

Global Marine & Offshore

Lighting Solutions for Commercial Marine, Cruise & Ferry



Commercial Marine, Cruise & Ferry

Total lighting solutions

The products shown in this catalogue are particularly suitable for use in the following segments:



Global lighting solutions Generations of experience

The Glamox Group is the leading supplier of lighting solutions to the industrial, marine and offshore markets. We are a local partner – with global network. Through our five brands; aqua signal, Glamox, Høvik lys, Luxo and Norselight we fulfill all your requirements, from floodlights and searchlights, through explosion proof luminaires and interior systems to navigation lighting. Our team of engineers has been carefully chosen to give the right blend of experience and creativity. The company develops high quality products and energy efficient systems for extreme applications. All based on innovative technology. Our solutions demand more than today's expertise – it demands generations of experience.

The ambition to discover something new and to innovate was very much present in Birger Hatlebakk – the founder of Glamox. In the late 1940s, he started producing electrical material based on his own inventions in the city of Trondheim, Norway. A secret chemical formula allowed him to create high quality reflectors from standard aluminum. The company later moved to Molde. Today Glamox is a leading corporation within lighting, manufacturing innovative and recognised quality products for distribution world wide.



Photo: Slem Offshore / Harald Walderhaug

This catalogue pooling the products of the brands Glamox, aqua signal and Luxo.
Final editing closed 15 July 2014

Published by Glamox AS,
Birger Hatlebakks veg 15
NO-6405 Molde/Norway













































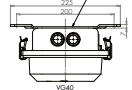





We have done our utmost to make sure that illustrations and technical specifications are correct at the date of publication.

We reserve the right to make technical changes or adjustments involving products and/or production processes without further notice. Glamox disclaims



















































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Premium product brands



Aqua Signal has been delivering top-of-the-line marine lighting solutions since before the age of electricity, providing lighting products designed and manufactured to meet all relevant standards for quality and performance at sea.



Glamox is a leading lighting brand for professional markets, onshore and offshore, established in 1947. The wide assortment of Glamox products is of superior technical quality, and available for a wide range of applications – including challenging environments.



Since 1876, decorative Høvik Lys lighting products, made with high quality materials and with exclusive finishing details, have graced elegant buildings and vessels with their pleasant light.



For more than 75 years Luxo has designed mainly arm-based innovative, ergonomic lighting products. Luxo products improve lighting conditions, taking particular care of individual needs.



Norselight delivers added safety and security by providing search light systems that work reliably even under the most extreme conditions.

Other catalogues are available:



Navigation lights,
Searchlights &
Helideck lighting
BK999424



Floodlights
BK999425



Technical lighting
BK999448



UL/CSA
Listed Products
BK999614



Oil&Gas
BK999754

Marine lighting for the future

Long experience

Our experienced staff can give you advice on technical and explosion proof lighting required for all types of marine, offshore and onshore installation – worldwide.

Unique laboratories

Our laboratories are some of the best equipped environmental test centres for lighting equipment in Europe. They are recognized by Federal Maritime and Hydrographic Agency (constant light measuring and control).

Technical light

We supply a complete range of lighting equipment for processing plants, marine and offshore vessels. When the industry explores deep waters of the coast of South America or when the industry put the first FPSO in the Gulf of Mexico into operation, Glamox was its choice.

Emergency light

We are a solution-orientated partner for our customers. We make emergency light fixtures according to the rules of industry and maritime classification societies and standards with modern design.

Ex Technical light

With experience as a world wide supplier to the marine and oil & gas industry, our main focus is quality, safety, delivery and service. The Ex luminaires have been developed through years of experience. We offer a complete range of lighting equipment designed for marine use.

Quality and expertise

Our products and solutions are developed and tested by our engineers at our own research and testing facilities, and manufactured and certified in accordance with all relevant quality and environmental standards. They are based on the latest technology and expertise – and generations of experience.

Environmental policy

Our target is to produce energy-efficient products using energy-efficient light sources, manufactured through energy-efficient and environmental-friendly processes. Several of our production units hold the ISO 14001 environmental approval. Our environmental routines are integrated in our quality systems.

The most important environmental aspects of our operations are:

- Energy consumption related to the end user's use of our luminaires
- Product lifetime, choice of materials and recyclability of products
- Consumption of energy and materials in product manufacture
- Transport of raw materials, semi-finished goods and finished products
- Waste from operations



Photo: Karl Otto Kristiansen

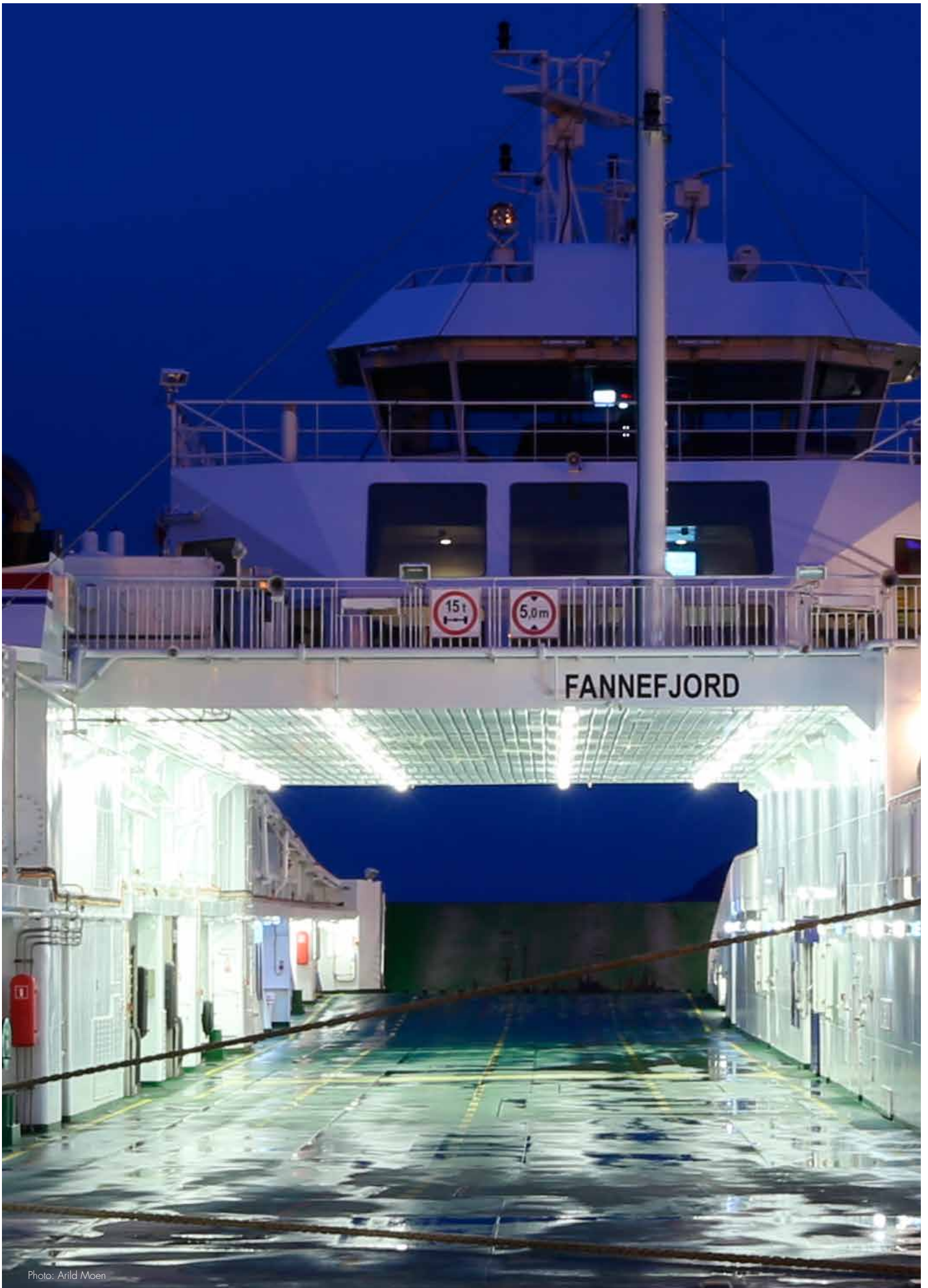


Photo: Arild Moen

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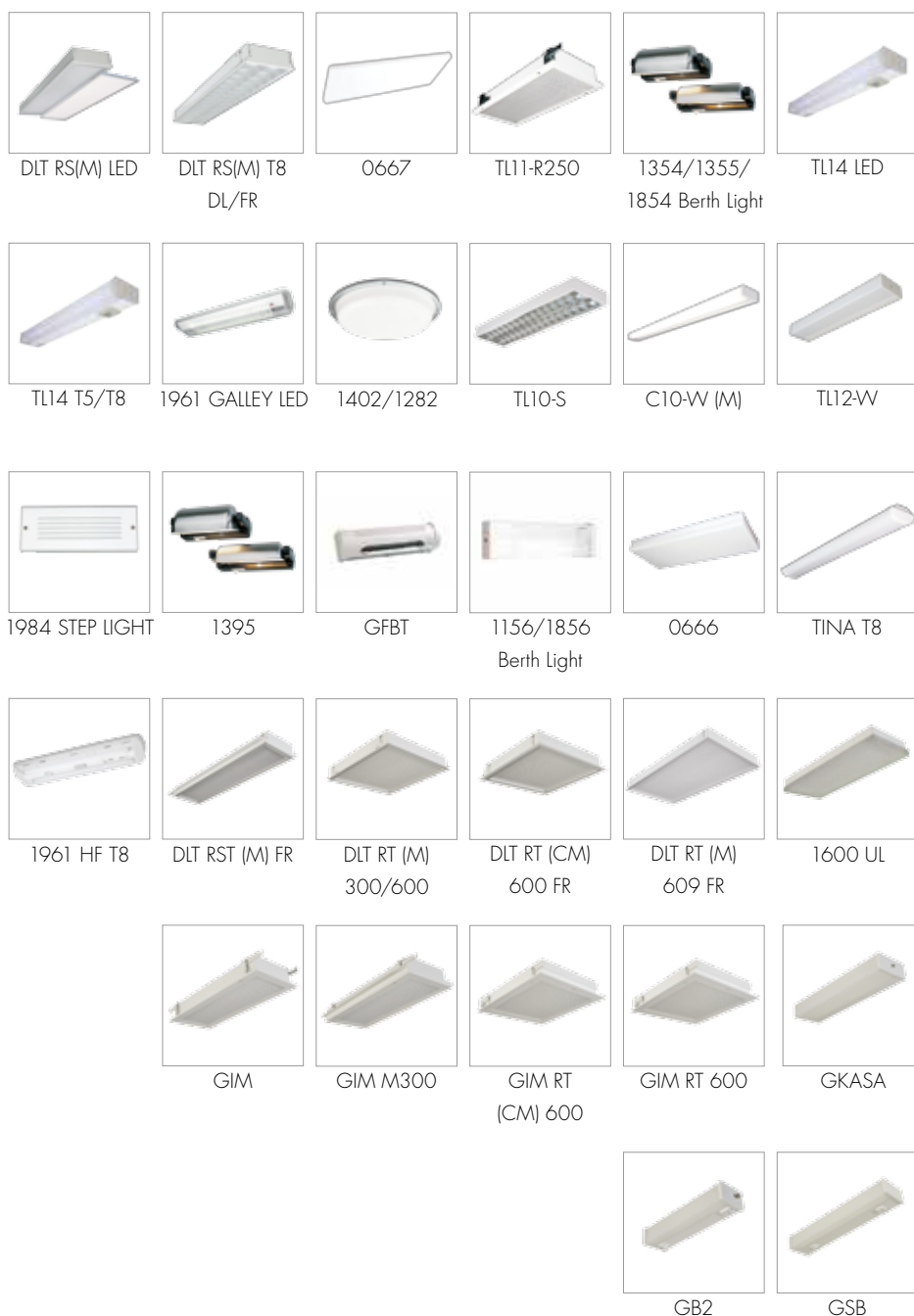
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Photo: Karl Otto Knistensen

Technical lights indoor

A complete range of lighting for indoor to industrial, marine and offshore applications.
Designed for low bay installation, certified to maritime and oil & gas requirements.



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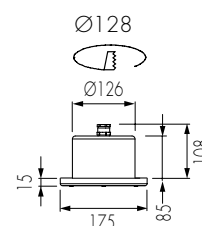
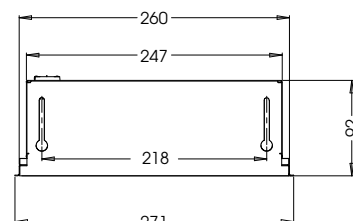
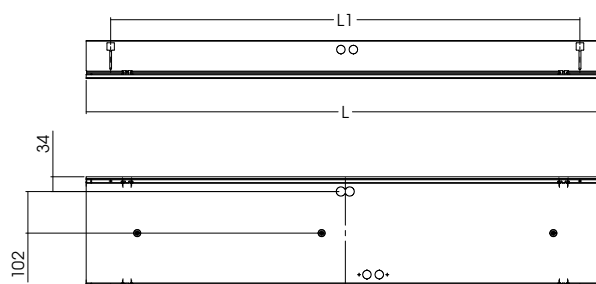
DLT RS(M) LED

Lighting fixture for panel ceilings



- Energy saving
- Maintenance saving
- Single or continuous installation in panel ceilings
- Side profiles or frame for adaption to a wide range of ceiling types

Application	For recessed installation in panel ceilings or solid ceilings
Design	According to maritime requirements
Housing	Steel housing and variants of side rails or frames for adaption to most type of panel ceilings
Finish	Powder coated white RAL9016
Optic	Frame with options of plastic sheet available as accessory: FR1 = Double prismatic plastic FR2 = Opal polycarbonate plastic Ceiling frame or rails to be ordered separately
Electric	With electronic driver HF, with analogue dimming HFda 1-10V or with emergency HF-EB. External battery box to be ordered separately. DALI dimming on request.
Light source	LED 830 or 865, 1400 or 2800 lumen
Mounting	To be mounted in modular panel or solid ceiling. NB: Side rails, frames and suspension brackets to be ordered separately. Emergency battery box to be ordered separately. For B15 fire protection look at service manual.
Connection	One double hole 20.5 x 41 mm with rubber grommet on top, two knock outs Ø20.5 on other side of top and two knock outs Ø20.5 on one long side. One 3-way + one 2-way push in terminal block, 2 x 2.5 mm².



Cut out measure
external battery box Ø128



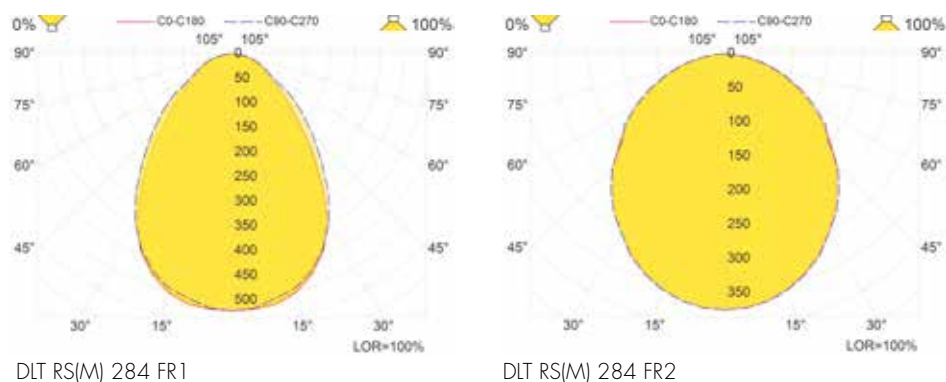
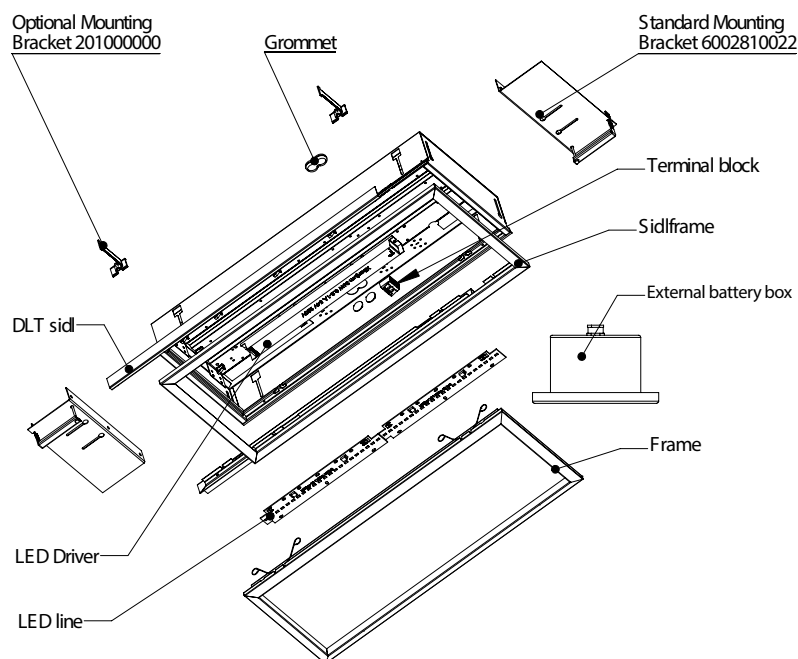
Cut out measure for solid ceiling

218 = 264 x 639 (W x L)

236 = 264 x 1249 (W x L)

For Damp/Dan M300 = only length

Spare Parts/Accessories



Product	HF	HF	HFDα	HF-EB3	L	L1	Weight kg		Lamp code
	220/240V	120V	220/240V	220-240V	mm	mm	220/240V	120V	
DLT RS(M) 1400 HF 830 FR1	K225283101	K225283111	K225283201	K225283401	637	518	4.4	5.4	LED
DLT RS(M) 1400 HF 830 FR2	K225283102	K225283112	K225283202	K225283402	637	518	4.4	5.4	LED
DLT RS(M) 2800 HF 830 FR1	K225483101	K225483111	K225483201	K225483401	1247	1129	8.1	9.1	LED
DLT RS(M) 2800 HF 830 FR2	K225483102	K225483112	K225483202	K225483402	1247	1129	8.1	9.1	LED
DLT RS(M) 1400 HF 865 FR1	K225286101	K225286111	K225286201	K225286401	637	518	4.4	5.4	LED
DLT RS(M) 1400 HF 865 FR2	K225286102	K225286112	K225286202	K225286402	637	518	4.4	5.4	LED
DLT RS(M) 2800 HF 865 FR1	K225486101	K225486111	K225486201	K225486401	1247	1129	8.1	9.1	LED
DLT RS(M) 2800 HF 865 FR2	K225486102	K225486112	K225486202	K225486402	1247	1129	8.1	9.1	LED
DLT-RS(M) EB3 BATTERYBOX 1400 HF 3.6V 4Ah				6003610001			1.39		
DLT-RS(M) EB3 BATTERYBOX 2800 HF 4.8V 4Ah				6003610002			1.52		
Accessories				Part-No.					
MNT-I DLT RL/RS (End suspension)				6002810022					
MNT DLT RT (Side suspension)				K201000000					
DLT SIDL RS 1400 HF Dampa/DAN M300				6002812005					
DLT SIDL RS 2800 HF Dampa/DAN M300				6002814005					
DLT SIDLFRAME RS 1400 HF 300x660x10				6009242290					
DLT SIDLFRAME RS 2800 HF 300x1280x10				6009242490					

Complete assortment on www.glamox.com/gmo

DLT RS(M) T8 DL/FR

Lighting fixture for panel ceilings



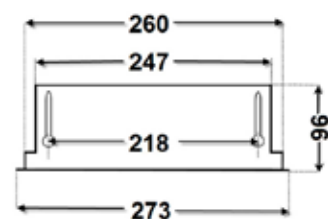
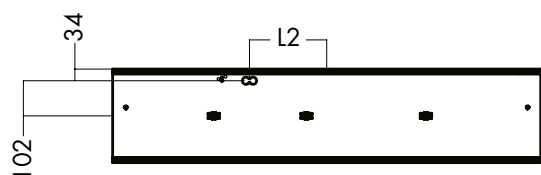
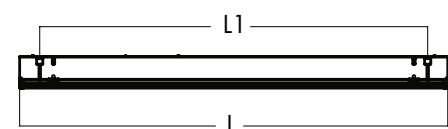
Knock outs and grommet



Terminal blocks

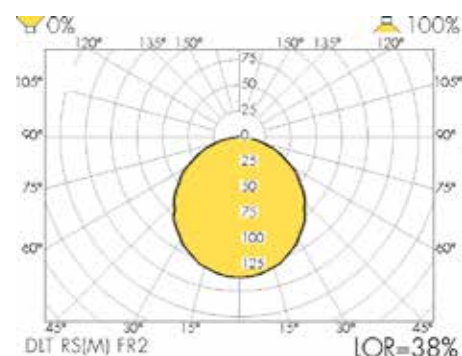
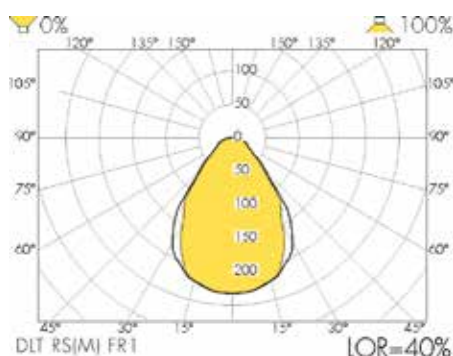
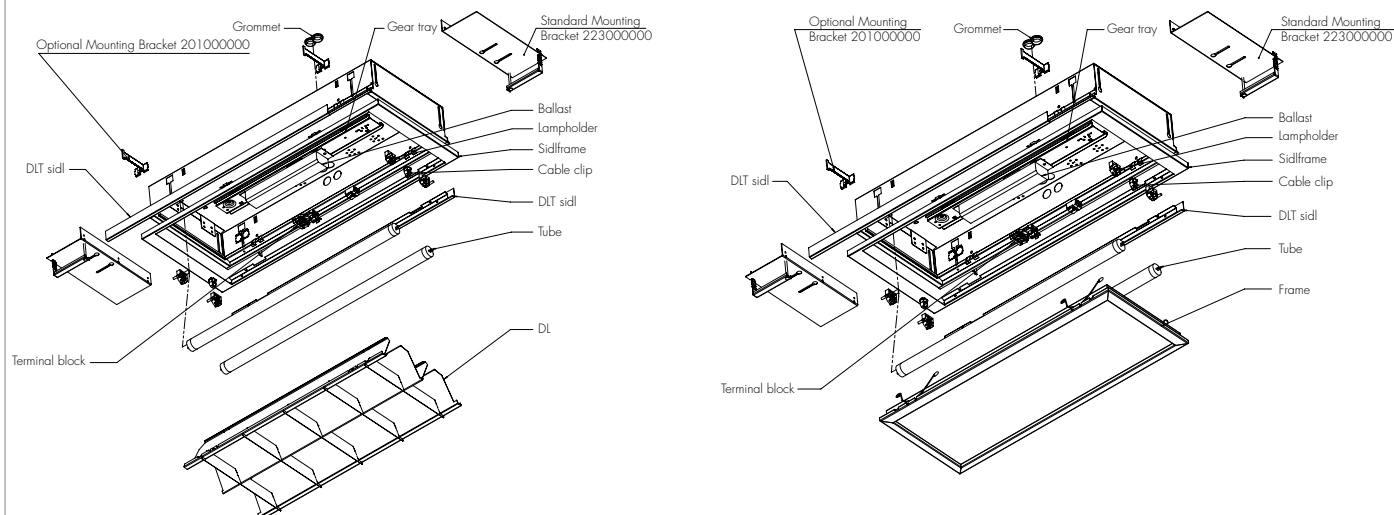
- Single or continuous installation in panel ceilings
- High quality light distribution
- Side profiles or frame for adaption to a wide range of ceiling types
- Wide range of optical systems

Application	For recessed installation in panel ceilings
Design	According to maritime requirements
Housing	Steel housing and variants of side rails or frames for adaption to most type of panel ceilings
Finish	Powder coated white RAL9016
Optic	Darklight optic type DL, designed for high quality light distribution. Frame with options of plastic sheet or grid available as accessory. FR1 = Double prismatic acrylic plastic FR2 = Opal acrylic plastic FR3 = Opal multi-cell plastic Frame to be ordered separately.
Electric	With magnetic ballasts (F) or electronic ballast (HF). Also available with digital dimmable (HFDd) or analogue dimmable (HFDa) ballasts. Variants with emergency battery available on request.
Light source	Two tubes T26 (T8), 18 or 36W. Lamp base G13
Mounting	To be mounted in modular panel or solid ceiling. NB: Side rails and suspension brackets to be ordered separately. For B15 fire protection look at service manual.
Connection	One double hole 20.5 x 41 mm with rubber grommet on top, two knock outs Ø20.5 on other side of top and two knock outs Ø20.5 on one long side. One 3-way + one 2-way push in terminal block, 2 x 2.5 mm².



Cut out measure for solid ceiling
 218 = 264 x 639 (W x L)
 236 = 264 x 1249 (W x L)
 For Damp/Dan M300 = only length

Spare Parts/Accessories



Product	Part-No. F 230/50	Part-No. F 230/60	Part-No. HF	Part-No. HFDa	L mm	L1 mm	L2 mm	Weight kg	Lamp code	Lamp base
DLT RS(M)284 218 DL	228220420	228225420	228222220	228226520	637	520	80	3.7	T26(T8)	G13
DLT RS(M)284 236 DL	228240420	228245420	228242220	228246520	1247	1130	225	7.4	T26(T8)	G13
DLT RS(M)284 218	228220400	228225400	228222200	228226500	637	520	80	3.5	T26(T8)	G13
DLT RS(M)284 236	228240400	228245400	228242200	228246500	1247	1130	225	6.7	T26(T8)	G13

Frame	FR1	FR2	FR3
FR284X640 18	111001041	111001042	223220043
FR284X1250 36	111001141	111001142	223240043

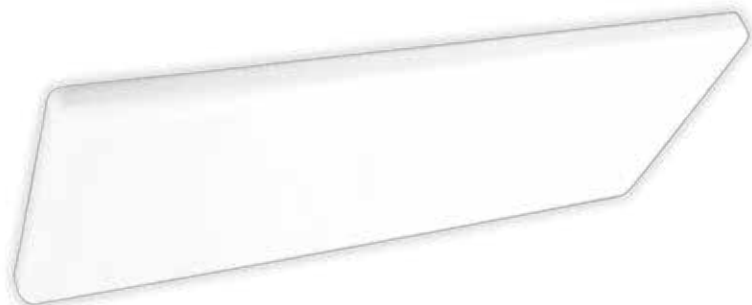
Accessories	Part-No.	Weight kg
MNTI DLT RL/RS 284	223000000	0.6
MNT DLT RT/RW MOUNTING KIT	201000000	0.5
DLT SIDL RS 18W DAMPA/DAN M300	225020001	0.3
DLT SIDL RS 36W DAMPA/DAN M300	225040001	0.9
DLT SILFRAME 18W 300X660X10	225029613	1.2

Complete assortment on www.glamox.com/gmo

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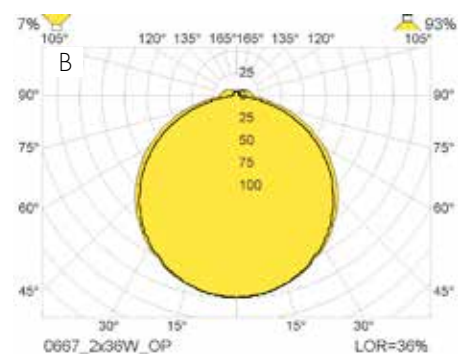
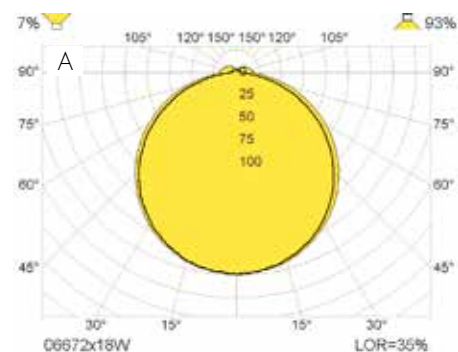
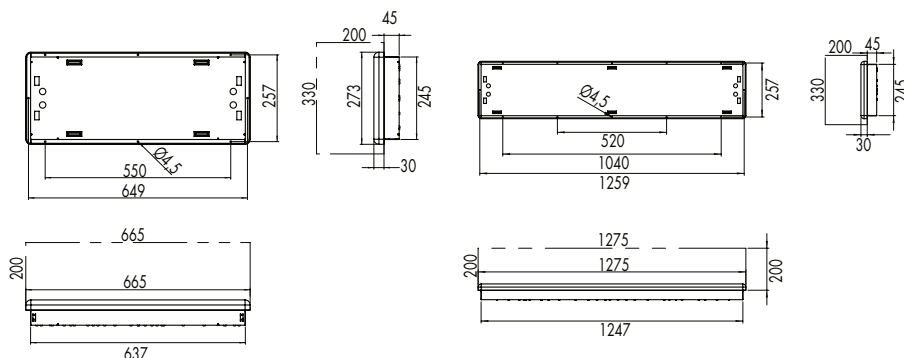
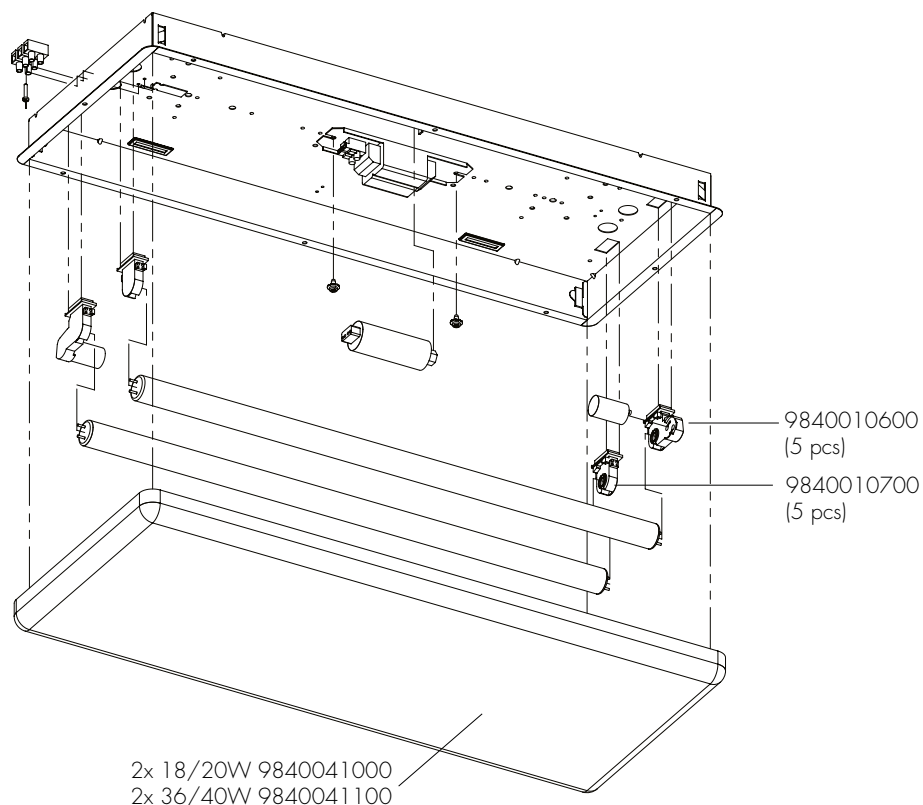
Ceiling luminaire recessed



- Smooth design
- Especially flat
- Easy to mount

Application	For accommodation and public areas etc
Design	According to rules of maritime classification societies, additional VDE and IEC/EN
Housing	Zinc coated steel sheet
Finish	Powder coated white RAL9016 and enamelled up to 70 - 80 µm thickness
Optic	Opal polycarbonate
Electric	With magnetic ballast, low or high power factor, as standard; electronic ballast available. Flexible wiring heat resistant up to 105°C.
Light source	Designed for T26 fluorescent lamp 18W, 36W (not included). Lamp base G13.
Mounting	To be mounted with 8/12 holes, Ø4.5 mm
Connection	4 grommets for max. cable Ø12.7 mm. Terminal 3-pole/6 mm².

Spare Parts/Accessories



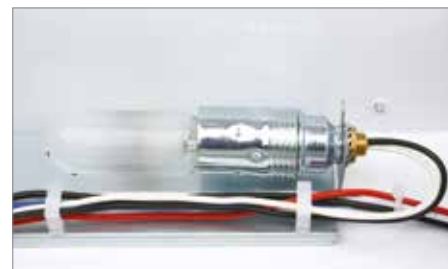
Product	Part-No.	Part-No.	Part-No.	Part-No.	Weight	Lamp	Lamp	Light
	230/50 l.p.f.~	230/50 h.p.f.c.~	230/60 l.p.f.~	230/60 h.p.f.c.~	kg	code	base	distr.
0667 2 x 18 W Tandem	0667101202	0667102209	0667103204	0667104205	2.7	T26	G13	A
0667 2 x 18 W	0667201200	0667202201	0667203204	0667204201	3.5	T26	G13	A
0667 2 x 36 W	0667401201	0667402201	0667403201	0667404203	6.8	T26	G13	B

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TL1 1-R250



Luminaire for recessed installation



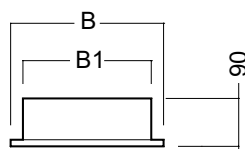
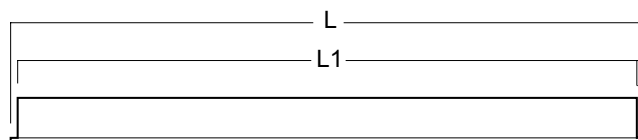
Emergency kit E14



Emergency kit B15

- Luminaire for recessing into solid ceilings
- Robust steel luminaire
- Ingress protection classification IP44/20

Application	For recessed installation in solid ceilings where IP44-rating is required (DP and OP variants)
Design	According to maritime requirements
Housing	Steel housing and steel frame fits to housing with screws
Finish	Powder coated white RAL9016
Optic	Double prismatic (DP) or Opalic (OP) plastic sheet in steel frame (IP44) or white grid (WG) plastic in frame (IP20)
Electric	With electronic ballast and variants with emergency battery back up available. Variants with magnetic ballasts available on request.
Light source	Two tubes T26 (T8), 18 or 36W. Lamp base G13
Mounting	To be installed in ceiling cut out with adjustable suspension brackets. Suspension brackets (MNT-S TL1 1-R250) to be ordered separately.
Connection	Two holes Ø20.5 mm with rubber grommet on top, and two knock outs Ø20.5 mm in each end. One 5-way push in terminal block, 2 x 2.5 mm².
Remarks	Variants for adaption to panel ceiling available on request



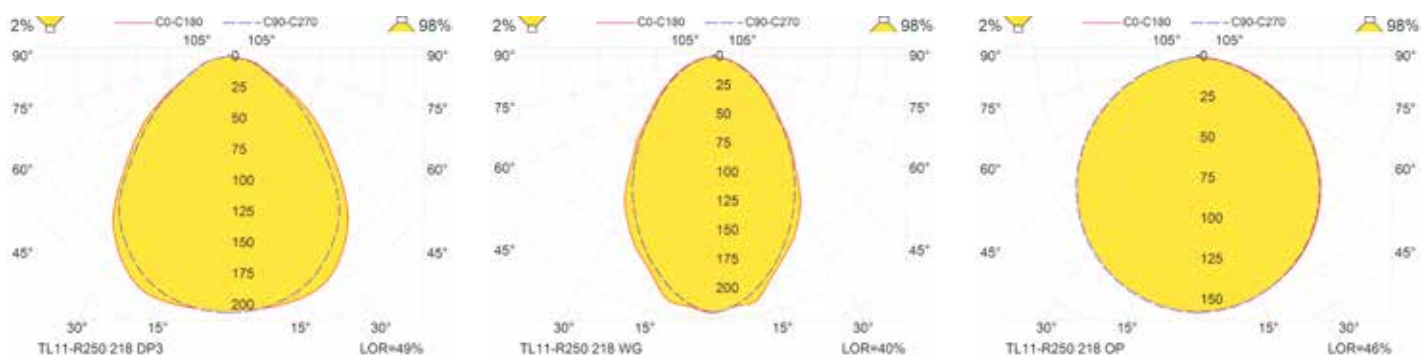
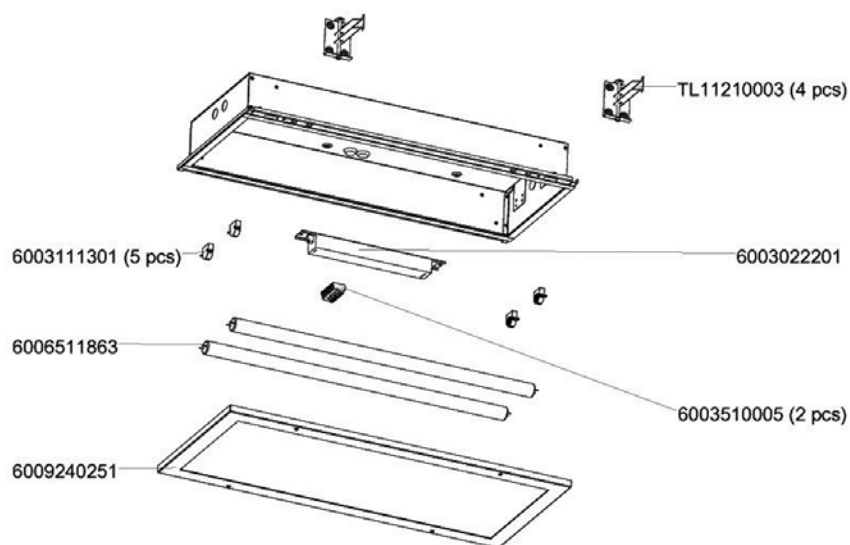
Cut out measure for solid ceiling

218 = 285 x 630 (W x L)

236 = 285 x 1240 (W x L)

For Damp/Dan M300 = only length

Spare Parts/Accessories



Product	IP Class	Part-No. HF	Part-No. HF-E3/S	B mm	B1 mm	L mm	L1 mm	Weight HF	Weight HF-E	Lamp code	Lamp base
TL11-R250 218 DP	44	TL11220001	TL11220004	305	246	670	625	4.1	4.8	T26(T8)	G13
TL11-R250 218 OP	44	TL11220002	TL11220005	305	246	670	625	4.4	5.1	T26(T8)	G13
TL11-R250 218 WG	20	TL11220003	TL11220006	305	246	670	625	4.4	5.1	T26(T8)	G13
TL11-R250 236 DP	44	TL11240001	TL11240004	305	246	1280	1238	6.9	7.7	T26(T8)	G13
TL11-R250 236 OP	44	TL11240002	TL11240005	305	246	1280	1238	7.5	8.4	T26(T8)	G13
TL11-R250 236 WG	20	TL11240003	TL11240006	305	246	1280	1238	7.8	8.7	T26(T8)	G13
Accessories		Part-No.									
MNT E14 TL11 Emergency kit E14		TL11210001									
MNT B15 TL11 Emergency kit B15		TL11210002									
MNT-S TL11-R250		TL11210003									

Complete assortment on www.glamox.com/gmo

1354/1355/1854

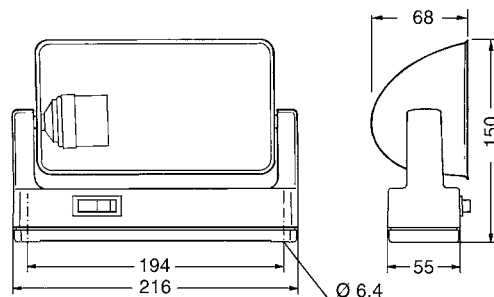
Berth Light



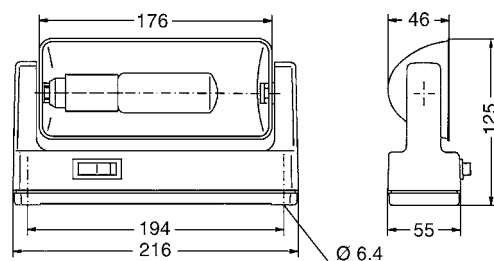
- Direct the beam by swivelling the reflector
- Reflector turnable by almost 360°
- Smooth design

Application	For accomodation areas
Design	According to rules of maritime classification societies, additional VDE and IEC/EN
Housing	Polycarbonate dark brown, reflector matt, deep drawn
Finish	Inside reflector enamelled white RAL9016. For 1854 all parts also in white RAL9016 available
Electric	With magnetic ballast low power factor for 1854. Flexible wiring silicone insulated and heat resitant up to 180°C, 1-way 2 pole switch; connector between wall plate and light.
Light source	Incandescent all purpose lamp max 40W (Type 1355)/incandescant tubular lamp max 40W (Type 1354). TC tubular compact fluourescent lamp 7W (type 1854) (not included). E14/B15/E27/B22 or G23
Mounting	To be mounted with 4 holes, Ø5 mm
Connection	Opening on rear side, dia. 12 x 30 mm. Plug connection 2/5 pole 2.5 mm².

