



OFFSHORE WIND INDUSTRY

..... *A Dedicated Range of Products for Wind Applications*





Follow us

With over 160 shared years of experience, **Chalmit, Hawke and GAI-Tronics** have a reputation for designing the highest quality products for use in some of the world's harshest environments.

Using our experience supplying Luminaires, Cable Glands, Telephones and Enclosures to Marine, Oil & Gas and Petrochemical industries, we've developed a dedicated range of products designed to meet the exacting requirements of renewable energy applications.

Combining robust design with high levels of ingress and corrosion protection; our offshore wind applications range has been created with the testing conditions of offshore substations and unmanned platforms in mind. All our products boast easy installation and maintenance, long lifespans and much more. Plus, with our **One Hubbell** package you can get all the products you need from our brands in one place.

As offshore wind becomes an increasingly important source of energy generation, Hubbell is playing a notable role in providing products and services to support the growth of this industry. Our products, services, and solutions span renewable energy infrastructure from the ground up.

To find out more email us at getintouchuk@hubbell.com



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Used by some of the world's largest offshore wind farms

From 2014 our products have been specified on over 50 offshore wind projects globally. This includes the second largest windfarm in the world – the 600 MW Gemini Windfarm in the Netherlands, Borkum Riffgrund in Germany and East Anglia One in the UK.

To view our full project list please turn to page 45 of this brochure or discover how our products were used on Scotland's Beatrice windfarm in our case study, below.

Case Study: Beatrice Windfarm



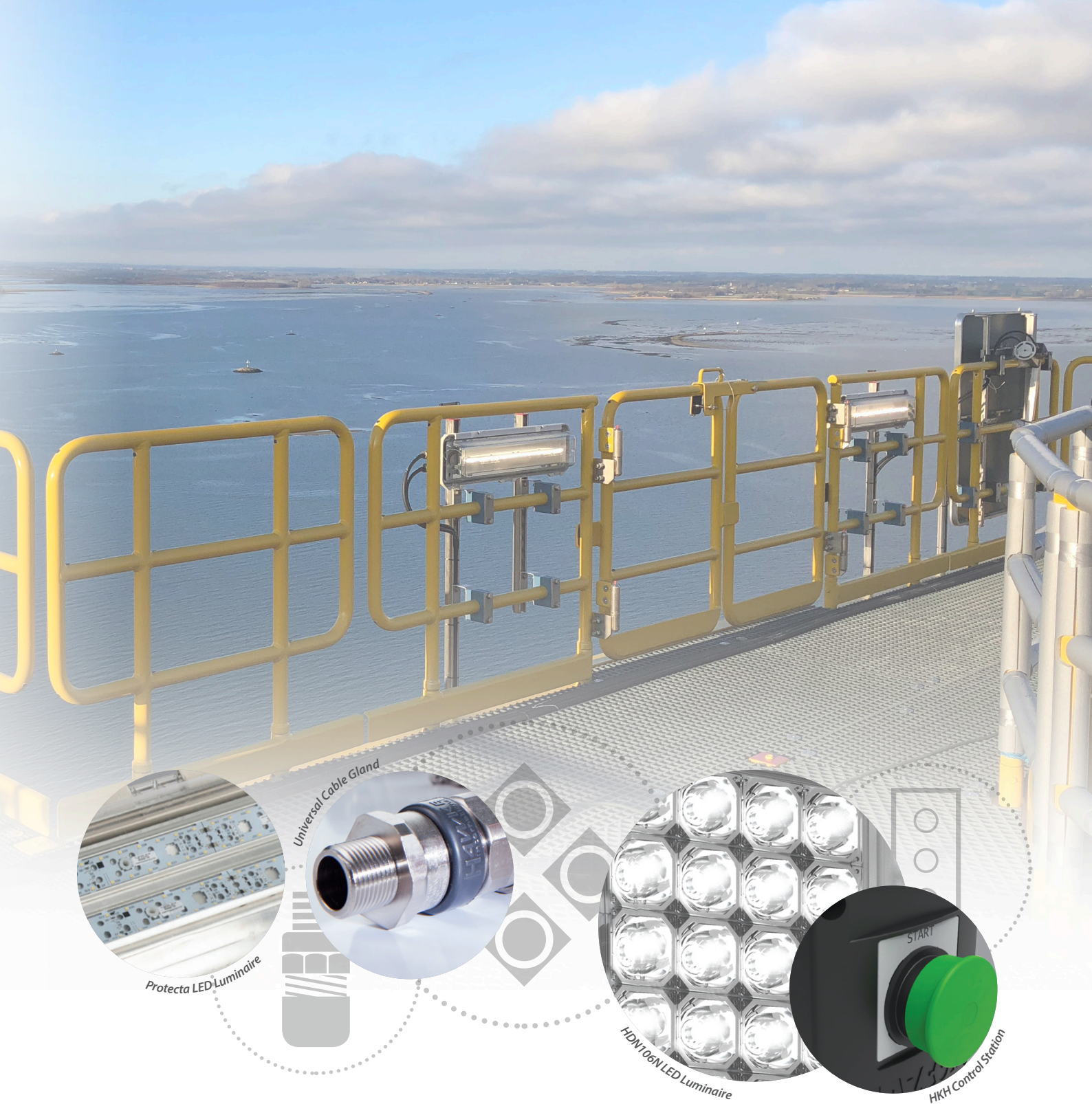
Beatrice is a consortium of 84 Wind Turbines located 13.5 km from the Caithness coastline in the Outer Moray Firth.

The project is a joint venture partnership between SSE Renewables, Copenhagen Infrastructure Partners and SDIC Power and is expected to generate enough electricity to power 450,000 homes. Totalling £2.6bn, Beatrice is one of the largest private investments Scotland has ever seen.

Hubbell Products Specified

Hubbell's reputation for quality, reliability and longevity has been recognized with the purchase of multiple products from our ever-increasing brand portfolio. Chalmit lighting has been selected to supply nearly 1,000 of their best-selling luminaire, the Protecta LED. Boasting a highly energy efficient design and 80,000 maintenance-free hours of lighting, the Protecta LED is perfect for use in such inaccessible areas where upkeep is challenging.

Hawke International have also supplied HKH Control Stations. Hazcon products sold by Hawke International are all third-party tested to ensure they meet the highest quality standards including: ATEX, IECEx, IP66 and NEMA 4X.



Hawke have also supplied hundreds of their market leading 501/453 Universal Cable Gland. With hundreds of thousands of this Cable Gland sold every month, the Universal boasts a variety of features including its patented Reversible Armour Clamp that made it the obvious choice for Beatrice.

Hubbell UK's Head of Commercial, Andy Brown commented, "We're very proud to have been selected

for this esteemed project with supply across the Hubbell Harsh and Hazardous brands. Chalmers for the lighting and Hawke International for the Cable Glands and Control Stations. It's a testament to the hard work of our teams across the Hubbell brands. Hubbell can really provide one solution for our customers from across our wide brand portfolio; Beatrice is a prime example of this. We're delighted to be a part of a project that will benefit so many people."



Offshore Wind Products

Lighting

Our dedicated range of rugged and water tight traditional and LED luminaires are ideal for both hazardous and industrial applications. Consisting of emergency or non-emergency floodlights and bulkhead and linear luminaires, the range can be used to illuminate every aspect of a site including exterior areas, interior spaces and indoor battery rooms.

Cable Glands

Hawke's heavy duty industrial cable glands provide superior cable retention compared to standard unarmoured cable glands which is essential for tough offshore wind conditions. Not only do these glands come with IP68 protection as standard, to protect cabling even after continuous immersion in water, they have also undergone Shell's rigorous DTS-01 deluge test to assure the highest amount of protection.

Enclosures

Hawke supplies quality, market leading enclosures for harsh and hazardous applications. At the forefront of innovation for over 30 years, our ranges of enclosures have built a reputation for reliability, strength and value.

Industrial Telephones

GAI-Tronics has been a pioneer in the development of industrial communication systems since 1946. Manufacturers of high-performance public address, intercom/paging and emergency notification systems for challenging environments to ensure reliable and efficient communication.

Chalmit

 GAI-TRONICS

 HAWKE
International

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www.hubbell.com



PROTECTA III

LED Linear

The Industrial **Protecta III** is a high quality LED linear delivering unparalleled performance and all the recognised benefits of the existing Protecta range; a proven robust enclosure, excellent IP and low maintenance features which are key to heavy industrial and harsh marine environments.

Expected useful life to 70% of the initial lumens (L70) is a market leading 154,000 hours at 55°C and, combined with a lightweight geartray design utilising fully replaceable LED strips and driver, we can deliver a unique product with effective long term maintenance capabilities.



Mounting Options

Ceiling. Wall. Suspended. Pole/Stanchion.

Standard Specification

Protecta III LED Linear

Enclosure	GRP body with polycarbonate cover
Geartray	White coated zintec
Entry	4 x M20 cable entries - 2 at each end
Termination	3 core 4mm ² max conductor with looping and 16A rating through wiring [4 core on Emergency]
Installation	2 x M8 moulded-in stainless steel bushes located on the rear of the body
Control Gear	Electronic Driver
Colour Temperature (CCT)	4000K (Neutral White)
Colour Rendering Index (Ra)	>80
Maintenance	Quick release diffuser clamp and hinged cover
LED Lifetime @ 55°C Ambient	L70 > 154,000hrs
System Life	120,000hrs @ 25°C [excluding battery]
Battery	Internal Ni-Cd (6V) [Emergency version only]
Emergency Duration	3 Hours (02L version = 33% output, 04L version = 23% output, 07L version = 12% output)
Impact Protection	IK10
Ingress Protection	IP66/67 to EN 60529
Surge Protection	02L = 1kV; 04L/07L = 4kV (line to line)
Electrical Supply	120-277V AC, 50/60Hz 127-300V DC [04L/07L]; 127-250V DC [02L] 220-240V AC, 50/60Hz [Emergency version only]

Features

- ◆ Highly **Energy Efficient**
- ◆ **Screwless** mains terminals
- ◆ **DTS-01** deluge tested
- ◆ **Battery monitoring** and **automatic self test**
- ◆ **120,000 maintenance free hours** at 25°C
- ◆ **Simple rugged construction**

Std. Cat No.	Delivered Output	Power Consumption	Ambient °C	Weight
PR31/02L/LE	2296 lm	16W	-40 to +55	4.8kg
PR31/04L/LE	3526 lm	24W	-40 to +55	4.9kg
PR31/07L/LE	6690 lm	44W	-40 to +55	8.2kg
PR31/02L/LE/EM	2296 lm	20W	-25 to +50	5.8kg
PR31/04L/LE/EM	3526 lm	26W	-25 to +50	5.9kg
PR31/07L/LE/EM	6690 lm	49W	-25 to +50	9.2kg

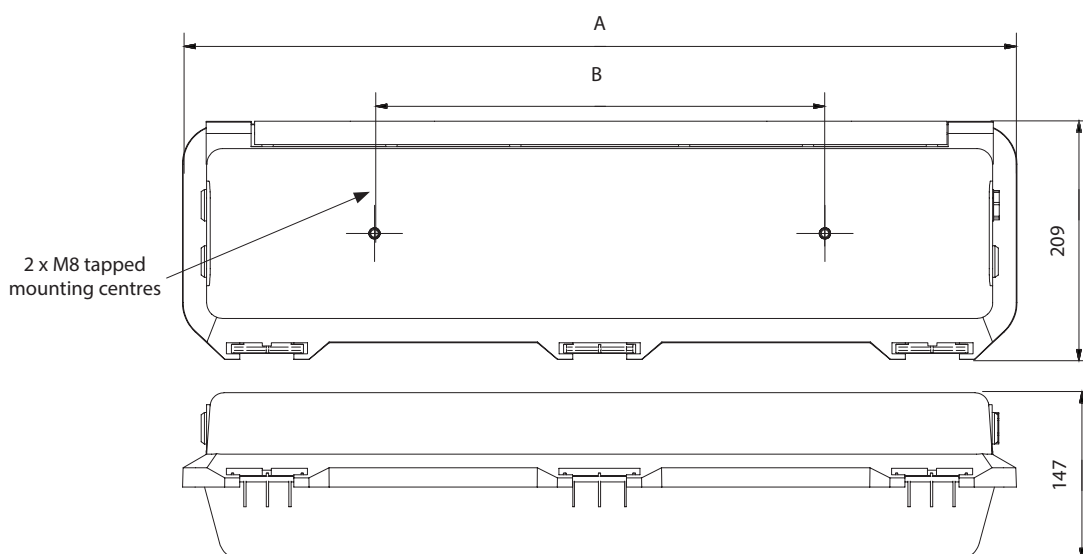
Options - Suffix to Catalogue No.

/M25	M25 cable entries	/5K	5000K (Cool White) LED Strips
/LBE	Looping both sides	/3K	3000K (Warm White) LED Strips
/BP	Nickel plated brass plugs (x3)	/DM	DALI Dimmable driver (04L and 07L only)
/EL	Extra live termination facility (to match emergency circuit)	/NST	Non self test inverter (EM only)
/OD	Internal Opal diffusers (approx. 20% reduction in output)	/SC	Screwed connection terminal block (up to 6mm ² conductors)
/JSVS	Inotec CBS type J-SV Modul/S	/JSVT	Inotec CBS type J-SV Modul T/S

Note: When /JSVT or /JSVS are selected the temperature rating is adjusted to -15°C < Ta < +50°C

Accessories *Accessories should be ordered separately*

	Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Flush mounted wall bracket assembly	SPRO4-0006
Ceiling bracket assembly	SPRO4-0002
Standard 2ft wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
Standard 4ft wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0012
Eyebolt mounting assembly	SPRO5-0005
Internal Opal Diffuser Strips (02L & 04L)	S3004-100005
Internal Opal Diffuser Strips (07L)	S3004-100006



DIM	02L/04L	07L
DIM A	742	1352
DIM B	400	700

Product design and specifications are subject to change without notice. Please check the Chalmite website for latest specifications.
www.hubbell.com/chalmite



PROTECTA X

LED Linear

The next generation in LED linear luminaires, the Protecta X's revolutionary design puts LED at the centre to provide the performance of a 4ft linear in a lightweight and slimline package. Offering a robust enclosure, excellent IP and a variety of features to make installation and maintenance effortless, the Protecta X is ideal for industrial environments. Expected useful life to 70% of the initial lumens (L70) is >200,000 hours at 25°C, with an incredible 90,000 maintenance free hours at 60°C. For a luminaire with the longest life, the highest output and market-leading efficacy, choose the **Protecta X**.



