



ORBIK

LIGHTING THE WAY



ABOUT ORBIK

Orbik was established in 1982, initially supplying control gear to lighting companies across the UK and quickly developed into a respected manufacturer of high quality lighting and emergency products.

Constant sales growth allowed the company to expand and before long, Orbik became a reputable name across Europe and the Middle East.

Orbik currently employs around 200 people in its purpose built four acre factory in Aldridge in the West Midlands, undertaking state-of-the-art in-house production, precision metal engineering and powder coating facilities.

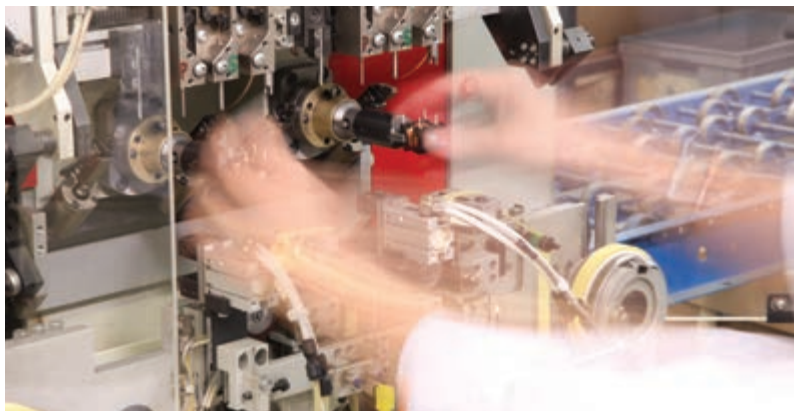


Continual product development created an increased demand for metal work and in 1993 Orbik acquired Metalforms Engineering, a quality highly automated manufacturer of precision sheet metalwork. Metalforms' modern manufacturing site covers 30,000 square feet and includes in-house powder coating and wet spray facilities.

In 2001, SPEL was formed to specifically target the electrical wholesale industry with the supply of emergency lighting products. In 2007 SPEL was fully integrated into the Orbik group and is now a wholly owned subsidiary of the company. This has allowed the Orbik brand to increase its presence in the UK market and has grown to offer a comprehensive range of lighting, fire and safety products.

Orbik have consistently maintained their quality standards and are represented on the technical committees of **BSI**, **ICEL** and the **LIA**. Throughout their history, Orbik have been enthusiastic supporters of improving quality standards within the industry and today has over 300 products approved by BSI, proudly carrying the **Kitemark** symbol.

By identifying and responding to individual customer's specific requirements, Orbik have become the first choice for many leading International lighting companies, UK original equipment manufacturers and electrical wholesalers.



KM31508

FM09128

MISSION STATEMENT

At Orbik, we are dedicated to providing our customers with the highest quality products and services by continually monitoring current market trends.

Through continuous investment in new products, staff development and the latest technology, we are committed to offering a professional business solution to a rapidly expanding and demanding market place.

SETTING STANDARDS



Orbik has a policy of constant product improvement and therefore reserve the right to modify specifications without prior notice. All details and specifications shown within this brochure are deemed correct at the time of print.

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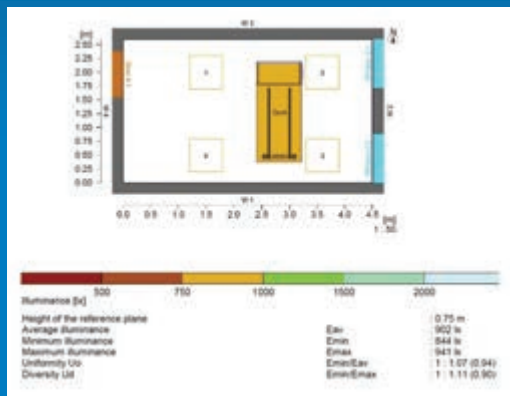
Unless otherwise stated, all of Orbik's emergency luminaires are designed to operate in an ambient temperature of 25°C and are fully compliant with EN60598.2.22 and EN55015. Many of our emergency luminaires and modules are subject to ongoing surveillance testing by BSI and are covered by our Kitemark licences KM31508 and KM21518.



ENERGY AND COST SAVING OPPORTUNITIES USING ORBIK'S LATEST LIGHTING TECHNOLOGY

With business competing in a global market it is becoming increasingly important to take advantage of available technologies that offer short returns on capital investment. Lighting is one of those areas where opportunities present themselves to reduce business overheads whilst offering short payback periods. Recently Orbik carried out its own lighting survey with the sole purpose to investigate potential saving opportunities.

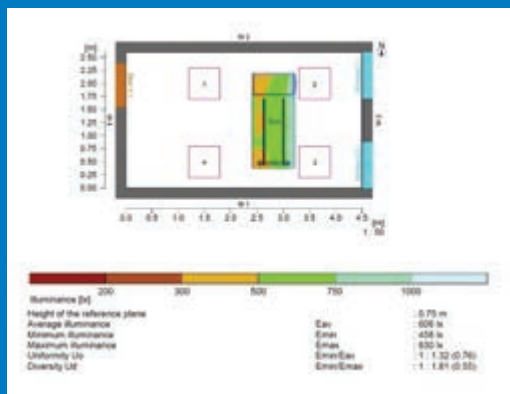
The following illustration shows an energy cost saving of nearly 80% on the lighting in our office facilities at our UK head office in the West Midlands. This is not a hypothetical calculation, it is an actual working installation.



CURRENT OFFICE LIGHTING

Luminaire: 4 x 18W T8 switch start
Luminous Efficacy (lm/W): 35lm/W
Typical Circuit Power Saving: 404W
Typical Running Costs: £118 per year

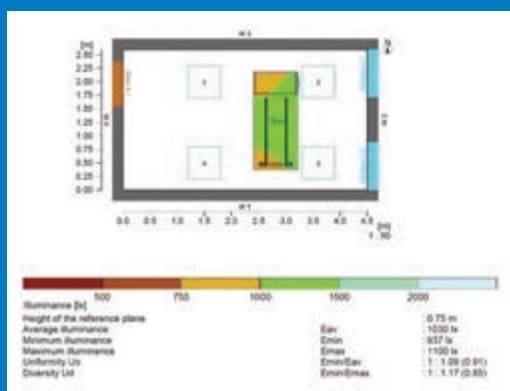
This example clearly shows that the original lighting installed in the offices some 20 years ago is now inefficient with regards to running costs as well as providing an outdated lighting solution to the task.



USING T5 LAMPS

Luminaire: 4 x 14W T5 electronic
Luminous Efficacy (lm/W): 48 lm/W
Typical Circuit Power: 240W
Typical Running Costs: £70.56 per year
Typical Circuit Power Saving: 40%

Using more efficient conventional lighting products we are able to begin to show potential energy saving in the region of 40% but reducing the light levels.



USING 4 x 40W LED LUMINAIRES

Luminaire: 4 X 40W LED
Luminous Efficacy (lm/W): 95 lm/W
Typical Circuit Power: 160W
Typical Running Costs: £47.04 per year
Typical Circuit Power Saving: 60%

In this illustration the luminaires were replaced with a high efficacy LED luminaire that further reduces the operating costs whilst increasing the levels for the task.

CHANGING INSTALLATION TO 2 X 40W LED LUMINAIRES

Luminaire: 2 X 40W LED

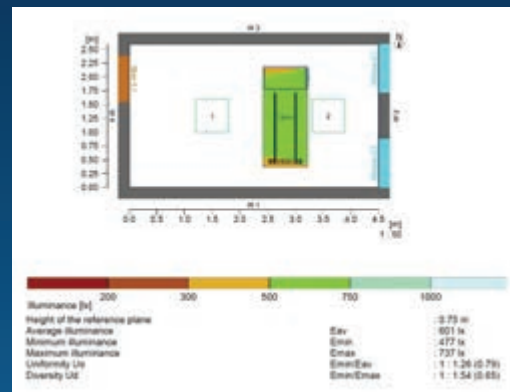
Luminous Efficacy (lm/W): 95lm/W

Typical Circuit Power: 80W

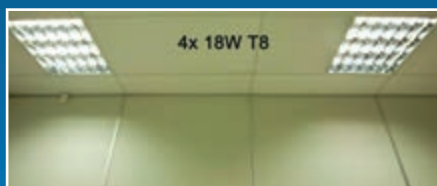
Typical Running Costs: £23.52 per year

Typical Circuit Power Saving: 80%

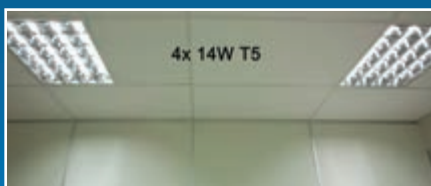
In this final illustration the lighting for the task was evaluated offering potential reductions of up to 80% whilst still maintaining suitable lighting levels for the task and therefore this lighting was installed in the offices.



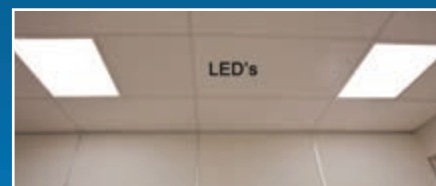
THE VISUAL EFFECTS TO THE OFFICE



Original office Lighting with 4 x 18W T8 lamps



Office lighting with 4 x 14W T5 lamps



Office Lighting with new LED luminaires

ENERGY CALCULATOR

Following a full evaluation of the lighting for both energy efficiency and suitability of the lighting for the office tasks, Orbik have refurbished their office lighting across the entire site. In many cases this has resulted in a reduction of the number of luminaires in some areas providing the occupants with an enhanced working environment whilst offering substantial savings as the table below illustrates.

Information	Current System	Proposed System #1	Proposed System #2
Product	4 x 18W luminaire	4 x 14W luminaire	Arrian LED
Lamp Type	18W T8	14W T5	LED
Ballast Type	Switch Start	Electronic	Electronic
Luminous Efficacy (lm/W)	35	48	95
Quantity of Luminaires	140	140	84
Luminaire Cost per Unit	£21.78	£25.38	£35.00
Luminaire Power at 100% Light Output (W)	101	60	40
Hours of Illumination per Day at 100% Light Output	12	12	12
Days of Operation per Week	5	5	5
Weeks of Operation per Year	50	50	50
Power Consumption per Day per Luminaire (W per Day)	1212	720	480
Power Consumption per Year per Luminaire (W per Year)	303000	180000	120000
Total System Power Consumption per Year (kW per Year)	42420	25200	10080
Price per kW	£0.10	£0.10	£0.10
Annual Energy Cost	£4,157.16	£2,469.60	£987.84
Payback in Years	N/A	2.11	0.93
% Energy Saving	N/A	40.59%	76.24%
Annual Cost Saving	N/A	£1,687.56	£3,169.32

In addition to the refurbishment of all office lighting, Orbik have committed to a program of refurbishment across the entire manufacturing facilities and is currently investigating various lighting controls which could offer an additional cost saving of up to 20%.

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KEY TO LUMINAIRE SYMBOLS



Suitable for indoor use



Recessed or semi-recessed version available



LED version available



Exit sign or exit version available



Suitable for outdoor use



Mains version available



2D fluorescent versions available



High frequency gear as standard



Emergency version available



T5/T8 fluorescent versions available



Surface mounting



AC/DC slave version available



Compact fluorescent versions available



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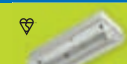
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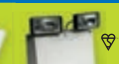
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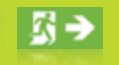
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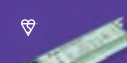
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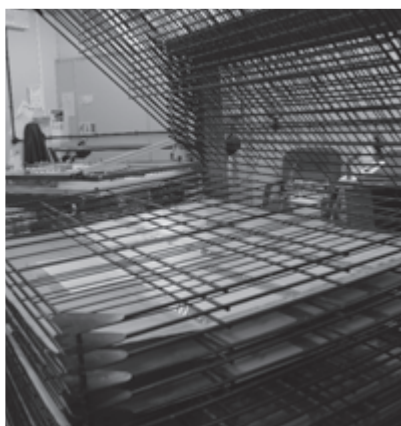
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CHANGEOVER &
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OVER 30 YEARS OF EXCELLENCE



SURFACE LUMINAIRES

An extensive range of surface luminaires to lend a touch of style, efficiency and practicality to a wide range of applications.



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Low profile luminaire
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IP65 floodlight range
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IP65 robust luminaire
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Elegant LED luminaire
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KERRILED
Stylish circular luminaire
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LAVAIN
Decorative luminaire
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LEAH
Circular IP65 luminaire
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Deep dish luminaire
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Halo effect luminaire
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IP65 utility luminaire
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Decorative round luminaire
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Compact batten luminaire
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Robust surface luminaire
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NOUVION
Attractive linear luminaire
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NYON
Stylish halo effect luminaire
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RIVA
Diecast luminaire range
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ARRILED

Attractive low profile LED panel

Standard surface mounted Arriled



IP20



Recessed Arriled

FEATURES

All Models

- Low profile sheet steel body to provide enhanced thermal dissipation
- Uniform light distribution across the panel ensuring comfortable visibility
- Attractive opal polycarbonate diffuser
- 3 step MacAdam rated
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ARR/LED	LED mains	4950		7000	6.00Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ARR/LED/M3	LED M3	550		550	7.20Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
AR/LED/LVR#D	LED slave	900		900	6.20Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /H High output version
- /R Recessed version
- /ST Digital self-test

DIMENSIONS

Surface Mounting Luminaire Dimensions

Length 600mm x Width 600mm x Depth 55mm

Recessed Luminaire Dimensions

Length 595mm x Width 595mm x Depth 55mm

Cut-Out Dimensions

Length 578mm x Width 578mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

BALENI



IP65 LED floodlight range

IP65

120W Baleni

80W Baleni

20W Baleni

FEATURES

All Models

- High quality diecast body
- Supplied with toughened glass cover
- Adjustable bracket supplied
- Symmetric light distribution
- High quality LED with extended life
- LED life greater than 36,000 hours
- CRI 70 (minimum)
- 6000K colour temperature as standard
- All luminaires in this range have a lumens/Watt rating greater than 80 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BAL/LED/10	10W LED mains	800			0.50Kg
BAL/LED/20	20W LED mains	1600			1.00Kg
BAL/LED/30	30W LED mains	2400			1.48Kg
BAL/LED/50	50W LED mains	4000			2.28Kg
BAL/LED/80	80W LED mains	6400			4.80Kg
BAL/LED/120	120W LED mains	9600			5.80Kg

DIMENSIONS

10W Versions

Length 195mm x Width 170mm x Depth 53mm

20W & 30W Versions

Length 315mm x Width 246mm x Depth 80mm

50W Versions

Length 390mm x Width 320mm x Depth 100mm

80W & 120W Versions

Length 490mm x Width 360mm x Depth 125mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

ECOS

IP65 robust polycarbonate circular luminaire



IP65

Ecos with opal diffuser

Standard Ecos with clear diffuser

FEATURES

All Models

- Each enclosure is manufactured from UV stabilised, flame retardant polycarbonate with a white base and clear diffuser as standard, with opal as an option
- Clear radial lens for enhanced photometric performance
- LED and fluorescent versions available in mains, emergency and slave modes
- Wide range of options including integral microwave presence detectors, intelligent addressable and digital self-testing luminaires
- Can be supplied with a semi-recessing trim lending it to anti-ligature applications

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 95 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
EC/LED	LED mains	2450	2000	2950	2.80Kg
EC28/HF	28W 2D HF mains	1450			2.80Kg
EC38/HF	38W 2D HF mains	2000			2.80Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
EC/LED/M3	LED M3	125	125	400	3.10Kg
EC28/M3	28W 2D M3	190			3.10Kg
EC38/M3	38W 2D M3	260			3.10Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
EC/LED/LVR#D	LED mains/slave	500	500	500	2.90Kg
EC28/PVR#D	28W 2D mains/slave	350			2.90Kg
EC38/PVR#D	38W 2D mains/slave	350			2.90Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /E Economy output version
- /ECR/WH White semi-recessing trim
- /H High output version
- /MD Microwave presence detector
- /O Opal diffuser
- /ST Digital self-test
- /TS Push-to-test switch (Surface mounted luminaires only)
- /VR Anti-tamper screws

DIMENSIONS

Luminaire Dimensions

Ø 397mm x Depth 132mm

Dimensions with Semi-Recessing Trim

Ø 406mm x Depth 86mm

Cut-Out Dimensions

Ø 395mm (Minimum ceiling void of 46mm required)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

HOLT

Rugged IP65 square luminaire



IP65    

Standard Holt with clear diffuser
and white base



Holt with opal diffuser

FEATURES

All Models

- Tough, flame retardant polycarbonate housing with screw-fixing diffuser
- Wide range of options available to suit specific requirements
- Steel gear tray, rear besa and side conduit entries for ease of installation
- Sealed to IP65 as standard

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
HT/LED	LED mains	2000	1150	2450	1.10Kg
HT28B/HF	28W 2D HF mains	1450			1.10Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
HT/LED/M3	LED M3	125	125	125	3.00Kg
HT28B/M3	28W 2D M3	190			3.00Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
HT/LED/#D	LED slave	510			1.10Kg
HT28B/#D	28W 2D slave	500			1.50Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /E** Economy output version
- /H** High output version
- /MD** Microwave presence detector
- /O** Opal diffuser
- /ST** Digital self-test
- /VR** Anti-tamper screws

DIMENSIONS

Length 255mm x Width 255mm x Depth 90mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

IDRO



Robust and attractive circular aluminium diecast IP65 bulkhead

IP65

Standard Idro in black finish



Idro in silver grey finish with anti-light pollution eyelid

FEATURES

All Models

- Robust IP65 diecast housing supplied in black finish as standard, with silver-grey as an option
- Can be wall or ceiling mounted and is suitable for exterior applications
- Anti-light pollution eyelid version available
- Supplied with toughened polycarbonate diffuser and anti-tamper screws as standard
- LED and fluorescent light source in mains and emergency mode

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
IDR/LED	LED mains	2000		2450	6.00Kg
IDR28/HF	28W 2D HF mains	1450			6.00Kg
IDR38/HF	38W 2D HF mains	2000			6.00Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
IDR/LED/M3	LED M3	125		125	7.00Kg
IDR28/M3	28W 2D M3	190			7.00Kg
IDR38/M3	38W 2D M3	260			7.00Kg

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /EY Anti-light pollution eyelid version
- /H High output version
- /SG Silver-grey finish
- /ST Digital self-test

DIMENSIONS

Ø 360mm x Depth 130mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

IONA



Robust and attractive square aluminium diecast IP65 bulkhead

IP65

Iona in silver grey finish

Iona in black finish with anti-light pollution eyelid

Standard Iona in black finish

FEATURES

All Models

- Can be wall or ceiling mounted and is suitable for exterior applications
- Robust IP65 diecast housing supplied in black finish as standard, with silver-grey as an option
- Anti-light pollution eyelid version available
- Supplied with toughened polycarbonate diffuser and anti-tamper screws as standard
- LED and fluorescent light source in mains and emergency mode

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ION/LED	LED mains	2000		2450	6.00Kg
ION28/HF	28W 2D HF mains	1450			6.00Kg
ION38/HF	38W 2D HF mains	2000			6.00Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ION/LED/M3	LED M3	125		125	7.00Kg
ION28/M3	28W 2D M3	190			7.00Kg
ION38/M3	38W 2D M3	260			7.00Kg

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /EY** Anti-light pollution eyelid version
- /H** High output version
- /SG** Silver-grey finish
- /ST** Digital self-test

DIMENSIONS

Length 360mm x Width 360mm x Depth 125mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

IPSTONES

Surface mounted IP65 non-corrosive luminaire



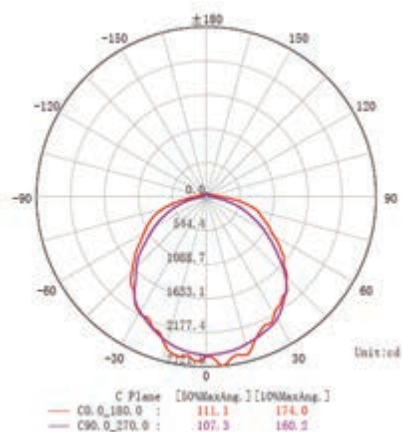
IP65    



FEATURES

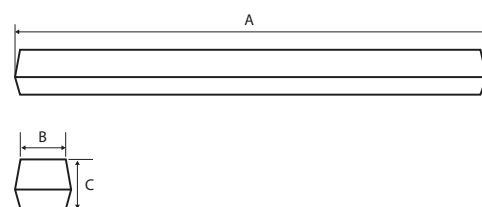
All Models

- All polycarbonate construction with stainless steel retaining clips
- Mains, emergency and slave versions available
- Aluminium gear tray retained on straps for easy installation
- Facilities provided for suspension of luminaire
- BSI approved emergency gear used in emergency versions
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard
- All luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output



Polar curve of 80W Ipstones

DIMENSIONS



24W Versions

A: 1270mm B: 93mm C: 100mm

48W Versions

A: 1270mm B: 140mm C: 100mm

40W Versions

A: 1565mm B: 93mm C: 100mm

80W Versions

A: 1565mm B: 140mm C: 100mm



CATALOGUE NUMBERS & INFORMATION

Mains Luminaires

Cat No	Light Source & Mode	Mains Lumens			Weight
		Standard Output	Economy Output /E	High Output /H	
IPS/LED/24	24W LED mains	2400			2.40Kg
IPS/LED/48	48W LED mains	4550			2.80Kg
IPS/LED/40	40W LED mains	4080			2.50Kg
IPS/LED/80	80W LED mains	7970			2.90Kg

Emergency Luminaires

Cat No	Light Source & Mode	Emergency Lumens			Weight
		Standard Output	Economy Output /E	High Output /H	
IPS/LED/24/M3	24W LED M3	430			3.40Kg
IPS/LED/48/M3	48W LED M3	410			3.80Kg
IPS/LED/40/M3	40W LED M3	445			3.50Kg
IPS/LED/80/M3	80W LED M3	550			3.90Kg

Slave Luminaires

Cat No	Light Source & Mode	Emergency Lumens			Weight
		Standard Output	Economy Output /E	High Output /H	
IPS/LED/24/#D	24W LED slave	720			2.40Kg
IPS/LED/48/#D	48W LED slave	680			2.80Kg
IPS/LED/40/#D	40W LED slave	730			2.50Kg
IPS/LED/80/#D	80W LED slave	950			2.90Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /MD Microwave presence detector
- /ST Digital self-test

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

JARO

Robust IP65 vandal-resistant wall pack luminaire



IP65



FEATURES

All Models

- Effective design offers maximum efficiency and reduced light pollution
- Emergency versions contain BSI approved emergency gear
- Certified ingress protection to IP65
- Robust construction with a diecast aluminium base and polycarbonate diffuser and cover
- Rear and side conduit entries to aid easy installation
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 85 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
JA/LED/30	30W LED mains	2650			2.40Kg
JA/LED/50	50W LED mains	4000			2.40Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
JA/LED/30/M3	30W LED M3	450			3.60Kg

DIMENSIONS

Length 308mm x Width 265mm x Depth 185mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



KANDEL



Circular surface or semi-recessed IP54 luminaire

IP54

Kandel fitted with surface trim

Semi-recessed Kandel fitted (using semi-recessing kit)

Standard surface mounted Kandel

FEATURES

All Models

- All white polycarbonate housing can be ceiling or wall mounted
- Available in LED and fluorescent versions
- Can be semi-recessed and also supplied with an attractive white surface trim
- Twist-and-lock diffuser for simple installation and maintenance

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KN/LED	LED mains	2100	1150	2500	2.10Kg
KN28/HF	28W 2D HF mains	1530			2.30Kg
KN38/HF	38W 2D HF mains	2130			2.30Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KN/LED/M3	LED M3	135	135	135	2.70Kg
KN28/M3	28W 2D M3	210			3.00Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KN/LED/#D	LED slave	540			2.10Kg
KN28/#D	28W 2D slave	375			2.30Kg
KN38/#D	38W 2D slave	375			2.30Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /E Economy output version
- /H High output version
- /KN/BR Brass surface trim
- /KN/CH Chrome surface trim
- /KN/WH White surface trim
- /MD Microwave presence detector
- /R Semi recessing kit
- /ST Digital self-test

DIMENSIONS

Luminaire Dimensions*

Ø 360mm x Depth 85mm

* Dimensions are applicable if luminaire is fitted with surface trim

Recessed Luminaire Dimensions

Ø 360mm x Depth 35mm

Cut-Out Dimensions

Ø 335mm (Minimum ceiling void of 50mm required)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



KEHLED

Sleek and elegantly profiled LED luminaire



IP20

Kheled Type B

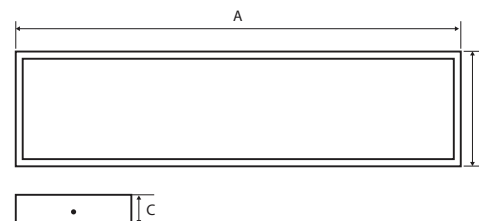
Kheled Type A

FEATURES

All Models

- Minimalistic low profile design
- Suitable for ceiling and wall mounting
- Available in two body lengths providing versatility for various lighting applications
- Utilises the latest LED arrays to provide impressive light outputs in both mains and emergency modes
- Steel body designed to provide enhanced thermal dissipation
- Supplied as a surface mounting luminaire as standard with a recessed version also available to order
- Wide range of options available
- 3 step MacAdam rated
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output

DIMENSIONS



Type A Surface Mounting Luminaire Dimensions

A: 600mm B: 235mm C: 60mm

Type B Surface Mounting Luminaire Dimensions

A: 1100mm B: 235mm C: 60mm

Type A Recessed Luminaire Dimensions

A: 630mm B: 265mm C: 60mm

Type A Recessed Luminaire Cut-Out Dimensions

A: 605mm x B: 240mm

Type B Recessed Luminaire Dimensions

A: 1130mm B: 265mm C: 60mm

Type B Recessed Luminaire Cut-Out Dimensions

A: 1105mm x B: 240mm



CATALOGUE NUMBERS & INFORMATION

Mains Luminaires

		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KEH/LED/A	LED mains type A	1680			4.30Kg
KEH/LED/B	LED mains type B	3360			8.60Kg

Emergency Luminaires

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KEH/LED/M3/A	LED M3 type A	550			5.20Kg
KEH/LED/M3/B	LED M3 type B	550			9.50Kg

Slave Luminaires

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KEH/LED/#D/A	LED slave type A	850			4.30Kg
KEH/LED/#D/B	LED slave type B	850			8.60Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /R** Recessed version
- /ST** Digital self-test
- /WS** Wire suspension kit

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from **www.orbik.co.uk**



KERRILED

Stylish circular LED luminaire



IP20

Kerriled with wire suspension kit

Recessed Kerriled

Standard surface mounted Kerriled

FEATURES

All Models

- Diecast aluminium base with white powder coated finish supplied with an opal diffuser
- Available in mains, emergency and slave options
- Supplied with high quality LEDs for extended life
- 3 mounting options; surface mounting, recessed or wire-suspension
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires

		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KER/LED	LED mains	4135			2.10Kg

Emergency Luminaires

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KER/LED/M3	LED M3	410			3.00Kg

Slave Luminaires

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
KER/LED/#D	LED slave	700			2.10Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/DAE DALI emergency mode only