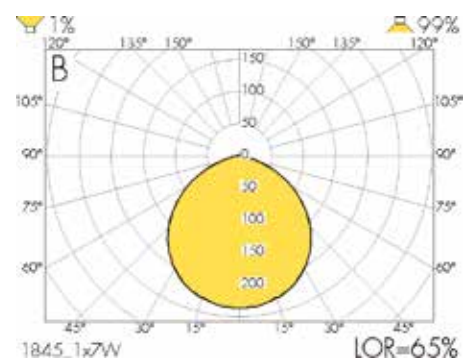
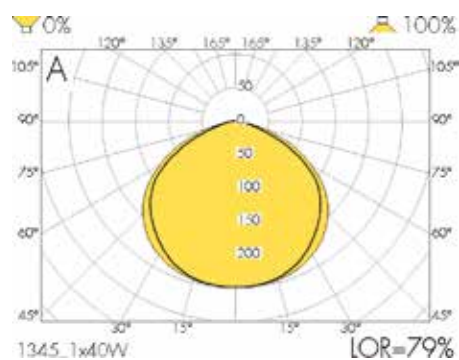
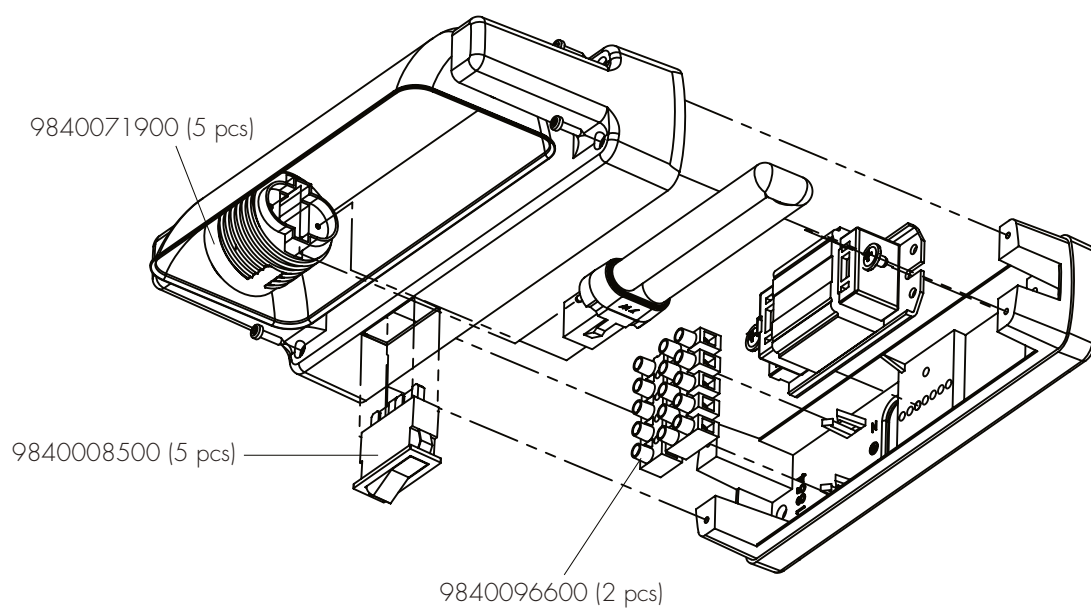
1355



1354/1854



Spare Parts/Accessories



Product	Part-No. Max 250V	Part-No. 110/60 l.p.f.~	Part-No. 230/50 l.p.f.~	Part-No. 230/60 l.p.f.~	Weight kg	Lamp code	Lamp base	Light distr.
1355	1355011000				0.5	A40	E14	
1355	1355013000				0.5	A40	B15	
1355	1355012000				0.5	A40	E27	
1355	1355014000				0.5	A40	B22	
1354	1354011000				0.4	T30	E14	A
1354	1354013000				0.4	T30	B15	A
1354	1354012000				0.4	T30	E27	A
1354	1354014000				0.4	T30	B22	A
1854 1 x 7 W brown		1854011000	1854001000	1854003000	0.7	TC	G23	B
1854 1 x 7 W white		1854011002	1854001008	1854003001	0.7	TC	G23	B

Complete assortment on www.glamox.com/gmo

TL14 LED

Functional mirror lamp



Switch with rubber cover

- LED energy and maintenance saving
- Robust mirror lamp
- Diffuser in opal polycarbonate
- Soft light distribution

Application	Mirror lamp for wall mounting above or on side of mirror. Also available as berth lamp.
Design	Rectangular design Correct mirror lighting
Housing	Steel housing with spring operated plastic end caps
Finish	Powder coated white RAL9016
Optic	Opal polycarbonate diffuser in V0 quality
Electric	With electronic driver 120-240V, 50-60Hz. Variants with two-pole switch (S), with universal shaver socket and transformer for 110/220V (U) or with Schuko socket (SC) are available.
Light source	LED 300, 800, 1000 or 2000 lm, 830
Mounting	To be installed directly to wall or ceiling
Connection	One hole Ø19 mm with grommet in back. One knock-out Ø19 at top. One 3-way push in terminal block, 2 x 2.5 mm ² .

Spare Parts/Accessories

End Cover

6001220701 (2 pcs)

LED Linear

300HF 830 6006563083

800HF 830 6006568083

1000HF 830 6006561083 (2 pcs)

2000HF 830 6006561083 (2 pcs)

Diffuser, opal polycarbonate

300HF 6004010700

800HF 6004010701

1000HF 6004010702

2000HF 6004010703

LED Driver

300HF 6003120300

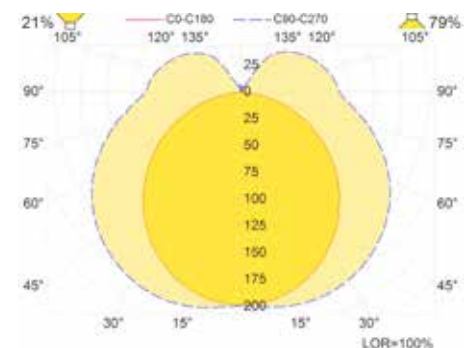
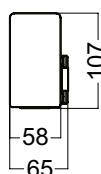
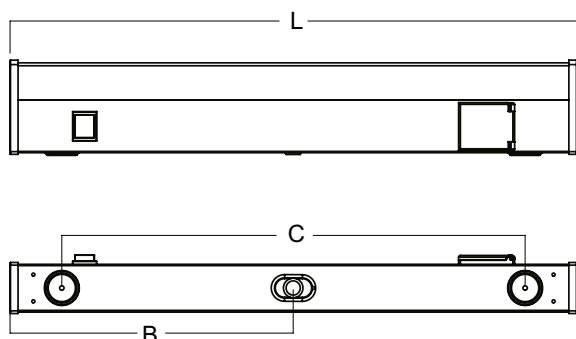
800HF 6003120300

1000HF 6003121000 (2 pcs)

2000HF 6003121000 (2 pcs)

Terminal block

6003510000 (2 pcs)



Product	Part-No. 100-230V	Part-No. 230V	Part-No. 110V	L mm	C mm	Weight kg	Lamp code
TL14-W58 300HF 830	TL14183753			316	212	0,95	LED
TL14-W58 300HF 830 S	TL14183760			316	212	0,95	LED
TL14-W58 300HF 830 SSC	TL14183777			316	212	0,95	LED
TL14-W58 800HF 830	TL14183814			486	370	1,4	LED
TL14-W58 800HF 830 S	TL14183845			486	370	1,4	LED
TL14-W58 800HF 830 U		TL14183821	TL14183883	486	370	1,9	LED
TL14-W58 800HF 830 SU		TL14183852	TL14183906	486	370	1,9	LED
TL14-W58 1000HF 830	TL14183913			637	521	1,5	LED
TL14-W58 1000HF 830 S	TL14183944			637	521	1,5	LED
TL14-W58 1000HF 830 U		TL14183920	TL14183982	637	521	2,1	LED
TL14-W58 1000HF 830 SU		TL14183951	TL14183002	637	521	2,1	LED
TL14-W58 2000HF 830	TL14183119			1247	1131	2,8	LED

S = switch, U = universal razor socket with transformer and selector 230/110, SU = switch/universal razor socket with transformer and selector 230/110,

SC = Schuko socket, SSC = switch and Schuko socket

HF = 230-240V/50-60Hz

Complete assortment on www.glamox.com/gmo

TL14 T5/T8

Functional mirror lamp

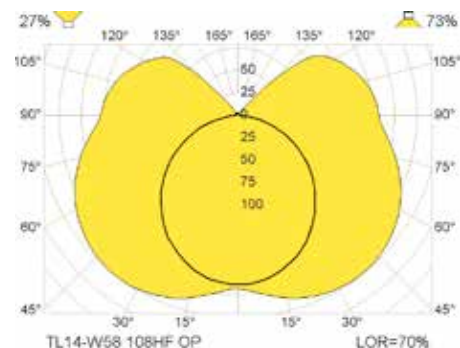
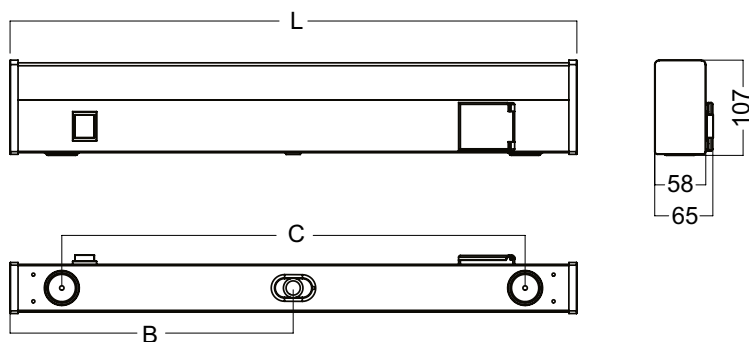
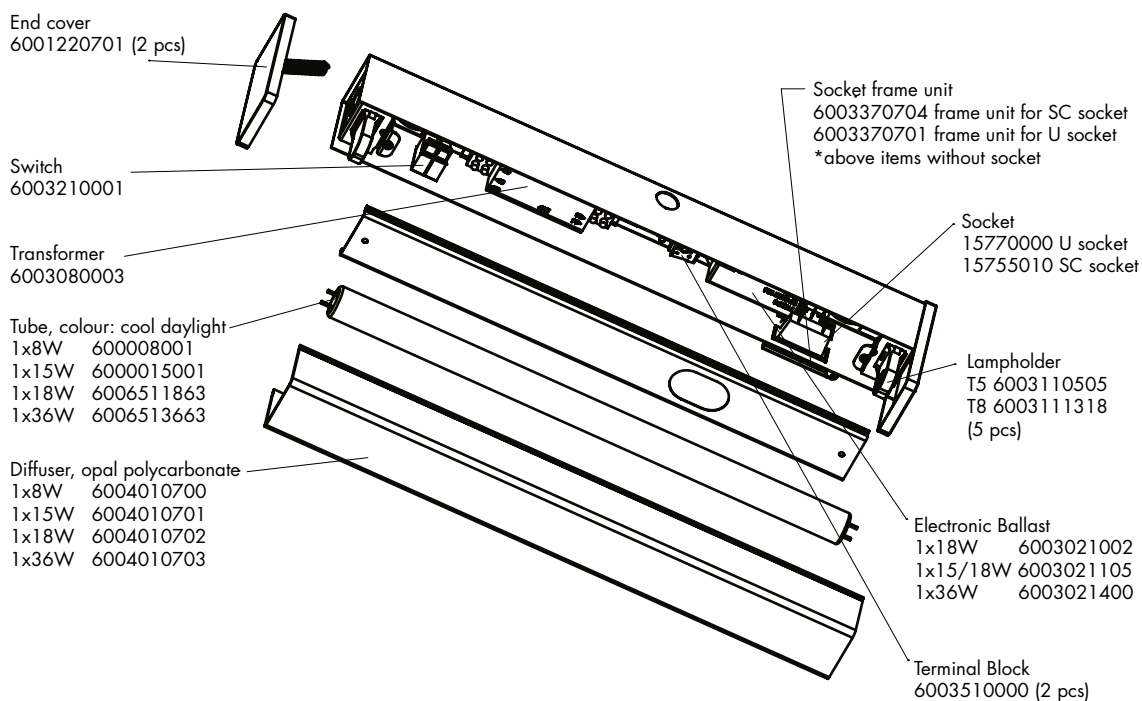


Switch with rubber cover

- Robust mirror lamp
- Diffuser in opal polycarbonate
- Soft light distribution

Application	Mirror lamp for wall mounting above or on side of mirror. Also available as berth lamp.
Design	Classic design. Easy refitting of lamp without tool.
Housing	Steel housing with spring operated plastic end caps
Finish	Powder coated white RAL9016
Optic	Opal polycarbonate diffuser in V0 quality
Electric	With electronic ballast. Variants with magnetic ballasts available on request. Variants with two-pole switch (S), with universal shaver socket and transformer for 110/220V (U) or with Schuko socket (SC) are available.
Light source	T16 (T5) for 8W T26 (T8) for 15, 18 and 36W
Mounting	To be installed directly to wall or ceiling
Connection	One hole Ø19 mm with grommet in back. One knock-out Ø19 at top. One 3-way push in terminal block, 2 x 2.5 mm².

Spare Parts/Accessories



Product	Part-No. HF	L mm	C mm	B mm	Weight kg	Lamp code	Lamp base
TL14-W58 108	TL14000753	316	212	164	0.85	T16(T5)	G5
TL14-W58 108 S	TL14000760	316	212	164	0.85	T16(T5)	G5
TL14-W58 108 SSC	TL14000777	316	212	164	0.9	T16(T5)	G5
TL14-W58 115	TL14000814	486	370	259	1.8	T26(T8)	G13
TL14-W58 115 S	TL14000845	486	370	259	1.8	T26(T8)	G13
TL14-W58 115 U	TL14000821	486	370	259	2.3	T26(T8)	G13
TL14-W58 115 SU	TL14000852	486	370	259	2.3	T26(T8)	G13
TL14-W58 118	TL14000913	637	521	319	2.1	T26(T8)	G13
TL14-W58 118 S	TL14000944	637	521	319	2.1	T26(T8)	G13
TL14-W58 118 U	TL14000920	637	521	319	2.6	T26(T8)	G13
TL14-W58 118 SU	TL14000951	637	521	319	2.6	T26(T8)	G13
TL14-W58 136	TL14001019	1247	1131	624	2.8	T26(T8)	G13

S = switch, U = universal razor socket with transformer and selector 230/110, SU = switch/universal razor socket with transformer and selector 230/110,
SC = Schuko socket, SSC = switch and Schuko socket
HF = 230-240V/50-60Hz

Complete assortment on www.glamox.com/gmo

1961 GALLEY LED



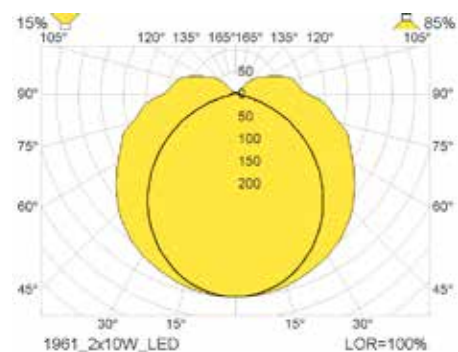
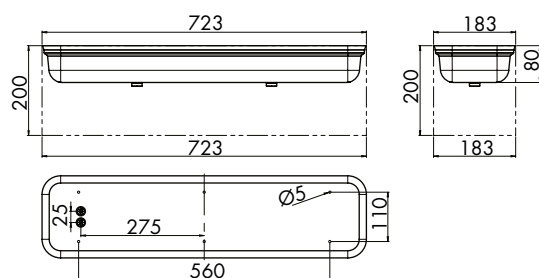
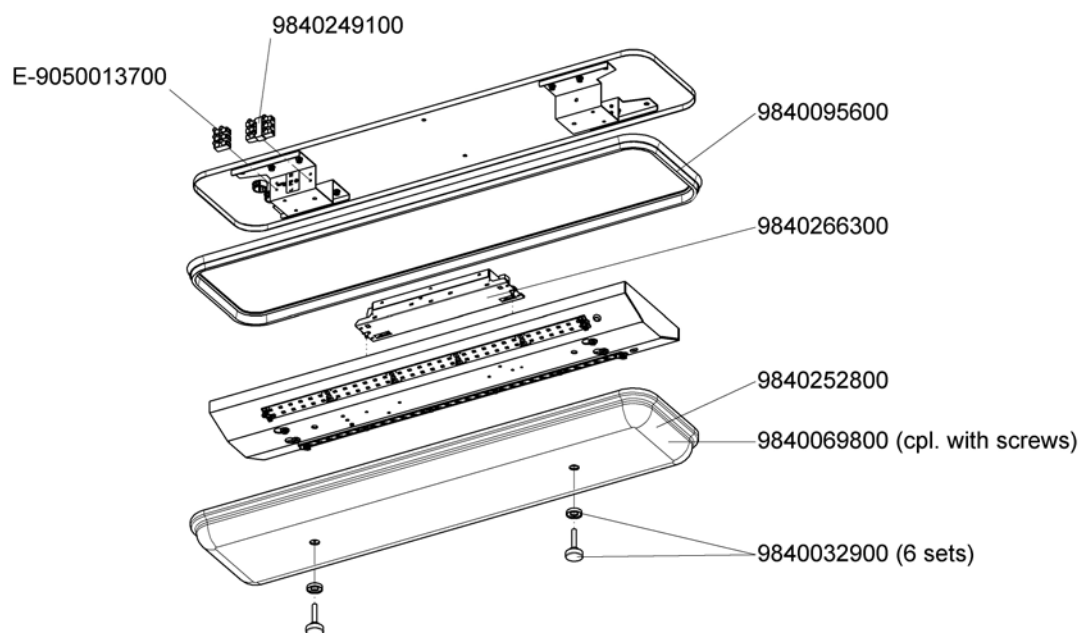
Galley luminaire



- Easy to clean
- According to USPH
- Flat design

Application	For kitchens, galleys, pantries and provision stores
Design	According to rules of USPH (U.S. Public Health) and to rules of maritime classification societies, additional VDE and IEC/EN.
Housing	Ground plate stainless steel AISI 316. Gear tray zinc coated steel.
Finish	Gear tray: powder coated white RAL9016 and enamelled up to 70-80 µm thickness.
Optic	Clear polycarbonate
Electric	High quality driver for 110V to 240V, flexible wiring heat resistant up to 105°C, removable geartray with plug in connector to the terminal on ground plate
Light source	Linear LED arrays with 2x10W or 2x15W
Mounting	To be mounted with 6/8 holes, Ø5 mm
Connection	2 grommets for max. cable Ø12.7 mm. Terminal 3-pole/2.5 mm².

Spare Parts/Accessories



Product	Part-No.	Weight	Lamp
	110-240V 50/60Hz	kg	code
1961/210/110-240/5/6/IP67/LEDs 0°/W/O VARIATION	1961340201	3.1	LED
1961/210/110-240/5/6/IP67/LED 0°=0/M24-17.5	1961340202	3.1	LED
1961/215/LED/110-240/5/6/IP67/HIGH DIFFUSER/W/O VA	1961310201	2.75	LED

Complete assortment on www.glamox.com/gmo

1402/1282



For accommodation areas, shower rooms, wash rooms and toilets. According to rules of maritime classification societies, additional VDE and IEC/EN. Zinc coated steel. Powder coated white RAL 9016 and enamelled up to 70-80µm thickness. IP44 or IP54

Light source	Incandescent lamp 60W (type 1402) / TC tubular compact fluorescent lamp 9W (type 1282) (not included)
Electric	With magnetic ballast low power factor, flexible wiring heat resistant up to 105°C
Housing	Zinc coated steel
Dimension (mm)	Ø: 252 H: 100

C10-W (M)



Glamox C10(M) is an easy, efficient family of luminaires displaying classic style. Designed according to rules of maritime classification societies. C10-W(M) is an wall or corner-mounted luminaire supplied with uplight for mounting low on walls or with no uplight for mounting in the corner between wall and ceiling. The luminaire provides an excellent diffusion in corridors and with efficient lighting of floor spaces. The luminaire is in steel white epoxy/polyester powder coated with white plastic end pieces and an opaque or clear plastic coating. The cover is opaque polycarbonate in visible areas to minimise glare, but is clear in the lighting field to optimise functionality. Emergency light type standard (S), with 1 or 3 hour with 14 or 28W T5 lamp.

Light source	1 x T5 14, 24, 28, 35, 49, 54, 80W
Electric	Electronic ballast (HF), analogue dimming (HFDa), digital dimming (HFDd) or DALI
Housing	Steel body in pre-painted white
Dimension (mm)	W: 88 H: 40 L: 574/1174/1474

TL10-S



Ceiling luminaire that are applicable for a wide range of different areas, e.g. accommodation and public areas, wardrobes, workshops, engine rooms, stores, galleys etc. Designed to meet maritime requirements. TL10-S300 is a surface mounted luminaire. This sturdy luminaire is manufactured with luminaire housing in steel with white epoxy/polyester powder paint. All components are attached to an internal geartray, which can be easily dismantled during maintenance. TL10-S300 is supplied with a wide range of optics and some models can be supplied with integrated emergency light. Emergency light type standard (S), with 1 or 3 hour with 18W or 36W T8 lamp.

Light source	2 x T8 18, 36W
Electric	Electronic ballast (HF), analogue dimming (HFDa), digital dimming (HFDd) or DALI
Housing	Steel body in pre-painted white
Dimension (mm)	W: 306 H: 98 L: 634/1244

TL12-W



Glamox TL12-W is a wall- or corner mounted luminaire. The luminaire provides an excellent diffusion in corridors and with efficient lighting of floor spaces. The luminaire is in white painted steel with white steel end caps and an opalac polycarbonate diffuser that minimises glare within eye sight. A smooth top surface makes it easy to clean.

Light source	1 x T8 18 or 36W
Electric	Electronic ballast (HF). Variants with magnetic ballasts available on request
Housing	Steel body in painted white
Dimension (mm)	W: 137 H: 63 L: 636/1248

1984 STEP LIGHT



Recessed indoor step and low location illumination. Housing is made from zinc coated steel sheet, and powder coated white. Front cover pre-painted for custom made finishing after installation.

Light source	TC tubular compact fluorescent lamp 5/7W (not included)
Electric	With magnetic ballast. Flexible wiring heat resistant up to 105°C.
Housing	Zinc coated steel sheet
Dimension (mm)	W: 80 H: 70 L: 220

1395



Decorative berth light, incandescent. Berth light with adjustable reflector and switch for accommodation areas. Housing is made of dark brown polycarbonate. Reflector is made of deep drawn stainless steel, inside white enamelled.

Light source	40W incandescent, medium screw base
Electric	Flexible wiring, heat resistant
Housing	Polycarbonate. Available in brown or white.
Dimension (mm)	W: 55 H: 150 L: 216

GFBT



Bedside lamp for exposed or concealed position. Luminaire with white powder-coated finish and ABS end caps. Adjustable cover provides light for reading or can be used decoratively for lighting through the perforated top. Supplied with switch as standard. Openings in the centre of the top and base for exposed or concealed position.

Light source	TC-S compact light source
Electric	Available with magnetic ballast (Low power factor -L)
Housing	Steel housing with plastic end caps
Dimension (mm)	W: 83 H: 84 L: 297

1156/1856 Berth Light



Berth light surface with polycarbonate diffuser for accommodation areas. Housing is made of aluminium brushed zinc coated steel sheet. Brown end caps in polycarbonate. 2-poled, 1 way switch.

Light source	T16 fluorescent lamp 8W (type 1156), tubular compact fluorescent lamp 7/9/11W (type 1856) (not included)
Electric	With magnetic ballast low power factor. Flexible wiring heat resistant up to 105°C; 1-way 2-pole switch
Housing	Aluminium brushed/zinc coated steel sheet
Dimension (mm)	W: 38 H: 71 L: 330

0666



For accommodation and public areas etc. According to rules of maritime classification societies, additional VDE and IEC/EN. Zinc coated steel sheet. Powder coated white RAL 9016 and enamelled up to 70 - 80 µm thickness.

Light source	2 x T8 18 or 36W
Electric	Electronic ballast (HF). Variants with magnetic ballasts available on request.
Housing	Steel body in powder coated white
Dimension (mm)	W: 275 H: 60 L: 666

TINA T8



For wardrobes and areas where IP44 is required.

Light source	Two tubes T26 (T8), 18 or 36W
Electric	With magnetic ballast and capacitor (F) or electronic ballast (HF). Emergency versions with integral battery (Ta = 25°C) available on request
Housing	Aluzinc with UV-resistant plastic end caps
Dimension (mm)	W: 165 H: 93 L: 666/1276/1576

1961 HF T8



For kitchens, galleys, pantries and provision stores. According to rules of USPH (U.S. Public Health) and to rules of maritime classification societies, additional VDE and IEC/EN.

Light source	2 x T8 18 or 36W
Electric	With magnetic ballast, high power factor, flexible wiring heat resistant up to 105°C; removable gear tray with plug in connector to the terminal on ground plate.
Housing	Ground plate stainless steel AISI 316. Gear tray zinc coated steel.
Dimension (mm)	W: 183 H: 80 L: 723/1333

DLT RST (M) FR



DLT-RST is a recessed T8 luminaire for single installation, transverse mounting in panel type or solid ceilings. The luminaire can be mounted in fire classified ceilings. This sturdy luminaire is manufactured with luminaire housing in steel with white epoxy/polyester powder coated paint finish. Available with a wide range of optics. The reflector can be hinged to both sides for easy tube replacement.

Light source	2 x T8 17, 32W (284 module)
Electric	Power factor compensated conventional ballast type F. Electronic ballast (HF), analogue dimming (HFDa), digital dimming (HFDd) or DALI.
Housing	Steel body in powder coated white. End caps must be ordered separately.
Dimension (mm)	W: 273 H: 96 L: 637/1247

DLT RT (M) 300/600



DLT-RT is a recessed luminaire for mounting in modular panel or solid ceilings. The luminaire can be mounted in fire classified ceilings. This sturdy luminaire is manufactured with luminaire housing in aluzinc with white epoxy/polyester powder paint. DLT-RT is supplied with a wide range of optics and some models can be supplied with integrated emergency light. Available in two different modules, 300 and 600.

Light source	2 x T8 17, 32W, 3 x 17, 32W, 4 x 17, 32W
Electric	Power factor compensated conventional ballast type F. Electronic ballast (HF), analogue dimming (HFDa), digital dimming (HFDd) or DALI.
Housing	Aluzinc body in powder coated white
Dimension (mm)	W: 297/597 H: 100 L: 597/1197

DLT RT (CM) 600 FR



Recessed luminaire for use in 600mm "clip in" tile system. Aluzinc coated steel luminaire housing with white epoxy/polyester coated paint finish. Can be delivered with optics as FR1, FR2, FR3 or FR4 with different plastic covers. Diffuser frame can be hinged to both sides for easy tube replacement. Suspension brackets and diffuser to be ordered separately.

Light source	2 x 17, 3 x 17, 4 x 17W T8
Housing	Steel housing with white epoxy/polyester powder coated paint finish
Dimension (mm)	W: 600 H: 100 L: 600

DLT RT (M) 609 FR



Recessed lighting fixture for 24" / 609 mm inverted T-profile ceilings. Aluzinc luminaire housing with white epoxy/polyester powder coated paint finish. Can be delivered with optics as FR1, FR2, FR3 or FR4 with different plastic covers. Diffuser frame can be hinged to both sides for easy tube replacement. Suspension brackets and diffuser to be ordered separately.

Light source	2 x T8 17, 32W, 3 x 17 32W, 4 x 17 32W
Electric	Flexible wiring, heat resistant to 105°C; through wiring up to 15 A
Housing	Aluzinc sheet steel
Dimension (mm)	W: 606 H: 100 L: 606/1216

1600 UL



1600 series is a recessed/semi recessed T8 luminaire variety of mounting applications. This sturdy luminaire is manufactured with Aluzinc, zinc coated steel with white epoxy/polyester powder coated paint finish. Available with clear "Ice Crystal" or Opal polycarbonate lenses.

Light source	2 x T8, 17 or 32W
Housing	Aluzinc housing powder coated white RAL 9016
Dimension (mm)	W: 256 H: 75 L: 648/1260

GIM



GIM series is a recessed T8 luminaire for installation in solid ceilings, optional trims and frames available. Suitable for IP44 areas such as Galleys/ Laundry rooms. This sturdy luminaire is manufactured with Aluzinc, zinc coated steel with white epoxy/polyester powder coated paint finish. Available with a wide range of optics.

Light source	2 x T8, 17 or 32W
Housing	Aluzinc housing and steel frame fits to housing with screws powder coated white RAL 9016
Dimension (mm)	W: 275 H: 90 L: 620/1233

GIM M300



GIM M300 series is a recessed T8 luminaire for parallel mounting in marine Interlocking ceiling systems such as M300 modules using optional frames. Suitable for IP44 areas such as Galleys/ Laundry rooms. This sturdy luminaire is manufactured with Aluzinc, zinc coated steel with white epoxy/polyester powder coated paint finish. Available with a wide range of optics.

Light source	2 x T8, 17 or 32W
Housing	Aluzinc housing and steel frame fits to housing with screws powder coated white RAL 9016
Dimension (mm)	W: 275/300 H: 90 L: 620/1233

GIM RT (CM) 600



Recessed lighting fixture for "clip-in" 600 mm tile ceiling system. Aluzinc housing and steel frame fits to housing with screws. Powder coated white RAL 9016. Optic as double prismatic (DP) plastic sheet in steel frame (IP44).

Light source	2, 3 or 4 T8, 17W
Housing	Aluzinc housing and steel frame in powder coated white RAL 9016
Dimension (mm)	W: 600 H: 113 L: 600

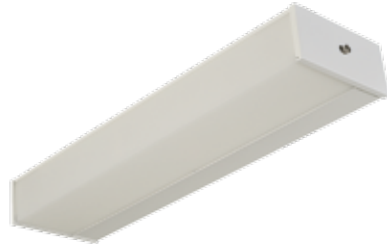
GIM RT 600



Luminaire for recessed installation for 600mm inverted T-bar ceilings. Aluzinc coated housing and frame fits to housing with screws. Powder coated white RAL 9016. Optic as double prismatic (DP) plastic sheet in steel frame (IP44).

Light source	2, 3 or 4 T8, 17 or 32W
Housing	Aluzinc housing and steel frame in powder coated white RAL 9016
Dimension (mm)	W: 595 H: 84 L: 595/1195

GKASA



GKASA series is a surface mounted T8 luminaire for wall or cornice mounting. This sturdy luminaire is manufactured with Aluzinc zinc coated steel with white epoxy/polyester powder coated paint finish. An opal acrylic diffuser minimises glare, smooth top surface makes in easy to clean.

Light source	T8 17, 32W
Electric	HF - Delivered with electronic ballast
Housing	Aluzinc, Zinc coated steel, powder coated white RAL 9016
Dimension (mm)	W: 174 H: 82 L: 640/1250

GB2



GB2 series is a surface mounted bunk light. This sturdy luminaire is manufactured with Aluzinc, zinc coated steel with white epoxy/polyester powder coated paint finish. An opal acrylic diffuser minimises glare. Options available with 2-pole switch and Nema 5-15R electrical socket.

Light source	T5
Housing	Aluzinc housing with screw fixing steel end caps
Dimension (mm)	W: 52 H: 83 L: 330

GSB



GSB series is a surface mounted bunk/mirror light. This sturdy luminaire is manufactured with Aluzinc zinc coated steel with white epoxy/polyester powder coated paint finish. An opal acrylic diffuser minimises glare. Options available with 2-pole switch and Nema 5-15R electrical socket, and protected shaver socket.

Light source	1 x T8 15, 17W 1 x TC30BX 40W
Electric	HF - Delivered with electronic ballast
Housing	Aluzinc, zinc coated steel powder coated white RAL 9016
Dimension (mm)	W: 57 H: 108 L: 484/634

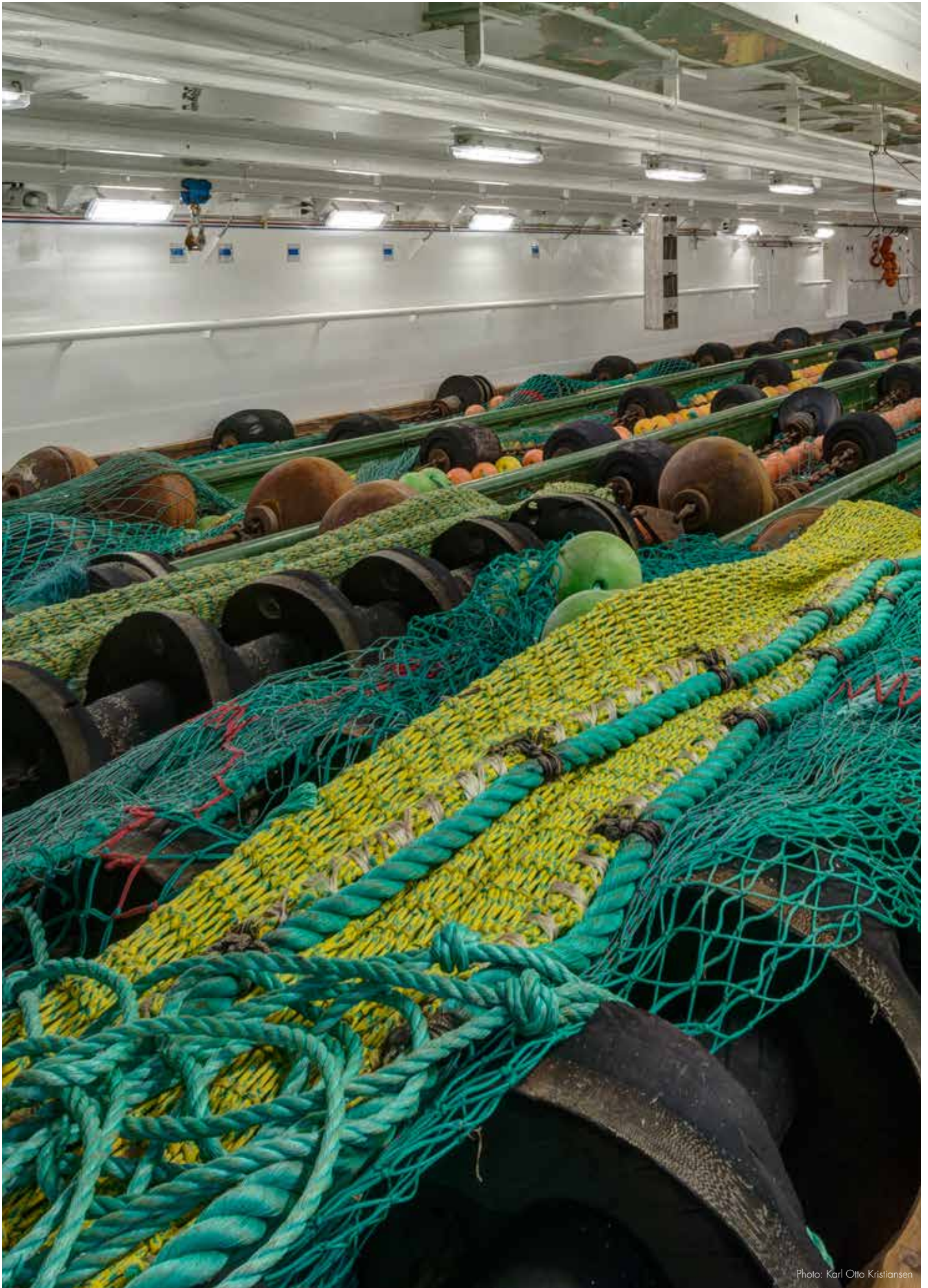


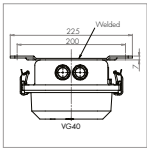
Photo: Karl Otto Kristiansen

Technical lights outdoor

A complete range of lighting for outdoor to industrial, marine and offshore applications.
Designed for low bay installation, certified to maritime and oil & gas requirements.



