ELD9330.405
45000	38250	37500	31875	ELD9130.450	ELD9153.450	ELD9230.450	ELD9330.450
49500	42075	41250	35063	ELD9130.495	ELD9153.495	ELD9230.495	ELD9330.495
54000	45900	45000	38250	ELD9130.540	ELD9153.540	ELD9230.540	ELD9330.540
58500	49725	48750	41438	ELD9130.585	ELD9153.585	ELD9230.585	ELD9330.585
63000	53550	52500	44625	ELD9130.630	ELD9153.630	ELD9230.630	ELD9330.630
67500	57375	56250	47813	ELD9130.675	ELD9153.675	ELD9230.675	ELD9330.675
72000	61200	60000	51000	ELD9130.720	ELD9153.720	ELD9230.720	ELD9330.720
76500	65025	63750	54188	ELD9130.765	ELD9153.765	ELD9230.765	ELD9330.765
81000	68850	67500	57375	ELD9130.810	ELD9153.810	ELD9230.810	ELD9330.810

### EMEX Mini - Single phase 220-240 V 50/60 Hz

Commercial rating	ICEL rating	1 hour duration	2 hour duration	3 hour duration	EMEX Mini part no.
1500VA	1250VA	1200W	725W	525W	ELD8000.015

Note: EMEX Mini is a standard rated system for all autonomys shown above, the higher the load the shorter the Autonomy.

# EMEX Power

## Order codes

### Unity PF Designed Systems

#### EMEX Power - Single phase 220-240 V 50/60 Hz

Commercial rating		ICEL rating		1 hour duration	1.5 hour duration	2 hour duration	3 hour duration
VA	Watts	VA	Watts	EMEX Power part no.			
1500	1500	1250	1250	ELD8110.015	ELD8151.015	ELD8210.015	ELD8310.015
3000	3000	2500	2500	ELD8110.030	ELD8151.030	ELD8210.030	ELD8310.030
4500	4500	3750	3750	ELD8110.045	ELD8151.045	ELD8210.045	ELD8310.045
6000	6000	5000	5000	ELD8110.060	ELD8151.060	ELD8210.060	ELD8310.060
7500	7500	6250	6250	ELD8110.075	ELD8151.075	ELD8210.075	ELD8310.075
9000	9000	7500	7500	ELD8110.090	ELD8151.090	ELD8210.090	ELD8310.090
10500	10500	8750	8750	ELD8110.105	ELD8151.105	ELD8210.105	ELD8310.105
12000	12000	10000	10000	ELD8110.120	ELD8151.120	ELD8210.120	ELD8310.120
13500	13500	11250	11250	ELD8110.135	ELD8151.135	ELD8210.135	ELD8310.135
15000	15000	2500	12500	ELD8110.150	ELD8151.150	ELD8210.150	ELD8310.150
16500	16500	13750	13750	ELD8110.165	ELD8151.165	ELD8210.165	ELD8310.165
18000	18000	15000	15000	ELD8110.180	ELD8151.180	ELD8210.180	ELD8310.180
19500	19500	16250	16250	ELD8110.195	ELD8151.195	ELD8210.195	ELD8310.195
21000	21000	17500	17500	ELD8110.210	ELD8151.210	ELD8210.210	ELD8310.210
22500	22500	18750	18750	ELD8110.225	ELD8151.225	ELD8210.225	ELD8310.225
24000	24000	20000	20000	ELD8110.240	ELD8151.240	ELD8210.240	ELD8310.240

#### EMEX Power - Three phase 220-240 V, 380-415 V 50/60 Hz (adjustable)

Commercial rating		ICEL rating		1 hour duration	1.5 hour duration	2 hour duration	3 hour duration
VA	Watts	VA	Watts	EMEX Power part no.			
4500	4500	3750	3750	ELD8130.045	ELD8153.045	ELD8230.045	ELD8330.045
9000	9000	7500	7500	ELD8130.090	ELD8153.090	ELD8230.090	ELD8330.090
13500	13500	11250	11250	ELD8130.135	ELD8153.135	ELD8230.135	ELD8330.135
18000	18000	15000	15000	ELD8130.180	ELD8153.180	ELD8230.180	ELD8330.180
22500	22500	18750	18750	ELD8130.225	ELD8153.225	ELD8230.225	ELD8330.225
27000	27000	22500	22500	ELD8130.270	ELD8153.270	ELD8230.270	ELD8330.270
31500	31500	26250	26250	ELD8130.315	ELD8153.315	ELD8230.315	ELD8330.315
36000	36000	30000	30000	ELD8130.360	ELD8153.360	ELD8230.360	ELD8330.360
40500	40500	33750	33750	ELD8130.405	ELD8153.405	ELD8230.405	ELD8330.405
45000	45000	37500	37500	ELD8130.450	ELD8153.450	ELD8230.450	ELD8330.450
49500	49500	41250	41250	ELD8130.495	ELD8153.495	ELD8230.495	ELD8330.495
54000	54000	45000	45000	ELD8130.540	ELD8153.540	ELD8230.540	ELD8330.540
58500	58500	48750	48750	ELD8130.585	ELD8153.585	ELD8230.585	ELD8330.585
63000	63000	52500	52500	ELD8130.630	ELD8153.630	ELD8230.630	ELD8330.630
67500	67500	56250	56250	ELD8130.675	ELD8153.675	ELD8230.675	ELD8330.675
72000	72000	60000	60000	ELD8130.720	ELD8153.720	ELD8230.720	ELD8330.720
76500	76500	63750	63750	ELD8130.765	ELD8153.765	ELD8230.765	ELD8330.765
81000	81000	67500	67500	ELD8130.810	ELD8153.810	ELD8230.810	ELD8330.810

# EMEX 110

## 110 volt AC/DC central power supply systems

EMEX 110 units provide 110V AC/DC to provide power to 110V slave luminaires or converted slave 230V luminaires.

### System design

Systems provide 110V AC continuously under mains healthy conditions, and battery back-up at 110V DC upon mains failure. EMEX 110 units benefit from the same modular construction as the EMEX Power static inverter range. Charger modules utilise solid state electronics of the highest reliability. Units feature BS 5424 contactors and MCB protection throughout, to provide a rugged easy to maintain system with exceptional performance for emergency lighting use. Each charger has input and output protection, and measures and limits its own current, making it a self-contained unit.

Alarms and status indicators are provided on the front panel display, which provides clear and concise information, rather than a long list of parameters, which may be confusing. EMEX Power is designed and manufactured in the UK.

### Standard features: EMEX 110 system overview

EMEX Power offers a host of standard features and benefits, as listed below. Note that some items will be optional, extra cost items on other systems, or may not be available at all if the system is not designed specifically and solely for emergency lighting use.

### Performance

- 110V AC/DC output
- Excellent recharge capability – 80% after 12 hours following rated discharge
- MCB protection throughout; no fuses
- EMEX Power true modular construction with common spares (charger, control PCB, and system interface common across the full system range)
- Individual MCB protection for each module - AC and DC circuits
- Individual cooling fans for each charger with on-demand operation (not continuously running)
- Split parallel charger above 10 amps – enhanced integrity with the ability to operate with one or more charger modules isolated (subject to increased recharge time)
- Integral maintenance bypass facility (ability to support output load in bypass mode whilst maintenance is performed)
- Temperature compensated charger
- Standard maintained transformer and switchable for non-maintained

### Alarms and instrumentation

- Comprehensive display
- Charger alarm pack
- Momentary “push to test” button
- Fire alarm interface
- Final exit interlock
- Internal and external MCB monitoring
- Local/remote maintained circuit control
- Sub-circuit monitor connection
- Two sets of volt-free alarm relay contacts
- System-inhibit engineers’ switch
- Remote Alarm Unit option
- Remote test

### Mechanical

- IP21 rated cabinet as standard
- Easy front panel access
- Inter-cabinet trunking for battery cables
- Fork-lift plinth
- Lifting eyes for crane lift as standard
- Installation pack with all tools required
- Detailed instruction manual



BS EN 50171  
KM542294



# EMEX 110

## 110, 50 & 24 volt AC/DC central power supply systems



### Batteries

Standard systems are supplied with Valve Regulated Lead Acid (VRLA) batteries, also known as 'Sealed Lead Acid'. These batteries are sealed for their design life of 10 years.

Lead Acid Planté and Nickel Cadmium batteries are available upon request, however, these batteries require a much larger physical area, and emit potentially explosive gases, meaning the battery room must be adequately ventilated in line with EN 50272 Special attention to EN 50272 should be observed.

These reasons, along with the additional capital cost, generally outweigh the additional life obtained, as demonstrated below.

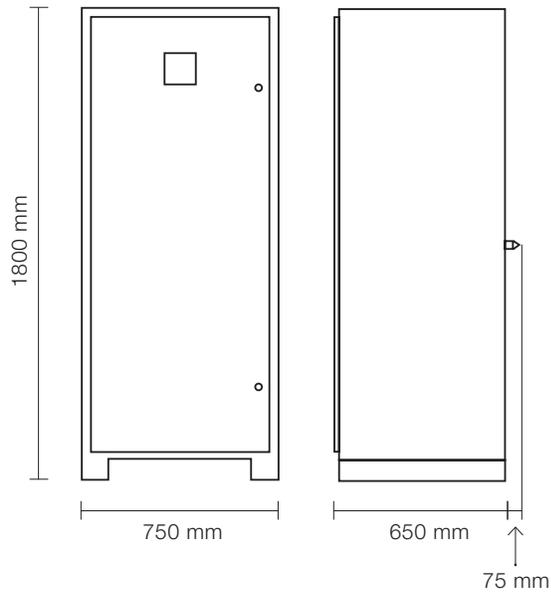
Battery	Initial cost	Design life	Maintenance
VRLA	££	YY	££
Ni-CAD	£££££	YYYYY	£££££
Planté	££££	YYYY	££££

### Order Codes

Part no.	Rating		Cabinet quality
	Watts	kVA	
<b>1 hour 110V AC/DC systems</b>			
ELD9100.120	1,900	2.0	1
ELD9100.121	2,700	3.0	1
ELD9100.122	4,000	4.0	1
ELD9100.123	5,500	5.5	1
<b>3 hour 110V AC/DC systems</b>			
ELD9100.130	1,000	2.0	1
ELD9100.131	1,600	2.0	1
ELD9100.132	2,000	2.0	1
ELD9100.133	2,700	3.0	1
ELD9100.134	3,600	4.0	1
ELD9100.135	4,860	5.5	2
ELD9100.136	5,400	5.5	2

# EMEX 110

## 110, 50 & 24 volt AC/DC central power supply systems



### Cabinet size

Standard cabinet size is 750 mm wide x 650 mm deep x 1800 mm tall. For larger installations, cabinets are mounted side by side to provide sufficient accommodation for the batteries.

Overall depth of 725 mm is required to allow a ventilation gap of 75 mm (rubber back-stop provided ensures this distance is maintained). Cabinets may be mounted side-by-side since no side ventilation is required.

### Remote alarm

British Standard BS 5266 Part 8 (BS EN 50172) section 7.2.2 requires that a visual daily check of the central power supply alarms is made. It is also a requirement that the CPS should be located in a secure area, which is typically a locked switch room in the basement.

We offer an optional remote alarm unit (RAU), which assists the user to identify any alarm conditions.

### Remote alarm unit

Part no.	Order code
RAU/240V	ELD0075.003A

Remote alarm unit providing both audible and visual fault indication with mute facility. The RAU requires a local 220 – 240V AC supply and should be linked to the static inverter unit by a two core cable.



# EMEL

## 110, 50 & 24 volt AC/DC central power supply systems

### EMEL mid-range

- 110V, 50V and 24V AC/DC Central Power Supply Systems in 1, 2 or 3 hour durations
- Compatible with a range of AC/DC slave luminaires and converted mains luminaires
- Suitable for small and medium sized installations, EMEL Light Duty provides an effective solution where self-contained luminaires may not be appropriate, eg where ongoing maintenance may be disruptive
- Ideal for refurbishment of an existing installation, and is suitable for local authority specification work

### EMEL economy

EMEL Economy systems are supplied with 5 year design life valve regulated lead acid batteries. They include a mains on indicator and charge fail alarm as standard.

EMEL 24V AC/DC Economy	100W to 700W
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### EMEL standard

EMEL Standard systems are supplied with 10 year design life valve regulated lead acid batteries and include mains on indicator and charge fail alarm, together with a moving coil ammeter and voltmeter as standard.