Mounting Options

Ceiling. Wall. Suspended. Pole. Handrail

Standard Specification

Protecta X LED Linear

Enclosure	Marine grade aluminium body with polycarbonate diffuser. Driver enclosure with epoxy powder finish (RAL 9005)
Geartray	Aluminium
Entry	4 x M20 cable entries - 2 at each end [3 cable entries on Emergency with battery stick]
Termination	3 core 4mm ² max conductor [4 core on Emergency] with looping one end and 16A rating through wiring
Installation	2 x M8 mounting points located on the rear of the body
Control Gear	Electronic Driver
Optical Distribution	Wide beam
Colour Temperature (CCT)	5000K (Cool White)
Colour Rendering Index (Ra)	>70 (>80 option available)
Maintenance	Front access panel with Torx screws
LED Lifetime @ 60°C Ambient	L70 > 200,000hrs
System Life @ Ambient	120,000hrs @ 25°C; 90,000hrs @ 60°C [excluding battery]
Battery	Hot-Swappable Ni-MH (6V) battery stick - externally accessed [/EM version only]
Emergency Duration	90 mins (02L = 50% output; 05L = 25% output) [ASL/ASW Asymmetric versions - 3hours only]
Impact Protection	IK10
Ingress Protection	IP66/67 to EN 60529
Surge Protection	4kV
Electrical Supply	110-277V AC, 50/60Hz 127-250V DC

Features

- ◆ Highly **Energy Efficient** >135lm/W
- ◆ **Battery management** and automatic self test
- ◆ **Multiple beam** distributions available
- ◆ **Front access cover** with screwless mains terminals for easy termination
- ◆ **>90,000 maintenance free hours** at 60°C
- ◆ **Externally accessible battery stick** for ease of maintenance

Std. Cat No.	Delivered Output	Power Consumption	Ambient °C	Weight
PRXI/02L/LE	2696 lm	16W	-40 to +60	6.8kg
PRXI/05L/LE	5230 lm	35W	-40 to +60	8.8kg
PRXI/02L/LE/EM	2696 lm	19W	-25 to +60	7.3kg
PRXI/05L/LE/EM	5230 lm	38W	-25 to +60	9.3kg

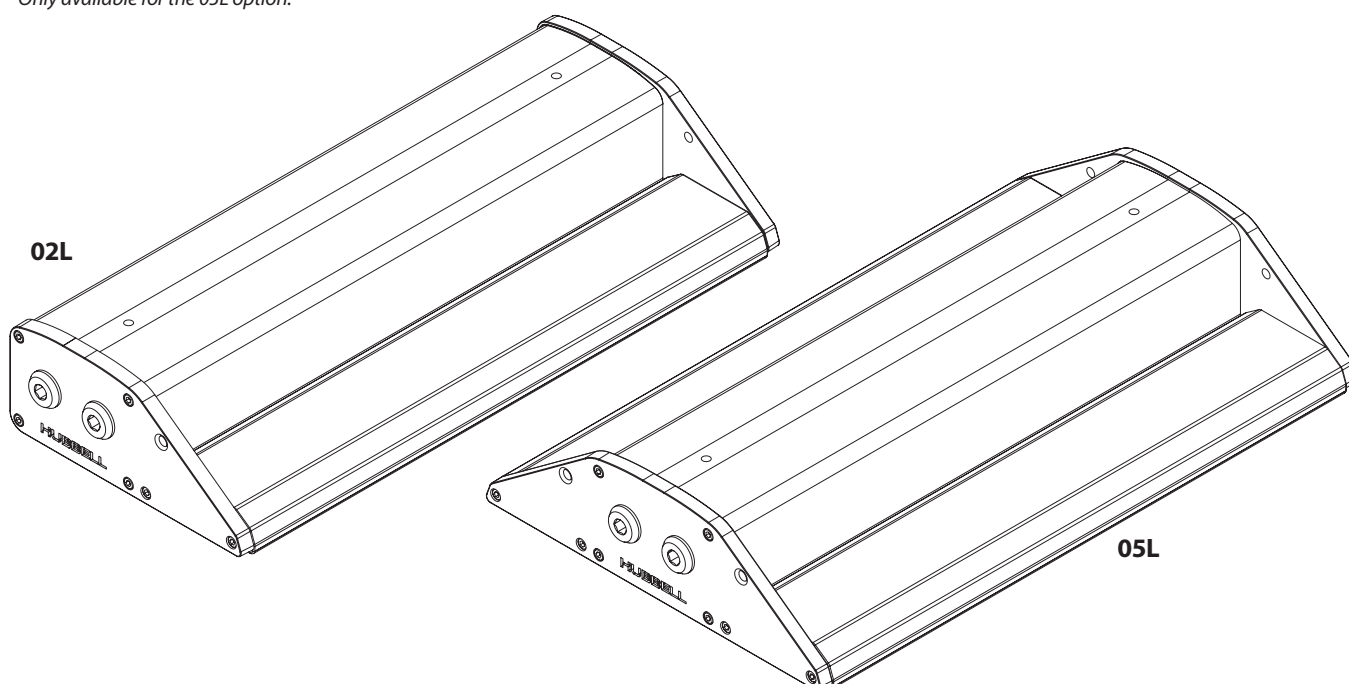
Options - Suffix to Catalogue No.

/M25	M25 cable entries	/3H	3 hour battery duration (02L = 25% output; 05L = 12.5% output) [Standard on ASW or ASL versions]
/LBE	Looping both sides [Non Emergency only]	/4K	4000K (Neutral White) LED Strips
/EL	Extra live termination facility (to match emergency circuit) [Non Emergency only, Not available with /SC]	/SC	Screwed connection terminal block (up to 6mm ² conductors) [Non Emergency only]
/EMI	Internal battery pack [replace /EM with /EMI]	/BNI	Batteries not included [Emergency version only]
/NST	Non Self Test [Emergency version only]	/DM	DALI Dimmable driver
/ASL	Asymmetric along length optic	/M	Medium beam optic
/ASW	Asymmetric along width optic [05L version only]	/BP	Nickel plated brass plugs
/80	80 CRI LEDs	/OD	Opal diffuser (max. 30% reduction in output)

Accessories *order separately*

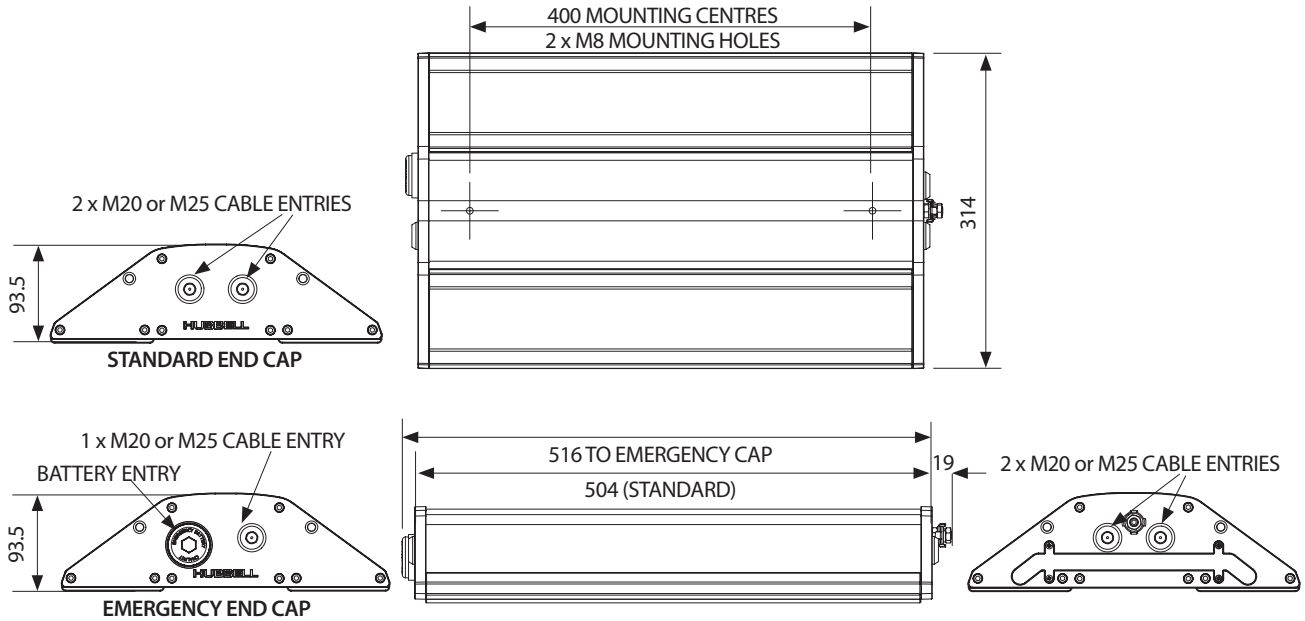
	Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Flush mounted wall bracket assembly	SPRO4-0006
Ceiling bracket assembly	SPRO4-0002
Standard wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
Eyebolt mounting assembly*	SPRO5-0005
Protecta 4ft adaptor bracket	SPRO5-0006

*Only available for the 05L option.

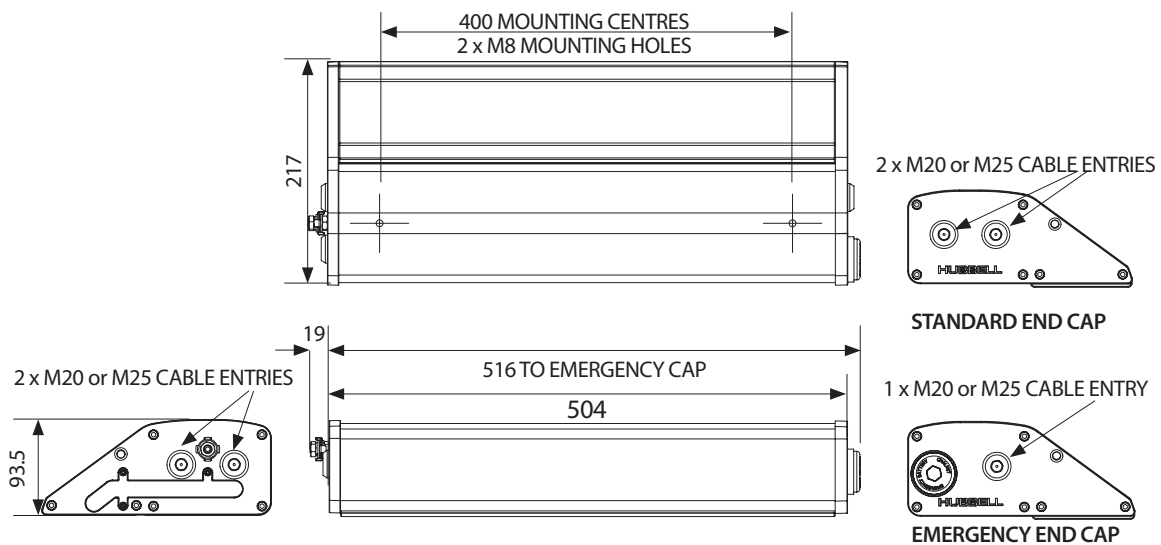


Dimensioned Drawings

PROTECTA X - 05L



PROTECTA X - 02L





PROTECTA X

The Next Generation in Hazardous Area LED Lighting



Revolutionary Design

Longest Life • **Highest** Output

120,000 hrs+ Lifespan • **Market-Leading** Efficacy

Optimised Optical Design • **Innovative** Battery Stick

Performance of a 4ft linear in a **Slimline Compact Package**

#XSeriesLED

Be prepared to break the linear mould.



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www.XSeriesLED.com





HDN106N

LED Floodlight

The **HDN106N** is an outstanding luminaire, with a variety of beam options to suit any industrial application.

Up to four modules can be interlinked to increase the output without impacting on the product performance, and provide an effective replacement for conventional HID floodlights, up to 250W.



Mounting Options

Floodlight. Pendant. Bulkhead. High Bay. Pole/Column. Road Lighting.