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Suspension possibilities

TL60 LED



Multipurpose luminaire surface, watertight



TL60 2200

- Seawater resistant aluminium housing
- Long and short version available
- Compact and slim design
- Long lifetime 100 000 hours at Ta45°C
- Energy saving enhanced light quality

Application For areas like car decks, open decks, engine rooms and other demanding applications such as extreme weather conditions at sea

Design According to rules of maritime classification societies, additional VDE and IEC/EN

Approvals Germanischer Lloyd approved

Ambient temperature Operation from -30°C up to +55°C in standard version

Housing Seawater resistant aluminium

Finish Grey anodized

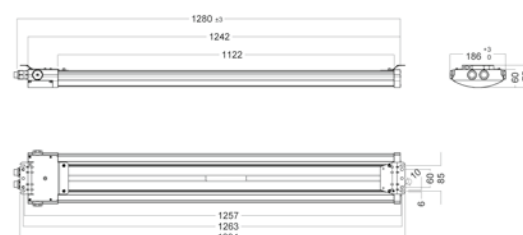
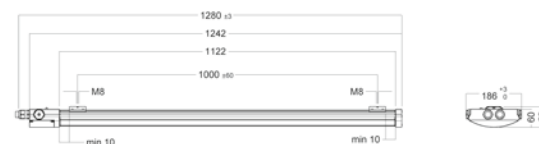
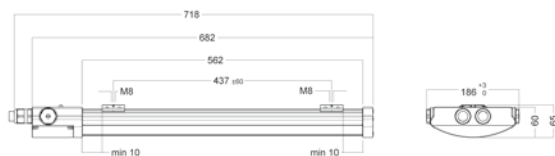
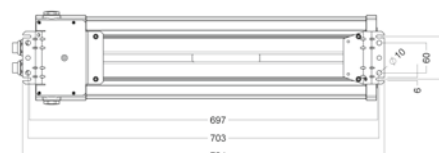
Optic Polycarbonate soft opal

Electric Flexible wiring heat resistant up to 105°C
Versions for emergency with 3 hours battery backup (Ta40°C) or dimming (Ta -25 up to +40°C) as well as through wiring with plugs are available

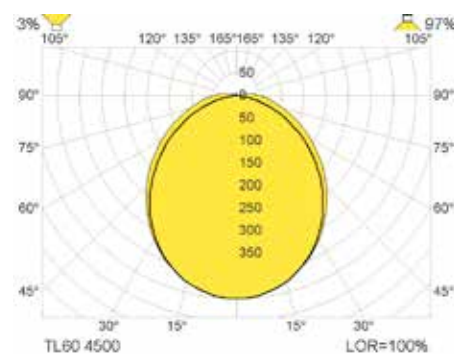
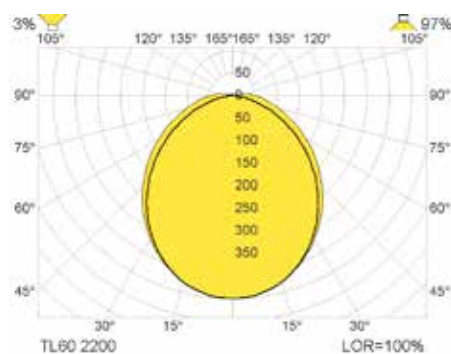
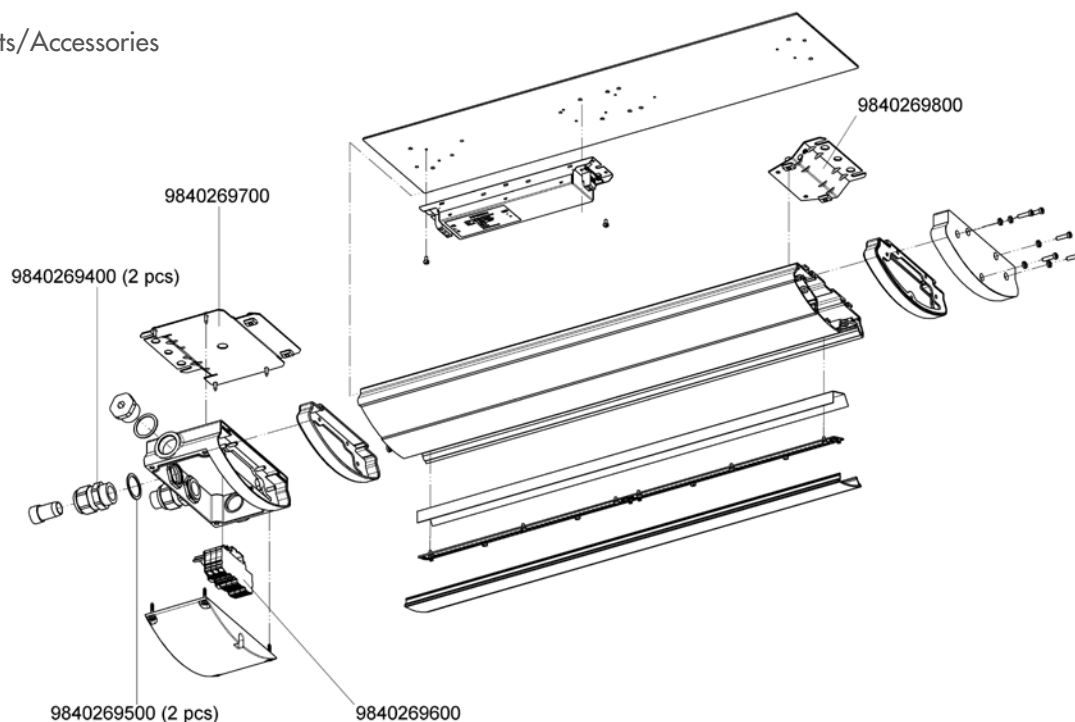
Light source LED 2200, 4500lm output in 4500K light temperature and CRI>80

Mounting Mounting options with different mounting brackets; on request

Connection Connection box with cable entry 2xM25x1.5 polyamide D7-17mm and blind plugs 2xM25x1.5 polyamide Terminal 3-pole/6 mm²



Spare Parts/Accessories



Product	Part-No. 110-240V 50/60Hz	Part-No. 230V 50/60Hz (Emergency 3h)	Weight kg	Lamp code
TL60 2200 840 110-240 M25 AS	TL60404001		3.6	LED 2200 lm
TL60 2200 840 110-240 M25 GL	TL60404002		3.6	LED 2200 lm
TL60 2200 840 110-240 HFDa M25 AS	TL60404003		3.6	LED 2200 lm
TL60 2200 840 110-240 HFDa M25 GL	TL60404004		3.6	LED 2200 lm
TL60 2200 840 230 HFE3 M25 AS		TL60424005	4.8	LED 2200 lm
TL60 2200 840 230 HFE3 M25 GL		TL60424006	4.8	LED 2200 lm
TL60 4500 840 110-240 M25 AS	TL60704001		6.5	LED 4500 lm
TL60 4500 840 110-240 M25 GL	TL60704002		6.5	LED 4500 lm
TL60 4500 840 110-240 HFDa M25 AS	TL60704003		6.5	LED 4500 lm
TL60 4500 840 110-240 HFDa M25 GL	TL60704004		6.5	LED 4500 lm
TL60 4500 840 230 HFE3 M25 AS		TL60724005	7.8	LED 4500 lm
TL60 4500 840 230 HFE3 M25 GL		TL60724006	7.8	LED 4500 lm

Complete assortment on www.glamox.com/gmo

MIR T8



High quality marine luminaire



- Easy maintenance
- Spring loaded (vibration safe) lampholders
- Emergency versions

Application	For mounting indoor and outdoor
Design	According to maritime requirements
Ambient temperature	Operation temperature from -35°C up to +55°C for standad version
Housing	Deep drawn stainless steel (AISI 316L) for outdoor marine environment (MIRS). IP66/67 Variants in Aluzinc (MIRZ for indoor environments (also IP54). White painted hinged geartray covering all components.
Finish	Powder coated white RAL9016 in gloss 90 for easy maintenance.
Optic	Diffuser in moulded impactproof UV-resistant polycarbonate (PC). Gasket in polyurethane foam moulded into the diffuser.
Electric	With magnetic ballasts and capacitor (F) or electronic ballast (HF). Emergency versions with integral battery (Ta=25°C) or battery in external box at end of fixture, 1 or 3 hours emergency lighting. All components ar mounted on a hinged geartray. Quick connector on gear connection cables for easy maintenance.
Light source	Two tubes T26 (T8), 18 or 36W. G13 spring operated lamp holders.



Hinged geartray



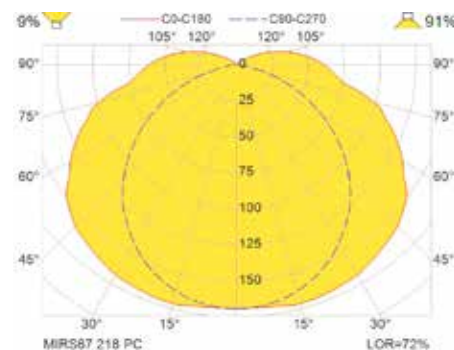
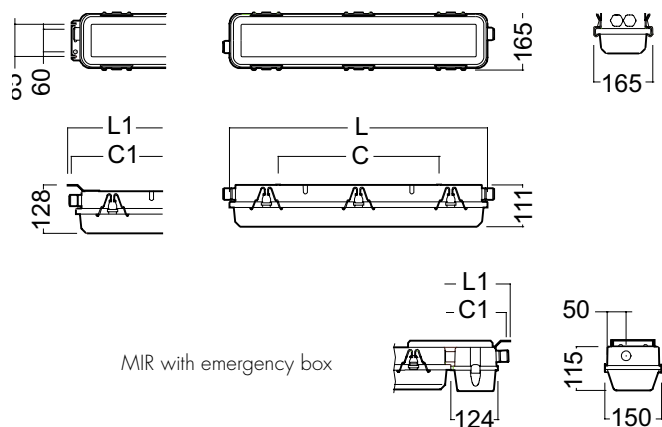
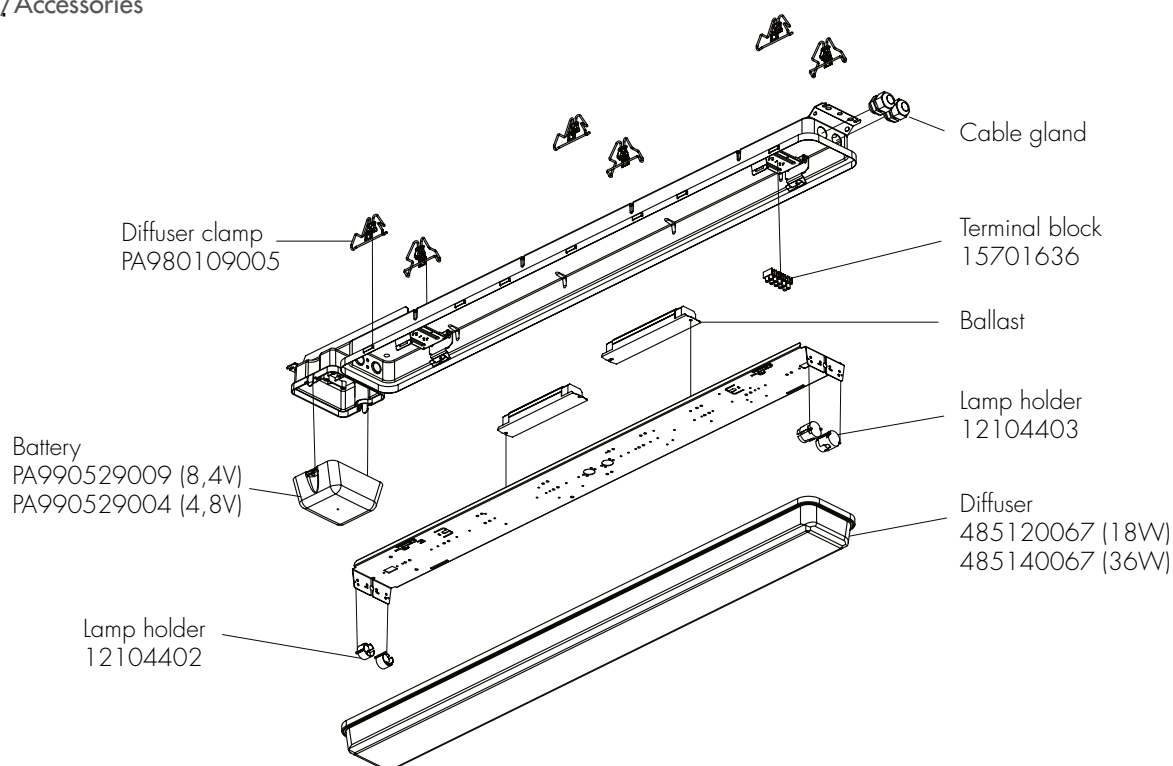
Battery box



Fixed bracket

Mounting	Fixed end brackets as standard. M8 hood nuts for fixing of alternative suspension system (triangle, shock-absorber etc) available on request.
Connection	One cable gland and one blind plug each end. Other gland configurations also available. One 5-way screw terminal 6 mm² each end. Through wiring (TW) 5 x 2.5 mm².

Spare Parts/Accessories



Product	Part-No. F 230/50	Part-No. F 230/60	Part-No. HF	L1 mm	C1 mm	L mm	C mm	Weight kg	Lamp code	Lamp base
MIRS67 218 TW PC M20	012065	004854	MIRO43059	724	704	681	430	4.5	T26 (T8)	G13
MIRS67 236 TW PC M20	013114	005806	MIRO40886	1334	1314	1291	950	7.5	T26 (T8)	G13
MIRS67 218 TW PC B25	015199	MIRO29228		724	704	681	430	4.5	T26 (T8)	G13
MIRS67 236 TW PC B25	005068	012068	MIRO16760	1334	1314	1291	950	7.5	T26 (T8)	G13
MIRS67 218 -E3/S TW PC M20	MIRO38229	MIRO38972	MIRO37960	858	838	681	430	5.0	T26 (T8)	G13
MIRS67 236 -E1/S TW PC M20	MIRO42847	MIRO47084	MIRO43457	1468	1448	1291	950	8.0	T26 (T8)	G13
MIRZ54 218 TW PC M20	004945	MIRO18561	MIRO36546	724	704	681	430	4.8	T26 (T8)	G13
MIRZ54 236 TW PC M20	004738	MIRO18559	MIRO37620	1334	1314	1291	950	7.5	T26 (T8)	G13
MIRZ54 218 -E3/S TW PC M20	011904	MIRO38220	MIRO39605	858	838	681	430	5.3	T26 (T8)	G13
MIRZ54 236 -E1/S TW PC M20	MIRO40781	MIRO47083	MIRO37852	1468	1448	1291	950	8.0	T26 (T8)	G13

F=Magnetic ballast, Power factor corrected >0,9. HF=Electronic ballast

E1/S = Emergency light standard 1 hour. E3/S = Emergency light standard 3 hours

Complete assortment on www.glamox.com/gmo

MIR LED KIT



Complete Gear for MIR of LED type

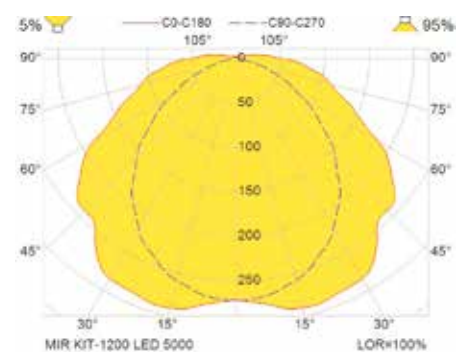


- Long lifetime
- Energy saving
- Enhanced light quality
- Easy conversion from T8 to LED

Application	Complete gear tray LED to replace T8 in MIR luminaire
Design	According to rules of marine classification societies
Housing	Aluzinc
Optic	Soft optic diffuser
Electric	All components including LED and driver for 230V mounted on a gear tray
Light source	LED 2000, 2500, 5000lm CRI>80, 4000K light colour temperature
Mounting	Replacement of gear tray in MIR and can upgrade MIR T8 to MIR LED

A close-up photograph showing two hands connecting a power supply unit to a cable modem. The power supply unit is a long, thin, white rectangular device with three metal clips on top. The cable modem is a similar device with various colored wires (blue, green, yellow, red) visible inside. The hands are shown plugging a power cord into the modem.

A technical drawing of a rectangular object, possibly a component or a piece of equipment. The drawing shows a top-down view of a rectangular frame with rounded corners. On the left and right sides, there are mounting brackets or flanges. A central vertical line divides the rectangle into two equal halves. Below the rectangle, there are two horizontal lines with a vertical line segment in the center, likely representing a base or a mounting surface.

37

1044/1444

Multipurpose luminaire surface



- High quality marine longlife luminaire
- Stainless steel housing available
- Built in battery backup available
- Wide range of variants
- Proven design

Application For workshops, engine rooms, stores and passage ways

Design According to rules of maritime classification societies, additional VDE and IEC/EN

Housing Zinc coated steel (1044) or stainless steel AISI 316 (1444) sheet deep drawn

Finish Powder coated white RAL9016 and enamelled up to 70-80 µm thickness

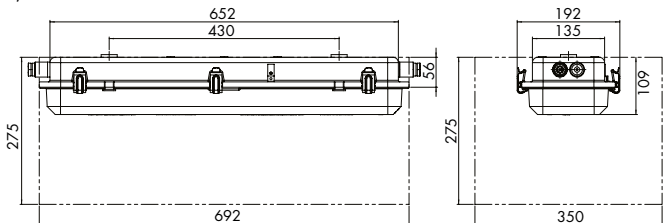
Optic Clear polycarbonate, others on request

Electric With magnetic ballast, low or high power factor, as standard; electronic ballast available. Flexible wiring heat resistant up to 105°C; removable gear tray with plug-in connector to the housing. Through wiring available.

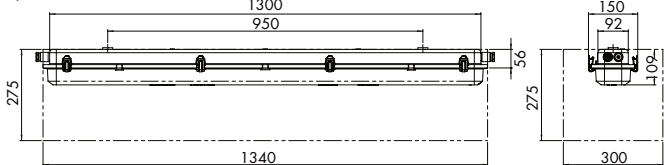
Light source Designed for one or two T8 (T26) fluorescent lamps in 18W or 36W (not included). Light base G13.

Mounting Special variants with welded or screwed brackets or preinstalled treaded bushings as well as shock mounts are available

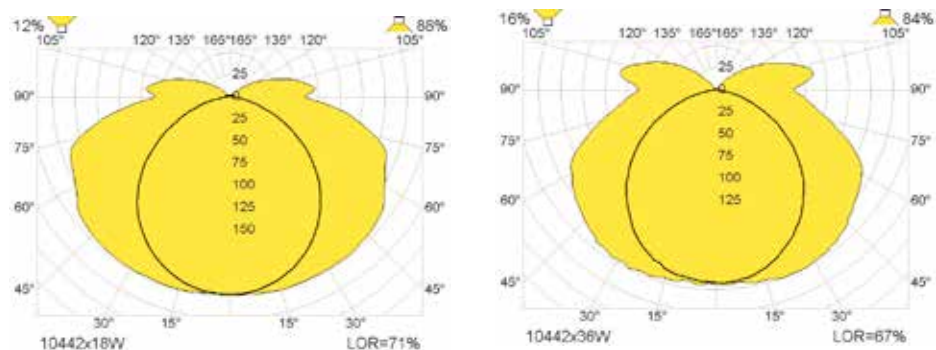
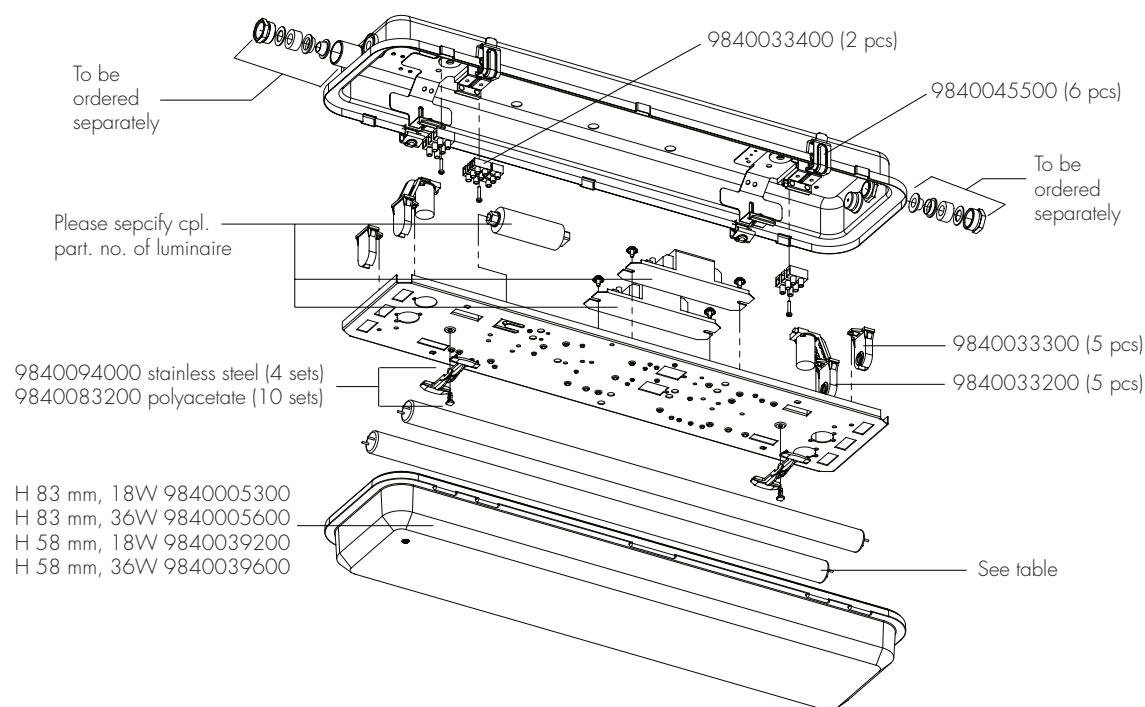
1/2 x 18W



1/2 x 36W



Spare Parts/Accessories



Product	IP class	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.	Part-No.	Weight kg	Lamp code	Lamp base
		230/50Hz h.p.f.c.	230/50Hz h.p.f.c.	230/60Hz h.p.f.c.	230/60Hz h.p.f.c.	24V DC	24V DC			
			stainless steel		stainless steel		stainless steel			
1x18W	55		1444002219		1444004239			4.4	T26	G13
1x18W	67		1444006227		1444008231		1444085203	4.4	T26	G13
2x18W Tandem	55	1044102201	1444102233	1044104201	1444104206			4.5	T26	G13
2x18W Tandem	67	1044106201	1444106204	1044108201	1444108206	1044185201	1444185205	4.5	T26	G13
2x18W	55	1044202201	1444202217	1044204201	1444204201			5.0	T26	G13
2x18W	67	1044206201	1444206201	1044208201	1444208202	1044285201	1444285203	5.0	T26	G13
1x36W	55		1444302206		1444304201			6.2	T26	G13
1x36W	67		1444306201		1444308204		1444385202	6.2	T26	G13
2x36W	55	1044402201	1444402244	1044404201	1444404214			6.6	T26	G13
2x36W	67	1044406201	1444406203	1044408201	1444408201	1044485201	1444485202	6.6	T26	G13

Complete assortment on www.glamox.com/gmo

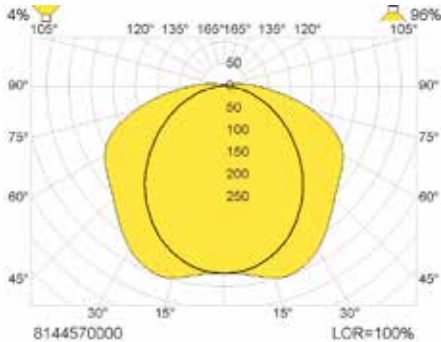
1044 LED KIT

Complete gear tray to convert 1044/1444 T8 to LED



- Long lifetime
- Energy saving
- Enhanced light quality
- Easy conversion from T8 to LED

Application	Complete gear tray LED to replace T8 tubes
Design	According to rules of maritime classification societies
Housing	Aluminium
Optic	Soft optic diffuser
Electric	All components including LED and driver mounted on a gear tray
Light source	LED 2000, 2500, 5000lm CRI>80, 4000k light colour temperature light source
Mounting	Replacement of gear tray in 1044/1444 to upgrade T8 to LED



Product	Part-No.	Weight kg
1044 LED KIT 2400	8144570000	1.5
1044 LED KIT 4800	8144580000	

Complete assortment on www.glamox.com/gmo



0673



Pressure watertight luminaire/IP68/h20 / clamps (2pcs) to be ordered separately - also available as LED version.

Light source	T8 1x18W, 1x36W LED 930, 1860 lm
Electric	Delivered compensated with magnetic or electronic driver
Housing	Gear tray, zinc coated steel sheet, powder coated white RAL9016 and enamelled up to 70-80 µm thickness.
Dimension (mm)	D: 70 L: 1163/1773

1448



High quality luminaire for marine use. The luminaire has easy access to terminal block and other electric components. The luminaire housing is made of zinc coated steel or stainless steel. Housing of zinc coated steel not suitable for marine outdoor installation. There is a white painted steel plate covering the electrical components. The cover is made of impact-proof polycarbonate (PC). Emergency versions are available.

Light source	LED 9W. 12W
Electric	Delivered with electronic driver
Housing	Zinc coated steel or stainless steel
Dimension (mm)	W: 160 H: 102 L: 379

1771



Coldroom luminaire surface -40°C. According to rules of USPH and rules of maritime classification societies.

Light source	T38 2 x 18W, 2 x 36W
Electric	Delivered compensated with magnetic ballast
Housing	Ground plate stainless steel AISI 316. Gear tray zinc coated steel. Gear tray: powder coated white RAL 9016 and enamelled up to 70-80 µm thickness.
Dimension (mm)	W: 183 H: 80 L: 723

MIL



Luminaire housing in Aluzinc or stainless steel with white epoxy/polyester powder coated finish. Alternatively in unpainted stainless steel. The diffuser is made of impact-proof polycarbonate (PC) with spring clips in acid-proof by stainless steel. The luminaire has a hinged gear tray with quick connector to facilitate maintenance.

Light source	T38 2 x 18W, 2 x 36W
Electric	With magnetic ballasts and electronic cold starters for ignition of lamps to -40°C
Housing	MILS in deep drawn stainless steel (AISI 316) for outdoor marine environment, or in Aluzinc steel (MILZ) for non corrosive environments.
Dimension (mm)	W: 165 H: 128 L: 724/1334

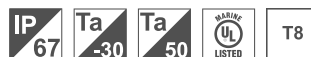
1995



Globe light, deck or bulkhead mounted with UL approval. Ideal for saltwater environments. Watertight, superior corrosion resistance. Special black rigid plastic. Impact resistant clear rigid plastic globe.

Light source	Incandescent 100W max. or compact fluorescent lamp 9 W, G23
Electric	Fully removable gear tray for easy installation. Flexible wiring, heat resistant
Housing	Special black rigid plastic. Globe: Impact resistant clear rigid plastic.
Dimension (mm)	W: 134 H: 240

GKI



High quality marine luminaire surface with UL approval. Multipurpose luminaire surface. Aluzinc sheet steel or stainless steel, deep drawn, seamless. Epoxy powder coated, white RAL 9016. Optional 90 minutes battery backup.

Light source	T8 17/32W, T5 54W
Electric	Flexible wiring, heat resistance to 105°C; through wiring up to 15 A. Versions with battery back up available.
Housing	Aluzinc sheet steel or stainless steel, deep drawn, seamless. Powder coated white.
Dimension (mm)	W: 165 H: 128 L: 724/1334

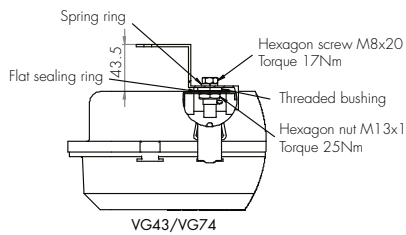
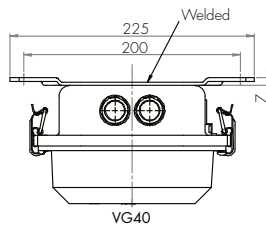
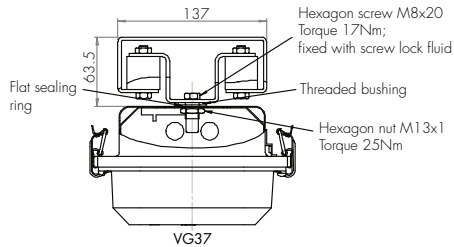
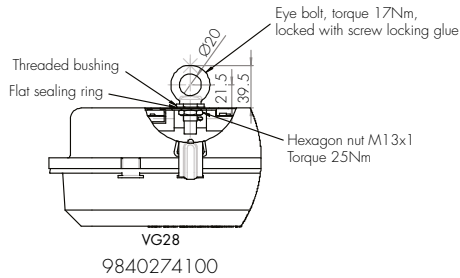
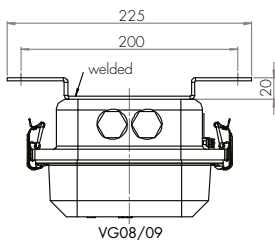
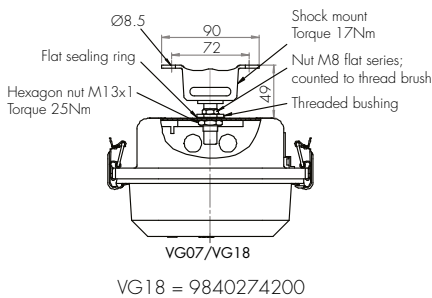
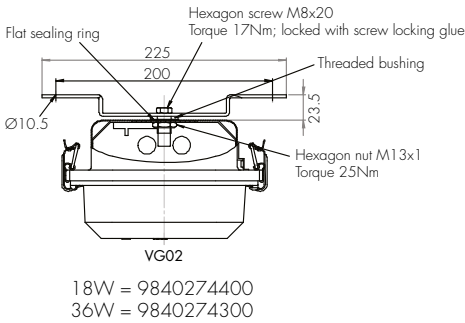
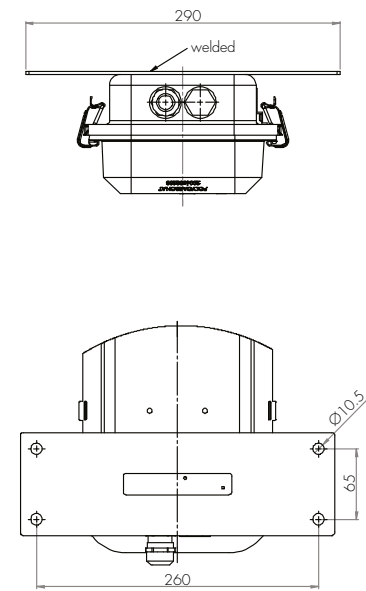
1444 UL



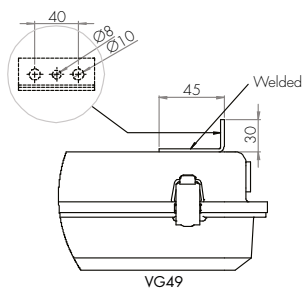
Multipurpose luminaire surface with UL approval. For workshops, engine rooms, stores, holds and passage ways, etc. Aluzinc sheet steel or stainless steel, deep drawn, seamless. Epoxy powder coated, white RAL 9016. Optional with 90 minute battery backup.

Light source	T8 17/32W
Electric	Fully removable gear tray for easy installation. Flexible wiring, heat resistant to 105°C; through wiring up to 15 A. Versions with battery back up available.
Housing	Aluzinc sheet steel or stainless steel, deep drawn, seamless. Powder coated white.
Dimension (mm)	W: 132/175 H: 134 L: 692/1340

Range of optional suspension possibilities for multi purpose luminaires

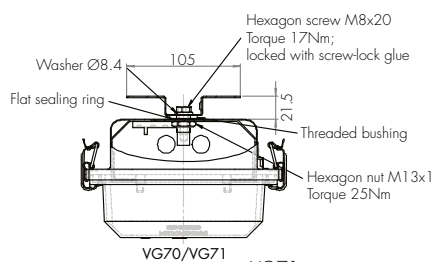
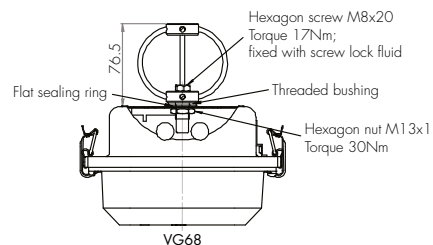
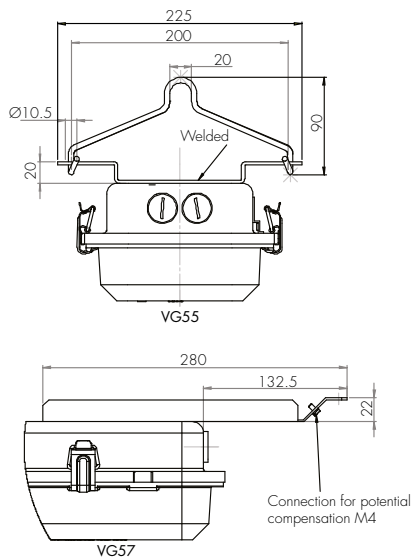


VG43
18W = 9840274000
36W = 9840273300

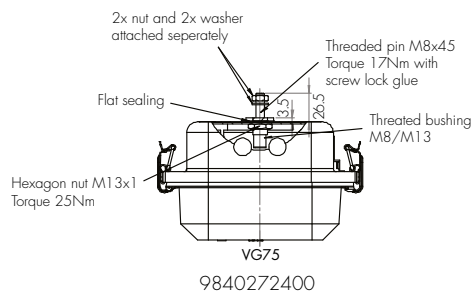
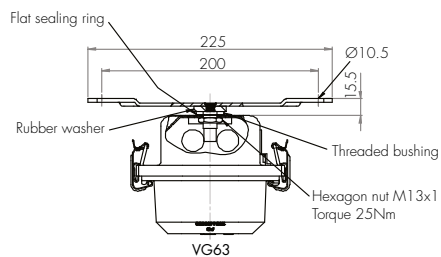
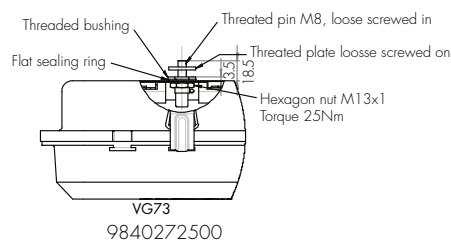
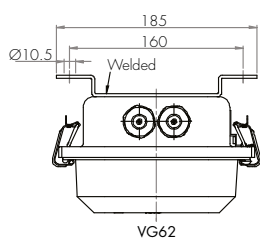
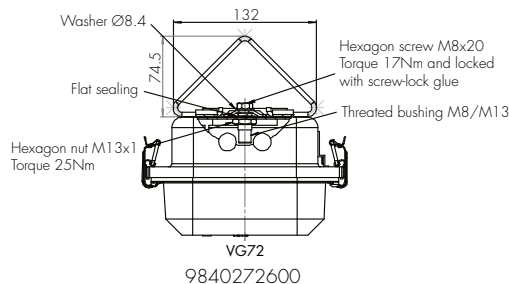
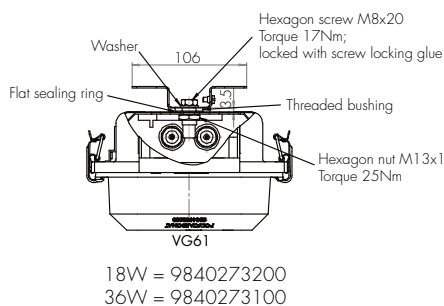


Measurements are in mm

Range of optional suspension possibilities for multi purpose luminaires

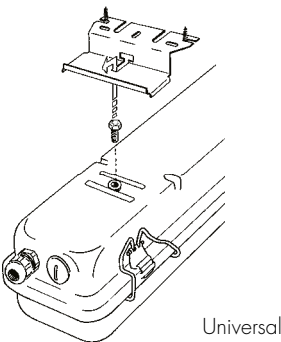
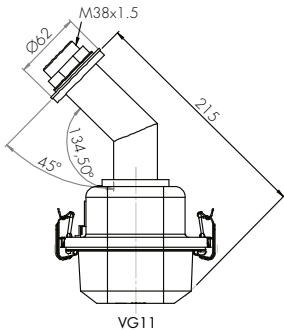


VG70 18W = 9840273000 (Zink coated) 36W = 9840272900 (Zink coated)
 VG71 18W = 9840272800 (Stainless steel) 36W = 9840272700 (Stainless steel)

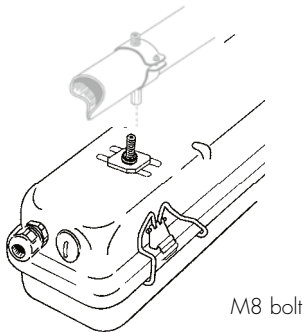


Measurements are in mm

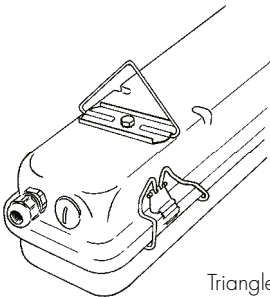
Range of optional suspension possibilities for multi purpose luminaires



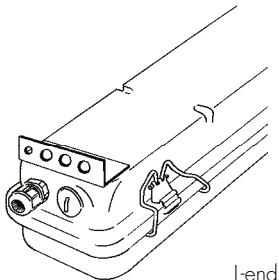
Universal



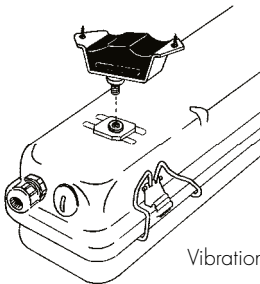
M8 bolt



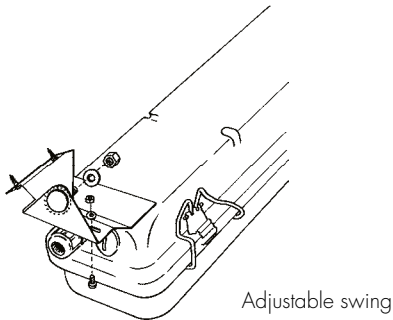
Triangle



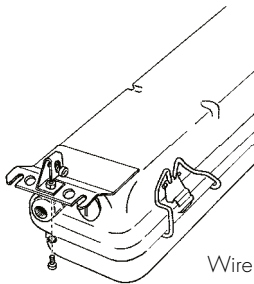
L-end



Vibration



Adjustable swing



Wire

Measurements are in mm



Photo: Kurt Rødset



Photo: Statoil

Explosion proof lights

With experience as a world wide supplier to the marine and oil & gas industry, our main focus is quality, safety, delivery and service. The Ex luminaires have been developed through years of experience. We offer a complete range of lighting equipment designed for marine use.