/DAEM DALI mains and emergency mode

/DAM DALI mains mode only

/DIM Dimmable control gear

/R Semi recessing kit

/ST Digital self-test

/WS 4-point wire suspension kit

DIMENSIONS

Surface Luminaire Dimensions

Ø 605mm x Depth 42mm

Recessed Luminaire Dimensions

Ø 600mm x Depth 15mm

Cut-Out Dimensions

Ø 590mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from **www.orbik.co.uk**

LARINO

Elegant circular lighting range



IP20  

Standard Larino in white finish

Larino in brass finish

Larino in chrome finish

FEATURES

All Models

- Spun steel base containing control gear and energy saving LED's or fluorescent light source
- Available in 3 diameter sizes; 330mm, 430mm or 525mm
- Supplied in white finish as standard with brass and chrome available as options
- Can be ceiling or wall mounted
- Available in mains, emergency and slave options

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LAR/LED/A	LED mains (size A)	1150			1.10Kg
LAR/LED	LED mains (size B)	2000	1150	2450	2.10Kg
LAR28/HF	28W 2D HF mains (size B)	1450			2.10Kg
LAR38/HF	38W 2D HF mains (size B)	2000			2.10Kg
LAR226/HF	2x26WTC-DHF mains (size C)	2500			2.60Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LAR/LED/M3	LED M3 (size B)	125	125	125	3.00Kg
LAR28/M3	28W 2D M3 (size B)	190			3.00Kg
LAR38/M3	38W 2D M3 (size B)	260			3.00Kg
LAR226/M3	2x26W TC-D M3 (size C)	225			3.70Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LAR/LED/#D	LED slave	500			1.10Kg
LAR28/#D	28W 2D slave	350			2.00Kg
LAR38/#D	38W 2D slave	350			2.00Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /BR Brass finish
- /CH Chrome finish
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /E Economy output version
- /H High output version
- /MD Microwave presence detector
- /ST Digital self-test

DIMENSIONS

Size A

Ø 330mm x Depth 105mm

Size B

Ø 430mm x Depth 105mm

Size C

Ø 525mm x Depth 105mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

LAVAINÉ

Classically styled decorative luminaire



IP20



Standard Lavaine in brass finish

Lavaine in chrome finish

FEATURES

All Models

- Classic styling consisting of a steel gallery with either a standard brass finish or chrome finish and opal glass diffuser
- Diffuser is held in place by 3 knuckle screws finished to match the gallery colour finish
- Simple installation and maintenance aided by the simple, screw fixing diffuser and the gear being located directly onto the gallery, eradicating the need for separate, removable gear trays

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 70 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LV/LED/BR	LED mains brass finish	1410		1730	4.60Kg
LV28C/BR/HF	28W 2D HF mains brass finish	1120			4.60Kg
LV38C/BR/HF	38W 2D HF mains brass finish	1420			4.60Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LV/LED/M3/BR	LED M3 brass finish	300			4.80Kg
LV28C/M3/BR	28W 2D M3 brass finish	280			4.80Kg
LV38C/M3/BR	38W 2D M3 brass finish	280			4.80Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LV/LED/#D/BR	LED slave brass finish	360			3.80Kg
LV28/#D/BR	28W 2D slave brass finish	250			3.80Kg
LV38/#D/BR	38W 2D slave brass finish	250			3.80Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /CH** Chrome finish
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /E** Economy output version
- /H** High output version
- /MD** Microwave presence detector
- /ST** Digital self-test

DIMENSIONS

Ø 390mm x Depth 180mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from **www.orbik.co.uk**

LEAH



Attractive and robust IP65 circular polycarbonate luminaire

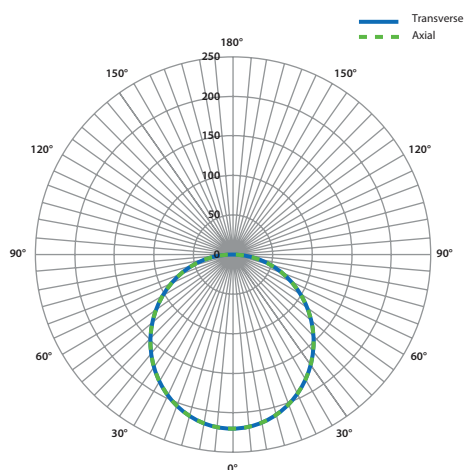
IP65



FEATURES

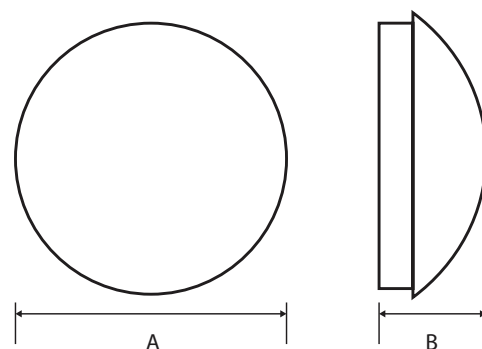
All Models

- Suitable for most interior and exterior applications
- Hinged steel gear tray and centre rear besa entry for ease of installation
- Available in LED and 2D fluorescent versions
- Optional narrow or wide trims
- Can be semi-recessed if using the narrow trim
- CRI 80 (minimum) and 3 step MacAdam rated
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- 4000K colour temperature as standard (2700K - 6500K available to order)
- Lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output



Polar curve of Leah (high output version)

DIMENSIONS



Standard Luminaire Dimensions (without Trim)

A: Ø 395mm x B: Depth 120mm

Luminaire Dimensions with Narrow Trim

A: Ø 440mm x B: Depth 120mm

Luminaire Dimensions with Wide Trim

A: Ø 520mm x B: Depth 120mm

Cut-Out Dimensions

Ø 357mm (when using semi-recessing kit)



CATALOGUE NUMBERS & INFORMATION

Mains Luminaires

		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LE/LED	LED mains	2100	1150	2500	2.70Kg
LE28/HF	28W 2D HF mains	1530			2.70Kg
LE38/HF	38W 2D HF mains	2130			2.70Kg

Emergency Luminaires

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LE/LED/M3	LED M3 emergency	135	135	135	3.60Kg
LE28/M3	28W 2D M3 emergency	210			3.60Kg
LE38/M3	38W 2D M3 emergency	250			3.60Kg

Slave Luminaires

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LE/LED/#D	LED slave	540			2.60Kg
LE28/#D	28W 2D slave	375			2.60Kg
LE38/#D	38W 2D slave	375			2.60Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /E Economy output version
- /H High output version
- /MD Microwave presence detector
- /NT Narrow trim
- /R Semi-recessing kit
- /ST Digital self-test
- /WS 3-point wire suspension kit
- /WT Wide trim

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

LED RADA

Attractive IP54 circular polycarbonate luminaire



IP54



FEATURES

All Models

- Available in mains, emergency and slave versions
- All polycarbonate white housing with opal diffuser
- Suitable for wall and ceiling mounting
- LED diffusing textured finish
- LED life greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LED/LED	LED mains	1700	1300	2070	1.10Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LED/LED/M3	LED M3	108		108	2.70Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LED/LED/#D	LED slave	430			1.10Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/DAE DALI emergency mode only

/DAM DALI mains mode only

/DIM Dimmable control gear

/E Economy output version

/H High output version

/MD Microwave presence detector

DIMENSIONS

Ø 365mm x Depth 125mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

LENS



Contemporary circular luminaire with a halo effect backlight

IP20



Lens with brass curved trim

Lens with chrome straight-sided trim

Standard Lens with white straight-sided trim

FEATURES

All Models

- Available in mains, emergency and slave versions
- LED or 2D fluorescent light source
- Supplied as standard with an opal backlight and white straight-sided clip-on trim
- Elegant range of clip-on trims available to suit many applications
- Wide range of options include dimmable control gear, microwave presence detectors and various DALI options

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LN/LED	LED mains	2260	1250	2770	2.70Kg
LN28/HF	28W 2D HF mains	1370			2.70Kg
LN38/HF	38W 2D HF mains	1900			2.70Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LN/LED/M3	LED mains	145	145	480	3.60Kg
LN28/M3	28W 2D M3	180			3.60Kg
LN38/M3	38W 2D M3	250			3.60Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
LN/LED/#D	LED slave	580			2.60Kg
LN28/#D	28W 2D slave	500			2.60Kg
LN38/#D	38W 2D slave	500			2.60Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /C/BR** Brass curved trim
- /C/CH** Chrome curved trim
- /C/WH** White curved trim
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /E** Economy output version
- /H** High output version
- /MD** Microwave presence detector
- /S/BR** Brass straight-sided trim
- /S/CH** Chrome straight-sided trim
- /ST** Digital self-test

DIMENSIONS

With Straight-Sided Trim

Ø 490mm x Depth 105mm

With Curved Trim

Ø 500mm x Depth 105mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



MEZZINA

IP65 circular polycarbonate utility luminaire



IP65

Standard Mezzina with clear diffuser and white base



Mezzina fitted with white semi-recessing trim

FEATURES

All Models

- Robust screw-fit diffuser sealed to the luminaire body with a closed-cell neoprene gasket for durability
- Suitable for most interior and exterior applications
- Steel gear tray, centre rear besa entry and 20mm conduit knockouts at each end for ease of installation
- Supplied with white body and clear diffuser with techno-radial lens technology as standard
- LED and fluorescent versions available in mains, emergency and slave modes

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MZ/LED	LED mains	2000	1150	2450	1.10Kg
MZ28/HF	28W 2D HF mains	1450			1.10Kg
MZ38/HF	38W 2D HF mains	2020			1.10Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MZ/LED/M3	LED M3	125	125	125	2.70Kg
MZ28/M3	28W 2D M3	190			3.60Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MZ/LED/#D	LED slave	510			1.10Kg
MZ28/#D	28W 2D slave	350			1.10Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /BK Black base
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /E Economy output version
- /H High output version
- /MD Microwave presence detector
- /MZR/WH White semi-recessing trim
- /O Opal diffuser
- /ST Digital self-test
- /VR Anti-tamper screws

DIMENSIONS

Luminaire Dimensions

Ø 290mm x Depth 79mm

Dimensions with Semi-Recessing Trim

Ø 345mm x Depth 50mm (below ceiling)

Cut-Out Dimensions

Ø 295mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

MIERLO

Attractive general purpose luminaire



IP54



FEATURES

All Models

- Available in mains, emergency and slave versions
- White polycarbonate enclosure with opal diffuser
- Suitable for wall and ceiling mounting
- Textured interior finish for LED diffusion
- Smooth outer finish for ease of maintenance
- LED life greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MIE/LED	LED mains	1700	1300	2070	1.10Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MIE/LED/M3	LED M3	108		108	2.70Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MIE/LED/#D	LED slave	430			1.10Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/DAE DALI emergency mode only

/DAM DALI mains mode only

/DIM Dimmable control gear

/E Economy output version

/H High output version

/MD Microwave presence detector

DIMENSIONS

Ø 325mm x Depth 100mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

MOSTON

Attractive slim profile linear luminaire



IP20



FEATURES

All Models

- Supplied with an aluminium body with a white finish and an opal polycarbonate diffuser
- Available in mains, emergency and slave versions
- Suitable for a wide range of applications
- Energy efficient replacement for fluorescent luminaires
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 95 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MOS/LED	LED mains	3600		4500	3.30Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MOS/LED/M3	LED M3	430		360	4.20Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MOS/LED/#D	LED slave	240		240	3.30Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /H High output version
- /MD Microwave presence detector
- /ST Digital self-test

DIMENSIONS

Standard Versions

Length 1192mm x Width 81mm x Depth 50mm

High Output Versions

Length 1498mm x Width 81mm x Depth 50mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

NEATH

Attractive surface mounted LED luminaire with striated clear diffuser



IP43



FEATURES

All Models

- Elegant design
- Steel body with white gloss finish
- Quality UV stabilised polycarbonate striated clear diffuser and polycarbonate end caps
- Emergency versions contain BSI approved emergency control gear
- Suitable for surface mounting
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard
- All luminaires in this range have a lumens/Watt rating greater than 80 lm/W

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NEA/LED/42	42W LED mains	3575			3.50Kg
NEA/LED/70	70W LED mains	4895			3.70Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NEA/LED/42/M3	42W LED M3	340			5.00Kg
NEA/LED/70/M3	70W LED M3	320			5.25Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NEA/LED/42/#D	42W LED slave	570			3.50Kg
NEA/LED/70/#D	70W LED slave	550			3.70Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /MD** Microwave presence detector
- /ST** Digital self-test

DIMENSIONS

42W Versions

Length 1200mm x Width 208mm x Depth 70mm

70W Versions

Length 1500mm x Width 208mm x Depth 70mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

NOUVION

Low profile, elegant lighting solution

IP20  



FEATURES

All Models

- Elegant curved low profile design
- Suitable for wire suspension, ceiling and wall mounting
- Utilises the latest LED arrays to provide impressive light outputs in both mains and emergency modes
- Steel body designed to provide enhanced thermal dissipation
- Wide range of options available
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NOU/LED/A	LED mains type A	1680			4.30Kg
NOU/LED/B	LED mains type B	3360			8.60Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NOU/LED/M3/A	LED M3 type A	550			5.20Kg
NOU/LED/M3/B	LED M3 type B	550			9.50Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NOU/LED/#D/A	LED slave type A	850			4.30Kg
NOU/LED/#D/B	LED slave type B	850			8.60Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /ST Digital self-test
- /WS Wire suspension kit

DIMENSIONS

Type A Dimensions

Length 650mm x Width 280mm x Depth 60mm

Type B Dimensions

Length 1150mm x Width 280mm x Depth 60mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

NYON

Stylish linear luminaire with halo effect



IP20



FEATURES

All Models

- Stylish low profile design with halo backlight effect
- Suitable for recessing, ceiling and wall mounting
- Utilises the latest LED arrays to provide impressive light outputs in both mains and emergency modes
- Steel body designed to provide enhanced thermal dissipation
- Wide range of options available
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NY/LED/A	LED mains type A	1680			4.30Kg
NY/LED/B	LED mains type B	3360			8.60Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NY/LED/M3/A	LED M3 type A	550			5.20Kg
NY/LED/M3/B	LED M3 type B	550			9.50Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NY/LED/#D/A	LED slave type A	850			4.30Kg
NY/LED/#D/B	LED slave type B	850			8.60Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /R** Recessed version
- /ST** Digital self-test
- /WS** Wire suspension kit

DIMENSIONS

Surface Mounted Luminaire Dimensions

Type A: Length 660mm x Width 295mm x Depth 90mm
Type B: Length 1250mm x Width 295mm x Depth 90mm

Recessed Luminaire Dimensions

Type A: Length 660mm x Width 295mm x Depth 90mm
Type B: Length 1250mm x Width 295mm x Depth 90mm

Cut-Out Dimensions

Type A: Length 605mm x Width 240mm
Type B: Length 1105mm x Width 240mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

RIVA



IP65 series of robust black circular and square diecast aluminium/polycarbonate luminaires



FEATURES

All Models

- Robust screw-fit prismatic diffuser sealed to the black diecast aluminium body for IP65 ingress rating
- Suitable for most interior and exterior applications
- Mains, emergency and slave modes available
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum)
- 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RIV/LED/C	Circular LED mains	2000	1150	2450	1.30Kg
RIV/LED/S	Square LED mains	2000	1150	2450	1.30Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RIV/LED/M3/C	Circular LED M3	125	125	125	2.70Kg
RIV/LED/M3/S	Square LED M3	125	125	125	2.70Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RIV/LED/#D/C	Circular LED slave	510			1.30Kg
RIV/LED/#D/S	Square LED slave	510			1.30Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /E Economy output version
- /H High output version
- /ST Digital self-test
- /WR Anti-tamper screws
- /VR Anti-tamper screws

DIMENSIONS

Circular Luminaire Dimensions

Ø 285mm x Depth 95mm

Square Luminaire Dimensions

Length 255mm x Width 255mm x Depth 100mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from **www.orbik.co.uk**



RECESSED LUMINAIRES

A family of elegant and energy efficient recessed luminaires to suit a wide range of interior and display applications.



ARRIAN

Low profile LED panel
Page 42



BAKAU

Panel with domed diffusers
Page 44



DARWIN

Fire rated LED downlight
Page 45



DUAL

Fire rated downlights
Page 46



MELBY

Diecast recessed luminaire
Page 47



MELED

Shallow LED downlight
Page 48



MULTIA

Wide range of downlights
Pages 50 & 51

ARRIAN

Low profile diecast aluminium LED panel



IP20

Standard recessed Arrian



FEATURES

All Models

- Low profile aluminium body for enhanced thermal dissipation
- Supplied as a recessed luminaire as standard but can be a surface luminaire with the addition of a surface mounting kit
- Uniform light distribution across the panel
- Wide range of optional extras available including DALI and dimmable control gear
- Mains, emergency and slave versions available
- Visually comfortable
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- Luminaires have a rating greater than 90 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ARN/LED	LED mains	3800			2.90Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ARN/LED/M3	LED M3	450			4.10Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ARN/LED/#D	LED slave	640			2.90Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /SM Surface mounting kit
- /ST Digital self-test

DIMENSIONS

Recessed Luminaire Dimensions

Length 595mm x Width 595mm x Depth 10mm

Surface Luminaire Dimensions

Length 600mm x Width 600mm x Depth 50mm

Cut-Out Dimensions

Length 585mm x Width 585mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



BAKAU

Recessed LED panel with domed diffusers



IP20  



FEATURES

All Models

- White powder coated steel body with polycarbonate domed diffusers
- Mains, emergency and slave options
- Suitable for 15-24mm exposed T ceiling systems
- Wide range of optional extras available including DALI and dimmable control gear
- Visually comfortable
- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (2700K - 6500K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 100 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaire		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BAK/LED	LED mains	3600			4.60Kg

Emergency Luminaire		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BAK/LED/M3	LED M3	430			5.50Kg

Slave Luminaire		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BAK/LED/#D	LED slave	720			4.60Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD** Intelligent Addressable
- /DAE** DALI emergency mode only
- /DAEM** DALI mains and emergency mode
- /DAM** DALI mains mode only
- /DIM** Dimmable control gear
- /ST** Digital self-test

DIMENSIONS

Length 597mm x Width 597mm x Depth 75mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

DARWIN

Fire-rated chip-on-board downlight range



IP65

Darwin in chrome finish

Darwin in satin chrome finish

Standard Darwin in white finish

FEATURES

All Models

- Highly efficient LED light source
- Robust cast aluminium construction
- Supplied in a high quality white finish as standard, with chrome and satin chrome finishes available to order
- 60° beam angle
- Simple to install
- Suitable for most installations including bathrooms and wet-rooms
- Trailing edge dimmable LED driver as standard
- LED life greater than 30,000 hours
- CRI 80 (minimum)
- 3200K colour temperature as standard (6000K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 80 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaire

		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
DRW/LED/8W/WH	8W LED mains white	650			0.30Kg

Emergency Pack

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RLCMR580V	LED M3 emergency pack	325			1.64Kg

Slave Pack

		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RLVR/#D	LED slave pack	390			1.64Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

/CH Chrome finish

/SC Satin chrome finish

DIMENSIONS

Luminaire Dimensions

Ø 87mm x Depth 80mm

Cut-Out Dimensions

Ø 62mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

DUAL

Fire-rated downlight range for GU10 and MR16 LED lamps

IP20  



Dual in satin chrome finish

Dual in brass finish

Dual in chrome finish

Dual in standard white finish

FEATURES

All Models

- Available in white finish as standard with brass, chrome and satin chrome finishes available as options
- Suitable for GU10 and optional MR16 LED lamps (lamps not supplied)
- Robust cast aluminium housing
- Twist-and-lock retaining bezel for ease of lamp removal
- Visually comfortable
- Fire and acoustically tested (dependent on lamp)

CATALOGUE NUMBERS & INFORMATION

Mains Luminaire		Typical Mains Lumens		Weight
Cat No	Light Source & Mode	9W GU10 Output	4.5W MR16 Output	
DU/GU10/WH	GU10 mains white	420		0.38Kg
DU/MR16/WH	MR16 mains white		250	0.38Kg

Emergency Packs

Cat No	Light Source & Mode	Max LED Wattage	Duration	Weight
RLL109W	GU10 M3 emergency pack	9W	3 hours	1.64Kg
RLS012/6/M3	MR16 M3 emergency pack	5W	3 hours	1.64Kg

OPTIONS

(Products incorporating any of the following options are manufactured to order)

- /BR Brass finish
- /CH Chrome finish
- /MR16 MR16 lamp holder
- /SC Satin chrome finish

DIMENSIONS

Luminaire Dimensions

Ø 92mm x Depth 112mm

Cut-Out Dimensions

Ø 74mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

MELBY

Diecast aluminium LED circular luminaire



IP20



FEATURES

All Models

- Diecast aluminium body for enhanced thermal dissipation
- Spring fixing clips providing quick installation
- High quality LED driver enabling uniform LED light distribution
- Available as mains, emergency and slave versions
- Wide range of optional extras
- Compact white body with attractive opal diffuser
- Extended LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (3000K - 5000K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 85 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MBY/LED/16	16W LED mains	1400			1.10Kg
MBY/LED/25	25W LED mains	2100			1.60Kg
MBY/LED/40	40W LED mains	4110			1.75Kg
MBY/LED/50	50W LED mains	5200			2.30Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MBY/LED/16/M3	16W LED M3	380			2.60Kg
MBY/LED/25/M3	25W LED M3	410			3.10Kg
MBY/LED/40/M3	40W LED M3	350			3.25Kg
MBY/LED/50/M3	50W LED M3	415			3.80Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MBY/LED/16/#D	16W LED slave	680			1.10Kg
MBY/LED/25/#D	25W LED slave	680			3.10Kg
MBY/LED/40/#D	40W LED slave	600			3.25Kg
MBY/LED/50/#D	50W LED slave	670			3.80Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /ST Digital self-test

DIMENSIONS

Luminaire Dimensions

16W Versions: Ø 140mm x Depth 34mm
25W Versions: Ø 165mm x Depth 35mm
40W Versions: Ø 220mm x Depth 56mm
50W Versions: Ø 245mm x Depth 56mm

Cut-Out Dimensions

16W Versions: Ø 125mm
25W Versions: Ø 155mm
40W Versions: Ø 205mm
50W Versions: Ø 220mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

M E L E D

Attractive shallow LED downlight



IP20



FEATURES

All Models

- Shallow diecast aluminium body for enhanced thermal dissipation
- Wide beam angle
- High quality LED driver enabling uniform LED light distribution
- Spring fixing clips providing quick installation
- Compact white body with attractive opal diffuser
- Mains, emergency and slave versions
- Extended LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard (3000K - 5000K available to order)
- All LED luminaires in this range have a lumens/Watt rating greater than 65 lm/W
- All stated lumens are actual luminaire output

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MEL/LED/9	9W LED mains	590			0.30Kg
MEL/LED/12	12W LED mains	840			0.40Kg
MEL/LED/18	18W LED mains	1320			0.60Kg
MEL/LED/18/SM	18W LED mains (surface)	1320			1.20Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MEL/LED/9/M3	9W LED M3	250			1.80Kg
MEL/LED/12/M3	12W LED M3	300			1.90Kg
MEL/LED/18/M3	18W LED M3	300			2.10Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MEL/LED/9/#D	9W LED slave	350			0.30Kg
MEL/LED/12/#D	12W LED slave	500			0.40Kg
MEL/LED/18/#D	18W LED slave	790			0.60Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /ST Digital self-test

DIMENSIONS

Recessed Luminaire Dimensions

9W Versions: Ø 145mm x Depth 21mm
12W Versions: Ø 174mm x Depth 21mm
18W Versions: Ø 225mm x Depth 21mm

Surface Mounted Luminaire Dimensions

Ø 225mm x Depth 39mm

Recessed Luminaire Cut-Out Dimensions

9W Versions: Ø 125mm
12W Versions: Ø 150mm
18W Versions: Ø 200mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



MULTIA

Stylish and comprehensive range of downlights



IP20/44

Multia with drop glass and chrome trim

Multia with IP44 cover and brass trim

LED Multia with chrome trim

Multia with white trim

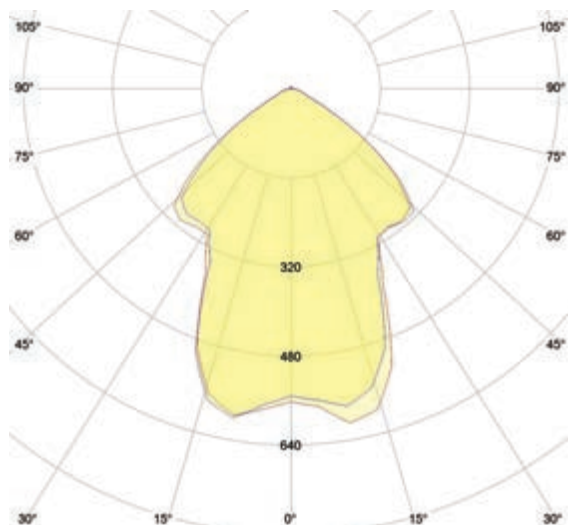
FEATURES

All Models

- Comprehensive range supported by a wide range of options provide solutions to many interior applications
- Unique design enhances thermal dissipation and excellent performance
- Control gear is housed within a robust polycarbonate box in mains versions with an additional steel box to fit emergency gear

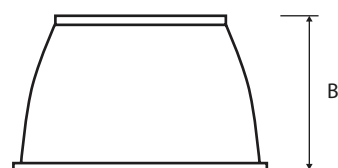
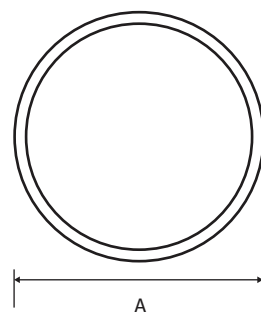
LED Models Only

- LED life greater than 36,000 hours
- CRI 80 (minimum)
- 4000K colour temperature as standard
- All LED luminaires in this range have a lumens/Watt rating greater than 75 lm/W
- All stated lumens are actual luminaire output



Polar curve of LED Multia

DIMENSIONS



Luminaire Dimensions with Trim or IP44 Cover

A: Ø 226mm x B: Depth 198mm

Luminaire Dimensions with Drop Glass

A: Ø 226mm x B: Depth 218mm

(Drop glass is 20mm below the ceiling)

Cut-Out Dimensions

Ø 208mm



CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MU/LED	LED mains	2250			1.60Kg
MU18	18W TC-D mains	1150			2.42Kg
MU218	2 x 18W TC-D mains	2300			3.25Kg
MU26	26W TC-D mains	1800			2.42Kg
MU226	2 x 26W TC-D mains	3600			3.25Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
MU/LED/M3	LED M3	350			4.90Kg
MU18/M3	18W TC-D M3	276			4.52Kg
MU218/M3*	2 x 18W TC-D M3	276			5.35Kg
MU26/M3	26W TC-D M3	324			4.52Kg
MU226/M3*	2 x 26W TC-D M3	324			5.35Kg

* Reverts to 1 lamp in emergency mode

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /DIM Dimmable control gear
- /ST Digital self-test

TRIM OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in LED models

- /MU/BR Brass trim
- /MU/CH Chrome trim
- /MU/DG/BR Drop glass with brass trim
- /MU/DG/CH Drop glass with chrome trim
- /MU/DG/WH Drop glass with white trim
- /MU/IP/BR IP44 cover with brass trim
- /MU/IP/CH IP44 cover with chrome trim
- /MU/IP/WH IP44 cover with white trim

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



EMERGENCY LUMINAIRES

An extensive range of LED and fluorescent luminaires and exit signs offering a host of options to meet the demands of current legislation.