Standard Specification

HDN106N LED Floodlight

Ambient °C	-20 to +55
Enclosure	LM6 Aluminium with epoxy powder finish (RAL 7035) and Polycarbonate diffuser
Entry	2 x M20 cable entries
Termination	3 core 4mm ² max. conductor with looping
Installation	Stirrup mounting bracket
Control Gear	Electronic Driver
Colour Temperature (CCT)	Refer to Ordering Matrix
Colour Rendering Index (Ra)	>70
Maintenance	M8 Hex Head and M6 SKT Head
Ingress Protection	IP66/67 to EN 60529
Surge Protection	4kV line to line, 6kV line to earth
Electrical Supply	Refer to Ordering Matrix

Features

- ◆ Highly **Energy Efficient**
- ◆ **Instant on** crisp white light output
- ◆ **Modular design** allowing up to four interlinked luminaires, each providing a delivered output > 5500lm
- ◆ **Lower power consumption** than HID lamps
- ◆ **Lightweight** (6kg per module) lighting solution
- ◆ **>150,000 maintenance free hours** at 25°C (L70)

HDN106N							
Version*	Voltage	Beam Pattern**	Mount	Light (CCT)	Cable Entries	Material & Paint	Cover ***
0 – 24 LEDs [26W] 1 – 48 LEDs [43W] 2 – 96 LEDs [87W] 3 – 144 LEDs [129W] 4 – 192 LEDs [174W]	H – 100-254V AC L – 18-54V AC/DC	N – Narrow (6565lm) M – Medium (5882lm) W – Wide (5624lm) X – Extra Wide (5547lm)	H – Horizontal Mount [single unit] V – Vertical Mount [multiple units] C – Ceiling Mount	W – Cool White (5000K) X – Warm White (3000K)	0 – M20 5 – M25 OBP – M20 Brass Nickel Plated Plugs 5BP – M25 Brass Nickel Plated Plugs	04 – RAL 7035 (Grey)	FG – Glass front cover

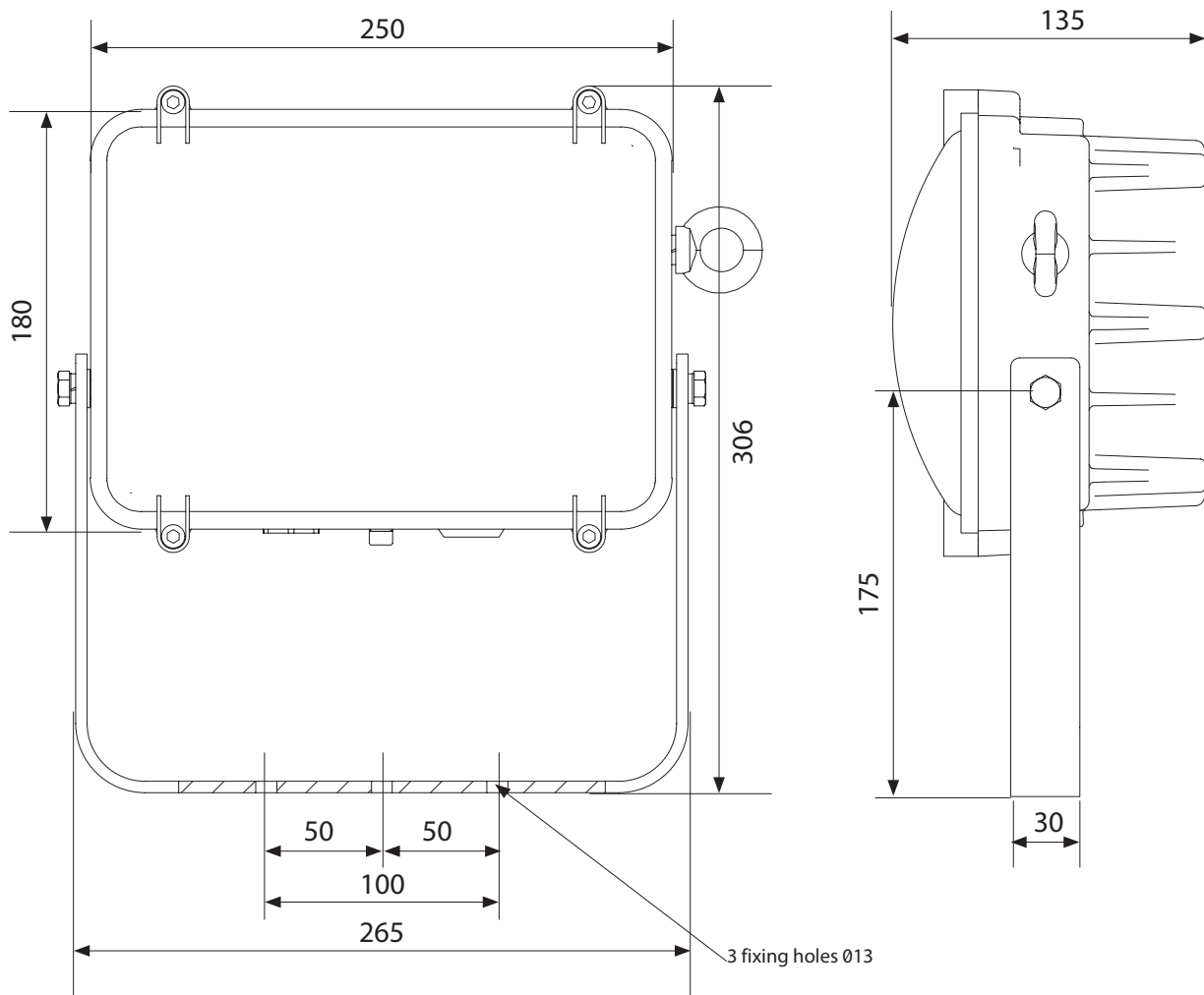
*Power consumption provided in square brackets

**Delivered outputs based on single module 48LED version

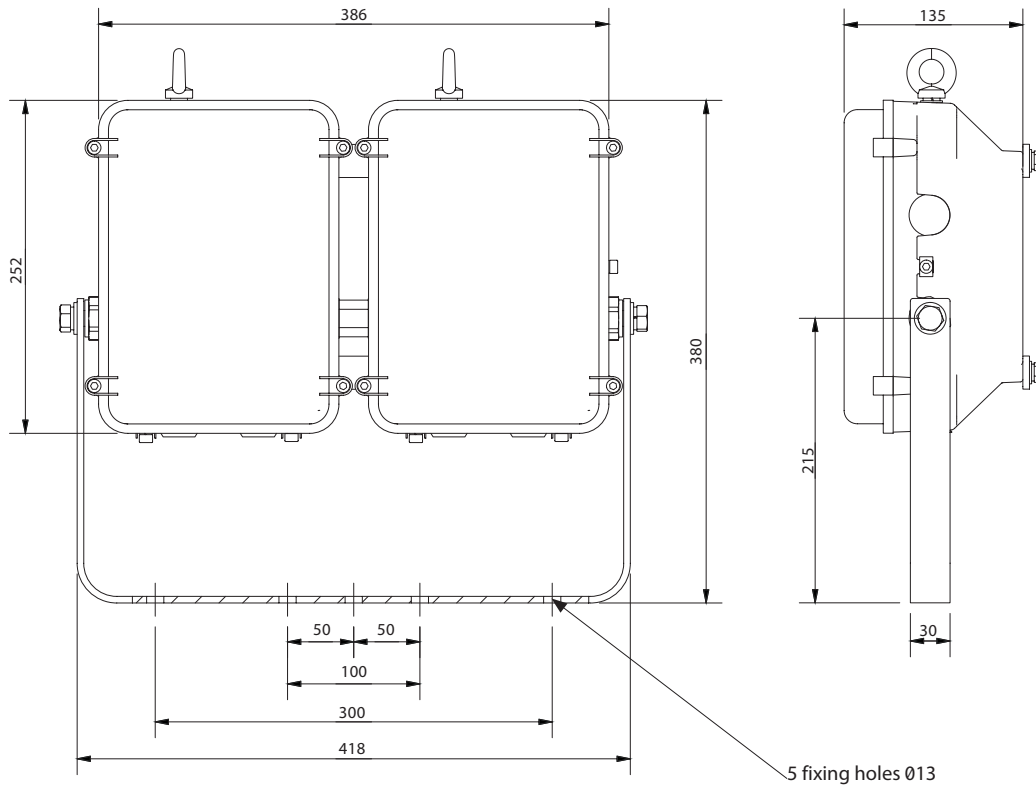
*** Standard Cover Front Clear Polycarbonate (No Abbreviation required)

Typical ordering reference: **HDN106N1HWHW004**

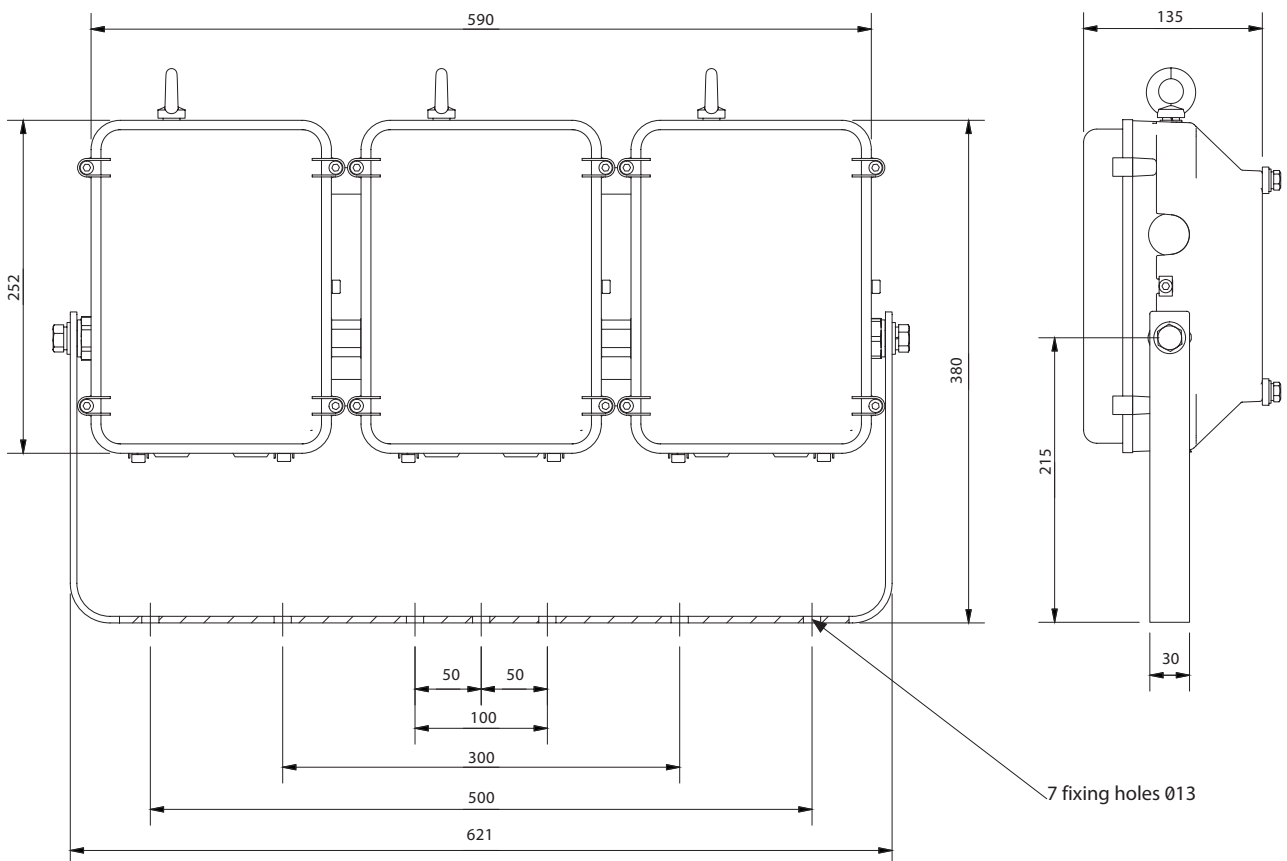
Single unit (24/48 LEDs)



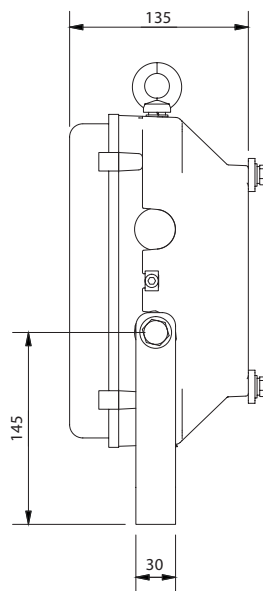
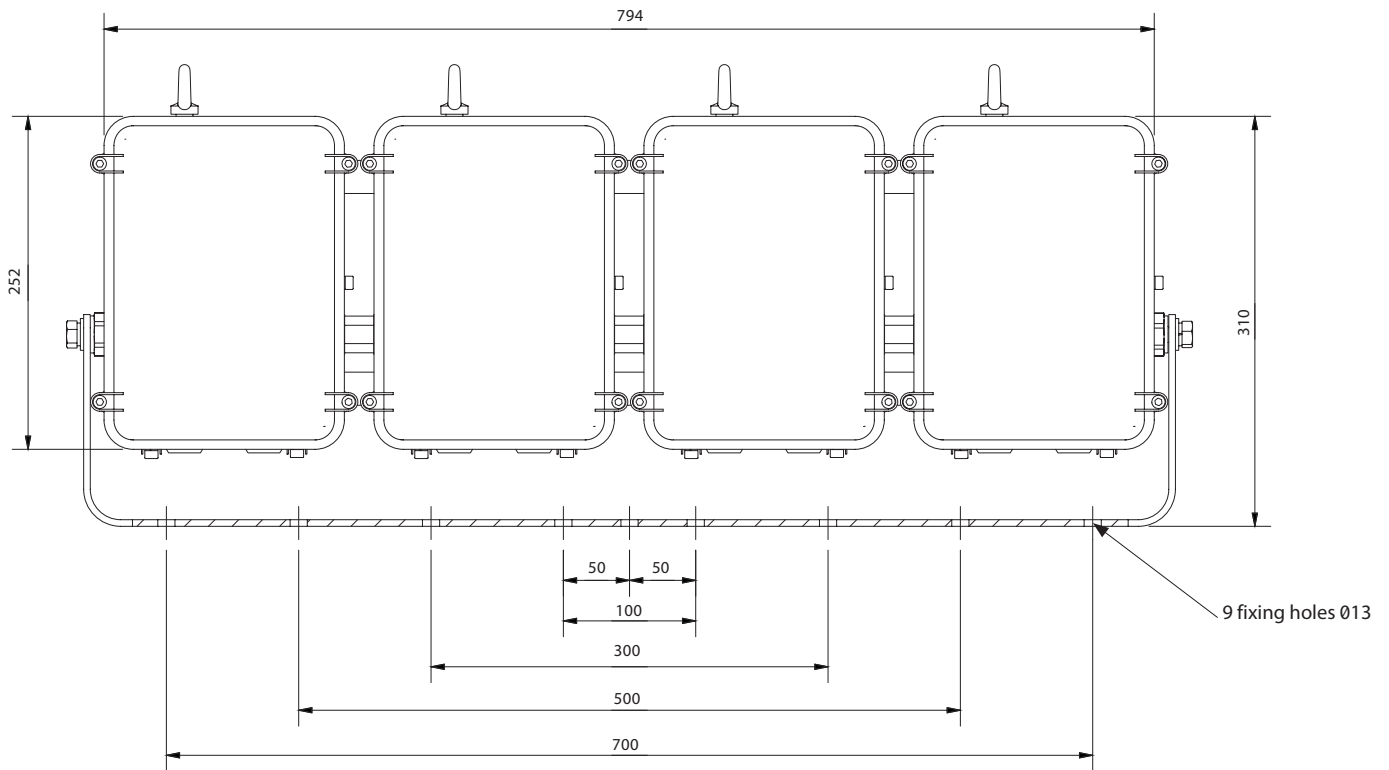
Double unit (96 LEDs)



Triple unit (144 LEDs)



Quadruple unit (192 LEDs)





HDN106NE

LED Floodlight

The **HDN106NE** is a distinctive Emergency LED luminaire allowing up to three modules interlinked, providing an effective and efficient replacement to traditional battery-backed luminaires.