TX65	50
MAX ICE	52
MAX.....	54
GTX.....	56
MIX	58
0272.....	60
MAX CSA	60
GRX3 DP3/LL	60
1079	61
1833	61
GXPN.....	61
GXPR	61
FX60.....	66
GFX.....	74
1776	74
1527	74
Serie 70.....	100
HX55.....	114

TX65

Area lighting



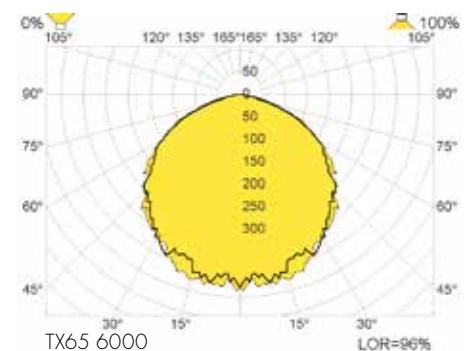
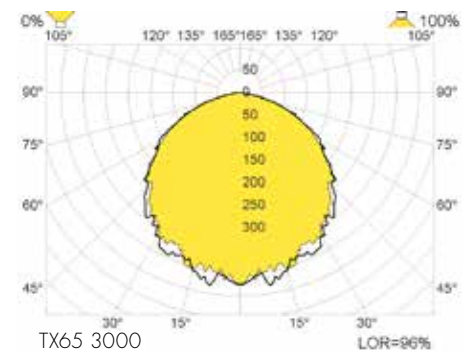
Ceiling mounting

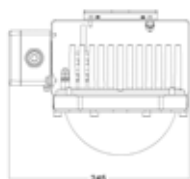
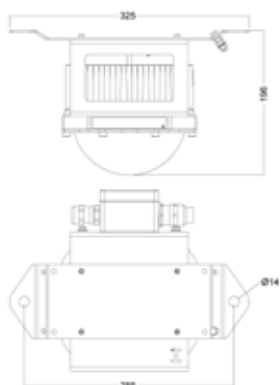


Pole mounting

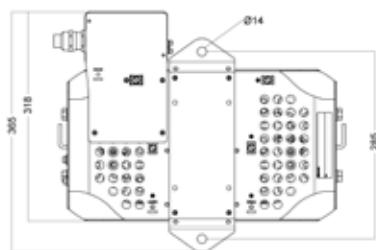
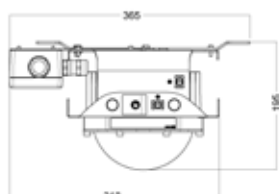
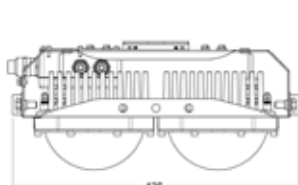
- Long lifetime, 100 000 hours at ambient temperature 45°C
- Low maintenance
- Low power consumption
- Instant light
- Enhanced light quality

Application	Hazardous areas zone 1 and 2 Due to the extreme wide light output this area light can be used in low base applications instead of fixtures with tubes
Design	According to rules of maritime classification societies and IEC standards
Approvals	ATEX and IECEx approved
Ambient temperature	Operation: - 50° C up to + 55° C Storage temperature: - 55° C up to + 80° C
Housing	Modules in die-casted, seawater resistant aluminium, designed for excellent heat management, frame and bracket stainless steel AISI 316L
Finish	Modules anodized
Optic	One or two module versions with safety glass dome
Light source	Array of LEDs with 3000, 4500lm output per module in 3000 or 5000k light colour temperature and CRI>80
Mounting	Ceiling mounted or pole mounting (for diameters up to 65mm)
Connection	Ex e external connection box, terminal 6 mm ² 2 cable glands M25 Ex e brass nickel plated (others on request) standard for cable 10 to 17 mm

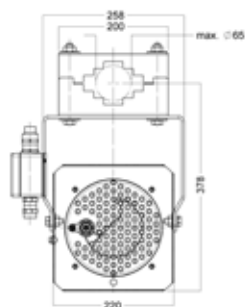
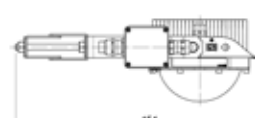
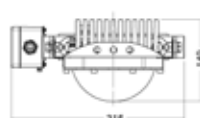




Ceiling mounting



Ceiling mounting



Pole mounting

Product	Part-No. 120V/50-60Hz	Part-No. 230V/50-60Hz	Weight kg	Lamp code
TX65 3000 850 XXX M25 VVB PB	TX65310100	TX65300100	7.2	LED 3000lm
TX65 3000 850 XXX M25 VVB FB	TX65310200	TX65300200	5.5	LED 3000lm
TX65 3000 830 XXX M25 VVB PB	TX65311100	TX65301100	7.2	LED 3000lm
TX65 3000 830 XXX M25 VVB FB	TX65311200	TX65301200	5.5	LED 3000lm
TX65 4500 850 XXX M25 VVB PB	TX65410100	TX65400100	7.2	LED 4500lm
TX65 4500 850 XXX M25 VVB FB	TX65410200	TX65400200	5.5	LED 4500lm
TX65 4500 830 XXX M25 VVB PB	TX65411100	TX65401100	7.2	LED 4500lm
TX65 4500 830 XXX M25 VVB FB	TX65411200	TX65401200	5.5	LED 4500lm
TX65 6000 850 XXX M25 VVB PB	TX65610100	TX65600100	12.8	LED 6000lm
TX65 6000 850 XXX M25 VVB FB	TX65610200	TX65600200	11.2	LED 6000lm
TX65 6000 830 XXX M25 VVB PB	TX65611100	TX65601100	12.8	LED 6000lm
TX65 6000 830 XXX M25 VVB FB	TX65611200	TX65601200	11.2	LED 6000lm
TX65 9000 850 XXX M25 VVB PB	TX65910100	TX65900100	12.8	LED 9000lm
TX65 9000 850 XXX M25 VVB FB	TX65910200	TX65900200	11.2	LED 9000lm
TX65 9000 830 XXX M25 VVB PB	TX65911100	TX65901100	12.8	LED 9000lm
TX65 9000 830 XXX M25 VVB FB	TX65911200	TX65901200	11.2	LED 9000lm

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MAX ICE



Ex-e hazardous area luminaire for LED



- High quality explosion proof luminaire, Zone 1
- Special designed for low ambient temperature
- Easy maintenance
- High light output at low ambient temperature



Emergency light

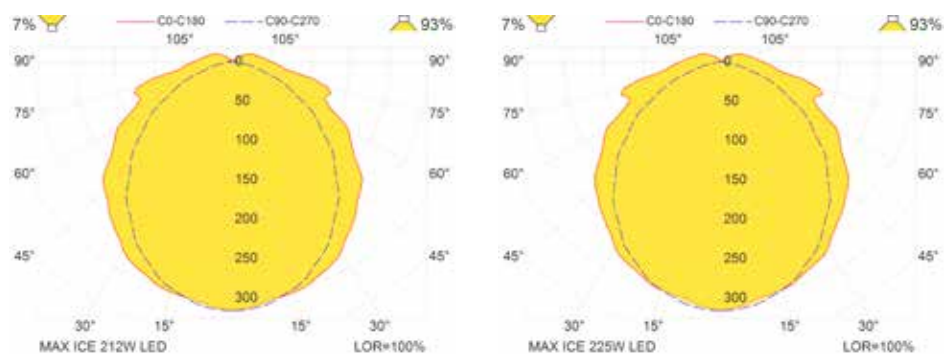
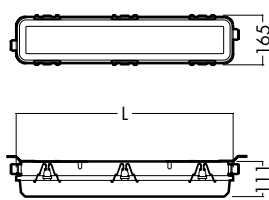
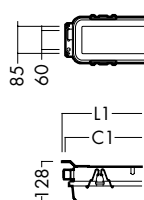
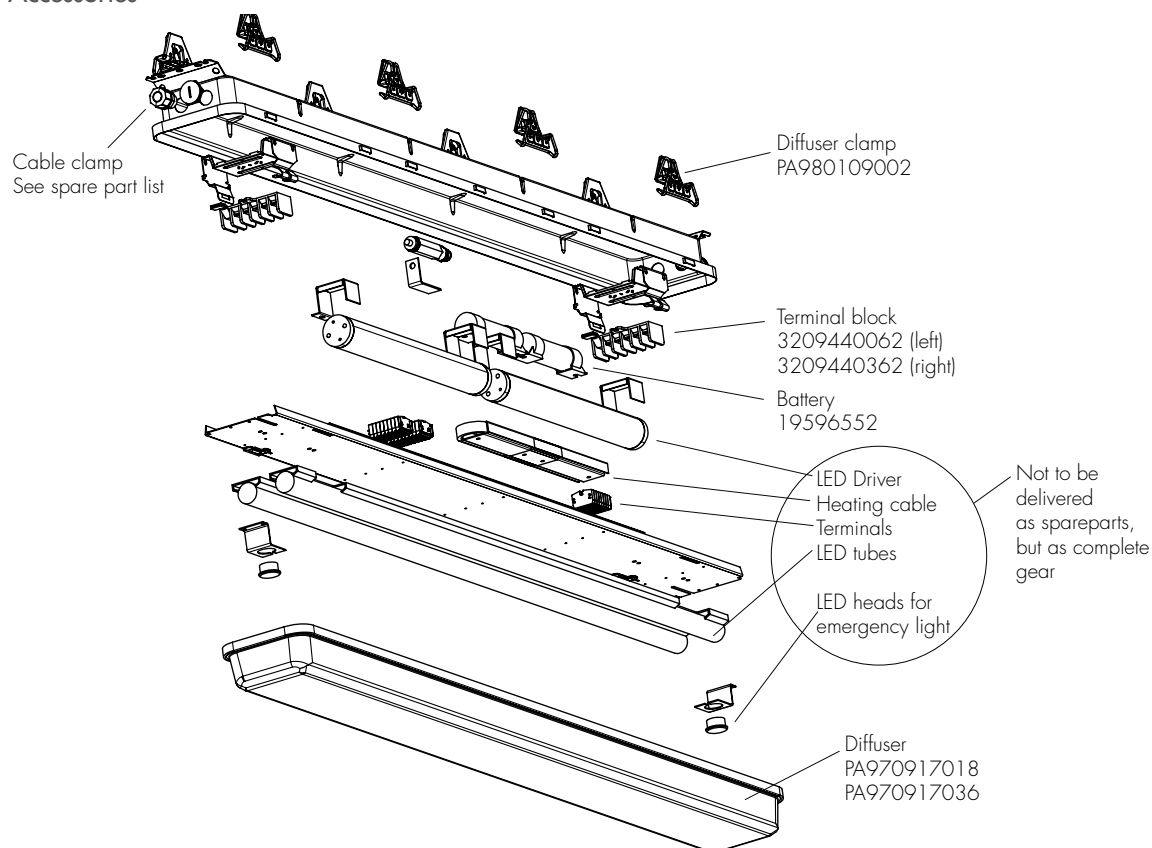


LEDs covered by opal tube

Application	For mounting indoor or outdoor Zone 1 and Zone 2 areas
Design	Designed according to IEC, Ex and maritime requirements
Approvals	ATEX approved
Housing	Housing in deep drawn acid proof stainless steel (S) for outdoor marine environment
Finish	Powder coated white RAL9016 in gloss 90 for easy maintenance
Optic	Diffuser in moulded polycarbonate with selflocking clips. White painted cover plate between components and light sources.
Electric	LED-tubes developed for optimum heat transmission from LED light sources. Electronic for LED in moulded housing meeting Ex-requirements and for maximum resistance regarding vibration and moisture. LED-tubes are fixed to gear tray and connected by 2 wires to driver. No lamp base. Emergency versions available.
Light source	LED tubes designed for MAX fixtures. Tubes are with opal diffuser for evenness light output looking similar to fluorescent tubes. Tubes are moulded for Zone 1 operation. Can be delivered in different colour temperatures. Normally type cool white.

Mounting	To be mounted on ceiling, cable trays or brackets welded to building construction. Fixed end brackets as standard, other on request.
Connection	One cable gland and one blind plug at each end as standard. One 6-way Ex screw terminal block 6 mm ² each end. Through wiring 6 x 2,5 mm ² .

Spare Parts/Accessories



Product	Part-No.	Power consumption	L	L1	C1	Weight	Lamp code
MAX ICE 2x12W LED	MAX201009	24W	681	724	704	5.7	LED
MAX ICE 2x25W LED	MAX201010	50W	1291	1334	1314	9.8	LED
MAX ICE 2x25W LED 1xE3	MAX201012	52W + 75W at start	1425	1468	1448	11.0	LED
MAX ICE 2x25W LED 2xE3	MAX201015	52W + 98W at start	1425	1468	1448	12.0	LED
MAX ICE 2x12W LED 1xE3	MAX201011	29W + 75W at start	815	858	828	6.7	LED

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Ex-e hazardous area luminaire for fluorescent tubes

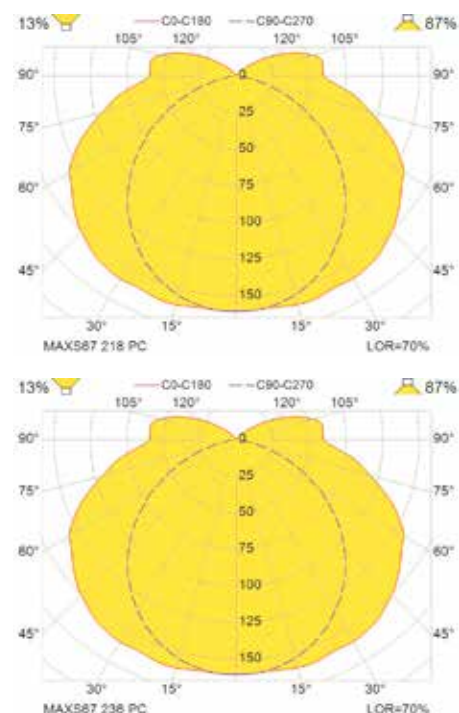
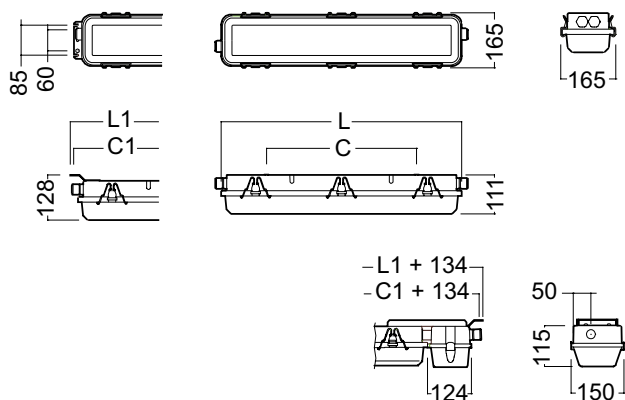
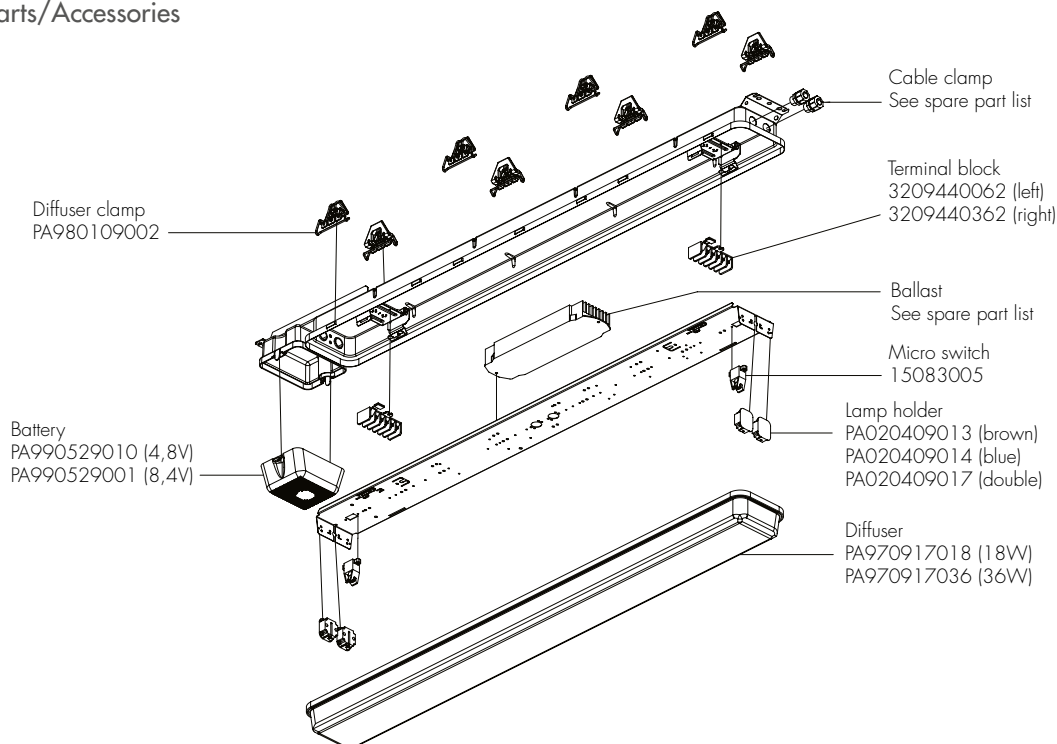


MAX with emergency

- High quality hazardous area luminaire
- Removable geartray for easy maintenance
- Easy maintenance
- Self-locking diffuser clips

Application	For mounting indoor and outdoor in Zone 1 areas	Mounting	Fixed end brackets as standard. Also available with M8 hood nuts for fixing on request.
Design	According to IEC, Ex and maritime requirements	Connection	One Ex cable gland and one blind plug each end (M20 or M25). Other gland configurations also available. One 6-way Ex screw terminal block 6 mm ² with special earth clamp for armoured cable each end. Through wiring (TW) 6 x 2.5 mm ² as standard.
Approvals	ATEX and CSA approved		
Housing	MAXS with housing in deep drawn stainless steel (AISI 316) for outdoor marine environment. IP66/67 Variants with housing in Aluzinc (MAXZ) for non corrosive environments.		
Finish	Powder coated white RAL9016 in gloss 90 for easy maintenance.		
Optic	Diffuser in moulded impact-proof UV-resistant polycarbonate. Gasket in silicone moulded into the diffuser. Reflector on request.		
Electric	With Ex-certified electronic ballast (HF). All electric components are mounted on a hinged geartray for easy maintenance. Ex micro-switches disconnecting the mains are operated by diffuser and make lamp replacement possible without disconnecting the circuit. Emergency versions available. AC 110 - 250V ± 10% 50/60Hz		
Light source	Two tubes T26 (T8), 18 or 36W. Variants with light sources mounted available on request. Ex-approved lamp holders.		

Spare Parts/Accessories



Product	Wattage	Part. no. HF	L1 mm	C1 mm	L mm	C mm	Weight kg	Lamp code	Lamp base
MAXZ67 218 TW PC M20	2 x 18W	004845	724	704	681	430	4.4	T26(T8)	G13
MAXZ67 236 TW PC M20	2 x 36W	004846	1334	1314	1291	950	7.7	T26(T8)	G13
MAXS67 218 TW PC B25	2 x 18W	004956	724	704	681	430	4.4	T26(T8)	G13
MAXS67 236 TW PC B25	2 x 36W	004963	1334	1314	1291	950	7.7	T26(T8)	G13

M20 = polyamid cable gland M20, B25 = brass cable gland M25

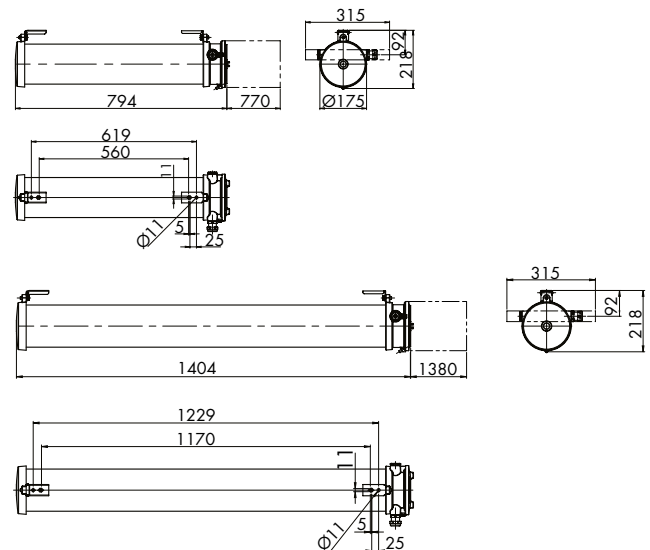
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Robust Ex d luminaire

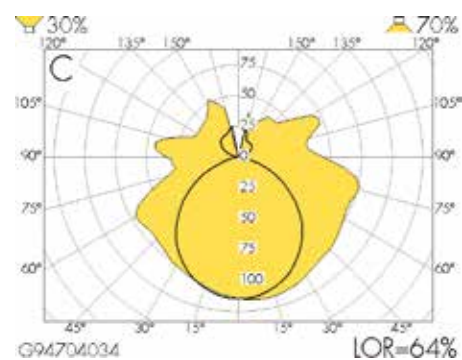
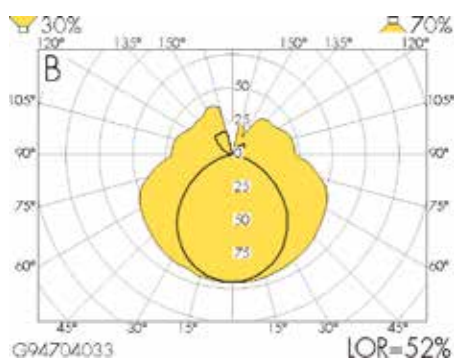
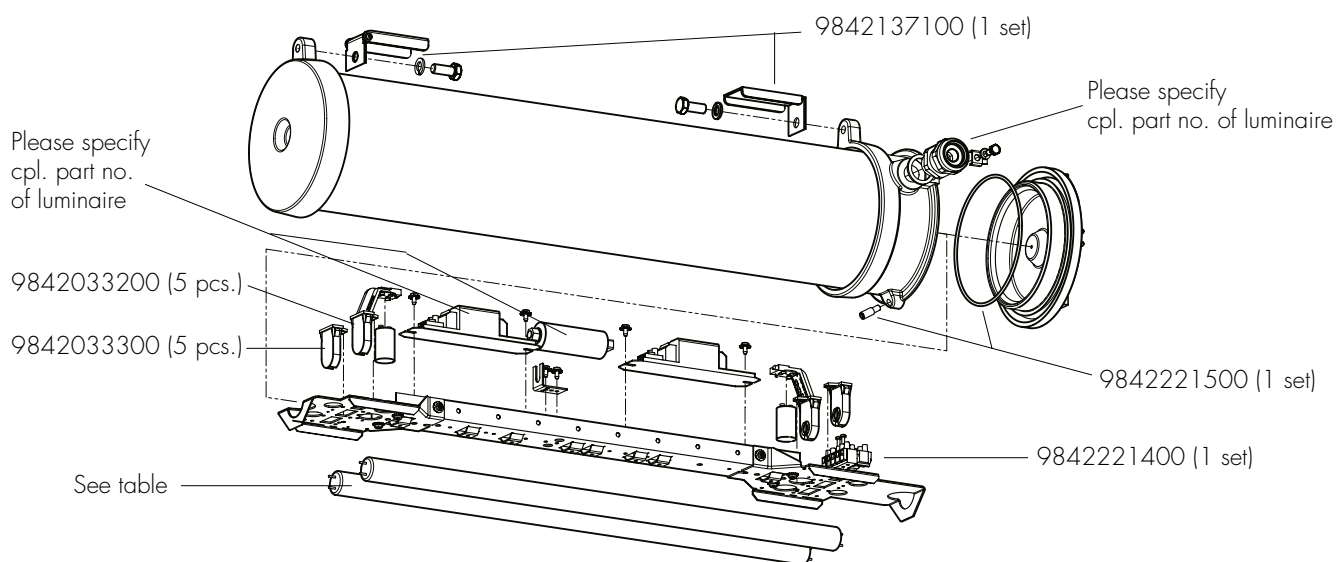


- Fluorescent luminaire for hazardous areas zone 1 and 2
- Satisfy rules of maritime classification societies
- Seawater resistant aluminium housing

Application	For mounting indoor and outdoor in Zone 1 areas
Design	According to IEC, Ex and maritime requirements
Approvals	ATEX and IECEx approved
Housing	Robust housing in polycarbonate tube with seawater resistant end caps. End caps are designed for glue connection to both sides of polycarbonate tube.
Finish	End caps powder coated white RAL9016
Optic	Diffuser in impact-proof UV-resistant polycarbonate
Electric	With magnetic ballasts and capacitor (F) or electronic ballast (HF). Emergency versions with integral battery available on request. AC 115, 220, 230V \pm 10% 50/60Hz
Light source	Two tubes T26 (T8), 18 or 36W. Variants with light sources mounted available on request. Lamp base G13
Mounting	One hinge bracket and one fix angle bracket. The hinge makes it possible to move fixture to free position for removing the gear tray when maintaining the fixture.
Connection	One Ex d cable gland on one side, and one blind plug on the other side of the same end cap (M20 or M25) Also one gland each side of one end cap available on request. One 3-way screw terminal block 6 mm ² with quick connector on gear tray.



Spare Parts/Accessories



Product	Part-No. F 230/60 Housing white	Part-No. F 230/60 Anodised	L1 mm	L2 mm	L3 mm	M* mm	Weight kg	Lamp code	Lamp base	Light distr.
GTX 218 2xM20	GTX220352W	GTX220352	619	565	805	770	7.3	T26(T8)	G13	B
GTX 236 2xM20	GTX240352W	GTX240352	1229	1170	1414	1380	9.3	T26(T8)	G13	C
GTX 218 2xM25	GTX220052W	GTX220052	619	565	805	770	7.3	T26(T8)	G13	B
GTX 236 2xM25	GTX240052W	GTX240052	1229	1170	1414	1380	9.3	T26(T8)	G13	C

* Maintenance envelope. F= Magnetic ballast, Power factor corrected >0,9. HF= Electronic ballast

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Hazardous area luminaire for fluorescent tubes



- Easy maintenance
- Vibration safe lampholders
- Removable gear tray



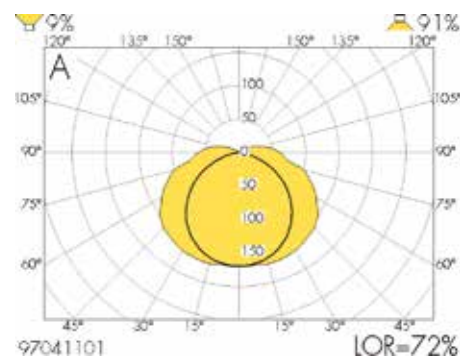
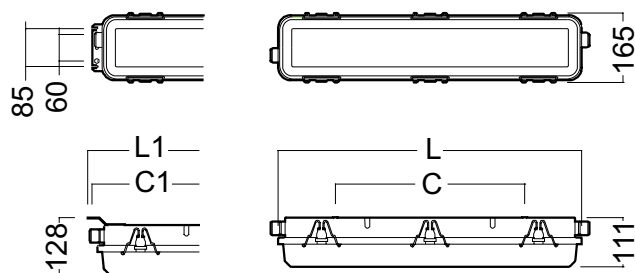
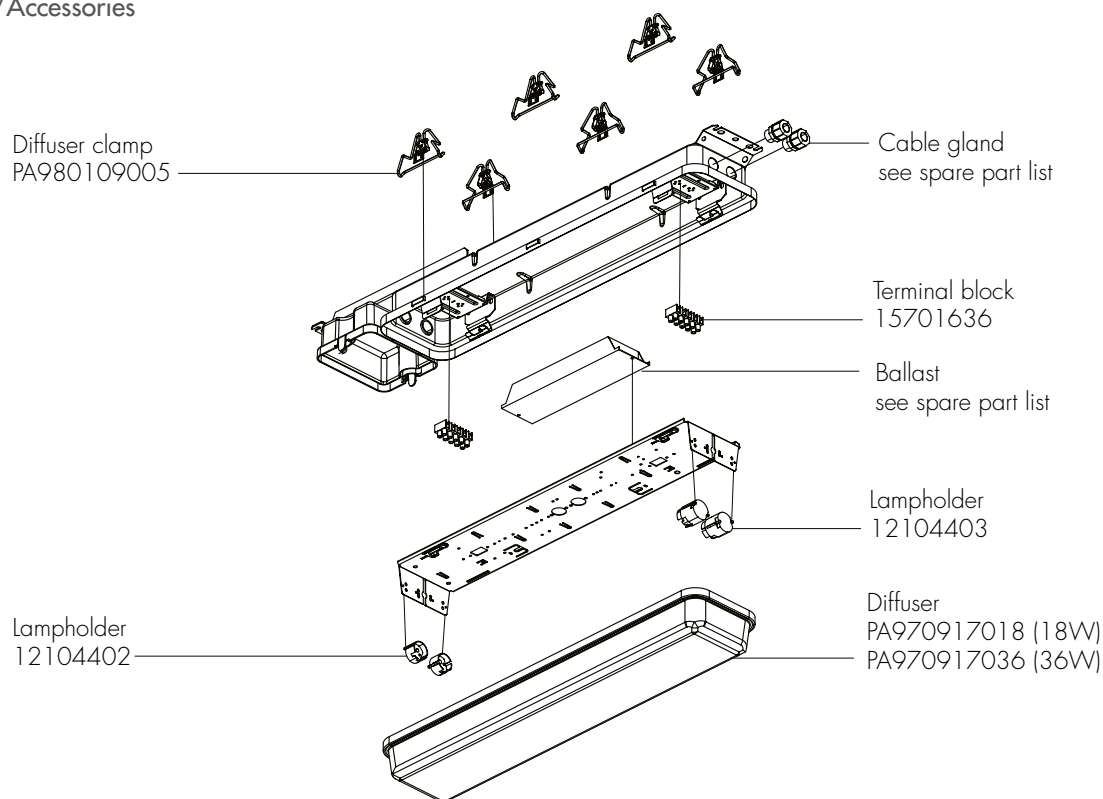
Hinged gear tray



Diffuser with gasket

Application	For mounting indoor or outdoor in Zone 2 areas
Design	According to IEC 60079-15 and maritime requirements
Approvals	ATEX approved
Housing	MIXS with housing in deep drawn stainless steel (AISI 316) for outdoor marine environment. IP66/67 Variants in Aluzinc (MIXZ) for non-corrosive environments available.
Finish	Powder coated white RAL9016 in gloss 90 for easy maintenance
Optic	Diffuser in moulded impact-proof and UV-resistant polycarbonate. Reflector on request.
Electric	With magnetic ballasts and capacitor (F) or electronic ballast (HF). All components are mounted on a hinged geartray. Quick connector on gear connection cables for easy maintenance.
Light source	Two tubes T26 (T8), 18 or 36W. G13 spring operated lamp holders.
Mounting	Fix end brackets as standard. M8 hood nuts for fixing of alternative suspension system (triangle, shock-absorber etc) available on request.
Connection	One cable gland and one blind plug each end. Other gland configurations also available. One 5-way screw terminal 6 mm ² each end. Through wiring (TW) 5 x 2.5 mm ² .

Spare Parts/Accessories



Product	Part-No. F 230/50	Part-No. F 230/60	Part-No. HF	L1 mm	C3 mm	L mm	C mm	Weight kg	Lamp code	Lamp base.
MIXZ67 218 TW PC M20	MIX036425	MIX039117	MIX031195	724	704	681	430	4.8	T26(T8)	G13
MIXZ67 236 TW PC M20	006558	013296	MIX031198	1334	1314	1291	950	8.1	T26(T8)	G13
MIXS67 218 TW PC M20	MIX039106	MIX039107	MIX042983	724	704	681	430	4.8	T26(T8)	G13
MIXS67 236 TW PC M20	MIX039108	MIX037977	MIX037953	1334	1314	1291	950	8.1	T26(T8)	G13

Complete assortment on www.glamox.com/gmo

0272



The housing is made of zinc coated steel or stainless steel, emergency model is supplied with an internal NiCd battery for higher temperature of the battery to increase the capacity in cold areas. All electronics on gear tray.

Light source	Designed for T8 tubes in 18W or 36W					
Housing	Deep drawn zinc coated steel or stainless steel (AISI 316L)					
Dimension (mm)	W: 225	H: 129	L: 692			
	W: 192	H: 129	L: 1340			

MAX CSA



Hazardous areas: decks, process areas, machinery spaces, etc. Class 1 Zone 1 & 2 areas.

Light source	Designed for T8 tubes in 17W or 32W					
Housing	Aluzinc sheet steel or stainless steel, deep drawn, seamless					
Dimension (mm)	W: 165	H: 128	L: 724			
	W: 165	H: 128	L: 1334			

GRX3 DP3/LL



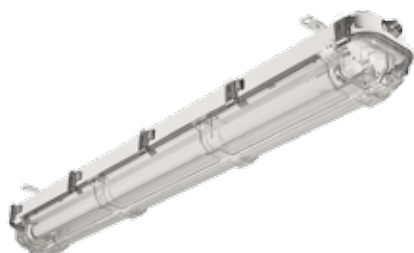
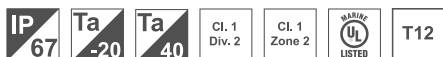
Explosion proof interior lighting fixtures are applicable for hazardous areas, zone 1. They are designed according to rules of maritime classification societies and IEC standards. Recessed interior lighting fixtures with frame designed for adaption to ceiling type are easy to install and maintain. Also models for surface mounting are available.

Light source	G13 lampholders for two tubes T8 18W or 36W
Housing	Steel powder coated white RAL 9016



Photo: Fjord Line / Mike Louagie

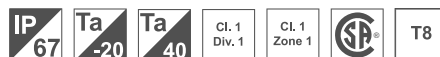
1079



Hazardous areas; Decks, process areas, machinery spaces, etc. Class 1 Division 2 and Class 1 Zone 2.

Light source	T12 60W
Housing	Aluzinc by zink coated steel
Dimension (mm)	W: 225 H: 148 L: 1360

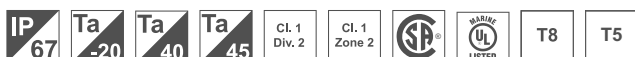
1833



Hazardous areas, Class I, Division 1 and Class 1 Zone 1. Flame proof housing for supreme safety.

Light source	T8 17W or 32W
Housing	Corrosion resistant light weight aluminum alloy
Dimension (mm)	W: 168 H: 168 L: 860 W: 168 H: 168 L: 1470

GXPN



Hazardous areas: decks, process areas, machinery spaces, etc. Class 1 Division 2 and Class 1 Zone 2.

Light source	T8 17W or 32W, T5 54W
Housing	Aluzinc sheet steel or stainless steel, deep drawn, seamless
Dimension (mm)	W: 155 H: 128 L: 724

GXPR



Hazardous areas; Class 1 Division 2 and Class 1 Zone 2. Special version for Class 1 Zone 1 also available.

Light source	T8 17W or 32W
Housing	Aluzinc sheet steel

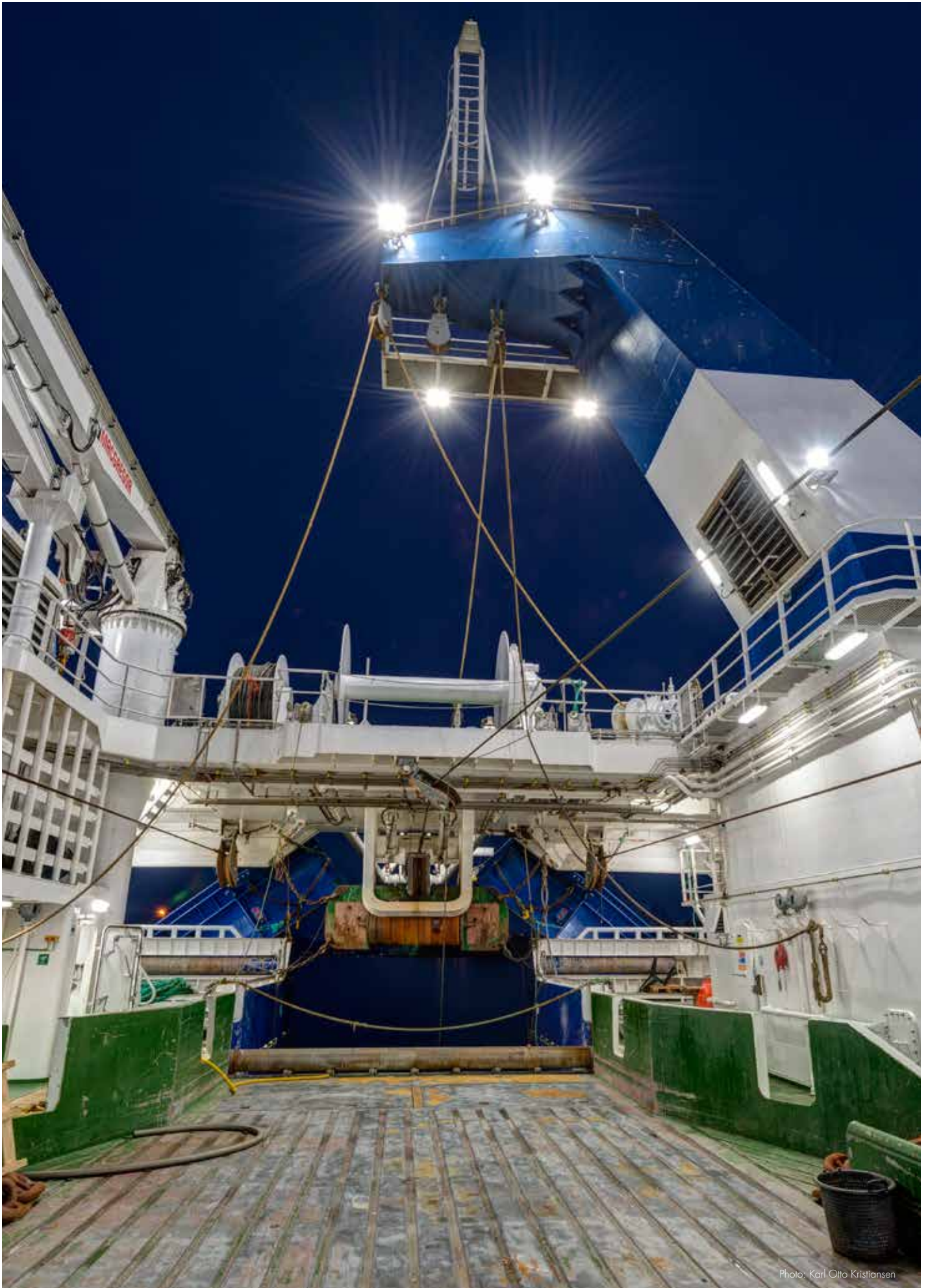


Photo: Karl Otto Kristiansen

Floodlights

Stainless steel and seawater resistant aluminium floodlights with LED, halogen and discharge lamps. Designed for high bay installation, meeting maritime oil & gas requirements.



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FL60



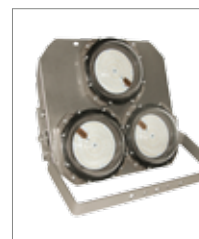
Floodlight with LED lightsource



FL60 1 module



FL60 2 modules



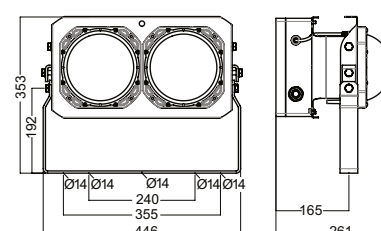
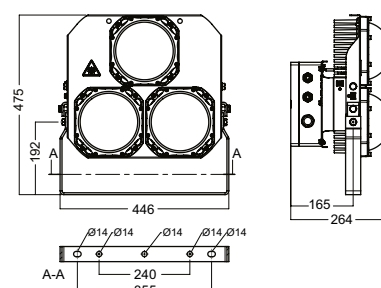
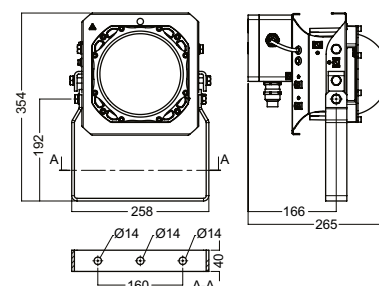
FL60 3 modules



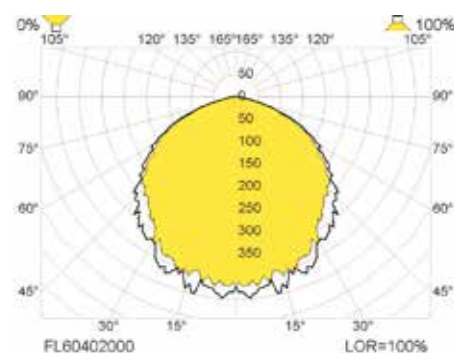
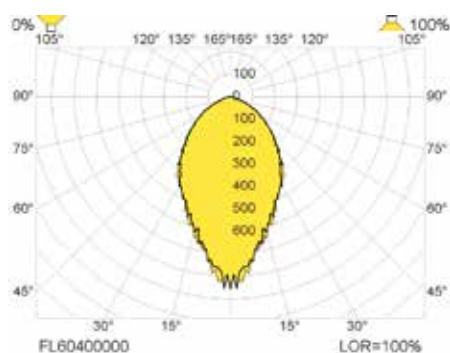
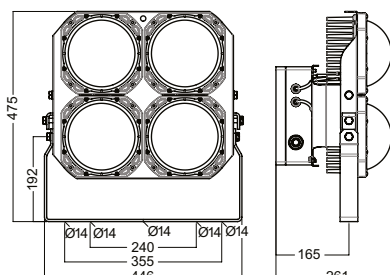
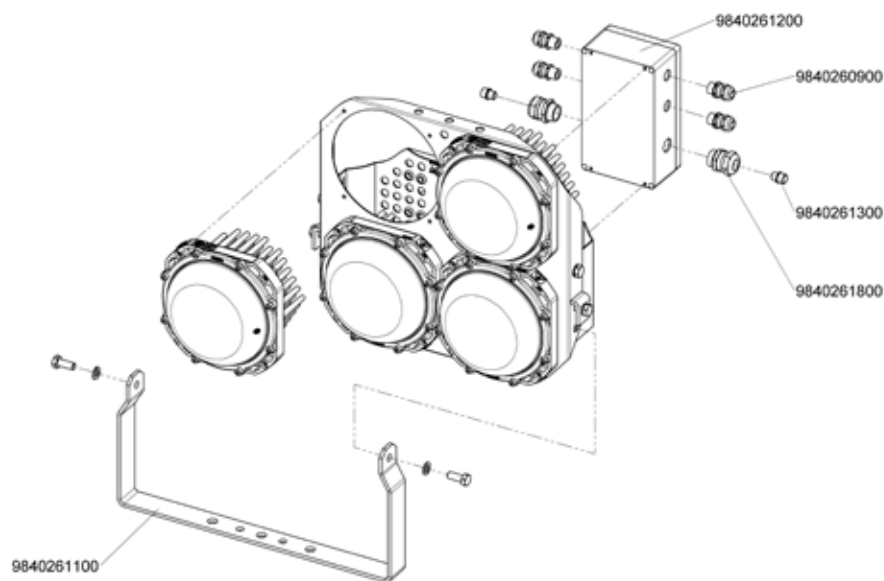
FL60 4 modules

- Instant light
- Long lifetime
- Energy saving
- Low maintenance
- Enhanced light quality

Application	IP 66/67 floodlight for decks and hulls, industrial areas
Design	According to rules of maritime classification societies
Approvals	GL approved
Ambient temperature	Operation temperature from -45°C up to +55°C
Housing	Modules in die-casted seawater resistant aluminium, designed for excellent heat management, frame and bracket stainless steel AISI 316L
Finish	Anodised modules, special colours on request
Optic	Floodlight is available in wide, medium or narrow beam characteristic, with clear polycarbonate front cover. Floodlights available with 1 to 4 Modules corresponding 4500 lumen to 18000 lumen in 5000K light colour.
Electric	Integrated IC driver available in 120V or 230V 50/60Hz, power consumption of 40W per module, only. Modules connected in the external connection box.
Light source	Array of LEDs with 4500 lumen output per module, with extreme long lifetime of 100.000 hours at ambient temperature of 45°C.
Mounting	Adjustable bracket stainless steel 316 unpowdered 5 x 40mm as standard, 8 x 50mm on request
Connection	External connection box at the back with 2 Nickel plated brass cable glands M24 for cable diameter of 10mm to 14mm. Terminals for 6mm² external connection and through wiring.