ARC

IP65 compact bulkhead
Page 56



BEWDLEY

Robust IP65 bulkhead
Page 57



CADIZ

Practical IP42 bulkhead
Page 58



CALABOR

Recessed luminaire/exit sign
Page 59



CHELLA

Versatile luminaire/exit sign
Page 60



DALBY

Low profile luminaire/exit sign
Page 61



DYODE

Fully recessed LED luminaire
Page 62



EDEN

IP65 compact bulkhead
Page 64



ELLED

Distinctive LED luminaire
Page 65



GENEVA

Stylish luminaire/exit sign
Page 66



NAPOLI

Slim profile exit sign
Page 67



ODET

Emergency twin-spot
Page 68



ODET LED

High output LED twin-spot
Page 69



PALOMA

Stylish LED exit sign
Page 70



PESCARA

Versatile exit sign
Page 72



PESCARA-G

Large exit sign
Page 73



PETINA

Ultra-slim LED exit sign
Page 74



PICO

Low profile exit sign
Page 75



RETZ

Decorative curved exit sign
Page 76



ROMNEY

Multi-functional exit sign
Pages 78 & 79



ROTA

Elegant range of exit signs
Page 80



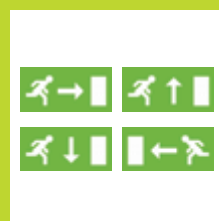
SAVONA

Edge-lit exit sign
Page 81



TIEL

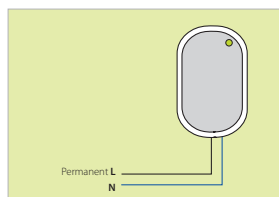
IP65 double-sided exit sign
Page 82



LEGENDS

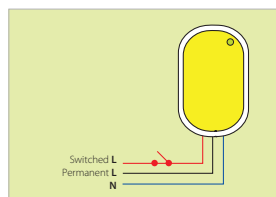
Legend panel configurations
Page 83

EMERGENCY LIGHTING DESIGN GUIDE



NON-MAINTAINED

The lighting only operates when the normal mains supply fails (emergency lighting only).

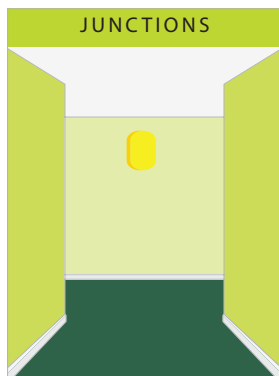


MAINTAINED

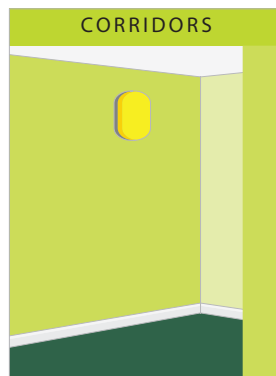
The lighting operates normally and continues to operate when the normal mains supply fails (mains lighting and emergency lighting).



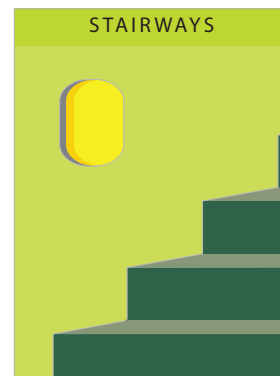
Panic bars, locks etc need to be illuminated to allow them to be easily seen and operated.



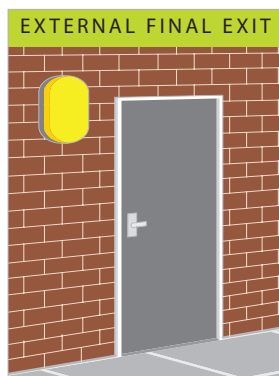
The luminaire must illuminate in both directions at the change of direction or intersection.



The luminaire must illuminate in both directions at the change of direction or intersection.



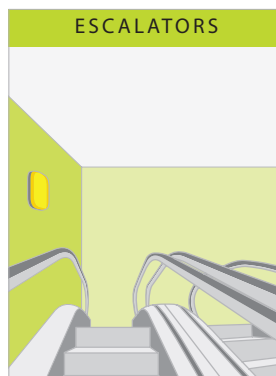
Install within 2 metres horizontal distance of change in floor level or stairs (each tread to receive direct light).



Install externally within 2 metres horizontal distance of any final exits. Sufficient light will be needed to muster a roll call.



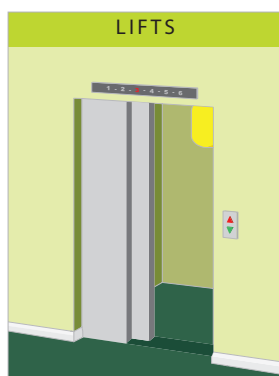
First aid points, call points, fire-fighting equipment and fire alarm panels should have 15 lux of vertical illuminance.



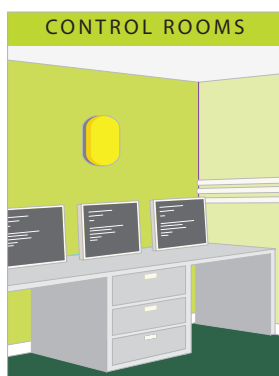
Should not be used as an escape route but requires the same illumination to protect users on it when the supply fails.



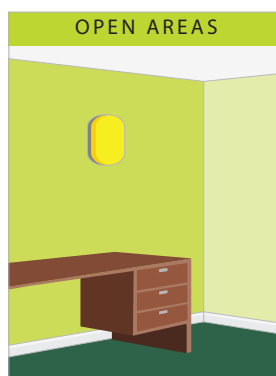
Disabled toilets or multiple 'closets' without borrowed light should have at least one luminaire.



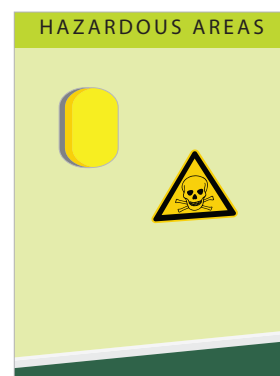
To provide emergency illuminations in all lifts.



Plant and switch rooms should have 15 lux in plane of visual task. First aid rooms 15 lux and treatment rooms 50 lux on horizontal working plane for minimum duration of 30 minutes.



Open rooms either with a particular hazard, an escape route passing through or larger than 60m². Reception areas 15 lux in plane of visual task (e.g. switchboards) full duration.



Areas of high risk should be illuminated to 10% of normal lighting or 15 lux, whichever is greater. Kitchens 15 lux horizontal on working plane and switches/cutoffs for minimum duration 30 minutes.

LIGHTING REQUIREMENTS

When luminaires have been sited to cover the locations above, additional luminaires may be required to ensure minimum lighting levels are achieved.

Escape route corridors etc: 1 lux minimum on the centre line of the escape route.

Open areas: 0.5 lux minimum in the central core to within 0.5m of the walls.

Exit signs: Should apply to the European Signs Directive and be either back illuminated or have an emergency luminaire within 2m of horizontal height. Signs should be the same format throughout the building.

This guide should be used in conjunction with the Nationally recognised standards and should not be used solely as a demonstration of compliance.



ARC 

IP65 compact bulkhead luminaire

IP65     
KM31508

Arc fitted with semi-recessing trim

Standard surface mounting Arc

FEATURES

All Models

- LED high output options suitable for high bay applications
- Soft arc linear lens diffuser designed to provide maximum spacings between emergency luminaires
- Available with LED and fluorescent light options
- IP65 flame retardant polycarbonate enclosure (white base/clear diffuser) and screw-fixing diffuser located with brass threaded inserts
- Several versions are BSI Kitemarked
- Can be fitted with a self-adhesive legend kit (SAL1) to create an exit sign



LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
AR/LED*	5 x 0.5W LED mains	145		360	0.90Kg
AR2X8/HF	2 x 8W T5 mains	640			0.90Kg
AR11/HF	11W T5-C mains	720			0.90Kg

* AR/LED/H consists of 15 x 0.5W LEDs in mains healthy and emergency mode

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
AR/LED/M3 	5 x 0.5W LED M3	150			1.20Kg
AR/LED/C3*	0.5W LED C3	150		320	1.20Kg
AR/LED/NM3H	15 x 0.5W LED NM3			320	1.20Kg
AR8/NM3 	8W T5 NM3	120	80	180	1.20Kg
AR8/M3	8W T5 M3	120	80	180	1.45Kg
AR2X8/NM3	2 x 8W T5 NM3	150		250	1.70Kg

* AR/LED/C3 consists of 15 x 0.5W LEDs in mains healthy and 5 x 0.5W LEDs in emergency mode; AR/LED/C3/H consists of 15 x 0.5W LEDs in mains healthy (giving 360 lumens) and emergency mode giving (320 lumens in emergency conditions)

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
AR/LED/#D	5 x 0.5W LED slave	120			0.85Kg
AR8/#D	8W T5 slave	275			1.20Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/AD Intelligent Addressable (not available in 8W M3 versions)

/AR/WH White semi-recessing kit

/DAE DALI emergency mode only

/E Economy output version

/H High output version

/HF High frequency ballast

/SAL1 Self-adhesive legend kit

/ST Digital self-test (not available in 8W M3 versions)

/TS Push-to-test switch

/VR Anti-tamper screws

DIMENSIONS

Luminaire Dimensions

Length 350mm x Width 108mm x Depth 80mm

Cut-Out Dimensions

Length 330mm x Width 90mm
(when used with AR/WH semi-recessing kit)

Viewing Distance

18 Metres (when supplied with SAL1 self-adhesive legend kit)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

BEWDLEY



Robust IP65 bulkhead for interior or external use



KM31508



FEATURES

All Models

- Tough, flame retardant polycarbonate housing supplied with a white base and clear Fresnel lens as standard
- Wide range of options available to suit specific requirements
- Screw-fixing diffuser located with brass threaded inserts
- Hinged steel gear tray, rear centre besa drill-starts and 20mm end entries
- Can be fitted with a self-adhesive legend kit (SAL2) to create an exit sign

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BE/LED	5 x 0.5W LED mains	145			1.35Kg
BE2X8/HF†	2 x 8W T5 mains	800			1.25Kg
BE11/HF†	11W TC-S mains	900			1.25Kg
BE2X11/HF†	2 x 11W TC-S mains	1800			1.35Kg

† Indicates product is manufactured to order

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BE/LED/M3	5 x 0.5W LED M3	150			1.70Kg
BE/LED/C3*	0.5W LED C3	150			1.90Kg
BE8/NM3‡	8W T5 NM3	120	80	180	1.70Kg
BE8/M3‡	8W T5 M3	120	80	180	1.90Kg
BE8/C3**‡	8W T5 C3	120	80	180	1.90Kg
BE2X8/NM3	2 x 8W T5 NM3	250	150		2.20Kg

* BE/LED/C3 consists of 15 x 0.5W LEDs in mains healthy and 5 x 0.5W LEDs in emergency mode; AR/LED/C3/H consists of 15 x 0.5W LEDs in mains healthy and emergency mode

** BE8/C3 consists of 1 x 8W T5 lamp in mains healthy and 1 x 8W T5 in emergency mode

‡ Indicates high output versions are manufactured to order (BE8/NM3/H, BE8/M3/H and BE8/C3/H)

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
BE/LED/#D†	5 x 0.5W LED slave	125			1.40Kg
BE8/#D†	8W T5 slave	275			1.00Kg
BE8/PVR#D†	8W T5 mains/slave	275			1.20Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

† Indicates product is manufactured to order

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /BE/WH White semi-recessing kit
- /DAE DALI emergency mode only
- /E Economy output version
- /H High output version
- /HF High frequency ballast
- /M IP65 metal base
- /SAL2 Self-adhesive legend kit
- /ST Digital self-test
- /TS Push-to-test switch
- /VR Anti-tamper screws

DIMENSIONS

Luminaire Dimensions

Length 370mm x Width 140mm x Depth 105mm

Cut-Out Dimensions

Length 365mm x Width 105mm (when used with BE/WH semi-recessing kit)

Viewing Distance

22 Metres (when supplied with SAL2 self-adhesive legend kit)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

CADIZ[®]

Practical bulkhead for interior use



IP42
KM31508

Cadiz fitted with semi-recessing trim

Standard surface mounting Cadiz

FEATURES

All Models

- Simple clip-fit diffuser ensures ease of installation and maintenance
- Hinged clip-out steel gear tray with pre-formed centre rear besa entry
- Flame retardant polycarbonate body and diffuser, which incorporates etched areas to partially obscure the T5 lamp(s) from view
- Several versions are BSI Kitemarked
- Can be fitted with a self-adhesive legend kit (SAL1) to create an exit sign

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CAD8/NM3	8W T5 NM3	120	80	180	1.20Kg
CAD8/M3†	8W T5 M3	120	80	180	1.45Kg
CAD2X8/NM3	2 x 8W T5 NM3	250	150		1.75Kg

† Indicates standard output and high output versions are made to order (CAD8/M3 and CAD8/M3/H)

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CAD8/#D	8W T5 slave	275			1.20Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable (not available in 8W M3 versions)
- /CAD/WH White semi-recessing kit
- /DAE DALI emergency mode only
- /E Economy output version
- /H High output version
- /HF High frequency ballast
- /SAL1 Self-adhesive legend kit
- /ST Digital self-test (not available in 8W M3 versions)
- /TS Push-to-test switch

DIMENSIONS

Luminaire Dimensions

Length 350mm x Width 108mm x Depth 80mm

Cut-Out Dimensions

Length 335mm x Width 107mm (when used with CAD/WH semi-recessing kit)

Viewing Distance

18 Metres (when supplied with SAL1 self-adhesive legend kit)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

CALABOR[®]

Fully recessed interior luminaire or exit sign



IP20
KM31508

Calabor exit sign with brass finish

Standard Calabor luminaire with white finish

Calabor luminaire with chrome finish

FEATURES

All Models

- Supplied with Zintec steel fascia with white finish as standard, with brass and chrome finishes available as options (manufactured to order)
- All versions feature a galvanised steel back box and hinged, removable steel gear tray
- Supplied as a fully recessed luminaire as standard but can be transformed into an attractive recessed exit sign with the use of an edge-lit plasi-glas flame retardant legend panel
- Available with either LED or fluorescent light source

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CAL/LED*	5 x 0.5W LED mains	145		360	2.20Kg

* CAL/LED/H consists of 15 x 0.5W LEDs in mains healthy and emergency mode

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CAL/LED/M3	5 x 0.5W LED M3	150			2.20Kg
CAL8/NM3†	8W T5 NM3	120	80	180	2.70Kg
CAL8/M3†	8W T5 M3	120	80	180	2.90Kg
CAL2X8/NM3	2 x 8W T5 NM3	240		360	3.00Kg

† Indicates high output versions are manufactured to order (CAL8/NM3/H and CAL8/M3/H)

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CAL/LED/#D†	5 x 0.5W LED slave	125			2.10Kg
CAL8/#D†	8W T5 slave	275			2.10Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**
† Indicates product is manufactured to order



OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable (not available in 8W M3 versions)
- /BR Brass finish
- /CH Chrome finish
- /DAE DALI emergency mode only
- /E Economy output version
- /EX Single-sided exit version
- /EX/D Double-sided exit version
- /H High output version
- /HF High frequency ballast
- /ST Digital self-test (not available in 8W M3 versions)

DIMENSIONS

Luminaire Dimensions

Length 410mm x Width 155mm x Depth 90mm

Exit Sign Dimensions

Length 410mm x Width 155mm x Overall Depth 250mm
(legend panel is 160mm below the ceiling)

Cut-Out Dimensions

Length 325mm x Width 130mm

Viewing Distance

32 Metres (when supplied as exit version)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

CHELLA

Stylish recessed practical luminaire or exit sign



IP20/44   
KM31508

Chella exit sign

Standard Chella luminaire

FEATURES

All Models



- Versatile range includes mains, emergency and slave versions with either LED or fluorescent light source
- Supplied as a fully recessed polycarbonate luminaire as standard but can be transformed into an attractive recessed exit sign with the use of an edge-lit plasi-glas legend panel
- Effective light-pipe design enabling the emergency charge LED indicator to be clearly visible
- Hinged, removable steel gear tray facilitates easy fixing and maintenance

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CHE/LED	5 x 0.5W LED mains	145		360	1.00Kg
CHE1X8	1 x 8W T5 mains	400			1.00Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CHE/LED/M3 	5 x 0.5W LED M3	150			1.80Kg
CHE8/NM3 	8W T5 NM3	120	80	180	1.50Kg
CHE8/M3	8W T5 M3	120	80	180	1.80Kg
CHE2X8/NM3	2 x 8W T5 NM3	240	120		1.55Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
CHE/LED/#D	5 x 0.5W LED slave	125			1.30Kg
CHE8/#D	8W T5 slave	275			1.00Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts



OPTIONS

(Products incorporating any of the following options are manufactured to order)
These options are not available in all models

- /AD Intelligent Addressable (not available in 8W M3 versions)
- /DAE DALI emergency mode only
- /E Economy output version
- /EX Single-sided exit version (ingress rating reduces to IP20)
- /EX/D Double-sided exit version (ingress rating reduces to IP20)
- /H High output version
- /HF High frequency ballast
- /ST Digital self-test (not available in 8W M3 versions)

DIMENSIONS

Luminaire Dimensions

Length 380mm x Width 150mm x Depth 80mm

Exit Sign Dimensions

Length 380mm x Width 150mm x Overall Depth 250mm (legend panel is 160mm below the ceiling)

Cut-Out Dimensions

Length 335mm x Width 107mm

Viewing Distance

24 Metres (when supplied as exit version)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

DALBY 

Versatile low profile luminaire or exit sign



IP20/55



KM31508



FEATURES


All Models

- Flame-retardant polycarbonate body and diffuser
- Available with LED and fluorescent light options
- Low profile elegant design
- Supplied as a surface mounting luminaire as standard but can be semi-recessed using a semi-recessing kit
- Can be transformed into an elegant exit sign using an edge-lit legend panel

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
DAL/LED/M3	5 x 0.5W LED M3	145			1.80Kg
DAL8/NM3	 8WT5 NM3	120	80	180	1.80Kg
DAL8/M3	8WT5 M3	120	80	180	2.00Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
DAL/LED/#D	5 x 0.5W LED slave	125			1.10Kg
DAL8/#D	8WT5 slave	275			1.10Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /E Economy output version
- /EX Single-sided exit version (Ingress rating reduces to IP20)
- /EX/D Double-sided exit version (Ingress rating reduces to IP20)
- /H High output version
- /HF High frequency ballast
- /R Semi-recessing kit
- /SAL2 Self-adhesive legend kit
- /ST Digital self-test
- /TS Push-to-test switch

DIMENSIONS

Luminaire Dimensions

Length 355mm x Width 195mm x Depth 70mm

Exit Sign Dimensions

Length 355mm x Width 195mm x Overall Depth 230mm
(Legend panel is 160mm below the ceiling)

Cut-Out Dimensions

Length 335mm x Width 175mm (when supplied with semi-recessing kit)

Viewing Distances

24 Metres (when supplied as exit version)
22 Metres (when supplied with SAL2 self-adhesive legend kit)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

DYODE

Unique fully recessed LED luminaire



IP20



FEATURES

All Models

- Luminaire diameter of just 50mm and emergency packs can easily pass through ceiling cut-out of 40mm
- Superbly designed refractor lens assembly
- Unique optical design to optimise the light distribution for emergency lighting applications
- Specially developed LED driver and advanced thermal engineering techniques reduce LED operating temperatures
- Supplied as an open area version with corridor versions to illuminate centre lines of escapes routes available as an option
- Polycarbonate body and diffuser are 850°C hot-wire compliant
- LED life exceeds 50,000 hours
- 6500K colour temperature
- Emergency versions utilise Nickel Metal Hydride battery packs

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
DY/LED/230A/OA	3W LED mains (open area)	85			0.50Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
DY/LED/NM3/OA	3W LED NM3 (open area)	85		140	1.10Kg
DY/LED/M3/OA*	3W LED M3 (open area)	85			1.10Kg

* Maintained versions are not available with digital self-test as an option

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
DY/LED/#D/OA†	3W LED slave (open area)	85			0.50Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /CR Corridor version
- /DAE DALI emergency mode only
- /DAM DALI mains mode only
- /H High output version (not available with self-test facility)
- /ST Digital self-test (not available in M3 or high output versions)

DIMENSIONS

Luminaire Dimensions

Ø 50mm x Depth 32mm (10mm below ceiling)

Emergency Pack Dimensions

Ø 75mm x Length 190mm

Cut-Out Dimensions

Ø 40mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



EDEN

IP65 compact bulkhead



IP65      
KM31508



Standard surface mounting Eden

Eden fitted with semi-recessing trim

FEATURES

All Models

- LED high output options suitable for high bay applications
- Soft arc linear lens diffuser designed to provide maximum spacings between emergency luminaires
- Available with LED and fluorescent light options
- IP65 flame retardant polycarbonate enclosure (white base/clear diffuser) and screw-fixing diffuser located with brass threaded inserts
- Several versions are BSI Kitemarked
- Can be fitted with a self-adhesive legend kit (SAL1) to create an exit sign


LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Mains Luminaires		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ED/LED†	5 x 0.5W LED mains	150		360	1.20Kg

† Indicates standard output and economy output versions are made to order (ED/LED and ED/LED/E)

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ED/LED/M3 	5 x 0.5W LED M3	150	70		1.45Kg
ED/LED/C3H	15 x 0.5W LED C3	305			1.45Kg
ED/LED/NM3H	15 x 0.5W LED NM3	305			1.20Kg
ED8/NM3*	8W T5 NM3		80		1.20Kg
ED8/M3	8W T5 M3		80		1.45Kg

* ED8/NM3 have versions that are BSI certified . Contact our sales department for further information

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /E Economy output version
- /ED/WH White semi-recessing kit
- /H High output version
- /SAL1 Self-adhesive legend kit

DIMENSIONS

Luminaire Dimensions

Length 350mm x Width 108mm x Depth 80mm

Cut-Out Dimensions

Length 330mm x Width 90mm (when used with ED/WH semi-recessing kit)

Viewing Distance

18 Metres (when supplied with SAL1 self-adhesive legend kit)

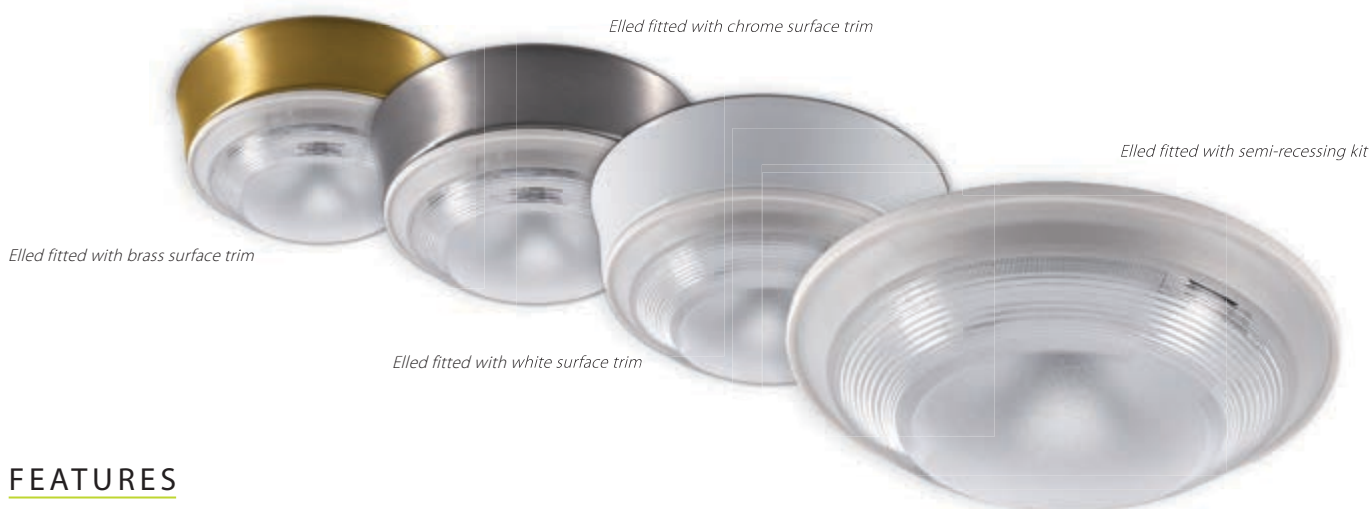
TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

ELLED

Distinctive ceiling mounted LED luminaire

IP55  



FEATURES

All Models

- Seamless design to blend into any lighting scheme
- Specially developed LED driver
- High quality 3W (150 lumens/Watt) LED with extended life expectancy
- Refractor lens provides efficient light distribution pattern
- Self-test versions conform to the requirements of BS EN62034:2006
- Emergency versions utilise Nickel Metal Hydride battery packs
- Supplied as an open area version with corridor versions to illuminate centre lines of escapes routes available as an option
- Wide range of options available including cold store application versions, surface trims in a variety of colour finishes and semi-recessing kits
- Polycarbonate body and diffuser are 850°C hot-wire compliant

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ELL/LED/NM3/OA	3W LED NM3 (open area)	45			0.50Kg

High output versions have external control gear and are not suitable for surface mounting

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ELL/LED/#D/OA†	3W LED slave (open area)	45			0.50Kg

Replace # with AC/DC system Voltage **110** or **230** Volts

† Indicates product is manufactured to order

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/-30°C Cold store version (suitable to ambients down to -30°C)

/BR Brass surface trim

/CH Chrome surface trim

/CR Corridor version

/ST Digital self-test (not available in high output versions)

/WH White surface trim

DIMENSIONS

Luminaire Dimensions

Ø 120mm x Depth 67mm (35mm below ceiling)

Emergency Pack Dimensions

Ø 75mm x Length 190mm

Cut-Out Dimensions

Ø 100mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

GENEVA

Stylish recessed luminaire or exit sign



IP20

Geneva exit sign

Standard Geneva luminaire in white finish

FEATURES

All Models

- Luminaire comprises of a Zintec steel fascia with a prismatic polycarbonate diffuser and galvanised steel back box
- Supplied in white finish as standard, with brass and chrome finishes available as options
- Standard fully recessed luminaire can be transformed into an attractive exit sign with the use of an edge-lit plasi-glas legend panel
- LED or fluorescent light source
- Prismatic lens controller for optimised light distribution

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 4000K colour temperature as standard (2700K - 6500K available to order)

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
GN/LED/M3	5 x 0.5W LED M3	145			1.50Kg
GN8/NM3	8W T5 NM3	120			1.20Kg
GN8/M3	8W T5 M3	120			1.50Kg

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
GN/LED/#D	5 x 0.5W LED M3	150			1.20Kg
GN8/#D	8W T5 slave	275			1.20Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**



OPTIONS

(Products incorporating any of the following options are manufactured to order)
These options are not available in all models

- /BR Brass finish
- /CH Chrome finish
- /EX Single-sided exit version
- /EX/D Double-sided exit version

DIMENSIONS

Luminaire Dimensions

Length 360mm x Width 90mm x Depth 80mm

Exit Sign Dimensions

Length 360mm x Width 90mm x Overall Depth 240mm
 (legend panel is 160mm below the ceiling)