With a wide ambient range and multiple beam options available, this is a truly global industrial solution for any application where Emergency lighting is required for a period of 90mins or 3hrs.



Mounting Options

Floodlight. Pendant. Bulkhead. High Bay. Pole/Column. Road Lighting.

Standard Specification

HDN106NE LED Floodlight

Ambient °C	-20 to +55
Enclosure	LM6 Aluminium with epoxy powder finish (RAL 7035) and Polycarbonate diffuser
Entry	2 x M20 cable entries
Termination	4 core 4mm ² max. conductor with looping
Installation	Stirrup mounting bracket
Control Gear	Electronic Driver
Colour Temperature (CCT)	Refer to Ordering Matrix
Colour Rendering Index (Ra)	>70
Maintenance	M8 Hex Head and M6 SKT Head
Emergency Duration	90mins (75%) or 3hrs (37.5%)
Ingress Protection	IP66/67 to EN 60529
Surge Protection	4kV line to line, 6kV line to earth
Electrical Supply	100-254V AC 50/60Hz

Features

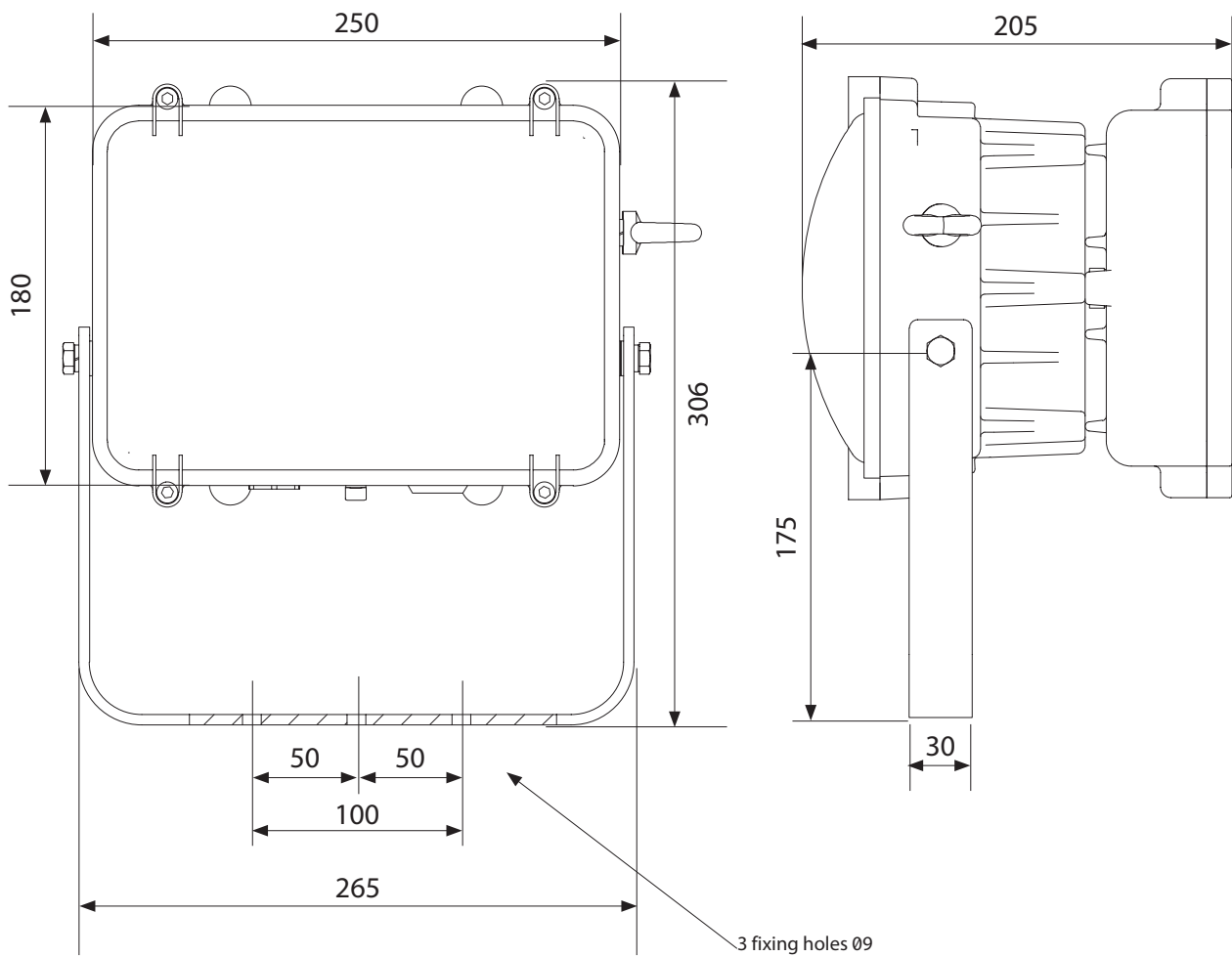
- ◆ Highly **Energy Efficient**
- ◆ **Modular design** allowing up to three interlinked luminaires, each providing a delivered output > 5500lm
- ◆ **Instant on** crisp white light output
- ◆ **Lower power consumption** than HID lamps
- ◆ **Lightweight** (9kg per Emergency module) lighting solution
- ◆ **>150,000 maintenance free hours** at 25°C (L70)

HDN106N					
Version*	Beam Pattern**	Light (CCT)	Cable Entries	Material & Paint	Cover ***
E – EM (48 LEDs) [62W]	N – Narrow (6565lm)	W – Cool White (5000K) X – Warm White (3000K)	0 – M20 5 – M25 0BP - M20 Brass Nickel Plated Plugs 5BP - M25 Brass Nickel Plated Plugs	04 – RAL 7035 (Grey)	FG – Glass front cover
ES – EM/Std (96 LEDs) [105W]	M – Medium (5882lm)				
EE – EM/EM (96 LEDs) [122W]	W – Wide (5624lm)				
SES – Std/EM/Std (144 LEDs) [149W]	X – Extra Wide (5547lm)				
ESE – EM/Std/EM (144 LEDs) [165W]					
EEE – EM/EM/EM (144 LEDs) [184W]					

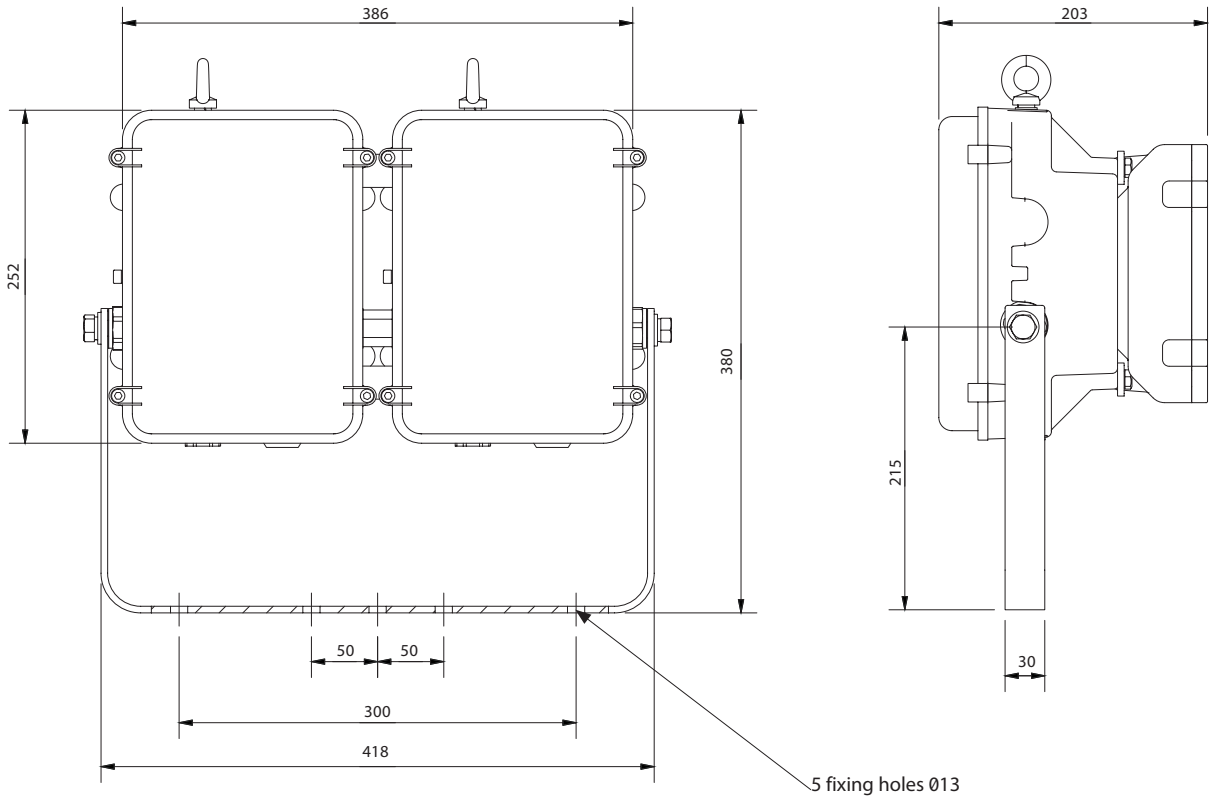
*Power consumption provided in square brackets
 **Delivered outputs based on single module 48LED version
 *** Standard Cover Front Clear Polycarbonate (No Abbreviation required)

Typical ordering reference: HDN106NEMW004

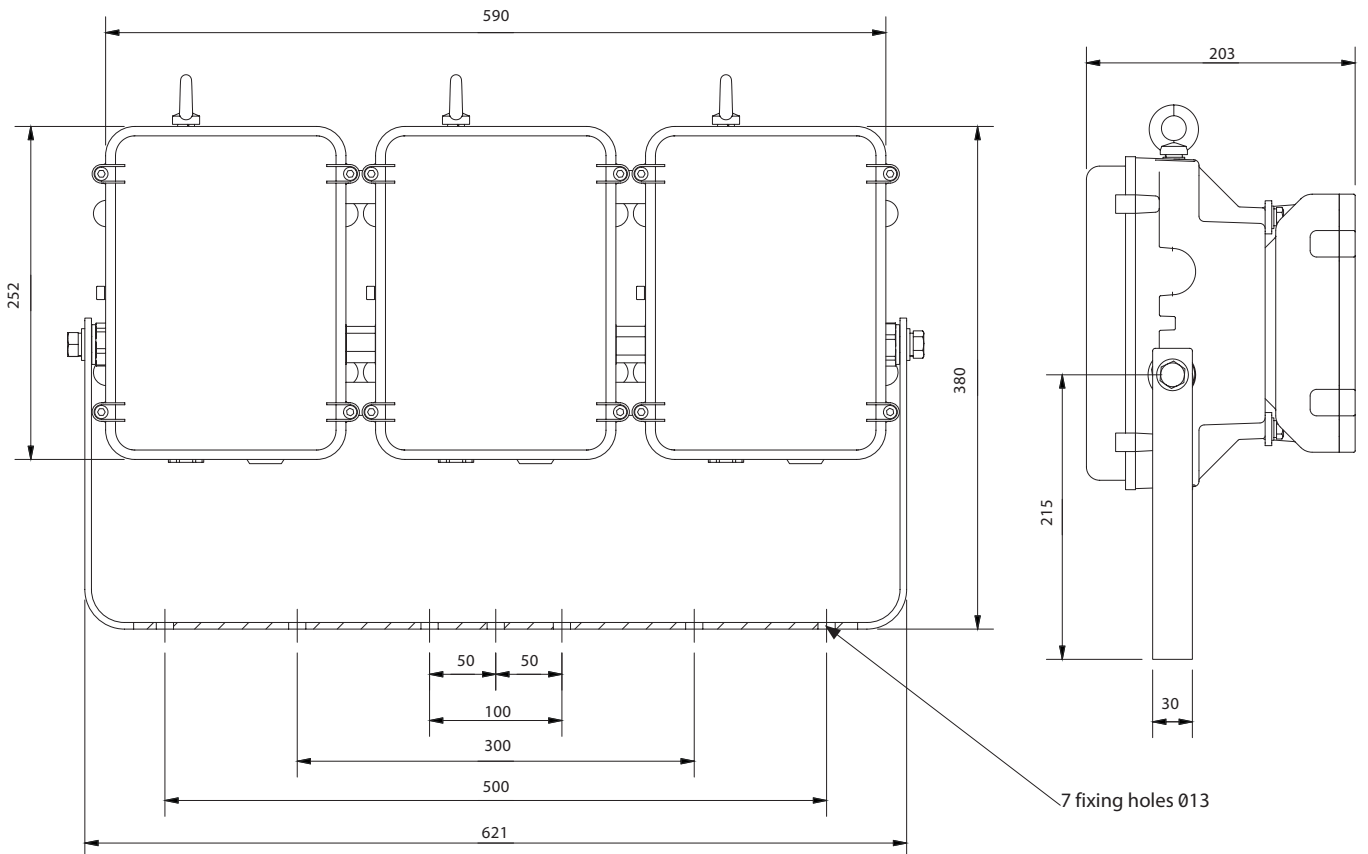
Single unit (48 LEDs)

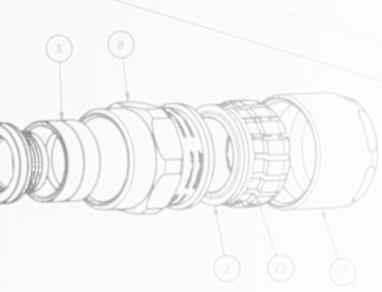


Double unit (96 LEDs)



Triple unit (144 LEDs)





More than a Cable Gland

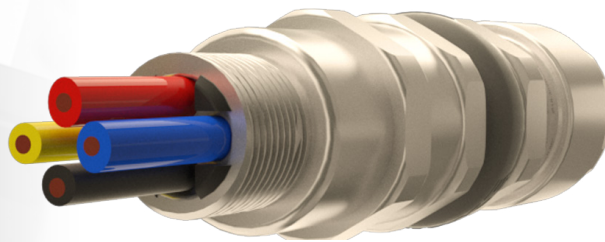
The ultimate hybrid of Cable Gland and Connector makes Hawke's RCG the perfect partner to Chalmit LED luminaires.

