

# Data Centre Lighting



**RIDI** GROUP UK

**RIDI** Spectral lightworks



# Contents

<b>Our Data Centre Experience</b> . . . . .	6
---	---

## **Introduction to RIDI Group**

<b>RIDI Group in Germany</b> . . . . .	8
<b>State of the art production</b> . . . . .	8
<b>RIDI Services in the UK &amp; Ireland</b>	
Comprehensive Design Service . . . . .	10
Project Management . . . . .	10
System Commissioning . . . . .	11
Personal Service . . . . .	11

## **LINIA EVO**

<b>Introduction to LINIA EVO</b>	
BusBar Lighting Concept . . . . .	12
<b>Benefits of LINIA EVO BusBar Trunking</b>	
Construction and Installation . . . . .	14
BUS System flexibility . . . . .	14
LINIA-EVO Speed of Installation. . . . .	14
Developed for DataCentres. . . . .	15
Warranty and support. . . . .	15

## **Luminaire Selection**

<b>Data Suites</b>	
Hot Aisles . . . . .	16
Cold Aisles and Circulation. . . . .	17
<b>Back of House</b>	
Corridors and Circulation . . . . .	18
Plant Room / Technical Rooms . . . . .	19
Plant Room / Technical Rooms . . . . .	20
Internal Stairwells . . . . .	21
<b>External Lighting</b>	
Exposed roof and stairs . . . . .	22
Walkway and Security Lighting . . . . .	23
Roof Floodlighting . . . . .	24
Car park and Terrain lighting . . . . .	25
Offices/Security/Reception . . . . .	26
Offices/Client Areas. . . . .	27
Entrance / Reception . . . . .	30
<b>Emergency Lighting with internal batteries</b>	
General illumination luminaires . . . . .	34
Dedicated LED Area Illumination . . . . .	34
Emergency Exit Signs . . . . .	36

# Lighting Controls

<b>Control<sup>3</sup></b>	38
<b>Key Functions</b>	38
<b>Benefits of Control<sup>3</sup></b>	40
<b>Energy Saving</b>	40
<b>System Maintenance &amp; Integration</b>	41
<b>Comfort and Wellbeing</b>	41
<b>System Overview</b>	42
System Limits & Requirements	42
Typical Ordering Information	42
<b>Replacement Components</b>	42
<b>Lighting Control Components</b>	44
DALI Input Devices	44
DALI Output Devices	45
<b>Typical Lighting Control Schematic</b>	46
<b>Typical Lighting Control Strategies</b>	48
DC Cold Aisles	48
DC Hot Aisles	48
DC Circulation	48
Corridors	48
Stairwells	48
Plant Rooms	48
Bathrooms & WCs	48
FM Offices	48
Reception	48
Security	48
Client Offices	48
External Wall Lights	49
Roof Lights	49
Terrain / Car Park Lighting	49
<b>System Configuration</b>	
Controls Commissioning	49
BMS integration	49



Central Battery Emergency Lighting

- Multicontrol Plus . . . . . 50
- Key Features . . . . . 50
  - Central Power System Enclosures . . . . . 52
  - Substations . . . . . 52
  - Central Power Systems Accessories . . . . . 53
- Automatic Testing and Monitoring . . . . . 54
  - Luminaire Monitoring over Power-line . . . . . 54
  - Circuit Monitoring + Fault Location over DALI . . . . . 55
- System Configuration and Setup . . . . . 56
  - Typical Schematics. . . . . 56
  - Testing over powerline . . . . . 56
  - Circuit Monitoring + DALI Fault Location . . . . . 58
  - Powerline monitoring vs Circuit Monitoring with DALI fault location . . . . . 59
- Central battery emergency luminaires . . . . . 60
  - Dedicated LED Area Illumination . . . . . 60
  - Exit Signs . . . . . 61

## Our Data Centre Experience

RIDI has extensive knowledge and experience of lighting in the data centre market across Europe. We have developed specific DC white space solutions, where consideration of ambient temperatures and airflow is required. These units are built to perform in the challenging environment of the Data Hall, and they are designed to operate at peak efficiency in these demanding conditions.

*"knowledge and experience across Europe"*



### *"Lighting, controls and central batteries"*

Our 3 areas of expertise, being extremely well-designed and manufactured luminaires, sophisticated lighting controls, and cutting-edge central battery offerings, offer an unparalleled solution for the client. We have been able to build upon our experience of supplying many important data centre sites, over the years in key EMEA hotspots such as Frankfurt, Zurich, Berlin, Milan, London, and Dublin.

We have repeatedly supplied to both Hyper-scale and major COLO projects, with our complete DC offering. We have worked in partnership with relevant installers, consultants and clients, to ensure a seamless service time after time.

**[WWW.RIDI-GROUP.CO.UK/CONTACT](http://WWW.RIDI-GROUP.CO.UK/CONTACT)**



### ***"Support at every step"***

RIDI believes firmly in offering only the very best after sales support, as we understand how critical the smooth delivery and installation of all elements are to Data Centre build time frames. Our dedicated team of DC specialists is with you every step of the way to ensure the very best support. This is one of the many reasons why our solutions have been used many times on subsequent DC builds by existing clients.





## Introduction to RIDI Group

### RIDI Group in Germany

RIDI Leuchten GmbH is a German lighting manufacturer that specializes in producing high-quality, energy-efficient lighting solutions for commercial, industrial, and public spaces. The company was founded in 1952 by Richard Diez and is head quartered in Jungingen, Germany.

RIDI initially started as a small, family-owned business that produced lighting fixtures for local customers in the Swabian region of Germany. Over time, the company expanded its operations and began producing a wider range of lighting products for a variety of applications.

In the 1970s, RIDI became one of the first companies to introduce energy-efficient lighting solutions to the German market. The company continued to innovate and develop new products throughout the 1980s and 1990s, and by the early 2000s, it had established itself as a leading manufacturer of high-quality, energy-efficient lighting solutions.

Today, RIDI Group employs over 600 people and has a network of distributors and partners in countries across Europe and around the world. The company continues to innovate and develop new products, with a particular focus on LED technology and smart lighting solutions.



### State of the art production

RIDI Group has several production facilities around Europe, with principal production in Jungingen, Germany, where the company is head quartered. These factories include modern manufacturing plants, a state-of-the-art research and development centre, and a testing laboratory.

Our manufacturing plants are equipped with the latest technology and machinery to ensure efficient and high-quality production of lighting fixtures. RIDI uses automated production processes wherever possible, and the company has implemented strict quality control measures to ensure that all products meet or exceed industry standards.







The research and development and testing centre is staffed by a team of experienced engineers and lighting experts who work to develop new and innovative lighting solutions. The centre is equipped with advanced testing equipment and software, which allows us to simulate real-world lighting conditions and is accredited by various certification bodies, including TÜV.

Our production facilities are designed to ensure that the company produces high-quality, energy-efficient and long lasting lighting products that meet the needs of our customers.



## RIDI Services in the UK & Ireland



### Project Management

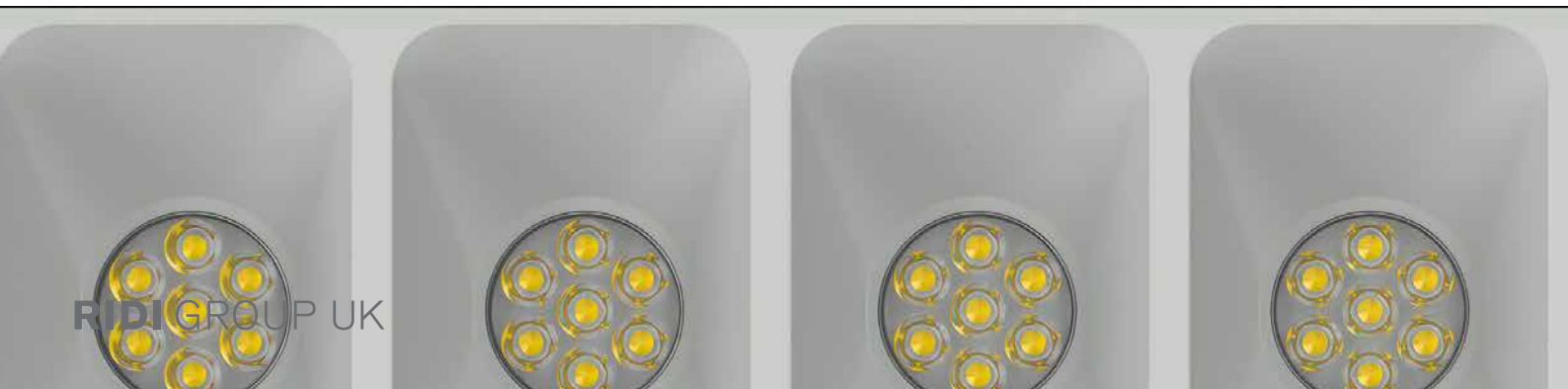
Our local sales support team is available to assist you at any time. We're based in Harlow in the UK and available on the phone to discuss any requirements you may have.

Project engineers are based locally and are able to travel to make a survey of your building to inform the design team of the specific wishes and requirements for the project.

### Comprehensive Design Service

RIDI UK have a team of experienced project designers who will look at the most efficient, sustainable and cost effective way to light your data centre. We can offer a full lighting design service and can advise on how to best integrate lighting controls and emergency lighting.

As a RIDI Group customer, you will have direct communication with the design team, to ensure that the solution proposed matches your requirements. Our experience in Data Centre lighting solutions means we understand the specific needs and challenges of this particular industry.

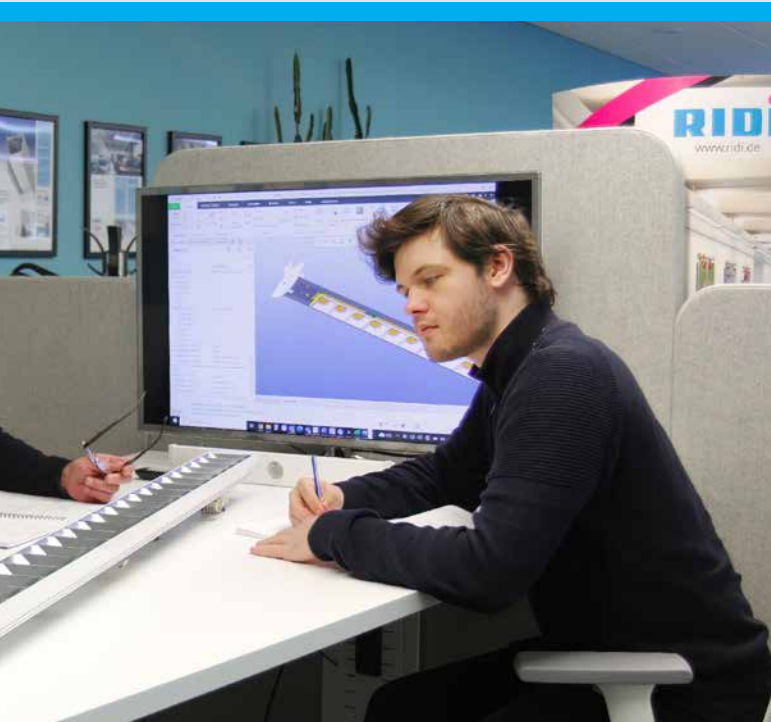




## Installation Support

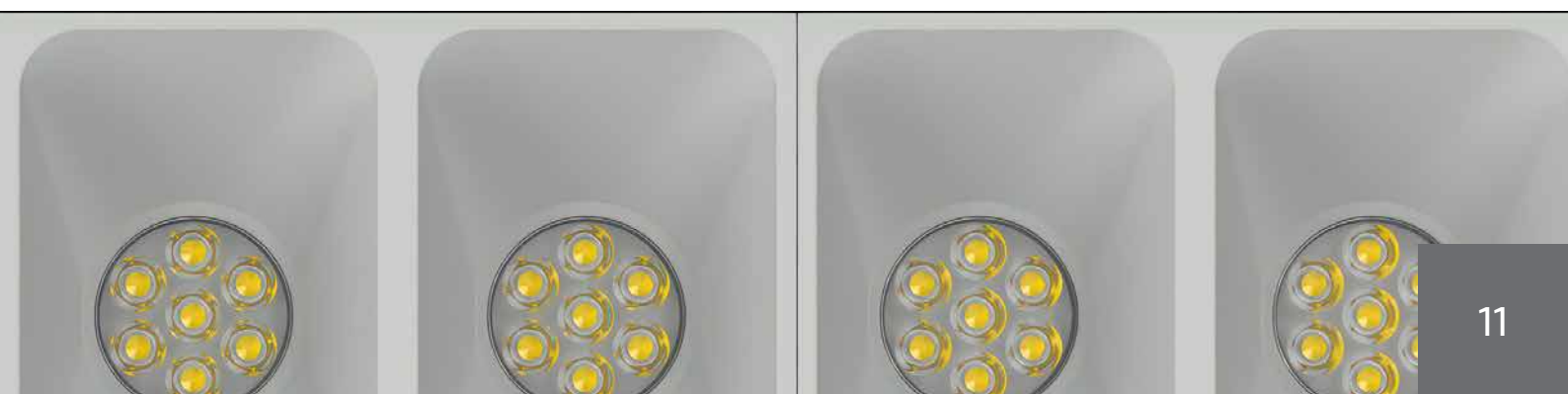
For each project, we offer pre-install visits and toolbox talks for the installing electricians. We will demonstrate how our lighting systems go together, and offer insights into ways to make the process smoother.

Our lighting control systems all include integrated testing components which allow the installer to check that all lights are wired and functioning correctly before final commissioning is completed.



## Personal Service

Each data centre project is assigned to a specific project manager. They are responsible for the smooth running of the project and will be your first point of contact for any of your questions. If the scope of the project changes, the project engineer will understand the implications of any modifications to the lighting system and will be able to advise on how to meet the new requirements in the most timely and cost effective manner.



# LINIA EVO

## Introduction to LINIA EVO

LINIA is a Continuous BusBar Lighting system, featuring a robust trunking container with multi-core electrical BusBar. With up to fourteen electrical cores, luminaires, emergency lighting units and lighting control sensors all clip, without tools, into the trunking and all electrical connections are taken care of automatically.

The convenience of LINIA's installation method in large installations cannot be overstated. Only a single electrical feed per run of trunking is required and after that components can be added, moved or swapped at any time without the need for an electrician.

Installation time is cut to a fraction of that of conventional lighting systems.

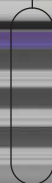


### BusBar Lighting Concept

**5 x 2.5mm<sup>2</sup> cores**  
+  
**2 x 1.5mm<sup>2</sup> cores**

3 Phase Supply for load balancing and ultra long run lengths

DALI control pair to luminaires and sensors.



**4 x 2.5mm<sup>2</sup> cores**  
+  
**2 x 2.5mm<sup>2</sup> cores**

Two central battery system power feeds

DALI control or central battery communication bus







Our  
new production  
facility for LINIA EVO  
in Jungingen is capable of  
producing 2.2 million metres  
of pre-wired BusBar Trunking  
and 480,000 LED Light  
modules per year

#### Power feed

Located end of run or mid  
run between joins of trunking  
lengths

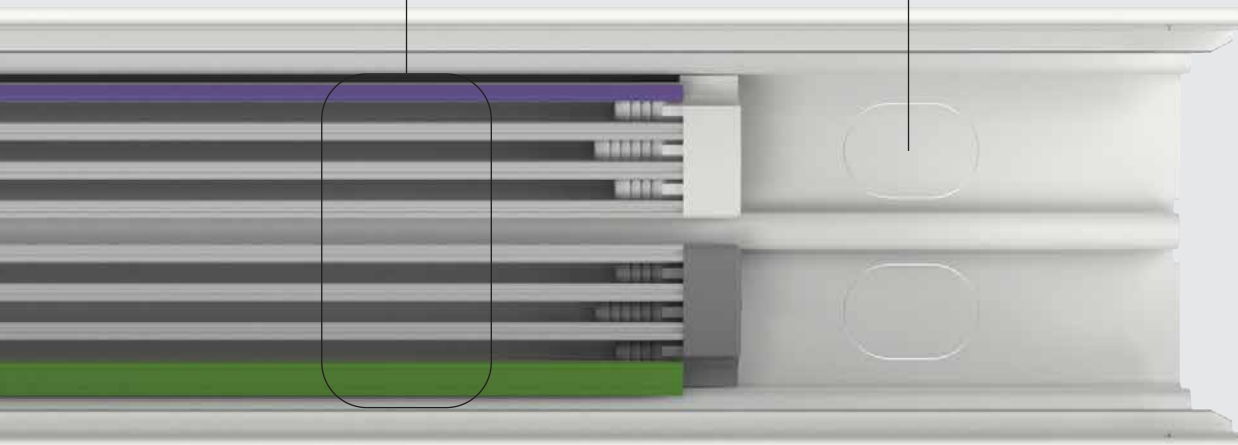
Single power feed supplies  
the entire run. No further  
wiring to be done when  
fitting luminaires

#### Flexible lengths

Available in three metric  
lengths 1.5, 3.0 and 4.5m

Extra long lengths speed up  
installation time

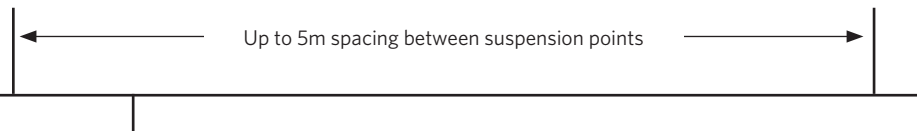
Simple to cut to length on site



## Benefits of LINIA EVO BusBar Trunking Construction and Installation

LINIA-EVO's comprises a rigid spine trunking carrier with dual chambers for the electrical BusBar. The divider between the two chambers is formed into a continuous ball groove which allows free positioning of suspension wires and is key to the enormous strength of the product.

The high torsional rigidity of the trunking carrier allows spacings of up to 5m between suspension points. In practice this means that a single 4.5m length of trunking requires only two suspension points, and every additional 4.5m length only needs one more point. The large spacing between mounting points is a huge advantage for LINIA-EVO when installing suspension wires as such a time consuming and expensive process.



## BUS System flexibility

As standard LINIA-EVO is available with 7, 13 or 14 Cores of 2.5mm BusBar which is automatically picked up as soon as a luminaire or module is clicked into the trunking.

LINIA-EVO caters for multiple lighting circuits, DALI lighting control bus and for two separate circuits of central battery emergency supply. Each luminaire or module is designed to pick up the correct terminations upon insertion and physically coded to prevent incorrect connections.



## LINIA-EVO Speed of Installation

Without doubt, the incredible ease and speed of installation of LINIA-EVO is it's foremost advantage.

From reduced fixing time due to the incredible 5m suspension spacing to the tool-less click to connect luminaire fixing, everything about LINIA-EVO is designed to reduce installation time and labour costs.

We tested LINIA against a standard lighting trunking system for installation time. LINIA took a quarter of the time to install. Watch the video to find out more.

**"Save 75% on your  
install time with  
RIDI LINIA"**



## Developed for DataCentres

In addition to the standard range of highly efficient LED luminaires, we have developed a number of products specifically for use in data centres.

The luminaires run the LED chips at a lower power to reduce the amount of heat produced and also in increase the rated lifetime. Our hot aisle DC luminaires are rated for ambient temperatures of 40°C and have a rated lifetime of 75,000hrs.



**+40°C**

## Warranty and support

All our products for data centres come with a 5yr warranty as standard.

In addition, as we produce the luminaires and LED modules in house at our Jungingen factory, we are able to offer a 10 year parts availability guarantee.

Should you need to replace a luminaire, or part within 10 years of delivery we guarantee that parts or compatible replacement products will be available to purchase.