EMEL 24V AC/DC Standard	400W to 800W
EMEL 50V AC/DC Standard	200W to 2,000W
EMEL 110V AC/DC Standard	600W to 3,500W

For larger 110V systems, please refer to our EMEX 110 range

### Option list (EMEL standard only)

- Remote Alarm Unit (/RAU)
- Phase Failure Relay (/PFR)
- Fire Alarm Relay (/FAR)
- Sub-Circuit Control Relay(s) (/SCR)
- Maintained Control Relay (/MCR)
- Digital Ammeter/Voltmeter (/DM)
- Time Switch (/TS)
- High/Low Volts Monitor (/HL)
- Earth Fault Monitor (/EFA)
- Common Alarm Relay (/CAR)



# Central power supplies

## Reliable emergency power solutions

Our Central Power Supply Systems division offers a choice of reliable and high quality products which are designed to meet the relevant standards and specifications for both AC/AC and AC/DC applications. The 'EMEX Power' and 'EMEX TS' static inverters, 'EMEX 110' AC/DC and 'Compact Power' product ranges are manufactured in our Leeds facility, supported by an experienced engineering, sales and commissioning team.



### **EMEX – AC/AC Static inverter range: 220-230V 50/60Hz, 400V. 3ph 50/60Hz**

Static inverters in this range are true passive stand-by emergency lighting units, designed and built to exceed current emergency lighting standards and technical requirements, something with which most UPS based central power products do not comply. EMEX Power, EMEX TS static inverters and EMEX Mini power systems offer a low maintenance and extremely reliable central power supply solution with low running costs and a high degree of functionality to serve individual customer needs.

- Modular design, which makes maintenance or repair a simple task
- Manufactured in the UK
- Normal mains luminaires with electronic starters/high frequency ballasts may be driven by the system (glow wire starters cannot be used in accordance with BS EN 60598.2.22)
- Ideal for task lighting projects where normal (high) lighting levels are required to minimise business disruption
- High efficiency: Low running cost. This AC/AC type of system has been designed for an inherently long service life with associated significant cost benefits over alternative emergency lighting solutions
- Cost conservancy and design:
  1. Ventilation fan life is maximised, as they will only operate when required, during 'battery charge' or 'inverter active' cycles
  2. Battery life conserved by a temperature compensated constant voltage charger circuit in conjunction with passive stand-by inverter operation
- Functional features include sub-circuit monitoring, final exit input, MCB monitoring, M/NM operation (user selectable), fire alarm input and two volt-free common alarm outputs
- MCB protection devices are used throughout the equipment, eliminating the need for fuse spares
- Digital display for battery and output metering V & I
- Fully compliant with EN 50171 and ICEL1009
- EMEX TS includes integral touch-screen with EMEX Test capability



BS EN 50171  
KM542294

# Central power supplies

## Reliable emergency power solutions



### EMEX110 – AC/DC Central Power Supply Systems: 110 V

The 'EMEX110' range is available where the user preference is for an AC/DC system powering slave luminaires fitted with compatible inverter modules. The 110 V range is suitable for medium to large premises, including schools, supermarkets and other commercial or local authority properties.



Emergi-Lite EMEX AC/AC CPS systems are now kitemark approved to EN 50171 (Kitemark reference KM 542294).



### EMEX Test

An optional innovative test facility is available for testing both the central power supply system and emergency lighting luminaires linked to it. The 'EMEX Test' hardware and software has been developed to produce an advanced, reliable and functional system at comparatively low cost. Data communication to the luminaires being fed from the inverter is available in two forms depending on user choice. Either a Data Bus version utilising a single pair data cable or a line borne data signal imposed onto distributed AC power is available.



- Both the central power supply and luminaires are addressable
- Programmable: To perform timed tests during 'out of hours' periods for minimal disruption to everyday core business
- Any failure is recorded to a printable log file
- User interface: A standard PC with printer or door mounted touch-screen
- Networking facility: Up to 256 separate systems can be networked for testing from a single PC
- Remote access: Test results can be viewed remotely via computer network/internet
- A substation (MXC) is used to control up to 40 luminaires
- Additionally, any standard luminaire can be converted for use with substations using a small LTC interface module
- Test and monitoring facility designed as per EN 50172/IEC 62034 guidelines



### Compact power ac/dc central Power Supply Systems

Light and medium duty 24 V or 50 V for smaller premises or replacement work. Full range of options available to suit site and customer requirements.

For a project assessment, design and quotation please contact a member of our internal Technical Sales or Field Sales Team. We will be able to offer the most suitable equipment for your local requirement.

# Technical reference

## Best practice

### Testing

BS 5266 Part 8 (EN 50172) and BS EN 62034:2000 specify the statutory requirements for testing the entire emergency lighting installation, and a copy of this standard should be obtained.

It should be noted that, immediately after a test, the battery might not have sufficient capacity to provide emergency lighting cover. For this reason all tests should be performed, where possible, at a time of minimum risk.

### Record keeping

It is a requirement of BS 5266 Part 8 (EN 50172) that accurate records of testing are kept. Emergi-Lite have produced an Emergency Lighting Record Log Book designed to assist with these requirements. These are available to order – part code YLB-EL0807.

### General maintenance

Check the system has adequate ventilation. Louvres in the door, and grilles in the rear panel must not be obstructed. Door access must not be obstructed. The operating environment should be free from dust, which can accumulate inside modules.

### Charger maintenance

The charger output voltage should be tested on a monthly basis by a competent engineer to ensure it is set correctly. Charger voltage may be affected by the ambient temperature in the battery compartment. Any variation in charger voltage should be noted, and, if in doubt, contact Emergi-Lite Service Department for advice and assistance. Equipment should be maintained dust free and clean to prevent premature failure.

### Battery and cells maintenance and storage

Battery storage, maintenance and handling shall be fully carried out in line with the battery manufacturers instructions. The battery should be visually inspected each month by a competent engineer to check that there is no evidence of damaged or leaking cells. Damaged or leaking cells require replacement. Please contact Emergi-Lite service department for advice and replacements. Individual cell voltages should be recorded on the record sheets provided in the manual. A digital DC voltmeter is required for this purpose. Only record cell voltages when the battery is fully charged, which takes a maximum of 24 hrs after a test.

Cell voltages should remain constant over the life of the battery. Cells showing a voltage differing from previous readings require investigation (please note charger is temperature compensated and cell voltages will vary with ambient room temperature changes). Do not at any time attempt to remove or replace cells or re-commission the system. Please contact Emergi-Lite service department for advice and assistance. Temperature extremes severely affect battery life. Always check and record the ambient temperature in the battery room. The optimum temperature is 20°C.

### Handling

Most cells are heavy and difficult to handle. Care should be taken and the correct technique employed when using manual or other lifting methods.

### Explosion hazard

Recombination (sealed) cells, when operated correctly, have negligible rates of gas evolution.

### Repair/disposal

No attempt should be made to repair any cells, they should be treated as disposable when they have outlived their use. Batteries must be disposed of in accordance with current waste disposal and pollution legislation. It is recommended that the following authorities are contacted before any attempt is made to dispose of cells; Environment Agency Local Office, Local Authority Environmental Health or Waste Handling Department.

Our Service Department is available to provide advice regarding disposal of batteries, replacement of batteries and re-commissioning of Central Power Supply Systems. Please contact us for assistance.

### Warranty

Failure to observe above guidance may invalidate the ABB Emergi-Lite warranty. Terms and conditions of warranty apply which are available on request.



## Emergi-Lite EMEX Test

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- Automated, scheduled testing of your emergency lighting systems power supply
- Full control to access test reports locally or remotely at any time
- Efficient emergency lighting testing procedure

# EMEX Test Introduction

The complete emergency lighting central system testing solution. Emergency lighting regulations state that periodic, mandatory tests must be carried out to verify the correct operation of any emergency lighting system.

Increasingly, changes in safety legislation, risk assessment, and the requirements of public liability insurance are placing responsibility for the testing of emergency lighting systems firmly with the owner or occupier of the building. Additionally, legislation states that records of this testing must be kept.

### Automated testing solution

Manual testing (and record keeping) of emergency lighting systems can prove to be expensive, time consuming and disruptive (even dangerous) exacerbated by access problems caused by physical and commercial reasons. The EMEX Test Central Testing System ensures peace of mind by automating the normal, periodic testing of emergency lighting lamps and control gear.

EMEX Test is simple to operate, being controlled by a dedicated touch screen control panel or a standards desktop PC and is featured packed.

- Multiple static inverter Central Power Supply Systems (CPS) can be networked to a single control PC
- Utilising EMEX TS, Remote access via a Local Area Network (LAN) or internet connection is straightforward
- Building Management System communication can be easily incorporated

### Scheduled testing

System tests are scheduled for periods of minimum disruption using EMEX Test.

Live luminaire data is compared against pre-programmed threshold data to identify any discrepancies. These are then duly highlighted in the test report which is generated and stored automatically.

The user has full control to access test reports locally or remotely at any time. Service personnel can then arrange a convenient time to access any faulty luminaires – ready prepared with any necessary spares in order to further reduce the amount of time required to effect a repair.

In addition, EMEX Test can conduct discharge tests and monitor and record the status of the CPS and end battery voltage. Since discharge tests cannot be performed until visual condition checks have been undertaken by an engineer on site, these annual tests are initiated manually.



# EMEX Test

## Complete emergency lighting central system testing solution

EMEX Test is the most flexible emergency lighting testing system available today. With the ability to support virtually any type of slave 230V luminaire, including LED, EMEX Test affords freedom of choice for consultants, designers and end-users alike.

### Two approaches, one solution

EMEX Test can utilise two different solutions to interface your emergency luminaires, whatever the scenario. Both systems utilise the same software and are fully compatible with each other on the same system:

### MXC

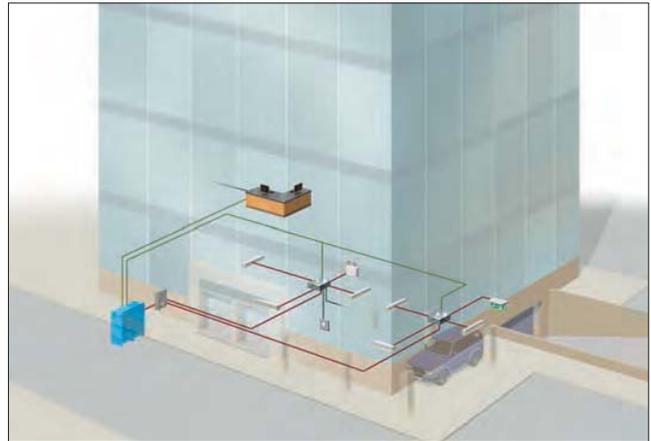
MXC is ideal for use where a large number of high frequency, non-dimmable luminaires are situated in a relatively small area and where room for cable runs is restricted and the aesthetics are a primary concern. The MXC substation solution employs compact LTC integral luminaire interfaces to support up to 40 luminaires from a single substation. It allows mixed operation modes of the emergency luminaires on the same circuit without data cable. Multiple local switched and unswitched circuit monitoring is marshalled by the substation, or direct into the luminaires. Substations are connected together and back to the control PC by data cable connection. Ideal for high-rise buildings, MXC provides savings in cable, containment and installation costs.



### MXD4

MXD4 substation modules control luminaires in groups of four with no modification to the mains luminaires whatsoever. Data cable provides communication to the CPS. A data cable connection exists between the CPS and the PC.

MXD4 is ideal for use where a smaller number of luminaires are to be situated in an environment where aesthetic cabling is not an issue, for example warehousing or car parks.



### Features and benefits

- Supports virtually any type of luminaire – no modification required
- High switching power capability
- Simple to install
- Compatible with digital and analogue dimming systems
- Fully compatible with MXC

### Features and benefits

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- Maintained, non-maintained and switched luminaires on a single circuit
- Cable saving as a result of combined power and data lines
- High capacity substations
- Flexible local circuit monitoring options
- Fully compatible with MXD4

# EMEX Test

## Case study - A high rise building

### How to apply EMEX Test MXC and MXD4 Emergency Lighting Testing Systems.

A typical high-rise installation will employ a variety of luminaire types in different areas. It will have varying switching arrangements and cabling restrictions according to the usage of each area and the fabric of the building.

When considering their mains lighting, the consultant and end user can retain complete freedom of design, assured in the knowledge that specifying EMEX Test will offer the most flexible and economic solution to provide addressable emergency lighting.

#### Underground car parks

In underground car parks and service areas the designer will prefer basic batten fittings or filament lamps. In this instance, where surface cabling is acceptable, MXD4 substations are ideal. There is no modification to the slave 230V 50/60Hz luminaires whatsoever. This makes the installation very straightforward as the substations are identical no matter the wattage or operation of the luminaires (substations can even be “first fixed” before the luminaires arrive!), and has the great benefit that in the event of any damage or vandalism the slave 230V 50/60Hz luminaires can be replaced without interfering with the addressable emergency system.

#### Open plan areas

For lower floors with typically open plan areas where suspended ceilings are employed and switching arrangements are uncomplicated, MXD4 substations also offer benefits. In addition, the client would be free to refurbish at a later date, changing luminaire types at will, with only reprogramming of the EMEX Test software required to suit.