Spare Parts/Accessories



Product	Part-No. 120V 50/60Hz	Part. no. 230V 50/60Hz	Weight kg	Lamp code
FL60 4500 850 XXX M24 NB	FL60110000	FL60100000	6.2	LED
FL60 4500 850 XXX M24 MB	FL60111000	FL60101000	6.2	LED
FL60 4500 850 XXX M24 VVB	FL60112000	FL60102000	6.2	LED
FL60 9000 850 XXX M24 NB	FL60210000	FL60200000	10.2	LED
FL60 9000 850 XXX M24 MB	FL60211000	FL60201000	10.2	LED
FL60 9000 850 XXX M24 VVB	FL60212000	FL60202000	10.2	LED
FL60 13500 850 XXX M24 NB	FL60310000	FL60300000	13.2	LED
FL60 13500 850 XXX M24 MB	FL60311000	FL60301000	13.2	LED
FL60 13500 850 XXX M24 VVB	FL60312000	FL60302000	13.2	LED
FL60 18000 850 XXX M24 NB	FL60410000	FL60400000	17.7	LED
FL60 18000 850 XXX M24 MB	FL60411000	FL60401000	17.7	LED
FL60 18000 850 XXX M24 VVB	FL60412000	FL60402000	17.7	LED

NB = Narrow beam, MB = Medium beam, VVB = Wide beam

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FX60



Ex de - LED floodlight



FX60 1 module



FX60 2 modules



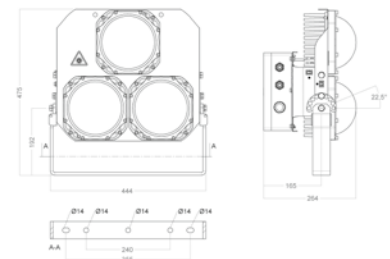
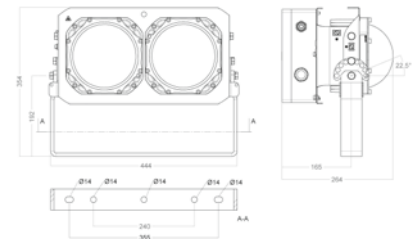
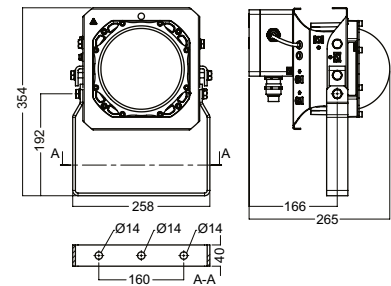
FX60 3 modules



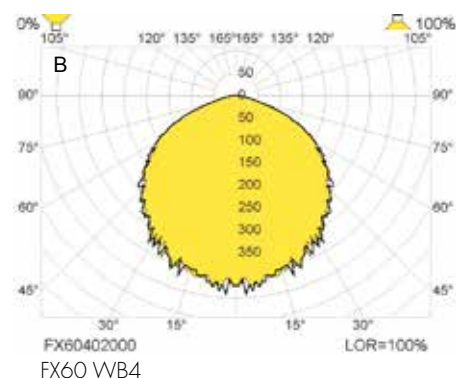
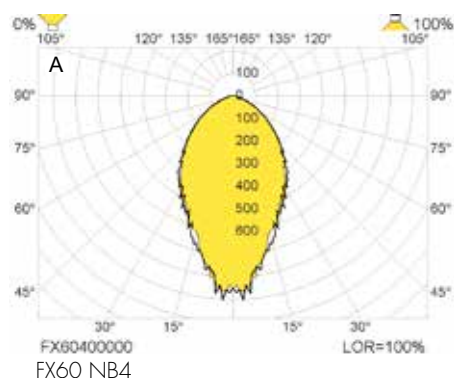
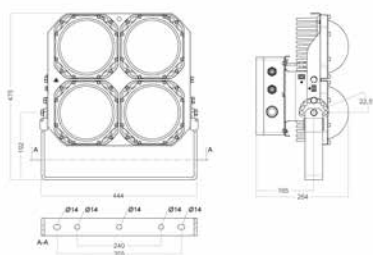
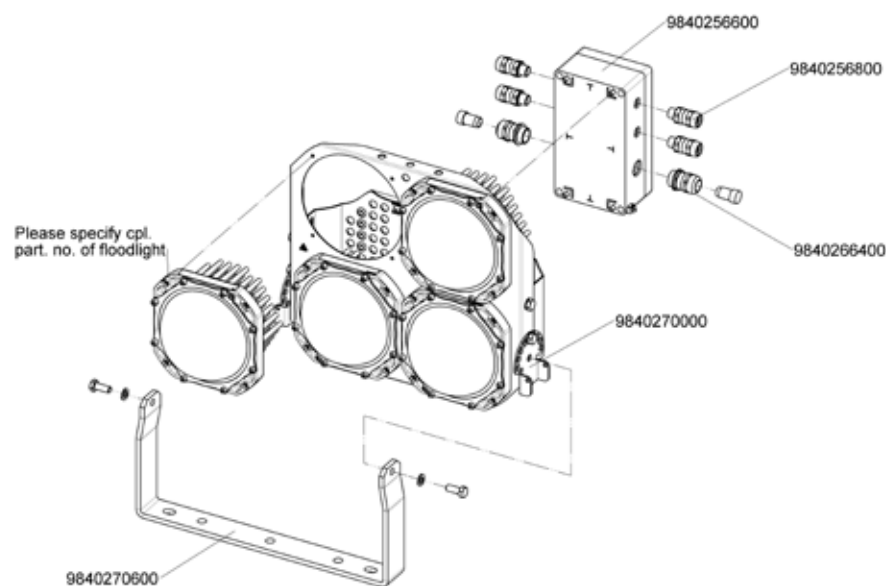
FX60 4 modules

- Long lifetime, 100 000 hours at ambient temperature 45°C
- Low maintenance
- Low power consumption
- Instant light

Application	Hazardous areas zone 1 and 2
Design	According to rules of maritime classification societies and IEC standards
Approvals	IECEx and ATEX approved
Ambient temperature	Operation temperature from -50° C up to + 55°C
Housing	Modules die-casting, seawater resistant aluminium; Frame and bracket stainless steel AISI 316 L
Finish	Modules anodized
Optic	Floodlight is available in wide, medium or narrow beam characteristic, with clear safety glass dome. Floodlights available with 1 to 4 Modules corresponding 4500 lumen to 18000 lumen in 5000K light colour.
Electric	Integrated IC driver available in 120V or 230V or 254V 50/60Hz, power consumption of 40W per module, only. No inrush current due to the IC driver technology. Modules connected in the external connection box.
Light source	Array of LEDs with 4500 lumen output per module, with extreme long lifetime of 100.000 hours at ambient temperature of 45°C
Mounting	Adjustable bracket stainless steel 316 unpowdered 8x50mm as standard
Connection	2 cable glands M25 Ex e brass nickel plated (others on request) standard for cable 10 to 17 mm Ex e External connection box, terminal 6 mm ²



Spare Parts/Accessories



Product	Part-No. 120V 50/60Hz	Part-No. 230V 50/60Hz	Part-No. 254V 50/60Hz	Weight kg	Lamp code	Light distr.
FX60 4500 850 XXX M25 NB	FX60110000	FX60100000	FX60120000	6.5	LED	A
FX60 4500 850 XXX M25 MB	FX60111000	FX60101000	FX60121000	6.5	LED	
FX60 4500 850 XXX M25 VB	FX60112000	FX60102000	FX60122000	6.5	LED	B
FX60 9000 850 XXX M25 NB	FX60210000	FX60200000	FX60220000	9.0	LED	
FX60 9000 850 XXX M25 MB	FX60211000	FX60201000	FX60221000	9.0	LED	
FX60 9000 850 XXX M25 VB	FX60212000	FX60202000	FX60222000	9.0	LED	
FX60 13500 850 XXX M25 NB	FX60310000	FX60300000	FX60320000	14.2	LED	
FX60 13500 850 XXX M25 MB	FX60311000	FX60301000	FX60321000	14.2	LED	
FX60 13500 850 XXX M25 VB	FX60312000	FX60302000	FX60322000	14.2	LED	
FX60 18000 850 XXX M25 NB	FX60410000	FX60400000	FX60420000	17.0	LED	A/B
FX60 18000 850 XXX M25 MB	FX60411000	FX60401000	FX60421000	17.0	LED	
FX60 18000 850 XXX M25 VB	FX60412000	FX60402000	FX60422000	17.0	LED	

NB = Narrow beam, MB = Medium beam, VB = Wide beam

Complete assortment on www.glamox.com/gmo

1076 007/009

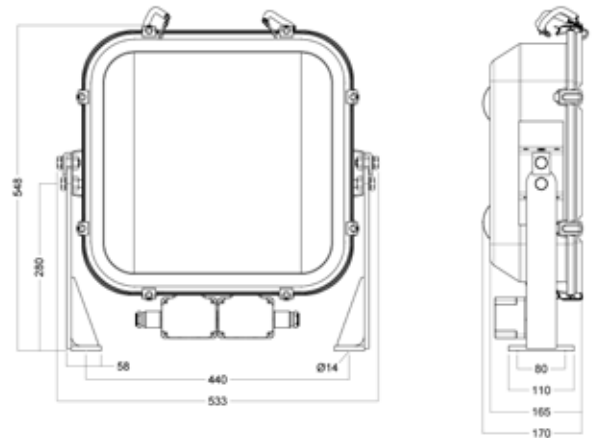


Floodlight for high pressure sodium lamps or metal halide lamps

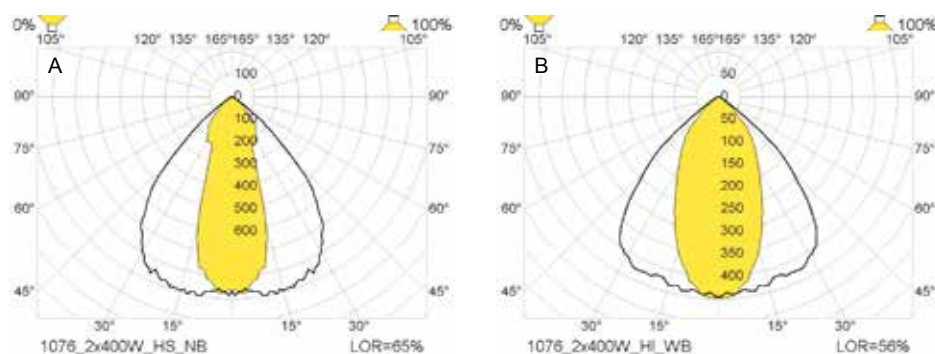
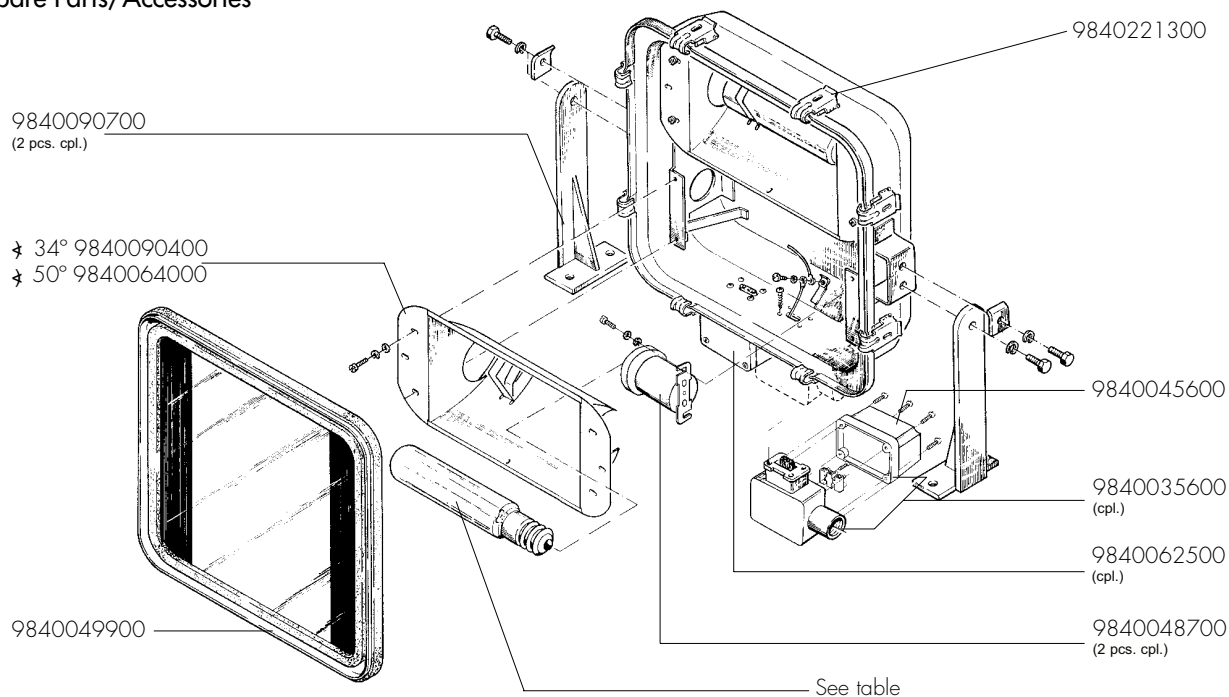


- Deep drawn seamless steel housing
- High light output
- No tools required to open the housing

Application	Decks and holds, industrial and sport areas
Design	According to rules of maritime classification societies, additional VDE and IEC / EN
Ambient temperature	Operation temperature from -20°C up to +45°C. Special versions for -50°C available.
Housing	Stainless steel deep drawn, seamless
Finish	Powder coated white RAL 9016 and enamelled up to 70 - 80 µm thickness
Optic	Floodlight is available in narrow or wide beam characteristic, with clear safety glass front cover and with highly polished aluminium reflector
Electric	Flexible wiring, silicone insulated, heat resistant up to 180° C; two external connection boxes with one ignition unit each; terminal 3 - pole / 6 mm ² . Ballast type 1507 has to be ordered separately.
Light source	2 x max 400W high pressure sodium lamps (HS) / metal halide lamps (HI) (not included). Lamp base E40
Mounting	2 brass cable glands M 24 x 1.5 MGCG; standard for cable dia. 10 to 12.5 mm
Connection	2 connection boxes with one brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm each. Terminals for 6mm ² external connection.



Spare Parts/Accessories



Fitting with premounted lightsources available on request.

Product	Part-No.	Weight	Lamp	Lamp	Light
	max 240V	kg	code	base	distr.
1076 2x250/400W HS/Hi NB B24	1076007000	13.0	HS/Hi	E40	A
1076 2x250/400W HS/Hi WB B24	1076009000	13.0	HS/Hi	E40	B

NB = Narrow beam reflector 34°, WB = Wide beam reflector 50°, B24 = Brass cable gland M24x1.5

Accessories	Part-No.
HS lamp 250W E40	9840102600
HS lamp 400W E40	9840073200
HI lamp 250W E40	9840104100
HI lamp 400W E40	9840104200
Gland gasket insert 12.0-16.5 mm	8100474800
Gland gasket insert 16.0-18.0 mm	8100475600

Complete assortment on www.glamox.com/gmo

1076 001



Floodlight for halogen lamps. The floodlight provides extreme corrosion resistance.

Light source	QT-DE max 500W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 mm thickness.
Dimension (mm)	W: 194 H: 326 L: 376

1076 060



Floodlight for halogen lamps. The floodlight provides extreme corrosion resistance.

Light source	QT-DE max 200W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 mm thickness.
Dimension (mm)	W: 135 H: 251 L: 244

1076 090-091



Floodlight for halogen lamps. The floodlight provides extreme corrosion resistance.

Light source	QT-DE max 1000W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 µm.
Dimension (mm)	W: 210 H: 327 L: 495

FLH



Floodlights for halogen lamps. Halogen floodlights give instant light without warm up or cool down time with good colour rendering. They are designed to meet the marine requirements and are applicable for decks, rescue areas, holds, ramps, industrial and sport areas. They are corrosion proof and produced with seawater resistant aluminium.

Light source	QT-DE/QT max 1000W
Housing	Housing, mounting bracket and connection box in seawater resistant aluminium
Dimensions (mm)	W: 250 H: 365 L: 383

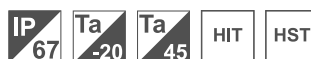
1076 081-082



Floodlight for metal halide (HI) or high pressure sodium (HS) with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Ballast (type 1507) has to be ordered separately.

Light source	HIT/HST 1000W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 mm thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection.
Dimension (mm)	W: 210 H: 575 L: 840

1076 010-011



Floodlight for metal halide (HI) or high pressure sodium (HS) with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Ballast (type 1507) has to be ordered separately.

Light source	HIT/HST max 400W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 µm thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection. Special version for Ta -50°C available.
Dimension (mm)	W: 210 H: 327 L: 495

FLS



The Floodlights produced for high pressure sodium lamps and housing in seawater resistant aluminum are applicable for decks and hulls, industrial areas and sport areas. The Floodlights have a very high light output and a low weight that makes it easy to maintain. Ballast has to be ordered separately.

Light source	HST, HST-D max 1200W
Housing	Housing, mounting bracket and connection box in seawater resistant aluminium, white powder coated.
Dimension (mm)	W: 250 H: 365 L: 383 W: 250 H: 365 L: 695

FLM



Floodlights produced for metal halide lamps and housing in seawater resistant aluminium are designed to meet marine requirements. The Floodlights are applicable for decks and hulls, industrial buildings and sport areas. They are shock-tested according to IEC 69-2-27 and gives very high light output. The Floodlights have low weight and the housing is produced in seawater resistant aluminium. Ballast has to be ordered separately.

Light source	HIT, HIT-D max 1200W
Housing	Housing, mounting bracket and connection box in seawater resistant aluminium, white powder coated.
Dimension (mm)	W: 365 H: 250 L: 383

1076 015-044



Floodlight for metal halide (HIT) or high pressure sodium (HST) with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Ballast included.

Light source	HIT/HST max 400W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 µm thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection. Ballast integrated in housing of the floodlight.
Dimension (mm)	W: 165 H: 548 L: 533

1076 008



Floodlight for high pressure sodium (HS) with instant ignition. Seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Ballast (type 1507) has to be ordered separately.

Light source	HST-DE max 400W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 µm thickness. Pane safety glass, lamp base E39.
Electric	One external box including the igniter and one connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Terminals for 6mm ² external connection.
Dimension (mm)	W: 210 H: 327 L: 495

1076 075-080



Floodlight for high pressure sodium (HS) with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Ballast included.

Light source	HST 70W
Housing	Seamless housing of deep drawn stainless steel. Brackets and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80 µm thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Terminals for 6mm ² external connection. Ballast integrated in the floodlight.
Dimension (mm)	W: 194 H: 326 L: 376

1076 092-093



Floodlights for halogen lamps. Halogen floodlights give instant light without warm up or cool down time with good colour rendering. They are designed to meet the marine requirements and are applicable for decks, rescue areas, holds, ramps, industrial and sport areas. The stainless housing provides extreme corrosion resistance.

Light source	QT max 1000W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 µm thickness.
Dimension (mm)	W: 210 H: 327 L: 495

1076 152



Floodlight for high pressure sodium (HS) with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Ballast (type 1507) has to be ordered separately.

Light source	HST 600W
Housing	Seamless housing of deep drawn stainless steel. The housing is powder coated white and enamelled up to 70-80 µm thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection.
Dimension (mm)	W: 210 H: 327 L: 495

1507



Ballast for floodlights for high pressure sodium (HS) or metal halide (Hl) with seamless housing of deep drawn stainless steel AISI 316.

Housing	Seamless housing of deep drawn stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80µm thickness
Electric	Brass cable glands M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Terminals for 6mm ² external connection.
Dimension (mm)	W: 135 H: 260 L: 340 W: 135 H: 260 L: 455 W: 163 H: 260 L: 340

BL35



Floodlights for manoeuvring in narrow waters. Bowlights are designed to work as "headlight" specially for fast ferries.

Light source	Xenon 35W
Housing	Housing, mounting bracket and connection box in seawater resistant aluminium, white powder coated.
Electric	External connection box with cable gland
Dimension (mm)	W: 250 H: 365 L: 383 W: 250 H: 365 L: 695

FL-Ballast



Ballast for floodlights for high pressure sodium (HS) or metal halide (Hl) with polycarbonate housing

Housing	Glass fibre reinforced polycarbonate, grey.
Electric	Up to 4 cable glands M20
Dimension (mm)	W: 135 H: 200 L: 300 W: 135 H: 200 L: 400

GFX



Ex d floodlights for high pressure sodium lamps or metal halide lamps are applicable for zone 1 areas. The floodlights are produced with seawater resistant aluminum housing and have a very high light output.

Light source	HI/HS 250, 400W
Housing	Die-casting, seawater resistant aluminium housing, powder coated white or anodized grey
Dimension (mm)	W: 273 H: 414 L: 512

1776



Zone 2 floodlight for metal halide (HI), high pressure sodium (HS) or halogen with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. For HI and HS type with integrated or external (type 1527 has to be ordered separately) ballast.

Light source	HIT/HST max 2x400W, QT max 500W
Housing	Seamless housing of deep drawn stainless steel. Bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter for HIT and HST type. Terminals for 6mm ² external connection.

Dimension (mm)	W: 210 H: 327 L: 495
	W: 170 H: 548 L: 533

1527



Ballast units are applicable for decks and holds, industrial areas and sport areas. The ballasts are designed according to rules of maritime classification.

Light source	HIT, HST max 2x400W
Housing	Seamless housing of deep drawn stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	Brass cable glands M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Terminals for 6mm ² external connection.
Dimension (mm)	W: 135 H: 260 L: 340
	W: 135 H: 260 L: 455

1513



Ballast unit for floodlights for high pressure sodium (HS) or metal halide (HI) with seamless housing of deep drawn stainless steel AISI 316.

Light source	HIT, HST max 1000W
Housing	Seamless housing of deep drawn stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	Brass cable glands M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Terminals for 6mm ² external connection.
Dimension (mm)	W: 163 H: 260 L: 340

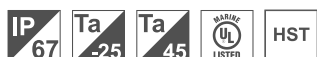
1069 008/009



Floodlight for metal halide (HIT) or high pressure sodium (HST) with seamless housing of deep drawn stainless steel ASIS 316. The floodlight provides extreme corrosion resistance and high light output. External ballast (type 1513) has to be ordered separately. Approval UL 1598 & 1598A

Light source	HIT/HST max 400W
Housing	Seamless housing of deep drawn stainless steel bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. including the igniter. Terminals for 6mm ² external connection. Lamp base E39
Dimension (mm)	W: 210 H: 327 L: 495

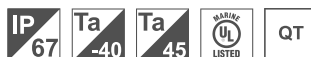
1069 013/014



Floodlight for high pressure sodium (HST) with seamless housing of deep drawn stainless steel ASIS 316. The floodlight provides extreme corrosion resistance and high light output. External ballast (type 1513) has to be ordered separately. Approval UL 1598 & 1598A

Light source	HST max 1000W
Housing	Seamless housing of deep drawn stainless steel bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection. Lamp base E39.
Dimension (mm)	W: 210 H: 575 L: 840

1069 012/015/016/017



Floodlight for halogen (QT) with seamless housing of deep drawn stainless steel ASIS 316. The floodlight provides extreme corrosion resistance and high light output. Approval UL 1598 & 1598A

Light source	QT max 1000W
Housing	Seamless housing of deep drawn stainless steel bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Lamp base RSC.
Dimension (mm)	W: 210 H: 327 L: 495

1069 018-021



Floodlight for metal halide (HIT) or high pressure sodium (HST) with integrated ballast. Seamless housing of deep drawn stainless steel ASIS 316. The floodlight provides extreme corrosion resistance and high light output. Approval UL 1598 & 1598A

Light source	HIT/HST max 400W
Housing	Seamless housing of deep drawn stainless steel bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection. Lamp base E39.
Dimension (mm)	W: 165 H: 548 L: 533

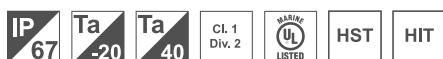
1069 040



Floodlight for halogen (QT) with seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Approval UL 1598 & 1598A

Light source	QT max 500W
Housing	Seamless housing of deep drawn stainless steel bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm. Lamp base RSC.
Dimension (mm)	W: 194 H: 326 L: 376

1069 028-031



Class 1 Division 2 explosion proof floodlight for metal halide (Hl) or high pressure sodium (HS) lamp with internal ballast. Seamless housing of deep drawn stainless steel AISI 316. The floodlight provides extreme corrosion resistance and high light output. Approval UL 1598 & 1598A

Light source	HIT/HST max 400W
Housing	Seamless housing of deep drawn stainless steel bracket and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80um thickness.
Electric	External connection box with brass cable gland M24 x 1.5 MGCG for cable diameter of 10mm to 12.5mm including the igniter. Terminals for 6mm ² external connection. Lamp base E39.
Dimension (mm)	W: 165 H: 548 L: 533





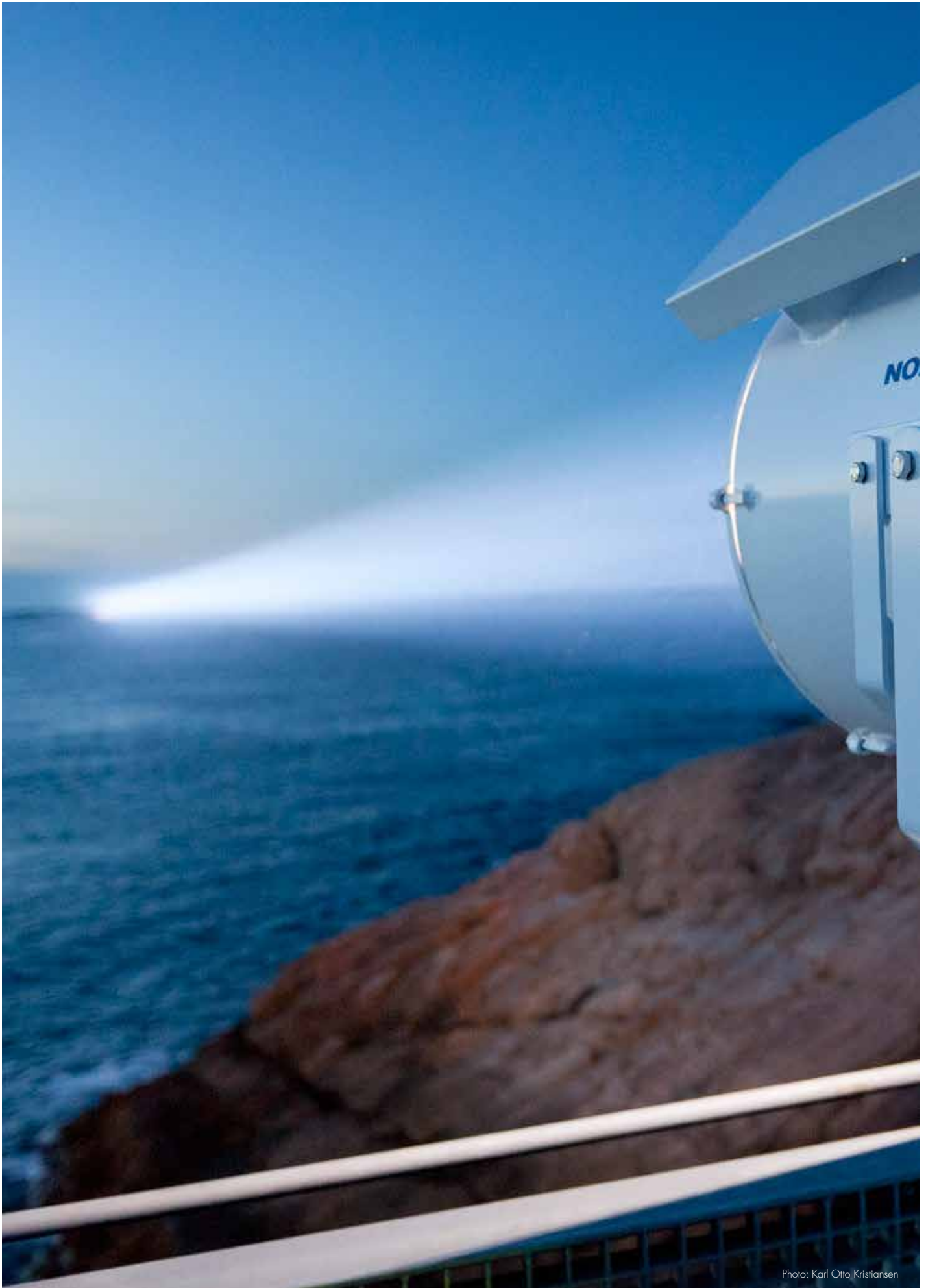


Photo: Karl Otto Kristiansen

Searchlights

A complete range of searchlights, including halogen and xenon lamps. Designed for extreme marine environments. Made of seawater resistant aluminium, to ensure long run-time and long lifetime, finished in white polyester coating. Delivered with control versions: Direct, Bridge, Remote controlled (conventional electronic and BUS Network control system)



SH R60	80
SL40 R5 Halogen	82
SH R50	84
SH R10	84
HR R20	84
SH D DH	84
SH 200 D	85
SH B BS BH	85
SH 200 BS BH	85
Suez searchlight	85
Daylight signalling DM60	86
XS R60	88
SL40 R5 Xenon	90
XS R50	92
XS R10	92
XR R20	92
XS D	92
XS B BS BH	93

SH R60

Searchlight Halogen Remote controlled R60



- BUS network control system with multiple main and slave panels
- Meets applicable marine requirements
- Designed for rough marine environment, including Ice class
- Thermostatic controlled heating in motor and drum for optimal working conditions
- Aluminium motorhouse and lamphouse for low weight, long run-time and long lifetime
- Digital touch screen main control panel and the system is open for external input/commands from third party components

Application

Suitable for all kinds of ships, the robust control system R60 is based on a PLC (Programmable Logic Controller) platform, where 9 different searchlights can be connected to the same BUS network through Ethernet CAT 5-E cables. The system is open and can operate on its own LAN network or on a common field BUS network on the vessel. Open for external input/commands from third party components, makes the R60 able to integrate with radars, security command centers or similar. It is a stepless system, adjustable with 360° horizontal and 50° vertical movement. Both horizontal and vertical indicators are included, and with an accuracy down to 1°.

Housing

High quality seawater resistant aluminium housing finished in white polyester coating

Optic

Adjustable beam and durable silver-plated glass reflector specially designed for halogen lamps

Electric

115/230V

Light source

QT 1000, 2000, 3000W

Mounting

Easy mounting direct to the deck or on pedestal

Connection

Connecting with cable glands in polyamide. Maximum 100 m LAN cable between switches, panels and searchlights. Unlimited number of switches can be connected in one system.



Touch screen main control panel



Wireless panel

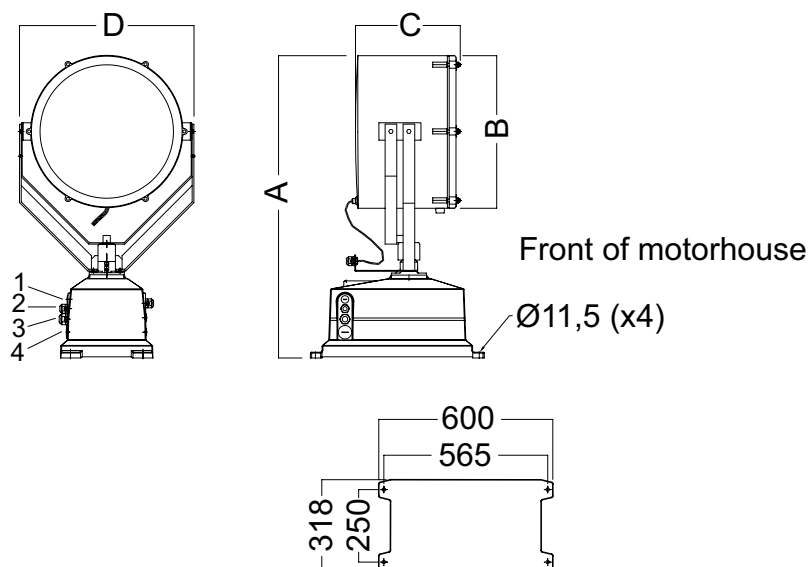


Slave panel

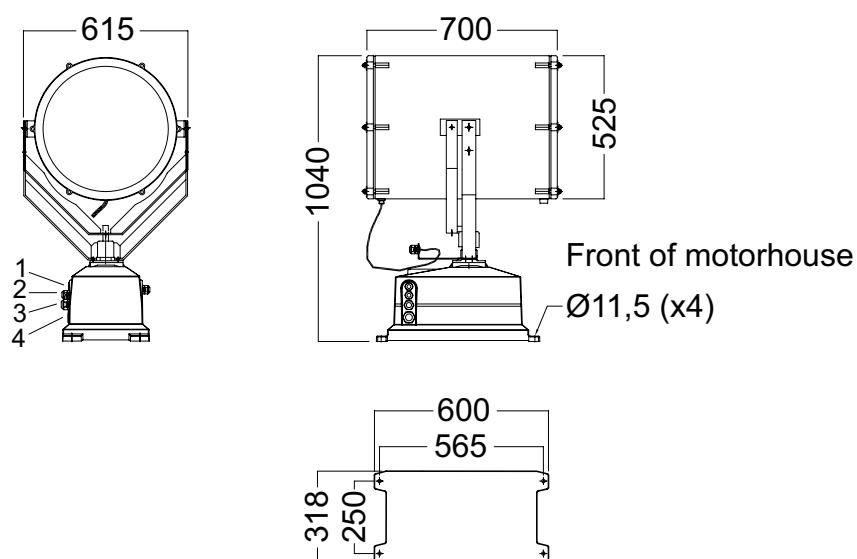


PC panel

SH R60 310/470



SH R60 480

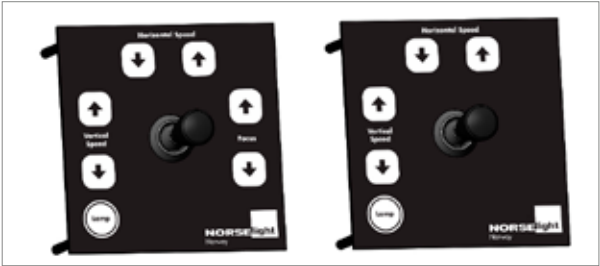


Product	Part-No.	Wattage	Voltage	A mm	B mm	C mm	D mm	Degrees	Length beam (1 lux)
SH 310 R60 230V 1000W	600106938	1000W	230V	890	380	330	470	11.0	1 540 m
SH 310 R60 115V 1000W	600126938	1000W	115V	890	380	330	470	11.0	1 540 m
SH 470 R60 230V 2000W	600107238	2000W	230V	1040	525	360	615	10.8	2 366 m
SH 470 R60 115V 2000W	600127238	2000W	115V	1040	525	360	615	10.8	2 366 m
SH 480 R60 230V 3000W	600112358	3000W	230V	1040	525	700	615	12.0	2 100 m

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SL40 R5 Halogen

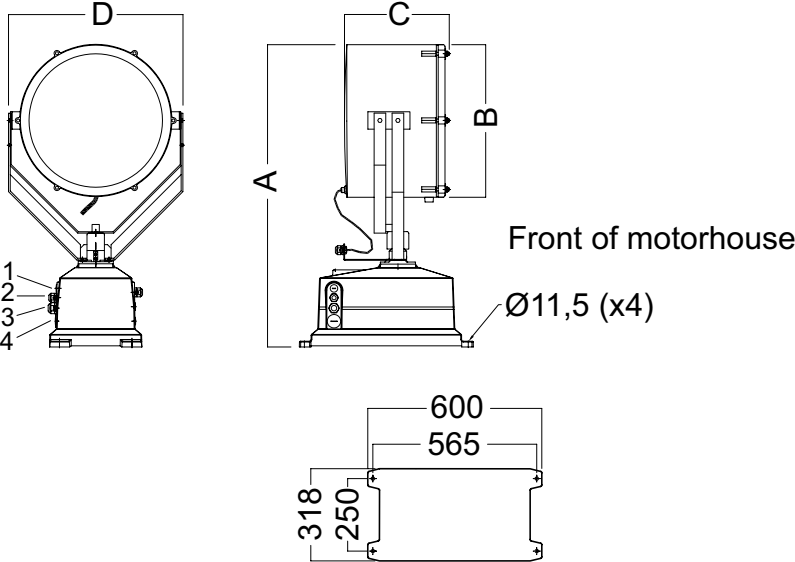
Searchlight



Main control panels

- Electronic control system with unlimited number of main panels
- Designed to meet applicable marine requirements
- Aluminium motorhouse and lamphouse for low weight, long run-time and long lifetime
- Thermostatic controlled heating in motorhouse for optimal working conditions
- Long cable run, up to 5000 meters

Application	<p>Suitable for all kinds of ships, the control system is based on a proven conventional relay/transistor technology and a standard multi-core cable. Each searchlight can be controlled by unlimited number of main panels.</p> <p>The SL40 R5 is open to be operated in conjunction with the touch screen based R60 BUS control system. The main panel is delivered with a joystick and buttons for lamp on/off, horizontal and vertical speed adjustment. Vertical movement 60 degrees. There are also versions available with lamp focus function.</p>
Housing	High quality seawater resistant aluminium housing finished in white polyester coating
Optic	Adjustable beam on most versions, with a durable high polished aluminium reflector, specially designed for halogen lamps
Electric	230V
Light source	QT 1000, 2000W
Mounting	Easy mounting direct to deck or on pedestal
Connection	<p>Connecting with cable glands in polyamide.</p> <p>Up to 5000 meters cable between main panel and searchlight.</p>



Product	Part-No.	Wattage	Voltage	A mm	B mm	C mm	D mm	Degrees	Length beam (1 lux)
SL 40 R5 SH 310 230V 1000W C	500106940	1000W	230V	890	380	330	470	11.0	1 500 m
SL 40 R5 SH 470 230V 2000W C	500107240	2000W	230V	1040	525	360	615	10.8	2 300 m
SL 40 R5 SH 470 230V 2000W CF	500107241	2000W	230V	1040	525	360	615	10.8	2 300 m

Complete assortment on www.glamox.com/gmo

SH R50



Searchlight Halogen Remote Controlled BUS R50, suitable for all kinds of ships. The control system is based on TCP/IP technology where 9 different units of Halogen searchlights can be connected to the same network through Ethernet CAT5-E LAN cables. It is stepless adjustable 360° horizontal and 55° tilting movements. There are several options of control panels both hard wired, wireless and PC panel, which are fitted to the standard solution. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures.

Light source	QT 250, 1000, 2000, 3000W
Electric	24V, 115V/230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

HR R20



Searchlight Halogen Remote Controlled R20 for high speed vessels. The remote controlled halogen searchlight HR 250 R20 is very well suited for high speed vessels, tug boats, pilot vessels and luxury yachts, due to the clean compact design and its low weight. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Besides low weight and simple mounting, these searchlights provide reliable lighting in all kinds of temperatures.

Light source	QT 250, 650W
Electric	24V, 115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

SH R10



Searchlight Halogen. Remote controlled R10. Suitable for all kind of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount. These searchlights provide reliable lighting in all kinds of temperatures. Remote controlled searchlights with conventional electronic system.

Light source	QT 250, 650, 1000, 2000, 3000W
Electric	24V, 115V/230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

SH D | DH



Searchlight Halogen. Direct operated and direct operated high. Suitable for all kind of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures.

Light source	QT 250, 650, 1000, 2000, 3000W
Electric	24V, 115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

SH 200 D



Searchlight Halogen for smaller vessels. Direct operated halogen searchlights SH 200 D are intended for smaller tonnage, e.g. fishing boats, tugs and work boats. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures. Drum of seawater resistant aluminium finished in white polyester coating and bracket of stainless steel.

Light source	QT 100, 250W
Electric	12V, 24V
Housing	Made of seawater resistant aluminium finished in white polyester coating

SH B | BS | BH



Searchlight Halogen Bridge Operated. Suitable for all kind of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount. These searchlights provide reliable lighting in all kinds of temperatures.

Light source	QT 250, 650, 1000, 2000, 3000W
Electric	24V, 115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

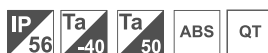
SH 200 BS | BH



Searchlight Halogen for smaller vessels. Bridge operated short and high. Built with corrosion-resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures. Drum of seawater resistant aluminium finished in white polyester coating and bracket of stainless steel.

Light source	QT 100, 250W
Electric	12V, 24V
Housing	Made of seawater resistant aluminium finished in white polyester coating

Suez searchlight



Suez Canal Searchlights are designed for installations on all sizes of vessels using the canal and comply fully with the regulations of the Suez Canal Authorities. The searchlight can be easily moved from the storage and mounted on deck by a single person, due to the low weight and convenient lifting handles. All the components are chosen to withstand corrosion and require minimum of maintenance.

Light source	QT 2000, 3000W
Electric	115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

Daylight signalling DM60



All passenger vessels exceeding 12 m and vessels of at least 150 tons must carry a type approved portable Daylight signalling light. Daylight signalling lights are principally for use on decks. There are also some models available which can be used in engine rooms and as navigational aid in narrow channels.