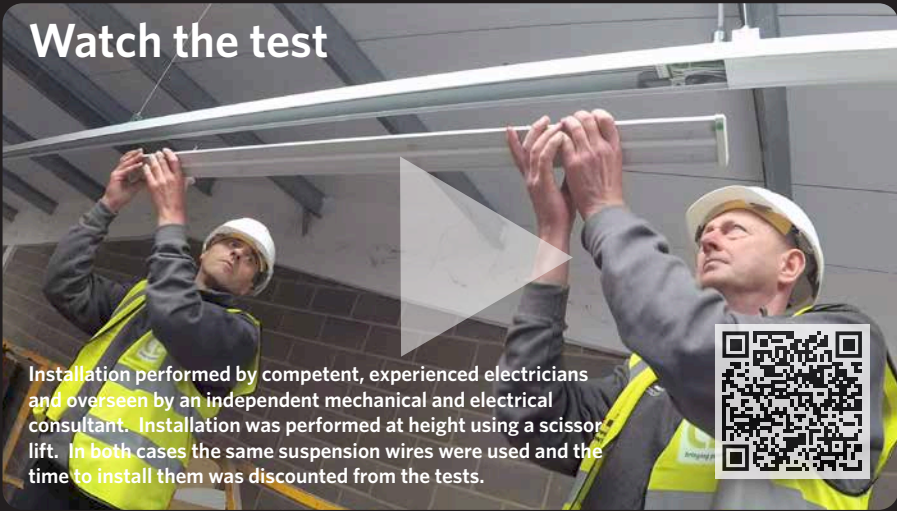
**5 Yr**

Warranty

**10 Yr**

Parts Availability

## Watch the test



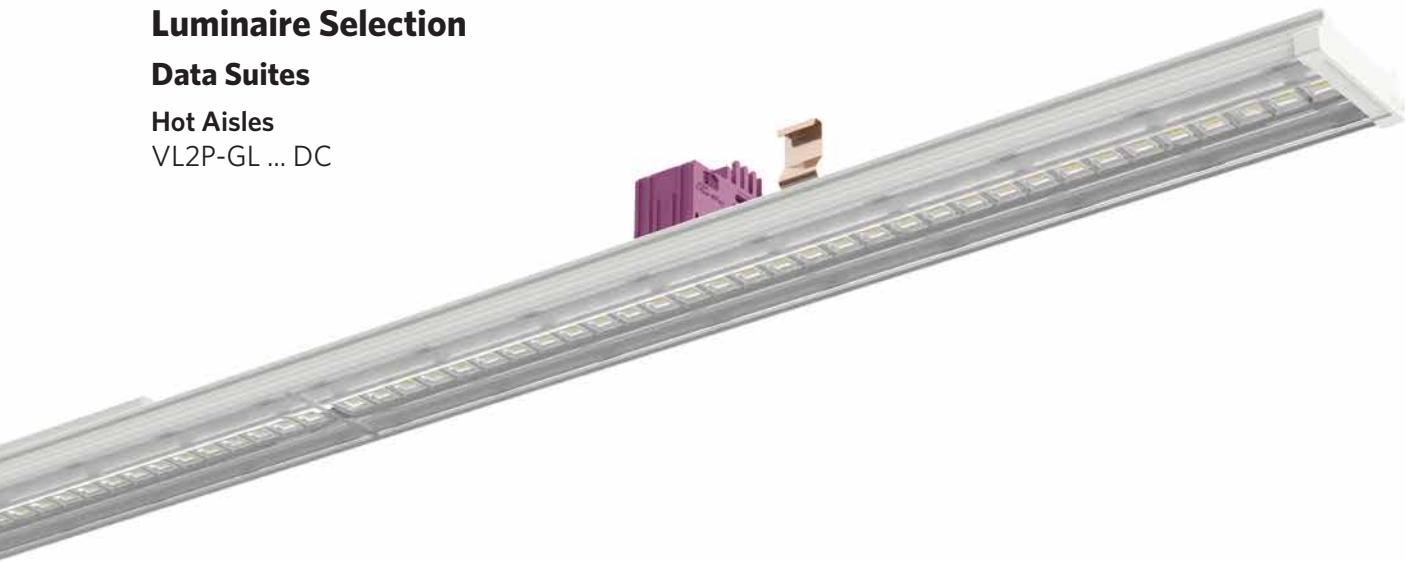
Installation performed by competent, experienced electricians and overseen by an independent mechanical and electrical consultant. Installation was performed at height using a scissor lift. In both cases the same suspension wires were used and the time to install them was discounted from the tests.



# Luminaire Selection

## Data Suites

Hot Aisles  
VL2P-GL ... DC



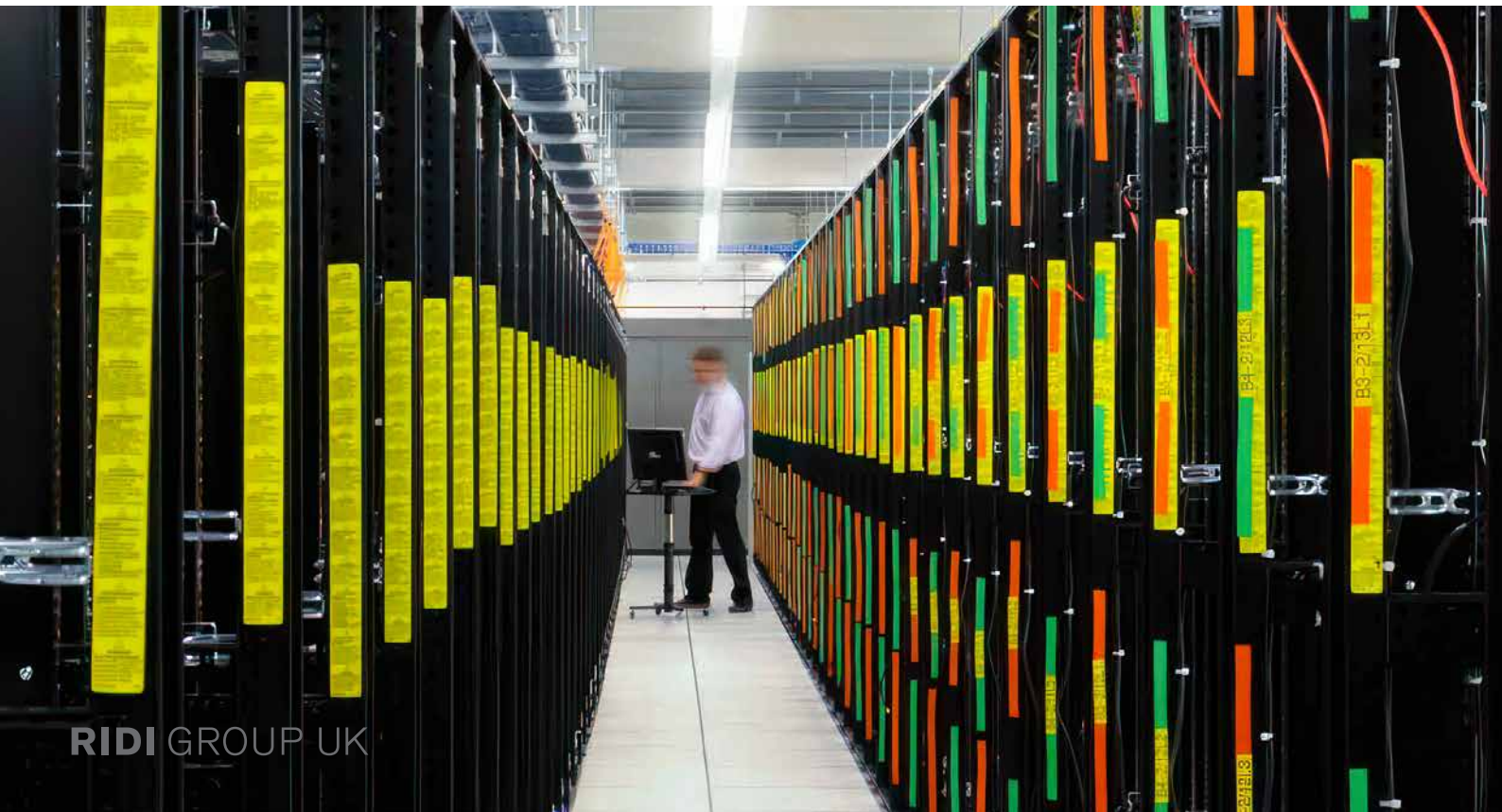
Ideal for use in both data centre hot and cold aisles. This special version of our LINIA-EVO led luminaire has been calculated to give the right light levels and uniformity when used at typical data centre mounting heights and spacings.

By using a higher number of high specification LEDs and running them at lower currents the fittings achieves a 96,000hr rated lifetime at 25°C and 50,000hrs at temperatures of up to 42°C. Each LED has an individual lensed optic for extreme efficiency.



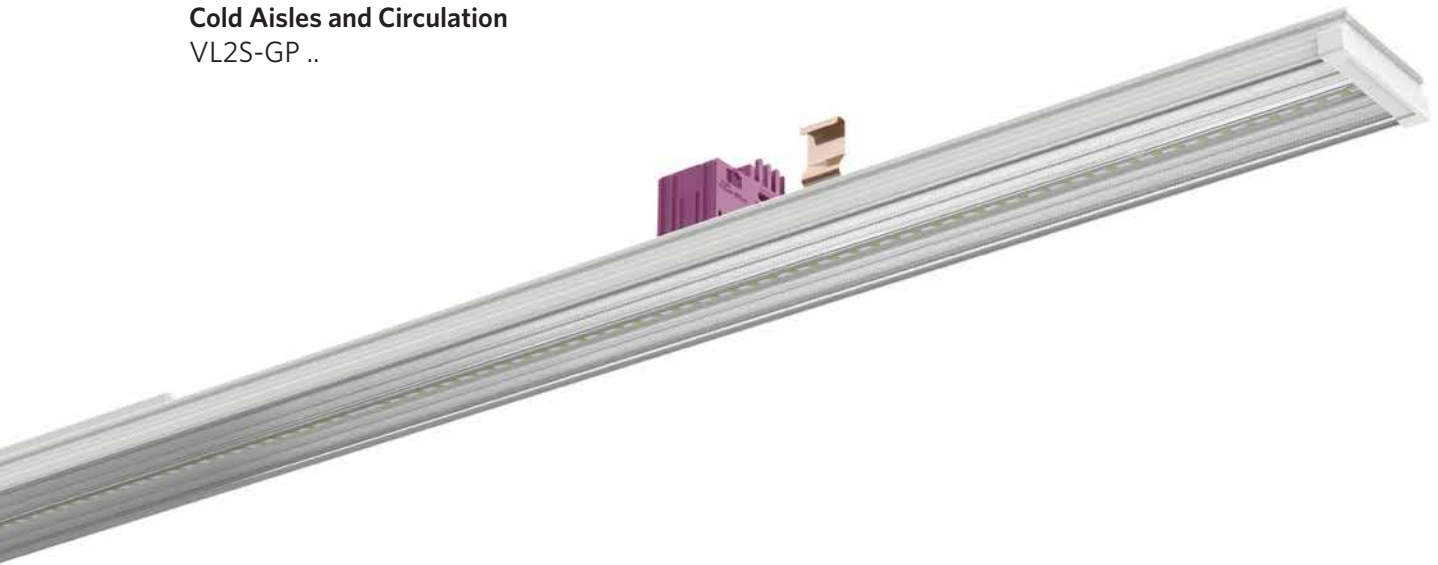
### Ordering Information

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)	L80B50 42°C (hrs)
2560070DC	VL2P-GL150-7DAWS840B-DC690	1500	38W	4000K	6880	183	Ra≥80	96,000	50,000
2560072DC	VL2P-GL200-7DAWS840B-DC975	2000	51W	4000K	9750	191	Ra≥80	96,000	50,000



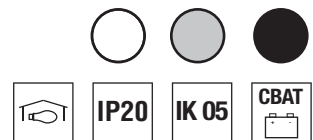


## Cold Aisles and Circulation VL2S-GP ..



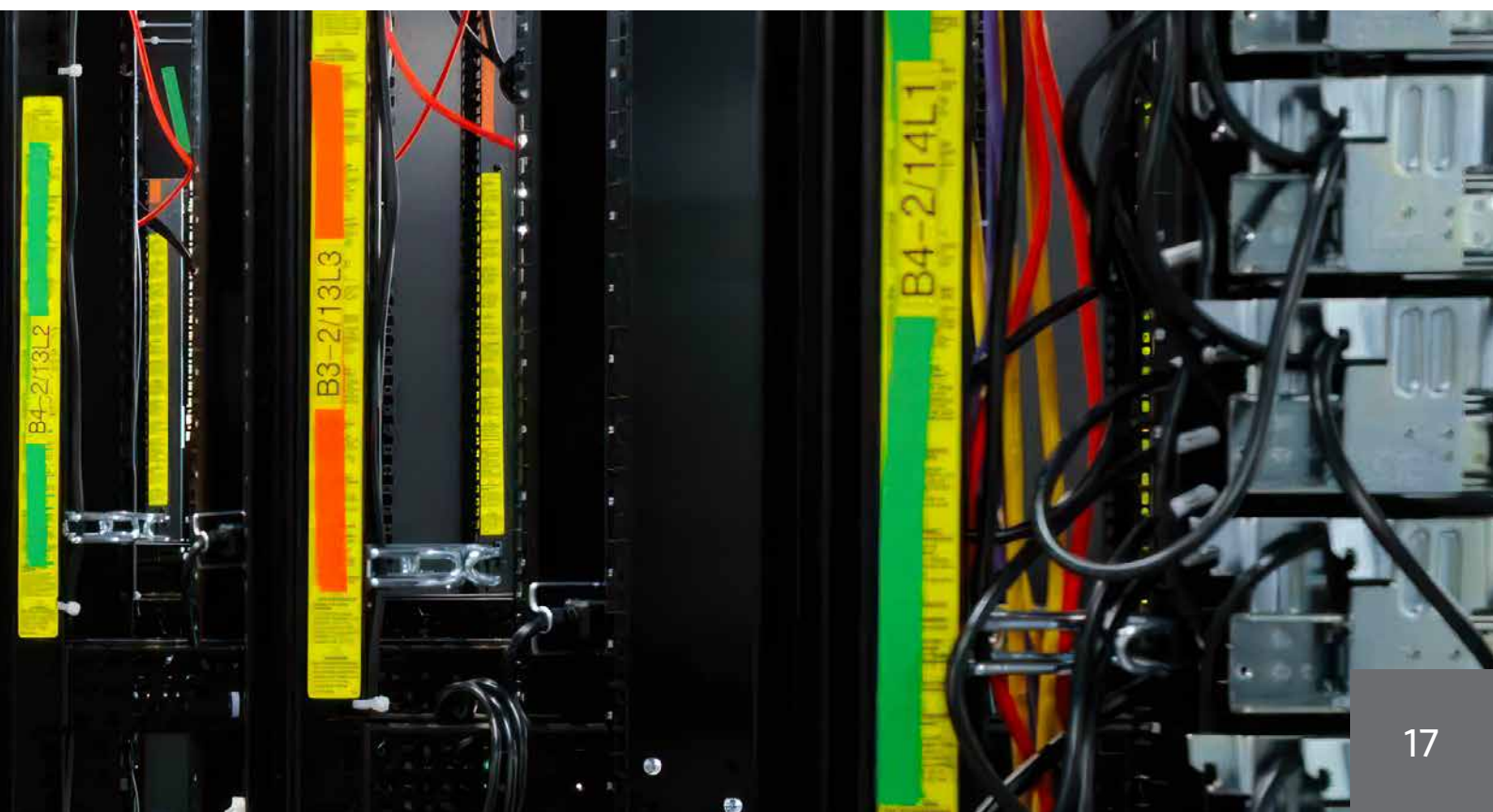
For use in data centre cold aisles and circulation areas. The output and lighting distribution is tuned to meet required lighting levels and uniformity at mounting heights and spacings typical in data centre circulation areas.

High specification LEDs running at lower currents achieves a 100,000hr rated lifetime, at temperatures of up to 25°C

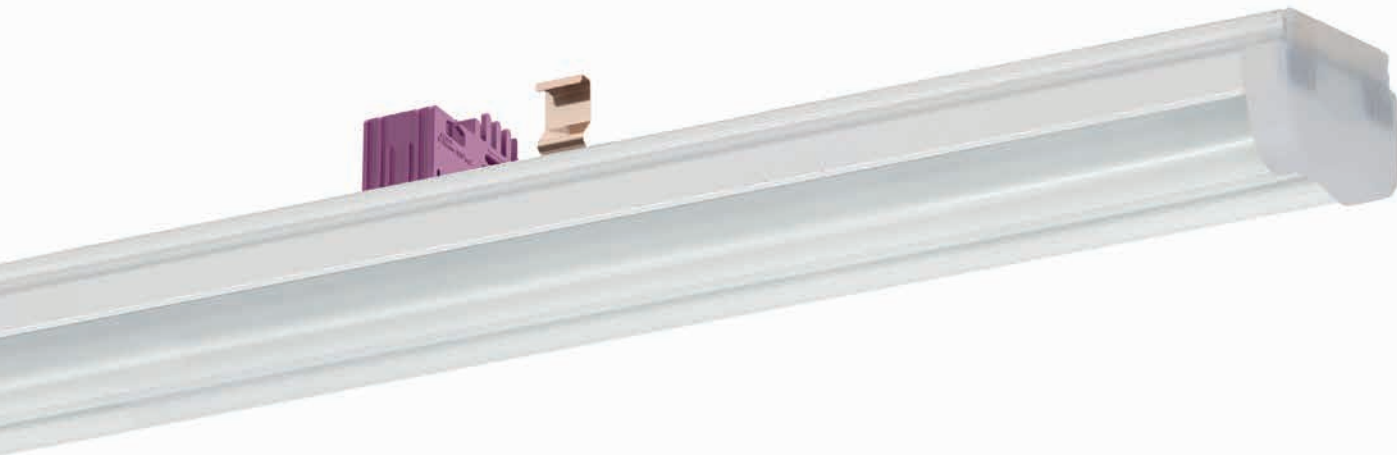


### Ordering Information

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
2560058	VL2S-GP150-7DAWS840B0500	1500	28	4000K	4840	172	Ra≥80	100,000
2560050	VL2S-GP150-7DAWS840B1200	1500	55	4000K	9450	171	Ra≥80	100,000
2560101	VL2S-GP150-7DAWS840B1100	1500	65	4000K	10,920	168	Ra≥80	10,000

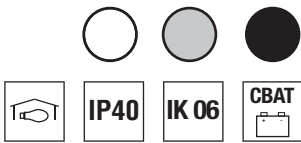


**Back of House**  
**Corridors and Circulation**  
VL2S-GW



The drop opal optic produces a soft diffuse light with excellent, even illumination of floors and walls. A wide light pattern allows for greater spacing between fittings in corridors and circulation areas.

Available in various lengths, light colours and outputs to suit a wide range of room dimensions and mounting heights.



**Ordering Information**

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
TBA	VL2S-GW150-7DAWS840W0550	1000	36	4000K	5122	131	Ra≥80	50,000
TBA	VL2E-FP1501-7DAWS840W0800	1500	55	4000K	7679	130	Ra≥80	50,000





## Plant Room / Technical Rooms PFLO



Surface mounted moisture proof LED luminaire for internal use or external use under cover. Extremely wide beam illumination by means of internal longitudinal prism optic with smooth wipe clean exterior.

Includes stainless steel snap on mounting clips for surface mounting without drilling luminaire body. Horizontal and vertical wall mounting possible.