#### Upper floors

Upper floors with a larger number of rooms per area (for example offices or hotel rooms), will also use MXC in order to take advantage of the large number of switched feeds that can be monitored by each substation. Coupled with the option to wire monitoring feeds directly into the luminaires, this will offer great savings in cable and simplify the installation, whilst retaining flexibility of programming should the mode of operation of the luminaire change.

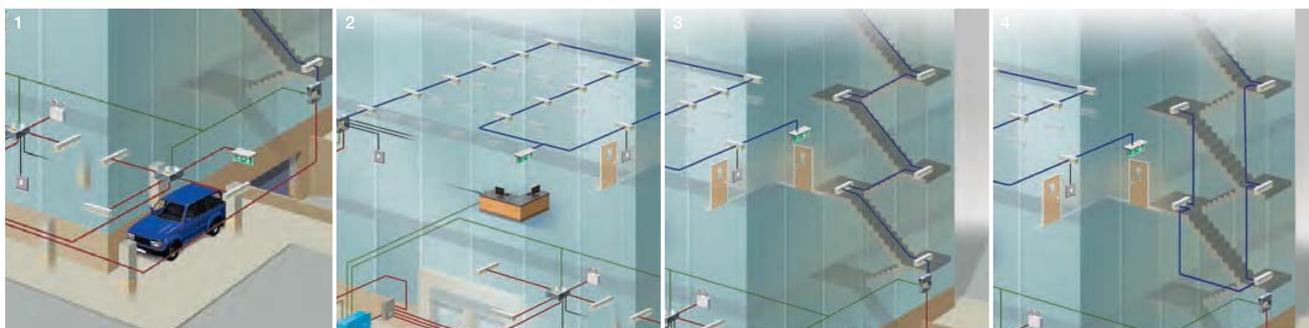
EMEX Test can accommodate this scenario – and more – whether the system is one large Central Power Supply System (CPS) feeding the whole building, one smaller CPS per floor, or any combination thereof.

#### Stairwells

In stairwells, the MXC substation solution with LTC equipped luminaires offers great benefits in cable saving and installation costs. The MXC substation(s) can be mounted in risers at the foot of each stairwell, removing the need for data cable or remote boxes in the stairwell itself. The maintained exit signs, switched luminaires, and even any non-maintained external units can all share a single supply cable. Monitoring feeds can all come to a single point at the substation, simplifying the cabling within the stairwell. Conversely, if it is inconvenient or impossible to wire a switched or monitoring feed back to the substation, it can be wired directly into the relevant luminaire.

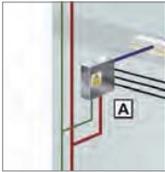
#### Stairwells (Two circuit wiring)

Dual circuit wiring concept, to provide a higher integrity installation.



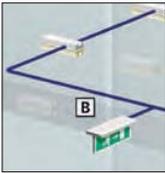
1 Underground car parks | 2 Upper floors | 3 Stairwells | 4 Stairwells (Two circuit wiring)

# Applying EMEX test MXC and MXD4 emergency lighting testing systems



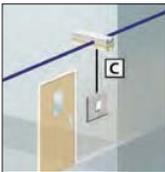
**MXC substation**  
Each MXC substation can control up to 40 luminaires. Power and datalines feed the substation

which in turn monitors & controls the luminaires via a single combined power/data line. Each substation can monitor up to 8 local switched and/or unswitched circuits. Luminaires operate in maintained, switched maintained, or non-maintained modes on the same circuit, according to the system programming.



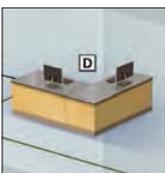
**MXC compatible luminaires**  
The MXC testing system requires luminaires (bulkheads, exit signs)

to be MXC compatible. In addition, virtually any standard mains luminaires can be converted for use with the MXC system using an integral or remote LTC interface module. Luminaires must contain a high frequency ballast (please check with Emergi-Lite). MXCs are not compatible with switch start control gear, please use MXD4 for these applications.



**Switching**  
One switched and/or one unswitched local feed can be wired directly into the MXC System LTC

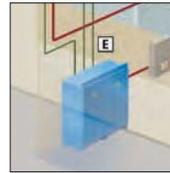
module, in addition to the monitoring/switching provided via the MXC substation.



**EMEX Test control station**  
EMEX Test software is installed on a standard desktop PC to initiate scheduled tests and collate

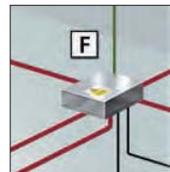
test report data. System status can be accessed remotely over a Local

Area Network (LAN), or via the internet utilising the EMEX TS option. EMEX Test can optionally export system status in BACNET or LONWORKS format to a Building Management System. (Note: The output format will be dependent on the Building Management integrators system functionality and capabilities, see EMEX LONWORKS profile document for further information). A network node enables the engineer to access test reports and control the system using a laptop PC from any point on the data cable.



**EMEX Power**  
EMEX Power Central Power Supply System provides AC power to emergency luminaires via

standard AC distribution boards. EMEX Test can support both MXC and MXD4 systems simultaneously. Multiple EMEX Power CPS units can be used to power larger applications, monitored from a single EMEX Test control point.



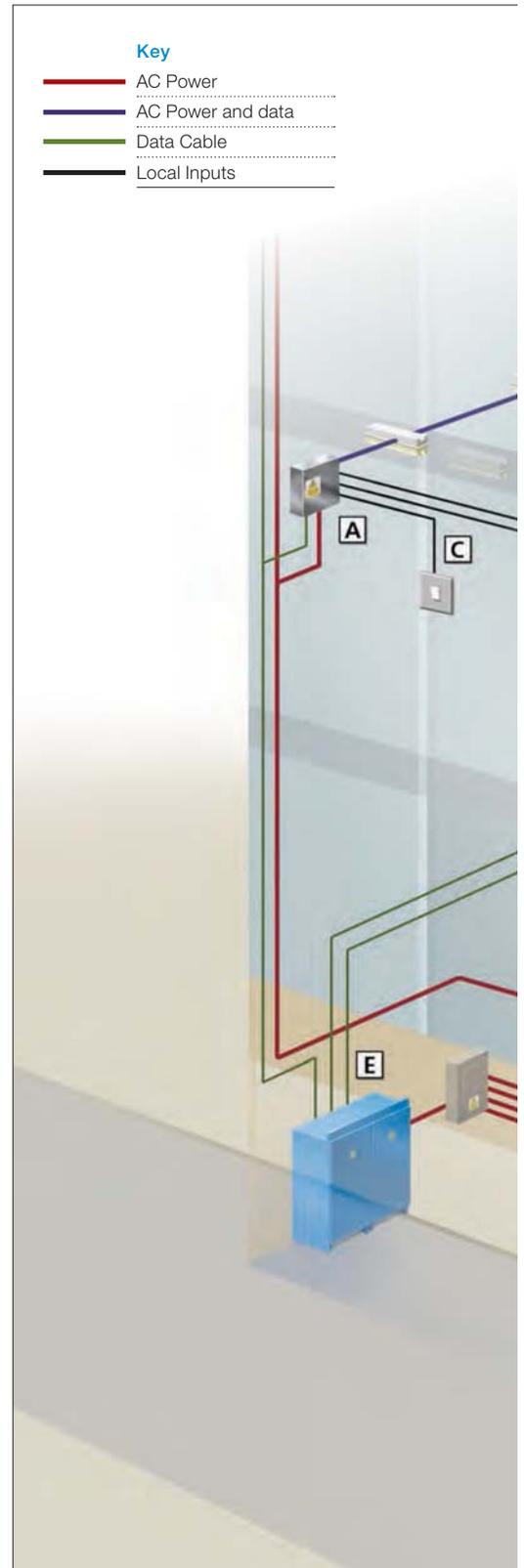
**MXD4 substation**  
MXD4 controls up to 4 unmodified mains luminaires on an individual basis. Power and datalines

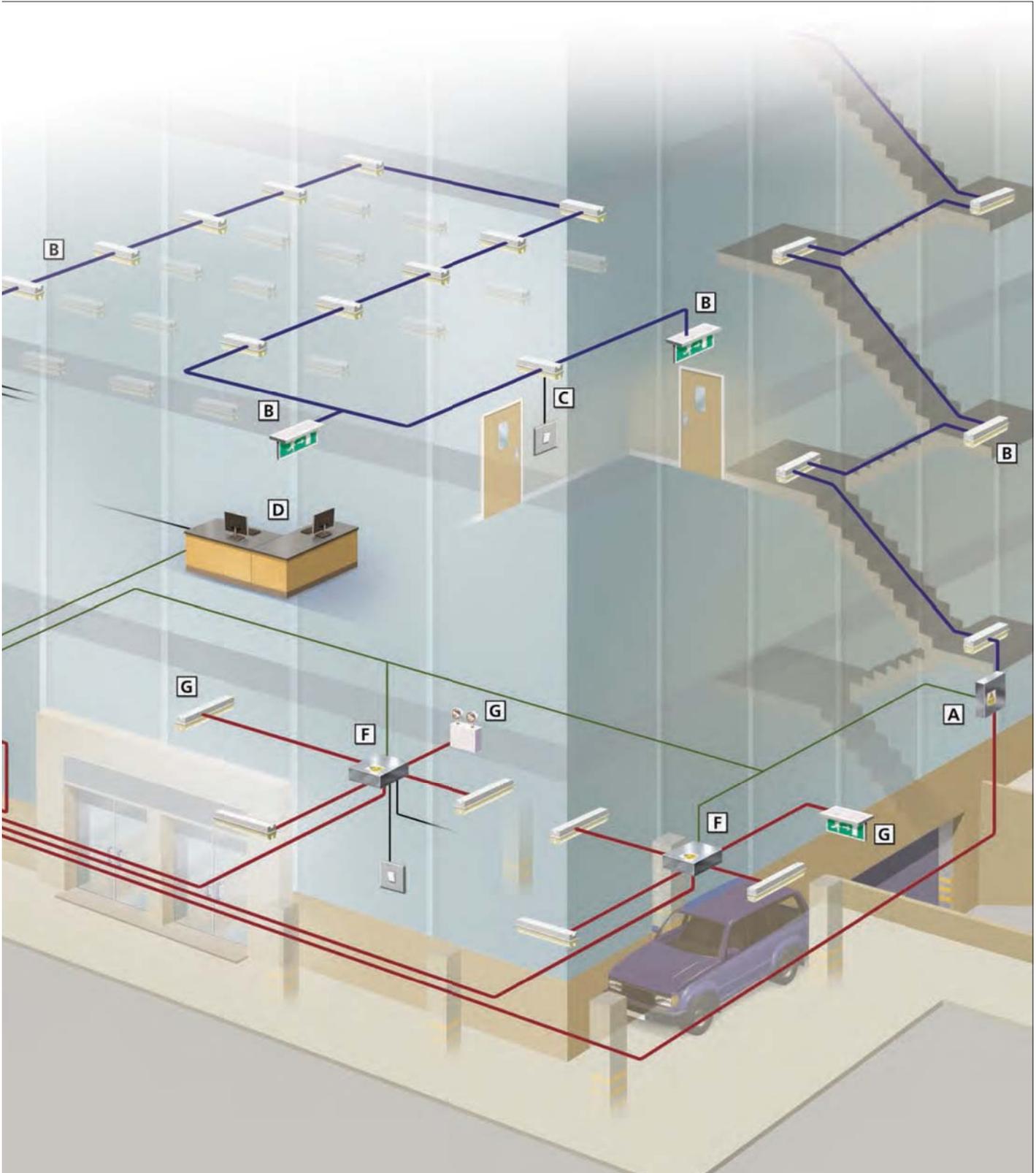
feed the substation with individual power outputs to each luminaire. Each MXD4 can monitor up to 8 local switches and/or unswitched circuits. Luminaires operate in maintained, switched maintained, or non-maintained modes in reaction to these inputs, according to the system programming.



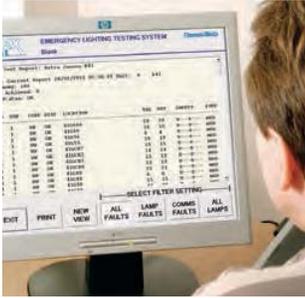
**MXD4 luminaires**  
MXD4 can support virtually any fluorescent, LED, filament, or halogen luminaire, without

modification. Each MXD4 substation includes a single dimming control relay.





# EMEX Test System components



## EMEX Test software

The focal point of an EMEX Test monitoring network is a PC running the EMEX Test software package.

EMEX Test software is Windows™ based. It provides detailed address information of all connected Central Power Supply Systems and luminaires. Scheduled testing is configured quickly and easily – once set up it can be left to operate, without further input, in the background. Reports are created and collated automatically. These are date stamped and can be printed or distributed electronically.