Light source	QT 60W
Electric	115-230V/12V, 115-230V/24V
Housing	Transportation box of DM-60 made in galvanized steel, white polyester coating





Photo: Karl Otto Kristiansen

XS R60

Searchlight Xenon Remote controlled R60



- BUS network control system with multiple main and slave panels
- Meets applicable marine requirements
- Designed for rough marine environment, including Ice class
- Thermostatic controlled heating in motor and drum for optimal working conditions
- Aluminium motorhouse and lamphouse for low weight, long run-time and long lifetime
- Digital touch screen main control panel and the system is open for external input/commands from third party components

Application

Suitable for all kinds of ships, the robust control system R60 is based on a PLC (Programmable Logic Controller) platform, where 9 different searchlights can be connected to the same BUS network through Ethernet CAT 5-E cables. The system is open and can operate on its own LAN network or on a common field BUS network on the vessel. Open for external input/commands from third party components, makes the R60 able to integrate with radars, security command centers or similar. It is a stepless system, adjustable with 360° horizontal and 50° vertical movement. Both horizontal and vertical indicators are included, and with an accuracy down to 1°.

Housing

High quality seawater resistant aluminium housing finished in white polyester coating

Optic

Adjustable beam and durable silver-plated glass reflector specially designed for xenon lamps. Optional Nickle Rhodium reflector for extreme light output.

Electric

115/230V

Light source

Xenon 500, 1000, 1600, 2000, 3000W

Mounting

Easy mounting direct to the deck or on pedestal

Connection

Connecting with cable glands in polyamide. Maximum 100 m LAN cable between switches, panels and searchlights. Unlimited number of switches can be connected in one system.



Touch screen main control panel



Wireless panel

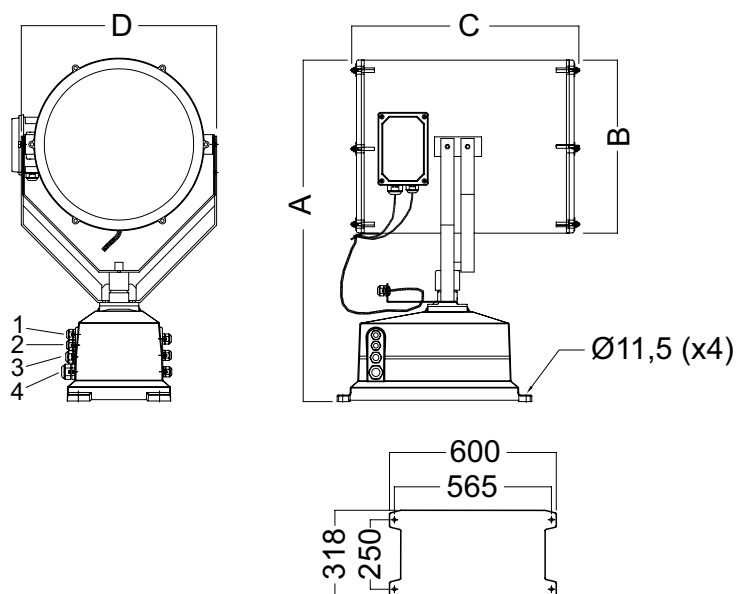


Slave panel

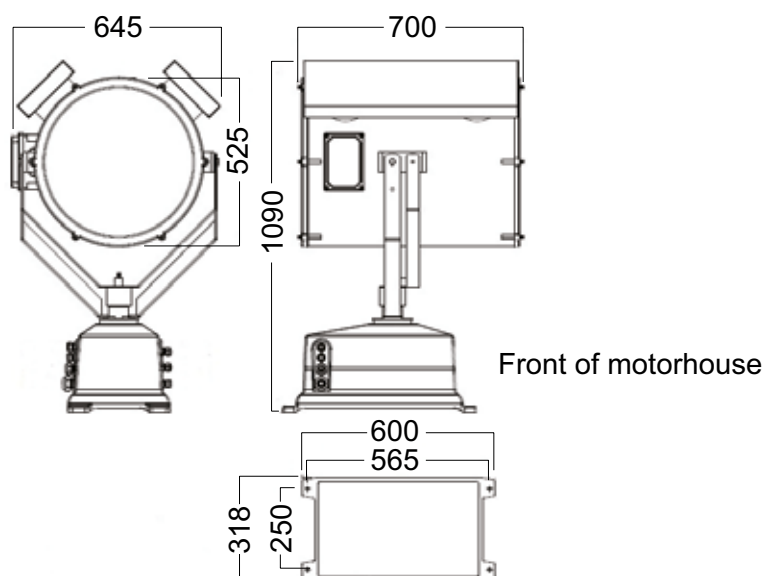


PC panel

XS R60 500 - 2000



XS R60 3000



Product	Part-No.	Wattage	Voltage	A mm	B mm	C mm	D mm	Degrees	Length, beam (1 lux)
XS500 R60 230V	600201638	500W	230V	890	380	470	470	2.0 - 7.0	4 600 m
XS1000 R60 230V	600201338	1000W	230V	930	425	610	515	2.0 - 7.0	6 700 m
XS1600 R60 230V	600201438	1600W	230V	930	425	610	515	3.0 - 8.0	7 400 m
XS2000 R60 230V	600201538	2000W	230V	1020	525	685	615	2.0 - 7.0	9 600 m
XS3000 R60 230V	600201238	3000W	230V	1090		700	645	3.0 - 8.0	12 500 m
XS3000 R60 230V NR	600209538	3000W	230V	1090		700	645	1.7 - 5.5	14 000 m

Complete assortment on www.glamox.com/gmo

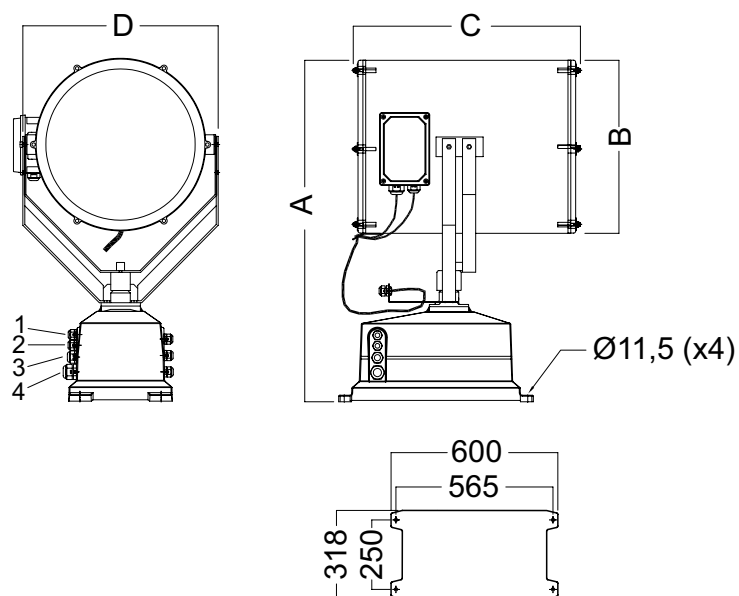
SL40 R5 Xenon



Main control panel with focus adjustment

- Electronic control system with unlimited number of main panels
- Designed to meet applicable marine requirements
- Thermostatic controlled heating in motor and drum for optimal working conditions
- Aluminium motorhouse and lamphouse for low weight, long run-time and long lifetime
- Long cable run, up to 5000 meters

Application	<p>Suitable for all kinds of ships, the control system is based on a proven conventional relay/transistor technology and a standard multi-core cable. Each searchlight can be controlled by unlimited number of main panels.</p> <p>The SL40 R5 is open to be operated in conjunction with the touch screen based R60 BUS control system. The main panel is delivered with a joystick and buttons for lamp on/off, horizontal, vertical speed adjustment and lamp focus function. Vertical movement 60 degrees.</p>
Housing	High quality seawater resistant aluminium housing finished in white polyester coating
Optic	Adjustable beam and durable silver-plated glass reflector specially designed for xenon lamps
Electric	115/230V Built in power supply on 1000W version
Light source	Xenon 1000, 2000W
Mounting	Easy mounting direct to the deck or on pedestal
Connection	Connecting with cable glands in polyamide. Up to 5000 meters cable between main panel and searchlight.



Product	Part-No.	Wattage	Voltage	A mm	B mm	C mm	D mm	Degrees	Length, beam (1 lux)
SL 40 R5 XS 230V 1000W C	500201340	1000W	230V	930	425	610	515	2.0 - 7.0	6 400 m
SL 40 R5 XS 230V 2000W C	500201540	2000W	230V	1020	525	685	615	2.0 - 7.0	9 200 m

Complete assortment on www.glamox.com/gmo

XS R50



Searchlight Xenon Remote Controlled BUS R50, suitable for all kinds of ships. The control system is based on TCP/IP technology where 9 different units of Xenon searchlights can be connected to the same network through Ethernet CAT 5-E LAN cables. It is stepless adjustable 360° horizontal and 55° tilting movements. There are several options of control panels both hard wired, wireless and PC panel, which are fitted to the standard solution. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures.

Light source	Xenon lamps 500, 1000, 1600, 2000, 3000W
Electric	115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

XR R20



Searchlight Xenon Remote Controlled R20 for high speed vessel. XR R20 is very well suited for high speed vessels, tug boats, pilot vessels and luxury yachts, due to the clean compact design and its low weight. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Besides low weight and simple mounting, these xenon searchlights provide reliable lighting in all kinds of temperatures.

Light source	Xenon lamps 150, 500W
Electric	115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

XS R10



Searchlight Xenon Remote Controlled R10. Suitable for all kind of ships. All the components are chosen to withstand corrosion. The searchlights are designed for use in extreme marine environments and require a minimum of maintenance. Stainless steel forks and fittings. Benefitting from low weight and simple mounting, these searchlights are designed to operate across a wide range of temperatures. Remote controlled searchlights with conventional electronic system.

Light source	Xenon lamps 500, 1000, 1600, 2000, 3000W
Electric	115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

XS D



Searchlight Xenon Direct Operated. XS D/DH is suitable for all kinds of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Stainless steel forks, bolts, screws and nuts. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures. Main control panel with focus adjustment is included.

Light source	Xenon lamps 500, 1000, 1600, 2000, 3000W
Electric	115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating

XS B | BS | BH



Searchlight Xenon Bridge Operated. XS B | BS | BH are suitable for all kinds of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Low weight and simple to mount. These searchlights provide reliable lighting in all kinds of temperatures. Main control panel with focus adjustment is included.

Light source	Xenon lamps 500, 1000, 1600W
Electric	115V, 230V
Housing	Made of seawater resistant aluminium finished in white polyester coating



Photo: Karl Otto Kristiansen



Navigation and signalling lights

A complete range of navigation lights, ranging for ships from 20 meters and up, fulfilling all requirements of IMO Anti Collision Regulations and local rules. Designed for marine environments, navigation lights are available with incandescent lamps or LED light technology, also as Arctic versions for extreme low temperatures. Built in glass-fiber reinforced polycarbonate or brass, delivered in black, white or brass color.



Series 65 LED.....	96
Series 65 LED Arctic	98
Series 70.....	100
Series 70M.....	102
Series 70 Ex d.....	104
Series 55.....	104
Flashing light	104
Suez signalling light	104
LED Navigation light panel.....	105
Navigation light panel conventional	105

Series 65 LED



Aqua Signal LED navigation lights

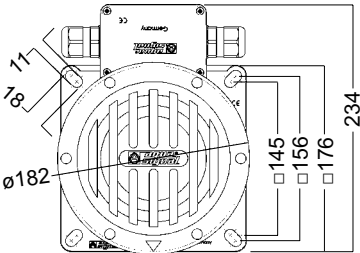
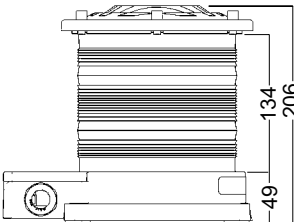


Series 65 brass housing

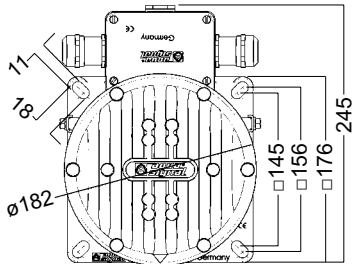
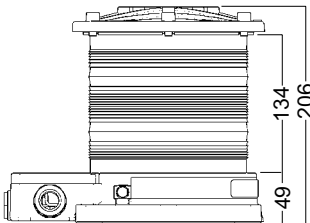
- Long lifetime, up to 100 000 operating hours (depending on ambient temperature)
- Main and back up system in one housing
- High level of reliability

Application	For all vessels ≥ 20 m in length
Approvals	EC Type Examination (Module B) Certificate 4581/001/6012437/13, USCG/UL
Housing	Glass-Fibre reinforced polycarbonate or brass. Other components of non-corroding materials. Seawater resist ant. Lid anodized aluminium or brass.
Finish	Black, white or brass
Optic	Polycarbonate 3 nm for port/starboard/stern/all-round signalling 6 nm for masthead 5 nm for manoeuvring light
Electric	Main lighting (upper unit) and spare lighting (lower unit) with connection box and 2 x M25 x 1.5 cable entry. Cable diameter 9 - 17 mm.
Light source	High power LED, mounted on aluminium rod: 4 LED for side and stern lights 6 LED for masthead 7 LED for all-round lights Upper section: main system, lower section: back-up system
Mounting	4 hole mounting with connection box

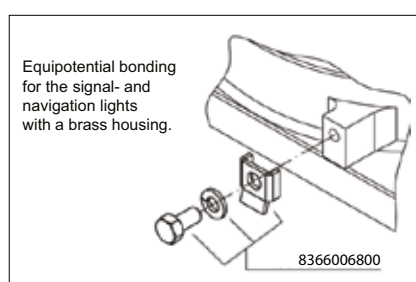
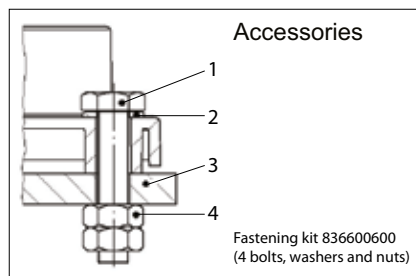
Black/White



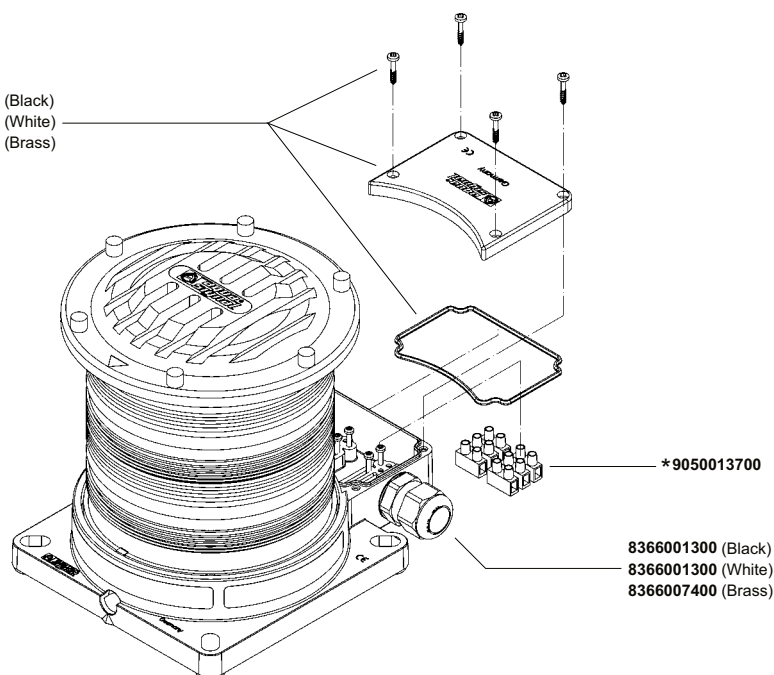
Brass



Spare Parts/Accessories



8366001200 (Black)
8366007200 (White)
8366007300 (Brass)



Product	Part-No. Black 24V DC	Part-No. Black 115/230V	Part-No. Brass 24V DC	Part-No. Brass 115/230V	Part-No. White 24V DC	Part-No. White 115V/230V
Series 65 Starboard	3663103000	3663105000	3663123000	3663125000	3663113000	3663115000
Series 65 Port	3664203000	3664205000	3664223000	3664225000	3664213000	3664215000
Series 65 Masthead	3661003000	3661005000	3661023000	3661025000	3661013000	3661015000
Series 65 Stern white	3662703000	3662705000	3662723000	3662725000	3662713000	3662715000
Series 65 Stern yellow	3662403000	3662405000	3662423000	3662425000	3662413000	3662415000
Series 65 Signalling white	3660703000	3660705000	3660723000	3660725000	3660713000	3660715000
Series 65 Signalling red	3660203000	3660205000	3660223000	3660225000	3660213000	3660215000
Series 65 Signalling green	3660103000	3660105000	3660123000	3660125000	3660113000	3660115000
Series 65 Signalling yellow	3660403000	3660405000	3660423000	3660425000	3660413000	3660415000
Series 65 Morse	3660803000	3660805000	3660823000	3660825000	3660813000	3660815000
Series 65 Manoeuvre	3660003000	3660005000	3660023000	3660025000	3660013000	3660015000
* Series 65 Stern red (Suez)	3662203000	3662205000	3662223000	3662225000	3662213000	3662215000

* Without approval.

Complete assortment on www.glamox.com/gmo

Series 65 LED Arctic

Aqua Signal LED navigation lights

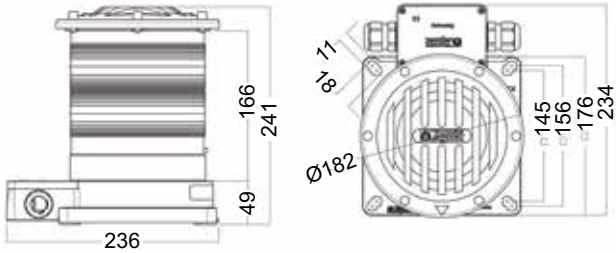


Serie 65 arctic black housing

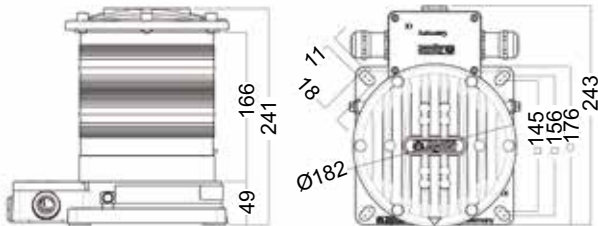
- Long lifetime, up to 100 000 operating hours (depending on ambient temperature)
 - Main and back up system in one housing
- High level of reliability
 - Designed for low temperatures

Application	For all vessels ≥ 20 m in length. Specially designed for vessels in arctic area.
Approvals	EC Type Examination (Module B) Certificate BSH/4612/6012092/11, USCG/UL
Housing	Glass-Fibre reinforced polycarbonate or brass. Other components of non-corroding materials. Seawater resistant. Lid anodized aluminium or brass.
Finish	Black, white or brass
Optic	Polycarbonate 3 nm for port/starboard/stern/all-round signalling 6 nm for masthead
Electric	Main lighting (upper unit) and spare lighting (lower unit) with connection box and 2 x M25 x 1.5 cable entry; include heating foil for de-icing inside the lens. Cable diameter 9-17 mm.
Light source	High power LED, mounted on aluminium rod: 4 LED for side and stern lights 6 LED for masthead 7 LED for all-round lights Upper section: main system, lower section: back-up system
Mounting	4 hole mounting with connection box

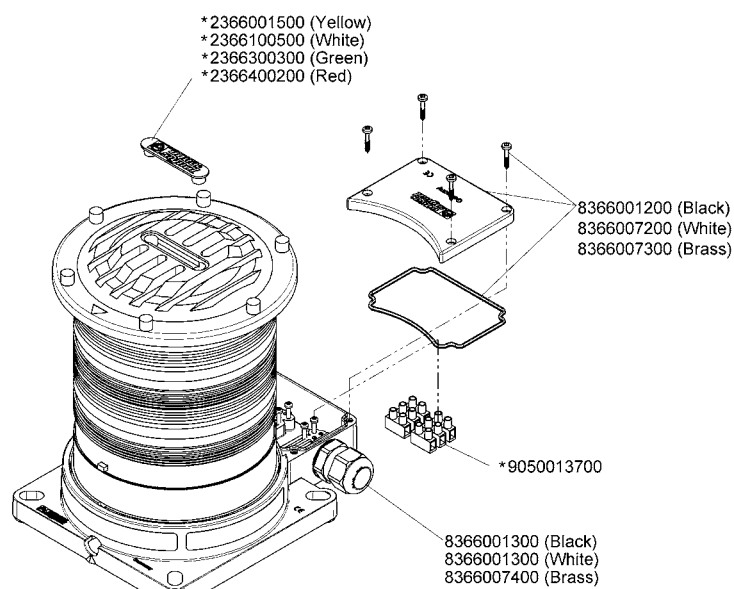
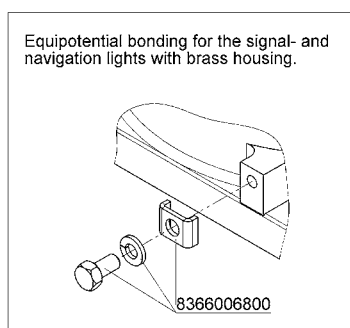
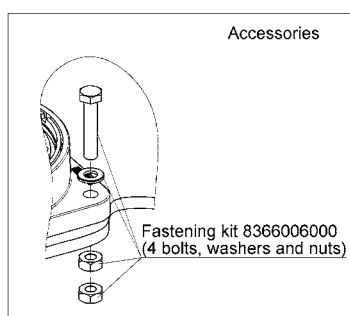
Black/White



Brass



Spare Parts/Accessories



Product	Part-No. Black 115 V	Part-No. Black 230V	Part-No. Brass 115V	Part-No. Brass 230V	Part-No. White 115V	Part-No. White 230V
Series 65 Arctic Starboard	3663147000	3663148000	3663137000	3663138000	3663157000	3663158000
Series 65 Arctic Port	3664247000	3664248000	3664237000	3664238000	3664257000	3664258000
Series 65 Arctic Masthead	3661047000	3661048000	3661037000	3661038000	3661057000	3661058000
Series 65 Arctic Stern white	3662747000	3662748000	3662737000	3662738000	3662757000	3662758000
Series 65 Arctic Stern yellow	3662447000	3662448000	3662437000	3662438000	3662457000	3662458000
Series 65 Arctic Signalling white	3660747000	3660748000	3660737000	3660738000	3660757000	3660758000
Series 65 Arctic Signalling red	3660247000	3660248000	3660237000	3660238000	3660257000	3660258000
Series 65 Arctic Signalling green	3660147000	3660148000	3660137000	3660138000	3660157000	3660158000
Series 65 Arctic Signalling yellow	3660447000	3660448000	3660437000	3660438000	3660457000	3660458000

Complete assortment on www.glamox.com/gmo

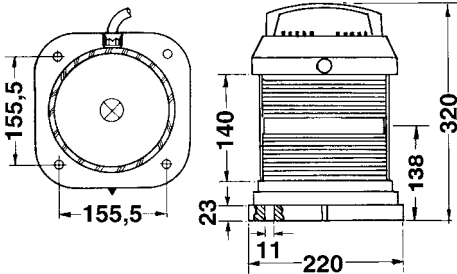
Series 70

Navigations lights

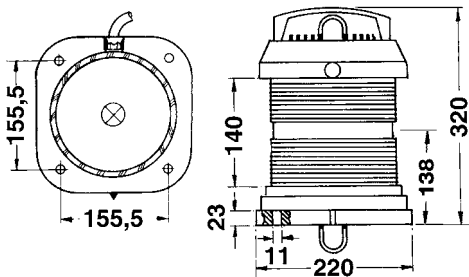


- Unbreakable and extremely reliable

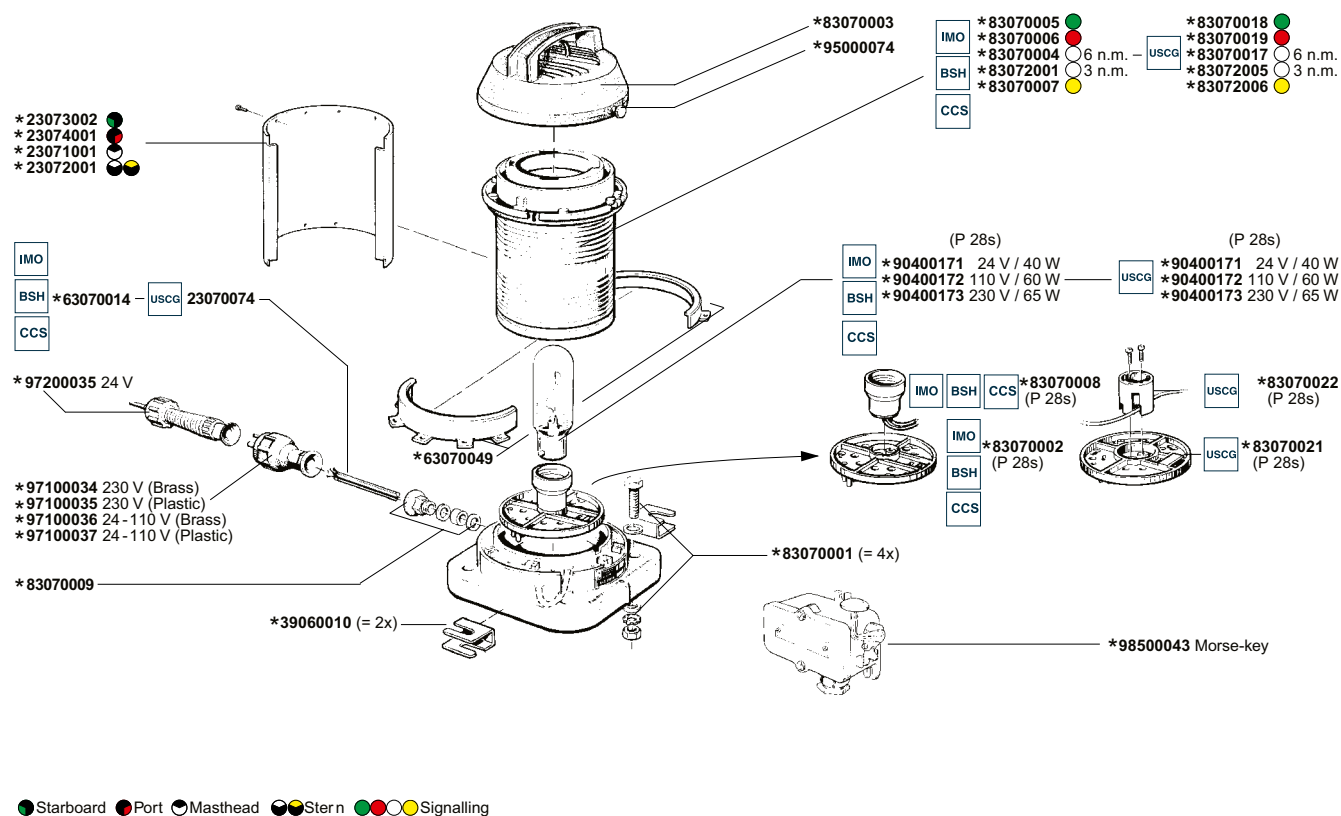
Application	For all vessels ≥ 20 m in length
Approvals	a) International according to IMO Colreg 1972, in Scandinavian countries too, in Germany through BSH, other countries in particular see list of approvals b) US-Coastguard. These lights may only be used on ships flying the flags of the USA.
Housing	Polycarbonate, glass fibre reinforced, other components of non-corrosive materials. Housing self-ventilated. Nonmagnetic, seawater resistant.
Finish	Mat black
Optic	Seawater resistant, special plastic Fresnel lens 3 n.m., masthead light 6 n.m., manoeuvre 5 n.m
Electric	Conus inclusive 1.5 m special connection cable 2 x 1.5 mm², self-protective insulation, class II
Light source	Easy to change special tungsten bulb
Mounting	Base flange attachment, 4 screws (not included). Allround lights may also be hoisted. Additional mounting aids see drawing.
Connection	Special cable gland metric pressure screw M24 x 1.5 with protection against buckling



Hoistable version (allround lights)



Spare Parts/Accessories



Product	Part-No. IMO/BSH /CCS 24V/40W	Part-No. IMO/BSH/CCS 110V/60W	Part-No. IMO/BSH/CCS 230V/65W	Part-No. USCG 24/110/230V*	Visible angle	Weight kg	Base code
70 STARBOARD GREEN	3073103000	3073104000	3073105000	3073109000	112.5°	2.9	P28s
70 PORT RED	3074203000	3074204000	3074205000	3074209000	112.5°	2.9	P28s
70 MASTHEAD WHITE	3071003000	3071004000	3071005000	3071009000	225°	2.9	P28s
70 STERN WHITE	3072703000	3072704000	3072705000	3072709000	135°	2.9	P28s
70 STERN YELLOW	3072403000	3072404000	3072405000	3072499000	135°	2.9	P28s
70 SIGNALLING WHITE/MORSE LIGHT	3070703000	3070704000	3070705000	3070009000	360°	2.7	P28s
70 SIGNALLING RED	3070203000	3070204000	3070205000	3070209000	360°	2.7	P28s
70 SIGNALLING GREEN	3070103000	3070104000	3070105000	3070109000	360°	2.7	P28s
70 SIGNALLING YELLOW	3070403000	3070404000	3070405000	3070499000	360°	2.7	P28s
70 MANOEUVRE WHITE	3070073000	3070074000	3070075000		360°	2.7	P28s
70 SUEZ STERN RED**	3072203000	3072204000	3072205000		135°	2.9	P28s

*Lamp not included, for USCG. **Without approval.

Complete assortment on www.glamox.com/gmo

Series 70M

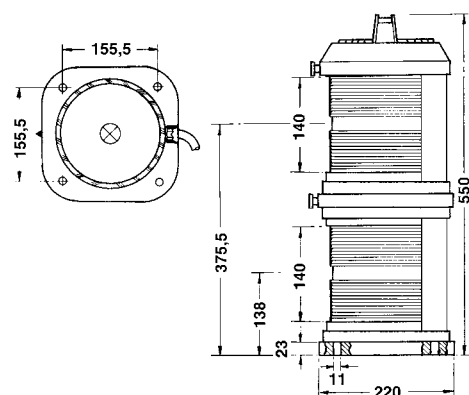
Double lens navigation lights



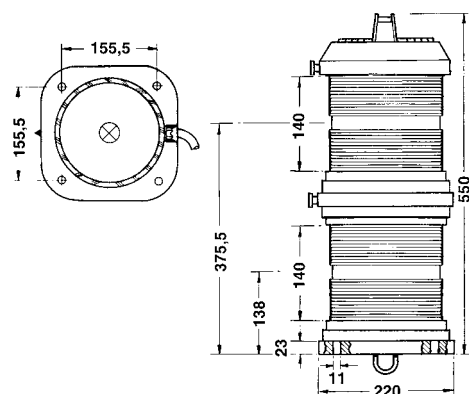
Easy change of bulb with only one hand

- Unbreakable and extremely reliable
- Main and stand-by light in one housing

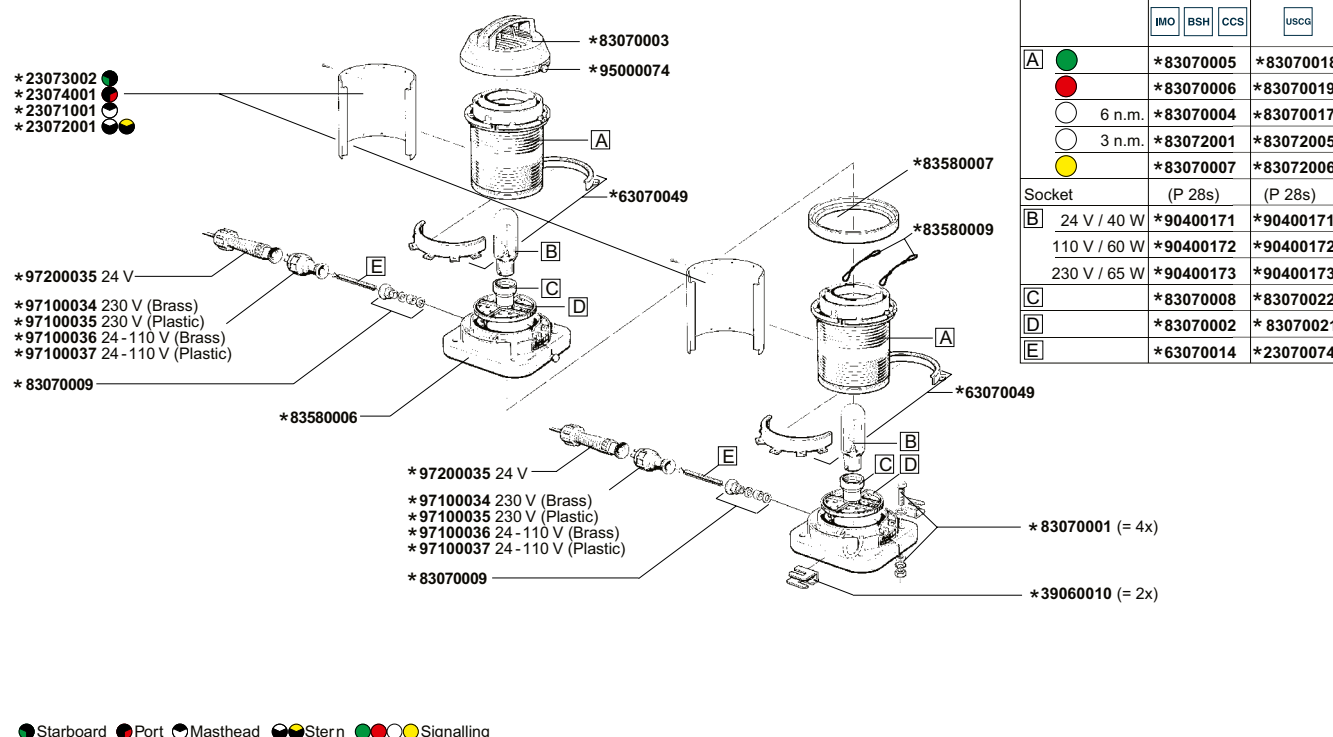
Application	For all vessels ≥ 20 m in length
Approvals	<p>a) International according to IMO Colreg 1972, in Scandinavian countries too, in Germany through BSH, other countries in particular see list of approvals.</p> <p>b) US-Coastguard. These lights may only be used on ships flying the flags of the USA.</p>
Housing	Polycarbonate, glass fibre reinforced, other components of non-corrosive materials. Housing self-ventilated. Nonmagnetic, seawater resistant.
Finish	Mat black
Optic	Seawater resistant, special plastic Fresnel lens 3 n.m., masthead light 6 n.m.
Electric	Main lighting (upper unit) and spare lighting (lower unit) each come with 1.5 m special connection cable 2 x 1.5 mm ² , self-protective insulation, class II
Light source	Easy to change. 2 tungsten bulbs.
Mounting	Base flange attachment, 4 screws (not included). Allround lights may also be hoisted. Additional mounting aids see drawing.
Connection	2 special cable glands metric pressure screw M24 x 1.5 with protection against buckling



Hoistable version (allround lights)



Spare Parts/Accessories



Product	Part-No. 24V/24V 40W/40W	Part-No. 110V/110V 60W/60W	Part-No. 230V/230V 65W/65W	Part-No. 24V/230V 40W/65W	Part-No. 24V/110V 40W/60W	Part-No. 110/230V 60W/65W	Part-No. USCG 24/110/230V*
70M STARBOARD GREEN	3583103000	3583103000	3583105000	3583106000	3583107000	3583108000	3583109000
70M PORT RED	3584203000	3584203000	3584205000	3584206000	3584207000	3584208000	3584209000
70M MASTHEAD WHITE	3581003000	3581003000	3581005000	3581006000	3581007000	3581008000	3581009000
70M STERN WHITE	3582703000	3582703000	3582705000	3582706000	3582707000	3582708000	3582709000
70M STERN YELLOW	3582403000	3582403000	3582405000	3582406000	3582407000	3582408000	3582499000
70M SIGNAL WHITE	3580703000	3580703000	3580705000	3580706000	3580707000	3580708000	3580009000
70M SIGNAL RED	3580203000	3580203000	3580205000	3580206000	3580207000	3580208000	3580209000
70M SIGNAL GREEN	3580103000	3580103000	3580105000	3580106000	3580107000	3580108000	3580109000
70M SIGNAL YELLOW	3580403000	3580403000	3580405000	3580406000	3580407000	3580408000	3580499000

*Lamp not included, for USCG

Product	Visible angle	Weight kg	Base code
70M STARBOARD GREEN	112.5°	5.9	P28s
70M PORT RED	112.5°	5.9	P28s
70M MASTHEAD WHITE	225°	5.9	P28s
70M STERN WHITE	135°	5.9	P28s
70M STERN YELLOW	135°	5.9	P28s
70M SIGNAL WHITE	360°	5.6	P28s
70M SIGNAL RED	360°	5.6	P28s
70M SIGNAL GREEN	360°	5.6	P28s
70M SIGNAL YELLOW	360°	5.6	P28s

Complete assortment on www.glamox.com/gmo

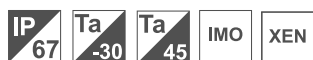
Series 70 Ex d



Explosion proof navigation lights are applicable in hazardous/explosive areas. The Navigation lights fulfil all requirements of IMO Anti Collision Regulations and local rules.

Light source	IT40 (included) 230V / 65W / P 28s; 110V / 60W / P 28s; 24V / 40W / P 28s
Housing	Seawater resistant aluminium in black colour
Dimension (mm)	W: 220 H: 370 L: 220

Flashing light



Flashing lights are designed in different colours for all general warning purposes e.g. "Huge Vessel Light" or "Dangerous Cargo Light". The Flashing lights fulfil all requirements of IMO Anti Collision Regulations and local rules.

Light source	Xenon
Housing	Mat black PBT plastic (Pocan) base.
Dimension (mm)	W: 153 H: 240

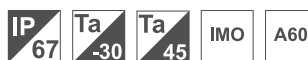
Series 55



The Series 55 Navigation lights are applicable for vessels > 20 - < 50 m in length. The Navigation lights fulfil all requirements of International Regulations for Preventing Collisions at Sea 1972 (COLREG) are published by the International Maritime Organization (IMO) and local rules.

Light source	IT25
Housing	Mat black or white polycarbonate, glass fibre reinforced, all components made from non-corrosive and non-magnetic seawater resistant materials.
Dimension (mm)	W: 152 H: 201 L: 152

Suez signalling light



Suez signalling lights are designed in different colours for all general warning purposes. They fulfil all requirements of IMO Anti Collision Regulations and local rules. The Suez signalling lights are allround signalling lights with a special plastic housing.

Light source	A60
Housing	Mat black plastic base
Dimensions (mm)	W: 153 H: 240

LED Navigation light panel



The Control Touch Panel consists of a control unit and switch and monitoring unit. Control unit (frontplate) consisting of aluminium plate with printed foil, standard colour black (other colours upon request), with up to 48 switches for lights and up to 4 freely programmable settings for example "Sailing" or "At Anchor". With coloured diodes in the ship / Mast symbol which are illuminated when the respective light is switched on. With visual and acoustic alarms. With alarm acknowledgment and alarm test, indication LEDs are dimmable. Switch and monitoring unit is mounted on a plate which has to be accommodated in a steel box. It contains the relay cards, power supply unit, melting fuses or circuit breakers and terminal rails. In case of control unit failure the lights can be switched by hand in the switch and monitoring unit. With BUS interface connection to external systems for uni- or bidirectional data transfer (RS485, RS232, USB).

Navigation light panel conv.



aqua signal navigation and signaling light controller switch and monitor aqua signal LED lights series 65 and lights with traditional incandescent lamps. The purpose of the panel is to switch, monitoring and fuse navigation and signalling lights. It consists of a frontplate (standard colour black, other colours available) with switches, indicators and a casing fitted to the frontplate. Inside the casing there is the electronic detector and the internal voltage processor. The light circuits are fed via serial terminals located inside or outside the casing depending on type of panel. The terminals are numbered. The connection scheme can be from the individually supplied terminal plan.