**IP66**

**IK 08**

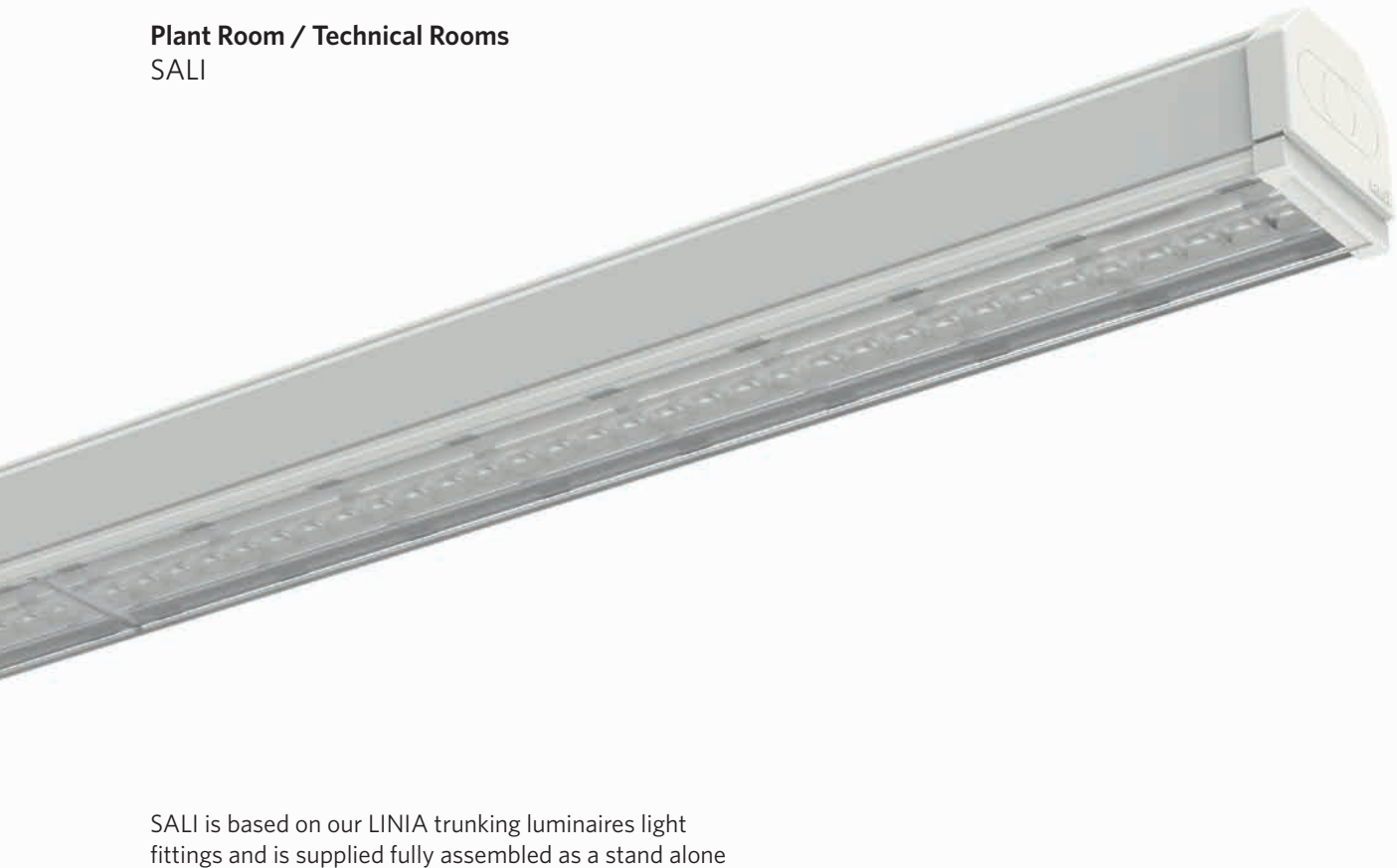


### Ordering Information

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
0931235	PFLO-NP0660DAKG840O0350	660	23	4000K	3620	157	Ra≥80	80,000
0931236	PFLO-NP1270DAKG840O0450	1270	33.9	4000K	4520	133	Ra≥80	72,000
0931237	PFLO-NP1570DAKG840O0600	1570	43.7	4000K	6020	137	Ra≥80	72,000
0931256	PFLO-1270DAKG840O0850	1270	59.6	4000K	8580	144	Ra≥80	72,000
0931248	PFLO-1570DAKG840O1000	1570	69.5	4000K	10,110	145	Ra≥80	72,000



Plant Room / Technical Rooms  
SALI

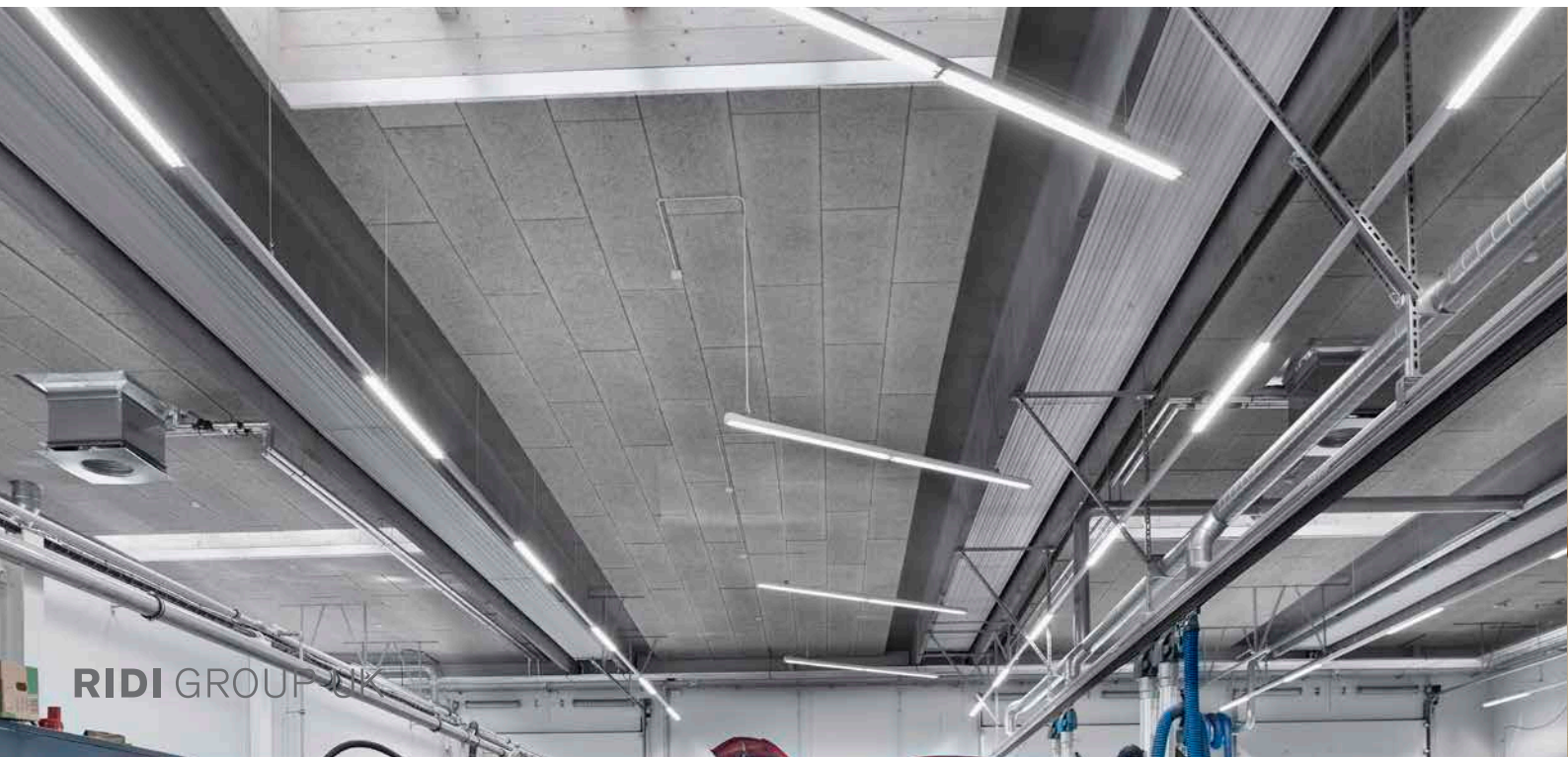


SALI is based on our LINIA trunking luminaires light fittings and is supplied fully assembled as a stand alone light fitting. SALI uses the same boards and optics as the trunking mounted versions and so complements them perfectly. Ideal for use in technical rooms, or as additions to data suite areas, without having to assemble from trunking components.



Ordering Information

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
1562026	SALI-GL150-DAWS840BE1500	1500	83	4000K	14,840	178	Ra≥80	80,000
1562022	SALI-GPS150-DAWS840B1000	1500	62	4000K	9820	158	Ra≥80	100,000
1562030	SALI-GL150-DAWS840BU0650	1500	36	4000K	6450	179	Ra≥80	100,000





## Internal Stairwells

### RUFO

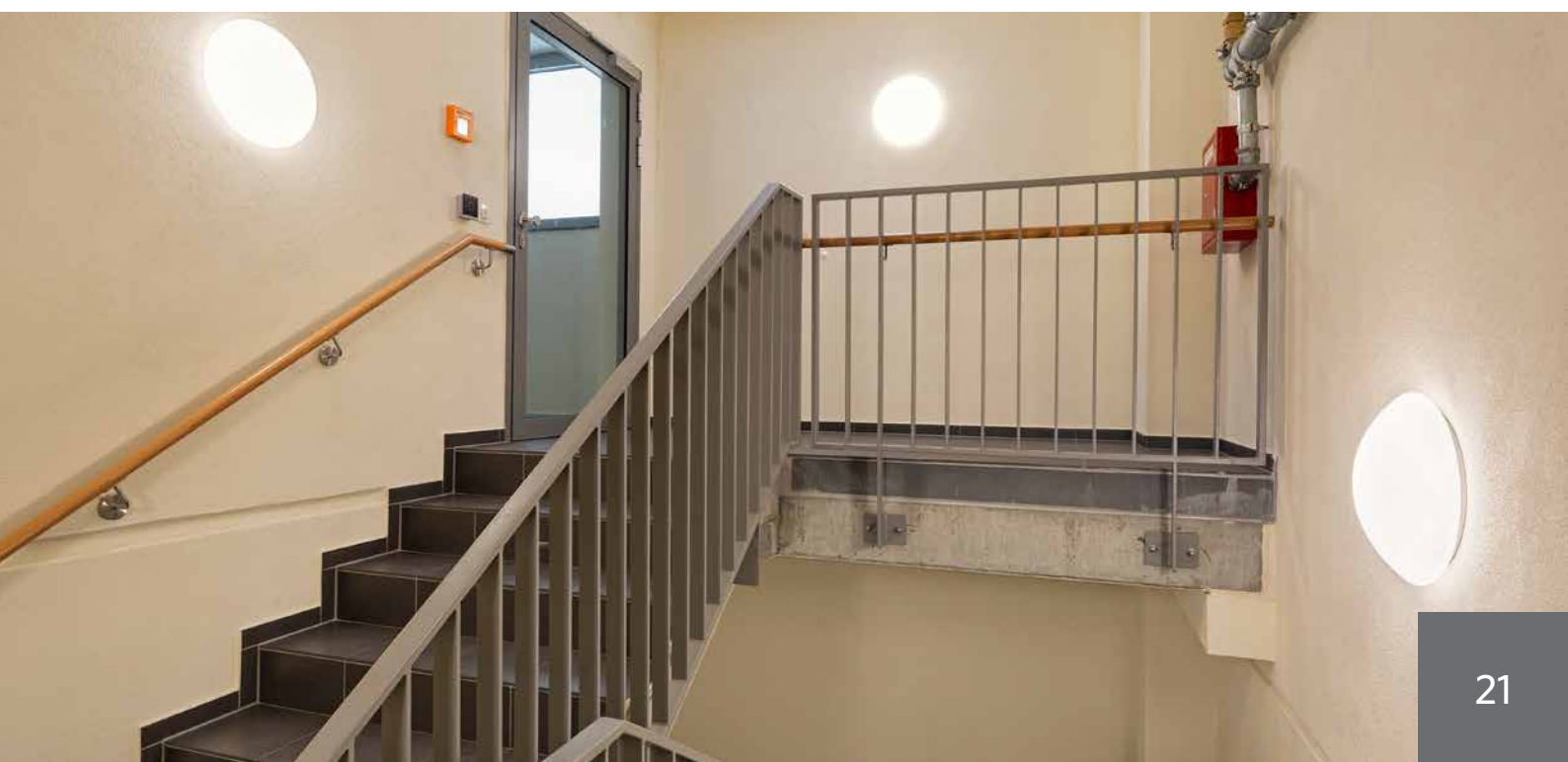
Cylindrical 'Z' diffuser

Circular wall light with a single piece diffuser and rigid steel body. Semi round or cylindrical diffuser (Z) options. Copper coated LED modules for improved heat dissipation and curved form for homogeneous illumination. Integral emergency lighting options for integral batteries or central battery use.



#### Ordering Information

Article No.	Description Code	Size (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
0430724	RUFO 320/1300-840 DALI	320	9.5	4000K	1220	128	Ra≥80	50,000
0430761	RUFO 320/1300-840 Z-DALI	320	10	4000K	1330	133	Ra≥80	50,000
0430736	RUFO 490/3750-840 DALI	490	28	4000K	3620	129	Ra≥80	50,000
0430772	RUFO 490/3750-840 Z-DALI	490	28	4000K	3620	129	Ra≥80	50,000
0430642	RUFO 600/5000-840 DALI	600	37	4000K	4900	132	Ra≥80	50,000



## External Lighting

Exposed roof and stairs  
IRL



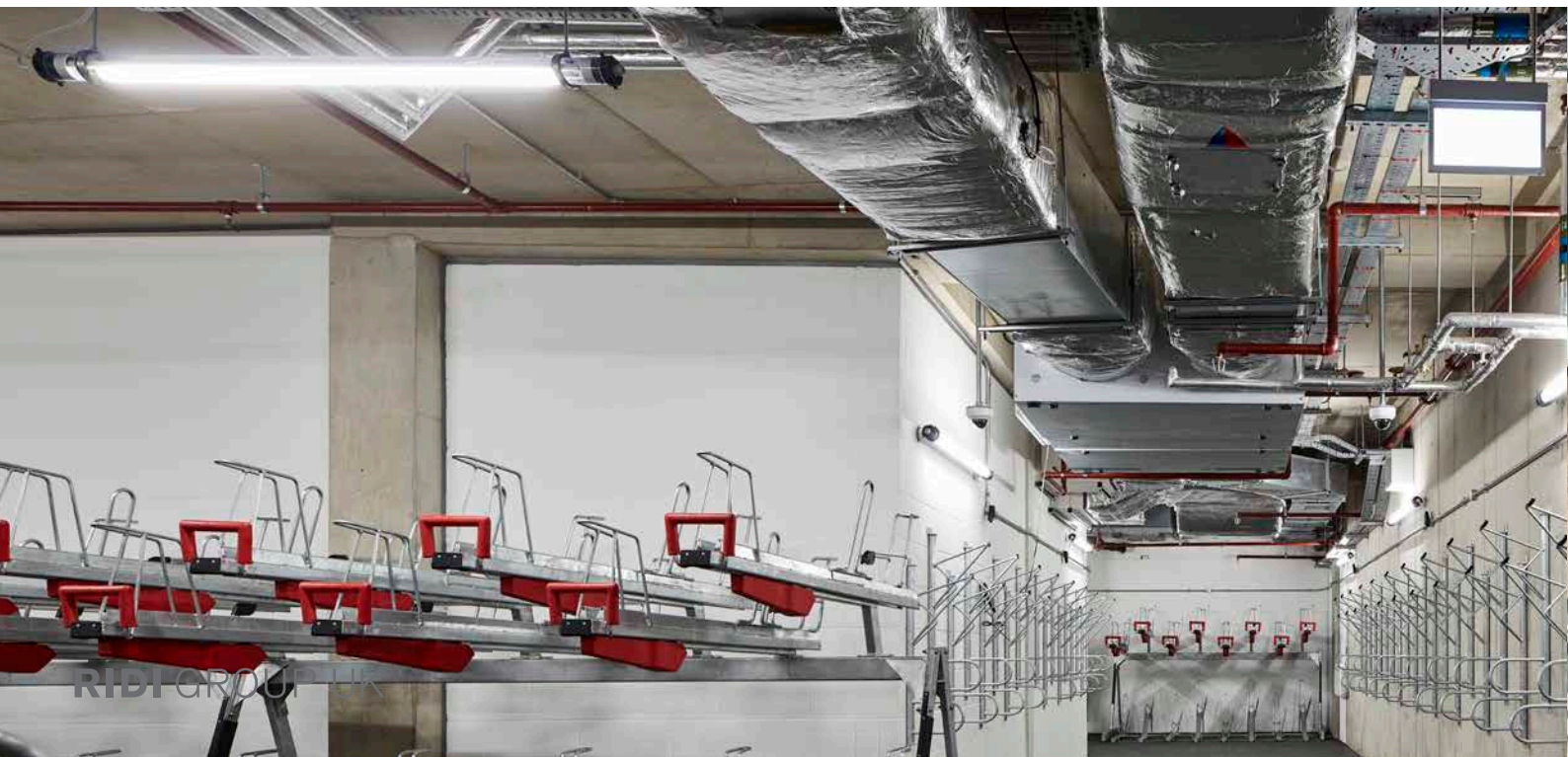
Ingress protection rating of IP69K and an impact rating of IK08 make this luminaire suitable for harsh exterior locations. The 'short seal' tubular design is particularly resistant to water ingress and does not suffer from the 'breathing' issues found on standard IP58 vapour proof fittings.

UV stabilised PMMA enclosure and highly efficient mid power LEDs guarantee a long service life without yellowing or cracking of the housing.



### Ordering Information

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
0961224	IRL-O080-5DAWS8400250	890	21	4000K	2680	127	Ra≥80	50,000
0961226	IRL-O110-5DAWS8400350	1190	31	4000K	3870	124	Ra≥80	50,000
0961228	IRL-O140-5DAWS8400500	1490	41	4000K	5200	126	Ra≥80	50,000
0961230	IRL-O170-5DAWS8400600	1790	51	4000K	6390	125	Ra≥80	50,000

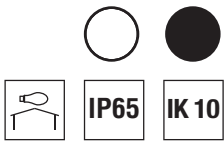


Walkway and Security Lighting  
RAY



A modern and minimalist external wall light with screw-less front cover. Available in black and white finishes.

Full range includes additional sizes, outputs and colour temperatures. Please contact us for further details.



Typical Ordering Information

Article No.	Description	Size (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI
97-SSHA-250DA840-W	DALI wall light in white	319 x 264 x 165	18	4000K	2500	138	Ra≥80
97-SSHA-250DA840-SW	DALI wall light in black	319 x 264 x 165	18	4000K	2500	138	Ra≥80





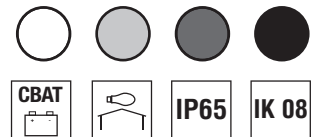
## Roof Floodlighting FALCON



Falcon is a comprehensive range of ingress protected and impact resistant LED projectors.

Available in two sizes, a range of colours, outputs and colour temperatures. Falcon is available with DALI control gear for use with Control3 and is compatible with central battery emergency lighting system Multicontrol plus.

For more details and lighting calculations for external areas, please contact us.



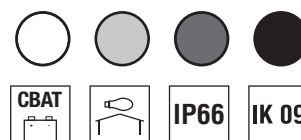
## Car park and Terrain lighting QUASAR



Quasar is a comprehensive range of ingress protected and impact resistant LED street, and amenity lighting.

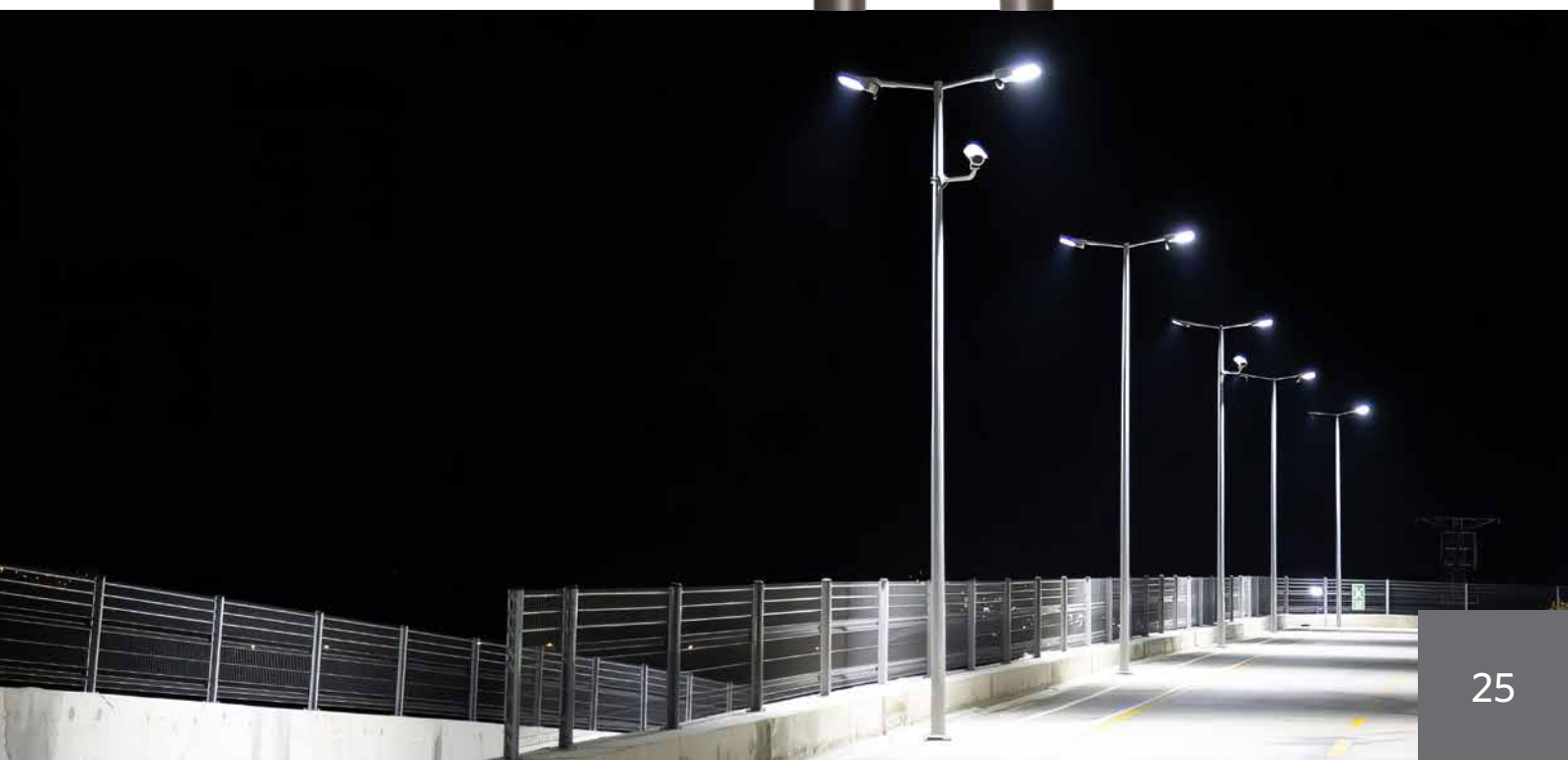
Available in four sizes, four colours, a range of outputs and colour temperatures. Quasar is available with DALI control gear for use with Control<sup>3</sup> and is compatible with central battery emergency lighting system Multicontrol plus.