## Wall mounted EMEX Test control panel

### Description

- Wall mounted EMEX Test Control Panel utilising a touch screen for operation of the EMEX Test programme 8" High Brightness TFT LCD (400 cd/m ), long life-time display, support 800 mm x 600 mm
- Fanless, with AMD LX-800 500MHz processor
- One 200-pin SO-DIMM DDR 266/333MHz
- up to 1GB Sealed resistive touch screen
- Support Panel / VESA 75 mount
- DC 11~28V wide-range power input

### Specification details

- Maximum AC voltage 240V AC 50/60Hz
- Windows CE net 4.2 / 5.0, XP, XP Embedded
- I/O ports: COM1: RS-232, COM2: RS-232/422/485, COM3: RS-232, External USB 2.0 x2, 2x5 2.0 mm pin header for internal USB 2.0 x2, 1 x VGA, 1 x PS/2 keyboard & mouse, 1 x Reset switch ,1 x power on/off switch 1 x LAN (10/100Mb),

### Construction

- Plastic front panel & metal housing IP 20
- Enclosure dimensions 318 mm (L) x 270 mm (W) x 104 mm (H)
- Cable termination 2.5 mm<sup>2</sup> maximum
- Cable entry 20 mm gland hole



# EMEX Test System components



## **MXKP station adapter kit** **Included with /TS Systems**

The MXKP station adapter kit is required to integrate the EMEX Power static inverter with the EMEX Testing System. Ordered separately, the MXKP station adapter kit is factory fitted in the inverter cabinet.

- 4,000 luminaire address capability
- Output capacity of 100 x MXD4 and/or MXC units per MXKP
- 2-core data bus to MXD4 and MXC units and to/from MXKP units
- 2-core screened 240V, (1.0 mm<sup>2</sup> minimum) data cable (Max. distance 2,500 metres – additional repeaters available)

## **MXIN test input node** **Included with /TS Systems**

Provides an input point to allow roving access to the system using a laptop PC.



## **MXC substation**

The MXC substation controls up to 40 LTC equipped HF luminaires. It can also monitor 8 switched or unswitched inputs.

- 40 x LTC units over 2 radials (20 per radial)
- Maximum 270V AC
- 2 x 1,150VA (5 ampere) maximum output power
- 200 metres maximum distance (per output radial) to final luminaire
- 2-core screened 240V, (1.0 mm<sup>2</sup> minimum) cable (fireproof recommended)
- 210 mm x 253 mm x 60 mm
- Operating temperature 0 – 50°C
- Galvanised steel enclosure (colour options available as specials)
- Substation rated to IP20 as standard. Option of higher IP rating available to order
- For further details on the MXC & MXD please refer to the



# EMEX Test

## System components



### MXD4 4-way addressable substation

The MXD4 addressable substation controls up to 4 unmodified mains luminaires. It can also monitor 8 switched and/or 8 unswitched inputs.

- 4 luminaires on individual circuits
- Maximum 270V AC, 230W (1 ampere per circuit)
- Switching threshold of 230V -60% to -85%
- Address range of 4 to 3999 (blocks of 4)
- Analogue and digital compatible dimming capability using on-board dimming relay to break dimmer control line
- 2-core screened 240V, (1.0mm<sup>2</sup> minimum) cable (fireproof recommended)
- 2,500 metres maximum distance from MXKP to MXD4 transmitter
- 254 mm x 210 mm x 60 mm
- Operating temperature 0 – 50°C
- Galvanised steel enclosure (colour options available as specials)
- Option for high IP rating are available



### MXT data repeaters

#### MXT100 and MXT200

The MXT data repeater is used to increase the number of interfaces on an individual data line.

- Maximum 270V AC
- 2-core data inputs
- 2-core screened 240V, (1.0 mm<sup>2</sup> minimum) cable (fireproof recommended)
- 300 mm x 400 mm x 120 mm

Up to 100 substations may be fed from the internal transmitter within the CPS. Additional MXT data repeaters are available for situations where more than 100 substations are required. For example the MXT200 data repeater is capable for handling up to 200 substations.

### Lamp Test Controller addressable interfaces

The LTC is designed specifically to control luminaires with fluorescent or incandescent lamps when working from a static inverter system.

The LTC is part of the EMEX MXC automatic emergency lighting testing system, and can control the lamp and dimmer signal when testing. It measures the lamp power consumption and communicates this and the lamp status back to the EMEX central PC using power line communication via the MXC substation. It is fully addressable and programmable for any lamp type or configuration. This is done in situ from the central PC.

# EMEX Test

## System components



### 70W LTC addressable interface

The LTC addressable interface unit is required when connecting standard mains luminaires to the MXC substation system.

- Maximum 270V AC
- 70 watt maximum switching output power
- 2 control inputs configurable as local switched and unswitched monitoring
- Factory pre-addressed
- 116.5 mm x 24.5 mm x 22 mm
- Complies with Radiated & Conducted Emissions Standard EN 55015:2000



### 230W DIM LTC addressable interface

- Maximum 270V AC
- 230 watt maximum switching output power
- 2 control inputs configurable as local switched and unswitched monitoring
- Dim Relay to disconnect dimming signal
- Factory pre-addressed
- 155 x 42 x 30, 148 mm fixing centres
- Complies with Radiated & Conducted Emissions Standard EN 55015:2000



### Lon Adapter

The LON adaptor interface allows integrators of Open System Networks to provide network connectivity to Emergi-Lite emergency lighting systems.

The unit is housed in an industry-standard M36 DIN rail enclosure and supports both RS232 and 11S4-65 communication options. Simple ASCII string generated by the Emergi-Lite system over RS232 is made available through the open LonTalk protocol using Standard Network Variable Type SNVT\_str\_ascii.

Note: The output format will be dependent on the Building Management integrators system functionality and capabilities, see EMEX LONWORKS profile document for further information.

# EMEX test

## System components



### BACnet interface

BACNET is a Data Communication Protocol for monitoring and communicating building management data to and from the BMS workstation. The module is fed with data from an InfraLINK Lonworks module.

The InfraLINK module is specifically pre-configured to work with the L-GATE module.

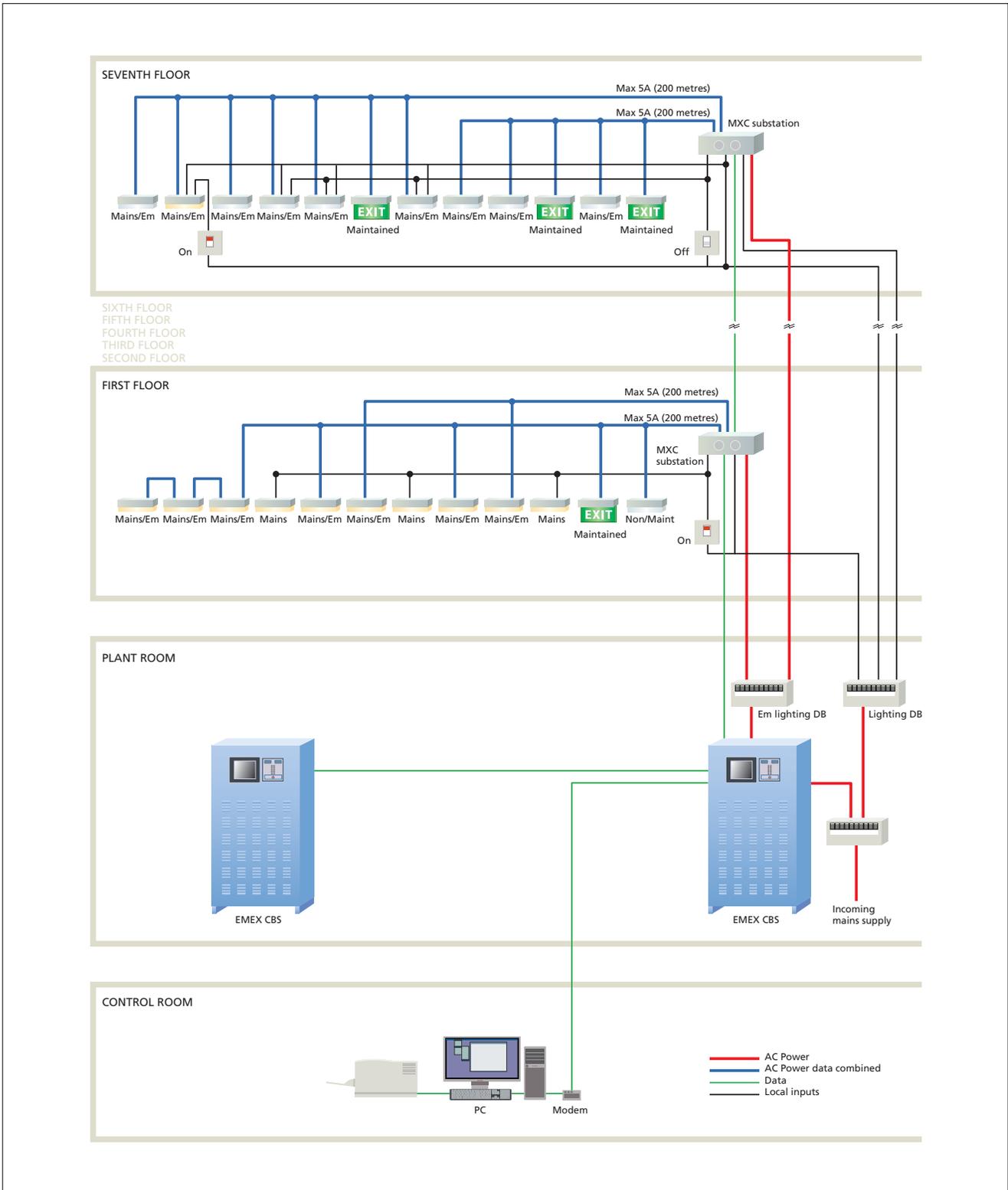
The data is converted from LONWORKS protocol into BACNET protocol in the L-GATE module. This data is connected to the BMS by Ethernet using TCP/IP internet protocol.