Cut-Out Dimensions

Length 325mm x Width 80mm

Viewing Distance

24 Metres (when supplied as exit version)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

NAPOLI

Slim profile injection-moulded polycarbonate exit sign



IP20  



FEATURES

All Models

- Pleasing aesthetic design
- Injection-moulded polycarbonate body
- Clip fixings for quick and simple installation
- Supplied complete with specified polycarbonate legend panel
- LED and fluorescent light source options

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NA/LED/M3	5 x 0.5W LED M3	125			2.30Kg
NA8/NM3	8W T5 NM3	120	80		2.30Kg
NA8/M3	8W T5 M3	120	80		2.60Kg

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
NA/LED/#D	5 x 0.5W LED slave	125			2.30Kg
NA8/#D	8W T5 slave	275			2.30Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/AD Intelligent Addressable

/E Economy output version

/HF High frequency ballast

/ST Digital self-test

DIMENSIONS

Exit Sign Dimensions

Length 420mm x Width 221mm x 58mm

Viewing Distance

36 Metres


TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from **www.orbik.co.uk**

ODET

Emergency floodlighting unit



IP20/65   
KM31508

IP65 21W Tungsten Odet

20W Tungsten Halogen Odet




55W Tungsten Halogen Odet
(3 hour duration)

FEATURES

All Models

- BSI approved constant Voltage charger fitted with thermal, current and short circuit protection devices
- Low Voltage disconnect circuit prevents batteries entering deep discharge state in the event of prolonged power failure
- Most products are BSI approved
- Maintenance-free, 5 year life sealed lead acid batteries
- 21W Tungsten, 20W Tungsten Halogen and 55W Tungsten Halogen projectors are all available with 3 hours emergency back-up
- Projectors are mounted on a Zintec coated steel enclosure finished with an epoxy coated
- Swivel/tilt heads enable the client to tailor light distribution to highlight specific areas
- IP65 enclosures available
- Batteries for 55W 3 hour versions are packed separately for easier installation

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ODS20/NM3/TH 	2 x 20W NM3 T/Halogen	2 x 340			7.00Kg
ODS21/NM3 	2 x 21W NM3 Tungsten	2 x 280			7.00Kg
ODS55/NM1/TH 	2 x 55W NM1 T/Halogen	2 x 900			7.50Kg
ODS55/NM3/TH*	2 x 55W NM3 T/Halogen	2 x 900			16.00Kg

* Batteries for ODS55/NM3/TH are packed separately

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ODS20/#D/TH	2 x 20W T/Halogen slave	2 x 340			3.00Kg
ODS21/#D	2 x 21W Tungsten slave	2 x 280			3.00Kg
ODS55/#D/TH	2 x 55W T/Halogen slave	2 x 900			3.00Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/3MTR Remote heads fitted on 3m loom

(cold store applications)

/AD Intelligent Addressable

/IP65 IP65 weatherproof enclosure

/ST Digital self-test

/TM14 14 minute timer delay

(for use with discharge lamp schemes)

DIMENSIONS

20W NM3, 21W NM3 & 55W NM1 Dimensions

Length 315mm x Height 310mm x Depth 110mm

55W NM3 Dimensions

Length 320mm x Height 440mm x Depth 110mm

IP65 Version Dimensions

Length 400mm x Height 400mm x Depth 135mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

ODET LED

High output LED emergency twin-spot



IP20/65

(Applied for)



FEATURES

All Models

- Zintec steel body with epoxy coated finish
- Maintenance-free, 5 year life sealed lead acid batteries
- 3 hours non-maintained emergency duration
- BSI approved constant Voltage charger fitted with thermal, current and short circuit protection devices
- Available with either 2 x 9W or 2 x 18W IP67 6000K diecast aluminium and polycarbonate LED projectors
- Swivel/tilt heads enable the client to tailor light distribution to highlight specific areas
- Low Voltage disconnect circuit prevents batteries entering deep discharge state in the event of prolonged power failure
- Constant current with green LED to indicate mains is healthy and battery is connected

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ODS/LED9/NM3	9W LED NM3	2 x 345			5.20Kg
ODS/LED18/NM3	18W LED NM3	2 x 900			7.00Kg

OPTIONS

(Products incorporating the following option is manufactured to order)

/IP65 IP65 weatherproof enclosure

DIMENSIONS

Standard Luminaire Dimensions

Length 315mm x Height 260mm x Depth 110mm

IP65 Version Dimensions

Length 400mm x Height 400mm x Depth 135mm

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

PALOMA

Stylish LED exit sign with a host of mounting options



IP20/65



(Applied for)

Wire-suspended
Paloma in black finish

Rod-suspended
Paloma in white finish

Wall-mounting
Paloma in black finish

Standard wall-mounting
Paloma in white finish

FEATURES

All Models

- Zintec coated sheet steel construction in a light textured white finish as standard, with black, brass and chrome finishes available to order
- Supplied with specified polycarbonate legend panel which can be removed from either end via removable end-caps
- Clear threshold illuminates the area below the sign
- IP65 versions are of robust construction to suit a host of exterior applications
- Emergency versions incorporate BSI approved emergency control gear
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PAL/LED/M3*	0.5W LED M3 single-sided	100			2.50Kg
PALD/LED/M3*	0.5W LED M3 double-sided	100			2.50Kg

* Consists of 15 x 0.5W LEDs in mains healthy and 5 x 0.5W LEDs in emergency mode

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PAL/LED/#D	0.5W LED slave single sided	100			2.30Kg
PALD/LED/#D	0.5W LED slave double sided	100			2.30Kg

Replace # with AC/DC system Voltage **110** or **230** Volts



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/AD Intelligent Addressable (mounted in separate ceiling box)

/BK Black finish

/BR Brass finish

/CH Chrome finish

/DAE DALI emergency mode only

/IP65 IP65 version

/RAB Right-angled mounting bracket

/RS/+MM Rod-suspension kit

/ST Digital self-test (mounted in separate ceiling box)

/WS Wire-suspension kit

Replace + with either **100** for 100mm, **300** for 300mm or **600** for 600mm rod suspension kit

DIMENSIONS

Exit Sign Dimensions

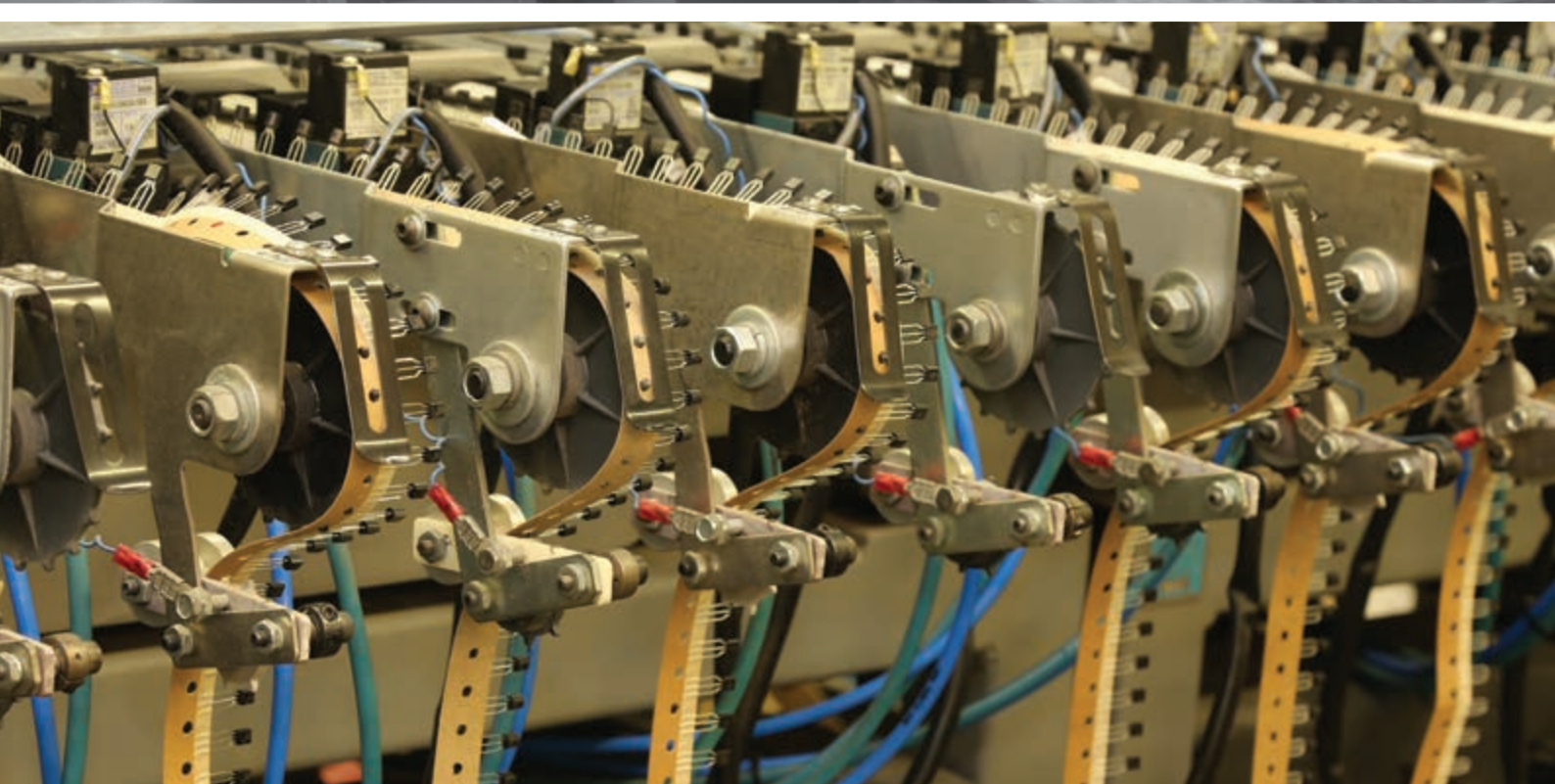
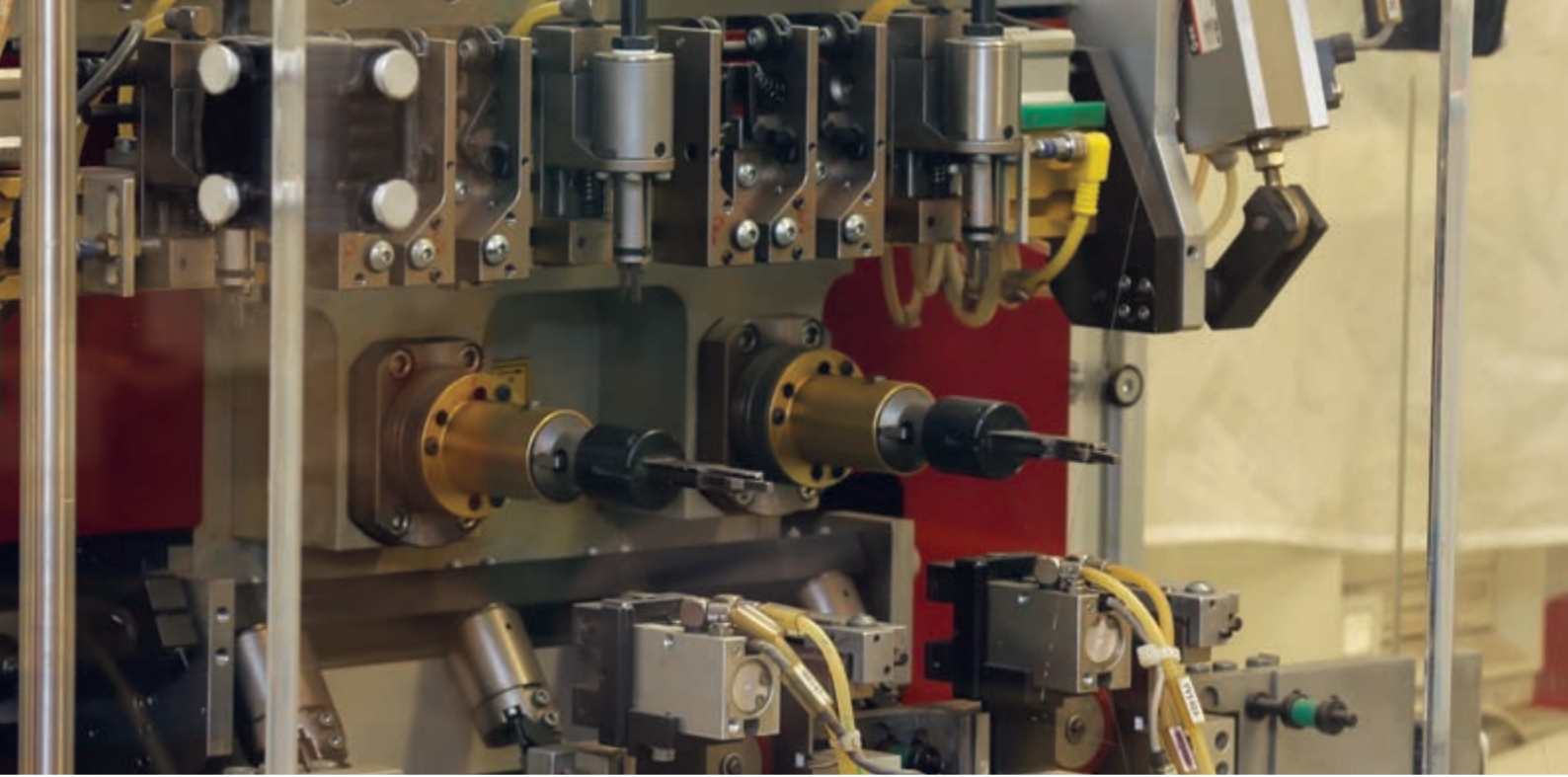
Length 380mm x Width 225mm x Depth 35mm

Viewing Distance

36 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



PESCARA

Versatile exit sign for internal and external use



IP20/65



FEATURES




All Models

- Available with LED and fluorescent light source options
- Supplied with specified polycarbonate legend panel and an opal polycarbonate threshold panel that illuminates the area below the sign
- Zintec coated sheet steel construction in a white finish as standard, with black, brass and chrome finishes available to order
- Emergency versions incorporate BSI approved emergency control gear
- Several versions are BSI Kitemarked
- Legend panel can be removed from either end via removable end-caps

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PES/LED/M3	0.5W LED M3 single-sided	125			3.00Kg
PED/LED/M3	0.5W LED M3 double-sided	125			3.00Kg
PES8/NM3 	8WT5 NM3 single-sided	120			2.75Kg
PED8/NM3	8WT5 NM3 double-sided	120			2.75Kg
PES8/M3 	8WT5 M3 single-sided	120			3.00Kg
PED8/M3	8WT5 M3 double-sided	120			3.00Kg
PES8/C3† 	8WT5 C3 single-sided	150			3.00Kg

† PES8/C3 consists of 1 x 8W T5 lamp in mains healthy and 1 x 8W T5 in emergency mode

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PES/LED/#D	0.5W LED slave single-sided	125			2.50Kg
PED/LED/#D	0.5W LED slave double-sided	125			2.50Kg
PES8/#D	8WT5 slave single-sided	275			2.50Kg
PED8/#D	8WT5 slave double-sided	275			2.50Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**



OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /BK Black finish
- /BR Brass finish
- /CH Chrome finish
- /DAE DALI emergency mode only
- /HF High frequency ballast
- /IP65 IP65 version (no threshold downlight panel)
- /ST Digital self-test
- /TS Push-to-test switch
- /VR Anti-tamper screws

DIMENSIONS

Single-Sided & Double-Sided Versions

Length 385mm x Width 200mm x Depth 95mm

IP65 Dimensions

Length 445mm x Width 225mm x Depth 95mm

Viewing Distance

36 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

PESCARA-G



Large exit sign with viewing distances up to 80 metres

IP20/65

IP65 Pescara-G



Standard Pescara-G

FEATURES

All Models

- Up to 80 metres viewing distance (IP65 version for exterior applications has a viewing distance of 66 metres)
- Zintec plated sheet steel construction in light textured finish with LED and fluorescent light source options
- 'U' channel gear tray ensures even illumination in both single-sided and double-sided versions
- Supplied complete with a specified polycarbonate legend panel
- Double polycarbonate panel illuminates directly below the sign to the escape route and door threshold

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Mains Exit Sign		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PESG/LED	70 x 0.5W LED mains s/sided	2200			9.30Kg

Emergency Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PESG/LED/M3	70 x 0.5W LED M3 s/sided	690			9.80Kg
PEDG/LED/M3	70 x 0.5W LED M3 d/sided	690			9.80Kg
PES18/M3/HF	18WT8 M3 single sided	320			9.40Kg
PED18/M3/HF	18WT8 M3 double sided	320			9.40Kg

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PES18/#D	18WT8 slave single sided	1100			9.30Kg
PED18/#D	18WT8 slave double sided	1100			9.30Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /DAEM DALI mains and emergency mode
- /DAM DALI mains mode only
- /IP65 IP65 version
- /ST Digital self-test

DIMENSIONS

Single-Sided & Double-Sided Versions

Length 620mm x Width 455mm x Depth 155mm

IP65 Versions

Length 625mm x Width 520mm x Depth 100mm

Viewing Distances

80 Metres (standard versions)

66 Metres (IP65 versions)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



LEGEND OPTIONS
See page 83

PETINA

Ultra-slim LED single and double-sided exit sign



IP20



FEATURES

All Models

- Single sided versions are just 30mm deep
- Zintec coated sheet steel construction in white finish as standard, with black, brass and chrome finishes available to order
- Double sided versions boast a wide variety of options including right-angle mounting brackets, wire suspension and rod suspension kits
- Supplied complete with a specified flame retardant plasi-glas legend panel that utilises advanced optical design, ensuring an even spread of illumination from the LED's
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PE/LED/M3	0.5W LED M3 single-sided	125			2.00Kg
PD/LED/M3	0.5W LED M3 double-sided	125			2.60Kg

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PE/LED/#D	0.5W LED slave single-sided	125			2.30Kg
PD/LED/#D	0.5W LED slave double-sided	125			2.30Kg

Replace # with AC/DC system Voltage **110** or **230** Volts



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /BK Black finish
- /BR Brass finish
- /CH Chrome finish
- /DAE DALI emergency mode only
- /RAB Right-angled mounting bracket
- /RS Rod-suspension kit
- /ST Digital self-test
- /WS Wire-suspension kit

DIMENSIONS

Single-Sided Versions

Length 360mm x Width 235mm x Depth 30mm

Double-Sided Versions

Length 377mm x Width 255mm x Depth 45mm

Viewing Distance

28 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

PICO

Low profile single-sided exit box



IP20



FEATURES

All Models

- Zintec plated sheet steel construction in white epoxy finish
- Rear centre besa entry and keyhole slots for ease of installation
- Supplied with a specified polycarbonate legend panel
- Opal polycarbonate panel illuminates directly below the sign to the escape route and door threshold
- Supplied complete with specified flame retardant polycarbonate legend panel which can be removed from either end via removable end-caps

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PIC/LED/M3	5 x 0.5W LED M3	125			2.50Kg
PIC8/NM3	8W T5 NM3	120	80		2.60Kg
PIC8/M3	8W T5 M3	120	80		2.60Kg

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
PIC/LED/#D	5 x 0.5W LED slave	125			2.30Kg
PIC8/#D	8W T5 slave	275			2.30Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /E Economy output version
- /HF High frequency ballast
- /ST Digital self-test
- /TS Push-to-test switch

DIMENSIONS

Exit Sign Dimensions

Length 385mm x Width 200mm x Depth 65mm

Viewing Distance

36 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

RETZ

Decorative curved exit sign



IP20

Double-sided Retz



Standard single-sided Retz



FEATURES

All Models

- Sheet steel construction with white powder coated finish
- Available in single-sided or double-sided versions with LED or 8W fluorescent light source options
- Opal threshold panel illuminates the area below the sign
- Supplied with specified polycarbonate legend panel(s)
- Emergency versions incorporate BSI approved emergency control gear
- Elegant design utilises an attractive curved fascia ensuring suitability to most prestigious applications

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Mains Exit Signs		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RZ/LED	5 x 0.5W LED mains s/sided	125			1.60Kg
RZD/LED	5 x 0.5W LED mains d/sided	125			2.00Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RZ/LED/M3	5 x 0.5W LED M3 s/sided	125			2.20Kg
RZD/LED/M3	5 x 0.5W LED M3 d/sided	125			2.60Kg
RZ8/NM3	8W T5 NM3 s/sided	120			2.00Kg
RZD8/NM3	8W T5 NM3 d/sided	120			2.40Kg
RZ8/M3	8W T5 M3 s/sided	120			2.20Kg
RZD8/M3	8W T5 M3 d/sided	120			2.60Kg

Slave Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RZ/LED/#D	0.5W LED slave s/sided	125			2.00Kg
RZD/LED/#D	0.5W LED slave d/sided	125			2.40Kg
RZ8/#D	8W T5 slave s/sided	275			2.00Kg
RZD8/#D	8W T5 slave d/sided	275			2.40Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230** Volts



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/AD Intelligent Addressable

/DAE DALI emergency mode only

/HF High frequency ballast

/RS/+MM Rod-suspension kit

/ST Digital self-test

/WS Wire-suspension kit

Replace + with either **100** for 100mm, **300** for 300mm or **600** for 600mm rod suspension kit

DIMENSIONS

Single-Sided Versions

Length 440mm x Width 220mm x Depth 65mm

Double-Sided Versions

Length 440mm x Width 250mm x Depth 130mm

Viewing Distance

36 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk



ROMNEY

Versatile LED exit sign



IP20 **CE**
 (Applied for)



Standard Romney



Romney with wire suspension kit



Romney with rod suspension kit

FEATURES

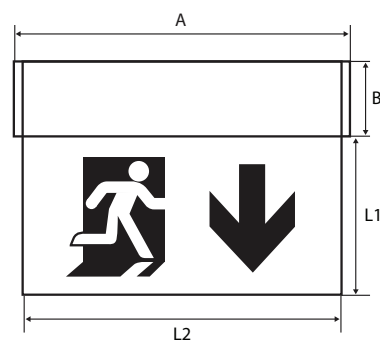
All Models

- Injection moulded polycarbonate construction
- Specifically engineered to utilise LED technology offering extended life
- Flame retardant edge-lit plasi-glas legend panel ensures an even spread of illumination
- Two legend sizes are available; a standard 180mm legend or a 135mm legend for areas where height is restricted
- Supplied as ceiling and wall mounting as standard, with additional options for right-angled mounting brackets, rod and wire suspension kits
- Rod suspension kits available in 3 lengths; 100mm, 300mm and 600mm
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard



LEGEND OPTIONS
 See page 83

DIMENSIONS



Gear Box

A: 310mm B: 77mm C: 45mm

Legend Panel

L1: 165mm* L2: 300mm

* Dimension is 120mm if using 135mm legend panel

Viewing Distances

24 Metres (with standard 180mm legend panel)
 20 Metres (with 135mm legend panel)



CATALOGUE NUMBERS & INFORMATION

Emergency Exit Sign		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
ROM/LED/M3	5 x 0.5W LED M3	150			1.60Kg

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/135MM 135mm depth legend panel

/AD Intelligent Addressable *(mounted in separate ceiling box)*

/D Double-sided legend panel

/DAE DALI emergency mode only

/RAB Right-angled mounting bracket

/RS/+MM Rod-suspension kit

/ST Digital self-test *(mounted in separate ceiling box)*

/WS Wire-suspension kit

*Replace + with either **100** for 100mm, **300** for 300mm or **600** for 600mm rod suspension kit*

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

ROTA

Wall or ceiling mounting exit sign



IP20

Rota in brass finish



Rota in chrome finish



Recessed Rota in white finish



Standard Rota in white finish

FEATURES

All Models

- Versatile sign suitable for wall or ceiling mounting
- Robust sheet steel construction in white epoxy coated finish as standard, with brass and chrome finishes available to order
- Combines extended life LED technology with high quality engineering
- Supplied complete with a specified flame retardant plasi-glas legend panel that ensures an even spread of illumination from the LED's
- Suitable for non-maintained or maintained emergency modes
- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Exit Sign		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RO/LED/M3	5 x 0.5W LED M3 white	150			2.00Kg

Slave Exit Sign		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
RO/LED/#D	5 x 0.5W LED slave white	125			2.00Kg

Replace # with AC/DC system Voltage **110** or **230** Volts



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /BR Brass finish
- /CH Chrome finish
- /D Double-sided legend panel
- /DAE DALI emergency mode only
- /R Recessed version
- /ST Digital self-test

DIMENSIONS

Ceiling/Wall Mounted Version

Length 310mm x Height 260mm
(including legend panel) x Depth 40mm

Recessed Versions

Length 310mm x Height 235mm
(including legend panel) x Depth 40mm
Overall height is 260mm but 30mm of Rota body is recessed into the ceiling

Viewing Distance

24 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

SAVONA

Edge-lit sign with a variety of mounting options

IP20  



FEATURES

All Models

- Contemporary design lends itself to many prestigious installations
- Available in LED and 8W fluorescent options
- Petite version available to offer a compact, unobtrusive LED exit sign
- Wide variety of options available as a chain or rod suspended version, as well as recessed, and right angled mounted versions
- All signs are supplied with a specified flame-retardant single-sided plasi-glas legend panel (double-sided legends available to order)
- White chain suspended exit signs are supplied as standard with brass and chrome versions available to order

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Emergency Exit Signs		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
SAV/LED/M3/WH	5 x 0.5W LED M3 white	150			3.20Kg
SAV8/NM3/WH	8W T5 NM3 white	120			3.20Kg
SAV8/M3/WH	8W T5 M3 white	120			3.20Kg
SP/LED/M3	5 x 0.5W LED M3 white petite	150			3.20Kg

Slave Exit Sign		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
SAV/LED/#D	5 x 0.5W LED slave white	125			2.00Kg
SAV8/#D	8W T5 slave white	275			2.00Kg

Replace # with AC/DC system Voltage **24, 50, 110 or 230 Volts**

Additional Information

* Indicates height of chain-suspended versions is 380mm if chain is removed

† Indicates height of rod-suspended version is 480mm when used with 100mm rods, 680mm when used with 300mm rods and 980mm when used with 600mm rods

‡ Indicates height of Petite versions is 380mm if chain is removed

Indicates legend is 230mm below the ceiling when recessed version is installed



LEGEND OPTIONS
See page 83

OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

/AD Intelligent Addressable

/BR Brass finish

/CH Chrome finish

/D Double-sided legend panel

/DAE DALI emergency mode only

/HF High frequency ballast

/R Recessed version

/RAB Right angled mounting bracket (chain-suspended only)

/RS/-MM Rod-suspension kit

/ST Digital self-test

Replace + with either **100** for 100mm, **300** for 300mm or **600** for 600mm rod suspension kit

DIMENSIONS

Chain-Suspended Versions*

Length 445mm x Height 820mm x Depth 90mm

Rod-Suspended Versions†

Length 445mm x Height 480, 680 or 980mm x Depth 90mm

Petite Versions‡

Length 340mm x Height 735mm x Depth 85mm

Recessed Versions#

Length 445mm x Height 820mm x Depth 90mm

Cut-Out Dimensions (Recessed Versions Only)

Length 428mm x Width 135mm

Viewing Distance

36 Metres (standard versions)

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

TIEL

IP65 double-sided exit sign



IP65 KM31508



Tiel fitted with semi-recessing kit

Standard surface mounting Tiel

FEATURES

All Models

- Robust IP65 polycarbonate housing and opal diffuser can be supplied with LED or 8W fluorescent light source
- Screw-fixing diffuser located with brass threaded inserts
- Supplied with 2 specified self-adhesive legend panels to create a double-sided exit sign
- Can be surface mounted or semi-recessed using a semi-recessing kit
- Several versions are BSI Kitemarked
- Hinged steel gear tray, centre rear besa entry and 20mm conduit knockouts at each end for ease of installation

LED Models Only

- TM-21 L70 greater than 36,000 hours using 0.5W 150 lumen/Watt LEDs
- CRI 80 (minimum) and 3 step MacAdam rated
- 6500K colour temperature as standard

CATALOGUE NUMBERS & INFORMATION

Mains Exit Sign		Mains Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
TI/LED	5 x 0.5W LED mains	125			0.90Kg

Emergency Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
TI/LED/M3	5 x 0.5W LED M3	150			1.20Kg
TI8/NM3*	8WT5 NM3	120	80	180	1.20Kg
TI8/M3*	8WT5 M3	120	80	180	1.45Kg
TI2X8/NM3*	2 x 8WT5 NM3	150		250	1.70Kg

* Indicates high output versions are made to order (TI8/NM3/H, TI8/M3/H and TI2X8/NM3/H)

Slave Luminaires		Emergency Lumens			Weight
Cat No	Light Source & Mode	Standard Output	Economy Output /E	High Output /H	
TI/LED/#D	5 x 0.5W LED slave	125			0.90Kg
TI8/#D	8WT5 slave	275			0.85Kg

Replace # with AC/DC system Voltage 24, 50, 110 or 230 Volts



OPTIONS

(Products incorporating any of the following options are manufactured to order)

These options are not available in all models

- /AD Intelligent Addressable
- /DAE DALI emergency mode only
- /E Economy output version
- /H High output version
- /HF High frequency ballast
- /ST Digital self-test
- /TI/WH White semi-recessing kit
- /TS Push-to-test switch (surface mounted versions only)
- /VR Anti-tamper screws

DIMENSIONS

Exit Sign Dimensions

Length 350mm x Width 108mm x Depth 204mm

Cut-Out Dimensions

Length 330mm x Width 90mm (when used with TI/WH semi-recessing kit)

Viewing Distance

28 Metres

TECHNICAL

Photometric data and other lighting design information, including luminaire data files, are available from our technical department or from www.orbik.co.uk

LEGENDS

Flame retardant polycarbonate legend panels in EN7010 and BS5499 formats

EN7010 Format

Suitable for existing new builds; cannot be mixed with BS5499 format signage

L17 legend panel is used to signify direction straight on and final exits in EN7010 format



L16/7010



L17/7010



L19/7010



L20/7010

BS5499 Format

Suitable for existing installations; cannot be mixed with EN7010 format signage



L16



L17



L18



L19



L20



L21



L22



L23

BESPOKE PRODUCTS



By identifying and responding to individual customer's specific requirements, Orbik have quickly gained a reputation for being able to supply products that are not strictly "off the shelf" or from our already extensive product range. This has enabled us to become the first choice supplier to our large UK and International customer base and have enabled our products to be at the forefront of many prestigious installations throughout the UK and overseas.