For more details and lighting calculations for external areas, please contact us.



Lighting

External



**Offices/Security/Reception**  
**Multilens SE-EQ**



Comfortable, low glare illumination with exceptional efficiency, typically using 20% less energy than a flat panel based lighting design. The stone grey reflectors highlight the warmth in the light source, while the direct light results in a more dynamic and visually interesting lit environment than typical opalescent flat panels. We consider the difference akin to comparing a sunny day to a cloudy bright day.

Available in UK 600mm or EU 625mm sizes.



**Ordering Information**

Article No.	Description Code	Size (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
0838113	SE-EQ0600DAWS840M9S0350	600	25.9	4000K	3710	143	Ra≥80	100,000
0838115	SE-EQ0600DAWS840M9S0550	600	37.9	4000K	5570	147	Ra≥80	100,000
0838114	SE-EQ0625DAWS840M9S0350	625	25.9	4000K	3710	143	Ra≥80	100,000
0838116	SE-EQ0625DAWS840M9S0550	625	37.9	4000K	5570	147	Ra≥80	100,000



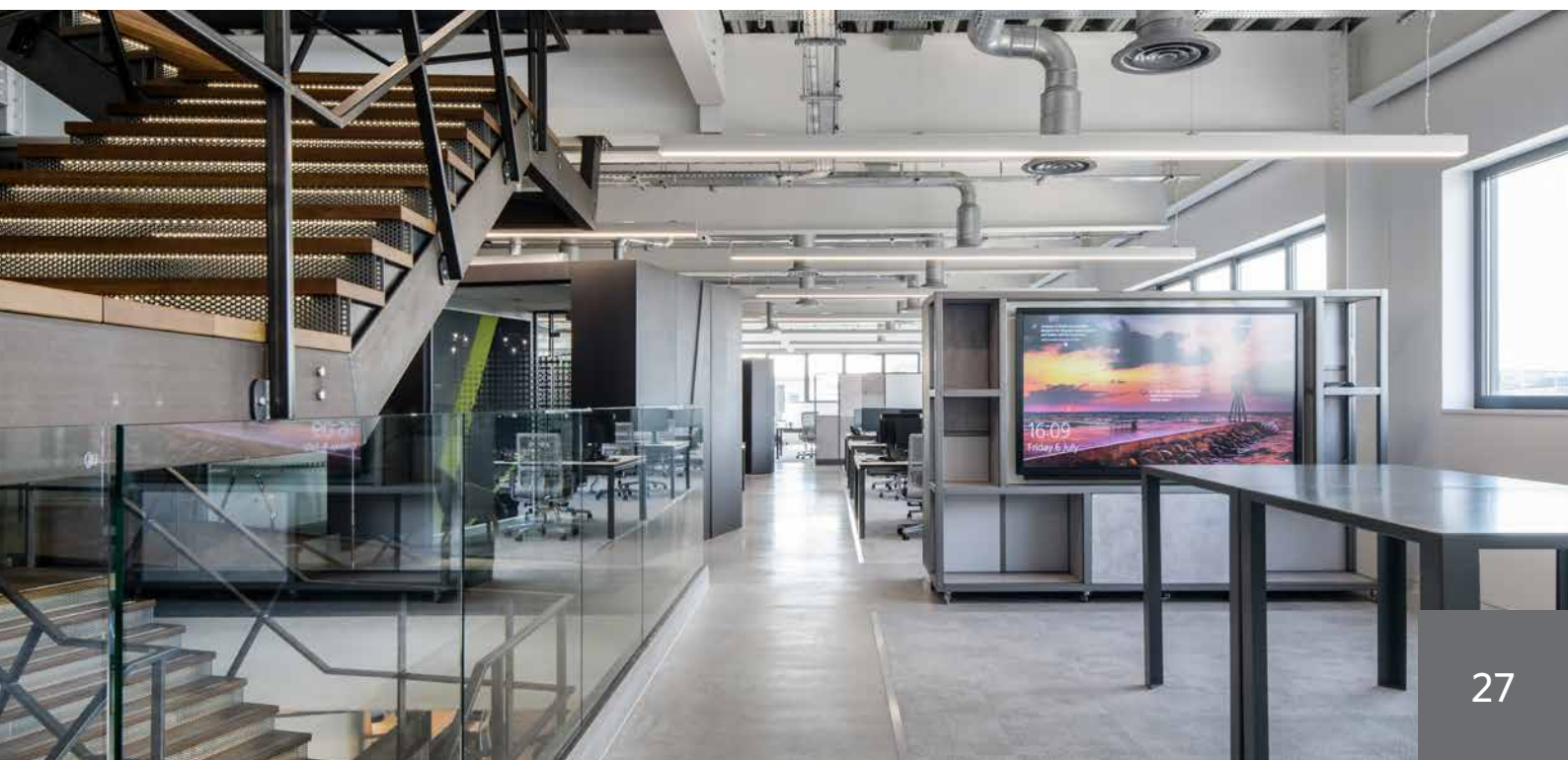


## Offices/Client Areas VENICE

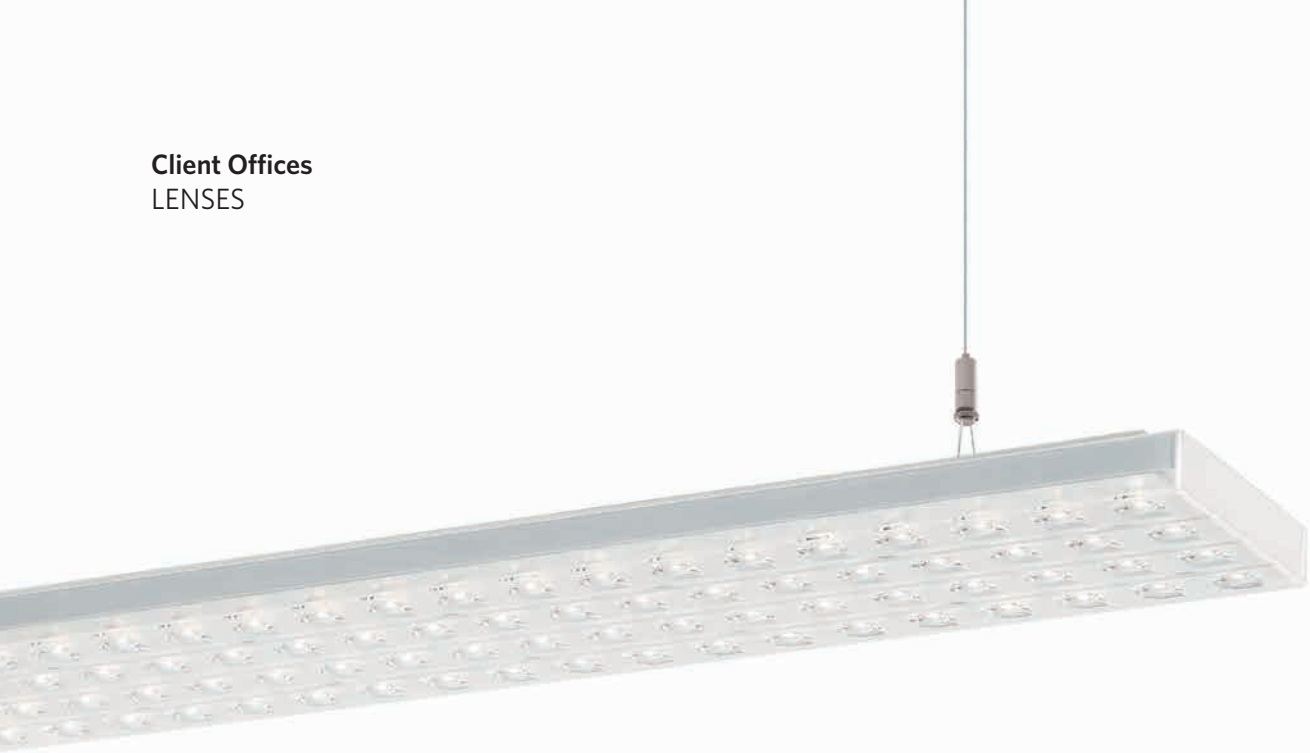


A classic linear line luminaire finished in natural anodised aluminium. Available in visually continuous lengths from one to four and a half metres with the ability to join lengths for even longer runs. Venice uses our BusBar trunking wiring system internally, allowing for extremely easy maintenance and module replacement. Blank sections can be fitted with lighting sensors or emergency LED heads with integral battery or central battery support.

Venice is a modular luminaire system in lengths from 1.2 to 3.6 metres and can be joined to form any length continuous line of light system. Please contact us for a parts breakdown and technical information tailored to your project.



Client Offices  
LENSES



A high efficiency lensed LED pendant luminaire system with a direct/indirect light distribution. Lenses is available as both a stand-alone pendant or, for simplicity and speed of installation, as a clip in module for our LINIA BusBar System.



Ordering Information

Article No.	Description Code	Length (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
0637809	LENSES-PDI1000DAWS830B0500	1000	32	3000K	4930	154	Ra≥80	50,000
0637808	LENSES-PDI1000DAWS840B0500	1000	32	4000K	5150	160	Ra≥80	50,000
0637811	LENSES-PDI1500DAWS830B0750	1500	48	3000K	7400	154	Ra≥80	50,000
0637810	LENSES-PDI1500DAWS840B0750	1500	48	4000K	7710	160	Ra≥80	50,000
0637810	VL2S-LEN-DI102-7DAWS840B0500	1000	32	4000K	5150	160	Ra≥80	50,000
2560003	VL2S-LEN-DI152-7DAWS840B0750	1500	48	4000K	7710	160	Ra≥80	50,000

LINIA





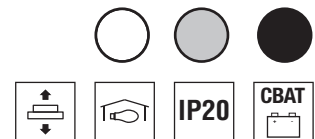
**Client Offices**  
S36-Profil



An exceptionally well engineered linear direct/indirect pendant by Spectral. S36 impresses with a width of only 36mm while achieving a glare rating of <URG19 in typical installations. A near 50:50 up/downlight distribution brightens ceilings and reduces apparent glare and eye strain. Available in visually continuous single lengths of between 0.6m and 3m with the ability to couple multiple lengths together for an unbroken line of light.

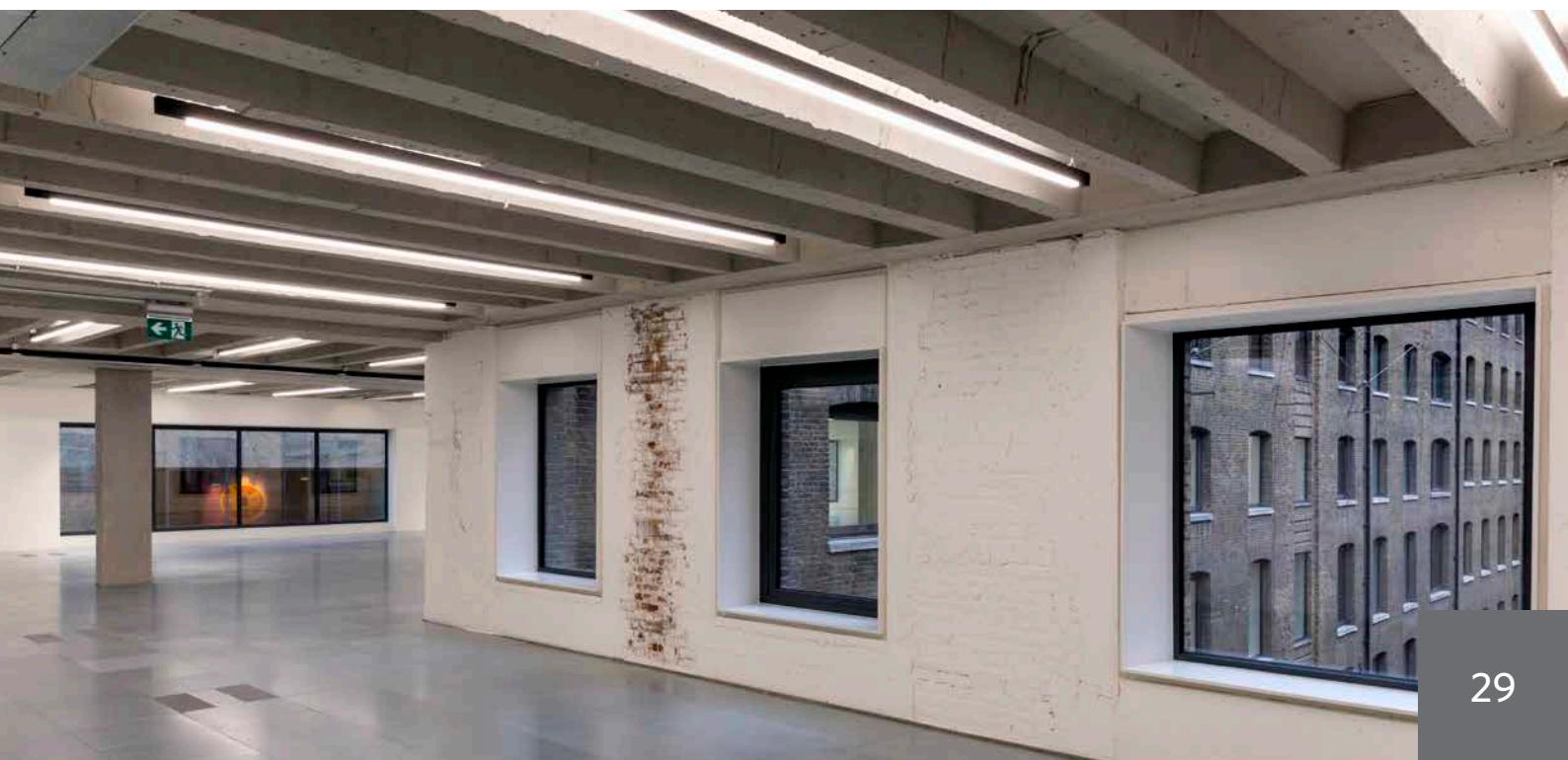
S36 Profil is a modular luminaire system in lengths from 0.6 to 3.0 metres and can be joined to form any length continuous line of light system. Please contact us for a parts breakdown and technical information tailored to your project.

[WWW.RIDI-GROUP.CO.UK/CONTACT](http://WWW.RIDI-GROUP.CO.UK/CONTACT)



Lighting

Front of House



Entrance / Reception  
Iris



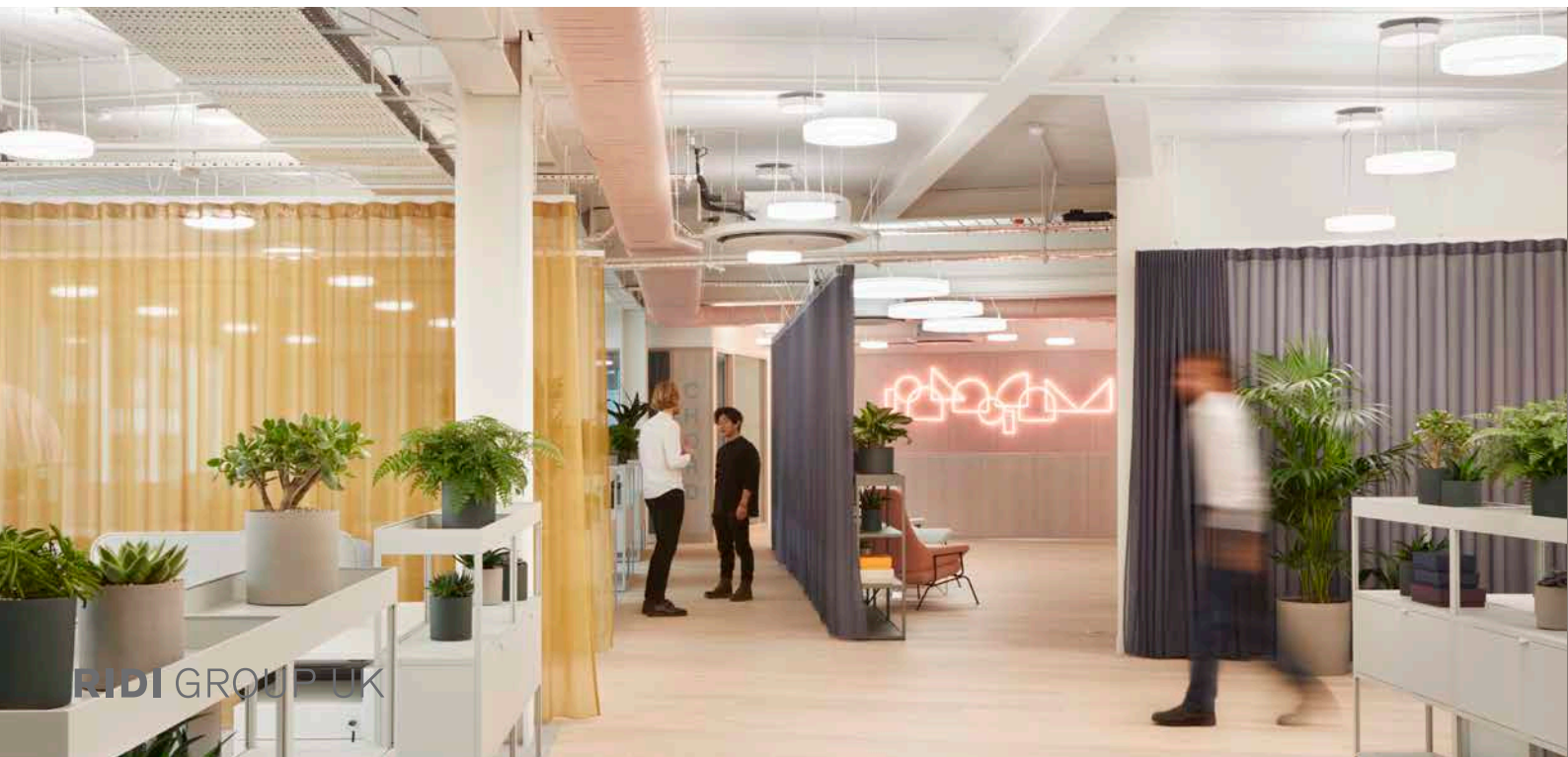
The annular shape and intricate light pattern of Iris was inspired by the human eye. A combination of clear transparency and lightness of form that allows Iris to blend into the environment while casting an even and effective working light.

Iris is available as standard in two sizes, both with direct and indirect light distribution and also with tuneable white light, ideal for circadian lighting.



Example Ordering Information

Article No.	Description Code	Diameter (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
SPI0000061	IRIS-PS 5000-830-DA	375	35	3000K	4680	133	Ra≥80	50,000
SPI0000062	IRIS-PS 5000-840-DA	375	35	4000K	4890	139	Ra≥80	50,000
SPI0000107	IRIS-L-PS 11000-830-DA	606	78	3000K	10,130	129	Ra≥80	50,000
SPI0000108	IRIS-L-PS 11000-840-DA	606	78	4000K	10,660	136	Ra≥80	50,000



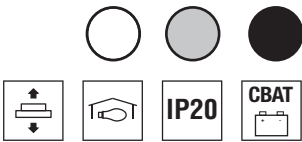
Entrance / Reception  
Stora Rings



With the scale to complement larger spaces, make a statement with Stora-LK. A suspended ring of light, available in four standard diameters with Direct only and Direct / Indirect versions.

Each ring is supplied complete, with all suspension wires and power cable pre-fitted, and fully constructed - ready to hang.