### Order Codes

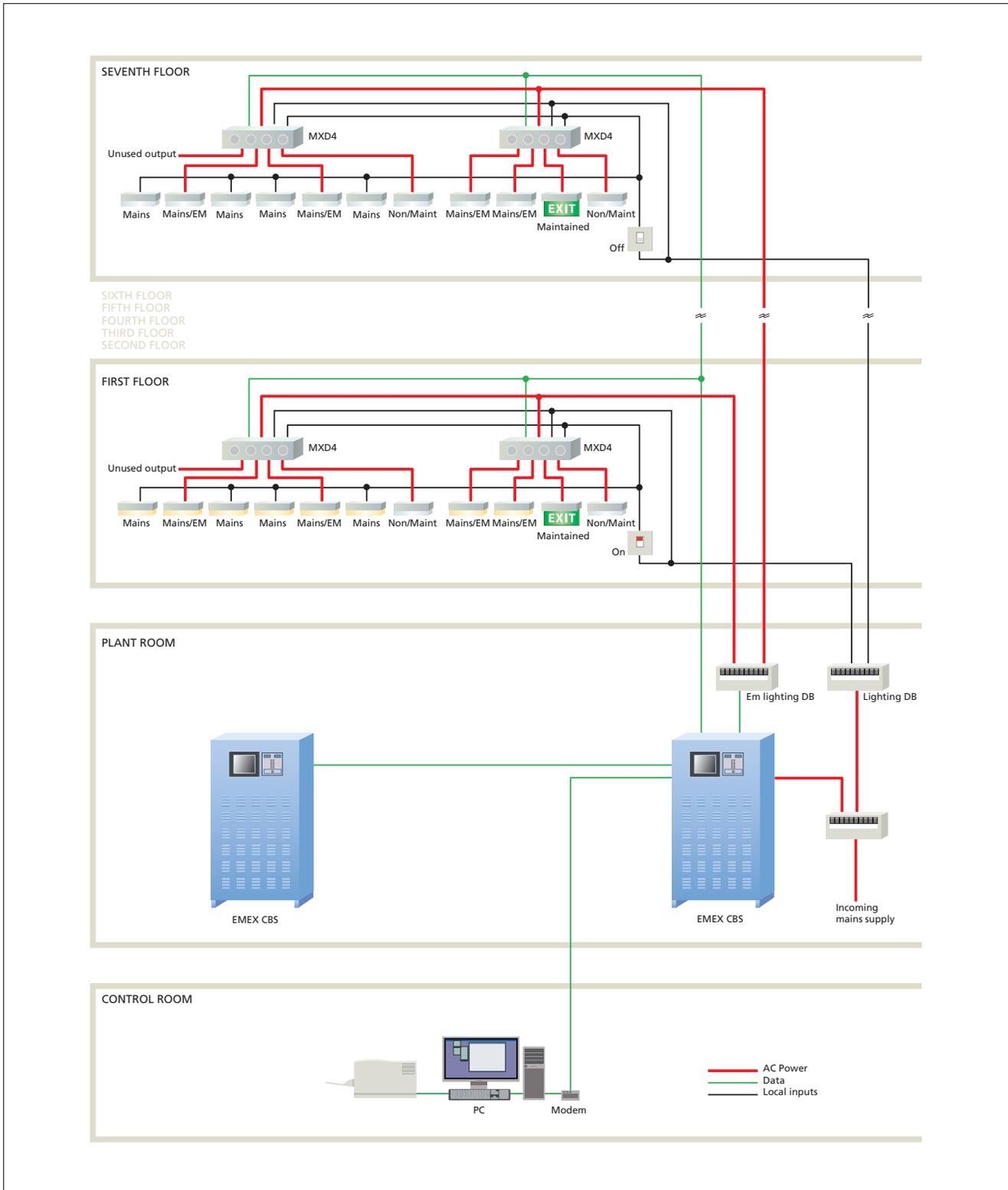
Part no.	Item name	Description
<b>CBS and control</b>		
ELD9500.910	MXKP	MXKP Static inverter interface
ELD9500.925	MXTS	Wall mounted EMEX touch screen control panel
ELD9500.039	MXIN	Remote test node input (modem)
ELD9500.917	PC+printer	Desktop PC and printer
ELD9500.918	LON adaptor	LON adaptor for wall mounting adjacent EMEX PC
ELD9500.920	LON adaptor	LON adaptor for static inverter C/W EMEX TS
ELD9500.923	BACNet	Wall mounting BACNet interface
ELD9500.924	BACNet	Static inverter integral BACNet interface
ELD9500.921	/TS	Static inverter integral EMEX test panel; (touch screen)
ELD0077.009	RS232 to USB	RS232 to USB
<b>MXD range</b>		
ELD9500.120	MXT100	MXT100 data transmitter repeater
ELD9500.016	MXD4/8E	MXD4/8E data line interface
<b>MXC range</b>		
C-LTC4WHF	LTC 1-4W	LTC addressable interface 4W integral conversion
C-LTC4WHFRW	LTC 1-4W REM	LTC addressable interface 4W Remote conversion
C-LTC70HF	LTC 13-70W	LTC addressable interface 70W integral conversion
C-LTC70HFRW	LTC 13-70W REM	LTC addressable interface 70W remote conversion
C-LTC230HF	LTC 230W AC Dim REM	LTC addressable interface 230W integral conversion
C-LTC230HFRW	LTC 230W AC Dim REM	LTC addressable interface 230W remote conversion
ELD9500.048F	LTC 230W Dim parts Kit	LTC addressable interface 230W AC Dim new parts kit
ELD9500.036.2F	LTC 1-4W parts Kit	LTC addressable interface 4W parts kit
ELD9500.036F	LTC 13-70W parts Kit	LTC addressable interface 70W parts kit
ELD9500.048FRW	LTC 230W AC Dim ENC	LTC addressable interface 230W AC Dim new kit in enclosure
ELD9500.036.2FRW	LTC 1-4W parts Kit ENC	LTC addressable interface 4W kit in enclosure
ELD9500.036FRW	LTC 13-70W parts Kit ENC	LTC addressable interface 70W kit in enclosure
ELD9500.030	MXC substation	MXC substation, 2 x 4A nominal O/P, 8 SU-CCTS I/P
ELD9500.030/60	MXC substation 60Hz	MXC substation, 2 x 4A nominal O/P, 8 SU-CCTS I/P 60Hz

# EMEX test

## Layout schematic - MXC substations



# EMEX test Layout schematic - MXD4 substations



# Sub-circuit monitoring Conversion modules

A conversion module is required for a conventional fluorescent mains luminaire when it is powered from a Central Power Supply System for emergency lighting use.

This provides fail-safe emergency operation from the CPS supply upon failure of the local lighting circuit whilst retaining the switchable function of the luminaire under mains healthy conditions.

The MDG inverter module has been designed to efficiently operate 4 – 100 watt 4-pin fluorescent lamps, from 50 volt or 110 volt AC/DC Central Power Supply Systems.

## Features and benefits

- Ideally suited for individual local circuit failure monitoring via the connection of an unswitched supply
- Incorporates an integral five pole relay which disconnects the normal mains lighting ballast from the lamp when the monitored 230/240 volt mains supply is disconnected
- A delayed energy relay prevents the automatic protection circuit of the electronic ballast sensing an open circuit condition, in emergency test mode, thus enabling the lamp(s) to restrike without having to re-set the switched supply
- Electrical connections are made via screw terminals
- Remote boxes available where integral mount is not possible

## Specifications

- 220 – 240V AC, 50Hz
- Changeover voltage in compliance with BS EN 60598.2.22
- Input voltage range
- 50 volt systems: 45 – 55V
- 110 volt systems: 99 – 121V
- Weight: 0.5kg
- Zinc coated steel enclosure

## Order codes

**MDG50** - Conversion module suitable for 4 – 100W fluorescent, 50V AC/DC

**MDG110** - Conversion module suitable for 4 – 100W fluorescent, 110V AC/DC For 24 volt AC/DC conversion modules, please contact our Sales Department.

## Dimensions

- 230mm x 42.5mm x 29mm

## CE marking & warranty

A modified luminaire must be compliant with the Electro-Magnetic Compatibility (EMC) and Low Voltage (LV) Directives, and carry a CE mark to signify the compliance.

The company modifying the general luminaire is legally responsible for the re-certification of the complete unit after modification.

In addition, the warranty provided by the mains manufacturer will be invalidated by the modifications.

## Conversion service

Emergi-Lite offers a specialist conversion service backed by the highest level of expertise, from a number of strategic Conversion Centres in the UK.

Emergi-Lite is registered under ICEL1004 for luminaire conversion. Specifying the conversion service to be performed by Emergi-Lite ensures full compliance. In addition, the warranty provided by the mains manufacturer is taken over by Emergi-Lite and provides complete peace of mind.

Note: Luminaires to be converted to emergency must themselves carry a CE mark to be considered suitable for conversion.



# Sub-circuit monitoring

## Hold-off / changeover relays

It is a mandatory requirement that Emergency Lighting is energised in the event of a local sub-distribution failure, not just on total building supply failure.

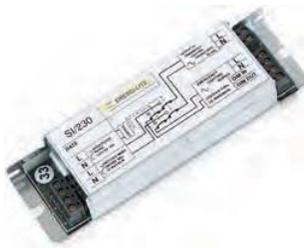


Hold-off & sub-circuit monitoring relays are used to energise luminaires in the case of local supply failure. They may be used to feed more than one luminaire on the same switched circuit and are available in 1 amp, 8 amp & 12 amp versions.

### Hold-off relays

Hold-off relays are required to monitor the relevant lighting supply circuits such that a failure brings on the emergency luminaires automatically in the event of local supply failure. Non-maintained luminaires are connected to a localised sub-circuit hold-off relay fed from a maintained battery system. These luminaires are only energised when the supply to the hold-off relay fails. 5, 10, 15 and 20 way sub-circuit monitors (with 12 amp hold-off relay) are available.

Part no.	Description
ELD9600.001	5 way 12 amp hold-off relay
ELD9600.002	10 way 12 amp hold-off relay
ELD9600.003	15 way 12 amp hold-off relay
ELD9600.004	20 way 12 amp hold-off relay



### Changeover relays

The basic use of a switched maintained system is to energise the emergency lighting when required by operation of the local switched supply but automatically illuminate in the event of local sub-circuit supply failure (irrespective of the position of the local switch).

SI230 changeover relays are compact and easy to install. When using these changeover relays switched maintained emergency luminaires are energised whenever a local switched supply is present and, automatically, when a local sub-circuit failure occurs.

Part no.	Dimensions HWD (mm)	Description
SI230DIM	155 x 43 x 30	230 volt 1.0 amp mains changeover relay
SI230DIM-S	200 x 130 x 40	230 volt 1.0 amp mains changeover relay in remote enclosure
ELD9600.010	200 x 130 x 40	230 volt 8 amp mains changeover relay with 2 x 2.5mm <sup>2</sup> terminal capacity

### Maintained

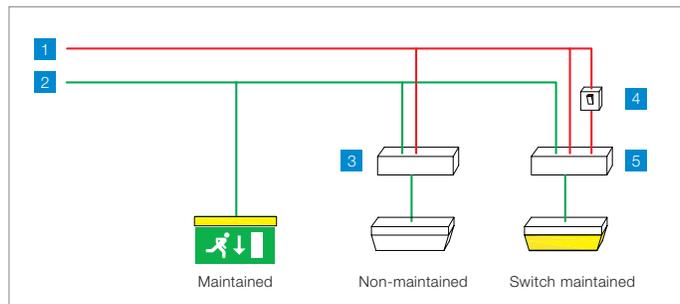
Do not require sub-circuit monitoring or hold-off relays

### Non-maintained

Require a hold-off relay (1 per circuit)

### Switched maintained

Require a changeover relay (1 per switched circuit)



- 1 Local mains supply
- 2 Static inverter output
- 3 Hold-off relay
- 4 Local light switch
- 5 Changeover relay



## Emergi-Lite Technical reference

- Reference & design
- Legislation & requirements
- Checklist for emergency lighting design
- Spacing data & legends guide

## Technical reference Reference & design



The requirement for emergency lighting originates from the Fire Precautions Act 1971 and was further enforced by the Fire Precautions (Workplace) Regulations 1997 (Amended 1999).

The Regulatory Reform (Fire Safety) Order, FSO came into force in October 2006 and now replaces all previous fire safety legislation.

The key considerations from the Fire Safety Order are:

- The FSO creates one simple fire safety legislative control for all workplaces/non-domestic premises
- Control is fire risk assessment based, with the responsibility for fire safety resting with the 'responsible person' for the premises
- All persons inside the building/in the vicinity who might be affected by a fire must be protected
- Employees will be required to act upon the fire risk assessment, make remedial arrangements accordingly and maintain the fire precautions

- Failure to comply with the rules would be a breach of law, with the consequence of enforcement or prohibition notices being served

The fire safety risk assessment is a legal requirement, and where a site has 5 or more employees the risk assessment must be documented.

Fire certificates under the Fire Precautions Act 1971 are now no longer valid. Guidance documents on the new Fire Safety legislation have been published and the appropriate ones must be consulted as part of the overall fire risk assessment.

Other important legislation and regulations, such as The Buildings Regulations and The Health and Safety "Safety Signs and Signals" Regulations 1996, also have a requirement for emergency lighting and must be considered as part of the design and specification.

# Technical reference

## Reference & design

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Other important legislation and regulations, such as The Buildings Regulations and The Health and Safety "Safety Signs and Signals" Regulations 1996, also have a requirement for emergency lighting and must be considered as part of the design and specification. A number of standards have been devised to provide guidance on application of emergency lighting in line with legislative requirements, and to determine the quality of product to be specified.

The major standards to be considered when designing a high-level emergency lighting system are:

- **BS 5266-1, BS EN 1838:2013, BS 5266-8**  
These sections of the standards set the guidelines for installation of emergency lighting, where to locate emergency luminaires and exit signs and the minimum lighting levels required. Note that BS 5266-7 has been superseded by BS EN 1838:2013.
- **BS EN 60598.2.22**  
This is the product standard which establishes the performance requirements of emergency lighting luminaires and internally illuminated exit signs
- **IEC 62034**  
This standard defines the requirement for automated testing systems for emergency lighting
- **ICEL1001, ICEL1004 & ICEL1009**  
Guides and registration schemes provided by the Industry Committee for Emergency Lighting which define enhanced performance requirements for the differing types of emergency lighting, backed by independent testing

### Exit signs

#### Designated legend formats

European pictogram format SI341 signs are acceptable, as are ISO 7010 format signs, although there should not be a mixture of both within an installation.



ISO 7010

EU-format, SI-341

Text only signs are no longer acceptable and should have been withdrawn.