INDIVIDUAL ITEM:
620165

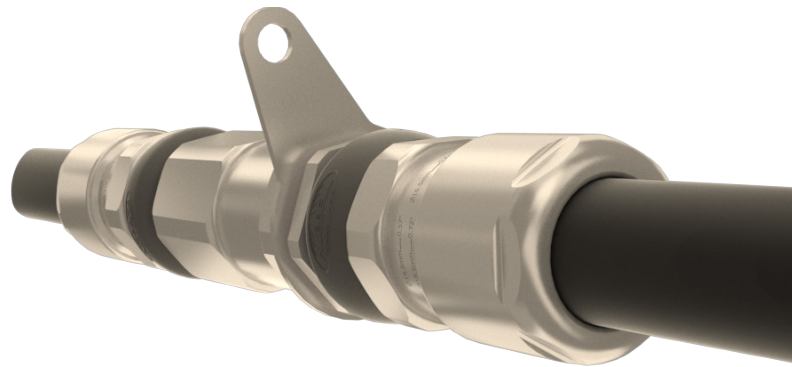


The 501/RCG (Rapid Connection Gland) combines the features of Hawke's market leading Cable Gland range with the plug and play benefits of a connector.

The Rapid Connection Gland provides rapid termination and disconnection in a cost-effective package, reducing ownership expenses by decreasing the time it takes to carry out essential inspection, maintenance and repair.



The RCG Coupler provides the means to extend an existing cable without the need to use a junction box, or a more permanent splice kit. **Combining two RCG cable glands and a simple termination system makes upgrading installations fast and easy.**



View Hawke's full range of products at
www.hubbell.com/hawke



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ARRAN X

LED Floodlight

The **Arran X** is a new, revolutionary, energy efficient floodlight designed to withstand the most industrial harsh environments, without sacrificing light quality, durability, or safety. With a robust clamshell design, including a captive swing barrel latch, that offers complete and unimpeded access to the wiring chamber, which allows for a quick and easy installation. Multiple optic types are also available, so that light distribution can be tailored to application need.

Intelligent battery backup is also available as an option which includes Self-Testing feature which runs a 30 second test every 30 days and a 90 or 180 minute test every twelve months. Bi-coloured LED indicator provides a visual fault detection and charging status. With a greater range of output and optic options the Arran X offers a complete package for all Industrial floodlight applications.



International Approvals

Mounting Options

Floodlight. Pole/Column. High Bay

Standard Specification

Arran X LED Floodlight

Enclosure	Marine grade Copper-Free Aluminium body with standard glass diffuser. Epoxy powder finish (Grey)
Entry	2 x M20 cable entries
Termination	3 core 6mm ² max. conductor with looping
Installation	Stirrup mounting bracket
Control Gear	Electronic Driver
Colour Temperature (CCT)	5000K (Cool White)
Colour Rendering Index (Ra)	>70
Maintenance	Easy Install with clamshell splice box for unimpeded wiring access. Slotted screws
Ingress Protection	IP66
Surge Protection	6kV & 4kV for 30L
Electrical Supply	120-277V AC 50/60Hz

Features

- ◆ **Easy Install** with clamshell splice box for unimpeded wiring access
- ◆ **Front access cover** with screwless mains terminals for easy termination.
- ◆ **Light weight** at 11.3kg
- ◆ **Optics options** including Asymmetric, Narrow and Extra Wide
- ◆ **Intelligent battery backup** with built in self-monitoring and testing

Std. Cat No.	Delivered Output	Power Consumption	Ambient °C	Weight
ARXI/07L/LE	7407 lm	63W	-50 to +55	11.3kg
ARXI/10L/LE	10264 lm	91W	-50 to +55	11.3kg
ARXI/14L/LE	14133 lm	118W	-50 to +55	11.3kg
ARXI/20L/LE	18954 lm	178W	-50 to +55	11.3kg
ARXI/30L/LE	28423 lm	269W	-50 to +55	11.3kg
ARXI/07L/LE/EM	7407 lm	63W	-20 to +50	12.03kg
ARXI/14L/LE/EM	14133 lm	118W	-20 to +50	12.03kg

Standard fitting supplied without optics with a wide beam distribution

ARXI/07L/LE/EM 1000 lumens 90 minute emergency duration

ARXI/14L/LE/EM 1000 lumens 90 minute emergency duration

Glass lens as standard

Intelligent Battery Backup

- Self-diagnostics monitors LED luminaire status
- Self-Test feature automatically runs a 1 month and bi-yearly functional test
- LED indicator provides visible fault detection and charging status
- User initiated 1, or 90-minute system test feature
- 15 minute re-transfer delay
- Automatic unit transfer when there is an unintentional drop in voltage. (below 80% of nominal AC input voltage)

Options - Suffix to Catalogue No.

/M25	M25 cable entries	/3H	3 hour battery duration (500 lumens)
/AS	Asymmetric distribution	/3K	3000K (Warm White) LEDs
/N	Narrow Beam distribution	/ADE	Amber LED Turtle friendly*
/X	Extra Wide Beam distribution	/DM	DALI Dimmable driver**

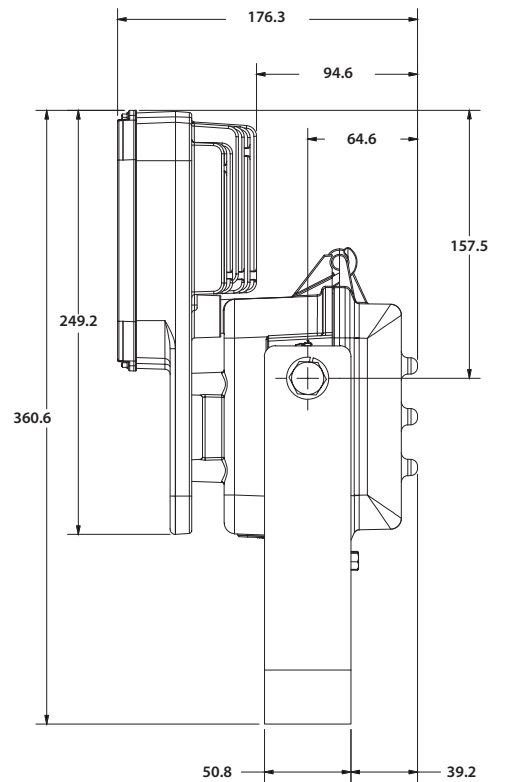
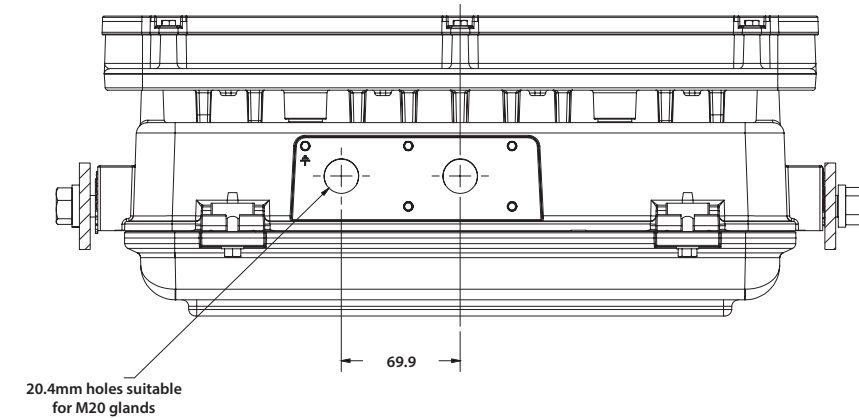
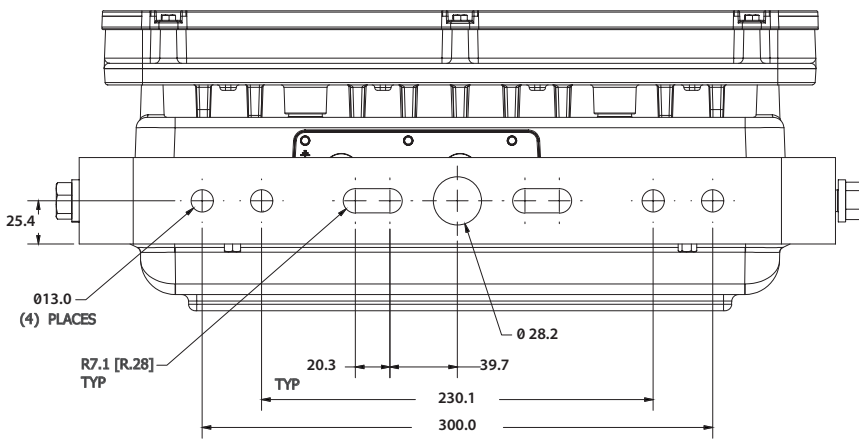
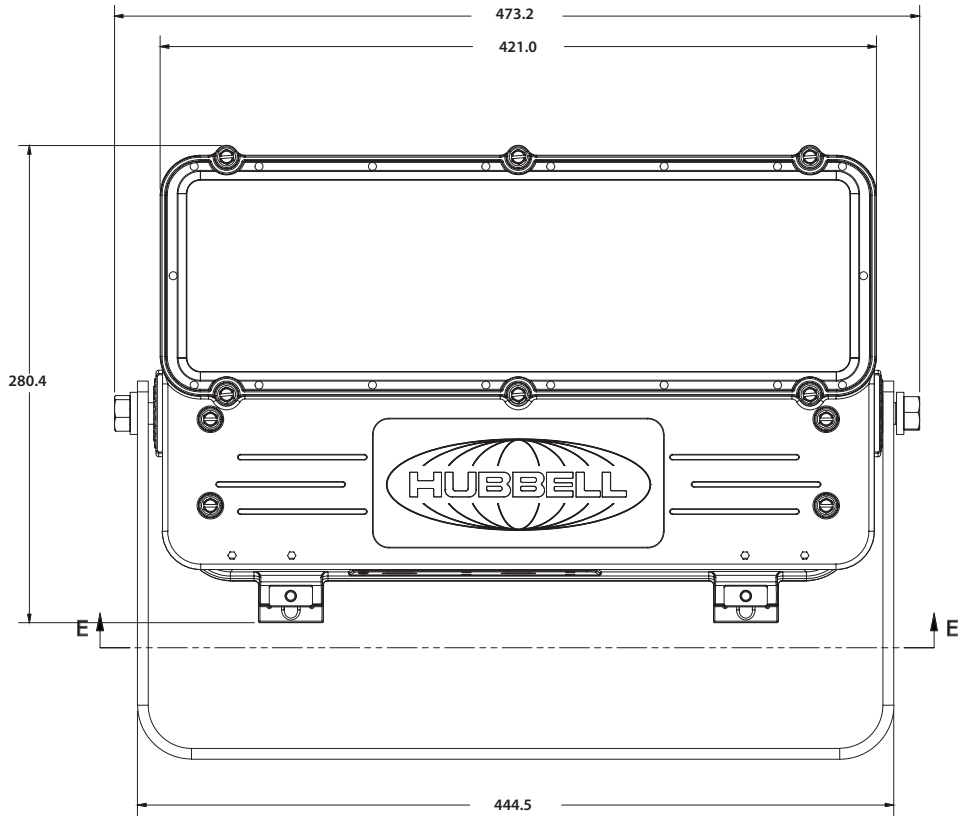
* only available with the 14L and 30L options

** Available up to the 20L option

Optics are not available on the 30L fitting

Accessories *order separately*

	Order Code
Wire Guard 316 Stainless Steel (not used with KFLX-DARK)	KFLX-GUARD
Anti Glare Shield Visor that blocks upward light when mounting at angles above 45° (not used with KFLX-GUARD)	KFLX-DARK
Pole Mounting Bracket Assembly (48-70mm Pole Diameter)	S2400-0002





NEO X

The Next Generation in Industrial LED Lighting



- **-55°C to +55°C** full ambient range
- **Range of outputs** from 1500lm up to 4300lm
- **Effective and compact alternative** to a linear luminaire
- **RCG entries and hot swap battery** options available
- **Exit sign kit** option available

Industrial Bulkhead Luminaire Coming Soon



www.chalmit.com





NEXLED III

LED Bulkhead

The **NexLED III** delivers an instant bright white light, with a variety of output options. Designed for low profile applications, the bulkhead can be mounted on walls, handrails and ceilings making it ideal for walkways or restricted height areas.

The emergency version benefits from the same features as the standard NexLED, but provides effective illumination off the integral battery to ensure safe egress in the event of a power outage. This comes with a 3 hour duration in Emergency mode, and automatic self test functionality.



Mounting Options

Ceiling. Wall. Recessed. Pole/Stanchion. Bulkhead.

Standard Specification

NexLED III LED Bulkhead

Enclosure	Aluminium LM6 body, RAL-9005 black epoxy polyester paint finish with toughened glass and silicone gasket
Geartray	Aluminium
Entry	3 x M20 cable entries
Termination	3 core 4mm ² max conductor with looping [4 core on Emergency]
Installation	Surface mounted, 4 mounting holes located outside of seal
Control Gear	Electronic Driver
Colour Temperature (CCT)	4000K (Neutral White)
Colour Rendering Index (Ra)	>80
Maintenance	M6 Slotted Screws
LED Lifetime @ 50°C Ambient	L70 > 133,000hours
System Life @ Ambient	>100,000hrs @ 25°C [excluding battery]
Battery	Internal NiMH (4.8V) [Emergency only]
Emergency Duration	3 Hours (500lm min. output)
Impact Protection	IK09
Ingress Protection	IP66/67 to EN 60529
Surge Protection	4kV (02L and 04L version); 1kV (01L version)
Electrical Supply	120-277V AC 50/60HZ; 127-300V DC 220-240V AC 50/60Hz [Emergency only]

Features

- ◆ Highly **Energy Efficient**
- ◆ Highly visible, **instant light**
- ◆ **Easy to install** and maintain
- ◆ **Battery management** and automatic self test
- ◆ System life > **100,000hrs at 25°C**

Std. Cat No.	Delivered Output	Power Consumption	Ambient °C	Weight
NL3I/01L/LE/24	816 lm	5W	-15 to +50	3kg
NL3I/01L/LE	1187 lm	10W	-40 to +50	3.4kg
NL3I/02L/LE	2245 lm	19W	-40 to +50	3.6kg
NL3I/04L/LE	3872 lm	31W	-40 to +50	3.7kg
NL3I/01L/LE/EM	1187 lm	11W	-20 to +50	3.7kg
NL3I/02L/LE/EM	2245 lm	20W	-20 to +50	3.9kg
NL3I/04L/LE/EM	3872 lm	32W	-20 to +50	4.0kg

Options - Suffix to Catalogue No.