Overseas projects such as the Salam Tunnel and Metro developments in Dubai, the Sheikh Zayed Tunnel in Abu Dhabi and a host of UK projects including The Shand student accommodation development in Cardiff, the Matrix Medical Centre in Gloucester and Midland Heart Social Housing in Birmingham all contained specialist criteria and began as an idea on paper that was developed, adapted, refined and crucially, delivered by Orbik.

Further to the completion of these projects, Orbik is now in a position to offer a range of lighting solutions especially designed for individual applications.

Our flexibility towards the needs of our customers, in conjunction with our highly automated manufacturing processes, including metal fabrication and powder coating facilities, have been instrumental in developing products to suit individual needs.

However unusual or difficult a project may appear, Orbik will consider each enquiry on its own merits and offer advice and solutions to any potential issues within the project. This outlook has ensured that we have continued to work for and in partnership with our customers in order to strengthen and develop our relationships further.

For more details on bespoke products or for assistance with specialities within lighting specifications, please contact our sales department on sales@orbik.co.uk



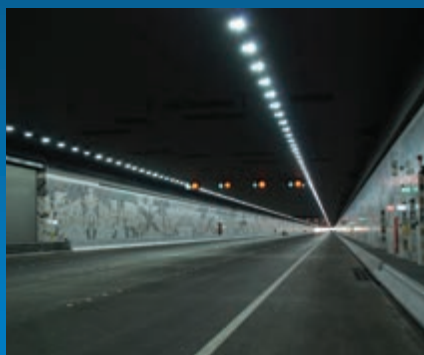
Sheikh Zayed Tunnel, Abu Dhabi



KIP Hotels, London



KIP Hotels, London



Salam Tunnel, Dubai



Rotterdam Railway System, Netherlands



Student Accommodation, Exeter



Specialist Project, Saudi Arabia



Dubai Metro



EMERGENCY GEAR

BSI approved emergency control gear to suit a wide range of LED and fluorescent circuits



LED EMERGENCY CONTROL GEAR

Pages 88 - 89



PERFORM™ EMERGENCY MODULES

Pages 90 - 93



REMOTE EMERGENCY BOXES

Pages 94 - 95



LOW VOLTAGE EMERGENCY GEAR

Page 96



MR16 LED/GU10 LED EMERGENCY GEAR

Page 97



NI CAD & NI MH BATTERIES

Pages 98 - 99



MAINS LED DRIVERS

Page 100



LED CONTROL GEAR FOR CENTRAL SYSTEMS

Page 101



FLUORESCENT CENTRAL SYSTEM INVERTERS

Pages 102 - 103

LED CONTROL GEAR FOR EMERGENCY LIGHTING



FEATURES

- A range of LED emergency control gear designed to operate LED loads of 3V – 80V DC in maintained or non-maintained modes, in the event of a lighting circuit failure
- Available in 3, 4 and 5 cell versions to suit most applications
- Designed for use with NiCad or NiMH battery types
- Incorporates switched live in/out facility for isolation of the LED load and mains driver power supply during emergency operation
- Compatible with most LED drivers up to 60W – higher power drivers can be accommodated (contact our technical department for further information)
- Suitable for use with external LED drivers
- Designed and manufactured in accordance with BS EN61347-2-13 and BS EN62384

INTRODUCTION

Orbik offer a range of LED emergency control gear to suit single or multiple LED modules lamps housed in a stylish, low profile, polycarbonate moulded housing.

Due to the extensive range of LED products currently available, it is becoming increasingly difficult to select suitable LED emergency control gear for LED lamps. In order to establish the correct emergency control gear for an LED application, two fundamental factors that can be located on the LED mains driver need to be determined:

LED driver output Voltage (V-out)

LED driver output current (I-out)

If the V-out is less than 80V the LCMR range is suitable, however if the V-out is greater than 80V DC, please contact our technical department for further assistance. Please refer to our guide **How to Select the Correct LED Module** to choose a suitable LED conversion module and to calculate the estimated EBLF.

GENERAL SPECIFICATIONS

Cat No	LCMR380V	LCMR480V	LCMR580V
Input Voltage	205V - 254V AC 50/60Hz		
Emergency Duration	3 Hours		
Mode of Operation	Non-maintained / maintained (for use with external drivers)		
Battery Type	Nickel Cadmium (NiCad) or Nickel Metal Hydride (NiMH)		
Nominal Battery Voltage	3.6V	4.8V	6V
Battery Capacity	4Ah		
Minimum LED Voltage (V_f)	3V dc		
Maximum LED Voltage	80V dc		
Emergency LED Supply Current Range (I_f)	30mA - 250mA	40mA - 300mA	50mA - 350mA
Typical EBLF (Using Orbik Arrian 40W)	6%	9%	12%
Typical EBLF (Using Orbik Ecos 30W)	11%	16%	20%
Typical EBLF (Using Orbik Meled 9W)	29%	35%	45%

DIMENSIONS & WEIGHTS

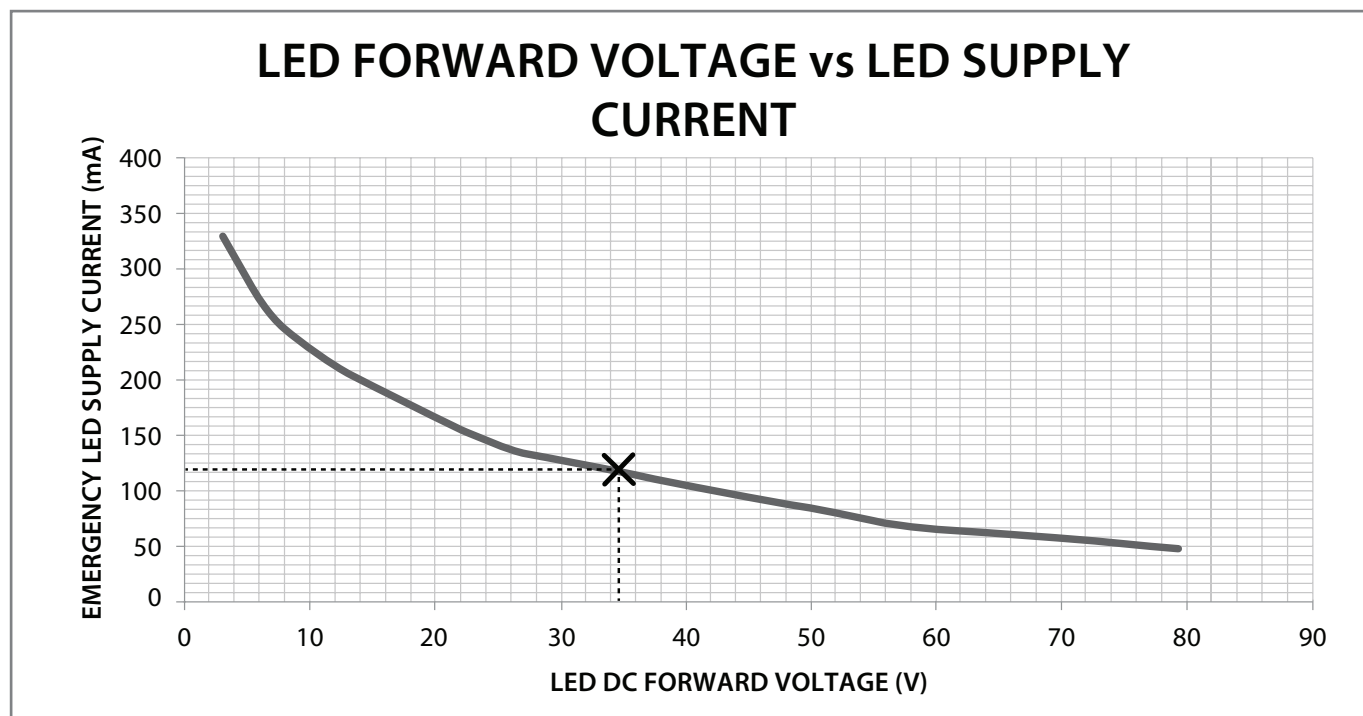
Cat No	LCMR380V	LCMR480V	LCMR580V
Dimensions L x W x H (mm)	Length 225mm x Width 44mm x Height 30mm (fixing centres 205mm)		
Weight (Kg)	0.20Kg		

HOW TO SELECT THE CORRECT LED MODULE

To select the correct emergency control gear for your application it is important to have the following information:

- LED lamp required voltage (**measured on-load at the output terminals of the driver**)
- LED module (array) required current (**information available on LED mains driver**)

From this information, and the graph below we can determine the emergency LED supply current. The graph shows the typical emergency supply current on the **LCMR580V** conversion module:



The Arrian (40W) product has the following technical information:

- LED voltage (measured on-load at the output terminals of the driver) = 35V DC
- LED mains current = 1050mA (information from constant current LED mains driver)

This enables us to plot the estimated emergency LED supply current on the graph as shown

LCMR580V = 125mA @ 35V DC

Care must be taken to ensure that the end-user's LED modules (arrays) have the correct LED supply current and adequate thermal management.

Upon selection of the emergency control gear, the estimated emergency ballast lumen factor (EBLF) can be calculated using the formula below:

$$\left(\frac{\text{Emergency LED supply current}}{\text{LED Mains current}} \right) \times 100 = \text{Emergency Ballast Lumen Factor (EBLF) percentage \%}$$

As an example (using the Arrian luminaire):

$$\left(\frac{125\text{mA}}{1050\text{mA}} \right) \times 100 = 12\% \text{ EBLF}$$

If you need further assistance or if you need Orbik to estimate the EBLF of your luminaire, please contact our technical department, quoting the driver on-load Voltage and constant current output.

These notes are to be used as a guide only and are subject to change. For up-to-date product information and for all other enquiries or assistance, please contact our technical department at technical@orbik.co.uk.

PERFORM™ EMERGENCY

CONVERSION MODULES



FEATURES

- Removes 'pink limbs' on certain compact fluorescent lamps
- Combats severely reduced life or the premature blackening of the lamp cathodes in all fluorescent lamps
- Enhanced lamp striking technology
- High level of continuous lamp cathode heating throughout the emergency duration
- Versions available to operate with both switch start and high frequency gear
- All Perform™ modules are BSI Kitemarked
- Tested and approved to EN61347-2-7
- EMC compliant to EN55015 and CE marked where applicable
- Incorporates over temperature and charger short circuit protection
- Available as standard in 3 hours duration, with other durations available to order
- All modules have battery over discharge protection as standard (DDP) to prevent discharge below 1 Volt per cell
- Reverse battery polarity protected
- All modules are supplied with a green LED to indicate correct charging conditions

ABOUT PERFORM™ TECHNOLOGY

Lamp manufacturers are committed to reducing or eliminating the mercury used in fluorescent lamps to lessen the impact on the environment when these lamps require disposal at the end of their usable life. These actions are being driven in Europe by the WEEE and RoHS directives, which impose ever lower levels of the potentially hazardous mercury used in lamps.

To help combat some of the problems introduced by these lower mercury levels, including severely reduced life and blackening of the lamp cathodes in fluorescent lamps, Perform™ modules employ enhanced lamp striking technology combined with a high level of continuous lamp cathode heating throughout the emergency operation period.

Perform™ conversion modules are available in various formats to give the end user cost-effective performance and flexibility dependent on the type of mains control gear employed in their luminaires.

The switched supply delay relay within PLR and PHR modules ensure that electronic ballasts have time to reset and will never encounter the "no lamp" condition that can occur when a keyswitch is used to remove only the permanent main feed to the emergency luminaire during testing. Electronic ballasts can 'lock out' under these conditions and may require their mains supply to be disconnected for a short period to reset the lamp failure circuitry.



VERY LOW MERCURY LAMP RANGE

With the increased concern regarding the impact of mercury on the environment, the lighting industry is constantly reducing the amount of mercury in fluorescent lamps. Orbik have developed a range of products (PLRM and PHRM) specifically aimed at these types of fluorescent lamps.

IMPORTANT INFORMATION

- Perform™ technology is an ongoing development involving the latest lamp technology and as such is subject to change as and when further lamps/data become available
- We strongly recommend that modules incorporating Perform™ technology are used in emergency luminaires and conversions to provide the ultimate future proofing against lamp evolution
- Most modules and PCB's are tested and approved to EN61347-2-7. They are EMC compliant to EN55015, CE marked where applicable and carry the British Standard Kitemark
- They incorporate over-temperature and charger short circuit protection
- Mains supply 230V - 6% + 10% 50/60Hz (other supply Voltages are available to order)
- Output circuitry uses a high efficiency sinusoidal inverter, with a nominal operating current of 1.1A
- Available as standard in 3 hour operation (other durations are available to order)
- All modules have battery over-discharge protection as standard (DDP) to prevent discharge below 1 Volt per cell
- Reverse battery polarity protected
- All connections are via terminal blocks (supplied with a green LED to indicate charging conditions)
- Power consumption 8VA
- Module operating temperature range 0 to 70°C (centre side of case)





DRBIK

- BLACK
- RED
- YELLOW
- WHITE
- LIGHT BLUE
- SUPPLY

DRBIK
MADE IN THE U.K.
M2
OR
NM2

DRBIK
MADE IN THE U.K.

2

PERFORM™ BALLAST

LUMEN FACTORS

Cat No				Battery	T8				T12	T5										
					18W	36W	58W	70W	100W	8W	14W	21W	24W	28W	35W	39W	49W	54W	80W	
PH4001P3	PL4001P3	PLR5001P3		3 x 4Ah	12															
PH4003P3	PL4003P3	PLR5003P3		3 x 4Ah		9														
PH4007P3	PL4007P3	PLR5007P3		4 x 4Ah			10													
PH4009P3	PL4009P3	PLR5009P3		5 x 4Ah				7												
PH4013P3	PL4013P3	PLR5013P3		3 x 4Ah						25										
PH4018P3	PL4018P3	PLR5018P3		3 x 4Ah																
			MT5414P3	4 x 4Ah							32									
PH4418P3	PL4418P3	PLR5418P3		4 x 4Ah	23					42										
PH4005P3	PL4005P3	PLR5005P3		4 x 4Ah	11	10					30		21							
			MT5528P3	5 x 4Ah								28	25	26						
PH4506P3	PL4506P3	PLR5506P3		5 x 4Ah	13							28	25							
PH4008P3	PL4008P3	PLR5008P3		5 x 4Ah		11								21						
PH4011P3	PL4011P3	PLR5011P3		5 x 4Ah																
PH4560P3	PL4560P3	PLR5560P3		5 x 4Ah																
			MT5635P3	6 x 4Ah											22					
	PHR5607P3			6 x 4Ah		18														
	PHR5608P3			6 x 4Ah			11	10												
			MT5854P3	8 x 4Ah											27	24	20	17		
	PHR5809P3			8 x 4Ah			15	14	9						27	24	20	17		
	PHR5108P3			10 x 4Ah				17	10										10	

VERY LOW MERCURY RANGE

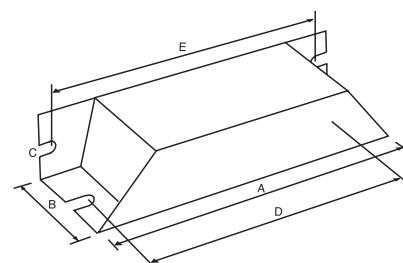
Cat No	Battery	PL-Q			PL-L					PL-S				PL-C				PL-R		PL-T					
		16W	28W	36W	18W	24W	36W	40W	55W	5W	7W	9W	11W	10W	13W	18W	26W	14W	17W	13W	26W	32W	42W	57W	
PLRM5005P3	4 x 4Ah	20			24					45	41	34	30	33	27	25		24	26	26					
PLRM5506P3	5 x 4Ah		18			21										21					22				
PHRM5607P3	6 x 4Ah			17			18															20			
PHRM5809P3	8 x 4Ah							23															21		
PHRM5108P3	10 x 4Ah								21															20	

- All ballast lumen factors are shown as worst case
- All figures are based on an ambient temperature of 25°C
- All figures quoted assume integral conversions
- Because of the variability of fluorescent lamps, this lamp and module chart is for guidance only and does not cover all of the available lamp types. If you require information on lamps not shown in this table or connection diagrams for our conversion modules, please refer to our website or contact our technical department at **technical@orbik.co.uk**

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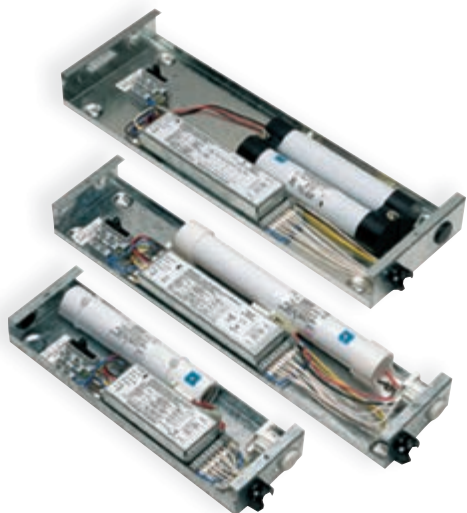
DIMENSIONS

Module	A	B	C	D	E	Kg
PH	154	42	35	144	138	0.33
PL	203	42	28	193	187	0.34
PLR/PLRM	216	42	28	206	200	0.35
PHR/PHRM	216	42	35	206	200	0.54
MT5	345	32	28	336	–	0.34



REMOTE EMERGENCY Control Gear

BOXES



FEATURES

- All remote boxes incorporate BSI Kitemarked Perform™ modules for fluorescent options
- LED module BSI certification applied for
- Ideal for use with compact luminaires where space is restricted
- Fluorescent versions have a high level of continuous lamp cathode heating throughout the emergency duration for enhanced lamp striking technology
- Tested and approved to EN61347-2-7
- Eradicates over-heating and failure of luminaires due to lack of heat circulation where control gear is over-crowded
- Available as standard in 3 hours duration, with other durations available to order
- Battery over discharge protection as standard (DDP) to prevent discharge below 1 Volt per cell
- Reverse battery polarity protected
- All remote boxes are supplied with a green LED to indicate correct charging conditions
- Connection to the mains luminaire is by way of a simple flexible 0.5m flame-retardant loom
- Galvanised steel construction

Please refer to the information on pages 92 and 93 for guidance on selecting remote boxes or alternatively contact our technical department at technical@orbik.co.uk.

3 CELL REMOTE BOXES

PH Range	PL Range	PLR Range	MT Range	PLRM/PHRM Range	LCMR Range	Light Source	Battery Type
RBPH4001P3	RBPL4001P3	RBPLR5001P3				Fluorescent	NiCad or NiMH
RBPH4003P3	RBPL4003P3	RBPLR5003P3				Fluorescent	NiCad or NiMH
RBPH40131P3	RBPL4013P3	RBPLR5013P3				Fluorescent	NiCad or NiMH
RBPH40181P3	RBPL4018P3	RBPLR5018P3				Fluorescent	NiCad or NiMH
					RBRLCMR380V	LED	NiCad or NiMH

4 CELL REMOTE BOXES

PH Range	PL Range	PLR Range	MT Range	PLRM/PHRM Range	LCMR Range	Light Source	Battery Type
RBPH4007P3	RBPL4007P3	RBPLR5007P3				Fluorescent	NiCad or NiMH
RBPH4418P3	RBPL4418P3	RBPLR5418P3				Fluorescent	NiCad or NiMH
RBPH4005P3	RBPL4005P3	RBPLR5005P3				Fluorescent	NiCad or NiMH
			RBMT5414P3			Fluorescent	NiCad or NiMH
				RBPLRM5005P3		Fluorescent	NiCad or NiMH
					RBRLCMR480V	LED	NiCad or NiMH

5 CELL REMOTE BOXES

PH Range	PL Range	PLR Range	MT Range	PLRM/PHRM Range	LCMR Range	Light Source	Battery Type
RBPH4506P3	RBPL4506P3	RBPLR5506P3				Fluorescent	NiCad or NiMH
RBPH4008P3	RBPL4008P3	RBPLR5008P3				Fluorescent	NiCad or NiMH
RBPH4011P3	RBPL4011P3	RBPLR5011P3				Fluorescent	NiCad or NiMH
			RBMT5528P3			Fluorescent	NiCad or NiMH
				RBPLRM5506P3		Fluorescent	NiCad or NiMH
					RBRLCMR580V	LED	NiCad or NiMH

6 CELL REMOTE BOXES

PH Range	PL Range	PHR Range	MT Range	PLRM/PHRM Range	LCMR Range	Light Source	Battery Type
		RBPHR5607P3				Fluorescent	NiCad or NiMH
		RBPHR5608P3				Fluorescent	NiCad or NiMH
			RBMT5635P3			Fluorescent	NiCad or NiMH
				RBPHRM5607P3		Fluorescent	NiCad or NiMH

8 CELL REMOTE BOXES

PH Range	PL Range	PHR Range	MT Range	PLRM/PHRM Range	LCMR Range	Light Source	Battery Type
		RBPHR5809P3				Fluorescent	NiCad or NiMH
			RBMT5854P3			Fluorescent	NiCad or NiMH
				RBPHRM5809P3		Fluorescent	NiCad or NiMH

10 CELL REMOTE BOXES

PH Range	PL Range	PHR Range	MT Range	PLRM/PHRM Range	LCMR Range	Light Source	Battery Type
		RBPHR5108P3				Fluorescent	NiCad or NiMH
				RBPHRM5108P3		Fluorescent	NiCad or NiMH

DIMENSIONS & WEIGHTS

Size	Length	Width	Height
3 Cell	290mm	95mm	50mm
4 & 5 Cell	425mm	100mm	50mm
6, 8 & 10 Cell	430mm	150mm	50mm

LOW VOLTAGE EMERGENCY LIGHTING BOXES



FEATURES

- Emergency lighting boxes to operate 12V LED lamps, e.g. MR16 LED, low level guidance systems and 12V tungsten halogen lamps in the event of a power failure
- Supplied with deep discharge protection as standard
- Robust white epoxy coated sheet steel enclosure incorporating a BSI approved charger circuit to maximise battery life

CATALOGUE NUMBERS & INFORMATION

Cat No	Emergency Mode & Duration	Wattage	Dimensions (mm) L x W x D	Weight (kg)
R700/50	M1 with transformer	Up to 50W	315 x 270 x 110	13.50
R700/100	M3 with transformer	Up to 100W	350 x 320 x 110	13.50
R758/50	M3 with transformer	Up to 50W	315 x 270 x 110	12.20
R759/50	NM3	Up to 50W	315 x 270 x 110	10.70

LOW VOLTAGE EMERGENCY LIGHTING TRAIN



FEATURES

- Enables 12 Volt tungsten halogen lamps to operate in the event of a power failure
- Uses high quality high temperature Nickel Cadmium battery cells for 1 hour duration and Nickel Metal Hydride cells for 3 hours duration
- Utilises a silicone coated woven glass fibre sleeving to comply with BS/EN60924 and EN60598.2.22
- Easily fits through cut-outs of 60mm or above (overall length of lighting train 800mm)

CATALOGUE NUMBERS & INFORMATION

Cat No	Emergency Mode	Wattage	Duration BLF (20W)	Duration BLF (50W)
R960/50/NM1	Non-Maintained	20W or 50W	3 hours / 6%	1 hour / 10%
R960/50/M1	Maintained with transformer	20W or 50W	3 hours / 6%	1 hour / 10%
R961/50/M1	Maintained without transformer	20W or 50W	3 hours / 6%	1 hour / 10%
R962/50/NM3	Non-Maintained	20W or 50W	3 hours / 6%	3 hours / 10%
R962/50/M3	Maintained with transformer	20W or 50W	3 hours / 6%	3 hours / 10%
R963/50/M3	Maintained without transformer	20W or 50W	3 hours / 6%	3 hours / 10%

Dimensions

Length 800mm

Cut-Out Dimensions

60mm or above

MR16 EMERGENCY LIGHTING TRAIN

FEATURES

- Enables 12 Volt MR16 LED lamps to operate in the event of a power failure
- Incorporates self-test as standard
- Utilises a silicone coated woven glass fibre sleeving to comply with EN61347.2.13 and EN60598.2.22
- Supplied as standard in maintained mode but can be used as non-maintained
- Features an integral driver which operates the lamp in mains healthy and in the event of a power failure
- Easily fits through cut-outs of 60mm or above (overall length of lighting train 800mm)