SI-341: UK legislation, Statutory Instrument 341

### Maximum viewing distances

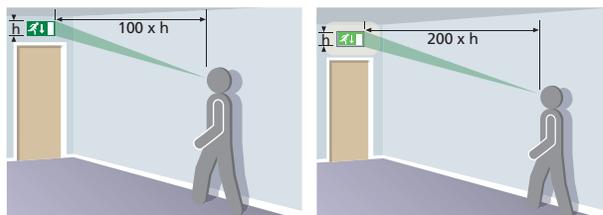
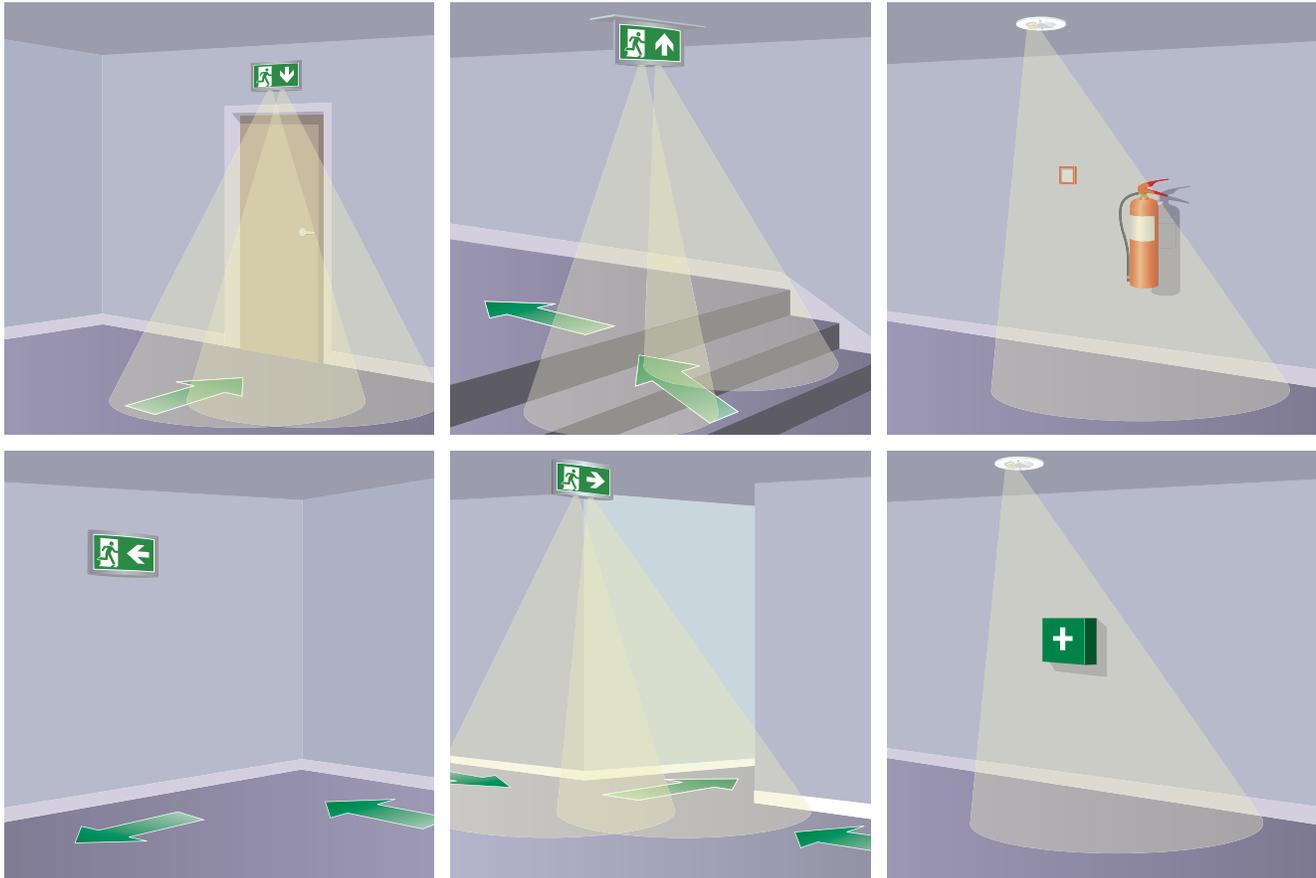


Figure A. Exit sign boards have a maximum viewing distance defined as 100 x the height of the sign (h), in metres

Figure B. For illuminated exit signs, the maximum viewing distance is defined as 200 x the height of the sign (h), in metres

# Technical reference

## Reference & design



### General requirements for emergency lighting (BS 5266-1, BS EN 1838:2013, BS 5266-8)

If emergency lighting is required it should:

- Indicate the escape routes clearly with exit signs so there is no doubt which is the way out
- Ensure fire safety equipment such as fire alarm call-points, fire extinguishers etc can be located
- Illuminate escape routes, and open areas used in escape routes so that obstacles can be avoided
- Provide illumination for high risk task areas to allow the processes to be shut down safely

Any point on an escape route or leading to it must have an exit sign so that direction of travel is never in doubt. Internally illuminated exit signs offer the most effective method of achieving the requirement, and have a viewing distance twice that of exit signboards - see above.

Note: where exit sign boards are installed, these must now have 5 lux illuminance on the sign to meet the requirements on BS 5266 / EN 1838 - for practical purposes unachievable through use of converted mains luminaires.

### Points of emphasis

An escape route luminaire shall be positioned to give emphasis on potential danger points, as well as for safety and fire equipment.

- Near all emergency exit doors
- At changes of direction along the escape route, to illuminate in both directions
- At intersection of corridors, to illuminate in both directions
- At changes in level to avoid tripping
- Near stairs, so stair flights are directly lit
- Near each piece of firefighting equipment or manual call point, to a level of 5 lux in the vertical.
- Near first aid points, to a level of 5 lux in the vertical
- At externally illuminated exit signs and other safety signs, which identify a hazard
- Near escape route equipment in place for disabled people
- Near refuges and two-way telephone positions for the disabled
- Near 'disabled toilet' alarm call positions
- Near to each final exit on the inside
- Near to the final exit externally, to a place of safety
- Near is defined as 'within 2 m' in the horizontal.

# Technical reference

## Reference & design

In addition to these points of emphasis, the following need to be considered when planning emergency lighting.

### Escape routes

A defined escape route of 2 m width must be illuminated to a minimum of 1 lux along the centre line (see below).

### Open areas (anti panic)

Open areas must be illuminated to 0.5 lux minimum in the core area (see below right). This also applies to areas with undefined escape routes, in halls or areas greater than 60 m<sup>2</sup>.

### High risk task areas

This refers to areas normally associated with moving machinery, dangerous materials or processes, and other areas of high risk where hazards may continue after mains lighting failure.

Illuminance levels should be maintained at 10% (or over) of the normal lighting level or 15 lux, provided within 0.5 seconds, to allow for safe egress and/or termination of processes. For high risk task areas, the lux requirement is calculated at the plane of the task rather than floor level.

### Additional areas

Additional areas not part of the escape route still require illumination as people may be located there and/or measures may be required to ensure the safety of persons or processes. These areas include kitchens, first aid/operating rooms, lifts, refuge areas, escalators and moving walkways, toilets larger than 8 m<sup>2</sup> (or smaller without borrowed light), disabled toilets, small lobbies and pedestrian routes within covered car parks.

### System integrity

All compartments should include two or more emergency luminaires to counter the risk of emergency luminaire failure.

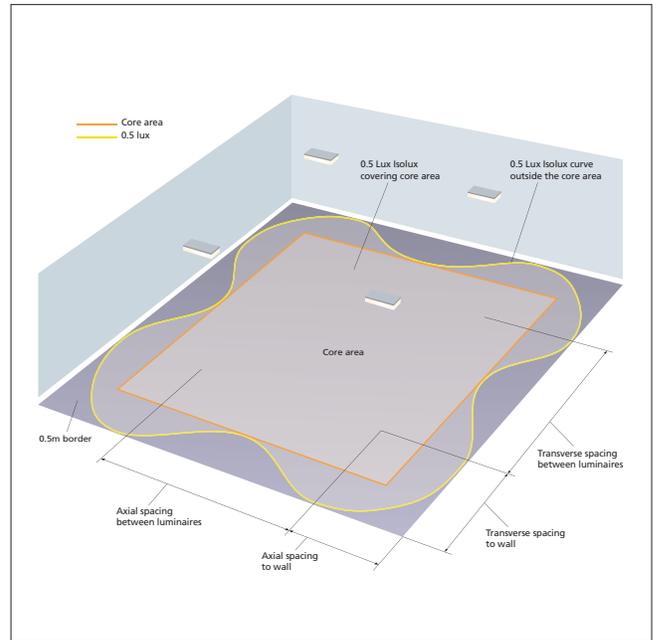


Figure C. Core areas

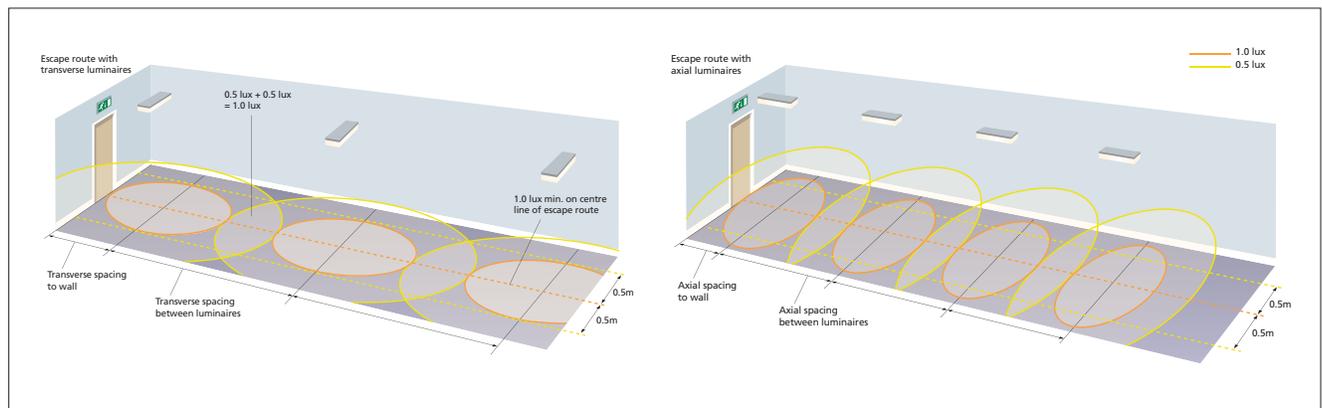
### Luminaire mounting height

Emergency luminaires should be mounted at least 2 m above the floor. There is no upper limit but luminaires should be fitted below smoke level if there is a significant risk of floor illumination being affected.

### Stand-by lighting

If stand-by lighting is used as emergency lighting it should conform to all the requirements of emergency lighting.

Figure D. Escape routes with transverse and axial luminaires



# Technical reference for design Legislation & requirements

## Specific location requirements

BS 5266 stipulates light levels, response and duration times for specific locations within premises, and for specific activities, including:

- Kitchens
- First Aid rooms
- Examination and treatment rooms
- Refuge areas for the mobility impaired
- Plant rooms, switch rooms and emergency winding facilities for lifts
- Reception areas
- Crash bars or security devices at exit doors
- Inspection of the condition of fire control and indicating equipment

A table showing the illuminance recommendation for these specific locations and requirements can be found in BS 5266-1.

## Emergency lighting systems

There is a varied range of emergency lighting available to suit different budgets, decors, building requirements, colours and specifications. The types and categories available for specification are:

### Types of emergency lighting

- **Self-contained**  
Each luminaire contains a battery and electronic circuitry to charge batteries and operate the lamp
- **Slave**  
Luminaires are powered from a central system
- **Conversions**  
Almost any mains fluorescent luminaire can be converted for emergency use. Emergi-Lite is registered to ICEL 1004 to undertake emergency lighting conversions at our head office facility in Leeds, UK

### Categories of emergency lighting

- **Non-maintained (NM)**  
Luminaires operate when the mains fail
- **Maintained (M)**  
Luminaires operate when the mains fail, but can also be operated if required using a switch when the mains supply is healthy
- **Combined Non-maintained (CNM)**  
The luminaire contains more than one lamp, one of which is mains operated, the other is for emergency use only. When the mains is healthy one or more lamps operate, but should the mains fail the emergency lamp operates
- **Combined Maintained**  
Similar to combined non-maintained, but when the mains supply is healthy both lamps operate, whereas on mains failure only one lamp operates

CE marking alone on an emergency lamp does not necessarily imply that the product will work in an emergency situation. All emergency lighting must be designed and manufactured to meet the requirements of BS EN 60598.2.22, the established product standard.

Emergency lighting products may be independently certified and approved as a means of proving quality in the product, thereby giving an enhanced level of assurance to the installer, and greater confidence and less risk in the work he performs. Emergency lighting independently tested and carrying the approval of a recognised national standards body, such as the BSI Kitemark or European ENEC mark, serves this purpose.

Selecting products from a reputable manufacturer also serves to assure that products and services supplied will perform satisfactorily. National certification bodies such as BAFE - British Approvals for Fire Equipment - provide, through schemes such as SP203-4, third party certification and recognition that emergency lighting manufacturers have competency in undertaking design, installation, commissioning and maintenance of such systems. Emergi-Lite is a core member of the BAFE scheme.

### Testing and maintenance of emergency lighting

Fire legislation requires the safety systems within a building to be tested and maintained to ensure correct working order.

The major standards for emergency lighting establish the testing requirement, and that testing and maintenance should be done by a "competent person" (trained, with appropriate skills and experience).

Automated testing solutions are available to assist with the testing requirement, such as the Self-Test, IR2 infra-red and Naveo addressable testing solutions available from Emergi-Lite (see pages 79 - 84 of this catalogue for more details on these solutions).