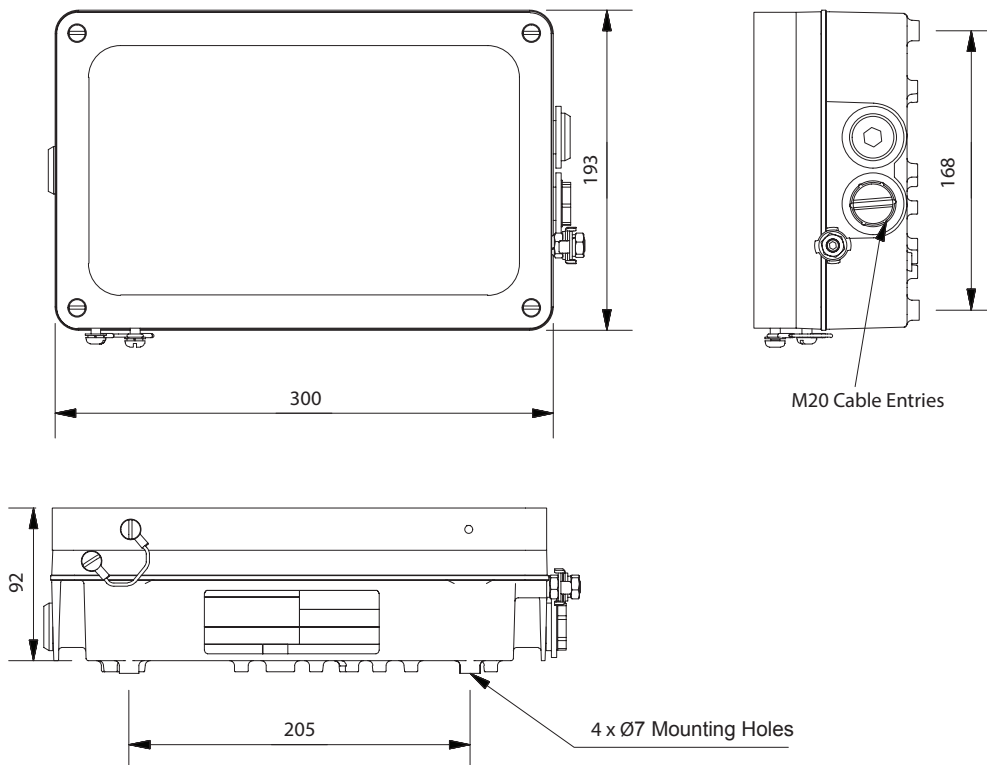
/OD	Internal opal diffusers (approx. 25% reduction in output; EM max ambient reduces to +45°C)	/5K	5000K (Cool White) LED strips
/NM	Non-maintained (01L only, with 4W power consumption)	/NST	Non self test inverter (EM only)

Accessories *Accessories should be ordered separately*

Order Code

Standard Exit Sign Kit (supplied with up, down, left and right labels*)	SNEL1-0008
Canadian Exit Sign Kit (supplied with up, down, left and right labels*)	SNEL1-100272

*Refer to NexLED Exit Kit for further information. Other signage options available upon request, please contact Chalmit Internal sales.





SUSTAINABILITY

At Hubbell 

At Hubbell we are committed to reducing the environmental impact of our operations.

We are continually developing products and processes that support sustainability and offer energy efficient solutions for our customers and partners.

Our focus remains addressing and managing the risks associated with climate change and we are committed to facilitating a sustainable future.

For more information visit us at www.hubbell.com/hubbell/en/sustainability

Our ESG Goals



10%
Reduction in
GHG Emissions
By 2025



10%
Reduction in
Water Consumption
By 2025



Social Responsibility

Inclusion, Diversity, Equality
Employee Health & Safety
Community Impact
Hubbell Foundation Donations



Environmental Stewardship

Environmental Performance Awareness
Reduced Energy and Emissions
Sustainability and Infrastructure
Management Handbook



Products With Impact

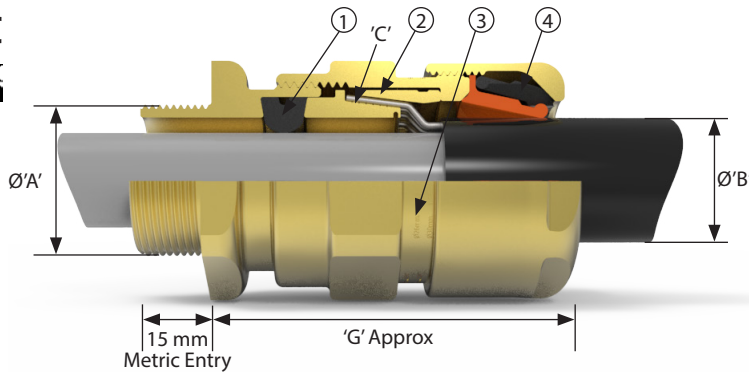
Product Quality & Safety
Renewable Energy & Efficiency
Ethical Product Design
Responsible Supply Chain

Hubbell are proud to have been named as one of 2022's most ethical companies



153/RAC

Industrial gland for indoor or outdoor use



- 1 Elastomeric seal on cable inner sheath
- 2 Fully Inspectable Armour Clamp
- 3 Patented Cable Gland Tightening Guide - Helps prevent damage caused by over tightening
- 4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range

The 153/RAC Cable Gland is an industrial gland for indoor or outdoor use, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer sheath.

Cable Gland Selection Table													
Size Ref.	Entry Thread Size 'A'		Cable Acceptance Details								'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Inner Sheath				Outer Sheath 'B'		Armour/Braid 'C'			Across Flats	Across Corners
			Std Seal	Alt Seal (S)	Min	Max	Orientation 1	Orientation 2					
Os	M20 ²	½"	3.2	8	-	-	5.5	12.0	0.8/1.25	0.0/0.8	52.0	24.0	26.5
O	M20 ²	½"	6.5	11.9	-	-	9.5	16.0	0.8/1.25	0.0/0.8	52.0	24.0	26.5
A	M20	¾" or ½"	10	14.3	9	14.3	12.5	20.5	0.8/1.25	0.0/0.8	53.0	30.0	32.5
B	M25	1" or ¾"	13	20.2	9.5	15.4	16.9	26.0	1.25/1.6	0.0/0.7	69.5	36.0	39.5
C	M32	1½" or 1"	19.5	26.5	15.5	21.2	22.0	33.0	1.6/2.0	0.0/0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	25	32.5	22	28	28.0	41.0	1.6/2.0	0.0/0.7	68.3	55.0	60.6
D	M50	2" or 1½"	31.5	44.4/42.3 ¹	27.5	34.8	36.0	52.6	1.8/2.5	0.0/1.0	79.0	65.0	70.8
E	M63	2½" or 2"	42.5	56.3/54.3 ¹	39	46.5	46.0	65.3	1.8/2.5	0.0/1.0	78.9	80.0	88.0
F	M75	3" or 2½"	54.5	68.2/65.3 ¹	49.5	58.3	57.0	78.0	1.8/2.5	0.0/1.0	83.7	95.0	104.0
G	M80	3½"	67	73	-	-	75.0	89.5	2.0/3.5	0.0/1.0	95.6	106.4	115.0
H	M90	3½"	67	77.6	-	-	75.0	89.5	2.0/3.5	0.0/1.0	95.6	115.0	130.0
J	M100	4"	77	91.6	-	-	88.0	104.5	2.5/4.0	0.0/1.0	95.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches).

Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

G - J size metric entry threads are 2mm pitch as standard, 20mm length of thread

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data	
Material Options	Manufactured in Brass, Nickel Plated Brass or 316L Stainless Steel
Construction & Test Standards	IEC/EN 62444 (Anchorage Type D)
Ingress Protection	IP66, IP67 to IEC/EN 60529 and NEMA 4X
Enclosure Protection	IK10 to IEC 62262
Deluge Protection	DTS01
Operating Temperature	-60°C to +100°C

Ordering Information

If brass is required please omit material selection

Format for ordering is as follows: Alternative Seal (S), Alternative Ring (R), add suffix S and/or R to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
153R	C	M32		R
153R	C	1.25	NP	S

Order Example: 153RCM32R

Please note all NPT entries should be state as a decimal

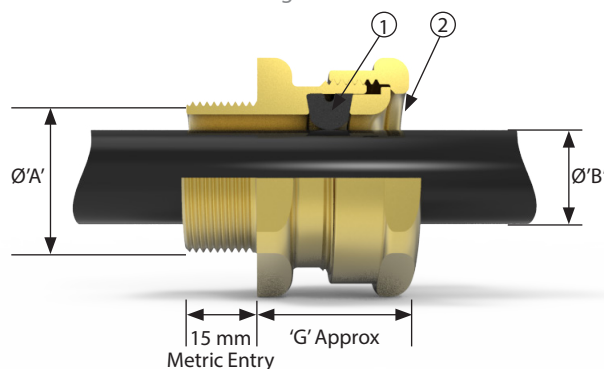
Please refer to part code logic information page for further details on product options

121

Industrial gland for indoor or outdoor use



- 1 Elastomeric seal on cable inner sheath
- 2 Rounded Cable entry to prevent cable damage



The 121 industrial cable gland is intended for use on non-armoured elastomer and plastic insulated cables in indoor and outdoor applications. This cable gland may be used with braided cables where the braid and outer sheath pass into the enclosure. The braid must then be suitably terminated inside the enclosure.

Cable Gland Selection Table									
Size Ref.	Entry Thread Size 'A'		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT*	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min	Max	Min	Max			
2K	M16	–	3.2	8	–	–	23.5	19.0	21.2
Os	M20 ²	½"	3.2	8	–	–	23.8	24.0	26.5
O	M20 ²	½"	6.5	11.9	–	–	23.8	24.0	26.5
A	M20	¾" or ½"	10	14.3	9	13.4	24.8	30.0	32.5
B	M25	1" or ¾"	13	20.2	9.5	15.4	25.8	36.0	39.5
C	M32	1¼" or 1"	19.5	26.5	15.5	21.2	28.2	46.0	50.5
C2	M40	1½" or 1¼"	25	32.5	22	28.0	29.5	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	40.4	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39	46.5	38.2	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	49.5	58.3	40.5	95.0	104.0
G	M80	3½"	67	73	–	–	41.0	106.4	115.0
H	M90	3½"	67	77.6	–	–	41.0	115.0	130.0
J	M100	4"	75	91.6	–	–	41.0	127.0	142.0
K	M110	5"	75	91.6	–	–	59.0	127.0	142.0
L	M120	5"	88	104.5	–	–	63.0	140.0	150.0

All dimensions in millimetres (except * where dimensions are in inches)
 2K-F size metric entry threads are 1.5mm pitch, 15mm length of thread as standard
 G-L size metric entry threads are 2mm pitch, 20mm length of thread as standard

¹ Smaller value is applicable when selecting reduced NPT entry option.
² Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data	
Material Options	Manufactured in Brass, Nickel Plated Brass or 316L Stainless Steel
Construction & Test Standards	IEC/EN 62444 (Anchorage Type B)
Ingress Protection	IP66 and IP67* to IEC/EN 60529
Enclosure Protection	IK10 to IEC 62262
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C

Ordering Information

If brass is required please omit material selection
 Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
121	C	M32		S
121	C	1.25	NP	S

Order Example: 121CM32S

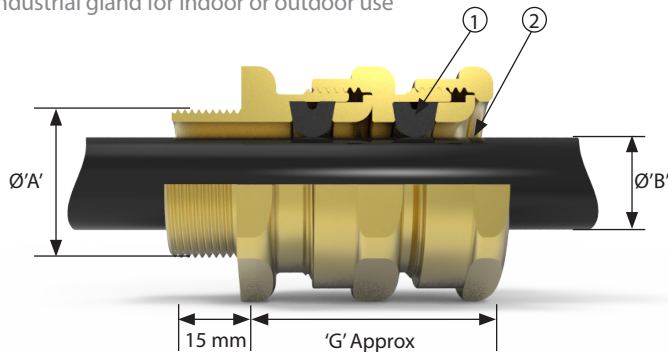
Please note all NPT entries should be state as a decimal
 Please refer to part code logic information page for further details on product options

Product design and specifications are subject to change without notice. Please check the Hawke website for latest specifications.
www.hubbell.com/hawke



123

Industrial gland for indoor or outdoor use



- 1 Elastomeric seal on cable inner sheath
- 2 Rounded Cable entry to prevent cable damage

The 123 dual seal industrial cable gland incorporates two independent seals and is intended for use on non-armoured elastomer and plastic insulated cables in indoor or outdoor applications. This cable gland may be used with braided cables where the braid and outer sheath pass into the enclosure. The braid must then be suitably terminated inside the enclosure. The two seals provide superior cable retention over standard unarmoured cable glands.

Cable Gland Selection Table									
Size Ref.	Entry Thread Size 'A'		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min	Max	Min	Max			
Os	M20 ²	½"	3.2	8	–	–	40.0	24.0	26.5
O	M20 ²	½"	6.5	11.9	–	–	40.0	24.0	26.5
A	M20	¾" or ½"	10	14.3	9	13.4	43.0	30.0	32.5
B	M25	1" or ¾"	13	20.2	9.5	15.4	46.6	36.0	39.5
C	M32	1¼" or 1"	19.5	26.5	15.5	21.2	48.8	46.0	50.5
C2	M40	1½" or 1¼"	25	32.5	22	28.0	51.1	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	67.7	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39	46.5	65.2	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	49.5	58.3	67.5	95.0	104.0
G	M80	3½"	67	73	–	–	68.0	106.4	115.0
H	M90	3½"	67.0	77.6	–	–	68.0	115.0	130.0
J	M100	4"	75.0	91.6	–	–	68.0	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os-F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied).