CATALOGUE NUMBER & INFORMATION

Cat No	Emergency Mode & Duration	Wattage	Duration
RL5012/6/M3	M3 with integral mains driver	1.5W to 5W	3 hours



Dimensions

Length 800mm

Cut-Out Dimensions

60mm or above

LED EMERGENCY PACK & MODULES FOR GU10 LED LAMPS & LED TUBES

FEATURES

- Lighting pack operates a wide range of difficult-to-convert GU10 downlights up to 9 Watts
- Modules and lighting pack Incorporates battery deep discharge protection and change-over device for operation from a local lighting supply
- Lighting pack is enclosed in silicon coated woven glass fibre sleeving and is suitable for hole cut-outs of 75mm or above with ceiling voids of 320mm or above (overall length 800mm)
- Modules are suitable for use with self-ballasted 600mm 9W and 1200mm 18W LED tubes

CATALOGUE NUMBER & INFORMATION

Cat No	Description	Max Load	Output Voltage	Battery Type
RLL109W	9W M3 emergency pack	9W	220V	10 x 4Ah
LL109W	9W M3 emergency module	9W	220V	10 x 4Ah
LL1618W	18W M3 emergency module	18W	220V	16 x 4Ah

Not suitable for use with dimmable control gear



Dimensions

Emergency Pack: Length 800mm

Modules: Length 225mm x width 44mm x Height 30mm

Cut-Out Dimensions (Emergency Pack Only)

75mm or above (minimum ceiling void of 320mm required)

NICKEL CADMIUM BATTERIES



FEATURES

- High temperature cells manufactured to the highest standard
- Graded to the demanding standards of IEC285
- When installed and operated in accordance with EN60598.2-22, the batteries meet the requirements for a 4 year life at 54°C
- Many standard battery configurations are available but we can offer special configurations to assist in the layout of components within luminaires with restricted space
- 1.5Ah Nicad cells give 1 hour of emergency back-up, 4Ah cells give 3 hours of emergency back-up
- In-line versions are supplied with tag connections and dual in-line and plate versions are supplied with non-reversible plugs

NICKEL METAL HYDRIDE BATTERIES

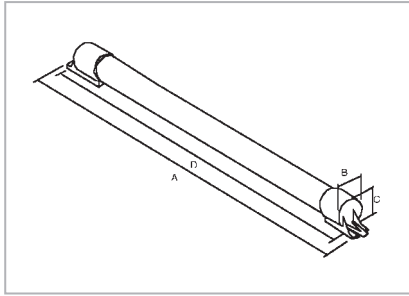


FEATURES

- Economic and practical alternative to Nickel Cadmium
- Kinder to the environment than Nickel Cadmium batteries
- Nickel Metal Hydride batteries have a higher power density than Nickel Cadmium batteries
- Can be used in products where space is limited
- High temperature Nickel Metal Hydride batteries are particularly designed for emergency lighting applications, which some alternative battery technologies cannot provide
- Nickel Metal Hydride batteries have a lower cost and longer active life than Lithium batteries
- Nickel Metal Hydride battery technology is advancing all the time and therefore Nickel Metal Hydride is an investment into the future

BATTERY TECHNICAL SPECIFICATION

STANDARD BATTERY FORMATIONS



IN LINE

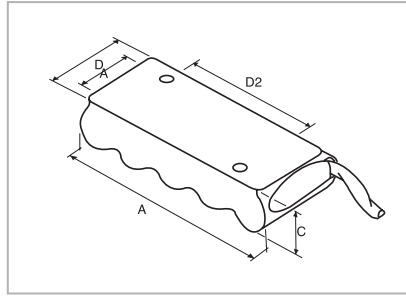
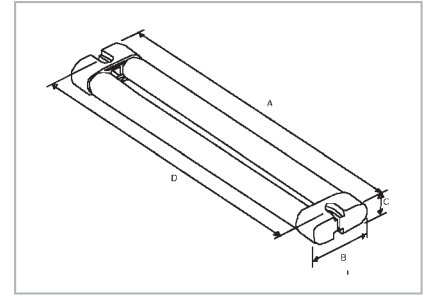


PLATE (SIDE-BY-SIDE)



DUAL IN-LINE

Cat No	Cells	Battery Type	Battery Style	Duration	Length (A)	Width (B)	Depth (C)	Fixing Centres (D)	Weight
BH164	2 x 4Ah	Nickel Metal Hydride	In-Line	3 Hours	140mm	20mm	20mm	70mm	0.14Kg
BH167	3 x 4Ah	Nickel Metal Hydride	In-Line	3 Hours	210mm	20mm	20mm	70mm	0.21Kg
B163/215	2 x 1.5Ah	Nickel Cadmium	In-Line	1 Hour	125mm	27mm	25mm	113mm	0.10Kg
B164/24	2 x 4Ah	Nickel Cadmium	In-Line	3 Hours	164mm	36mm	36mm	149mm	0.29Kg
B161/2X4	2 x 4Ah	Nickel Cadmium	Side by Side	3 Hours	65mm	72mm	36mm	-	0.28Kg
B165/315	3 x 1.5Ah	Nickel Cadmium	In-Line	1 Hour	167mm	27mm	25mm	155mm	0.15Kg
B166/3X4	3 x 4Ah	Nickel Cadmium	Plate	3 Hours	99mm	65mm	34mm	40mm x 33mm	0.47Kg
B167/34	3 x 4Ah	Nickel Cadmium	In-Line	3 Hours	226mm	36mm	36mm	214mm	0.43Kg
B168/415	4 x 1.5Ah	Nickel Cadmium	In-Line	1 Hour	209mm	27mm	25mm	197mm	0.20Kg
B169/4X4	4 x 4Ah	Nickel Cadmium	Plate	3 Hours	130mm	65mm	34mm	40mm x 65mm	0.59Kg
B702/4X4	4 x 4Ah	Nickel Cadmium	Dual In-Line	3 Hours	123mm	75mm	36mm	108mm	0.58Kg
B170/44	4 x 4Ah	Nickel Cadmium	In-Line	3 Hours	285mm	36mm	36mm	270mm	0.57Kg
B171/515	5 x 1.5Ah	Nickel Cadmium	In-Line	1 Hour	251mm	27mm	25mm	239mm	0.25Kg
B172/5X4	5 x 4Ah	Nickel Cadmium	Plate	3 Hours	163mm	65mm	34mm	40mm x 97mm	0.78Kg
B173/54	5 x 4Ah	Nickel Cadmium	In-Line	3 Hours	346mm	36mm	36mm	331mm	0.70Kg
B174/615	6 x 1.5Ah	Nickel Cadmium	In-Line	1 Hour	293mm	27mm	25mm	281mm	0.30Kg
B176/64	6 x 4Ah	Nickel Cadmium	In-Line	3 Hours	406mm	36mm	36mm	391mm	0.83Kg
B701/6X4	6 x 4Ah	Nickel Cadmium	Dual In-Line	3 Hours	182mm	75mm	36mm	167mm	0.84Kg
B878/84	8 x 4Ah	Nickel Cadmium	In-Line	3 Hours	525mm	36mm	36mm	510mm	1.00Kg
B879/8X4	8 x 4Ah	Nickel Cadmium	Dual In-Line	3 Hours	242mm	75mm	36mm	227mm	1.35Kg
B177/1015	10 x 1.5Ah	Nickel Cadmium	Dual In-Line	1 Hour	451mm	54mm	25mm	239mm	0.50Kg
B178/104	10 x 4Ah	Nickel Cadmium	In-Line	3 Hours	648mm	36mm	36mm	633mm	1.40Kg
B179/10X4	10 x 4Ah	Nickel Cadmium	Dual In-Line	3 Hours	300mm	75mm	36mm	285mm	1.35Kg

Cells

1.5Ah Nickel Cadmium cells are used with 1 hour duration modules/PCB's; 4Ah Nickel Cadmium cells are used with 3 hour duration modules/PCB's.

Permitted Cell Temperature

Minimum 0°C and maximum 54°C to give the specified performance for an expected life of 4 years.

Battery Fixing & Connections

Batteries are supplied with plastic end-caps or metal plates with provision for screw fixings and a non-reversible plug with the exception of in-line versions, which are fitted with tag connections. The appropriate connections are supplied with the batteries.

LED MAINS DRIVERS FOR SINGLE OR MULTIPLE ARRAYS



FEATURES

- Constant current output up to 33W
- Wide output Voltage range
- Input Voltage 220V-240V AC/DC 50/60Hz
- Power factor corrected >0.95
- IP20 polycarbonate housing
- Class 2 protection
- Supplied with strain relief cable clamps
- Designed and manufactured in accordance with BS EN61347-2-13, BS EN62384, BS EN55015, BS EN 61000-3-2 and BS EN61000-3-3

INTRODUCTION

At the request of many customers, we have designed a comprehensive range of reliable, high performance, energy saving LED drivers for single or multiple LED arrays powered from the mains supply.

Suitable for most types of LED luminaires, this new range of high quality drivers are manufactured in our ISO9001 approved factory.

Our design incorporates high specification components ensuring peace of mind on product performance, with exceptional operating efficiency with a constant lumen output, and also allowing for future LED efficacy upgrades.

Our in-house manufacturing and design systems offer flexibility to our global customer base, and this range of drivers are available with various output currents available on request to optimise specific requirements.

GENERAL SPECIFICATIONS

Cat No	LMD15350	LMD33700	LMD331050
Input Voltage	220V - 240V AC/DC		
Mains Frequency	50/60Hz		
Maximum Output Power	15W	33W	33W
Output Voltage Range (DC)	3V - 45V	3V - 45V	3V - 30V
Constant Current Output ($\pm 5\%$)	350mA	700mA	1050mA
Operating Ambient Temperature (ta)	50°C		
Power Factor λ	>0.95		
Enclosure	White polycarbonate		
Wire Size	1.5mm ²		

Various output currents are available to order, contact our technical department at technical@orbik.co.uk for further information

DIMENSIONS & WEIGHTS

Cat No	LMD15350	LMD33700	LMD331050
Dimensions L x W x H (mm)	Length 168 x Width 44 x Height 30		Length 225 x Width 44 x Height 30
Fixing Centres (mm)	148		205
Weight (Kg)	0.14		0.19



British Standards Institute Certification applied for

LED CONTROL GEAR FOR CENTRAL SYSTEMS

FEATURES

- Suitable for a wide range of single or multiple LED modules (arrays)
- Output Voltage range 3V - 80V DC
- Constant power output
- Supplied as standard with a 240V AC hold off relay
- IP20 polycarbonate housing
- Class 2 protection
- Supplied with strain relief cable clamps
- Designed and manufactured in accordance with BS EN61347-2-13, BS EN62384, BS EN55015, BS EN 61000-3-2 and BS EN61000-3-3



INTRODUCTION

Designed and manufactured in our ISO9001 approved factory, this new range of energy saving LED inverters is suitable for 24, 50, 110 and 220V AC/DC central systems.

Their design incorporates high quality, fully approved components from approved suppliers, and these inverters are supplied as standard in a compact IP20 polycarbonate housing, suitable for use with many LED luminaires operating from a central system.

This impressive range of LED inverters can allow the mains luminaires the option of night-light operation for use with CCTV systems.

The design of the 220V AC/DC version offers a more efficient and universal distribution of emergency lighting, resulting in cost effective and energy saving lower power systems required.

GENERAL SPECIFICATIONS

Cat No	LVR24	LVR50	LVR110	LVR220
Low Voltage Input Supply	24V AC/DC AC $\pm 10\%$ DC +25% - 16%	50V AC/DC AC $\pm 10\%$ DC +25% - 16%	110V AC/DC AC $\pm 10\%$ DC +25% - 16%	220V AC/DC AC $\pm 10\%$ DC +25% - 16%
Input Current (Load Dependant)	70mA - 520mA	36mA - 225mA	18.5mA - 105mA	9mA - 50mA
Input Power (Load Dependant)	1.75W - 12W	1.8W - 11.5W	1.95W - 11.5W	TBC
Power Factor λ	>0.95			
Hold-Off Relay Supply	240V AC 50/60Hz			
Output Voltage Range (DC)	3V - 80V			
Enclosure	White polycarbonate			
Wire Size	1.5mm ²			

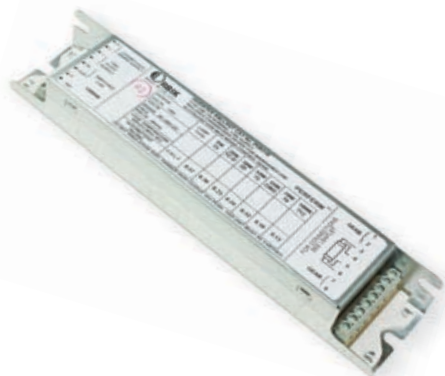
DIMENSIONS & WEIGHTS

Cat No	LVR24	LVR50	LVR110	LVR220
Dimensions L x W x H (mm)	Length 168 x Width 44 x Height 30			
Fixing Centres (mm)	148			
Weight (Kg)	0.15			

These notes are to be used as a guide only and are subject to change. For up-to-date product information and for all other enquiries or assistance, please contact our technical department at technical@orbik.co.uk.



FLUORESCENT CENTRAL SYSTEM INVERTERS



FEATURES

- Suitable for use with 24V, 50V or 110V central battery systems
- Compatible with a wide fluorescent lamp range between 4W and 100W
- Incorporates Perform™ technology to ensure extended lamp life and correct operation
- Output uses a high efficiency sinusoidal inverter
- All inverters feature an AC hold-off relay
- Case temperature of 0 to 70°C (centre side of case)
- EMC compliant
- Designed to conform to EN61347

INTRODUCTION

We produce a range of inverter units suitable for operating fluorescent lamps from low voltage AC or DC supplies, including central battery systems of 24 Volts, 50 Volts and 110 Volts and fluorescent lamps from 4 Watts to 100 Watts.

All inverters incorporate our Perform™ technology to ensure good lamp life and correct operation with low mercury fluorescent lamps and sine-wave output to prolong lamp cathode life and prevent unpleasant visual lamp effects.

They are designed to comply with the European product standards EN50172, EN55015, EN 61547 and EN 61000.3.2 and are produced in our UK manufacturing plant which is registered to BS EN ISO9001:2000 by BSI.

AC hold-off relay are used to convert normal mains luminaires to emergency luminaires by switching the lamp from the normal mains control gear to the inverter output when the un-switched monitored mains supply fails.

GENERAL SPECIFICATIONS

Cat No	PVR24	PVR50	PVR110
DC Inverter Supply Range	Nominal supply –16% + 25%		
AC/DC Inverter Supply Range	Nominal supply –16% + 25% ± 10% AC supply		
Mains Frequency	50/60Hz		
Operating Temperature Range	0 to 70°C		
Enclosure	Metal		
Wire Size	1.5mm ²		

DIMENSIONS & WEIGHTS

Cat No	PVR24	PVR50	PVR110
Dimensions L x W x H (mm)	Length 216 x Width 42 x Height 28		
Fixing Centres (mm)	206		
Weight (Kg)	0.35		

TECHNICAL SPECIFICATION

Cat No	PVR24				PVR50				PVR110			
Lamp	Power Input		BLF		Power Input		BLF		Power Input		BLF	
	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC
18W/20W T8	18VA	8W	0.20	0.14	21VA	8W	0.24	0.20	23VA	9W	0.24	0.18
36W T8	21VA	11W	0.17	0.14	27VA	11W	0.27	0.20	28VA	11W	0.22	0.18
58W T8	24VA	13W	0.13	0.11	34VA	14W	0.29	0.22	33VA	14W	0.22	0.18
70W T8	27VA	15W	0.12	0.09	38VA	16W	0.10	0.08	36VA	17W	0.10	0.08
100W T12	27VA	14W	0.09	0.06	37VA	16W	0.15	0.10	35VA	16W	0.13	0.11
8W T5	15VA	7W	0.45	0.56	19VA	8W	0.60	0.45	21VA	9W	0.57	0.43
13W T5	16VA	8W	0.62	0.48	20VA	8W	0.64	0.50	22VA	9W	0.58	0.46
14W T5	16VA	9W	0.36	0.27	21VA	9W	0.50	0.36	23VA	9W	0.42	0.33
21W T5	19VA	10W	0.32	0.24	24VA	11W	0.44	0.34	25VA	11W	0.40	0.32
28W T5	22VA	12W	0.31	0.23	31VA	13W	0.46	0.35	30VA	13W	0.42	0.35
35W T5	25VA	14W	0.31	0.23	36VA	16W	0.45	0.33	34VA	15W	0.41	0.34
39W T5	22VA	12W	0.15	0.12	30VA	13W	0.24	0.18	30VA	13W	0.22	0.17
49W T5	26VA	15W	0.29	0.22	37VA	17W	0.44	0.28	35VA	16W	0.33	0.26
54W T5	27VA	15W	0.18	0.14	36VA	16W	0.26	0.20	35VA	16W	0.24	0.20
80W T5	30VA	17W	0.17	0.14	41VA	19W	0.28	0.22	39VA	19W	0.25	0.21
22W T5 Circular	19VA	10W	0.28	0.25	26VA	11W	0.40	0.33	26VA	11W	0.38	0.30
40W T5 Circular	24VA	13W	0.30	0.23	33VA	14W	0.45	0.35	30VA	13W	0.43	0.34
55W T5 Circular	26VA	14W	0.25	0.20	35VA	15W	0.39	0.29	33VA	15W	0.33	0.27
16W 2D	17VA	9W	0.45	0.38	21VA	9W	0.60	0.46	23VA	9W	0.56	0.44
28W 2D	19VA	9W	0.24	0.19	27VA	11W	0.36	0.27	25VA	11W	0.33	0.24
38W 2D	19VA	11W	0.16	0.13	27VA	11W	0.24	0.19	30VA	13W	0.23	0.17
55W 2D	23VA	12W	0.17	0.13	30VA	12W	0.19	0.19	30VA	13W	0.21	0.17
24W TC-L	19VA	9W	0.25	0.20	21VA	9W	0.43	0.28	24VA	10W	0.36	0.25
36W TC-L	22VA	11W	0.22	0.16	26VA	11W	0.30	0.25	29VA	12W	0.29	0.21
40W TC-L	24VA	13W	0.29	0.21	30VA	13W	0.39	0.28	31VA	14W	0.36	0.28
55W TC-L	26VA	14W	0.22	0.18	32VA	13W	0.31	0.24	33VA	15W	0.30	0.25
7W TC-S	15VA	7W	0.38	0.28	18VA	7W	0.47	0.35	20VA	8W	0.53	0.40
9W TC-S	15VA	8W	0.42	0.35	19VA	8W	0.58	0.48	21VA	9W	0.58	0.46
11W TC-S	16VA	8W	0.40	0.29	20VA	8W	0.55	0.43	22VA	9W	0.61	0.49
18W TC-D	19VA	9W	0.31	0.24	23VA	10W	0.45	0.35	24VA	10W	0.42	0.32
26W TC-D	20VA	11W	0.24	0.18	27VA	11W	0.35	0.22	26VA	11W	0.30	0.25
32W TC-T	21VA	12W	0.37	0.28	28VA	12W	0.51	0.40	29VA	12W	0.49	0.38
42W TC-T	23VA	13W	0.23	0.13	32VA	14W	0.39	0.24	32VA	13W	0.36	0.24



ORBIK



INTELLIGENT SYSTEMS

Intelligent emergency lighting systems providing cost-effective peace-of-mind for the end-user



PALS™ INTELLIGENT
ADDRESSABLE SYSTEM

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DST™ AUTOMATIC
SELF-TESTING MODULE

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PALS™ INTELLIGENT ADDRESSABLE SYSTEM



INTRODUCTION

Regular testing and maintenance of emergency lighting is essential and is now a legal requirement in many countries. It is possible to carry out testing manually but this can be expensive and time consuming and accurate record keeping difficult to arrange.

PALS™ is a programmable addressable light system that will automatically test and monitor the emergency lighting system and produce accurate reports of test results and system events.

It ensures building owners and occupiers are informed promptly of any problems affecting their emergency lighting system.

PALS™ SPECIFICATION

Mains Supply 230V 50Hz AC

Standby Integral charger for 12V 6Ah valve regulated lead acid battery (battery not supplied)

Auxiliary Relay 1 Volt-free change over output (contacts rated at 5A 250V maximum per relay)

Sensor Circuit Two-wire addressable loop

Loop Protection Short circuit protection on-board (without isolators in loop)

Signalling Lines 5 plug-in line driver circuits

Devices Per Line Up to 126 luminaires per line driver

Controls Alpha-numeric key pad

Indicators 20 test zone LEDs and audible buzzer

Display 2 line by 40 characters backlit LCD, 20 LED zone test indicators, 20 LED zone fault indicators, 2 LED common fault indicators

Communications 1 x RS485 serial port (OEL-485 plug-in module required), 1 x onboard RS232 port

Recommended Cable For signalling line circuits Beldon 8762, 8760 or 8719 is recommended

Dimensions Panel: Length 375mm x Height 375mm x Depth 80mm (Weight 10kg excl. batteries) ; Interface: Length 130mm x Width 50mm x Depth 30mm (Weight 80g)

PALS™ PANEL FEATURES

- Each PALS™ panel is fully expandable from 1 to 5 loops using plug-in line drivers
- A maximum of 126 devices can be supported by each line driver card allowing one panel to monitor and test 630 devices. However, 100 devices should be specified to allow for future expansion
- 95 PALS™ panels can be networked to allow a total system size of 59,850 devices
- A range of interface units allow the system to operate with most types of emergency luminaires including self-contained, central battery and static inverter systems for both LED and fluorescent light sources
- User-friendly software with auto-learn device and data loop status for trouble-free setting-up, commissioning and fault-finding
- Constant communication with luminaires to prove system integrity
- Reports charger or mains supply failure within 60 seconds of the event
- Carries out weekly, quarterly and annual tests, either fully automatically or to customers own requirements up to a maximum of 500 tests per year
- Full system and luminaires test can be manually activated at any time
- Reports luminaire number, location and nature of fault detected
- On-board power supplies on the panel to maintain system memory in the event of power failure
- Easy to use, tab-style question for programming and operating, on-board alpha numeric keyboard for easy updates and modifications
- Multi-panel networking, PC report and control
- Complies with the requirements of BSEN62034
- Interface available for internal Ethernet networking

PALS™ SELF-CONTAINED & CENTRAL SYSTEM INTERFACE FEATURES

OEL-308 monitors and tests for:

- Unswitched mains supply is present at all times
- Battery is connected and charging
- Light output from the LED/lamp in emergency operation (PALS™ monitors the actual lamp light output as current monitoring can be unreliable)
- Data loop integrity at all times

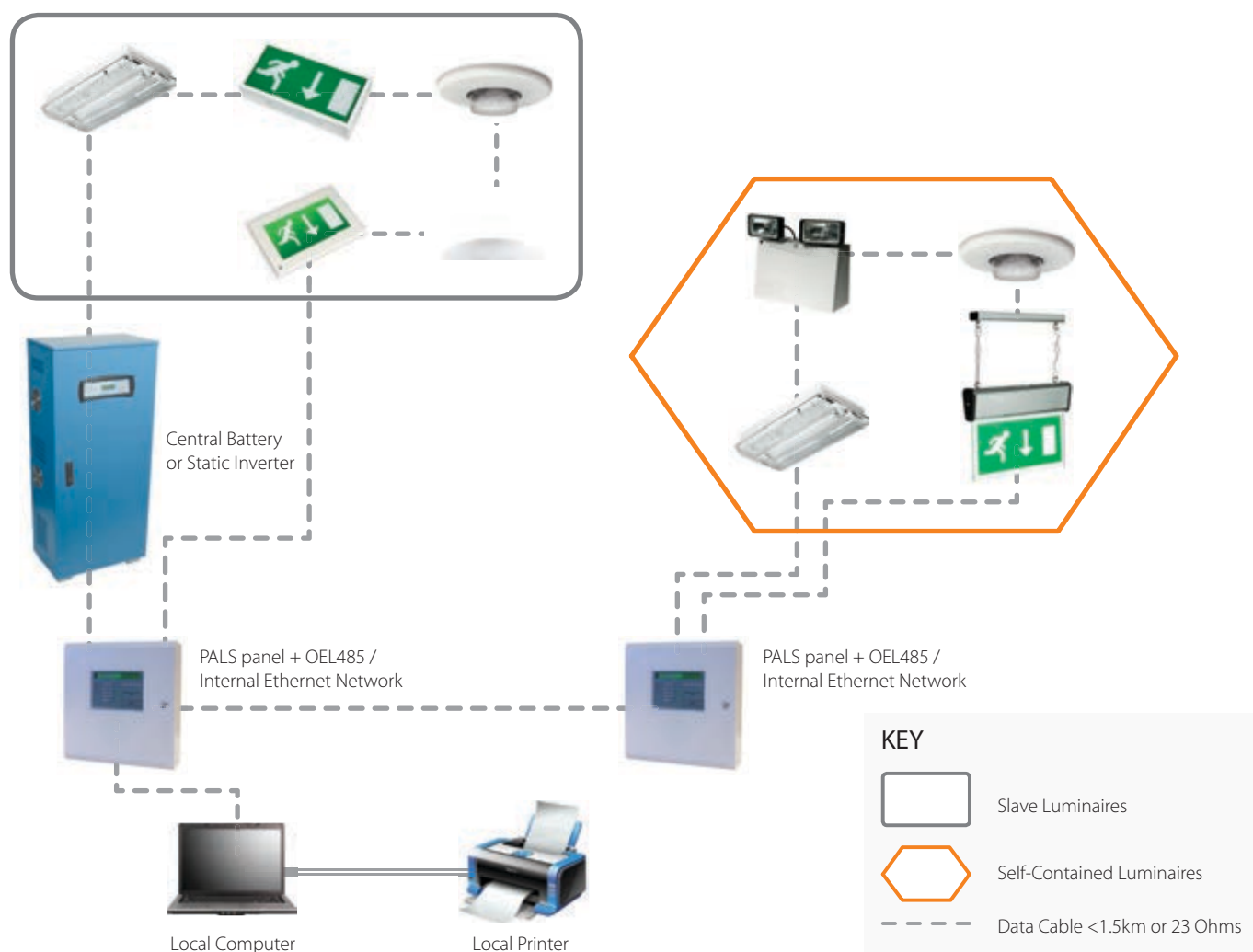
OEL-309 monitors and tests for:

- Light output from the LED/lamp in emergency operation
- Data loop integrity at all times

CATALOGUE NUMBERS

Cat No	Description	Function/Information
OELCA1	PALS™ control panel	Each panel requires at least 1 x OEL001 driver, with a maximum of 5
OEL001	PALS™ line driver	To allow for future expansion, specify 100 devices per driver (maximum of 126)
OEL003	9 pin-25 pin D type cable	For serial printer connection
OEL004	RS232 cable and gland	Internal cable and gland for local printer and RS232 panel communications
OEL008	PC-Net 001 upload software	To allow easy on-site description and test changes via external computer
OEL009	PC-Net 002 light logger software	Allows full off-site system monitoring and testing facilities
OEL010	Ethernet interface card	One required for communicating with PALS™ panels
OEL108	RS232-RS485 converter	Converter for use with local RS232 printers
OEL302	Lighting interface	One required for each emergency luminaire, monitors charge, mains and light output
OEL304/20	12V 20W Tungsten interface	Monitors the current in 10W and 20W non-maintained Tungsten luminaires
OEL304/40	12V 50W Tungsten interface	Monitors the current in 20W and 50W non-maintained Tungsten luminaires
OEL305	Fluorescent central system interface	One required for each static inverter or central battery unit with fluorescent luminaires
OEL307	Light sensor interface	Monitors only the lamp light output, one required for each luminaire used on central systems
OEL308	LED lighting interface	Monitors only the LED light output, one required for each luminaire used on central systems
OEL309	LED central system interface	One required for each static inverter or central battery unit with LED luminaires
OEL485	RS485 network card	One required for each panel for local and modem networking of PALS™ panels
16-508	12V 6Ah valve regulated lead acid battery	Must be installed in each PALS™ panel to ensure back-up in the event of a power failure

SYSTEM SCHEMATIC



DST™ FULLY AUTOMATIC SELF-TESTING MODULE



FEATURES

- Fully automatic
- Complies with the requirements of BS5266 and BSEN62034
- Suitable for use with most nickel cadmium, nickel metal hydride and valve regulated lead acid self-contained emergency luminaires
- Carries out the thorough monthly, 6 monthly and annual tests contained within BS5266 without the need for manual intervention
- Provides both a visual and audible alarm indication when a fault is detected
- Audible alarm can be disabled if required
- Non-volatile memory ensures the clock is suspended during a power failure but the test sequence will remain unaltered. When power is restored, DST™ will proceed from the point at which the power failed
- On power-up, the DST™ enters a battery pre-conditioning mode to ensure batteries are in a suitable condition to supply sufficient power for emergency operation
- Testing, initiation and clock resetting are carried out via a single discrete push button

PERFORMANCE

DST™ standard testing programme conforms to the requirements of BS5266-1

Monthly 1 minute, functional test

6 Monthly 5 minute, duration test

Annually 3 hours, full rated duration test

DST™ LED status reports are made via a single tri-colour LED



Continuous green LED

Mains, battery, charger and previous test correct



Continuous red LED

Test in progress



Flashing amber LED (with optional sound alarm)*

Test fail alarm



Unlit LED

Mains failure or faulty battery

* If a fault is detected the sounder will enter a cycle where it emits an optional audible alarm and sound every 10 seconds until 4 hours have elapsed. If during this time the test is not reinitiated or the DST™ is not reset, the alarm cycle will be repeated. A single bleep will only be emitted during manually initiated tests.