Example Ordering Information



Article No.	Description Code	Diameter (mm)	Power (w)	Light Colour (Kelvin)	Output (lm)	Efficacy (lm/W)	CRI	L80B50 25°C (hrs)
SPC0630050	STORA-LK-I D0950/830 OS-DA	950	114	3000K	12,820	112	Ra≥80	50,000
SPC0630051	STORA-LK-I D0950/840 OS-DA	950	114	4000K	113,350	117	Ra≥80	50,000
SPC0630054	STORA-LK-I D1200/830 OS-DA	1200	127	3000K	13,920	109	Ra≥80	50,000
SPC0630055	STORA-LK-I D1200/840 OS-DA	1200	127	4000K	14,500	114	Ra≥80	50,000
SPC0630022	STORA-LK-I D1500/830 OS-DA	1500	156	3000K	16,320	104	Ra≥80	50,000
SPC0630018	STORA-LK-I D1500/840 OS-DA	1500	156	4000K	17,000	109	Ra≥80	50,000
SPC0630023	STORA-LK-I D1900/830 OS-DA	1900	184	3000K	18,770	102	Ra≥80	50,000
SPC0630019	STORA-LK-I D1900/840 OS-DA	1900	184	4000K	19,550	106	Ra≥80	50,000





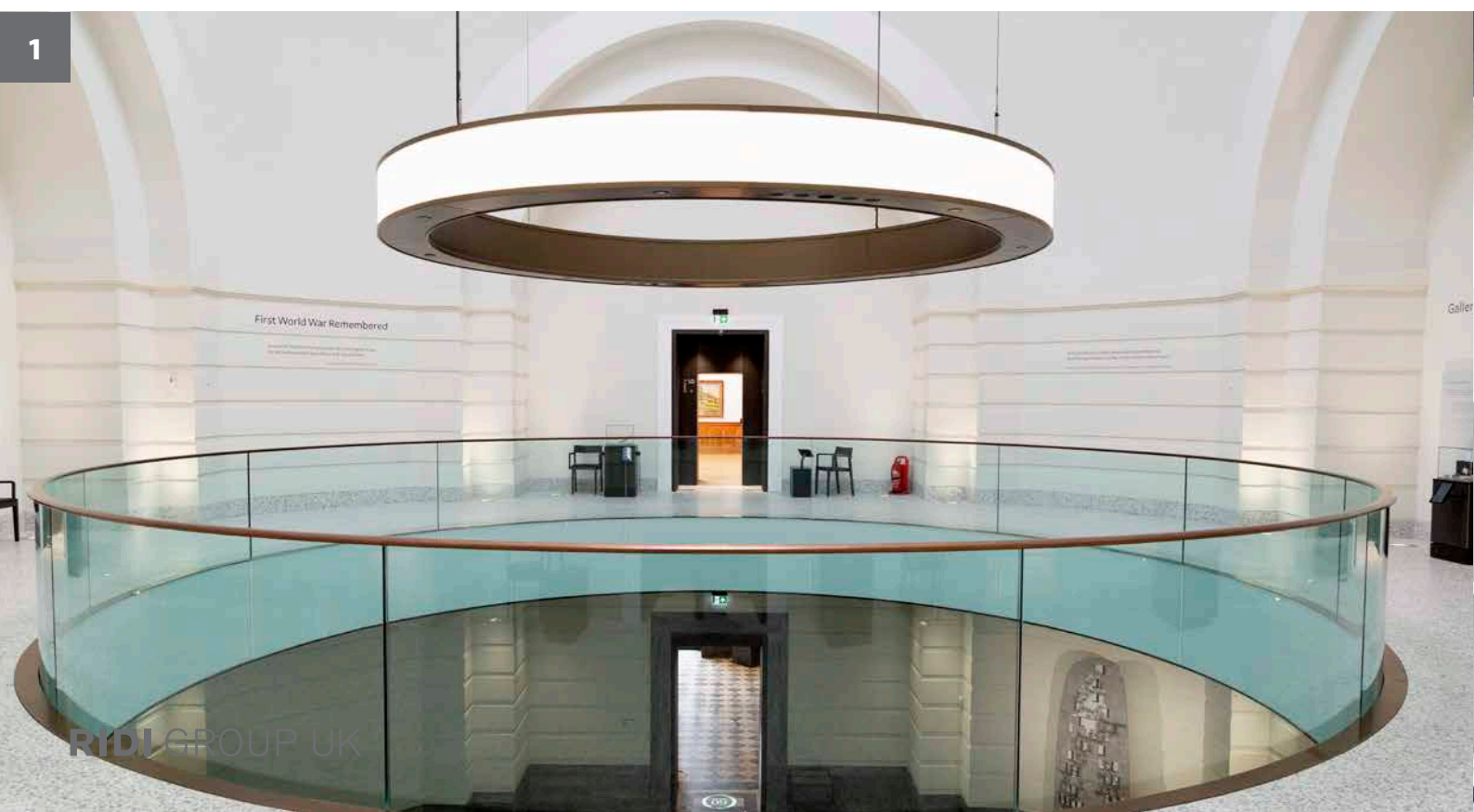
## Entrance / Reception

Spectral, Special Constructs

Spectral by RIDI Group. Non standard is our standard. With a history of producing spectacular and iconic lighting structures. For something truly special, talk to us about your wildest dreams and we can make it a reality.

We hand build our custom luminaire structures at our Jungingen HQ using components from the standard RIDI range, meaning that even though the final product is something unique, they are just as maintainable and robust as our standard production range.

1: Aberdeen Art Gallery  
2: Private UK Bank, London  
3: Technique, London  
4: Rivington Street Studio, London



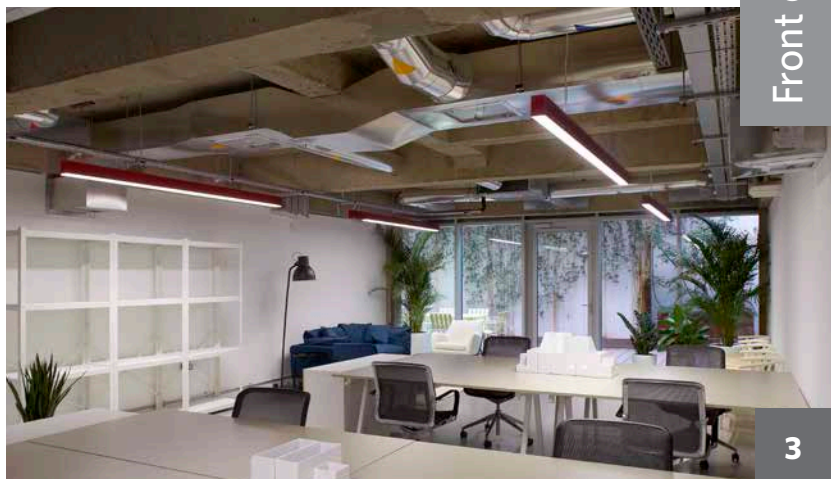




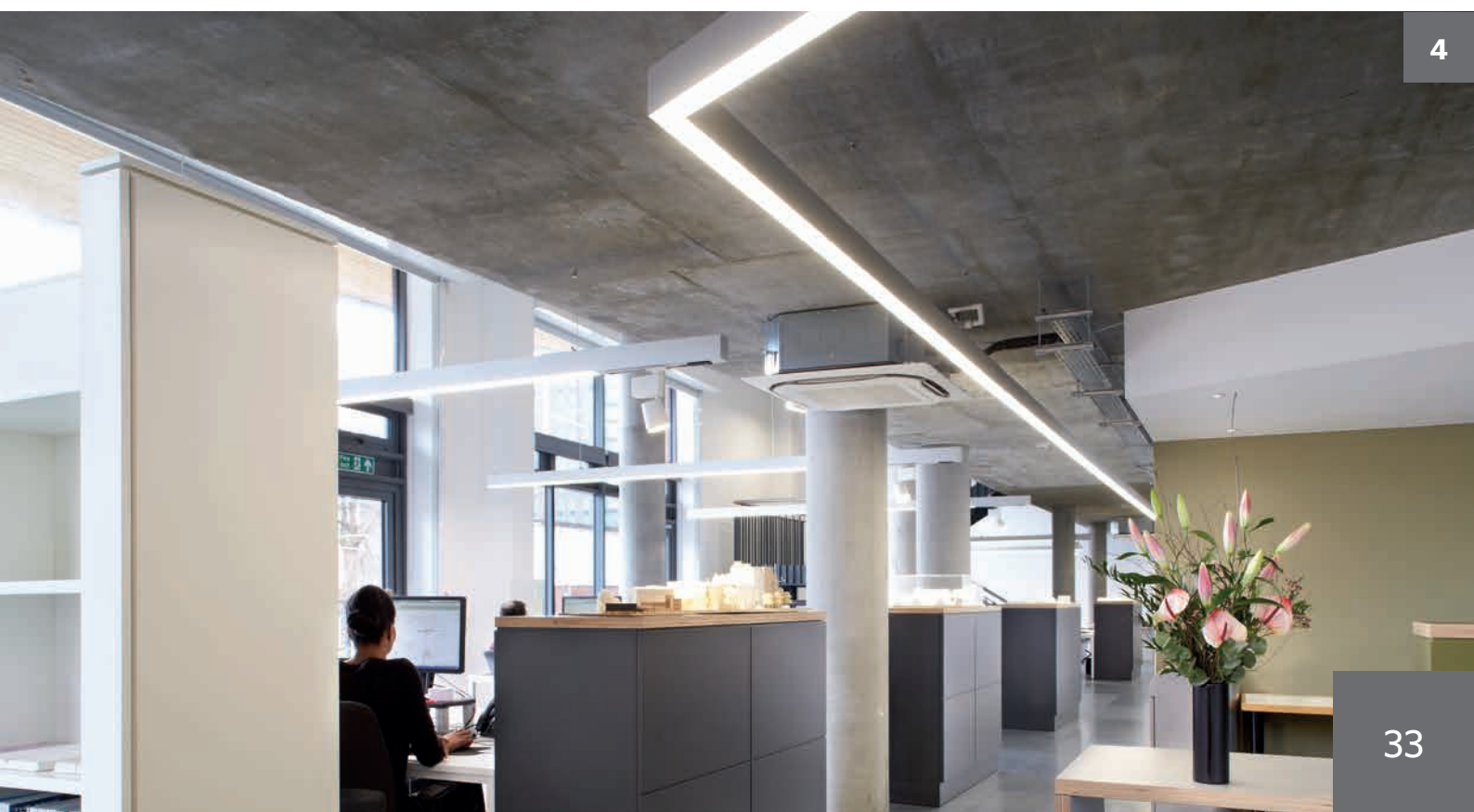
2

Lighting

Front of House



3



4



# Emergency Lighting with internal batteries

## General illumination luminaires

We can supply the majority of our standard mains luminaires with an integral battery for emergency lighting use at reduced output.

Emergency converted luminaires are available with either a self test facility, or with a DALI addressable emergency module that can be tested using a suitable DALI control system such as Control<sup>3</sup>

Please contact us to check for emergency conversion viability for specific products.

### Ordering Information

Add Code	Description
/EDS3	3hr Maintained Self Test Integral Emergency Conversion
/EDP3	3hr Maintained DALI Test Integral Emergency Conversion



## Dedicated LED Area Illumination

### VLMF-EXIDA-Performance

Dedicated LED emergency luminaire. Integrated battery and charger for 3hr non-maintained operation. Self test or DALI test options. For use on LINIA BusBar trunking system. Supplied with clip in lenses for corridor, emphasis or open area distribution.



Article No.	Description Code	Length (mm)	Light distribution	Testing type
97-VLMFEXPE AL DA	Trunking mounted emergency LED DALI	500	All Lenses	DALI / Self Test
97-VLMFEXPE AL ND	Trunking mounted emergency LED	500	All Lenses	Self Test



### EXIDA-Performance

Dedicated LED emergency luminaire. Battery and charger in remote pack for 3hr non-maintained operation. Manual test or DALI/Self Test options. Recessed mounting. Supplied with clip in lenses for corridor, emphasis or open area distribution. Black or white finish.



Article No.	Description Code	Cutout (mm)	Light distribution	Testing type
97-EXPE AL DA W	EXIDA-Premium DALI Test White	43	All Lenses	DALI / Self Test
97-EXPE AL DA B	EXIDA-Premium DALI Test Black	43	All Lenses	DALI / Self Test
97-EXPE AL ND W	EXIDA-Premium Manual Test White	43	All Lenses	Manual Test
97-EXPE AL ND B	EXIDA-Premium Manual Test Black	43	All Lenses	Manual Test



## EXIDA-ACC-Performance

Dedicated LED emergency luminaire. Integrated battery and charger for 3hr non-maintained operation. Manual test or DALI/Self Test options. Surface mounting. Supplied with interchangeable open area and corridor distribution lenses.



Article No.	Description Code	Diameter (mm)	Height (mm)	Testing type
97-EXACP AL	EXIDA-ACC-Performance	120	44	Manual Test
97-EXACP AL DA	EXIDA-ACC-Performance DALI-ST	120	44	DALI / Self Test

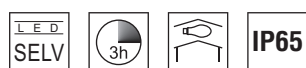


## EXIDA-ACC-Performance IP65

Dedicated LED emergency luminaire. Integrated battery and charger for 3hr non-maintained operation. Manual test or DALI/Self Test options. Surface mounting. Three lens options for open area, corridor and high bay use.



Article No.	Description Code	L x W x D (mm)	Optic type	Testing type
97-EXACIP OA	EXIDA-ACC-Performance IP65 OA	197 x 132 x 53	Open area	Manual Test
97-EXACP OA DA	EXIDA-ACC-Performance IP65 OA DALI-ST	197 x 132 x 53	Open area	DALI / Self Test
97-EXACIP CO	EXIDA-ACC-Performance IP65 CO	197 x 132 x 53	Corridor	Manual Test
97-EXACP CO DA	EXIDA-ACC-Performance IP65 CO DALI-ST	197 x 132 x 53	Corridor	DALI / Self Test
97-EXACIP HB	EXIDA-ACC-Performance IP65 HB	197 x 132 x 53	High bay	Manual Test
97-EXACP HB DA	EXIDA-ACC-Performance IP65 HB DALI-ST	197 x 132 x 53	High bay	DALI / Self Test



## Emergency Exit Signs

### ARKTIK-SIGN

LED Emergency exit sign. Integral Battery and charger for 3hr maintained or non-maintained operation. Manual / DALI / Self Test options. Surface wall mounting. Various legend options.



Article No.	Description	H x W x D (mm)	Testing type
97-ARK	ARKTIK-SIGN LED	333 x 160 x 75	Manual
/DALI	DALI Test option		DALI / Self Test
/ECAR	EC format Arrow Right		
/ECAL	EC format Arrow Left		
/ECAD	EC format Arrow Down		
/ISOAR	ISO format Arrow Right		
/ISOAL	ISO format Arrow Left		
/ISOAD	ISO format Arrow Down		



### AXILUM

IP65 LED Emergency bulk head/exit sign. Integral Battery and charger for 3hr maintained or non-maintained operation. Manual / DALI / Self Test options. Ceiling mounting.



Article No.	Description	H x W x D (mm)	Testing type
97-AXILUM	AXILUM Bulk head	350 x 120 x 90	
/M3	Maintained manual tes		Manual
/DALI	Maintained DALI / Self test		DALI/ Self test
/DDS	Double sided exit sign diffuser		
/LEG	Adhesive legend kit		



### Q-Sign Fixed

LED Emergency exit sign. Integral Battery and charger for 3hr maintained or non-maintained operation. Manual / DALI / Self Test options. Surface wall or ceiling mounting. Available in two sizes.



Article No.	Description	H x W x D (mm)	Testing type
97-QSN / ESA 10	Q Sign Large	330 x 250 x 45	
97-QSN / ESA 08	Q Sign Small	265 x 210 x 45	
/M3	Maintained manual test		Manual
/DALI	Maintained DALI / Self test		DALI/ Self test





## Q-Sign Pendant

LED Emergency exit sign. Integral Battery and charger for 3hr maintained or non-maintained operation. Manual / DALI / Self Test options. Pendant mounting. Available in two sizes.

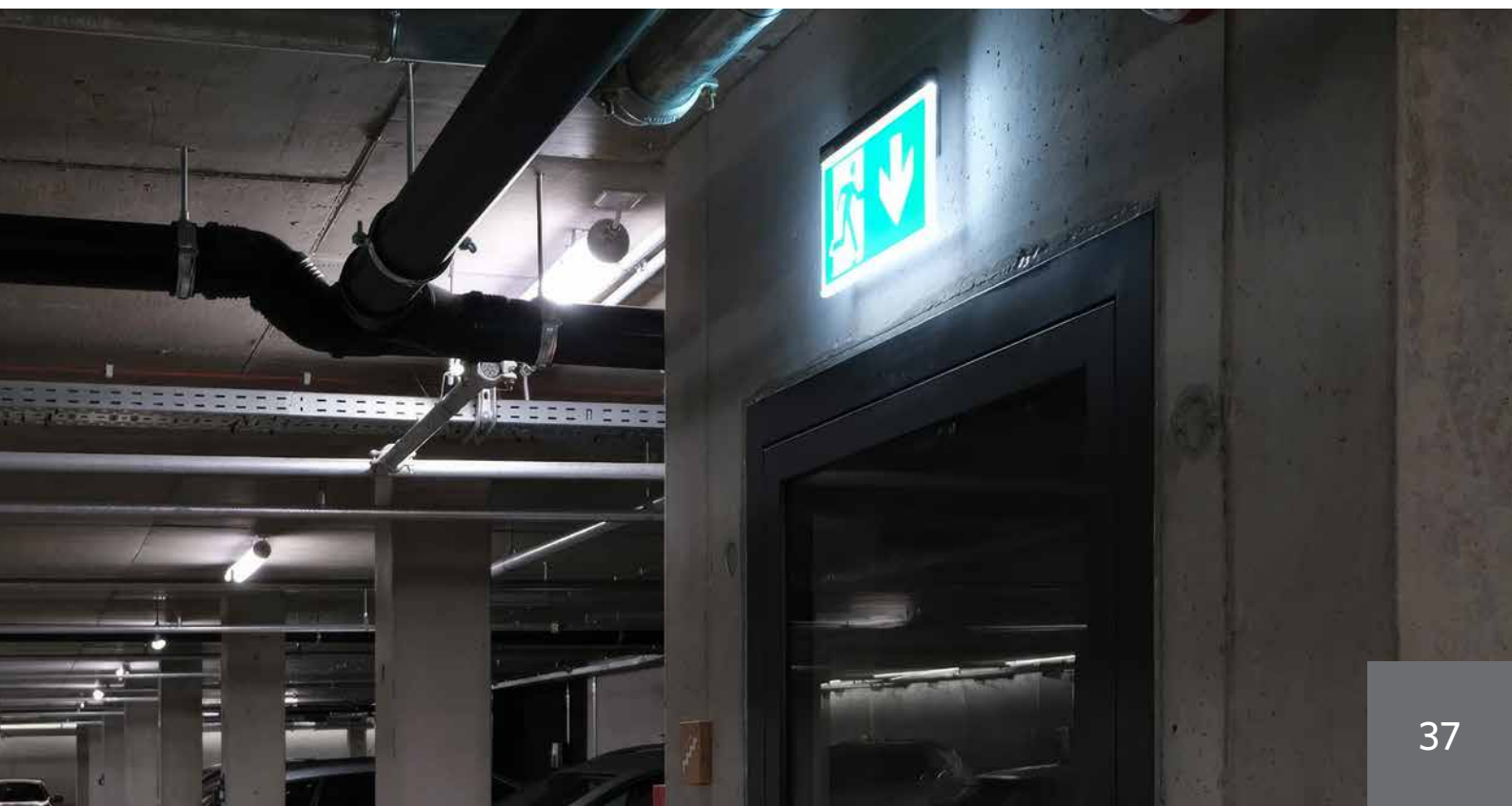
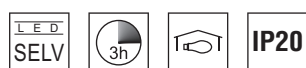
Article No.	Description	H x W x D (mm)	Testing type
97-QSN / ESA 11	Q Sign Large	330 x 250 x 45	
97-QSN / ESA 09	Q Sign Small	265 x 210 x 45	
/M3	Maintained manual test		Manual
/DALI	Maintained DALI / Self test		DALI/ Self test



## VLMF-HW

LED Emergency exit sign for use on LINIA Bus Bar trunking. Integral Battery and charger for 3hr maintained or non-maintained operation. DALI / Self Test options. Rotatable sign.

Article No.	Description	H x W x D (mm)	Testing type
97-QSN / ESA 11	Q Sign Large	330 x 250 x 45	
97-QSN / ESA 09	Q Sign Small	265 x 210 x 45	
/M3	Maintained manual test		Manual
/DALI	Maintained DALI / Self test		DALI/ Self test



## Lighting Controls Control<sup>3</sup>

Control<sup>3</sup> is a comprehensive building wide DALI lighting control system. It is based on the powerful Control3 processor, a stand alone lighting controller which can also be integrated onto your building's IP network.

Control<sup>3</sup> provides exhaustive functionality and energy saving. The system is simple to install, cost effective and built around open industry standards.



# TREND



### Key Functions

#### Energy Saving

#### Motion Detection

Presence and absence detection ensure lights are only on when areas are occupied

#### Daylight Linking

Lights are dimmed to save energy when natural light is available in the room.

#### Energy Monitoring

Logging of energy usage by area to help with efficient building use.

#### Comfort, Convenience and Wellbeing

#### Manual dimming and Scenes

Temporarily override the current light level with momentary switches, or change between lighting scenes with wall mounted scene plates.

#### Corridor Linking

Corridors and circulation areas outside rooms are held on while the room is occupied ensuring you never enter a dark corridor. Corridors automatically brighten as you approach the entrance doors.

#### Circadian Lighting

In conjunction with tuneable white light fittings, the lighting is adjusted to mimic natural daylight cycles, helping with users general wellbeing.



### Critical system integration

#### Central battery emergency lighting

Integration with central battery system ensuring compliant handover to critical system control during a loss of power situation.