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data	
Material Options	Manufactured in Brass, Nickel Plated Brass or 316L Stainless Steel
Construction & Test Standards	BS EN 62444 (Anchorage Type B)
Enclosure Protection	IK10 to IEC 62262
Ingress Protection	IP66 and IP67 to IEC/EN 60529
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C

Ordering Information

If brass is required please omit material selection
 Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
123	C	M32		S
123	C	1.25	NP	S

Order Example: 123CM32S

Please note all NPT entries should be state as a decimal

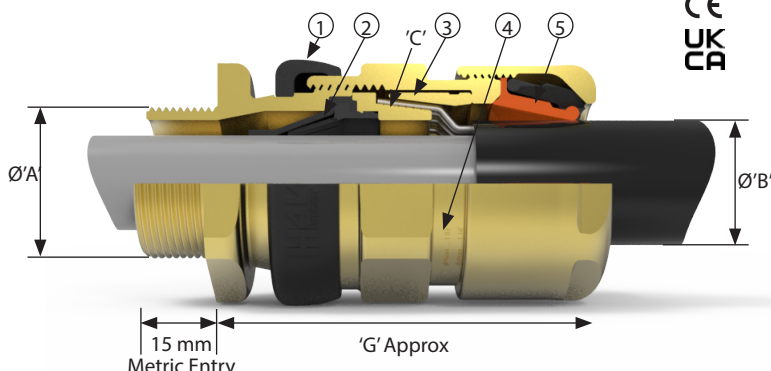
Please refer to part code logic information page for further details on product options

153/UNIV

Industrial gland for indoor or outdoor use



- 1 Inspectable Deluge Seal
- Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Passive diaphragm seal
- Suitable for cables exhibiting 'Cold Flow' Fully inspectable
- 3 Reversible Armour Clamp - For all types of armour and braid
- 4 Patented Cable Gland Tightening Guide
- Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range



The industrial 153/Universal Cable Gland is robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. For particular use with cables that exhibit 'Cold Flow' characteristics.

Cable Gland Selection Table

Size Ref.	Entry Thread Size 'A'		Cable Acceptance Details						'G'	Hexagon Dimensions	
	Metric	NPT*	Inner Sheath		Outer Sheath 'B'		Armour/Braid 'C'			Across Flats	Across Corners
			Min	Max	Min	Max	Orientation 1	Orientation 2			
Os	M20 ²	½"	3.5	8.1	5.5	12	0.8/1.25	0.0/0.8	58.4	24	26.5
O	M20 ²	½"	6.5	11.4	9.5	16	0.8/1.25	0.0/0.8	58.4	24	26.5
A	M20	¾" or ½"	8.4	14.3	12.5	20.5	0.8/1.25	0.0/0.8	59.6	30	32.5
B	M25	1" or ¾"	11.1	19.7	16.9	26	1.25/1.6	0.0/0.7	66.4	36	39.5
C	M32	1¼" or 1"	17.6	26.5	22	33	1.6/2.0	0.0/0.7	71.2	46	50.5
C2	M40	1½" or 1¼"	23.1	32.5	28	41	1.6/2.0	0.0/0.7	75.2	55	60.6
D	M50	2" or 1½"	28.9	44.4/42.3 ¹	36	52.6	1.8/2.5	0.0/1.0	98	65	70.8
E	M63	2½" or 2"	39.9	56.3/54.3 ¹	46	65.3	1.8/2.5	0.0/1.0	94.4	80	88.0
F	M75	3" or 2½"	50.5	68.2/65.3 ¹	57	78	1.8/2.5	0.0/1.0	102	95	104.0
G	M80	3½"	67	73	75	89.5	2.0/3.5	0.0/1.0	90.6	106.4	115.0
H	M90	3½"	67	77.6	75	89.5	2.0/3.5	0.0/1.0	90.6	115	130.0
J	M100	4"	75	91.6	88	104.5	2.5/4.0	0.0/1.0	90.6	127	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering. G size and above are available in the 153/RAC design style.

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

Technical Data

Material Options	Manufactured in Brass, Nickel Plated Brass or 316L Stainless Steel
Construction & Test Standards	IEC/EN 62444 (Anchorage Type D)
Ingress Protection	IP66, IP67, IP69 to IEC/EN 60529 and NEMA 4X
Enclosure Protection	IK10 to IEC 62262
Deluge Protection	DTS01
Operating Temperature	-60°C to +80°C

Ordering Information

If brass is required please omit material selection

Format for ordering is as follows: Alternative Ring (R), add suffix R to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
153U	C	M32		R
153U	C	1.25	NP	R

Example Code: 153UCM32R

Please note all NPT entries should be state as a decimal

Please refer to part code logic information page for further details on product options

Cable Gland Tightening Guide

Whilst Hawke International goes to great lengths to ensure products are designed to be as simple to install, inspect and maintain as is possible, differing levels of competency, training and understanding can lead to glands being incorrectly installed. With hazardous area products, any poor installation issues can not only lead to expensive equipment failure, but also potential explosion risks and associated risk to life.

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented **INBUILT TIGHTENING GUIDE**.

Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance.

How it works

The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. Following the relevant cable gland Installation Instructions, the back seal should be tightened until a seal is formed on the cable outer sheath and then tightened one further turn.



Follow cable gland installation instructions until final stage – tightening of rear seal



Tighten backnut until a seal is formed onto the cable, then tighten one further turn



The backnut should be level with the marking guide corresponding to its diameter – this can be visually inspected and adjusted as necessary

Note: The cable gland installation instructions have a printed cable OD measure for if the cable OD is not known

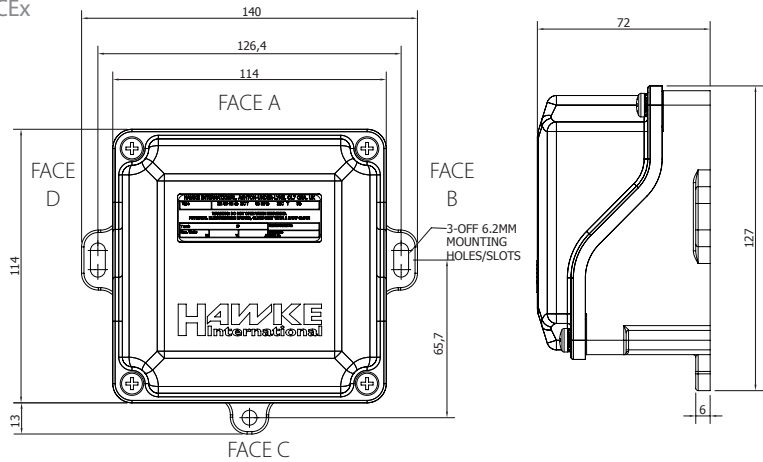
Alternative Reversible Armour Clamping Ring Size Selection

Size Ref	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45



PL511

Increased Safety Exe Dual Certified ATEX / IECEx



Reduce costs and installation time with our most economical Enclosure range. Moulded with Glass Reinforced Plastic, the ATEX & IECEx certified, PL511 offers ultimate strength in the world's most demanding environments.

Terminal Capacity									
Terminal Type	Conductor Size (mm ²)		Max Volts	Rail Orientation	Max. Physical Terminal Content			Reduced Terminal Content at Max Amps	
	Min.	Max.			Terminal Qty	Rail Qty	Amps	Terminal Qty	Amps
WDU 2.5N	0.5	2.5	440	V	9	1	11	3	17
WDU 2.5	0.5	2.5	690	V	9		11	3	17
UT 2.5	0.14	3	690	V	9		11	6	15
WDU 4	0.5	4	690	V	8		15	3	22
UT 4	0.14	4	690	V	8		15	5	20
WDU 6	0.5	6	690	V	5		23	3	29
UT6	0.2	6	690	V	6		21	4	28
HPB4	0.5	Max. per Pillar 2 x 10mm ² 3 x 6mm ² 4 x 4mm ² 4 x 0.5mm ² 2 x 2.5mm ² Solid 1 x 6.0mm ² Stranded	550	N/A	1	Conductor Size mm ² 0.5 0.75 1 1.5 2.5 4 6 10	Max. Amps per Pillar 1 1 8 10 15 21 26 37	N/A	N/A

* Max terminals are split across the quantity of terminal rails

Features

- Enables finger access for easy wiring and inspection of terminations
- Eliminates the need to remove the lid when mounting the enclosure on the wall.
- Provides Ingress Protection to IP66/67. Optimum performance at low and high temperature extremes.
- Prevents loss of screws during assembly and maintenance.
- Designed to withstand impact resistance up to 7Nm. Glass Reinforced Plastic construction provides a high degree of resistance to corrosive atmospheres.

Technical Data	
Ingress Protection	IP66 IP67 to IEC/EC 60529
Material	Glass Reinforced Plastic (GRP) Natural Black Finish
Service Temperature	-60°C to +75°C
Temperature Class and Ambient	T6 40°C as standard Optional T5 with ambients up to 65°C For additional options see technical data
ATEX/IECEX	
ATEX/IECEX Protection Class	Ex II 2 GD Ex eb IIC Gb; Ex tb IIIC Db
ATEX Certificate No	Baseefa14ATEX0268X (PL511) Baseefa14ATEX0248U (ZPL511)
IECEX Certificate Number	IECEX BAS 14.0123X (PL511) IECEX BAS 14.0120U (ZPL511)
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31
Marine Approvals	ABS: 17-LD1653735-PDA Bureau Veritas: 43523/A1
Additional Certifications	EAC: RU C-GB.AA87.B.00430 Inmetro: IEx 16.0143X PESO: P457331
NEC/CEC	
NEC Protection Class	Class I, Zone 1, AEx e IIC Gb Zone 21, AEx tb IIIC T80°C Db
CEC Protection Class	Ex e IIC Gb Ex tb IIIC T80°C Db
c CSA us Certificate	70039997
Construction & Test Standards	UL 50E, UL508, UL12.12.01, UL/CSA-C22.2 60079-0, UL/CSA-C22.2 60079-7, UL/CSA-C22.2 60079-31, CSA-C22.2 No. 94-M91, CSA-C22.2 No. 14-M91

Maximum Quantity of Entries Per Face								
Thread Size	M16	M20	M25	M32	M40	M50	M63	M75
Face B	1	1	-	-	-	-	-	-
Face C	2	2	-	-	-	-	-	-
Face D	1	1	-	-	-	-	-	-

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.

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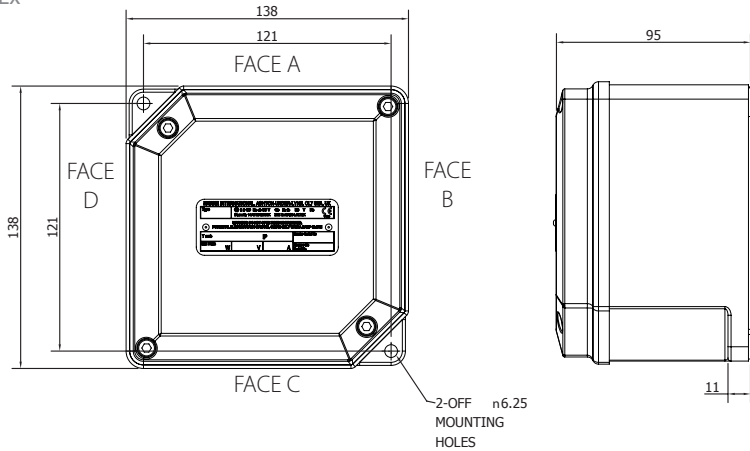
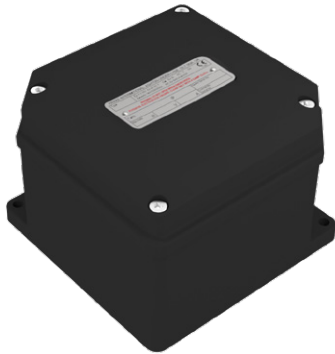
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PL513

Increased Safety Exe Dual Certified ATEX/ IECEx



Moulded from robust Glass Reinforced Plastic with a natural Black Finish.
The versatile PL513 has a wide operating temperature range in both in normal impact and in low risk Impact applications.

Terminal Capacity									
Terminal Type	Conductor Size (mm ²)		Max Volts	Rail Orientation	Max. Physical Terminal Content			Reduced Terminal Content at Max Amps	
	Min.	Max.			Terminal Qty	Rail Qty	Amps	Terminal Qty	Amps
WDU 2.5N	0.5	2.5	440.0	V/H D	16 18	1	12 11	7	17
WDU 2.5	0.5	3	690	V/H D	16 18		12 11	7	17
UT 2.5	0.14	3	690	V/H D	16 17		12 11	10	15
WDU 4	0.5	4	690	V/H D	13 15		16 15	7	22
UT 4	0.14	4	690	V/H D	13 14		17 16	9	20
WDU 6	0.5	6	690	V/H D	10 11		23 22	6	29
UT6	0.2	6	690	V/H D	9 11		24 22	6	28
WDU 10	1.5	10	690	V/H D	8 9		32 30	5	40
UT 10	0.5	10	690	V/H D	7 8		35 33	5	39
HTB 6	0.5	Max. per Pillar 2 x 10mm ² 3 x 6mm ² 4 x 4mm ² 4 x 0.5mm ² 2 x 2.5mm ² Solid 1 x 6.0mm ² Stranded	550	N/A	1		Conductor Size mm ² 0.5 0.75 1 1.5 2.5 4 6 10	Max. Amps per Pillar 1 1 8 10 15 21 26 37	N/A

* Max terminals are split across the quantity of terminal rails

Features

- Excellent operating temperature range for normal impact and low impact risk applications
- ATEX, IECEx and CSA certified
- Robust Glass Reinforced Plastic Construction
- External Mounting Feet - eliminates the need to remove the lid when mounting the enclosure on the wall.
- Corrosion Resistant Lid Fixing Screws with Retaining Feature - prevents the loss of screws during assembly and maintenance.