CATALOGUE NUMBERS

Cat No	Description
DST-2CELL	Suitable for all modules using 2 cell batteries
DST-3CELL	Suitable for all modules using 3 cell batteries
DST-4CELL	Suitable for all modules using 4 cell batteries
DST-5CELL	Suitable for all modules using 5 cell batteries
DST-6CELL	Suitable for all modules using 6 cell batteries
DST-8CELL	Suitable for all modules using 8 cell batteries
DST-10CELL	Suitable for all modules using 10 cell batteries
DST-12V	Suitable for Tungsten lamps using 12V lead acid batteries

DIMENSIONS

Module Length 130mm x Width 50mm x Depth 30mm (Weight 80g)

Fixing Centres 120mm along centre line

TECHNICAL INFORMATION

Installation

The external test switch requires a 7mm mounting hole and needs to be accessible for initial programming, manual tests and clock resetting.

The monitor LED bezel requires a 6.25mm mounting hole and should always be visible with the luminaire in its installed condition.

The lamp sensor needs to be located adjacent to and pointing at the emergency lamp.

Wiring

The screw terminal connections to the DST™ unit are suitable for wires up to 1.5mm diameter. Wiring connections between the batteries and the DST™ unit need to be kept as short as possible to reduce Voltage drops.

Commissioning & Testing

24 hours after initial power-up, the DST™ enters a battery pre-conditioning phase. If the battery charge allows less than 5 minutes of emergency operation a fault indication will occur. The test is repeated 24 hours later and if less than 1 hour of emergency operation occurs, a fault indication will be given. 60 hours after initial power up, the DST™ exits the battery-conditioning mode and commences the test regime with a 5 minute monthly test.

At any time a momentary push on the test switch will invoke a 12 second functional test, which is indicated by the monitoring LED changing to red, accompanied by a single bleep from the internal sounder (if enabled).

To reset the internal clock and thus restart the test timing cycle, the test button needs to be pushed and held in for at least 5 seconds. A successful clock reset is indicated by a double bleep from the sounder. Following a clock reset the DST™ unit will re-enter the battery pre-conditioning phase.

DST™ units incorporate a sounder, which can be muted by removing the black shorting link located below the test switch and sensor terminals.

Further technical information is available from our technical department at technical@orbik.co.uk or from www.orbik.co.uk.

CENTRAL SYSTEMS

A wide range of central battery and static inverter emergency lighting systems to suit even the most demanding lighting applications.



**CBU CENTRAL
BATTERY SYSTEMS**

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**LPAC SINGLE PHASE
STATIC INVERTERS**

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**HPAC SINGLE PHASE
STATIC INVERTERS**

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**HPAC 3 PHASE
STATIC INVERTERS**

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**MINI - SINE COMPACT
STATIC INVERTERS**

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**DRM415AC
CHANGEOVER RELAY**

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CBU AC/DC CENTRAL BATTERY SYSTEMS



FEATURES

- Output configurable to be maintained and/or non-maintained
- Deep discharge protection for batteries
- Microprocessor control
- Reverse battery polarity protection
- Modular design improving reliability and serviceability
- Compact floor standing enclosure
- Models range from 1.5kVA through to 10kVA in either 48, 110 or 220VAC output Voltage (larger systems available to order)
- Complies with BS EN 50171

ORDERING INFORMATION

- Use basic catalogue number, e.g. CBU4
- Add either suffix /48, /110 or /220 for 48, 110 or 220VAC output Voltage
- Add suffix /3 for standard 3 hour duration (systems for 1 hour duration can be manufactured to order, add suffix /1)
- Example ordering code is now CBU4/110/3 (4kW 110V central battery system for 3 hours duration)

GENERAL SPECIFICATIONS

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Operating temperature	0 - 40°C					
Altitude	Max 1000m before de-rating					
Protection level	IP23					
Colour	RAL 7035					
Noise level	< 55dBA @ 1m (free field conditions)					

POWER

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Output active power (kW)	1.50	2.70	4.00	6.00	7.00	10.00
Apparent output power (kVA)	1.50	2.70	4.00	6.00	7.00	10.00

INPUT

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Number of phases	1					
Nominal input voltage (VAC)	230					
Voltage tolerance	+ / -10%					
Nominal input frequency	50Hz (+ / -5%)					

OUTPUT

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Nominal output voltage	48 / 110 / 220 VAC / DC (other Voltages available on request)					
Nominal output frequency	50 Hz during mains operation / DC during battery operation					
Overload	120% continuous					

BATTERY SPECIFICATIONS

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Type	Sealed lead acid maintenance-free					
Design life	10 years @ 20°C					

STANDARDS

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Emergency lighting	BS EN 50171					
Safety	EN 62040-1					
Emissions	EN 61000-6-3					
Immunity	EN 61000-6-2					
Batteries	BS EN 6290-4					

DIMENSIONS & WEIGHTS

Model/Power Rating	CBU1	CBU2	CBU4	CBU6	CBU7	CBU10
Enclosure W x D x H (mm)	800 x 400 x 1715		830 x 630 x 1850			
Weight (Kg)	300	500	750	1065	1125	1625

* Indicates separate enclosure is required to house batteries (dimensions of additional enclosure are 830mm W x 630mm D x 1850mm H)

REMOTE MONITORING/CONNECTIONS

Volt-Free Contacts

Includes Volt-free contacts for system in **battery mode**, **charger fault**, **load alarm** and **common alarm**. Normally open and normally closed contacts are provided for each of the above alarms. Alarm relays are energised when in healthy condition and relax into the fault condition. This ensures the contacts indicate a fault condition even when the system is off or in sleep mode (no power for extended periods).

SYSTEM OPERATION

Mains Healthy

The battery charger charges the batteries and the load is supplied via the isolation transformer and changeover. For non-maintained applications, the output is normally off and therefore the isolation transformer is not required.

Mains Failure

The load is transferred to the battery which will supply the load for the rated duration (usually one or three hours) or until the mains power is restored. Systems are generally supplied with single phase input but three phase input can be supplied if required. Three phase input systems utilise one phase from the input to supply any maintained load (via the changeover).

PROTECTIONS

Overload Protection

During mains healthy conditions overall load is monitored, overload is displayed and the buzzer sounds if the rated load is exceeded for more than 5 seconds. During mains failure, overload is displayed and the buzzer sounds if the preset overload point (>120% of rated load) is exceeded for more than 5 seconds.

Battery Disconnection Protection

Battery connection is monitored to ensure continuity and if disconnected the display will indicate that the battery is off and the buzzer will sound.

Deep Discharge Protection

During prolonged mains failures, the system will deplete the battery to protect the battery from further discharge. The discharge current is reduced to virtually zero by the system inducing sleep mode.

Reverse Battery Polarity Protection

The system is protected from reverse battery protection as required by BS EN 50171.

LPAC SINGLE PHASE STATIC INVERTERS



FEATURES

- Designed to the latest European EN50171 Specification
- True sinewave & PWM microprocessor controlled technology up to 97% efficiency
- System and battery test function
- Capable of 120% continuous overload to meet European Emergency Lighting regulations
Dynamic voltage control allowing wide input (Smart AVR)
- Larger charger for faster recharge of batteries Ultra-fast changeover mode to battery mode
- Two way built-in distribution panel (optional 4 way)
- LCD panel providing accurate detailed information about load, batteries, system diagnostics and manual testing facility & audible alarm
- RS232 and dry contacts for communication and remote monitoring internal self-contained battery system
- Generator compatible
- Remote monitoring panel (optional)

ORDERING INFORMATION

- Use basic catalogue number, e.g. LPAC1250
- Add suffix /3 for standard 3 hour duration (systems for 1 hour duration can be manufactured to order, add suffix /1)
- Example ordering code is now LPAC1250/3 (1250VA single phase static inverter system for 3 hours duration)

GENERAL SPECIFICATIONS

Cat No	LPAC500	LPAC1250	LPAC3000
Power - Power Rating VA/W - Power Factor	500/400 0.8	1250/1000 0.8	3000/2400 0.8
Efficiency at 100% load	>97%		
Operating Temperature (Ambient)	0-40°C		
Serial Communication	Dry contacts plus RS232		
Altitude	<1000 Metres (above sea level)		
Protection Degree	IP21		
Noise Level at 1m	<56 dBA		
Standard	Emergency lighting EN50171		

INPUT

Cat No	LPAC500	LPAC1250	LPAC3000
Voltage/Tolerance	230 Vac single phase /184V ~ 285V		
Frequency	50Hz ± 5%		
Maximum RFI	EN50091-2 CLASS A		

OUTPUT

Cat No	LPAC500	LPAC1250	LPAC3000
Voltage	230 Vac single phase		
Voltage Stability	Changeover mode $\pm 10\%$ / battery mode $\pm 3\%$		
Voltage Recovery Time	After step load 0-100% maximum 20ms		
Frequency	50Hz (60Hz to order)		
Short Circuit Protection	Electronic short circuit		
Overload Capacity	120% continuous, 150% alarm load		

BATTERY SPECIFICATIONS

Cat No	LPAC500	LPAC1250	LPAC3000
Battery Type	Sealed lead acid - maintenance free		
Float Charging Voltage	54Vdc		
End of Discharge Voltage	42Vdc		
Battery Ambient Temperature	20°C		
Battery Test	Automatic battery test / smart battery management		
Battery Protection	Double pole DC circuit breaker		

DIMENSIONS & WEIGHTS

Cat No	LPAC500	LPAC1250	LPAC3000
Dimensions W x D x H (mm)	750 x 250 x 850	750 x 250 x 1250	750 x 400 x 1250
Weight (Kg)	120	195	445

ORBIK TECHNICAL

Orbik's highly trained technical after-sales team are committed to ensuring that our customer's requirements continue to be met from the initial sales enquiry all the way through to the maintenance and commissioning of lighting systems.

By identifying and responding to individual customer's specific requirements, we have gained a reputation for excellent technical support, which has enabled our products to be at the forefront of many prestigious installations throughout the UK and overseas.

Our technical department are equipped to provide lighting solutions to even the most demanding of installations and can offer the client total peace-of-mind by providing photometric data and other lighting design information, including luminaire data files.

For further information, contact our technical department at technical@orbik.co.uk



HPAC SINGLE PHASE STATIC INVERTERS



FEATURES

- True double-conversion and PWM technology
- Inverter stage output Galvanic isolation transformer included
- Capable of 120% continuous overload to meet European Emergency Lighting regulations
- Parallel mode operation (optional) (hot standby, redundant, symmetric parallel)
- Larger 20 Amp charger for faster recharge of batteries
- Maintenance by-pass (for complete isolation of the inverter during maintenance)
- Unique Inverter design to suit high inrush lighting loads
- Bypass to load (changeover mode) user selection
- LCD panel providing accurate detailed information about the Load, Batteries and Inverter with advanced diagnostics.
- 3 Microprocessors; main control board, rectifier board, optional parallel control board
- Real time clock and calendar indicator
- 64 Recorded real-time events history
- RS232 and dry contacts for communication and remote monitoring
- Designed and manufactured under ISO9001 certification

ORDERING INFORMATION

- Use basic catalogue number, e.g. HPAC8
- Add suffix /3 for standard 3 hour duration (systems for 1 hour duration can be manufactured to order, add suffix /1)
- Example ordering code is now HPAC8/3 (8kVA single phase static inverter system for 3 hours duration)

GENERAL SPECIFICATIONS

Cat No	HPAC4	HPAC5	HPAC6	HPAC8	HPAC12	HPAC20/SP
Output Rating kVA	4	5	6	8	12.5	20
Output Rating kW	3.2	4	4.8	6.4	10	14
Power Factor	0.8					
Serial Communication	Dry contacts plus RS232					
Protection Degree	IP41					
Operating Temp. (Ambient)	0-40°C					
Standard	Emergency lighting EN50171					
Ventilation	Forced air cooling					
Altitude	<1000 Metres (above sea level)					
Relative Humidity	90% maximum (non-condensing)					
Acoustic Noise at 1m	<56dBA					

INPUT

Cat No	HPAC4	HPAC5	HPAC6	HPAC8	HPAC12	HPAC20/SP
Voltage/Tolerance	230Vac single phase, 4 wires + ground / $\pm 15\%$					
Bypass Voltage	230Vac single phase					
Input Frequency	50Hz $\pm 5\%$ (60Hz to order)					
Maximum RFI	EN 50091-2 class A					

OUTPUT

Cat No	HPAC4	HPAC5	HPAC6	HPAC8	HPAC12	HPAC20/SP
Voltage	230Vac single phase					
Voltage Stability	Static (balanced load) $\pm 1\%$ Static (unbalanced load) $\pm 2\%$ Dynamic (step load 0-100%) $\pm 5\%$					
Voltage Recovery Time	After step load 0-100% maximum 20ms					
Frequency	50Hz (60Hz to order)					
Frequency Tolerance	Line synchronised $\pm 1\%$ Free running $\pm 0.2\%$					
Efficiency at 100% Load	>87-91%					
Crest Factor	3:1					
Short Circuit Protection	Electronic short circuit					
Overload Capacity	120% continuous, 150% load 10 minutes, 180% load 1 minute, 200% load for 1 second					
Total Harmonic Distortion	Linear load <3% Non-linear load 75% NP and CF 3:1) <5%					

BATTERY SPECIFICATIONS

Cat No	HPAC4	HPAC5	HPAC6	HPAC8	HPAC12	HPAC20/SP
Battery Type	Sealed lead acid - maintenance free					
Number of 12V Blocks	16	18		20		26
Float Charging Voltage	216Vdc	243Vdc		270Vdc		354Vdc
End of Discharge Voltage	160Vdc	180Vdc		200Vdc		260Vdc
Battery Charging Characteristics	25°C					
Battery Ambient Temperature	Electronic short circuit					
Automatic Battery Test	Weekly					
Battery Protection	Circuit breaker					

DIMENSIONS & WEIGHTS

Cat No	HPAC4	HPAC5	HPAC6	HPAC8	HPAC12	HPAC20/SP
Dimensions W x D x H (mm)	300 x 500 x 1220					TBC
Weight (Kg)	85	95	110	125	155	TBC

OPTIONAL EXTRAS

(Models incorporating any of the following options are manufactured to order)

- Increased power with parallel operation
- Increased reliability with 1+1 redundant operation
- Additional battery modules for extension of autonomy
- Wide Area Network management via SNMP.
- Remote monitoring panel RM-2000
- Modbus connection for interface with BMS Systems
- Input / output customisation

HPAC 3 PHASE STATIC INVERTERS



FEATURES

- Designed to the latest European EN 50171 specification for emergency lighting
- True double conversion and PWM technology
- Inverter stage output galvanic isolation transformer included
- Up to 91% efficiency
- Capable of 120% continuous overload to meet European emergency lighting regulations
- Large charger for faster recharge of batteries
- Maintenance bypass (for complete isolation of the inverter during maintenance)
- Unique inverter design to suit high inrush lighting loads
- Bypass to load (changeover mode) user selection
- LCD panel providing accurate detailed information about load, batteries and inverter with advanced diagnostics
- RS232 and dry contacts for communication and remote monitoring

ORDERING INFORMATION

- Use basic catalogue number, e.g. HPAC20
- Add suffix /3 for 3 phase input
- Add suffix /3 for 3 phase output
- Add suffix /3 for standard 3 hour duration (systems for 1 hour duration can be manufactured to order, add suffix /1)
- Example ordering code is now HPAC20/3/3/3 (20kVA 3 phase input/output static inverter system for 3 hours duration)

GENERAL SPECIFICATIONS

Cat No	HPAC10	HPAC15	HPAC20	HPAC25	HPAC30	HPAC40	HPAC60	HPAC80	HPAC100	HPAC120	HPAC160
Nominal Output Rating (kVA)	10	15	20	25	30	40	60	80	100	120	160
Nominal Output Rating (kW)	8	12	16	20	24	32	48	64	80	96	128
Power Factor	0.8										
Serial Communication	Dry contacts plus RS232										
Noise Level at 1m	<56dBA					<60dBA		<65dBA			
Operating Temperature (Ambient)	0-40°C										
Storage Temperature	-10 / +70										
Altitude	<1000 Metres (above sea level)										
Relative Humidity	90% maximum (non-condensing)										
Immunity	According to EN62040-2										
Colour	RAL 7035 (Other colours available to order)										
Protection Degree	IP41										
Standard	Emergency lighting EN50171										

INPUT

Cat No	HPAC10	HPAC15	HPAC20	HPAC25	HPAC30	HPAC40	HPAC60	HPAC80	HPAC100	HPAC120	HPAC160
Voltage/Tolerance	380/400 Vac three phase, 4 wires, +ground, +/-15%										
Bypass Voltage	380/400V ac three phase +/- 10%										
Input Frequency Range	50Hz +/- 5Hz (60Hz to order)										
Max RFI	EN50091-2 Class A										

OUTPUT

Cat No	HPAC10	HPAC15	HPAC20	HPAC25	HPAC30	HPAC40	HPAC60	HPAC80	HPAC100	HPAC120	HPAC160
Voltage	380/400 Vac three phase										
Voltage Stability	Static (balanced load) +/- 1%, static (unbalanced load) +/- 2%, dynamic (step load 0-100%) +/- 5%										
Voltage Recovery Time	After step load 0-100% maximum 20ms										
Frequency	50Hz (60Hz to order)										
Frequency Tolerance	Line synchronised +/- 1% / free running +/- 0.2%										
Short Circuit Protection	Electronic short circuit										
Overload Capacity	120% continuous, 150% load 10 minutes, 180% load 1 minute, 200% load for 1 second										
Total Harmonic Distortion	Linear load <3% / non-linear load 75% NP and CF 3:1) <5%										
Output Waveform	Sine Wave										

RECTIFIER SPECIFICATIONS

Cat No	HPAC10	HPAC15	HPAC20	HPAC25	HPAC30	HPAC40	HPAC60	HPAC80	HPAC100	HPAC120	HPAC160
Dc Ripple Voltage	1% rms										
Battery Recharging Characteristic	IU (DIN 41773)										
Input Protection	Fast fuses										

BATTERY SPECIFICATIONS

Cat No	HPAC10	HPAC15	HPAC20	HPAC25	HPAC30	HPAC40	HPAC60	HPAC80	HPAC100	HPAC120	HPAC160
Battery Type	Sealed lead acid -maintenance free										
Battery Ambient Temperature	25°C										
Automatic Battery Test	Weekly										
Battery Protection	Circuit breaker										

DIMENSIONS & WEIGHTS

Cat No	HPAC10	HPAC15	HPAC20	HPAC25	HPAC30	HPAC40	HPAC60	HPAC80	HPAC100	HPAC120	HPAC160
Dimensions W x D x H (mm)	530 x 720 x 1180			590 x 800 x 1450			790 x 880 x 1500	TBA			
Number of 12V Blocks	260	276	332	404	494	572	630	780	820	970	1160

DISPLAY MEASUREMENT & ALARMS

Measurements

Input Voltages:	Input Voltages shown for each phase
Input Currents:	Input currents shown for each phase
Bypass Input Voltage:	Bypass input Voltage for each phase
Battery Voltage:	DC Bus and battery Voltage
Battery Charge Level:	Battery level shown as %
Output Voltage:	Output Voltage shown for each phase
Load:	Load % for each phase
Output Frequency:	Output frequency
Temperature:	Internal temperature
Alarms:	Alarms displayed with date and time

Alarms

Inverter Output Failure	Charger Fault
Battery Low	Overload
Mains Failure	IGBT Failure
Inverter Output Voltage Low	Fuse Failure
Bypass Input Voltage	Battery Circuit Breaker Open
Low Battery Capacity	UPA in Boost Charge
Input Phase Rotation Error	Load Sharing Fault
Inverter Performing Battery Test	Mains Healthy
Boost Charge Period Finished	
End of Autonomy	
Inverter Output Voltage High	
High Temperature	
Battery Voltage High	
Bypass Input Frequency	
Battery Fault	
Parallel Configuration Fault	
Inverter Running on Battery	
Inverter Cannot Start	

MINI-SINE COMPACT STATIC INVERTER

FEATURES

- Designed to operate loads up to 150 Watts at 230 Volts
- Available in either 1 hour or 3 hours emergency duration
- Charger features short circuit and battery reversal protection
- Thermal shutdown protected
- Addition cooling for the charger during early charging stages provided by a quiet chassis mounted fan
- Sine wave inverter includes over temperature and short circuit protection and is suitable for operation in an ambient of up to 30°C
- Front panel indicators display healthy supply, power failure battery disconnect/charger failure and over charge indicator
- High quality robust steel enclosure
- Ideal for use with LED and Tungsten lighting schemes

CATALOGUE NUMBERS

Cat No	Description	Weight*
MS150/1	150W 1 hour static inverter unit	21.0Kg
MS150/3	150W 3 hours static inverter unit	30.0Kg

* Unit weight includes batteries (1 hour version 2 x 12V 12Ah; 3 hours version 2 x 12V 25Ah VRLA)

DIMENSIONS

Length 375mm x Width 440mm x Depth 160mm

CHANGE-OVER & SUB-CIRCUIT MONITOR RELAY

FEATURES

- Can be used with either maintained or non-maintained luminaires powered from a static inverter
- Provides local sub-circuit monitoring to comply with EN50171, the European Standard for centrally supplied emergency systems
- The DRM415AC is available with a number of options such as a steel remote housing and addressable versions
- The DRM415AC can be factory fitted in many 'free-issued' luminaires
- For non-maintained operation, the static inverter supply is connected to the DRM415AC together with the local lighting circuits' unswitched supply
- For maintained operation, the switched supply is also connected to the DRM415AC allowing the luminaire to be switched on and off as though it were a normal mains luminaire
- In the event of the unswitched supply failing, the relay changes over and the luminaire is operated by the static inverter

CATALOGUE NUMBER

Cat No	Description	Weight
DRM415AC	1250VA static inverter change-over relay	0.30Kg

DIMENSIONS

Length 225mm x Width 44mm x Depth 30mm
(Fixing Centres 205mm along centre line)





GLOSSARY OF TERMS

A guide to some of the terms and specifications used in this catalogue.

BALLAST

A device connected to lamp(s) for correct operation of the lamp(s) from the specified supply.

BALLAST LUMEN FACTOR (BLF)

Sometimes referred to as ELBLF, the ratio of light output of a lamp when operated in emergency compared to the light output of the lamp when operated with reference ballast.

BRIGHTNESS

The visual appearance or perception of a light source or illuminated area. Brightness is a subjective attribute of light.

BRITISH STANDARDS

The specification of recommended procedure, quality of output, terminology, and other details, in a particular field, drawn up and published by the British Standards Institution.

BRITISH STANDARDS INSTITUTE (BSI)

The British Standards Institute is a service organisation that produces standards across a wide variety of industry sectors. Its codes of practice and specifications cover management and technical subjects.

CANDELA (Cd)

The international unit (SI) of luminous intensity. The term has been retained from the early days of lighting when a standard candle of a fixed size and composition was used as a basis for evaluating the intensity of other light sources.

CE MARKING

The declaration of the manufacturer that the product conforms with the essential requirements of the applicable EC directives.

COLOUR RENDERING

The effect of a light source on the appearance of colours compared to their appearance under a reference light source.

COLOUR RENDERING INDEX (CRI)

The measurement scale of colour rendering. A low CRI indicates that objects may appear unnatural under the source, while a light with a high CRI rating will allow an object's colours to appear more natural.

COLOUR TEMPERATURE (K)

A term used to describe the "whiteness" of a lamp measured in the Kelvin (absolute) temperature scale.

CONTRAST

This is the difference in the colour and brightness of an object and other objects or areas within the same field of view.

CORRELATED COLOUR TEMPERATURE (CCT)

Also called Chromaticity, CCT tells you what the lamp itself or a neutral surface illuminated by a lamp will look like. CCT is usually measured in Kelvin and can also be defined by using x and y coordinated against a standard chromaticity scale developed by the International Commission on Illumination (CIE).

DALI (DIGITAL ADDRESSABLE LIGHTING INTERFACE)

DALI is a dedicated protocol for lighting control. A DALI system can be made up of control gear, control devices and bus power supplies. The common platform of DALI enables equipment from different manufacturers to be connected together.

EFFICACY (LUMINOUS EFFICACY)

Efficacy is the rate at which a lamp is able to convert electrical power (Watts) into light (Lumens), expressed in terms of lumens per watt (lm/W).

ELECTRO MAGNETIC COMPATIBILITY (EMC) DIRECTIVE

Ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance. It is also compulsory for CE marking.

ELECTRONIC BALLAST

A short name for fluorescent high frequency electronic ballasts. Electronic ballasts use solid-state electronic components and typically operate fluorescent lamps.

EMERGENCY LIGHTING

The lighting provided for use when the supply to the normal mains lighting installation fails.

FLICKER

Modulation of light, whether periodic or intermittent, which can be seen as a change in the light output, even under static circumstances.

GLARE

Condition of vision in which there is discomfort or a reduction in the ability to see details or objects.

ICEL

The Industry Committee for Emergency Lighting.

IK RATING

The degrees of protection provided by enclosures for electrical equipment against external mechanical impacts.

ILLUMINANCE (LX)

The "density" of light (lumens/area) incidence on a surface. Illuminance is measured in lumens/metre² or lux.