Photo: Mari-Solveig Finset



Photo: Siem Offshore / Harald Walderhaug

Helideck

Special lighting and control unit for helicopter landing platforms according to ICAO Annex 14, CAP168 and CAP437. State of the art technology for the safety of crew and pilots



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TL55-C Helideck controller	116

HL55-O



Obstacle lights for indication of aviation obstacles HL55-O

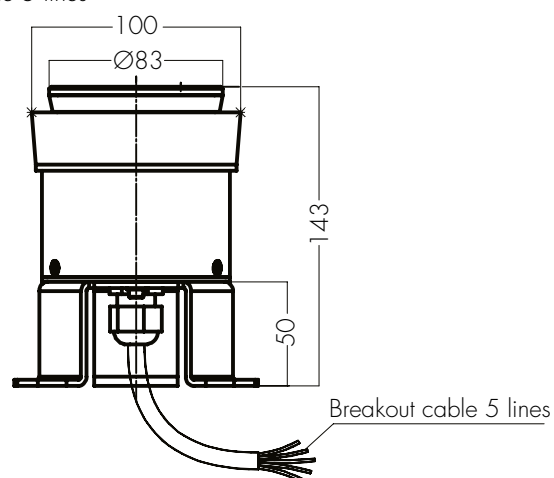


Vertical bracket

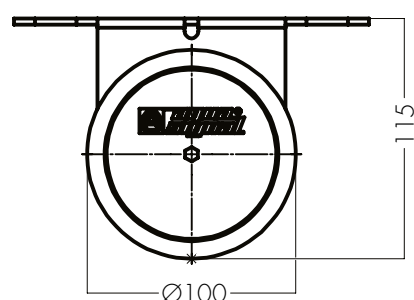
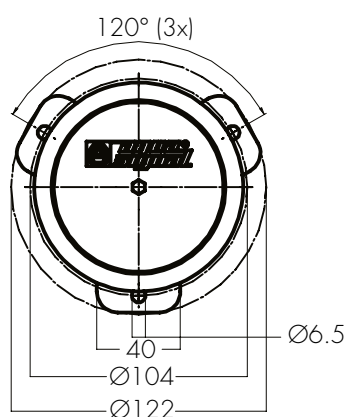
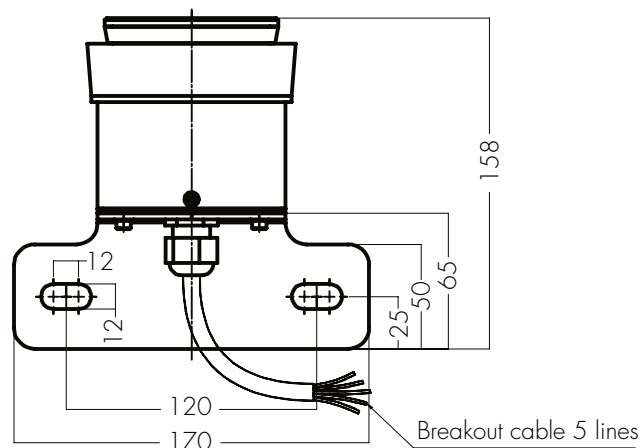
- Seawater resistant materials
- Small compact structure
- Easy installation
- Low power consumption max 9W
- Maintenance free LED technology
- Integrated fail safe function
- Vibration-resistant technology

Application	Obstacle lighting Industrial and Aviation. Rated lifetime up to 100 000 hours depending on ambient temperature, small and compact design.
Approvals	ICAO Annex 14 Vol I Type A (10cd) or B (32cd) AVV (10cd) Cap 168 approval
Housing	Seawater resistant aluminium
Finish	Black anodized aluminium
Optic	Seewater resistant lens (PMMA)
Electric	24V, 110-230V Integrated electronic with fail safe function.
Light source	High power LED red (not changeable)
Mounting	Mounting depends on type: - 3 holes Ø 6,5mm (horizontal bracket) - 2 holes Ø 12mm (vertical bracket)

Obstacle Light
with horizontal bracket/
breakout cable 5 lines



Obstacle Light
with vertical bracket/
breakout cable 5 lines



Product	Description	Part-No.	Voltage	Weight kg	Lamp code
HL55-O S LED 10cd	Obstacle light 10cd with horizontal bracket	3331110000	110/230V AC	1.0	LED
HL55-O S LED 32cd	Obstacle light 32cd with horizontal bracket	3331120000	110/230V AC	1.0	LED
HL55-O S LED 10cd	Obstacle light 10cd with horizontal bracket	3331210000	24V DC	1.0	LED
HL55-O S LED 32cd	Obstacle light 32cd with horizontal bracket	3331220000	24V DC	1.0	LED
HL55-O S LED 10CD	Obstacle light 10cd with vertical bracket	3331111000	110/230V AC	1.0	LED
HL55-O S LED 32cd	Obstacle light 32cd with vertical bracket	3331121000	110/230V AC	1.0	LED
HL55-O S LED 10CD	Obstacle light 10cd with vertical bracket	3331211000	24V DC	1.0	LED
HL55-O S LED 32cd	Obstacle light 32cd with vertical bracket	3331221000	24V DC	1.0	LED

Complete assortment on www.glamox.com/gmo

HL55-P



LED-Perimeter lights HL55-P



Recessed

- Seawater resistant materials
- Small compact structure
- Easy installation
- Low power consumption max 7W
- Maintenance free LED technology
- Integrated fail safe function
- Vibration-resistant technology
- Dimming function (10%, 30%, 100%)



Surface



On connection box

Application Easy installation, 2xM20 cable entries for connection box, low power consumption, maintenance free technology, rated lifetime 100 000 hours depending on ambient temperature. Small and compact design. Recessed and surface mounted.

Approvals ICAO Annex 14 Vol II Heliport, cap 437

Housing Seawater resistant aluminium

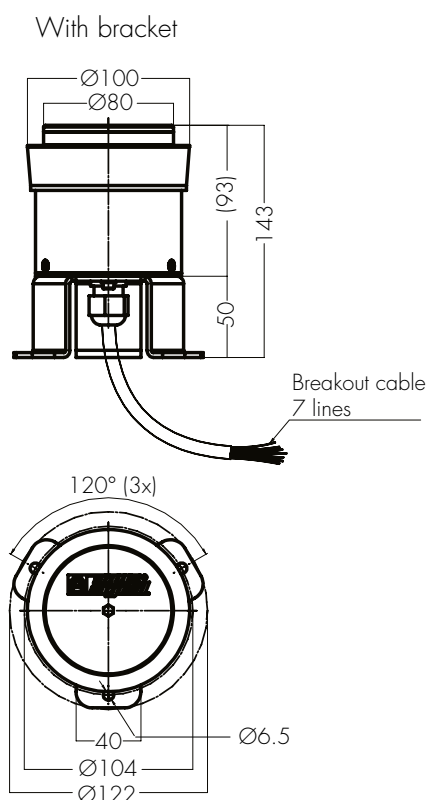
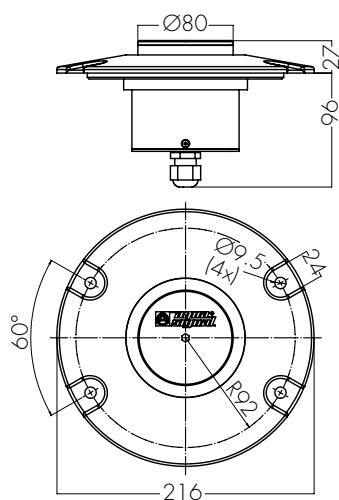
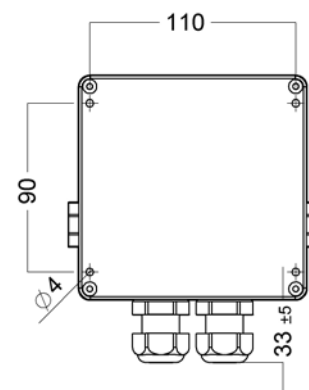
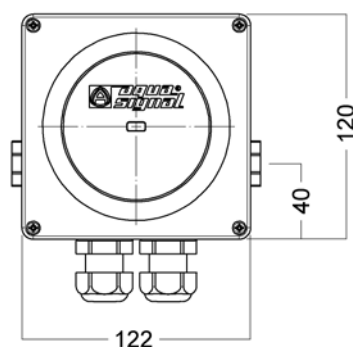
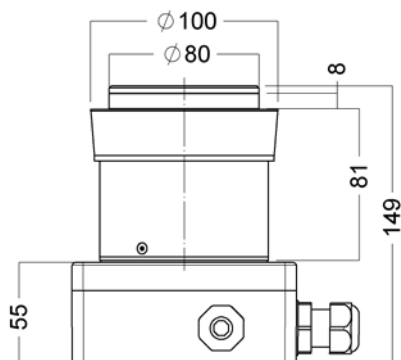
Finish Black anodized aluminium

Optic Seawater resistant lens (PMMA)

Electric 24V, 110-230V
The lights are equipped with different cable entries depending on type:
- HL55-P Recessed (1 x M16) incl. 0,5m cable for installation
- HL55-P Surface on connection box (2 x M20).
The connection box can be open for installation
- HL55-P Surface on horizontal bracket (1 x M16) incl. 0,5m cable for installation

Light source High power LED green (not changeable)

Mounting Mounting depends on type:
- 4 holes Ø 9,5mm (recessed type)
- 4 holes Ø 6,5mm (on connection box)
- 3 holes Ø 6,5mm (horizontal bracket)



Product	Description	Part-No.	Voltage	Weight kg	Lamp code
HL55-P R LED	Perimeter Light with adapter ring Ø216 mm	3361105188	115-230V AC	3.4	LED
HL55-P R LED	Perimeter Light with adapter ring Ø216 mm	3361205188	24V DC	3.4	LED
HL55-P S LED	Perimeter Light on connection box	3361103300	110-230V AC	1.8	LED
HL55-P S LED	Perimeter Light on connection box	3361203300	24V DC	1.8	LED
HL55-P S LED	Perimeter Light with bracket	3361100100	110-230V AC	1.0	LED
HL55-P S LED	Perimeter Light with bracket	3361200100	24V DC	1.0	LED

Complete assortment on www.glamox.com/gmo

HX55-O

Helideck Obstacle lighting

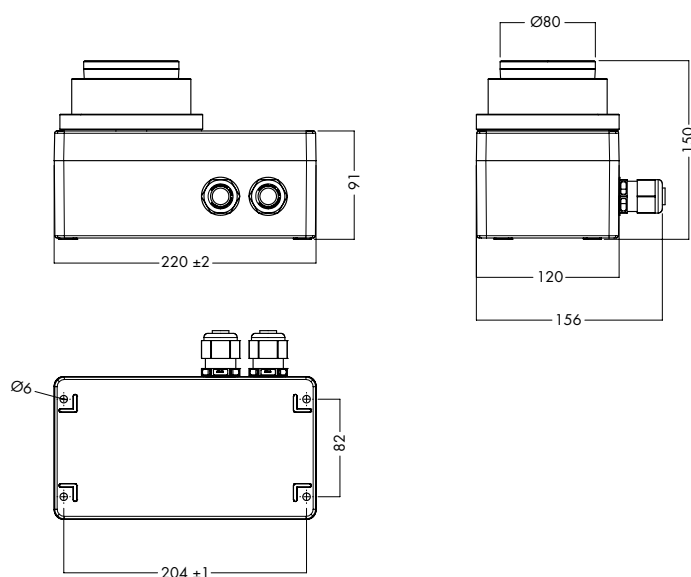
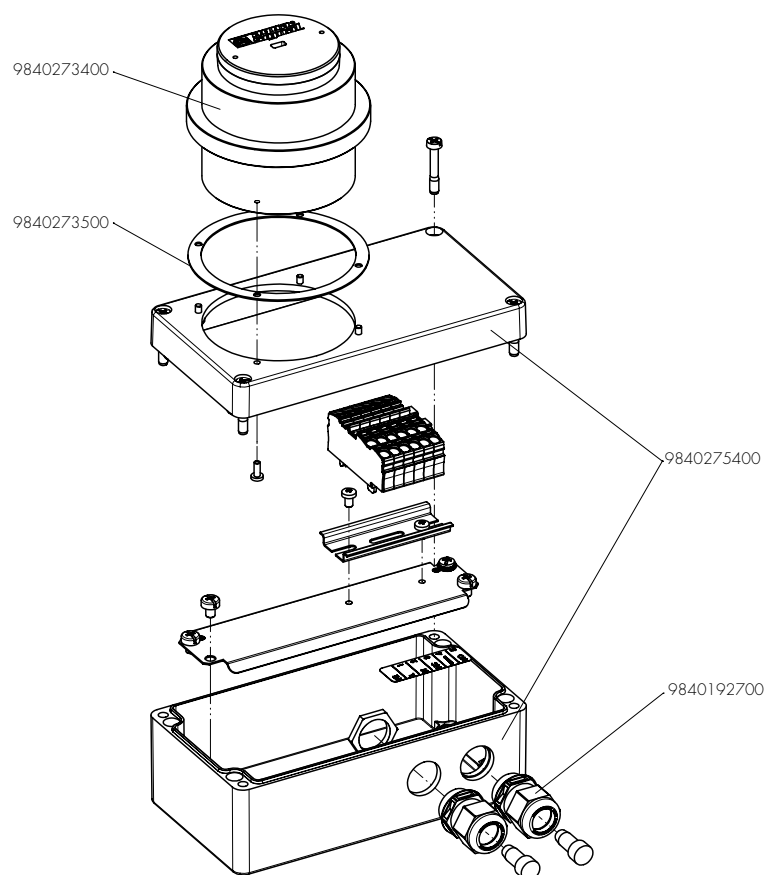


- Extremely long lifetime, rated 100 000 hours at ambient temperature 45°C
- Easy to install
- Integrated fail safe function

- Vibration-resistant technology
- Small compact design

Application	Obstacle light for industrial and aviation indication. Rated lifetime up to 100 000 hours. Small and compact design.
Design	10cd: ICAO, low intensity light type A; Tab. 6.3, AVV
Approvals	According to ICAO Annex 14 Vol I Type A, AVV 10c CAP168. ATEX. IECEx certificate pending.
Ambient temperature	-40°C / +55°C
Housing	Seawater resistant aluminum GRP junction box
Finish	Anodized black
Optic	Seawater resistant lens (PMMA)
Electric	24V DC, 110-230V AC
Light source	High power LED red (not changeable)
Mounting	Different types of surface mounted. Also available in vertical and horizontal versions.
Connection	Exe 2 x M20 cable entries on connection box

Spare Parts/Accessories



Product	Description	Part-No.	Voltage	Lamp code
HX55-O S LED 10cd	Obstacle light on connection box	HX55120000	110/230V AC	LED
HX55-O S LED 10cd	Obstacle light on connection box	HX55220000	24V DC	LED

Complete assortment on www.glamox.com/gmo

HX55-P



Helideck Perimeter lighting

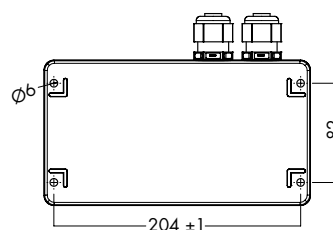
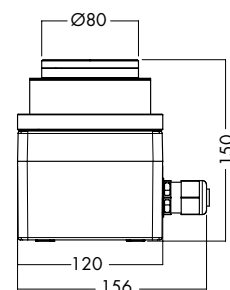
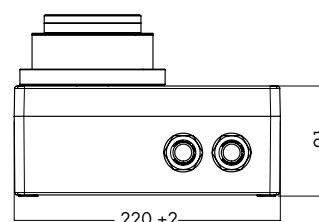
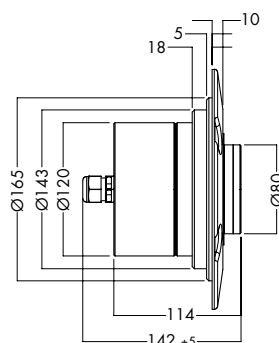
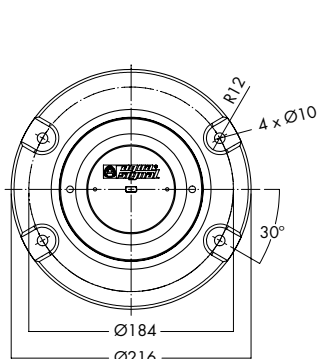
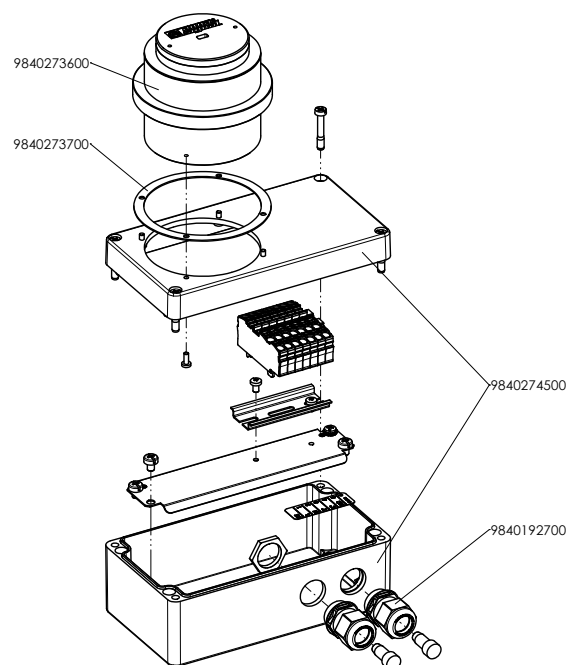
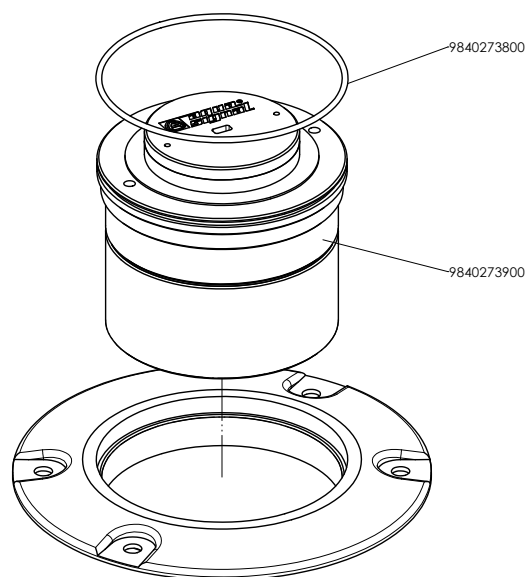


On connection box

- Extremely long lifetime, rated 100 000 hours at ambient temperature 45°C
- Easy to install
- Integrated fail safe function
- Vibration-resistant technology
- Small compact design

Application	Perimeter light for industrial and aviation indication. Rated lifetime u to 100 000 hours. Small and compact design.
Design	According to ICAO and CAP437. Recessed and surface mounted.
Approvals	According to ICAO Annex 14 II Helipot, CAP437 ATEX IECEx certificate pending.
Ambient temperature	-40°C / +55°C
Housing	Seawater resistant aluminum (Perimeter light) GRP junction box
Finish	Anodized black
Optic	Seawater resistant lens (PMMA)
Electric	24V DC, 110-230V AC
Light source	High power LED green (not changeable)
Mounting	Recessed: 4 holes Ø9,5 mm Surface: Dfferent types.
Connection	Exe 2xM20 cable entries on connection box

Spare Parts/Accessories



Product	Description	Part-No.	Voltage	Lamp code
HX55-P R	Perimeter light with adapter ring Ø 216mm, with NC contact	HX55360000	110/230V AC	LED
HX55-P R	Perimeter light with adapter ring Ø 216mm, with NC contact	HX55460000	24V DC	LED
HX55-P R	Perimeter light with adapter ring Ø 216mm, with NO contact	HX55560000	110/230V AC	LED
HX55-P R	Perimeter light with adapter ring Ø 216mm, with NO contact	HX55660000	24V DC	LED
HX55-P S	Perimeter light on connection box, with NC contact	HX55320000	110/230V AC	LED
HX55-P S	Perimeter light on connection box, with NC contact	HX55420000	24V DC	LED
HX55-P S	Perimeter light on connection box, with NO contact	HX55520000	110/230V AC	LED
HX55-P S	Perimeter light on connection box, with NO contact	HX55620000	24V DC	LED

Complete assortment on www.glamox.com/gmo

GLI-GFH



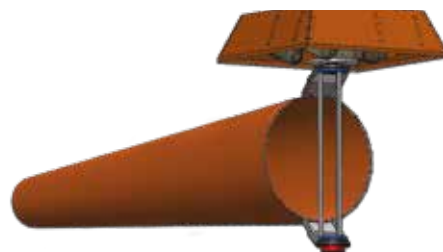
Ex and non-Ex floodlight for helideck landing and safe areas, vibration resistant technology, compact and slim design CAP437 certification.

Light source	Xenon 35W
Electric	12V, 24V, 110V, 230V, 254V
Housing	Stainless steel bracket and junction box
Dimension (mm)	Ø: 132 L: 431

TL55-W Windsock



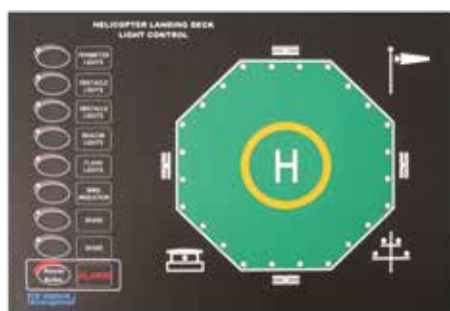
T8



Illuminated windsock for helicopter landing areas, 360° horizontal rotation of windsock, with waterpressure tight luminaire, ICAO Annex 14 Vol II.

Light source	T8 (T26) 1x18W
Housing	Stainless steel housing parts, zinc coated steel reflector, polycarbonate clear cover tube, frame for windsock fixing running on ball bearings, reflector shading and windsock of orange nylon.

TL55-C Helideck controller



Compact size, with alarm system, colored diodes, visual and acoustic alarms, alarm acknowledgment.

Light source	Back Light LED
Electric	24VDC, 230VAC/115VAC
Housing	Seawater resistant aluminium front plate, printed with foil standard color black, stainless steel housing
Dimension (mm)	W: 300 H: 210 L: 75

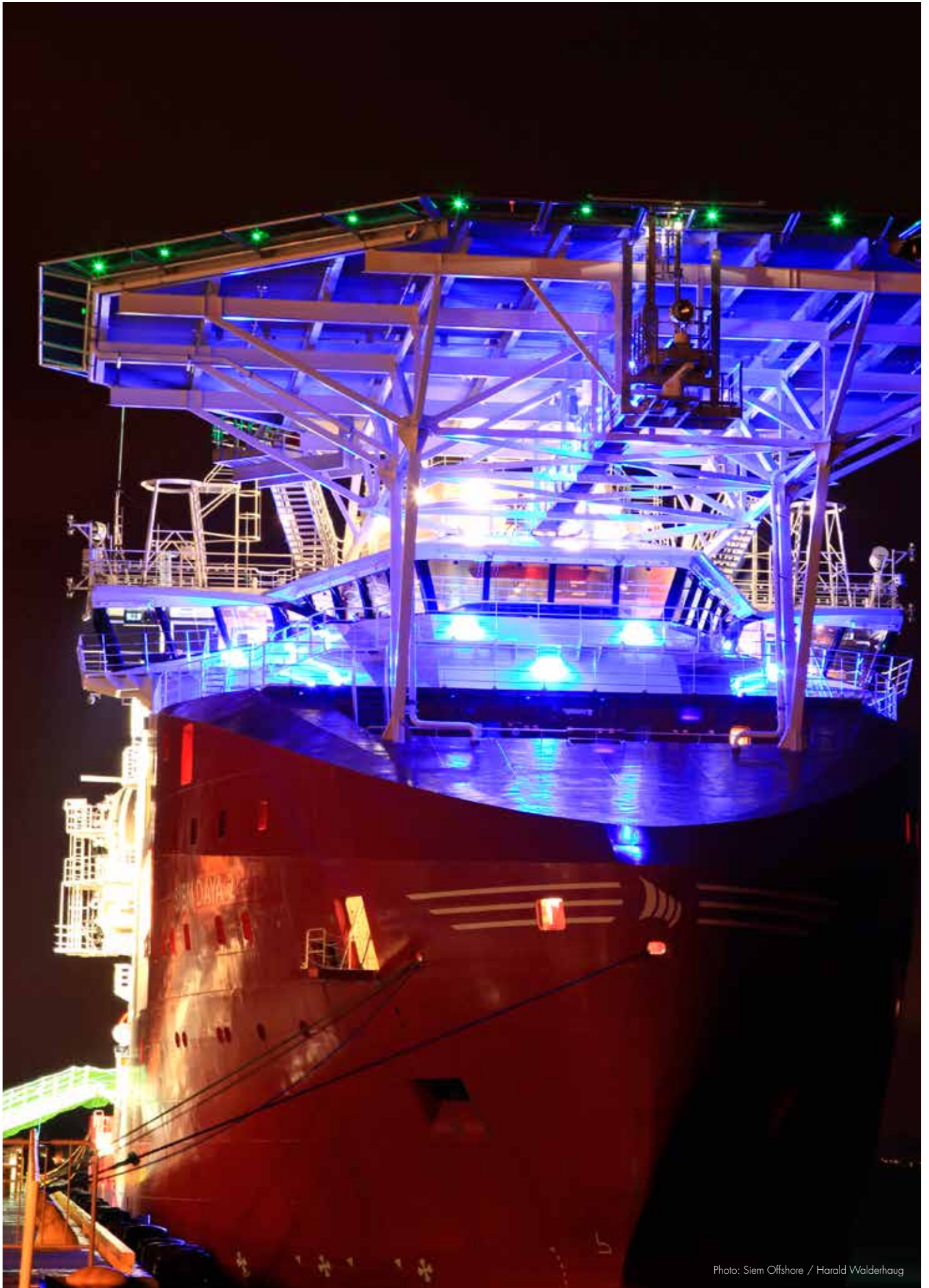


Photo: Siem Offshore / Harald Walderhaug



Photo: Karl Otto Kristiansen

Emergency light sign/escape

High quality emergency light fixtures. According to the rules of maritime classification societies and standards.



E80-R(M)	120
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E85-S.....	126
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E80-R(M)

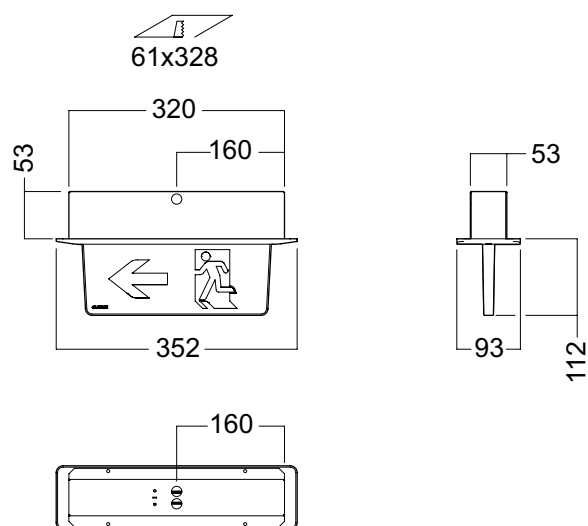
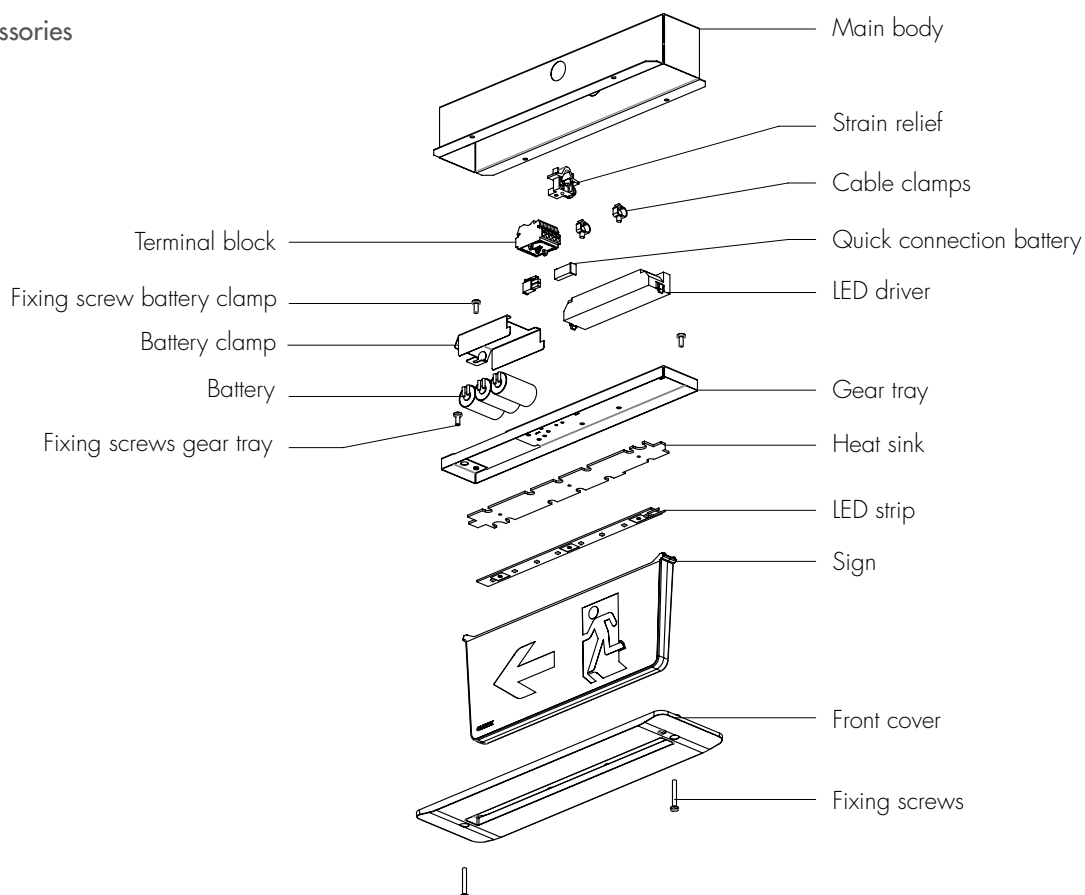
EXIT sign recessed



- LED
- Sign according to ISO 7010
- Aluminium housing

Application	For escape routes and directory signage
Design	DNV approved design according to maritime classification societies, additional IEC/ISO
Housing	Die casted aluminium, recessed mounted, component plate in steel
Finish	Housing white powder coated RAL9016
Optic	Polycarbonate with symbol inside visible from both sides. Signs for 20 metres reading distance 10x26. Option for 30 metres reading distance 15x26. Signs delivered with luminaire.
Electric	Electronic ballast 220-240V, 50-60Hz. Delivered with 1 hour (E1) or 3 hour (E3) with integrated battery. Option for centralized battery 230V (Z) S = Standard ST = Selftest DALI = addressable system Z = 230V central battery system
Light source	LED
Mounting	To be fixed with 4 screws. For B0 or B15 fire classification, look at service manual.
Connection	Back plate with double grommet and 2 knockouts, one each side 5x2x2.5 mm ² push in terminal

Spare Parts/Accessories



Product	Part-No.	Weight kg	Lamp code
E80-R(M) 10x26 DOWN LED E3/S	E80203110	1.5	LED
E80-R(M) 10x26 DOWN LED E3/ST	E80203210	1.5	LED
E80-R(M) 10x26 DOWN LED E3/DALI	E80203310	1.5	LED
E80-R(M) 10x26 L/R LED E3/S	E80203120	1.5	LED
E80-R(M) 10x26 L/R LED E3/ST	E80203220	1.5	LED
E80-R(M) 10x26 L/R LED E3/DALI	E80203320	1.5	LED

Complete assortment on www.glamox.com/gmo

E80-S

EXIT sign surface



- LED
- Sign according to ISO 7010
- Aluminium housing



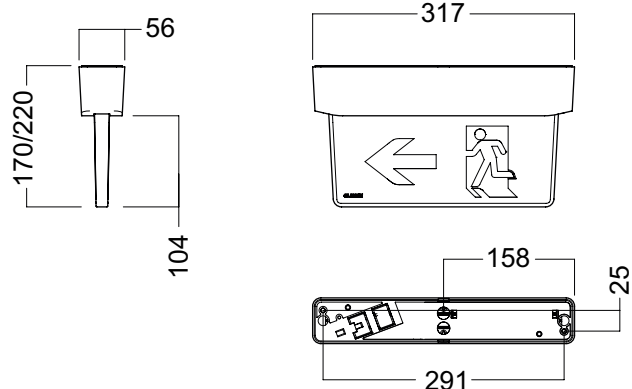
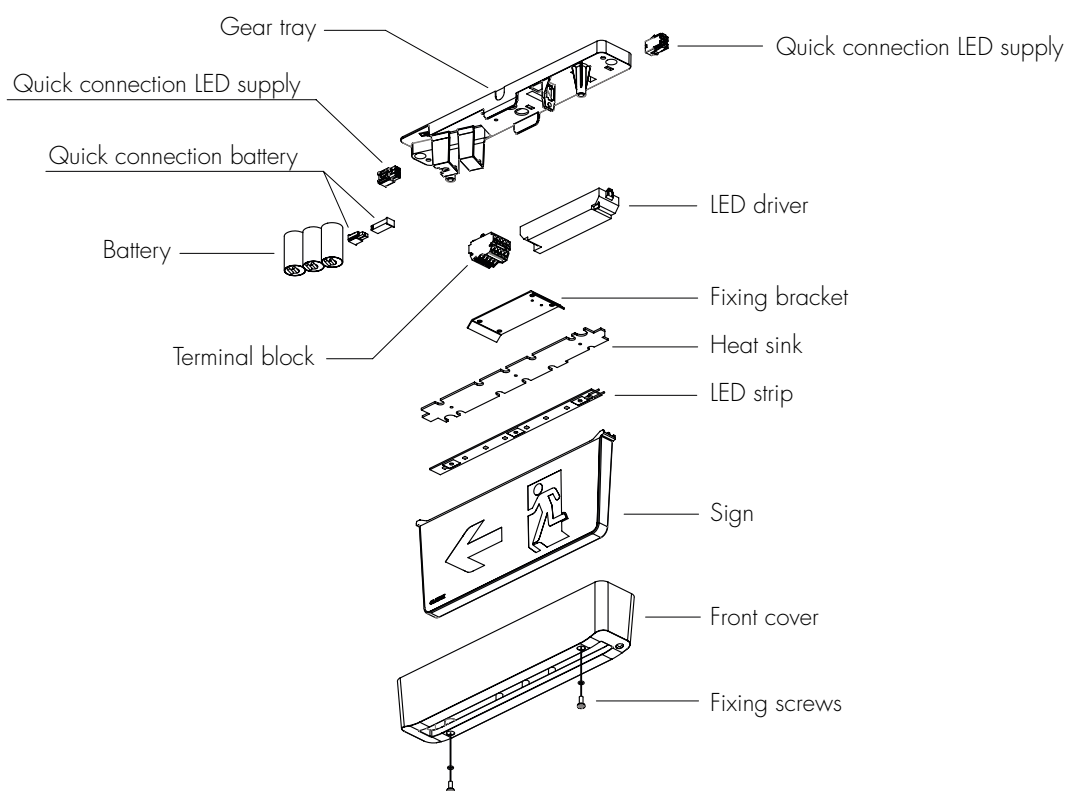
Flag mounting



Wall mounting

Application	For escape routes and directory signage
Design	DNV approved design according to maritime classification societies, additional IEC/ISO.
Housing	Die casted aluminium surface mounted, component plate in polycarbonate
Finish	Housing white powder coated RAL9016
Optic	Polycarbonate with symbol inside visible from both sides. Signs for 20 metres reading distance 10x26. Option for 30 metres reading distance 15x26. Signs delivered with luminaire.
Electric	Electronic ballast 220-240V, 50-60Hz. Delivered with 1 hour (E1) or 3 hour (E3) with integrated battery. Option for centralized battery 230V (Z) S = Standard ST = Selftest DALI = addressable system Z = 230V central battery system
Light source	LED
Mounting	To be fixed with two screws
Connection	2 holes on top for max. cable Ø15 mm. At sides two knockouts, one each side for max. cable Ø13 mm. 5x2x2.5 mm ² push in terminal.

Spare Parts/Accessories



Product	Part-No.	Weight kg	Lamp code
E80-S 10x26 DOWN LED E3/S	E80103110	0.9	LED
E80-S 10x26 DOWN LED E3/ST	E80103210	0.9	LED
E80-S 10x26 DOWN LED E3/DALI	E80103310	0.9	LED
E80-S 10x26 L/R LED E3/S	E80103120	0.9	LED
E80-S 10x26 L/R LED E3/ST	E80103220	0.9	LED
E80-S 10x26 L/R LED E3/DALI	E80103320	0.9	LED

Complete assortment on www.glamox.com/gmo

E85-R (M)



Escape route recessed



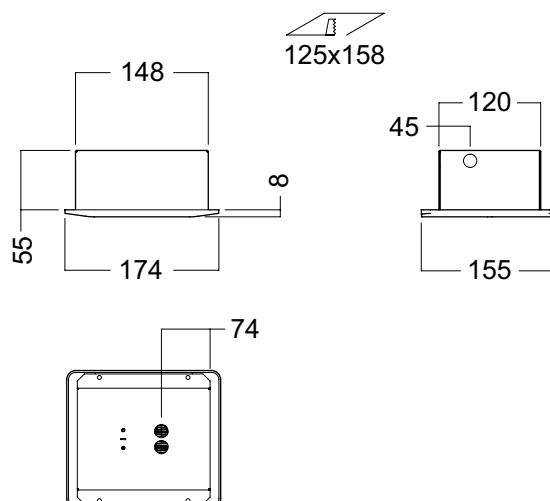
E85-R (M) C



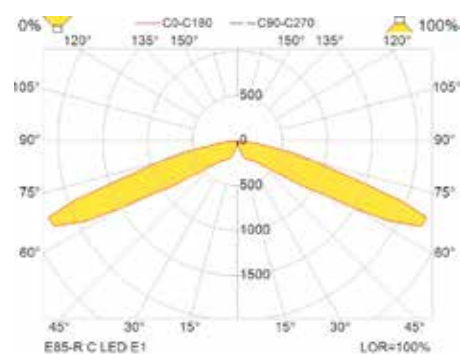
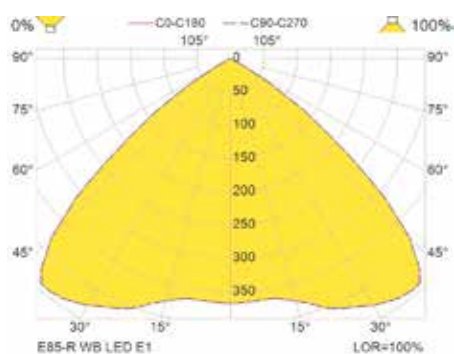
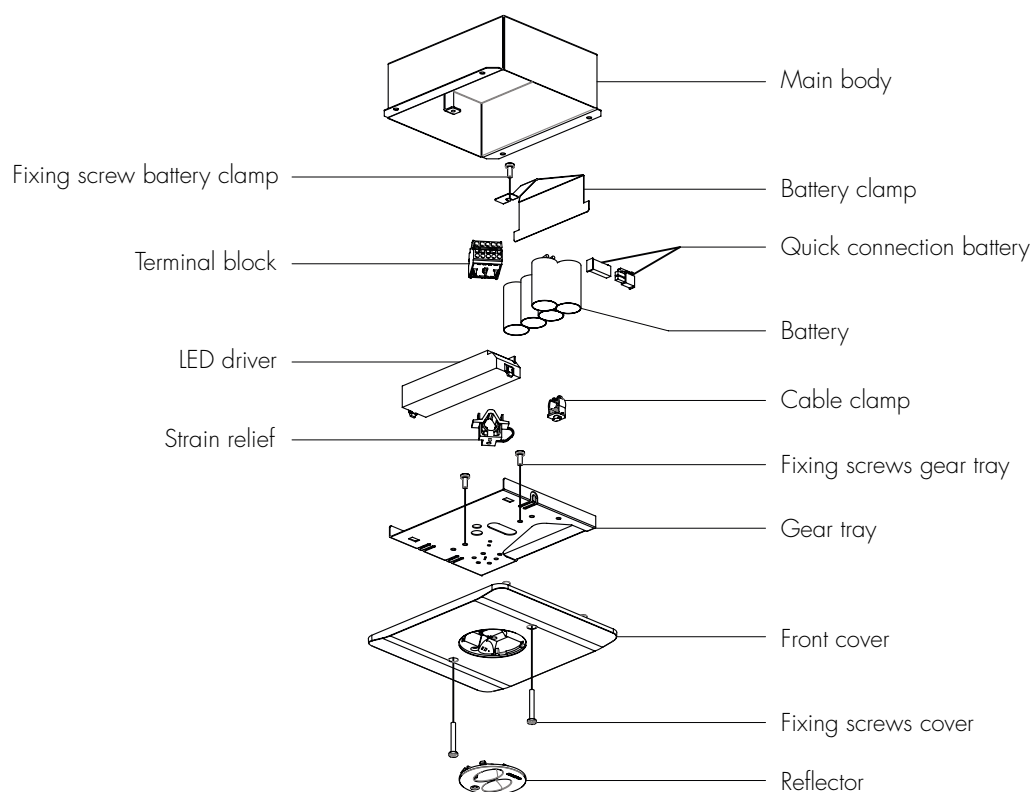
E85-R (M) WB

- LED
- Especially designed for corridors = C
- Especially designed for open areas = WB

Application	For escape route or anti panic lighting
Design	DNV approved design according to maritime classification societies, additional IEC/ISO
Housing	Die casted aluminium recessed mounted, component plate in steel
Finish	Housing white powder coated RAL9016
Optic	Corridor C or Wide beam WB for anti panic lighting
Electric	Electronic ballast 220-240V, 50-60Hz Delivered with 1 hour (E1) or 3 hour (E3) integrated battery. Option for centralized battery 230V (Z). S = Standard ST = Selftest DALI = addressable system Z = 230V central battery system
Light source	LED
Mounting	To be fixed with 4 screws. For B0 or B15 fire classification, look at service manual.
Connection	Back plate with double grommet and 2 knockouts, one each side. 5x2x2.5 mm ² push in terminal.