Technical Data	
Ingress Protection	IP66 IP67 to IEC/EC 60529
Material	Glass Reinforced Plastic (GRP) Natural Black Finish
Service Temperature	-60°C to +75°C
Temperature Class and Ambient	T6 40°C as standard Optional T5 with ambients up to 65°C For additional options see technical data
ATEX/IECEX	
ATEX/IECEX Protection Class	Ex II 2 GD Ex eb IIC Gb; Ex tb IIIC Db
ATEX Certificate No	Baseefa14ATEX0268X (PL513) Baseefa14ATEX0248U (ZPL513)
IECEX Certificate Number	IECEX BAS 14.0123X (PL513) IECEX BAS 14.0120U (ZPL513)
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31
Marine Approvals	ABS: 17-LD1653735-PDA Bureau Veritas: 43523/A1
Additional Certifications	EAC: RU C-GB.AA87.B.00430 Inmetro: IEx 16.0143X PESO: P457331
NEC/CEC	
NEC Protection Class	Class I, Zone 1, AEx e IIC Gb Zone 21, AEx tb IIIC T80°C Db
CEC Protection Class	Ex e IIC Gb Ex tb IIIC T80°C Db
c CSA us Certificate	70039997
Construction & Test Standards	UL 50E, UL508, UL12.12.01, UL/CSA-C22.2 60079-0, UL/CSA-C22.2 60079-7, UL/CSA-C22.2 60079-31, CSA-C22.2 No. 94-M91, CSA-C22.2 No. 14-M91

Maximum Quantity of Entries Per Face								
Thread Size	M16 / M20/O	M20/A	M25	M32	M40	M50	M63	M75
Face A/B/C/D	5	3	2	-	-	-	-	-

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.

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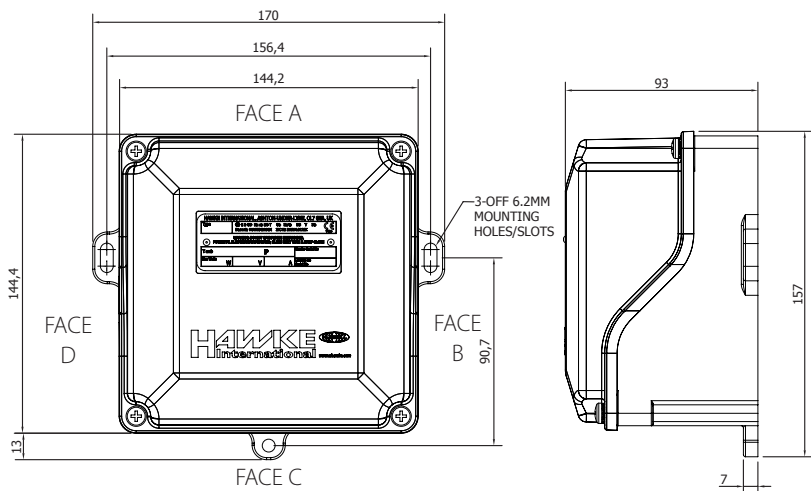
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PL514

Increased safety & dust protection



Offering exceptional strength, easy installation and global certification, the PL514 is the ideal alternative to traditional Glass Reinforced Polyester Enclosures.

Terminal Capacity									
Terminal Type	Conductor Size (mm ²)		Max Volts	Rail Orientation	Max. Physical Terminal Content			Reduced Terminal Content at Max Amps	
	Min.	Max.			Terminal Qty	Rail Qty	Amps	Terminal Qty	Amps
WDU 2.5N	0.5	2.5	440	V	18		11	7	17
WDU 2.5	0.5	2.5	690	V	18		11	7	17
UT 2.5	0.1	2.5	690	V	17		11	10	15
WDU 4	0.5	4.0	690	V	14		15	7	22
UT 4	0.1	4.0	690	V	14	1	16	9	20
WDU 6	0.5	6.0	690	V	11		22	6	29
UT6	0.2	6.0	690	V	10		23	6	28
WDU 10	1.5	10.0	690	V	8		32	5	40
UT 10	0.5	10.0	690	V	8		33	5	39
HPB4	0.5	Max. per Pillar 2 x 10mm ² 3 x 6mm ² 4 x 4mm ² 4 x 0.5mm ² 2 x 2.5mm ² Solid 1 x 6.0mm ² Stranded	550	N/A	1	Conductor Size mm ² 0.5 0.75 1 1.5 2.5 4 6 10	Max. Amps per Pillar 1 1 8 10 15 21 26 37	N/A	N/A

*Max terminals are split across the quantity of terminal rails

Features

- Unparalleled strength at 50% less weight than traditional Glass Reinforced Polyester enclosures
- Complete IP66/67 and 4X protection
- External mounting feet eliminate the need to remove the lid when mounting or removing the enclosure from a wall or other surface.
- Dropped lid design makes installation and inspection easier than ever before
- Earth Continuity Plate is available in Zintec or Brass
- Wide operating temperature

Technical Data	
Ingress Protection	IP66 IP67 to IEC/EC 60529
Material	Glass Reinforced Plastic (GRP) Natural Black Finish
Service Temperature	-60°C to +75°C
Temperature Class and Ambient	T6 40°C as standard Optional T5 with ambients up to 65°C For additional options see technical data
ATEX/IECEX	
ATEX/IECEX Protection Class	Ex II 2 GD Ex eb IIC Gb; Ex tb IIIC Db
ATEX Certificate No	Baseefa14ATEX0268X (PL514) Baseefa14ATEX0248U (ZPL514)
IECEX Certificate Number	IECEX BAS 14.0123X (PL514) IECEX BAS 14.0120U (ZPL514)
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31
Marine Approvals	ABS: 17-LD1653735-PDA Bureau Veritas: 43523/A1
Additional Certifications	EAC: RU C-GB.AA87.B.00430 Inmetro: IEx 16.0143X PESO: P457331
NEC/CEC	
NEC Protection Class	Class I, Zone 1, AEx e IIC Gb Zone 21, AEx tb IIIC T80°C Db
CEC Protection Class	Ex e IIC Gb Ex tb IIIC T80°C Db
c CSA us Certificate	70039997
Construction & Test Standards	UL 50E, UL508, UL12.12.01, UL/CSA-C22.2 60079-0, UL/CSA-C22.2 60079-7, UL/CSA-C22.2 60079-31, CSA-C22.2 No. 94-M91, CSA-C22.2 No. 14-M91

Maximum Quantity of Entries Per Face								
Thread Size	M16	M20	M25	M32	M40	M50	M63	M75
Face B	2	2	1	-	-	-	-	-
Face C	6	6	2	2	-	-	-	-
Face D	2	2	1	-	-	-	-	-

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.

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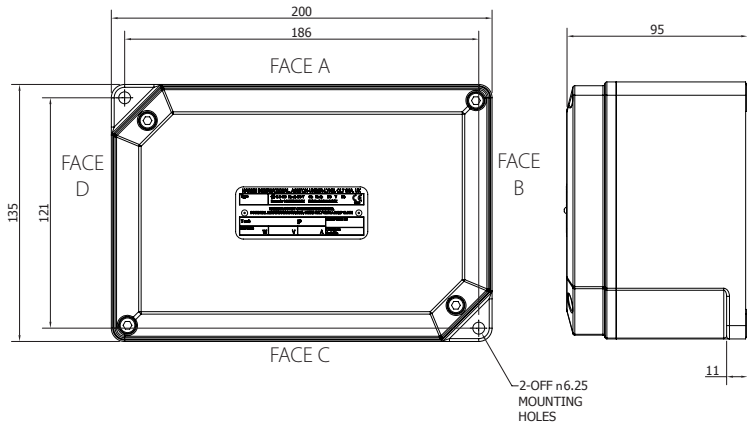
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PL520

Increased Safety Exe Dual Certified ATEX/ IECEx



Moulded from tough Glass Reinforced Plastic, the globally certified PL520 is built to withstand some of the world's most arduous environments. With a wide operating temperature, superior corrosion resistance and more, the PL520 is the ultimate in tough construction.

Terminal Capacity									
Terminal Type	Conductor Size (mm ²)		Max Volts	Rail Orientation	Max. Physical Terminal Content			Reduced Terminal Content at Max Amps	
	Min.	Max.			Terminal Qty	Rail Qty	Amps	Terminal Qty	Amps
WDU 2.5	0.5	2.5	690	V H	16 30	1	12 8	7	17
UT 2.5	0.14	3	690	V H	16 29		11 8	9	15
WDU 4	0.5	4	690	V H	13 25		16 11	7	22
UT 4	0.14	4	690	V H	13 24		16 12	8	20
WDU 6	0.5	6	690	V H	10 19		23 16	6	29
UT6	0.2	6	690	V H	9 18		24 17	6	28
WDU 10	1.5	10	690	V H	8 15		32 23	5	40
UT 10	0.5	10	690	V H	7 14		35 24	5	39
HTB 6	0.5	Max. per Pillar 2 x 10mm ² 3 x 6mm ² 4 x 4mm ² 4 x 0.5mm ² 2 x 2.5mm ² Solid 1 x 6.0mm ² Stranded	550	N/A	1	Conductor Size mm ² 0.5 0.75 1 1.5 2.5 4 6 10	Max. Amps per Pillar 1 1 8 10 15 21 26 37	N/A	N/A

* Max terminals are split across the quantity of terminal rails

Features

- ATEX/IECEx Internationally Approved certification
- Fast Installation and Easy Inspection
- Corrosion Resistant by Design
- Multiple Lid Fixing Points
- Better Tool Access and Concealed Silicone Gasket

Technical Data	
Ingress Protection	IP66 IP67 to IEC/EC 60529
Material	Glass Reinforced Plastic (GRP) Natural Black Finish
Service Temperature	-60°C to +75°C
Temperature Class and Ambient	T6 40°C as standard Optional T5 with ambients up to 65°C For additional options see technical data
ATEX/IECEX	
ATEX/IECEX Protection Class	Ex II 2 GD Ex eb IIC Gb; Ex tb IIIC Db
ATEX Certificate No	Baseefa14ATEX0268X (PL520) Baseefa14ATEX0248U (ZPL520)
IECEX Certificate Number	IECEX BAS 14.0123X (PL520) IECEX BAS 14.0120U (ZPL520)
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31
Marine Approvals	ABS: 17-LD1653735-PDA Bureau Veritas: 43523/A1
Additional Certifications	EAC: RU C-GB.AA87.B.00430 Inmetro: IEx 16.0143X PESO: P457331
NEC/CEC	
NEC Protection Class	Class I, Zone 1, AEx e IIC Gb Zone 21, AEx tb IIIC T80°C Db
CEC Protection Class	Ex e IIC Gb Ex tb IIIC T80°C Db
c CSA us Certificate	70039997
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Maximum Quantity of Entries Per Face								
Thread Size	M16 / M20/O	M20/A	M25	M32	M40	M50	M63	M75
Face A/C	9	5	3	-	-	-	-	-
Face B/D	5	3	2	-	-	-	-	-

CAUTION: Entry quantities are calculated based on standard gland diameters. Entry quantity may be affected if using accessories (locknuts, washers etc) with large diameters.

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GAI-Tronics Titan is constructed of powder coated die-cast aluminium and includes rear enclosure with door.



TITAN

Metal Bodied Telephone



- VoIP-SIP (RFC3261, open protocol)
- PoE or 24-48Vdc
- SNMP set up and configuration
- 4 inputs, 2 outputs
- Acoustic Path self-test
- Redundancy: registers with 4 servers
- Remote programming and real-time monitoring & reporting
- Weather Protection: IP66 (door closed), IP65 (door open)
- Keypad: 0, 6 and 18 button options available
- Large tactile button: easy to see, and operate with gloves
- Vandal resistant handset and cord (Stainless steel or Curled)
- Multipurpose design for Wall or Post mounting
- Posts available
- Colour: yellow
- Analogue and GSM options also available

Application: Offshore Windfarms

Both the Titan and Commander range gives high acoustic performance and reliability in safety critical applications. VoIP-SIP with real-time remote programming and health status monitoring over PoE.

Analogue and GSM options also available. Two phones are required in each windmill, one at the top and one at base.



COMMANDER

Metal Bodied Telephone



GAI-Tronics Commander is constructed of GRP and offers rugged communications in harsh and saline environments.



- VoIP-SIP (RFC3261, open protocol)
- PoE or 24-48Vdc
- SNMP set up and configuration
- 4 inputs, 2 outputs
- Acoustic Path self-test
- Redundancy: registers with 4 servers
- Remote programming and real-time monitoring & reporting
- Weather Protection: Up to IP66
- Keypad: 0, 6 and 18 button options available
- Large tactile button: easy to see, and operate with gloves
- Vandal resistant handset and cord (Stainless steel or Curled)
- Multipurpose design for Wall, Desk or Post mounting
- Posts available
- Colour: yellow
- Analogue and GSM options also available

Product design and specifications are subject to change without notice. Please check the GAI-Tronics website for latest specifications.

www.hubbell.com/gai-tronics

Chalmit, GAI-Tronics and Hawke products have been used extensively throughout various offshore wind projects since 2011.

We continue to develop our ranges to suit this growing market and have provided lighting, connection and communications products that are specifically suited to an offshore wind turbine environment.

To find out more email us at getintouchuk@hubbell.com

YEAR	PROJECT NAME	YEAR	PROJECT NAME
2011	Thornton Bank	2018	Borssele Alpha & Beta
	Dolwin Alpha		Deutsche Bucht
2012	Humber Gateway		Albatross
	Amrunbank	Dolwin 1	
2013	Butendiek	2019	S Deutsche Bucht
	Helwin Beta		Eamade
2014	Luchterduinen		(Seastar & Mermaid)
	Godewind 1 & 2	Albatros	
	Barrow Offshore Wind	Hornsea	
	Gemini Project 2	2020	Near Na Gaoithe
2015	Veja Mate		Saint-Brieuc
	Horns Rev. C	2021	Hollandse Kust Noord
	Dudgeon		Baltic Eagle
	Gemini		Hornsea li
	Westerneerwind		Moray West
2016	Merkur		Kaskasi
	Gemini	Arcadis	
	(Buitengaats & Zeeenergie)	2022	Sofia Ocp
	Beatrice		Changhua
	Rampion		Hollandse Kust
	Dudgeon East		West Alpha & Beta
	Hohe Sea		He Dreiht
Galloper	Ocean Wind		
2017	Hohe See		Vineyard
	Borkum Riffgrund li	Coastal Virginia	
	Kriegers Flak		
	Norther		
	Galloper 2		
East Anglia 1			

United Kingdom

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