INGRESS (INTERNATIONAL) PROTECTION RATING (IP)

The number classification of the degree of protection a luminaire provides against the entry of solid foreign bodies and moisture.

LAMP

The term used to refer to the complete light source package including the inner parts as well as the outer bulb or tube.

LIGHT

Radiant energy that can be sensed or seen by the human eye. Visible light is measured in lumens.

LED LAMP

An LED light source is provided with (a) caps(s) incorporating one or more LED module(s) and possibly including one or more of the following: electrical, optical, mechanical and thermal components, interfaces and control gear.

LED MODULE

Sometimes referred to as an array, LED light sources have no cap, incorporating one or more LED package(s) on a printed circuit board (PCB).

LIGHTING INDUSTRY ASSOCIATION (LIA)

Lighting Industry Association, the Trade Association for lighting equipment manufacturers/suppliers in the UK.

LIGHT OUTPUT RATIO (LOR)

The ratio of light output of the luminaire to the light output of the lamp.

LOW VOLTAGE DIRECTIVE (LVD)

The LVD covers all health and safety risks of electrical equipment operating with a voltage between 50 and 1000V for alternating current and between 75 and 1500V for direct current. It is also compulsory for CE marking.

LUMEN (LM)

Lumen is the SI derived unit of luminous flux, a measure of the total quantity of visible light emitted by a source.

LUMINAIRE

Apparatus that distributes the light given by a lamp or lamps, including all the items necessary for fixing and protecting the lamps and for connecting them to the electrical supply.

LUMINANCE (CD/M²)

The perceived brightness of a surface, measured by the intensity of light emitted or reflected from a surface area in a given direction.

LUMINOUS INTENSITY (CD)

The power of a light source or illuminated surface to emit light in a given direction, measured in candela.

LUX (LX)

The SI (International System) unit of illumination: one lumen uniformly distributed over an area of one square metre.

MAINTAINED EMERGENCY LUMINAIRE

A luminaire containing one or more lamps, all of which operate from the normal supply or from the emergency supply at all material times.

NON-MAINTAINED EMERGENCY LUMINAIRE

A luminaire containing one or more lamps, which operate from the emergency supply only upon failure of the normal mains supply.

PHOTOMETRIC DATA

The data provided to simulate lighting designs for projects before they are built or renovated.

RoHS (RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE)

Limits or bans the amount of hazardous substance used in products. It is also compulsory for CE marking.

SELF-CONTAINED EMERGENCY LUMINAIRE

A luminaire or sign providing Maintained or Non-Maintained emergency lighting, in which all the elements such as battery, the lamp and the control unit are contained within the housing or within 1 metre of the housing.

SLAVE LUMINAIRE

An emergency luminaire without its own batteries, which is designed to work in conjunction with a central system.

SUSTAINED (COMBINED) EMERGENCY LUMINAIRE

A luminaire containing two or more lamps, at least one of which is energised from the emergency supply and the remainder from the normal supply.

UNIFORMITY

The ratio between minimum illuminance (or luminance) to average illuminance (or luminance), usually measured at the working plane.

WEEE (WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT REGULATION)

A directive in the European Union that designates safe and responsible collection, recycling and recovery procedures for all types of electronic waste. It is also compulsory for CE marking.

CONDITIONS OF SALE

1. GENERAL

- (a) In these General Conditions of Sale (the "Conditions"), the "Company" means Orbik Electronics Limited, the "goods" means any item of whatsoever nature which is to be supplied to the Purchaser by the Company in accordance with these Conditions, including any instalment or parts of the goods and the "Purchaser" means the person, firm or company who purchases or agrees to purchase the goods from the Company.
- (b) These Conditions shall apply to and form part of every contract of sale entered into by the Company. The Company shall sell and the Purchaser shall purchase the goods in accordance with the Company's written quotation (if accepted by the Purchaser) or the Purchaser's written order (if accepted by the Company), subject in either case to these Conditions, which shall govern the contract to the exclusion of any other terms and conditions subject to which any such quotation is accepted or purported to be accepted, or any such order is made or purported to be made by the Purchaser.
- (c) No variation of these Conditions shall be binding unless agreed in writing between the authorised representatives of the Purchaser and the Company.

2. LIMITS OF CONTRACT

- (a) No order submitted by the Purchaser shall be deemed to be accepted by the Company until a written acknowledgment of order is issued by the Company or (if earlier) the Company delivers the goods to the Purchaser.
- (b) Any quotation is given by the Company on the basis that no contract will come into existence until the Company dispatches an acknowledgment of order to the Purchaser.
- (c) The Purchaser shall be responsible to the Company for ensuring the accuracy of the terms of any order (including any applicable specification) submitted by the Purchaser, and for giving the Company any necessary information relating to the goods within a sufficient time to enable the Company to perform the contract in accordance with its terms.
- (d) The quantity, quality and description of the goods and any specification for them shall be as set out in the Company's quotation (if accepted by the Purchaser) or the Purchaser's order (if accepted by the Company).

3. PRICES

- (a) The price payable for goods shall unless otherwise stated by the Company in writing be the Company's quoted price or, where no price has been quoted (or a quoted price is no longer valid), the list price of the Company current at the date of delivery or deemed delivery and in the case of an order for delivery by instalments the price payable for each instalment shall be the Company's quoted price or, where no price has been quoted (or a quoted price is no longer valid), the list price of the Company current at the date of delivery of such instalment. Any prices quoted by the Company are valid for a period of 30 days only from the date of the quotation or until earlier acceptance by the Purchaser, provided that such prices have not previously been withdrawn by the Company, after which time they may be altered by the Company without giving notice to the Purchaser.
- (b) Unless otherwise expressly stated to be firm for a period the Company's prices are subject to variation to take account of any increase in the cost to the Company which is due to any factor beyond its reasonable control (such as, without limitation, significant increases in the costs of labour, materials and other costs of manufacture) (calculated by using the British Electrochemical & Allied Manufacturers Association ("BEAMA") contract price adjustment clause and formulae. The Company reserves the right, by giving written notice to the Purchaser at any time before delivery, to increase the price of the goods accordingly.
- (c) The Company also reserves the right, by giving written notice to the Purchaser at any time before delivery, to increase the price of the goods to reflect any increase in costs to the Company arising from any delay caused by any instructions of the Purchaser or any failure of the Purchaser to give the Company adequate information or instructions.
- (d) The price for the goods shall be exclusive of value added tax and this will be charged at the applicable rate and recoverable by the Company in addition to the price.
- (e) All invoiced price discrepancies must be notified by the Purchaser to the Company within 7 days of the date of invoice.

4. PAYMENT

- (a) Unless otherwise agreed in writing between the Purchaser and the Company, the Company may invoice the Purchaser for the price of goods on or at any time after delivery of the goods, unless the goods are to be collected by the Purchaser or the Purchaser wrongfully fails to take delivery of the goods, in which event the Company shall be entitled to invoice the Purchaser for the price at any time after the Company has notified the Purchaser that the goods are ready for collection or (as the case may be) the Company has tendered delivery of the goods.
- (b) Unless otherwise agreed in writing, payment of the full price for the goods is due on or before the last working day of the month following the date of the invoice.
- (c) Time for payment of the price shall be of the essence of the contract. Receipts for payment will only be issued on request.
- (d) All payments payable to the Company under the contract shall become due immediately upon termination of the contract, despite any other provision of these Conditions.
- (e) Without prejudice to any other rights it may have, if the Purchaser fails to make any payment when due in accordance with these Conditions, the Purchaser will be liable to pay interest to the Company on such sum from the due date for payment at the annual rate of 2% above the base rate of HSBC Bank PLC from time to time, accruing on a daily basis until payment is made, whether before or after any judgment. The Company also reserves the right to claim interest under the Late Payment of Commercial Debts (Interest) Act 1998.
- (f) Additionally and without prejudice to its other rights the Company shall be entitled to recover all direct expenses reasonably incurred by the Company in collecting or attempting to collect any sums of the price not yet paid.
- (g) If the Purchaser fails to make any payment when due in accordance with these Conditions, the Company reserves the right in its absolute discretion and without prejudice to any of its other rights or remedies to suspend all further deliveries until such payment has been made in full together with any other amounts owing to the Company whether the due date for payment has been reached or not, if so requested by the Company or, at the Company's option, to cancel the balance of the order. In either case the Company shall hold the Purchaser liable for costs incurred in respect of goods in course of manufacture or ready for dispatch.
- (h) The Company shall be entitled to bring an action for the price or part thereof whether or not delivery or deemed delivery has taken place and whether or not the property in the goods has passed.

5. PAYMENT DISPUTES AND DEBIT NOTES

- (a) If the Purchaser operates a debit note system, debit notes will only be accepted by the Company if raised in respect of the following matters and otherwise in accordance with the provisions of this Condition 5:
- (i) incorrect goods supplied, subject to the provisions of Condition 2;
- (ii) pricing discrepancies, subject to the provisions of Condition 3;
- (iii) delivery shortages, subject to the provisions of Condition 6;
- (iv) non-delivery, subject to the provisions of Condition 8;
- (v) damaged goods, subject to the provisions of Conditions 8 and 13;
- (vi) faulty goods, subject to the provisions of Condition 13, and provided that if goods returned by the Purchaser have not been opened by the Purchaser, they will be returned to the Purchaser and no credit note will be issued by the Company;
- (vii) cancellation, subject to the provision of Condition 15, and provided that in each case, written evidence of the Company's consent to such cancellation is attached to the relevant debit note.
- (b) All requests to return goods to the Company must be agreed in writing by the Company before any debit note is raised by the Purchaser.
- (c) Debit notes will only be accepted by the Company if:
- (i) they include details of the Company's invoice to which they relate;
- (ii) they are received by the Company within 7 days of the date on which the invoice is due for payment by the Purchaser;
- (iii) they are notified to the Company on the day that they are raised; and
- (iv) they relate to the value of goods in dispute and not the value of the whole invoice (except where the value of the whole invoice is in dispute).
- (d) In no circumstances will debit notes be accepted by the Company in relation to invoices which have either been subject to a prompt payment discount or which are the subject of a dispute raised by the Purchaser more than 5 days after the date on which the invoice is due for payment by the Purchaser.

6. DELIVERY

- (a) Delivery of the goods shall be made by the Purchaser collecting the goods at the Company's premises within 14 days of the Company giving notice to the Purchaser that the goods are ready for collection or, if some other place for delivery is agreed by the Company, by the Company delivering goods to that place.
- (b) Unless accepted by the Company in writing, all times and dates quoted for delivery of the goods are given in good faith but are approximate only and time for delivery shall not be of the essence of the contract. If no dates are so specified, delivery will be made within a reasonable time. The goods may be delivered by the Company in advance of the quoted delivery date on giving reasonable notice to the Purchaser.
- (c) All times or dates for delivery shall be calculated from the date of acceptance by the Company of the order of the Purchaser, or from the date of receipt by the Company from the Purchaser of all information, instructions and drawings as shall be necessary to enable the Company to carry out the order, whichever shall be the later.
- (d) If the Company delivers to the Purchaser a quantity of goods of up to 5% more or less than the quantity ordered, the Purchaser shall not be entitled to object to or reject the goods or any of them by reason of the surplus or shortfall and shall pay for such goods at the pro rata contract rate.
- (e) Unless otherwise stated in writing, the Company shall be entitled to make partial deliveries of the goods (delivery by instalments), provided that where goods are delivered in instalments, each delivery shall constitute a separate contract and failure by the Company to deliver any one or more of the instalments in accordance with these Conditions or any claim by the Purchaser in respect of any one or more instalments shall not entitle the Purchaser to treat the contract as a whole as repudiated.
- (f) Any contract shall be subject to the Company being satisfied as to the Purchaser's credit references, and without prejudice to the generality of the foregoing, the Company may (in its absolute discretion), having informed the Purchaser that the goods are ready for dispatch, and notwithstanding any other provision of these Conditions, refrain from delivering the goods until such time as the Purchaser tenders the purchase money to the Company together with any outstanding amounts which may be due to the Company on any account whatsoever.

7. PACKING AND CARRIAGE

- (a) The costs of crates, cases, pallets, stillages, skids or other such returnable packing will be charged to the Purchaser in addition to the price of the goods. Unless otherwise specified, full credit will be given to the Purchaser provided such packaging is returned, undamaged, to the Company (damage paid), before the Purchaser's due payment date. No charge will be made by the Company by any other form of packaging and no credit will be allowed for its return.
- (b) Where the value of any order exceeds £50,000 the cost of delivery of the goods to the Purchaser's premises on the mainland of Great Britain shall be included in the contract price. In all other cases, contract prices are exclusive of carriage and insurance to the Purchaser's premises.

8. NON-DELIVERY OR DAMAGE IN TRANSIT

- (a) The quantity of any consignment of goods as recorded by the Company upon dispatch from the Company's place of business shall be conclusive evidence of the quantity received by the Purchaser on delivery unless the Purchaser can provide conclusive proof to the contrary.
- (b) The Company shall not be liable for any non-delivery of goods unless written notice is given to the Company within 7 days of the date when the goods would in the ordinary course of events have been received.
- (c) Any liability of the Company for non-delivery of the goods shall be limited to replacing the goods within a reasonable time or issuing a credit note at the pro-rata contract rate against any invoice raised for such goods.
- (d) If the Purchaser fails to take delivery of the goods when they are ready for collection or the Company is unable to deliver the goods on time because the Purchaser has not provided appropriate delivery instructions, licences or authorisations, then, without limiting any other right or remedy available to the Company, the goods will be deemed to have been delivered and the Company may:
- (i) store the goods at the Company's own premises or elsewhere on the Purchaser's behalf until actual delivery and charge the Purchaser for the reasonable costs (including insurance) of storage;
- (ii) sell the goods at the best price readily obtainable and (after deducting all reasonable storage and selling expenses) account to the Purchaser for the excess over the price under the contract or charge the Purchaser for any shortfall below the price under the contract.
- (e) When the price quoted includes delivery, the Company shall repair or replace free of charge goods damaged in transit provided that the Company is given written notification of such damage within 7 days of the date when the goods would in the ordinary course of events have been received.
- (f) Subject to the provisions of Conditions 6 and 8, the Company will only consider claims for alleged shortage if they are received within 7 days of the receipt of the goods by the Purchaser together with sufficient information to enable the Company to identify the shortage including the Purchaser's Advice Note number, case number and condition of case. Where goods are collected by the Purchaser, no claim for shortage or damage will be considered.

9. SAMPLES

- The Company shall provide samples of goods to the Purchaser on request. Samples will be charged for under the Company's normal terms. With the prior written agreement of the Company, samples may be returned to the Company and provided they are returned in good condition (in the reasonable opinion of the Company), the Purchaser will be credited in full for such samples.

10. VARIATIONS

- (a) The Company shall be under no obligation to alter or vary any part of the contract or any work connected therewith. Any alteration to or addition to or amendment or other variation of the specification, including any increase or decrease in the quantity of the goods or any alteration to any drawings or to the quality, performance, weight or measurements of any goods or any alteration or variation of advised delivery schedules, shall, if requested by the Purchaser, be subject to the agreement of the Company, with such alteration or addition to the price and to delivery dates or schedules as may be required by the Company, and shall not be binding upon the Company unless and until accepted by the Company in writing.
- (b) In the event of any variation or suspension of the work by the Purchaser's instructions or lack of instructions the Company shall be entitled to adjust the contract price to reflect any additional costs incurred, and to adjust delivery dates or schedules.

11. PERFORMANCE, INSPECTION AND TESTS

- (a) Any data, technical information or performance figures provided by the Company are based on tests performed under standard conditions at the Company's premises. They are believed to be accurate but cannot be guaranteed under different conditions.
- (b) The Company's products are carefully inspected, and, where practicable, submitted to its standard tests at the Company's place of business before dispatch. If tests other than those specified or tests in the presence of the Purchaser or its representatives are required, these will be charged for. In the event of any delay on the Purchaser's part in attending tests after the Purchaser has received 7 days' notice that the Company is ready to perform the tests, the tests will proceed in the Purchaser's absence and the Purchaser accordingly hereby agrees to accept and pay for such tests as if they had been performed in the Purchaser's presence.

12. DESCRIPTIVE MATTER AND ILLUSTRATIONS

- (a) All descriptions and illustrations and particulars of weights and dimensions issued by the Company in catalogues, price lists, advertising matter and forwarding specifications are by way of general descriptions and approximate only, and shall not form part of any contract or give rise to any liability on the part of the Company.
- (b) It is the policy of the Company to endeavour to develop and improve its products, and accordingly the Company reserves the right to change all specifications without prior notification or public announcement pursuant to such policy, provided that nothing in this Condition 12 shall obligate the Purchaser to accept goods that do not reasonably comply with the contract.

13. WARRANTY

- (a) The Company will make good by repair, or at the Company's option by the supply of a replacement, defects which, under proper storage and use appear in the goods within the period of twelve calendar months after the goods have been delivered and arise solely from faulty design (other than design made or furnished by the Purchaser, materials or workmanship).
- (b) The Warranty given in this clause is subject to the following provisions, namely:
- (i) that the Purchaser shall have followed all instructions issued by the Company in relation to the goods;
- (ii) that in the case of defects which would have been reasonably apparent to the Purchaser on reasonable examination of the goods on delivery, the Purchaser shall notify the Company of the defects in writing within fourteen working days of delivery;
- (iii) that in the case of any other defects, the Purchaser shall notify the Company of the defects in writing within seven working days of the date when the defect becomes apparent.

14. LIABILITY

- (a) Subject as expressly provided in these Conditions, and except where the goods are sold to a person dealing as a consumer (within the meaning of the Unfair Contract Terms Act 1977), all warranties, conditions or other terms implied by common law are excluded to the fullest extent permitted by law.
- (b) A claim by the Purchaser which is based on any defect in the quality or condition of the goods or their failure to correspond with specification shall (whether or not delivery is refused by the Purchaser) be notified to the Company within 7 days from the date of delivery or (where the defect or failure was not apparent on reasonable inspection) within a reasonable time after discovery of the defect or failure. If delivery is not refused, and the Purchaser does not notify the Company accordingly, the Purchaser shall not be entitled to reject the goods and the Company shall have no liability for such defect or failure, and the Purchaser shall be bound to pay the price as if the goods had been delivered in accordance with the contract.
- (c) Where a valid claim in respect of any of the goods which is based on a defect in the quality or condition of the goods or their failure to meet specification is notified to the Company in accordance with these Conditions, the Company may, at its option, repair or replace the goods (or the part in question) free of charge, or at the Company's sole discretion, refund to the Purchaser the price of the goods (or a proportionate part of the price), in which case the Company shall have no further liability to the Purchaser.
- (d) Except in respect of death or personal injury caused by the Company's negligence, or liability for defective products under the Consumer Protection Act 1987, the Company shall not be liable whether in contract, tort or otherwise to the Purchaser by reason of any representation (unless fraudulent), or any warranty, condition or other term implied by statute or common law (save for the conditions implied by section 12 of the Sale of Goods Act 1979), for any indirect, special, economic or consequential loss or damage (whether for loss of profit, loss of use, loss of production, loss of contract or otherwise) costs, expenses or other claims for compensation whatsoever (whether caused by the negligence of the Company, its employees or agents or otherwise) which arise out of or in connection with supply of the goods or their use or resale by the Purchaser.

15. REJECTION

- Unless otherwise agreed in writing, and subject to Condition 13 hereof, goods rejected as not complying with the contract must be rejected within 7 days of collection of the goods from the Company's premises or if some other place for delivery is agreed by the Company, delivery to that place.

16. CANCELLATION

- (a) No order which has been accepted by the Company may be terminated by the Purchaser (whether by way of cancellation or otherwise) except with the prior written agreement of the Company (at the Company's sole discretion) and on terms that the Purchaser shall indemnify the Company in full against all loss (including loss of profit), costs, damages, charges and expenses incurred by the Company as a result of the cancellation.
- (b) The provisions of Conditions 8(a) and 8(d) shall apply in relation to any goods which are the subject of a contract which is purportedly terminated by the Purchaser otherwise than in accordance with this Condition 15.

17. RETURN OF GOODS

- (a) Subject to Conditions 8 and 13 hereof, in no circumstances may goods supplied in accordance with a binding contract for sale be returned without the Purchaser first having applied for and obtained the written consent of the Company, provided that:
- (i) all goods returned must be in a resalable condition, with undamaged cartons and must be in complete box quantities or minimum sales quantities;
- (ii) goods that are specialised or that have been modified in any way from standard will not be eligible to be returned;
- (iii) the Company will not collect goods from the Purchaser; and
- (iv) a handling charge (to cover the Company's costs of restocking, transport and administration) will be deducted from any credit allowed by the Company; the handling charge will be calculated on the basis of 30% of the value of the returned goods, subject to a minimum handling charge in all cases of £100.
- (b) Luminaires that are sold within the UK when it reaches the end of its useful life, may be returned for recycling, subject to our Conditions of Sale.

18. INTELLECTUAL PROPERTY

- (a) The Purchaser will indemnify the Company against all damages, penalties, costs, losses and expenses suffered by the Company, or for which it may become liable, in respect of the infringement of any intellectual property including (but without limitation) any patent, copyright, registered design, trade mark, trade name or knowhow arising out of the Company's manufacture of goods or the application of any process to the goods in accordance with any specification, design, drawings or other data supplied by the Purchaser or its servants or agents.
- (b) All drawings, descriptions and other information submitted by the Company, together with the copyright therein, shall remain the property of the Company.

19. FORCE MAJEURE

- The Company shall be entitled without liability on its part and without prejudice to its other rights, to terminate the contract or any unfulfilled part thereof or at its option to suspend or make partial deliveries or extend the time or times for delivery, if the manufacture of the goods by the Company or the Company's suppliers, or the delivery of the goods by the Company, or the performance by the Company of any of its obligations under the contract is hindered or delayed whether directly or indirectly by reason of the Purchaser failing to furnish necessary instructions or information, or by war or other hostilities, acts of terrorism, protests, riot, civil commotion, act of God, government action or legislation, interruption of transport, strike, fire, explosion, flood, epidemic, lockout or other form of industrial action (including, without limitation, labour disputes with the Company's or any subcontractor's employees), accidents or stoppages to works, shortage of labour, materials, equipment, fuel or power, breakdown of machinery or any other cause whatsoever beyond the reasonable control of the Company or its subcontractors, whether or not such cause exists at the date of the order provided that if the event in question continues for a continuous period in excess of 100 days, the Purchaser shall be entitled to give notice in writing to the Company to terminate the contract.

20. PASSING OF PROPERTY AND RISK

- (a) Risk of damage to or loss of the goods shall pass to the Purchaser:
- (i) in the case of goods to be delivered at the Company's premises, at the time when the Company notifies the Purchaser that the goods are available for collection; or
- (ii) in the case of goods to be delivered otherwise than at the Company's premises, at the time of delivery, or, if the Purchaser wrongfully fails to take delivery of the goods, the time when the Company has tendered delivery of the goods.
- (b) Notwithstanding delivery and the passing of risk in the goods, or any other provision of these Conditions, the property in the goods shall not pass to the Purchaser until the Company has received in cash or cleared funds payment in full of the price of the goods and all other goods agreed to be sold by the Company to the Purchaser for which payment is then due.
- (c) Until such time as the property in the goods passes to the Purchaser, the Purchaser shall hold the goods as the Company's fiduciary agent and bailee, and shall keep the goods separate from those of the Purchaser and third parties and properly stored, protected and insured and identified as the Company's property; but shall be entitled to re-sell or use the goods in the ordinary course of its business.
- (d) Until such time as the property in the goods passes to the Purchaser (and provided the goods are still in existence and have not been resold), the Company shall be entitled at any time to require the Purchaser to deliver up the goods to the Company; and, if the Purchaser fails to do so forthwith, to enter upon any premises of the Purchaser or any third party where the goods are stored and repossess the goods and the Purchaser grants to the Company and its agents and employees an irrevocable licence at any time to enter any premises where the goods are or may be stored in order to inspect them or, where the Purchaser's right to possession has terminated, to recover them.
- (e) The Purchaser shall not be entitled to pledge or in any way charge by way of security for any indebtedness any of the goods which remain the property of the Company, but if the Purchaser does so all moneys owing by the Purchaser to the Company shall (without prejudice to any other right or remedy of the Company) forthwith become due and payable.

21. INSOLVENCY OF PURCHASER

- (a) This Condition applies if:
- (i) the Purchaser becomes insolvent or makes any voluntary arrangement with its creditors or becomes subject to an administration order or (being an individual or firm) becomes bankrupt or (being a company) goes into liquidation (otherwise than for the purposes of amalgamation or reconstruction); or
- (ii) an encumbrancer takes possession, or a receiver or administrative receiver is appointed, of any of the property or assets of the Purchaser; or
- (iii) the Purchaser ceases, or threatens to cease, to carry on business; or
- (iv) the Company reasonably apprehends that any of the events mentioned above is about to occur in relation to the Purchaser and notifies the Purchaser accordingly.
- (b) If this Condition applies:
- (i) without prejudice to any other right or remedy available to the Company, the Company shall be entitled to cancel the contract or suspend any further deliveries under the contract notwithstanding any liability to the Purchaser, and if the goods have been delivered but not paid for, the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary; and
- (ii) the Purchaser shall have a duty to immediately bring to the notice of any receiver, administrator or any such person or persons appointed the existence and content of Condition 19 of these Conditions (Passing of Property and Risk) and the rights of the Purchaser to use or trade on the Company's goods shall immediately terminate and any such receiver, administrator or other person or persons appointed will not be entitled to use or trade on the Company's goods unless so authorised in writing by the Company.

22. ARBITRATION

- If at any time any question, dispute or difference whatsoever shall arise between the Purchaser and the Company upon or in relation to or in connection with the contract, either party may give the other notice in writing of the existence of such question, dispute or difference, and the same shall be referred to the arbitration of a person to be mutually agreed upon, or failing agreement within 30 days of receipt of such notice, of some person appointed by the President for the time being of the Chartered Institute of Arbitrators. A submission to arbitration under this Condition shall be deemed to be a submission to a sole arbitrator pursuant to the Arbitration Act 1996 or any statutory modification or re-enactment thereof. Any such arbitration shall be held in London, England.

23. GOVERNING LAW AND JURISDICTION

- (a) All contracts to which these Conditions apply shall be governed by and construed in accordance with English Law.
- (b) Subject to Condition 21 hereof, the Purchaser agrees to submit to the non exclusive jurisdiction of the English courts.

24. MISCELLANEOUS

- (a) Each right or remedy of the Company under the contract is without prejudice to any other right or remedy of the Company whether under the contract or not.
- (b) A notice required or permitted to be given by either party to the other under these Conditions shall be in writing and addressed to the other party at its registered office or principal place of business or such other address as may be at the relevant time have been notified pursuant to this provision to the party giving the notice. Notices shall be deemed to have been received (i) if sent by prepaid first class post, 2 days after posting; (ii) if delivered by hand on a working day prior to 4:00pm, on the day of delivery and otherwise on the next working day; (iii) if sent by facsimile on a working day prior to 4:00pm, at the time of transmission and otherwise on the next working day.
- (c) The Company or the Company of any branch of the contract by the Purchaser shall be considered as a waiver of any subsequent breach of the same or any other provision.
- (d) If any provision of these Conditions is held by a court or other competent authority to be invalid or unenforceable in whole or in part, the validity of the other provisions of the contract and the remainder of the provision in question shall not be affected.



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