Integrated testing of standard DALI luminaires in DC central battery mode.

#### Integral battery emergency lighting

Luminaires with integrated batteries for emergency use are automatically tested for function and duration and reports generated and saved.

#### Fire alarm integration

During a fire alarm condition, lights are all automatically switched to full output until the alarm is cleared.

### BMS Integration

#### BACnet or Trend

Both BACnet and Trend over IP are supported via integrated optional software license.

#### Sensors, Inputs and Knobs

Every lighting group provides a wealth of data points regarding the status and health of the lighting system. Two way point adjustment allows control and adjustment of the lighting system from a familiar BMS UI.

#### Alarms and notifications

Control<sup>3</sup> supports BMS alarms providing instant feedback should a luminaire or system device fail or become disconnected.



## Benefits of Control<sup>3</sup>

We believe that tight integration between lighting controls and light fittings results in the best performing system. As such we ensure that we're involved throughout the life cycle of the project.

At design stage we ensure that we know exactly how you want the system to perform and what it needs to do. We supply controls components which are guaranteed to be compatible with our luminaires and in many cases are built right into the fittings.

We setup the system to achieve the goals set out at design stage to everyone's satisfaction. On site and remote support ensures that the system continues to perform as expected over time and any changes made to the building or installation can be accommodated.

- **Built on standard open protocols**
- **No ongoing license costs**
- **All features unlocked**
- **Free, full access to control UI**
- **No specialised programming tools**
- **No internet/cloud connection required**
- **You own the system forever**

## Energy Saving

Our LED lighting products are some of the most efficient available but further energy reductions are possible. The most efficient light is the one that's switched off, our controls ensure that lighting is only on when it's actually needed.

As an added bonus, reducing the output of LED luminaires or switching them off greatly increases their lifespan giving extra cost savings in maintenance.

The majority of our data centre projects have included automated energy saving features. Data suites are controlled by movement sensors ensuring light when required and lights off when vacant. Client offices feature daylight harvesting to maintain the ideal illumination level when natural light is available, reducing the energy load of the lighting system.



20%

### Presence Detection

**Auto On, Auto Off.**

Save 20% lighting energy compared to manual switching



30%

### Absence Detection

**Manual On, Auto Off.**

Save 30% lighting energy compared to manual switching



40%

### Daylight Harvesting

**Auto dimming.**

Save 40% lighting energy compared to fixed output



3%

### Energy Monitoring

**Changing behaviour.**

Simple awareness of energy usage reduces usage by approx 3%

## System Maintenance & Integration

### Device Monitoring

#### Stay on top of maintenance.

Automatic notifications if any lighting device fails.



Keeping your datacentre lighting system running optimally and in compliance with emergency lighting regulations requires monitoring, testing and maintenance.

### Emergency testing

#### Keeping compliant.

Auto testing and notifications of emergency lighting devices to EN 50171



Control<sup>3</sup> constantly monitors all lighting devices and will flag any faults or failures via the UI, email or a connected BMS system.

Automatic testing and logging of DALI emergency luminaires and pre-emptive monitoring of lighting connected to central battery systems helps to keep your building safe and compliant.

### Central battery integration

#### Maintain compliance.

Monitoring and notifications for lights supplied by emergency central battery systems



### BMS integration

#### Single point of control.

BACnet and Trend integration for lighting visualisation and control on a familiar UI



### Occupancy monitoring

#### Increase building utilisation.

Built in monitoring via lighting sensors producing occupancy and utilisation data

## Comfort and Wellbeing

### Scene setting

#### Create the right environment.

Adjust individual lighting levels of all lights for a perfect working environment



We feel the comfort and wellbeing of the building users and employees is paramount. Control<sup>3</sup> tailors the lighting for each area to optimise working conditions.

Circadian lighting control, when combined with tunable white luminaires, simulates external daylight conditions to increase focus and overall wellbeing.

### Circadian control

#### Human centric lighting.

Matches daylight cycles of brightness and colour for improved wellbeing



All these features are built in as standard to the Control<sup>3</sup> system without additional costs or subscriptions for added features. All processing takes place locally on the lighting controller and does not rely on internet access or cloud servers.

### Smart circulation

#### Safer workspaces.

Puts a bubble of light around building users so they never enter unlit circulation spaces



### Time clocks

#### Right light, right time.

Change light functions over time, prevent light pollution, remove night-time glare shock



### AV Integration

#### Professional presentations.

Seamless AV system integration for customer presentations without costly hardware

# System Overview

Our lighting control panels are supplied fully assembled and tested, ready for installation. Only power and DALI wiring connection are required.

Control<sup>3</sup> is a modular, expandable system allowing up to eight DALI 'Slices' per lighting controller for a maximum of 512 luminaires and 128 sensors/switch inputs per panel.

Panels supplied with fewer than eight DALI slices can be easily upgraded by adding additional slices onto the DIN rail. This can be done without wiring or specialist skills.

## System Limits & Requirements

- Max 8 DALI Circuits per controller
- Max 64 DALI Addresses per DALI circuit
- Max 16 Sensors/Switches per DALI circuit
- Max 210mA Load per DALI circuit
- Max 300m DALI circuit length

Requires 1.5mm<sup>2</sup> mains rated pair for DALI circuit



**System power supply**  
24V DC low voltage power supply runs the controller, DALI slices and Ethernet switch.

**Circuit Test Module**  
Connect to DALI circuits before connection to main controller. Flashes lights to prove circuit continuity.

## Typical Ordering Information

Article No.	Description
97-C3-ENC8	Fully populated Control3 system 8 DALI Circuits
97-C3-ENC1 - 7	Control 3 system with 1 - 7 DALI Circuits
... + SW	With Internal network switch
... + BMS-BN	With BMS software upgrade for BACnet
... + BMS-TR	With BMS Software upgrade for Trend

## Replacement Components



97-LIGO-V2

Control<sup>3</sup> Central processor networked lighting controller for 1-8 DALI Circuits

Max 8 DALI Slices



97-SCI-V2

DALI Slice provides comms and BUS power to DALI circuit.

Max 210mA  
Max 64 Luminaires  
Max 16 Sensors/Switches



97-LT-DALI-PS

DALI Power supply with integrated circuit test function



97-SW-005

24V DC DIN rail mounted 5 port Ethernet switch 10/100MBS





**4 x Digital I/O**  
For connection of  
3rd party input /  
output devices

#### 5 Port Ethernet switch

Allows networking of lighting controllers by simple daisy chaining without the need for centrally positioned external network infrastructure.

#### Control³ CPU

lighting controller with integrated commissioning and control software.

#### DALI Slice

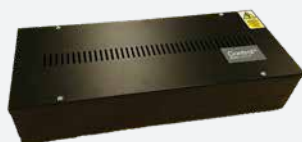
210mA DALI power supply and control interface. Connect up to 64 DALI luminaires and 16 Sensors/ Switches



97-HDR-100-24

24V DC DIN rail mounted  
low voltage power supply.

Max 100VA



97-C3-ENC

Unpopulated lighting control  
panel enclosure

## Lighting Control Components

### DALI Input Devices



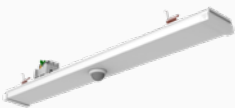
**PD2N-BMS-FC-DALI-2**  
Medium range recessed DALI-2 multisensor featuring PIR movement detection and light level sensing

Part Number	97-93543
DALI Power Consumption	7mA



**PD2N-BMS-FM-DALI-2**  
Medium range surface mounted DALI-2 multisensor featuring PIR movement detection and light level sensing

Part Number	97-93544
DALI Power Consumption	7mA



**VLMF-SEN-PICO-DALI-2**  
Medium range recessed DALI-2 multisensor featuring PIR movement detection and light level sensing. For use on LINIA

Part Number	97-93543
DALI Power Consumption	7mA



**EXT-DALI-SEN**  
DALI daylight sensor. IP65 for use on external areas.

Part Number	97-93544
DALI Power Consumption	10mA



**DALI-2-MC**  
Switch input for up to four momentary switches. Freely configurable input functions.

Part Number	97-DALI2MC
DALI Power Consumption	6mA



**DALI-125**  
Seven button DALI scene plate. Four scenes, raise lower and off.

Part Number	97-125-202
DALI Power Consumption	15mA
DALI Addresses	1

## DALI Output Devices



**DALI-RM-472**  
Single Channel relay for switching non DALI loads. In-line case with cable strain relief.

Part Number	97-492
DALI Power Consumption	2mA
DALI Addresses	1
Switching Channels	1
Max Switching Load	16A



**DALI-RM-498**  
Eight Channel relay for switching non DALI loads. DIN rail mounting.

Part Number	97-498
DALI Power Consumption	2mA
DALI Addresses	8
Switching Channels	8
Max Switching Load	8x16A



**DALI-RM-494**  
Four Channel relay for switching non DALI loads. DIN rail mounting.

Part Number	97-494
DALI Power Consumption	2mA
DALI Addresses	4
Switching Channels	4
Max Switching Load	4x16A



**DALI-PD-452**  
1000W universal dimmer. For dimming most common load types. Leading or trailing edge dimming. Din rail mounted.

Part Number	97-452
DALI Power Consumption	2mA
DALI Addresses	1
Dimming Channels	1
Max Switching Load	4.4A



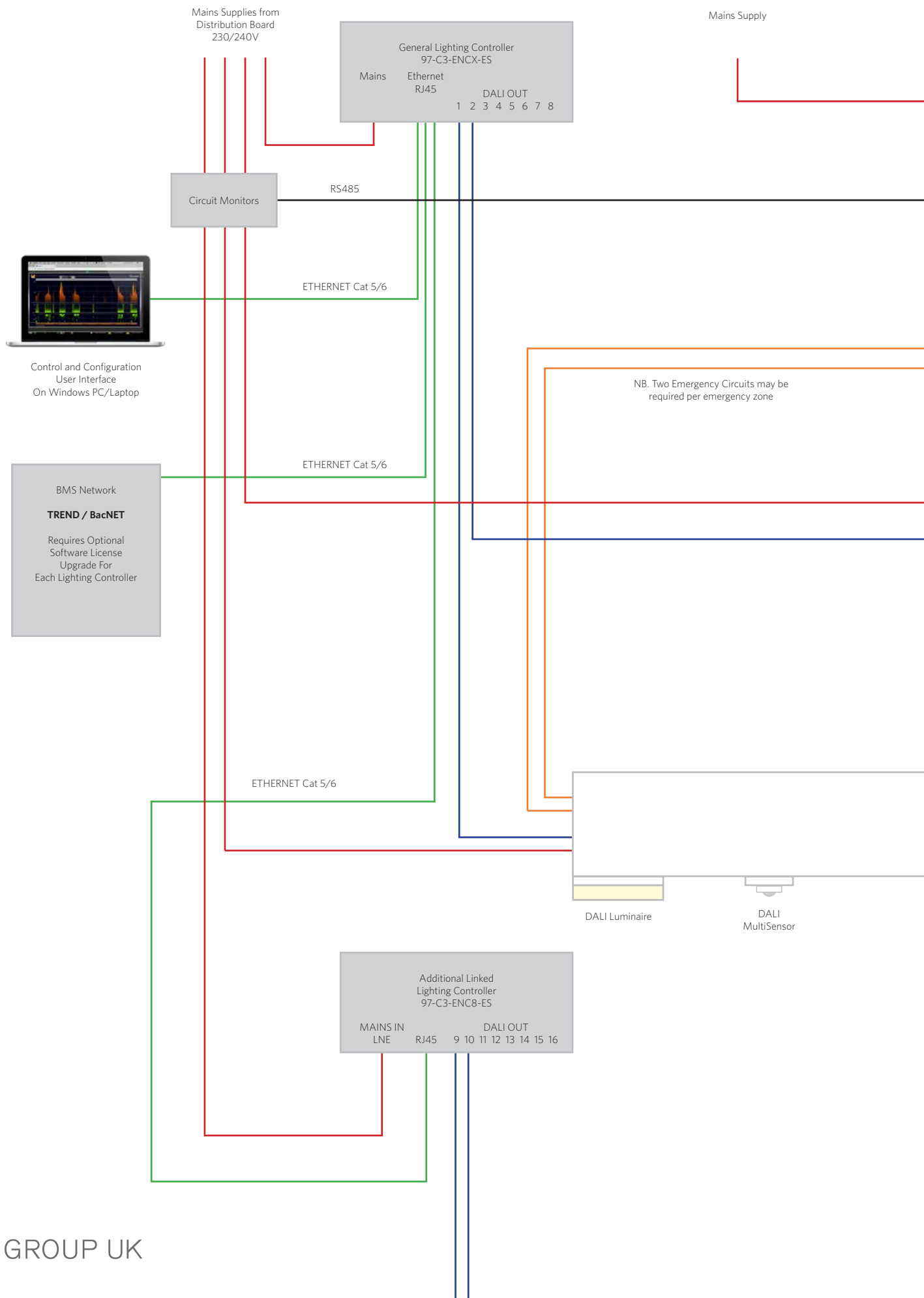
**DALI-1-10/DSI**  
1-10V / DSI Converter. Connect and dim analogue or legacy digital dimmable ballasts. Integral 16A relay for analogue dimming. DIN rail mounting.

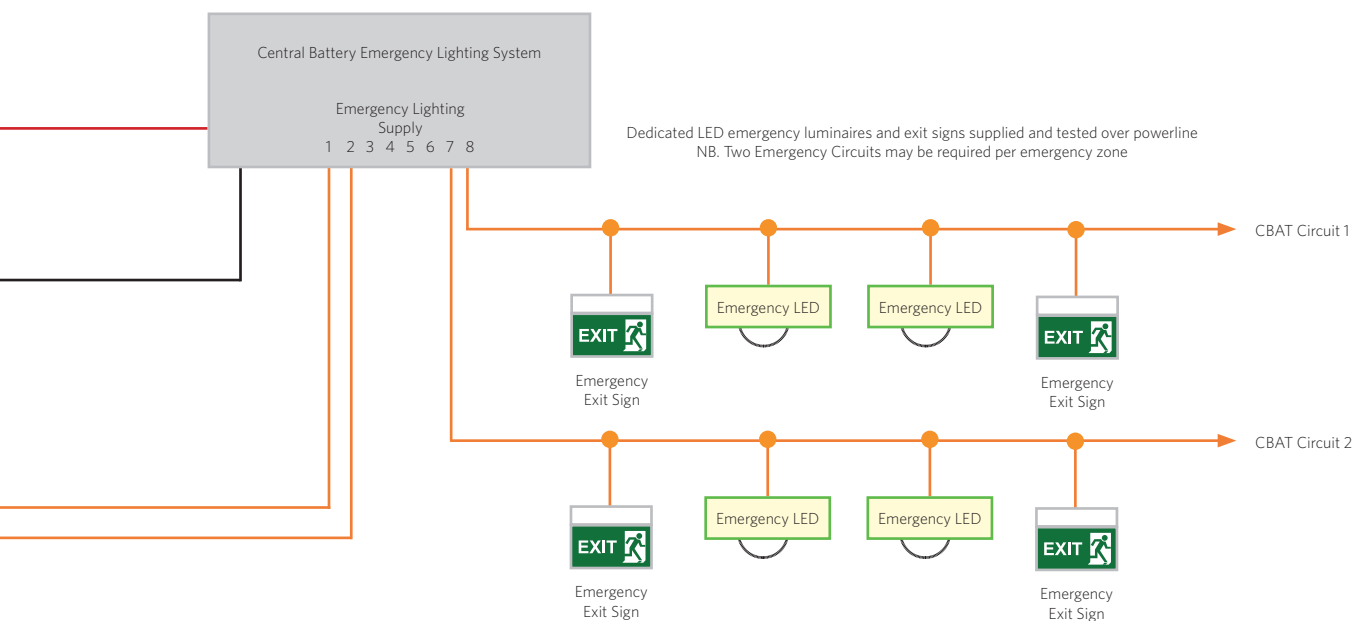
Part Number	97-472
DALI Power Consumption	2mA
DALI Addresses	1
Dimming Channels	1
Max Switching Load	16A
Max DSI Ballasts	50
Max 1-10V Ballasts	16



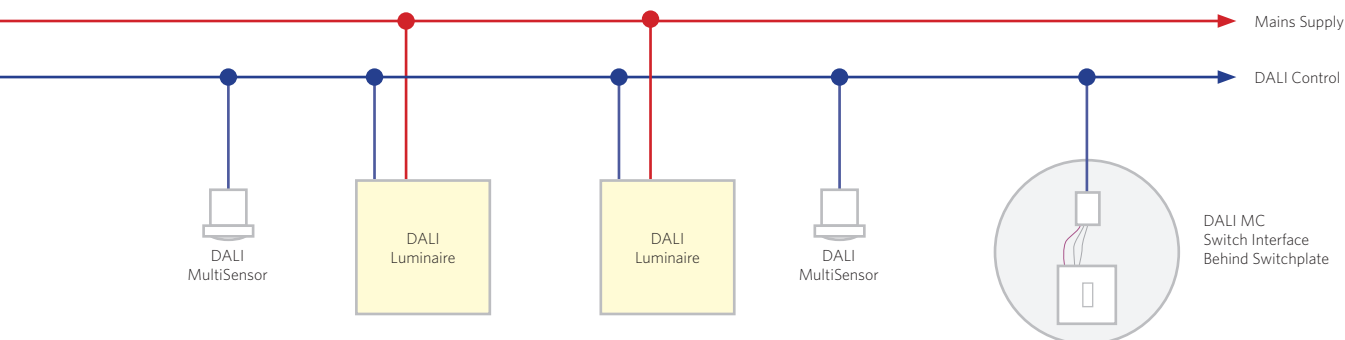
# Typical Lighting Control Schematic

DALI Lighting Control: Central Battery Testing over Powerline

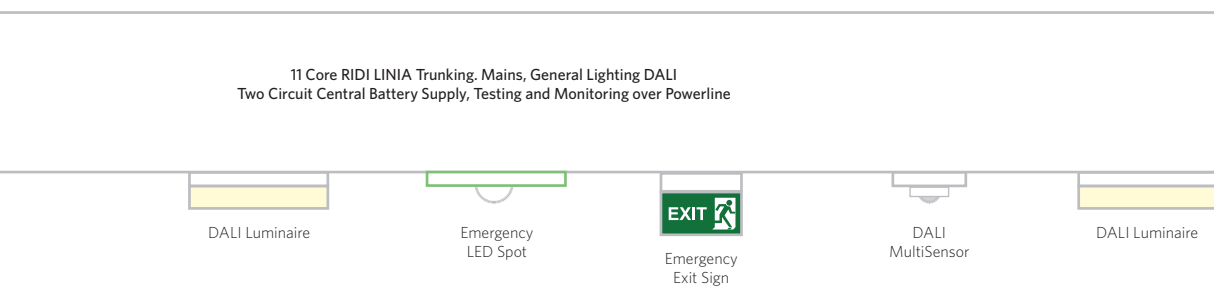




**General Lighting DALI:** A Mixture of Luminaires, Sensors and Switches May be connected to this DALI circuit



NB. Two Emergency Circuits may be required per emergency zone



- RS485 CBAT Comms
- AC Normal main supply
- DALI Lighting Control Comms
- DC Central battery lighting supply

## Typical Lighting Control Strategies

Area	Control Strategy	Timeout (mins)	Sensors	Switches
<b>DC Cold Aisles</b>	Lights are brought on when motion is detected, dim to a minimum level once the area is vacant and then off after a further period without occupancy.	20 + 5	✓	✗
<b>DC Hot Aisles</b>	Lights are brought on when motion is detected, dim to a minimum level once the area is vacant and then off after a further period without occupancy.	20 + 5	✓	✗
<b>DC Circulation</b>	Lights are brought on using a wall switch. Lights remain on while the area is occupied, dim to a minimum level once the area is vacant and then off after a further period without occupancy. Lights in this area are held on if adjacent hot/cold aisles are occupied.	20 + 5	✓	✓
<b>Corridors</b>	Lights are brought on when motion is detected, dim to a minimum level once the area is vacant and then off after a further period without occupancy. Corridor lights are held on when adjacent corridors or rooms are occupied.	10 + 5	✓	✗
<b>Stairwells</b>	Lights are brought on when motion is detected, dim to a minimum level once the area is vacant and then off after a further period without occupancy. Stairwell lights are held on when adjacent corridors are occupied.	10+ 5	✓	✗
<b>Plant Rooms</b>	Lights are switched manually with wall mounted switches. Lights remain on until manually turned off.	N/A	✗	✓
<b>Bathrooms &amp; WCs</b>	Lights are brought on when motion is detected, dim to a minimum level once the area is vacant and then off after a further period without occupancy.	15 + 5	✓	✗
<b>FM Offices</b>	Lights are brought on using a wall switch. Lights remain on while the area is occupied, dim to a minimum level once the area is vacant and then off after a further period without occupancy. Lights dim to compensate for available daylight. Manual dimming override via momentary rocker wall switch.	20 + 5	✓	✓
<b>Reception</b>	Lights are brought on during working hours and dim to compensate for available daylight. Out of hours lights remain at a low level until movement is detected and then raise to full working level, falling back to low level when unoccupied.	20	✓	✗
<b>Security</b>	Lights are switched manually with wall mounted switches. Lights remain on until manually turned off. Manual dimming override via momentary rocker wall switch.	N/A	✗	✓
<b>Client Offices</b>	Lights are brought on using a scene plate. Lights remain on while the area is occupied, dim to a minimum level once the area is vacant and then off after a further period without occupancy. Lights dim to compensate for available daylight. Manual dimming override and scene selection via scene plate.	20 + 5	✓	✓



Area	Control Strategy	Timeout (mins)	Sensors	Switches
<b>External Wall Lights</b>	Lights switch on at dusk and remain lit until dawn. Between quiet hours, lights are dimmed to a reduced level. Light level measured by a single roof mounted daylight sensor.	N/A	✓	✗
<b>Roof Lights</b>	Lights may be illuminated after dusk by means of a wall mounted switch. Lights automatically switch off at dawn or may be switched off manually via the wall switch. Light level measured by a single roof mounted daylight sensor.	N/A	✓	✗
<b>Terrain / Car Park Lighting</b>	Lights switch on at dusk and remain lit until dawn. Between quiet hours, lights are dimmed to a reduced level. Light level measured by a single roof mounted daylight sensor.	N/A	✓	✗

## System Configuration

### Controls Commissioning

RIDI Group UK provide a comprehensive lighting controls commissioning service throughout the UK and Europe. Our commissioning engineers have extensive experience with our lighting control systems in addition to general electrical knowledge, allowing them to offer assistance with fault finding and troubleshooting.