For automated testing solutions, IEC 62034 provides specific guidance for luminaire testing, including:

- Testing should be undertaken during periods of low risk
- Tests should be performed at the appropriate times for the correct duration
- Testing should prove the emergency circuit operates correctly, and that the battery powers the luminaire for the duration of the test
- Results of the test should be reliably indicated

Within the IEC 62034 Standard, test systems for both self-contained and centrally powered emergency lighting systems are covered.

# Technical reference

## Checklist for emergency lighting system design

### Checklist for emergency lighting system design

Point	Establish	Action
1	Establish position of fire equipment, position of hazards such as steps, changes of direction, stairs, first aid points etc.	Provide an emergency luminaire near (within 2 m horizontally) of each of these points of emphasis.
2	Establish designated exit doors, points on escape routes or where a sign is required to make the exit obvious.	Provide exit signs with arrows if necessary, observing the maximum viewing distances of the exit sign type.
3	Establish the need for external escape lighting.	Provide emergency luminaires so that people can proceed outside to a place of safety.
4	Establish the escape routes and establish mounting heights of luminaires and exit signs.	Position luminaires along parts of the escape route not already illuminated near the above points to provide 1 lux minimum along the centre line and 0.5 lux minimum in the 1 m central band. Use published data in the form of spacing tables for the luminaires to determine the positions taking into account the mounting height.
5	Establish the open areas used as escape routes and other open areas larger than 60 m <sup>2</sup> and establish mounting heights of luminaires above the floor.	Provide 0.5 lux minimum in the core area. Use published data (as above) to determine the positions.
6	Establish the position of lifts, escalators, toilets, control/plant rooms, pedestrian walkways in covered car parks.	Provide emergency luminaires in all of these areas.
7	Establish the location of any first aid point or fire equipment not on an escape route or open area.	Provide 5 lux emergency illuminance on the floor in the vicinity of the point. This also applies for a first aid room.
8	Establish the toilet areas.	Provide emergency lighting for toilets larger than 8 m <sup>2</sup> , as if they were open areas. For toilets smaller than 8 m <sup>2</sup> , unless illuminated by borrowed emergency light from another area, provide at least one emergency luminaire. Provide emergency lighting to all disabled toilets.
9	Establish any small lobbies with no borrowed light.	Provide emergency lighting.
10	Establish any central power supply (if used) is in an area of low risk away from other switchgear or plant.	Position the central power supply in its own room in fire-proof construction.
<b>If the building use is known:</b>		
11	Establish any need for stand-by lighting.	Provide generators as required. If the response time is longer than 5 seconds, then transitional, alternative or additional emergency lighting must be provided.
12	Establish any special needs for the occupants such as impaired mobility or impaired sight.	Provide additional emergency lighting to reduce the risk to those people to help them evacuate the premises. This applies to designated refuge areas (which may require the provision of emergency voice communication).
13	Establish the location of any high risk task areas and the normal lighting illuminance (lux) in these areas.	Provide 10% of the normal illuminance (lux) or 15 lux minimum.
14	Establish if there are any dust or dirt problems.	Allow a service factor as appropriate. 0.8 is allowed for normal areas, but for dusty environments 0.5 may be required, or alternatively instigate a regular cleaning procedure.
15	Establish any local regulations.	Provide emergency lighting to comply with the regulations.
13	Establish if there is any dimmable lighting and shopping malls.	Provide maintained emergency lighting.
17	Establish whether people would be "unfamiliar" with the escape routes.	Provide maintained exit signs.
18	Establish the use of the premises:	Recommended Minimum Duration:
	– entertainment (including temporary such as licensed evening dance at a school)	3 hr
	– sleeping risk	3 hr
	– residential special care	3 hr
	– non-residential care	1 hr
	– public access non-residential	1 hr
	– industrial	1 hr
	– multi-storey dwelling over 10 storeys	3 hr
	Note : because the duration times are varied, it is customary in the UK to use 3 h.	

Note: for points 5 and 6 the luminaires positioned near points of emphasis can be moved slightly within the 2 m horizontal tolerance to fit in with the spacing or array of emergency luminaires in the escape route or open area. This checklist is for guidance purposes only and does not form an exhaustive list of all requirements to standards and legislation, which should be reviewed when undertaking emergency lighting system design. '60Hz' option available on request, please contact Emergi-lite. Please refer to ICEL (Industry Committee for Emergency Lighting) for updates and/or additional information [www.ICEL.co.uk]

# Technical reference

## Spacing data

In the UK, Building Regulation 2000 : B1 covers the provision of safe and effective means of escape from a building.

**Approved Document B (2000) (ADB) is a published guide to the Building Regulations, which specifies that standards for the installation of escape lighting should be according to BS 5266 Part 1.**

BS 5266 Part 1:2005 is the umbrella standard which refers to BS 5266 Part 7:1999 (EN 1838), defining emergency lighting levels of minimum 1.0 lux on the centre line of an escape route, and 0.5 lux minimum for open areas larger than 60m<sup>2</sup>.

British Standards are recognised worldwide, or are commonly used as the basis of local standards. NFPA 101 Life Safety Code standards require an average of 10.8 lux with not less than 1.1 lux at any point for escape routes.

We recommend that a copy of relevant local standards are obtained prior to any design work. We are pleased to supply data for any of our luminaires in LUMDAT format, for use with Relux or similar lighting packages.

We offer the following data for guidance to assist with design work to BS 5266 requirements. Data is shown for a selection of 8W luminaires, for a typical 2.5 metre ceiling height.

### Slave 230V 50Hz luminaires

Part no.	Page	Escape route (min 1 lux) normal risk			Anti panic (min 0.5 lux) open area				
		Transverse to wall	Transverse spacing	Axial spacing	Axial to wall	Transverse to wall	Transverse spacing	Axial spacing	Axial to wall
Silver-Scape RB	36	4.4	11.4	6.9	2.6	5.6	13.2	8.5	2.7
Day-Lite XW	37	3.9	11.0	5.8	2.2	5	13.4	7.5	2.8
Weatherforce Bb and WA (Opal)	38 and 40	2.8	7.5	6.4	2.4	3.3	8.7	7.3	2.7
Weatherforce B and WA (Prismatic)	38 and 40	2.8	9.7	5.9	2.5	4	12	7.6	3.2
Way-Fer PL	41	2.8	7.6	5.7	2.1	3.8	9.8	7.1	2.8
Horizon OH	42	4.3	11.9	5.4	2.0	5.2	13.5	7	3.3
Silver-Lite AR	44	3.1	7.8	7.0	2.8	3.4	9.4	8.1	2.9

### Horizon LED

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

#### LED strip

2.5m	2.6	6.9	6.7	2.6
3.0m	2.6	7.3	7.2	2.7
4.0m	2.3	7.5	7.5	2.4

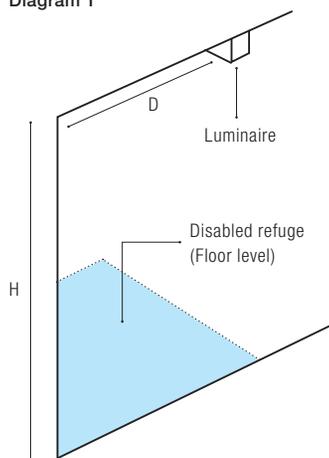
#### LED strip plus PX/LENS4 lens kit

2.5m	4.9	11.8	5.4	2.1
3.0m	4.7	13.2	5.8	1.8
4.0m	3.3	13.7	5.5	1.2

# Technical reference

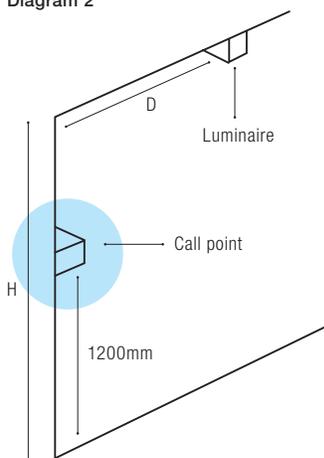
## Spacing data

Diagram 1



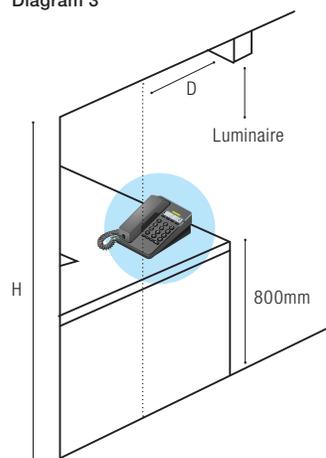
D - Distance to wall (m)  
H - Ceiling height (m)

Diagram 2



D - Distance to wall (m)  
H - Ceiling height (m)

Diagram 3



D - Distance to (imaginary) vertical intercept (m)  
H - Ceiling height (m)

### Serenga SR2, emergency spot light

Point of emphasis - Disabled refuge see diagram 1

Mount height	Minimum lux
<b>Self-contained</b>	
2.5m	7.2
2.8m	7.2
3.2m	6.3
3.7m	5.5
4.0m	5.05

#### Slave 230V

2.5m	8.2
2.8m	7.1
3.2m	6.6
3.7m	5.9
4.0m	5.7

### Serenga SR2, emergency spot light

Point of emphasis - Call point see diagram 2

Mount height	Minimum lux
<b>Self-contained</b>	
2.5m	15.5
2.8m	12.7
3.2m	8.15
3.7m	5.56
4.0m	-

#### Slave 230V

2.5m	17.8
2.8m	13.3
3.2m	9.5
3.7m	6.64
4.0m	5.46

### Serenga SR2, emergency spot light

Point of emphasis - Telephone see diagram 3

Mount height	Minimum lux
<b>Self-contained</b>	
2.5m	24.6
2.8m	20.4
3.2m	14.1
3.7m	9.7
4.0m	7.58

#### Slave 230V

2.5m	28.3
2.8m	21.4
3.2m	15.2
3.7m	11.2
4.0m	9.06

### Serenga SR2, escape lens A

Escape route (min. 1 lux) + normal risk

Mount height	Minimum lux
<b>Self-contained</b>	
2.5m	19.30
2.8m	18.21
3.2m	18.25
3.7m	15.45
4.0m	11.75

#### Slave 230V

2.5m	20.97
2.8m	20.52
3.2m	19.42
3.7m	17.92
4.0m	17.02

### Serenga SR2, escape lens B

Escape route (min. 1 lux) + normal risk

Mount height	Minimum lux
<b>Self-contained</b>	
<b>SR2-DEG-230</b>	
0.5m	3.60
1.0m	4.90
2.0m	6.90

#### SR2-DEG-M3

0.5m	3.58
1.0m	4.80
2.0m	6.63

# Technical reference

## Spacing data

### Way-Fer PLX 8 Watt / LED

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

#### Fluorescent 8 W T5

2.5m	2.8	7.6	5.7	2.1
4.0m	2.2	8.0	6.1	1.7
5.0m	-	7.2	5.7	-

#### LED strip

2.5m	2.2	7.3	4.5	1.6
3.0m	2.5	7.0	4.5	0.9
4.0m	-	3.7	2.8	-

#### Anti panic (min. 0.5 lux) open area

#### Fluorescent 8 W T5

2.5m	3.8	9.8	7.1	2.8
4.0m	4.0	11.1	8.3	3.0
5.0m	3.6	11.4	8.6	2.8

#### LED strip

2.5m	4.0	10.1	6.1	2.3
3.0m	4.2	10.8	6.4	2.3
4.0m	3.4	9.8	6.4	1.7

### Silver-Lite AR 8 Watt / LED

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

#### Fluorescent 8 W T5

2.5m	1.8	5.1	4.7	1.7
4.0m	-	4.7	4.3	-
6.0m	-	-	-	-

#### LED strip

2.5m	2.3	6.0	5.5	2.2
4.0m	1.8	6.3	5.9	1.8
6.0m	-	4.2	4.1	-

#### Anti panic (min. 0.5 lux) open area

#### Fluorescent 8 W T5

2.5m	2.6	7.2	6.1	2.3
4.0m	1.9	7.2	6.2	1.6
6.0m	-	-	-	-

#### LED strip

2.5m	3.1	7.5	7.0	2.8
4.0m	3.2	8.6	7.9	3.0
6.0m	2.2	8.8	8.3	2.2

### Horizon OH / OZ 8 Watt

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

2.8m	3.8	11.1	5.4	1.9
3.0m	3.6	11.2	5.5	1.8
3.5m	2.6	11.0	5.5	1.4
4.0m	0.8	10.6	5.2	0.7
6.0m	-	-	-	-
8.0m	-	-	-	-