We offer the following services for our lighting control systems.

#### On Site pre-install Toolbox Talks

Ensuring your electrical installers are fully up to speed with how to install and wire both the lighting control and BusBar trunking systems.

#### Pre-Commissioning Checks

Either on site or remotely, we will check that all DALI devices expected on the system are all visible and offer assistance in wiring/fault finding should anything be missing.

#### Commissioning

Our engineers will address and group each DALI luminaire and devices, group them into switching groups and program the relevant control strategy for each area. They will produce marked up drawings showing the unique address for each device.

#### Training

We offer training sessions for FM staff to enable them to make modifications and adjustments to the lighting control system as well as learning how to locate and replace faulty luminaires. This can be on site or via a remote video session.

### BMS integration

As part of the commissioning process our engineers will configure the lighting groups for BMS use, with either BACnet or Trend over IP. Each lighting group (room) appears as a separate outstation to the BMS with a number of data points available.

It is the responsibility of your BMS integrator to incorporate the required data points into the BMS UI/UX.

The following points are available for each lighting group.

Sensors Analogue Read Only	Inputs Digital Read Only	Knobs Read / Write
<ul style="list-style-type: none"> <li>Output Level</li> <li>Lux Level</li> <li>Lux Setpoint</li> <li>Button State</li> <li>No. Failures</li> </ul>	<ul style="list-style-type: none"> <li>PIR State</li> <li>Partition Status</li> <li>Common Fault</li> <li>Lamps Energised</li> <li>EM Test Running</li> <li>EM Test Fail</li> <li>I/O PIR State</li> <li>Partition State</li> </ul>	<ul style="list-style-type: none"> <li>Lux Setpoint</li> <li>Min Level</li> <li>Max Level</li> <li>Current Scene</li> <li>Time Period</li> <li>Manual Level</li> <li>Auto/Hand/Off</li> <li>PIR On Time</li> <li>PIR Min Timer</li> </ul>

## Central Battery Emergency Lighting Multicontrol Plus

Universal central power supply system to EN 62034, which can be equipped with up to 96 freely programmable circuits in a service friendly 19" rack system.

The automatic integrated test equipment allows for the supply, monitoring and management of up to 1920 luminaires per system. A built in web interface allows the programming and visualisation of all connected emergency lighting luminaires on floor plan layouts.\*1

Up to 32 additional substations, each with up to 96 emergency circuits can be linked to the main Multicontrol Plus unit for seamless control and visualisation of nearly 64,000 emergency lighting devices.

Multicontrol Plus is available in a variety of form factors, including free standing and wall mounted versions. Batteries can be mounted within enclosures or on dedicated exposed racking.



\*1 - Monitoring of compatible emergency luminaires or converted mains luminaires via Powerline communications.

### Key Features

#### System Data

##### DC Central Power

216VDC supply allowing standard luminaires to run in reduced output emergency mode

##### High Power Capacity

Up to 27,000W Supply across 96 circuits on the largest units

##### Expansive Network

Connect 1920 self testing luminaires per unit, seamlessly visualise up to 64,000 devices across a Multicontrol Plus network

#### Maintenance and Monitoring

##### Automatic Testing

Automated testing to EN50171 using either dedicated LED heads, luminaire modules or over DALI in conjunction with Control<sup>3</sup>

##### Electronic Test Book

Records results of emergency lighting tests over a period of > 5 years

##### Batt-Log<sup>®</sup>

Optional feature for monitoring of individual battery modules for voltage and temperature



Multicontrol plus monitors the general lighting circuits and should any circuit fail it will switch on the designated luminaires in that area by means of either luminaire integrated change over modules, or by disconnecting the DALI control signals at the lighting controller.

In the case of a single circuit failure the central supply will pass AC mains supply to the emergency luminaires. Should the supply to the central supply fail, DC power from the batteries is fed to the emergency luminaires to maintain the lighting within the area at a reduced level.



RP group are our partners for central battery emergency lighting systems. Founded in 1981, RP Technik develops and manufactures emergency lighting systems in Rodgau, near Frankfurt am Main, Germany.

In common with RIDI Group, RP Group is a family owned business which holds 53 patents and had a turnover of around 60m Euros in 2023.

RP Technik is certified to ISO9001:2015, ISO 140001:2015, ISO 4500:2018 and ISO 50001:2011. A large number of products are certified by TÜV Rheinland.

#### LINIA BusBar integration

#### Two dedicated EM circuits

LINIA BusBar includes two dedicated central battery emergency lighting circuits.

#### Use of standard luminaires

LINIA DALI luminaires may be used as emergency lighting devices in DC mode, automatically reducing their output in a loss of power situation

#### Dedicated LED modules

Low power LED modules plug in directly to the BusBar trunking

#### Optional Control<sup>3</sup> Integration

#### Isolation of DALI Controls

DALI circuits are automatically isolated from the lighting controls in a loss of power situation

#### Monitors non emergency DALI luminaires

Control3 automatically monitors DALI luminaires during an emergency lighting test and logs and reports any faults or failures.



## Central Power System Enclosures

Central power supply enclosures in a range of sizes, either wall mounted or free-standing, with a maximum circuit limit ranging between 48 and 96 battery backed circuits. Available as versions with internal battery compartments or for remote battery cabinets.



Range	MCW	MCK
Cabinet Mounting	Wall Mounted	Floor Tower / Wall Mounted
Dimensions H W D (mm)	900 x 600 x 450	1000 x 600 x 400
Max Circuits	48	36
Max Supply Load	21,600 W	16,200W
Internal Battery Compartment	✗	✓ ≤17ah

## Substations

Extend the central power system across fire zones or floors, while keeping the batteries at the main unit. The CPS substations area available in two sizes with up to 96 battery backed lighting circuits. Wall mounted or free-standing.



Range	UCW 012-24	UCW 036-096
Cabinet Mounting	Wall Mounted	Floor Tower / Wall Mounted
Dimensions H W D (mm)	550 x 600 x 450	900 x 600 x 400
Max Circuits	24	96



MCG	MCS	MCX
Floor Tower	Floor Tower	Floor Tower
1500 x 600 x 450	1800 x 600 x 450	1850 x 800 x 600
48	96	60
21,600W	43,200W	27,000W
✓ ≤45ah	✗	✓ ≤45ah

## Central Power Systems Accessories



**SAM-24**  
Remote circuit monitoring unit for 8 lighting circuits with RS485 comms.



**PC-230**  
Isolating relay module for central disconnection of DALI control circuits.



**MU05**  
Addressable luminaire monitoring module.



**DCM XX**  
Plug in circuit module with two separately fused circuits. 500 - 2600W



**MC-BMS**  
Building management system gateway.



**MCT15**  
Remote status display panel for Multicontrol plus system.

## Automatic Testing and Monitoring

Regular testing and logging of the emergency lighting system is required to ensure a safe and compliant system.

The Multicontrol Plus central power system offers two options for automatic testing. Addressable individual luminaire monitoring over powerline communications or circuit load monitoring. When used in conjunction with the Control3 lighting control system, it is possible to locate faults with individual luminaires.



MU05 addressable luminaire module

### Luminaire Monitoring over Power-line

Standard mains, DALI or dedicated standalone emergency LED luminaires are connected to the central power system. Each luminaire is equipped with a powerline communications module allowing individual monitoring of the luminaires over the supply cables.

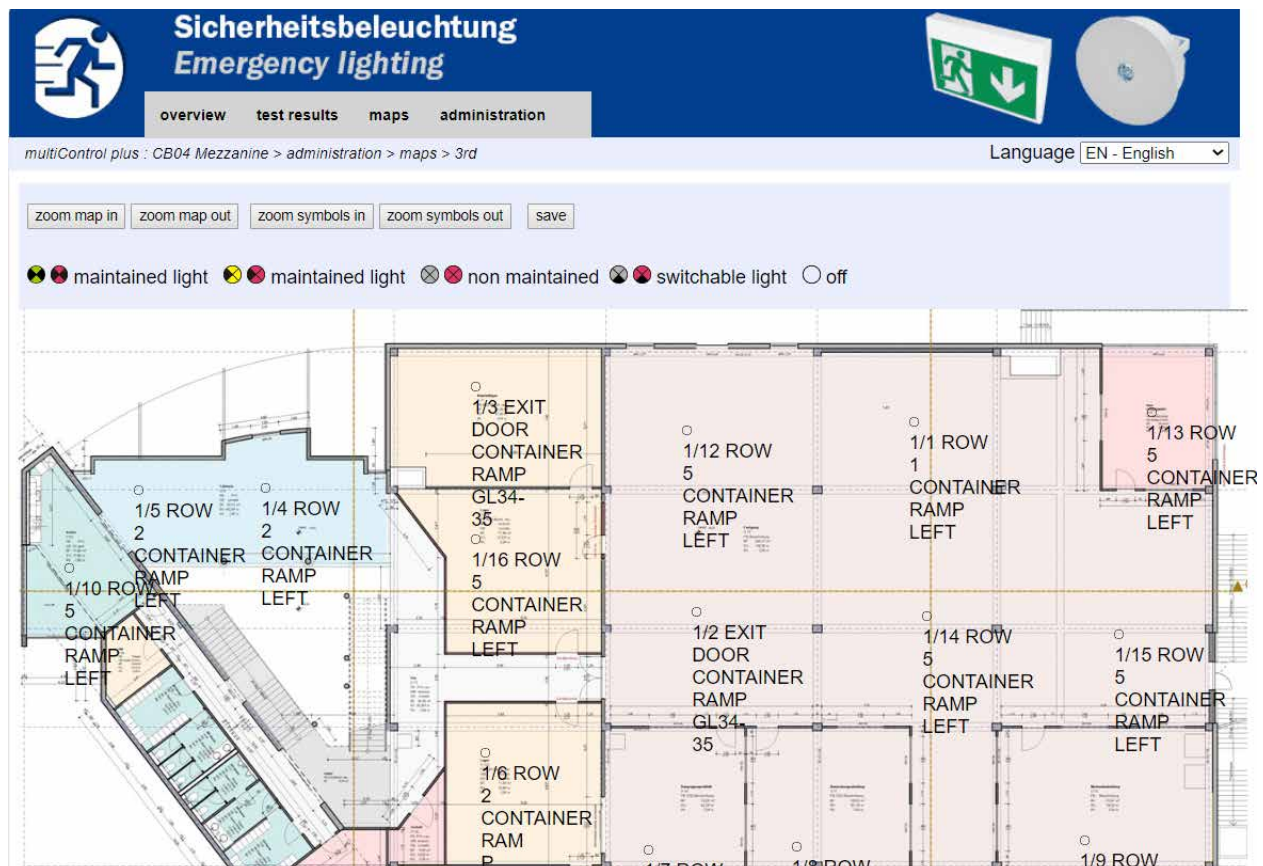
In this case luminaires of different loads may be freely mixed on the emergency lighting circuit.

Test results for monthly function tests and yearly duration tests are stored on-board the central battery system in the electronic test book with sufficient capacity for >5 years of test results.

The location of individual luminaire faults can be indicated on building floor plans using the in-built web based GUI.



Dedicated escape route luminaires





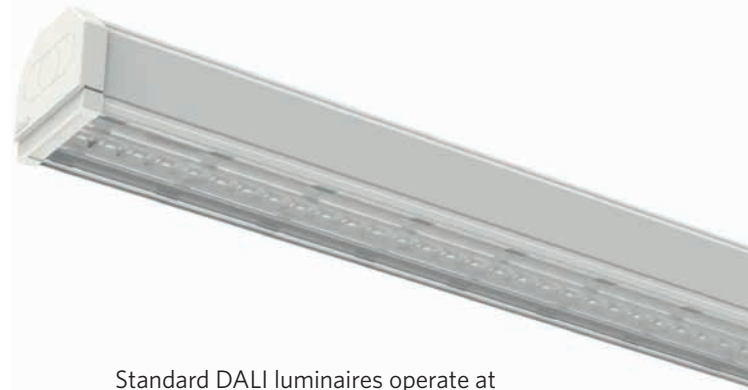
## Circuit Monitoring + Fault Location over DALI

Standard mains or DALI luminaires with DC compatible drivers are connected to the central battery supply. Circuit load is measured during system commissioning and this value is used as a reference during emergency lighting tests. A reduction in load indicates a fault with an emergency luminaire which is flagged by the system. The fault can be narrowed down to a single circuit to aid in the location of the fault.

It is not possible to determine luminaire faults to a single location. Luminaires of similar load should be grouped together on circuits as small changes in load may not be detected

When used in conjunction with the Control3 DALI lighting control system, it is possible to determine the location of luminaire faults on the emergency lighting system. Control3 constantly polls the status of all connected devices and can be configured to send notifications as soon as a fault is detected. It is therefore possible to detect faults with individual emergency luminaires before they are revealed on the monthly function test or yearly duration test.

Notifications of faults requires the Control3 network to have access to a SMTP mail server either on the local network or internet.



Standard DALI luminaires operate at reduced output in DC mode

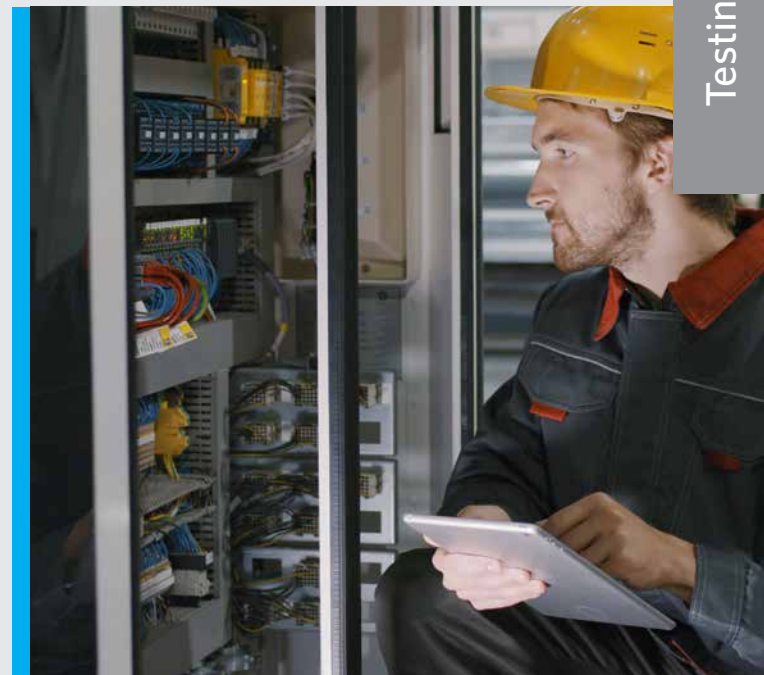


Control3 PC interface provides details of faulty luminaires on the DALI system

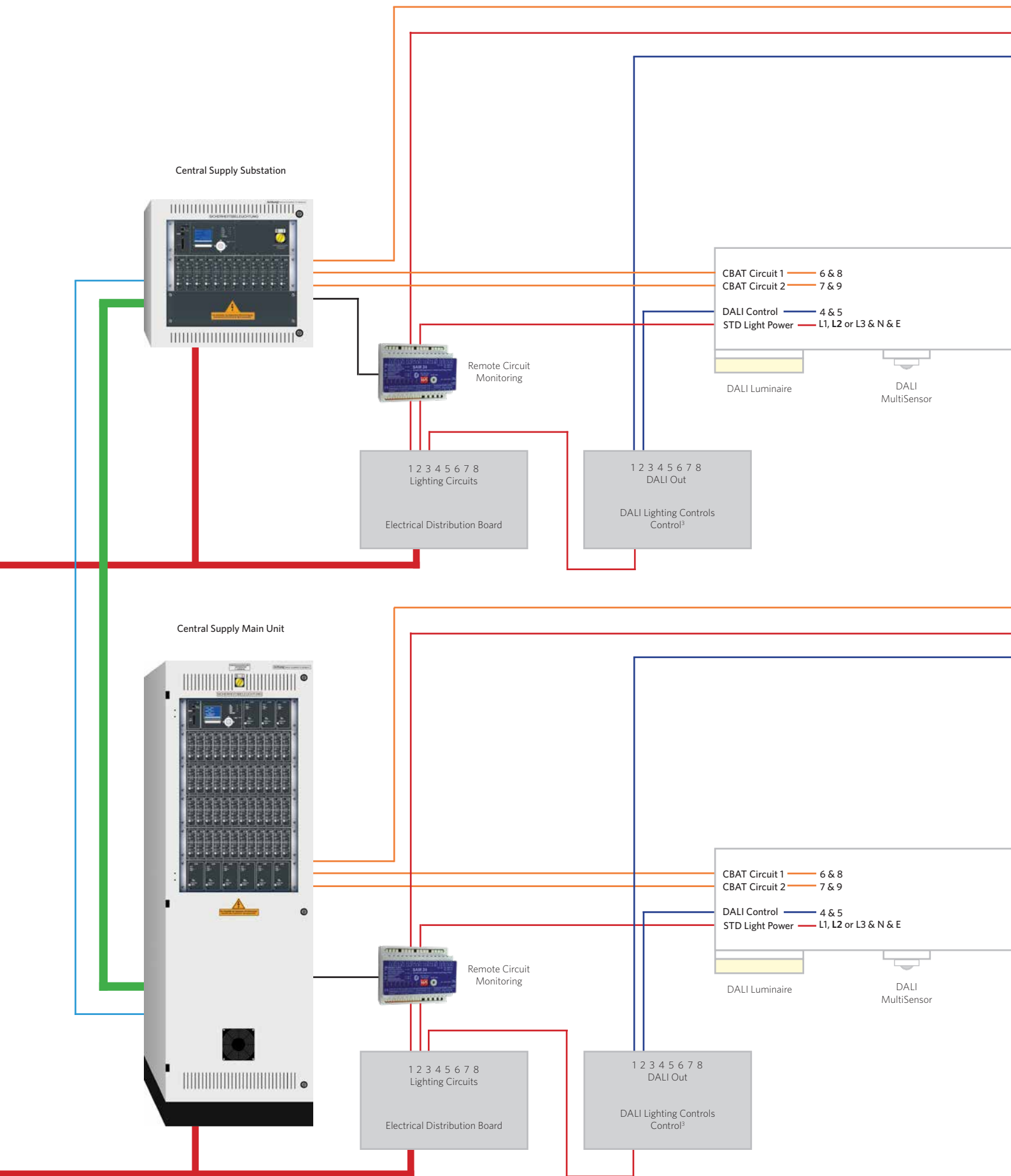
## System Configuration and Setup

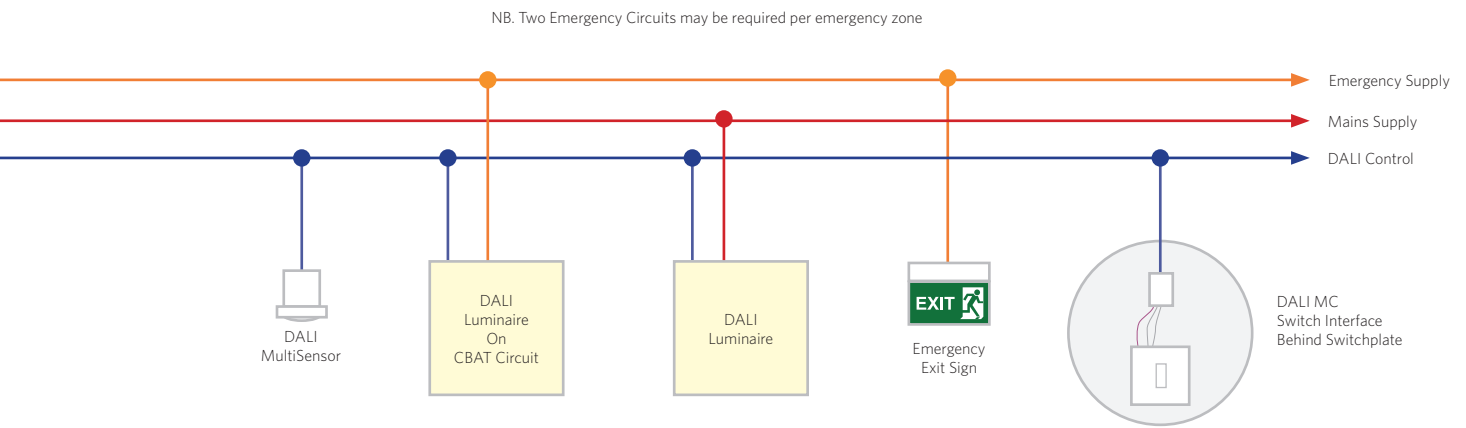
Once installation is complete, the central supply system is tested and configured on site. Our engineers will perform the final connection of the DC battery array and, test and characterise each DC circuit and configure the system for automatic testing to BS-EN-5266.

We have a team of engineers across the UK and Europe to ensure your project is delivered in a timely and compliant manner.

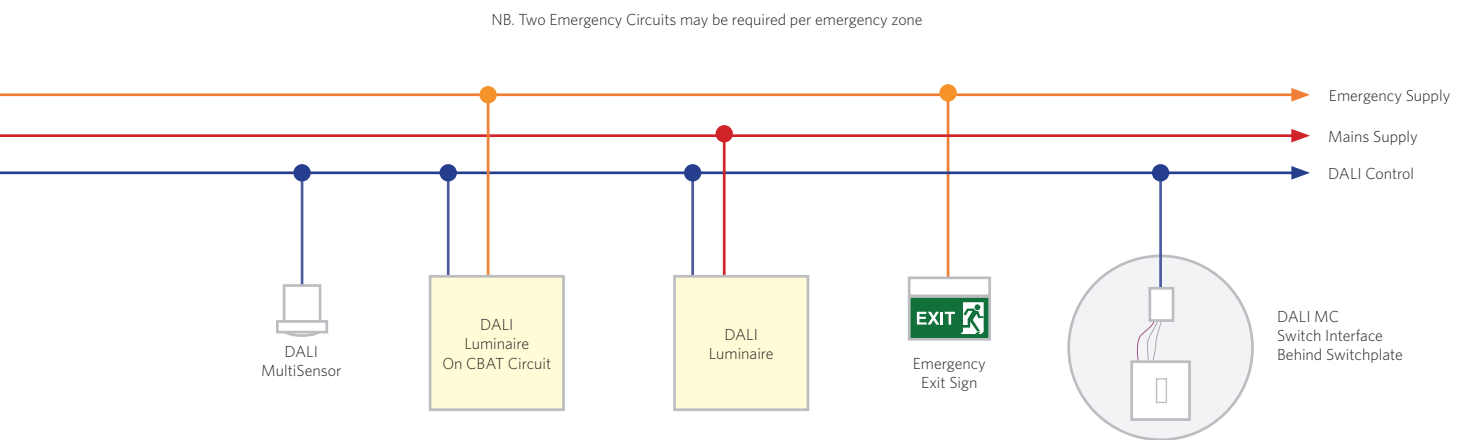


Typical Schematics  
Testing over powerline





11 Core RIDI LINIA Trunking. Mains, General Lighting DALI  
Two Circuit Central Battery Supply, Testing and Monitoring over Powerline



11 Core RIDI LINIA Trunking. Mains, General Lighting DALI  
Two Circuit Central Battery Supply, Testing and Monitoring over Powerline



- Ethernet
- AC Normal main supply
- DALI Lighting Control Comms
- DC Central battery lighting supply
- RS485 Central supply Comms
- DC Battery Cabling



## Circuit Monitoring + DALI Fault Location

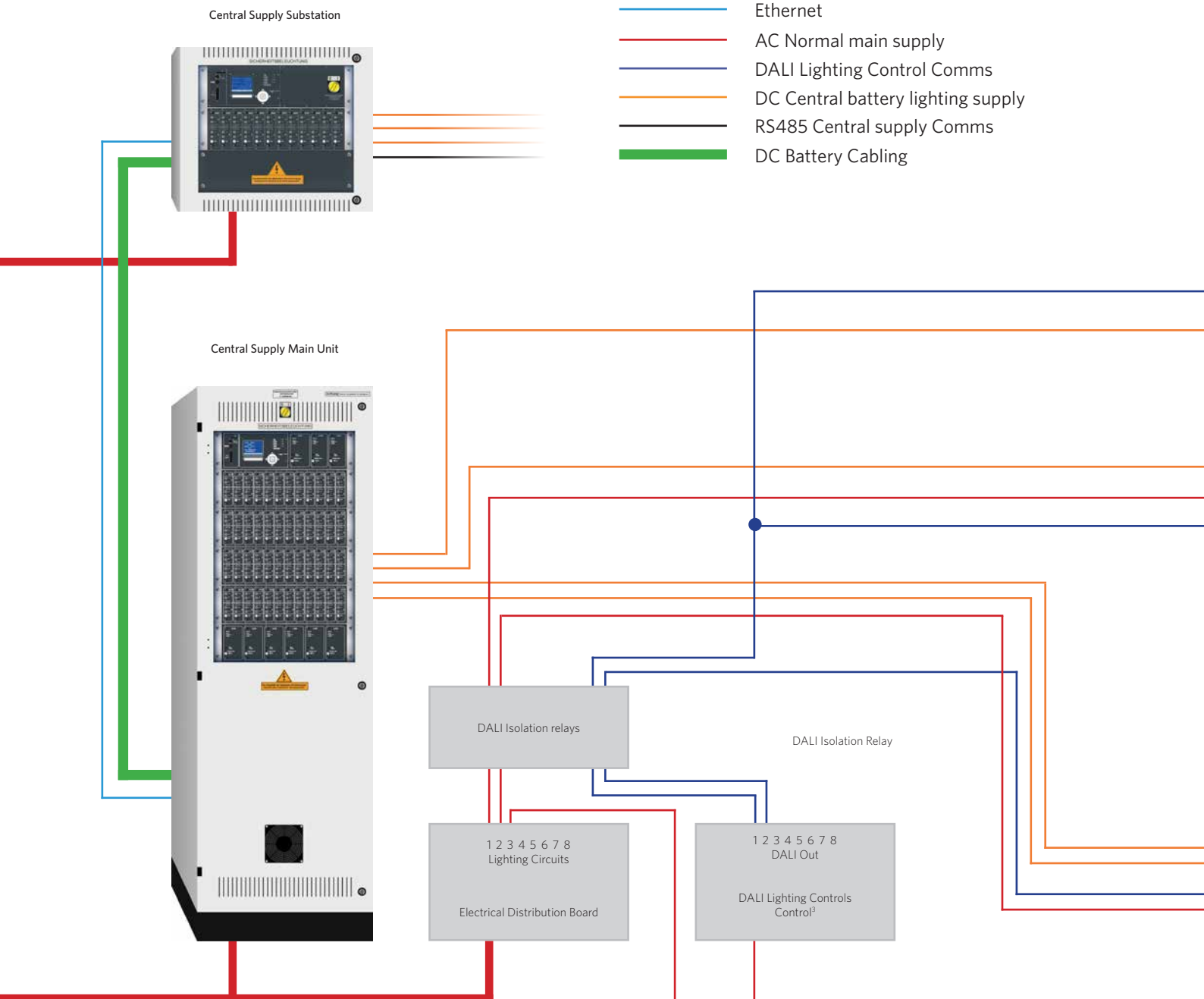
Emergency luminaires on the central power system are tested by means of circuit monitoring. The known good load of the CBAT circuit is compared to the tested load. Deviation from the known load value, due to luminaire or circuit fault, is flagged as a test failure for further investigation.

The DALI Control<sup>3</sup> system constantly monitors the status of all connected devices for faults such as LED board failures, driver faults or wiring disconnections. The Control<sup>3</sup> system can locate problems to the individual device level making location and correction of device or wiring faults much easier.

During a local lighting circuit failure the DALI isolation relays disconnect the DALI control signal from the luminaires in the affected area. Disconnected luminaires switch to a programmable 'DALI fault' level and cannot be overridden by sensors, switches or timers.

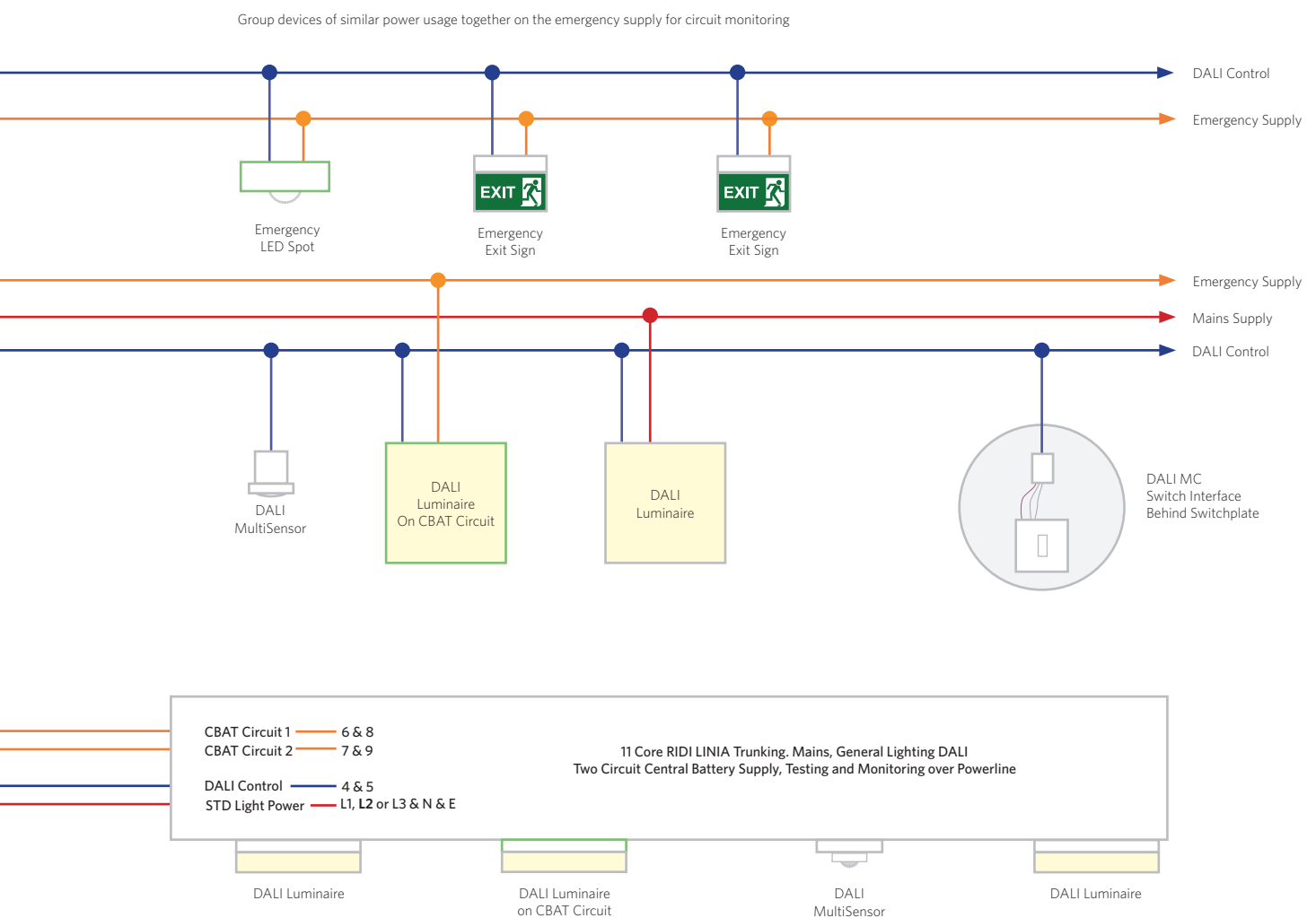
When the local lighting circuit fault is resolved, the DALI signal is re-connected and the lighting controls resume normal operation.

DALI fault location offers most of the benefits of powerline monitoring but without the requirement for an addressable powerline module in each luminaire.



## Powerline monitoring vs Circuit Monitoring with DALI fault location

Feature	Powerline Monitoring	Circuit Monitoring + DALI Fault Location
Monitoring	Individual Luminaire Monitoring	Circuit Monitored
Fault Finding	Integral to Central power system	Faults indicated on DALI controls
Comms Wiring	Communications over DC cables	Shared with DALI controls
Luminaire requirements	Requires MU05 module	Standard DALI luminaire
Circuit Mixing	Any luminaire on any circuit	Similar load luminaires per circuit
Controls Isolation	Handled by MU05 module	Requires DALI isolation relays
Cost	Higher overall cost	Lower overall cost if using Control <sup>3</sup>



## Central battery emergency luminaires

### Dedicated LED Area Illumination

#### ILD..

LED safety luminaire for use with central battery system Multicontrol plus. Integral powerline monitoring and testing. Supplied with flexi click lenses for escape corridor and anti panic open area lenses, other lens options are available. Surface mounted.



Article No.	Description Code	Size (Ø x h mm)	Lumen Output	Optic type
97-ILDLO29ML	LED safety light for CBAT White	100 x 36	360	Corridor & Open
97-ILDLO29ML-SW	LED safety light for CBAT Black	100 x 36	360	Corridor & Open



#### ILEL..

LED safety luminaire for use with central battery system Multicontrol plus. Integral powerline monitoring and testing. Supplied with flexi click lenses for escape corridor and anti panic open area lenses, other lens options are available. Recessed mounted.



Article No.	Description Code	Size (Ø x h mm)	Lumen Output	Optic type
97-ILDLO29ML	LED safety light for CBAT White	122 x 80	360	Corridor & Open
97-ILDLO29ML-SW	LED safety light for CBAT Black	122 x 80	360	Corridor & Open



#### VLMF-DOE

LED safety luminaire for use with central battery system Multicontrol plus. Integral powerline monitoring and testing. Corridor optic. for use on LINIA BusBar lighting trunking.



Article No.	Description Code	Size (Ø x h mm)	Lumen Output	Optic type
97-VLMF-DOE029ML	LED safety light for CBAT	100 x 36	360	Corridor



## Exit Signs

### PMW..

LED Emergency exit sign. for use with central battery system Multicontrol plus. Integral powerline monitoring and testing. Ceiling or wall mounting versions. With complete set of legends.



Article No.	Description	H x W x D (mm)	Testing type
97-PMW009ML	Wall mount exit sign	236 x 136 x 65	Powerline



### PMD...

IP Rated LED Emergency exit sign. For use with central battery system Multicontrol plus. Integral powerline monitoring and testing. Ceiling mounting versions. With complete set of legends.



Article No.	Description	H x W x D (mm)	Testing type
97-PMD009ML	Double sided ceiling mount exit sign	236 x 136 x 168	Powerline



### KSU

Universal Emergency exit sign. For use with central battery system Multicontrol plus. Integral powerline monitoring and testing. Wall, surface ceiling, recessed ceiling, pendant and flag mounting in one unit. With complete set of legends.

Article No.	Description	H x W x D (mm)	Testing type
97-KSU019ML	Universal exit sign	250 x 174 x 34	Powerline
97-KME-EB	Recessing kit		
97-AWKSU	Flag mount kit		
97-2PW-EB	Suspension Wires		
97-KMBE	Plaster in box		
97-MB-WS	White metal recessing kit		
97-MB-SI	Silver metal recessing kit		



97-KME-EB



97-AWKSU



97-2PW-EB



97-KMBE



97-KSE-MB-WS



97-KSE-MB-SI



## A Series Exit Signs

German Design Award winning range of LED exit signs for use with Multicontrol Plus central battery system. Available in three sizes (I) for 15m viewing distance, (M) for 22m viewing distance and (X) for 30m viewing distance.

Integral powerline monitoring and testing module. Metal edge design in a wide range of mounting types. With complete set of legends.

### A .. E

Recessed mounting with circular cut-out.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AIE009ML	Compact recessed mount exit sign	167 x 125 x 92	15	Powerline
97-AME009ML	Medium recessed mount exit sign	236 x 194 x 92	22	Powerline
97-AXE009ML	Medium recessed mount exit sign	312 x 194 x 79	30	Powerline



### A .. EP

Recessed mounting pendant.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AIEP009ML	Compact pendant mount exit sign	167 x 259 x 92	15	Powerline
97-AMEP009ML	Medium pendant mount exit sign	236 x 291 x 92	22	Powerline
97-AXEP009ML	Large pendant mount exit sign	312 x 204 x 92	30	Powerline



### A .. R

Wall recessed mounting.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AIR009ML	Compact wall recessed exit sign	167 x 118 x 58	15	Powerline
97-AMR009ML	Medium wall recessed exit sign	236 x 151 x 79	22	Powerline
97-AXR009ML	Large wall recessed exit sign	312 x 238 x 80	30	Powerline
97-AGR009ML	Very large wall recessed exit sign	517 x 296 x 73	50	Powerline



### A .. W

Wall surface mounting.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AIW009ML	Compact wall mount exit sign	193 x 120 x 55	15	Powerline
97-AMW009ML	Medium wall mount exit sign	236 x 151 x 50	22	Powerline
97-AXW009ML	Large wall mount exit sign	312 x 194 x 50	30	Powerline
97-AGW009ML	Very large wall mount exit sign	517 x 296 x 51	50	Powerline



## A .. D

Ceiling surface mounting.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMD009ML	Medium ceiling mount exit sign	236 x 186 x 80	22	Powerline
97-AXD009ML	Large ceiling mount exit sign	312 x 230 x 80	30	Powerline
97-AGD009ML	Very large ceiling mount exit sign	517 x 330 x 80	50	Powerline



## A .. C

Ceiling recessed mounting.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMC009ML	Medium ceiling recessed exit sign	236 x 214 x 80	22	Powerline
97-AXC009ML	Large ceiling recessed exit sign	312 x 181 x 80	30	Powerline
97-AGC009ML	Very large ceiling recessed exit sign	512 x 301 x 79	50	Powerline



## A .. CC

Ceiling recessed with cord suspension.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMCC009ML	Medium recessed pendant exit sign	236 x 165 x 79	22	Powerline
97-AXCC009ML	Large recessed pendant exit sign	312 x 181 x 80	30	Powerline
97-AGCC009ML	Very large recessed pendant exit sign	517 x 330 x 80	50	Powerline



## A .. DC

Ceiling surface mounted with cord suspension.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMDC009ML	Medium surface pendant exit sign	236 x 165 x 79	22	Powerline
97-AXDC009ML	Large surface pendant exit sign	312 x 181 x 80	30	Powerline
97-AGDC009ML	Very large surface pendant exit sign	512 x 338 x 80	50	Powerline



Central Battery

Luminaires

## A .. DT

Ceiling surface mounting with cord suspension and safety light.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMDT009ML	Medium ceiling pendant safety light.	236 x 184 x 80	22	Powerline
97-AXDT009ML	Large ceiling pendant safety light.	312 x 228 x 80	30	Powerline



## A .. CT

Ceiling recessed mounting with cord suspension and safety light.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMCT009ML	Medium ceiling pendant safety light.	236 x 214 x 79	22	Powerline
97-AXCT009ML	Large ceiling pendant safety light.	312 x 181 x 80	30	Powerline



## A .. WT

Wall mounting with safety light.

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-AMWT009ML	Medium wall mount + safety light	241 x 167 x 51	22	Powerline
97-AXWT009ML	Large wall mount + safety light	317 x 211 x 51	30	Powerline



## VLMF-HW-

LINIA BusBar trunking mounted

Article No.	Description	H x W x D (mm)	Viewing distance (m)	Testing type
97-VLMF-HW-11-ML	Medium LINIA mount	500 x 271 x 67	30	Powerline







# RIDI GROUP UK

**RIDI** **Spectral** **lightworks**

RIDI Lighting Ltd

8/9 The Marshgate Centre. Parkway, Harlow Business Park, Harlow, Essex. CM19 5QP

Tel: +44 (1279) 450882 | [www.ridi-group.co.uk](http://www.ridi-group.co.uk) | [info@ridi.co.uk](mailto:info@ridi.co.uk)

© 2023 RIDI Lighting Ltd

Whilst every care has been taken in compiling this guide, errors or misprints may occur.  
We reserve the right to change design and technical details.

25/04/24