#### Anti panic (min. 0.5 lux) open area

2.8m	5.6	14.8	6.8	2.7
3.0m	5.6	15.1	7.0	2.7
3.5m	5.5	15.7	7.4	2.7
4.0m	5.3	15.8	7.6	2.6
6.0m	-	14.5	7.1	-
8.0m	-	3.2	2.8	-

### Horizon OH / OZ 8 Watt

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

2.8m	3.9	9.9	5.8	2.1
3.0m	4.0	10.2	5.9	2.0
3.5m	4.0	10.7	6.0	1.8
4.0m	3.7	11.2	5.9	1.4
6.0m	-	10.1	3.2	-
8.0m	-	-	-	-

#### Anti panic (min. 0.5 lux) open area

2.8m	4.9	12.0	7.3	2.9
3.0m	5.1	12.3	7.6	2.9
3.5m	5.4	13.2	8.0	3.0
4.0m	5.6	14.0	8.2	2.9
6.0m	5.1	16.0	8.2	1.6
8.0m	-	15.0	5.8	-

### Day-Lite Ex-cel XXW 8 Watt / LED

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

#### Fluorescent 8 W T5 170 lumens

2.5m	2.9	8.5	4.7	1.6
4.0m	-	7.8	3.9	-
6.0m	-	-	-	-

#### Fluorescent 8 W T5 100 lumens

2.5m	1.65	6.0	3.55	0.5
4.0m	-	2.7	0.5	-
6.0m	-	-	-	-

#### LED strip

2.5m	1.98	3.97	2.4	-
3.0m	2.04	4.09	1.0	-
4.0m	2.04	4.09	-	-

#### Anti panic (min. 0.5 lux) open area

#### Fluorescent 8 W T5 170 lumens

2.5m	4.6	12.3	6.4	2.5
4.0m	4.2	12.6	6.8	2.0
6.0m	-	-	-	-

#### Fluorescent 8 W T5 100 lumens

2.5m	3.3	9.7	5.2	1.7
4.0m	1.0	9.5	5.5	0.7
6.0m	-	-	-	-

#### LED strip

2.5m	2.50	5.00	3.55	7.10
3.0m	2.50	5.00	3.58	7.17
4.0m	3.33	6.67	2.69	5.38

### Silver-Scape RB 8 Watt / LED

#### Escape route (min. 1 lux) + normal risk

Mount height				
--------------	--	--	--	--

#### Fluorescent 8 W T5

2.5m	2.65	7.81	4.53	1.36
4.0m	-	6.89	3.06	-
6.0m	-	-	-	-

#### LED strip

2.5m	0.6	5.8	3.3	0.3
3.0m	-	2.7	2.5	-
4.0m	-	-	-	-

#### Anti panic (min. 0.5 lux) open area

#### Fluorescent 8 W T5

2.5m	5.59	13.57	8.44	3.39
4.0m	6.18	16.48	9.92	3.58
6.0m	5.68	17.59	10.09	2.72

#### LED strip

2.5m	3.9	9.3	6.2	1.7
3.0m	1.4	8.0	5.9	1.3
4.0m	-	7.6	3.9	-

### Cordona CPW 28 Watt

#### Clear polycarbonate 28 W 2D

#### Escape route (min. 1 lux) + normal risk

Mount height	
--------------	--

2.5m	7.9
3.0m	8.0
4.0m	8.1

# Technical reference

## Spacing data

### Camarque CLQ 28 Watt / 38 Watt

#### Opal 28 W 2D

##### Escape route (min. 1 lux) + normal risk

Mount height	
2.0m	6.0
2.5m	6.3
3.0m	6.5
4.0m	6.5

#### Opal 38 W 2D

##### Anti panic (min. 0.5 lux) open area

2.0m	8.1
2.5m	8.4
3.0m	8.7
4.0m	8.9

### Weatherforce B / WA 8 Watt (opal diffuser)

##### Escape route (min. 1 lux) + normal risk

Mount height				
2.5m	2.2	6.4	5.6	1.9
4.0m	0.7	5.9	5.2	0.4
6.0m	-	-	-	-

##### Anti panic (min. 0.5 lux) open area

2.5m	3.2	8.5	7.3	2.8
4.0m	3.0	9.1	7.8	2.6
6.0m	-	-	-	-

### Weatherforce B / WA 8 Watt (clear prismatic diffuser)

##### Escape route (min. 1 lux) + normal risk

Mount height				
2.5m	1.4	4.5	4.2	1.3
4.0m	-	2.9	3.0	-
6.0m	-	-	-	-

##### Anti panic (min. 0.5 lux) open area

2.5m	2.6	7.2	6.1	2.3
4.0m	1.9	7.2	6.2	1.6
6.0m	-	-	-	-

### Aqualux OW / STF 8 Watt

##### Escape route (min. 1 lux) + normal risk

Mount height				
2.8m	3.9	9.9	5.8	2.1
3.0m	4.0	10.2	5.9	2.0
3.5m	4.0	10.7	6.0	1.8
4.0m	3.7	11.2	5.9	1.4
6.0m	-	10.1	3.2	-
8.0m	-	-	-	-

##### Anti panic (min. 0.5 lux) open area

2.8m	4.9	12.0	7.3	2.9
3.0m	5.1	12.3	7.6	2.9
3.5m	5.4	13.2	8.0	3.0
4.0m	5.6	14.0	8.2	2.9
6.0m	5.1	16.0	8.2	1.6
8.0m	-	15.0	5.8	-

### Aqualux OW / STF 11 Watt

##### Escape route (min. 1 lux) + normal risk

Mount height				
2.8m	4.3	10.7	7.8	3.0
3.0m	4.5	11.0	8.0	3.1
3.5m	4.7	11.7	8.3	3.1
4.0m	4.8	12.3	8.6	3.1
6.0m	2.7	13.0	8.5	1.4
8.0m	-	9.1	5.6	-

##### Anti panic (min. 0.5 lux) open area

2.8m	5.3	12.9	9.6	3.9
3.0m	5.5	13.3	9.9	4.0
3.5m	5.9	14.3	10.5	4.2
4.0m	6.2	15.1	11.1	4.3
6.0m	6.5	17.9	12.3	4.3
8.0m	4.0	19.0	10.4	2.8

### Previx PX LED

##### Escape route (min. 1 lux) + normal risk

Mount height				
2.5m	2.6	6.9	6.7	2.6
3.0m	2.6	7.3	7.2	2.7
4.0m	2.3	7.5	7.5	2.4

##### LED strip plus PX/LENS4 lens kit

2.5m	4.9	11.8	5.4	2.1
3.0m	4.7	13.2	5.8	1.8
4.0m	3.3	13.7	5.5	1.2

# Legends Guide

## Euro pictogram format

Single sided & safety equipment signs							
Model	Serenga SER		Horizon OH		Aqualux OW / STF		Previx PX / PXR
Format	Screen printed (curved)	Screen printed (normal)	Screen printed	Perspex screen printed	Screen printed (back-lit)	Self-adhesive (edge-lit)	Screen printed
	-	-	-	-	-	-	-
	SER-SC012	SER-SN012	XE02H	XE20HS	XE02W	RSE2W	XE02PX
	SER-SC010	SER-SN010	XE03H	XE30HS	XE03W	RSE3W	XE03PX
	SER-SC011	SER-SN011	XE06H	XE60HS	XE06W	RSE6W	XE06PX
	SER-SC013	SER-SN013	XE05H	XE50HS	XE05W	RSE5W	XE05PX
	SER-SC802	SER-SN802	XLF-SN802	XLF802HS	XLF802W	-	-
	SER-SC803	SER-SN803	XLF-SN803	XLF803HS	XLF803W	-	-

Model	Way-Fer PLX		Silver-Lite ARV	Endurance EM	Navigator Compact VE / DVE	Navigator EE	Navigator Performa EE
Format	Self-adhesive sticker	Perspex screen printed	Screen printed	Screen printed	Screen printed	Screen printed (white)	Screen printed (black)
	-	-	-	-	-	-	-
	RSE2PL	XE02PL	XE02A31	ESS012	XE02V31	XE02E31	XE02E4
	RSE3PL	XE03PL	XE03A31	ESS010	XE03V31	XE03E31	XE03E4
	RSE6PL	XE06PL	XE06A31	ESS011	XE06V31	XE06E31	XE06E4
	RSE5PL	XE05PL	XE05A31	ESS013	XE05V31	XE05E31	XE05E4

Model	Silver-Scape RB	Corniche NB	Weatherforce DV	Weatherforce B / WA	Day-Lite Ex-cel XXW
Format	Screen printed	Screen printed	Double sided fitted	Self-adhesive sticker	Self-adhesive sticker
	-	-	-	RSE120	RSE23560X
	XE02A31	XE02NT31	-	RSE2120	RSE2X
	XE03A31	XE03NT31	-	RSE3120	RSE3X
	XE06A31	XE06NT31	-	RSE6120	RSE6X
	XE05A31	XE05NT31	-	RSE5120	RSE5X

The standard 'Signs Directive' format is shown above. Other legend formats with different arrow directions, HTM65 format (below), BS 5499 mixed 'image/word' and foreign language variants are available by special request.



# Legends Guide

## Euro pictogram format

	Double sided signs			
Model	Horizon OH	Way-Fer PLX	Silver-Lite ARV	Endurance EM
Format	Panel screen printed	Perspex screen printed	Screen printed	Screen printed
	–	XE022PL	XE02/2A32	EDS021
 	XE36HD	XE036PL	XE03/6A32	EDS020
	XE55HD	XE055PL	XE05/5A32	EDS022

Model	Silver-Scape RB	Corniche NB	Weatherforce DV
Format	Screen printed	Screen printed	Double sided fitted
	XE02/2A32	XE02/2NT32	(Suffix) XE22
 	XE03/6A32	XE03/6NT32	(Suffix) XE36
	XE05/5A32	XE05/5NT32	(Suffix) XE55

# Legends Guide

## ISO 7010 format

Single sided							
Model	Serenga SER		Horizon OH		Aqualux OW / STF		Previx PX
Format	Screen printed (curved)	Screen printed (normal)	Screen printed	Panel screen printed	Screen printed (back-lit)	Self-adhesive (edge-lit)	Screen printed
	–	–	–	–	–	–	–
	SER-SCN12	SER-SNN12	XEN2H	XEN20HS	XEN2W	RSEN2W	XEN2PX
	SER-SCN10	SER-SNN10	XEN3H	XEN30HS	XEN3W	RSEN3W	XEN3PX
	SER-SCN11	SER-SNN11	XEN6H	XEN60HS	XEN6W	RSEN6W	XEN6PX
	SER-SCN13	SER-SNN13	XEN5H	XEN50HS	XEN5W	RSEN5W	XEN5PX

Model	Way-Fer PLX		Silver-Lite ARV	Endurance EM	Navigator Compact VE / DVE	Navigator EE	Silver-Scape RB
Format	Self-adhesive sticker	Perspex screen printed	Screen printed	Screen printed	Screen printed	Screen printed (white)	Screen printed
	–	–	–	–	–	–	–
	RSEN2PL	XEN2PL	XEN2A31	ESSN12	XEN2V31	XEN2E31	XEN2A31
	RSEN3PL	XEN3PL	XEN3A31	ESSN10	XEN3V31	XEN3E31	XEN3A31
	RSEN6PL	XEN6PL	XEN6A31	ESSN11	XEN6V31	XEN6E31	XEN6A31
	RSEN5PL	XEN5PL	XEN5A31	ESSN13	XEN5V31	XEN5E31	XEN5A31

Model	Corniche NB	Weatherforce DV	Weatherforce B /WA	Day-Lite Ex-cel XXW	Guideway
Format	Screen printed	Double sided fitted	Self-adhesive sticker	Self-adhesive sticker	Screen printed
	–	–	–	RSEN23560X	–
	XEN2NT31	–	RSEN2120	RSEN2X	XEN2EG
	XEN3NT31	–	RSEN3120	RSEN3X	XEN3EG
	XEN6NT31	–	RSEN6120	RSEN6X	XEN6EG
	XEN5NT31	–	RSEN5120	RSEN5X	XEN5EG

Single sided (Flag mounted)	
Model	Guideway
Format	Screen printed
	XEN602EG
	XEN603EG
	XEN606EG
	XEN605EG

# Legends Guide

## ISO 7010 format

	Double sided signs		
Model	Way-Fer PLX	Silver-Lite ARV	Endurance EM
Format	Perspex screen printed	Screen printed	Screen printed
	XEN22PLD	XEN2/2A32	EDSN21
	XEN36PLD	XEN3/6A32	EDSN20
	XEN55PLD	XEN5/5A32	EDSN22

Model	Silver-Scape RB	Corniche NB	Weatherforce DV
Format	Screen printed	Screen printed	Double sided fitted
	XEN2/2A32	XEN2/2NT32	XEN2/2DV32
	XEN3/6A32	XEN3/6NT32	XEN3/6DV32
	XEN5/5A32	XEN5/5NT32	XEN5/5DV32

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