Spare Parts/Accessories



Product	Part-No.	Weight kg	Lamp code
E85-R(M) C LED E3/S	E85203100	1.2	LED
E85-R(M) C LED E3/ST	E85203200	1.2	LED
E85-R(M) C LED E3/DALI	E85203300	1.2	LED
E85-R(M) WB LED E3/S	E85213100	1.2	LED
E85-R(M) WB LED E3/ST	E85213200	1.2	LED
E85-R(M) WB LED E3/DALI	E85213300	1.2	LED

Complete assortment on www.glamox.com/gmo

E85-S



E85-S is a surface mounted escape route light or anti-panic emergency light system based on LED. The escape route system, E85-S C, is especially designed for corridors and covers a 17 metres corridor with 1 lux on centre line. The anti panic light, E85-S WVB, has a circular wide beam light distribution that covers 8 x 8 metre with the required 0,5 lux. E85-S can be supplied for manual, selftest and central controlled testing and monitoring. Using an environment friendly NiMH battery. Are also available for centralised battery. 1 or 3 hour emergency battery integrated.

Light source	LED
Battery	NiMH
Housing	White painted aluminium with component plate in polycarbonate
Dimension (mm)	W: 118 H: 54 L: 153

GEF



Combined Emergency sign or Escape route light based on 8W T5 lamp IP65. Designed for ceiling or wall mounting. Also available with double signs. Including exit sign legends for maintained (M) variants. Can be supplied with manual (S) or selftest (ST) control. Grey component body with a clear diffuser, both in polycarbonate. 1 or 3 hour integrated emergency battery. Available for centralized battery.

Light source	1 x T5 8W fluorescent
Battery	NiCd
Housing	Grey component body with a clear diffuser, both in polycarbonate
Dimension (mm)	W: 78 H: 136 L: 323

0631



Emergency sign for recessed mounting based on 7W TC-S lamp. Designed for low ceiling heights. Battery backup available for 3h operation. Polished brass cover with sign that can be delivered after customers specification.

Light source	TC-S
Housing	Zinc coated steel sheet with sign in polycarbonate
Dimension (mm)	W: 160 H: 75 L: 350



GFI UL



Illuminated sign, surface, with low height providing also downlight.
Polycarbonate signs in high red letters with white background. All relevant signs are available. White painted aluzinc steel housing.

Light source	1 x T5 8W or 1 x T8 17W
Housing	Zinc coated steel sheet with signs in polycarbonate
Dimensions (mm)	W: 80 H: 111 L: 358/630

O633 UL



Illuminated sign, recessed. Housing in aluzinc sheet steel or stainless steel white powder coated. Polycarbonate signs in high red letters with white background. All relevant signs available.

Light source	8W T5 mini fluorescent tube
Housing	Aluzinc sheet steel or stainless steel white powder coating
Dimension (mm)	W: 160 H: 98 L: 350



Photo: Karl Otto Kristiansen



Photo: Karl Otto Kristiansen

Downlights

Functional and energy effective downlights



DL60-R92 LED
500/700



DL60-R92H LED
500/700



DL60-R108
500/700



DL60-R108 900



DL60-RF155 LED
800/1100



DL60-R155 LED
800/1100



DL60 Decor &
Accessories



CASA (M) H70



CASA (M) Decor



DL90 ALU
METAL HALIDE



DL90 12V/230V



DL90 ALU
COMPACT GU10



EYEBALL 100R



0648



CASA (M) H87



CASA (M) H95



CASA
MARINE UL



DL100 UL

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DL60-R92 LED 500/700



Downlight LED



- LED energy saving
- Enhanced light quality
- Easy installation
- Long lifetime
- Dust cover protection

Application	For crew and public areas as cabins, corridors, stair cases, lounges and shopping areas.
Design	According to marine requirements
Housing	Solid die cast aluminum. Option for slim trims in white (VH), chrome (CH) or brass (BR). Can be delivered with or without (VO TR) trim. Option for an IP55 decor that gives IP55 under ceiling.
Optic	The reflector is available in faceted high gloss (SF) surface/finish. Reflector is built into a light chamber that reduces glare through a plate. Two different beam angles 12° or 36°. Delivered with a dust cover for protection during the building period.
Electric	With electronic driver HF, analogue dimming HFDa (1-10V) or DALI dimming
Light source	DL60-R92 LED 500: LED 500 lumen 830, 840 on request. Replaces halogen 20 to 35W. DL60-R92 LED 700: LED 700 lumen 830, 840 on request. Replaces halogen 50W.
Mounting	Recessed mounting, fixed with 2 adjustable suspension arms. Possibility for screw mounting. Possible to reduce height above ceiling with a distance ring that can be ordered as accessory. For B0 or B15 fire protection look at service manual.
Connection	To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), or with push in terminal block 3 or 5x2x2.5 mm². Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request.

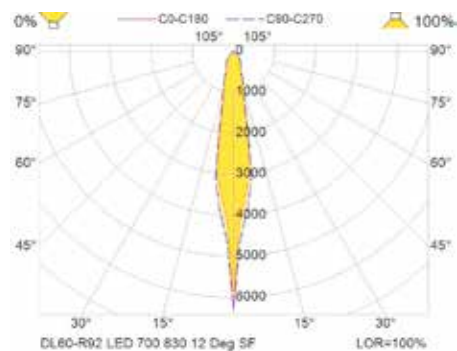
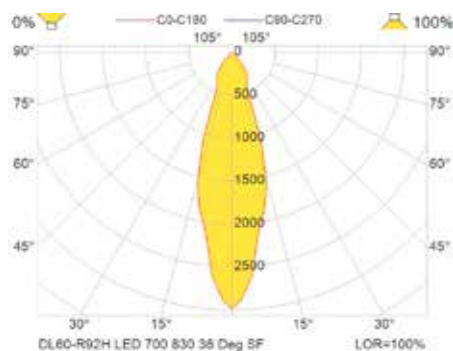
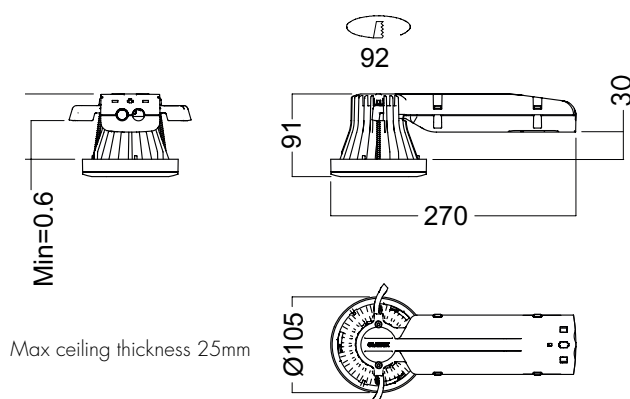
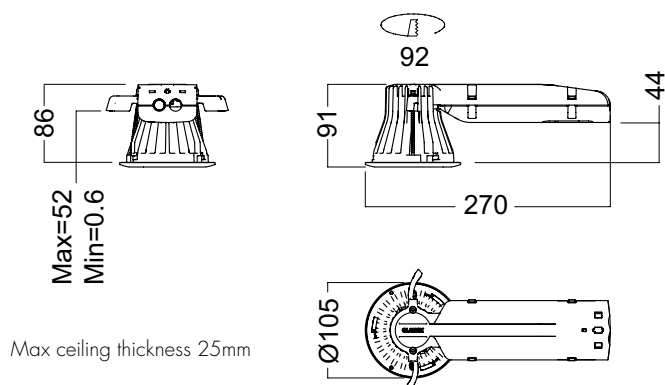


Distance ring accessories



IP55 clear accessories

DL60-R92 with distance ring



Product	Part-No. White trim	Part-No. Chrome trim	Part-No. Brass trim	Part-No. Without trim	System power	Weight kg	Lamp code
DL60-R92 LED 500LM HF 830 1xQCE 12° SF	DL60514514	DL60514515	DL60514516	DL60514517	7W	0.6	LED
DL60-R92 LED 500LM HF 830 12° SF	DL60514518	DL60514519	DL60514520	DL60514521	7W	0.6	LED
DL60-R92 LED 500LM HF 830 1xQCE 36° SF	DL60514522	DL60514523	DL60514524	DL60514525	7W	0.6	LED
DL60-R92 LED 500LM HF 830 36° SF	DL60514526	DL60514527	DL60514528	DL60514529	7W	0.6	LED
DL60-R92 LED 500LM HFDa 830 1xQCE 12° SF	DL60514441	DL60514445	DL60514449	DL60514453	7W	0.6	LED
DL60-R92 LED 500LM HFDa 830 12° SF	DL60514442	DL60514446	DL60514450	DL60514454	7W	0.6	LED
DL60-R92 LED 500LM HFDa 830 1xQCE 36° SF	DL60514145	DL60514147	DL60514149	DL60514151	7W	0.6	LED
DL60-R92 LED 500LM HFDa 830 36° SF	DL60514146	DL60514148	DL60514150	DL60514152	7W	0.6	LED
DL60-R92 LED 700LM HF 830 1xQCE 12° SF	DL60514513	DL60514530	DL60514532	DL60514531	9W	0.6	LED
DL60-R92 LED 700LM HF 830 12° SF	DL60514533	DL60514534	DL60514535	DL60514536	9W	0.6	LED
DL60-R92 LED 700LM HF 830 1xQCE 36° SF	DL60514537	DL60514538	DL60514539	DL60514540	9W	0.6	LED
DL60-R92 LED 700LM HF 830 36° SF	DL60514315	DL60514316	DL60514317	DL60514318	9W	0.6	LED
DL60-R92 LED 700LM HFDa 830 1xQCE 12° SF	DL60514153	DL60514155	DL60514157	DL60514159	9W	0.6	LED
DL60-R92 LED 700LM HFDa 830 12° SF	DL60514154	DL60514156	DL60514158	DL60514160	9W	0.6	LED
DL60-R92 LED 700LM HFDa 830 1xQCE 36° SF	DL60514443	DL60514447	DL60514451	DL60514455	9W	0.6	LED
DL60-R92 LED 700LM HFDa 830 36° SF	DL60514444	DL60514448	DL60514452	DL60514456	9W	0.6	LED

1xQCE = 1 x Ensto NAC

Complete assortment on www.glamox.com/gmo

DL60-R92H LED 500/700



Downlight LED



Trimring



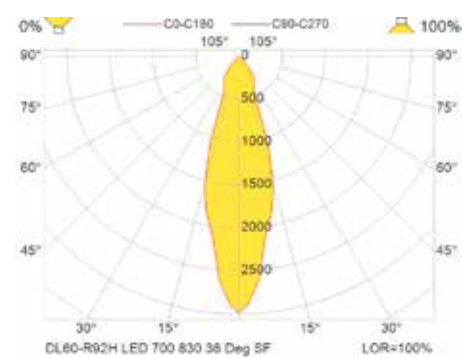
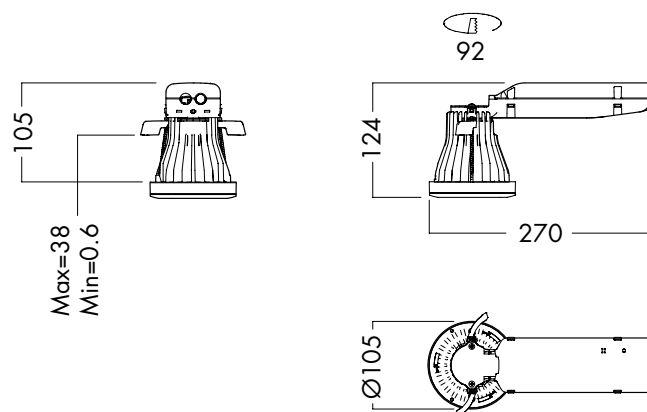
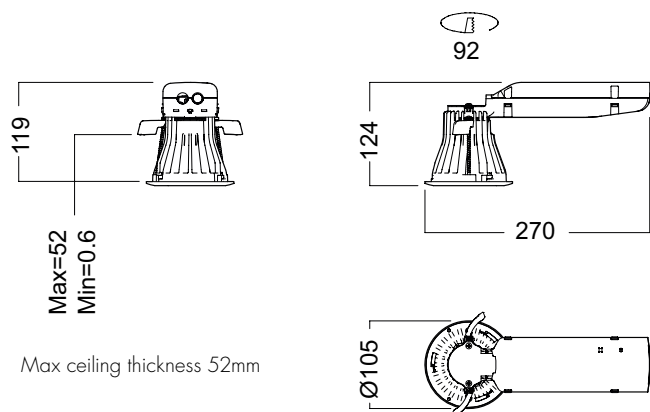
IP55 clear accessorie



- LED energy saving
- Enhanced light quality
- Easy installation
- Long lifetime
- Dust cover protection

Application	For crew and public areas as cabins, corridors, stair cases, lounges and shopping areas
Design	According to marine requirements
Housing	Solid die cast aluminum IP20. Option for slim trims in White (WH), Chrome (CH) or brass (BR). Can be delivered with or without (WO TR) trim. Option for an IP55 decor that gives IP55 under ceiling.
Optic	The reflector is available in faceted high gloss (SF) surface/finish. Reflector is built into a light chamber that reduces glare through a plate. Two different beam angles 12° or 36°. Delivered with a dust cover for protection during the building period.
Electric	With electronic driver HF, analogue dimming HFda (1-10V) or DALI dimming
Light source	DL60-R92 LED 500: LED 500 lumen 830, 840 on request. Replaces halogen 20 to 35W. DL60-R92 LED 700: LED 700 lumen 830, 840 on request. Replaces halogen 50W.
Mounting	Recessed mounting, fixed with 2 adjustable suspension arms. Possibility for screw mounting. Possible to reduce height above ceiling with a distance ring that can be ordered as accessories. For B0 or B15 fire protection look at service manual.
Connection	To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), or with push in terminal block 3 or 5x2x2.5 mm². Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request.

DL60-R92 with distance ring



Product	Part-No. White trim	Part-No. Chrome trim	Part-No. Brass trim	Part-No. Without trim	System power	Weight kg	Lamp code
DL60-R92H LED 700LM HF 830 2xQCE 36° SF	DL60515026	DL60515027	DL60515028	DL60515029	9W	1.2	LED
DL60-R92H LED 700LM HFDα 830 2xQCE 36° SF	DL60515030	DL60515031	DL60515032	DL60515033	9W	1.2	LED

1xQCE = 1 x Ensto NAC

Complete assortment on www.glamox.com/gmo

DL60-R108 500/700



Downlight LED



- Adjustable vertical $\pm 25^\circ$, horizontal total 228°
- LED energy saving
- Enhanced light quality
- Easy installation
- Long lifetime

Application	For crew and public areas as cabins, corridors, stair cases, lounges and shopping areas
Design	According to marine requirements
Housing	Adjustable die casted aluminium housing with locking screws. Slim trims in White (WH), Chrome (CH) or brass (BR).
Optic	The reflector is available in silver matt (SM) surface/finish. Reflector is built into a light chamber that reduce glare through a front cover plate. Two different beam angles 12° or 36° .
Electric	With electronic driver HF or analogue dimming HFDA (1-10V)
Light source	DL60-R108 500: LED 500 lumen 830, 840 on request. Replace halogen 20 to 35W. DL60-R108 700: LED 700 lumen 830, 840 on request. Replace halogen 50W.
Mounting	Recessed mounting, fixed with 2 adjustable suspension arms. Possibility for screw mounting. For B15 fire protection look at service manual.
Connection	To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), or with push in terminal block 3 or $5 \times 2 \times 2.5$ mm ² . Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request.



Adjustable heat sink chrome



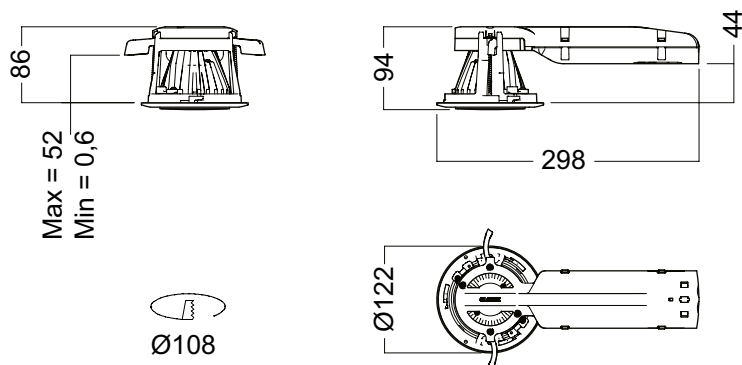
Adjustable heat sink white



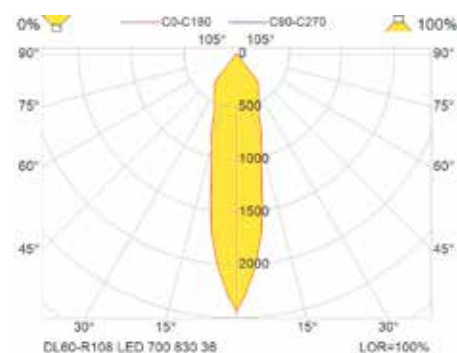
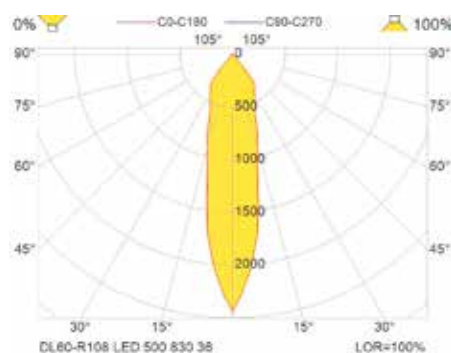
Adjustable heat sink brass



Trim ring



Max ceiling thickness 35mm



Product	Part-No. White trim	Part-No. Chrome trim	Part-No. Brass trim	System power	Weight kg	Lamp code
DL60-R108 LED 500LM HF 830 1xQCE 12° SF	DL60518113	DL60518114	DL60518115	6.5W	0.6	LED
DL60-R108 LED 500LM HF 830 12° SF	DL60518107	DL60518108	DL60518109	6.5W	0.6	LED
DL60-R108 LED 500LM HF 830 1xQCE 36° SF	DL60517862	DL60517863	DL60517864	6.5W	0.6	LED
DL60-R108 LED 500LM HF 830 36° SF	DL60517842	DL60517843	DL60517844	6.5W	0.6	LED
DL60-R108 LED 500LM HFDα 830 1xQCE 12° SF	DL60518116	DL60518117	DL60518118	6.5W	0.6	LED
DL60-R108 LED 500LM HFDα 830 12° SF	DL60518110	DL60518111	DL60518112	6.5W	0.6	LED
DL60-R108 LED 500LM HFDα 830 1xQCE 36° SF	DL60517865	DL60517866	DL60517867	6.5W	0.6	LED
DL60-R108 LED 500LM HFDα 830 36° SF	DL60517845	DL60517846	DL60517847	6.5W	0.6	LED
DL60-R108 LED 700LM HF 830 1xQCE 12° SF	DL60518101	DL60518102	DL60518103	9.5W	0.6	LED
DL60-R108 LED 700LM HF 830 12° SF	DL60518095	DL60518096	DL60518097	9.5W	0.6	LED
DL60-R108 LED 700LM HF 830 1xQCE 36° SF	DL60517868	DL60517869	DL60517870	9.5W	0.6	LED
DL60-R108 LED 700LM HF 830 36° SF	DL60517848	DL60517849	DL60517850	9.5W	0.6	LED
DL60-R108 LED 700LM HFDα 830 1xQCE 12° SF	DL60518104	DL60518105	DL60518106	9.5W	0.6	LED
DL60-R108 LED 700LM HFDα 830 12° SF	DL60518098	DL60518099	DL60518100	9.5W	0.6	LED
DL60-R108 LED 700LM HFDα 830 1xQCE 36° SF	DL60517871	DL60517872	DL60517873	9.5W	0.6	LED
DL60-R108 LED 700LM HFDα 830 36° SF	DL60517851	DL60517852	DL60517853	9.5W	0.6	LED

1xQCE = 1 x Ensto NAC

Complete assortment on www.glamox.com/gmo

DL60-R108 900



Downlight LED



- Adjustable vertical $\pm 25^\circ$
- Horizontal total 228°
- LED energy saving
- Enhanced light quality
- Easy installation
- Long lifetime

Application	For crew and public areas as cabins, corridors, stair cases, lounges and shopping areas
Design	According to marine requirements
Housing	Adjustable die casted aluminium housing with locking screws. Slim trims in White (WH), Chrome (CH) or brass (BR).
Optic	The reflector is available in faceted high gloss (SF) surface/finish. Reflector is built into a light chamber that reduce glare through a front cover plate. Two different beam angles 12° or 36° .
Electric	With electronic driver HF or analogue dimming HFda (1-10V)
Light source	LED 900 lumen 830, 840 on request
Mounting	Recessed mounting, fixed with 2 adjustable suspension arms. Possibility for screw mounting. For B15 fire protection look at service manual.
Connection	To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), or with push in terminal block 3 or $5 \times 2 \times 2.5 \text{ mm}^2$. Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request.



Adjustable heat sink chrome



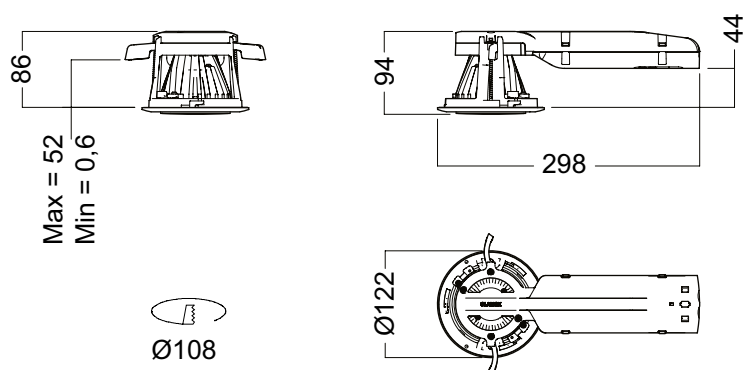
Adjustable heat sink white



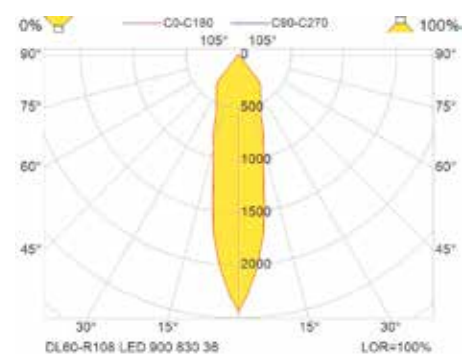
Adjustable heat sink brass



Trim ring



Max ceiling thickness 35mm



Product	Part-No. White trim	Part-No. Chrome trim	Part-No. Brass trim	System power	Weight kg	Lamp code
DL60-R108 LED 900LM HF 830 1xQCE 12° SF	DL60518085	DL60518089	DL60518093	15.6W	0.6	LED
DL60-R108 LED 900LM HF 830 12° SF	DL60518083	DL60518087	DL60518091	15.6W	0.6	LED
DL60-R108 LED 900LM HF 830 1xQCE 36° SF	DL60517874	DL60517875	DL60517876	15.6W	0.6	LED
DL60-R108 LED 900LM HF 830 36° SF	DL60517854	DL60517855	DL60517856	15.6W	0.6	LED
DL60-R108 LED 900LM HFDa 830 1xQCE 12° SF	DL60518086	DL60518090	DL60518094	15.6W	0.6	LED
DL60-R108 LED 900LM HFDa 830 12° SF	DL60518084	DL60518088	DL60518092	15.6W	0.6	LED
DL60-R108 LED 900LM HFDa 830 1xQCE 36° SF	DL60517877	DL60517878	DL60518079	15.6W	0.6	LED
DL60-R108 LED 900LM HFDa 830 36° SF	DL60517857	DL60517858	DL60517859	15.6W	0.6	LED

1xQCE = 1 x Ensto NAC

Complete assortment on www.glamox.com/gmo

DL60-RF155 LED 800/1100



Downlight LED



Faceted high gloss reflector



Quick connector

- LED energy saving
- Enhanced light quality
- Easy installation
- Long lifetime
- Dust cover protection

Application For crew and public areas as cabins, corridors, stair cases, lounges and shopping areas

Design According to marine requirements

Housing Solid die casted aluminum IP20 and option for an IP55 decor that gives IP55 under ceiling. Option for slim trims in White (WH), Chrome (CH) or brass (BR). Can be delivered with or without (VO TR) trim. Option to use CASA(M) metal trims with an adapter built in. Available decors in blue glass or opalic glass. Other decors on request.

Optic The reflector is available in faceted high gloss (SF) surface/finish. Reflector is built into a light chamber that reduce glare through an "satine" diffuser. The reflector is also available in matt (SM) or high gloss (SI) on request. Delivered with a dust cover for protection during the building period.

Electric With electronic driver HF, analogue (HFDa) (1-10V) or with DALI dimming. Emergency or UPS version on request.

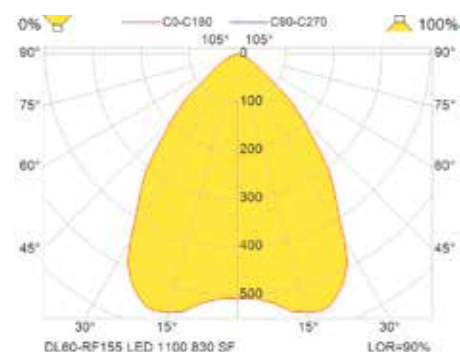
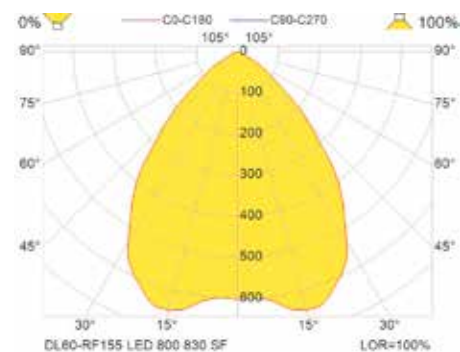
Light source LED 800 or 1100 lumen 830, 840 on request

Mounting Recessed mounting, fixed with 3 adjustable suspension arms. Possibility for screw mounting. Possible to reduce height above ceiling with a distance ring that can be ordered as accessories. For B0 or B15 fire classification look at service manual.

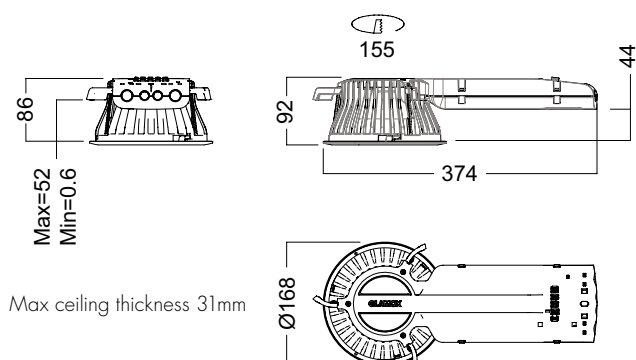
Connection To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), option for 1 or 2 x Wago Midi (QCA) or with push in terminal block 5x2x2.5mm² with Linect® (LI).



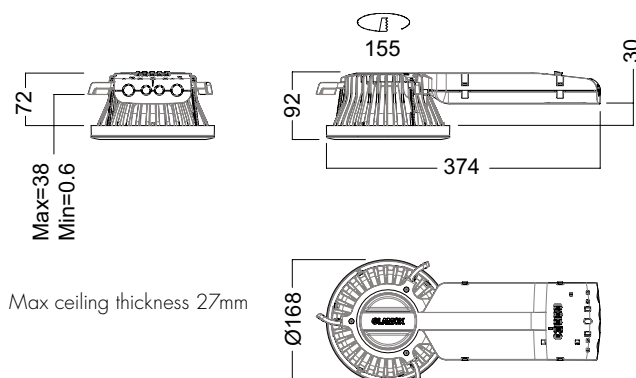
Decor matt glass



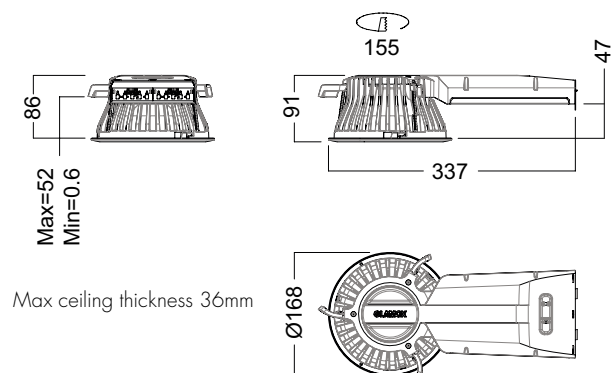
DL60-RF155
with HFDa/DALI 2xQCE or without QCE/CCA



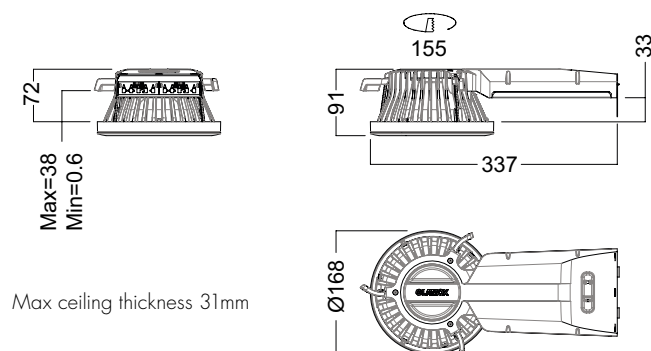
DL60-RF155 with distance ring
with HFDa/DALI 2xQCE or without QCE/QCA



DL60-RF155 quick connection
without DALI/HFDa 2xQCE



DL60-RF155 with distance ring quick connection
without DALI/HFDa 2xQCE



Product	Part-No. White trim	Part-No. Chrome trim	Part-No. Brass trim	Part-No. Without trim	System power	Weight kg	Lamp code
DL60-RF 155 LED 800LM HF 830 2xQCE SF	DL60514457	DL60514463	DL60514469	DL60514475	12W	1.2	LED
DL60-RF 155 LED 800LM HF 830 2xQCA SF	DL60514458	DL60514464	DL60514470	DL60514476	12W	1.2	LED
DL60-RF 155 LED 800LM HF 830 LI SF	DL60514459	DL60514465	DL60514471	DL60514477	12W	1.2	LED
DL60-RF 155 LED 800LM HFDa 830 2xQCE SF	DL60515014	DL60515015	DL60515015		12W	1.2	LED
DL60-RF 155 LED 800LM DALI 830 2xQCE SF	DL60514460	DL60514466	DL60514472	DL60514478	12W	1.2	LED
DL60-RF 155 LED 800LM DALI 830 2xQCA SF	DL60514461	DL60514467	DL60514473	DL60514479	12W	1.2	LED
DL60-RF 155 LED 1100LM HF 830 2xQCE SF	DL60514971	DL60514972	DL60514973	DL60514974	13W	1.6	LED
DL60-RF 155 LED 1100LM HF 830 2xQCA SF	DL60514975	DL60514976	DL60514977	DL60514978	13W	1.6	LED
DL60-RF 155 LED 1100LM HFDa 830 2xQCE SF		DL60515003			13W	1.6	LED
DL60-RF 155 LED 1100LM DALI 830 2xQCE SF	DL60514979	DL60514980	DL60514981	DL60514982	13W	1.6	LED
DL60-RF 155 LED 1100LM DALI 830 2xQCA SF	DL60514983	DL60514984	DL60514985	DL60514986	13W	1.6	LED

2xQCE = 2 x Ensto NAC

2xQCA = 2 x Wago Midi

LI = Linect® with 5 way push in terminal block

Complete assortment on www.glamox.com/gmo

DL60-R155 LED 800/1100



Downlight LED



- LED energy saving
- Enhanced light quality
- Easy installation
- Long lifetime
- Dust cover protection

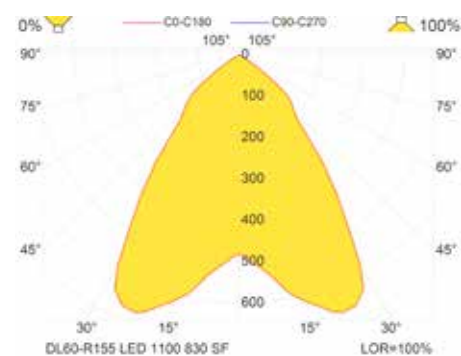
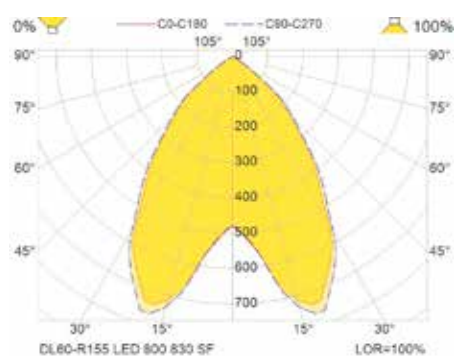
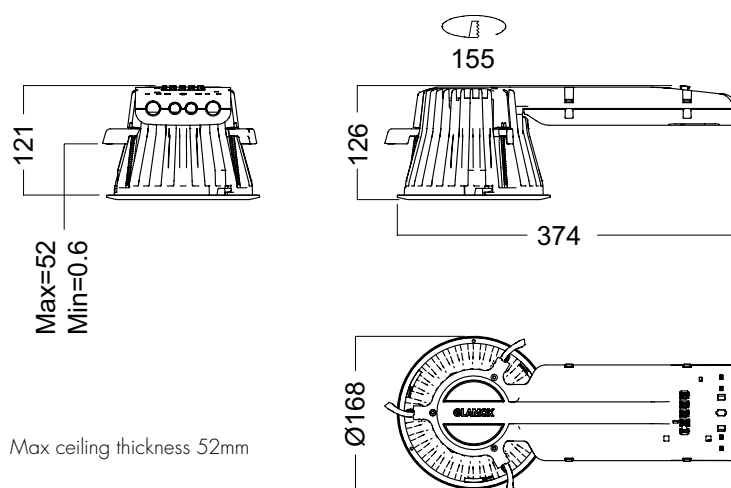


Faceted high gloss reflector



IP55 decor opalac accessorie

Application	For crew and public areas as cabins, corridors, stair cases, lounges and shopping areas
Design	According to marine requirements
Housing	Solid die casted aluminum IP20 and option for an IP55 decor that gives IP55 under ceiling. Option for slim trims in White (WH), Chrome (CH) or brass (BR). Can be delivered with or without (VO TR) trim. Option to use CASA(M) trims with an adapter built in. Available decors in blue glass or opalac glass. Other decors on request.
Optic	The reflector is available in faceted high gloss (SF) surface/ finish. Reflector is built into a light chamber that reduce glare through an "satine" diffuser. The reflector is also available in matt (SM) or high gloss (SI) on request. Delivered with a dust cover for protection during the building period.
Electric	With electronic driver HF, analogue (HFDa) (1-10V) or with DALI dimming. Emergency 3h or UPS version on request.
Light source	LED 800 or 1100 lumen 830, 840 on request. Available on request with 1400 or 2100 lumen.
Mounting	Recessed mounting, fixed with 3 adjustable suspension arms. Possibility for screw mounting. Designed for B15 ceilings with up to 52 mm thickness. Possible to reduce height above ceiling with a distance ring that can be ordered as accessories. For B0 or B15 fire classification look at service manual.
Connection	To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), option for 1 or 2 x Wago Midi (QCA) or with push in terminal block 5x2x2.5mm ² with Linect® (LI).



Product	Part-No. White trim	Part-No. Chrome trim	Part-No. Brass trim	Part-No. Without trim	System power	Lamp code
DL60-R 155 LED 800LM HF 830 2xQCE SF	DL60515006	DL60515007	DL60515008	DL60515009	12W	LED
DL60-R 155 LED 800LM HFDα 830 2xQCE SF	DL60515035	DL60515036	DL60515037	DL60515038	12W	LED
DL60-R 155 LED 800LM DALI 830 2xQCE SF		DL60515456			12W	LED
DL60-R 155 LED 1100LM HF 830 2xQCE SF	DL60515010	DL60515011	DL60515012	DL60515013	13W	LED
DL60-R 155 LED 1100LM HFDα 830 2xQCE SF	DL60515021	DL60515020	DL60515022	DL60515023	13W	LED

2xQCE = 2 x Ensto NAC

Complete assortment on www.glamox.com/gmo

DL60



Decor & Accessories



The DL60 will give you exactly the design flexibility you require on board.

A wide range of trim rings in many colours and materials provides a look that matches other furnishings. This new downlight is easy to install and by simply replacing the trim ring you may change expression at any time.

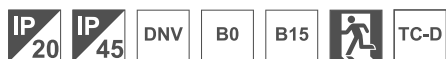
* Mounted together with adapter

Decor		DL60-R155 DL60-RF155	DL60-R155 with CASA (M) trim*	DL60-R92
	Trim ring Chrome PA Chrome metal	DL60514481	DL60514487	DL60514484
	Trim ring Brass PA Brass metal	DL60514482	DL60514488	DL60514485
	Trim ring White PA White metal	DL60514483	DL60514489	DL60514486
	Decor ice pattern Glass Chrome Brass White	On request On request On request		
	Decor centre matt Glass Chrome Brass White	On request On request On request		
	Decor matt ring Glass Chrome Brass White	On request On request On request		
	Decor matt Glass Chrome Brass White	On request On request On request		

Decor		DL60-R155	DL60-R155 with CASA (M) trim*	DL60-R92
	Halo Chrome Brass White	DL60000144 DL60000146 DL60000143		DL60000142 DL60000145 DL60000141
	Decor IP55 Clear Chrome Brass White	DL60000107 DL60000114 DL60000105		DL60000103 DL60000109 DL60000101
	Decor IP55 Opal Chrome Brass White	DL60000108 DL60000115 DL60000106		DL60000104 DL60000110 DL60000102
	Decor IP55 Red Chrome Brass White	DL60000117 DL60000118 DL60000116		DL60000112 DL60000113 DL60000111
	Decor center matt Glass/metal sandblasted Chrome Brass White		DL60514490 DL60514491 DL60514492 DL60514493	
	Decor Glass outer ring Chrome White		DL60514494 DL60514495	
	Metal decor rings Chrome Brass White		DL60514496 DL60514497 DL60514498	
	Decor IP55 Chrome Brass White		DL60514501 DL60514502 DL60514503	
Accessories			DL60-R155 with CASA (M) trim*	DL60-R92
	Distance ring Chrome PA Brass PA White PA	DL60514504 DL60514505 DL60514506		DL60514507 DL60514508 DL60514509
	DL60-R155 trim adapter To use on old CASA(M) trims for retrofit		DL60514510	

CASA (M) H70

Downlight



CASA (M) H87 optimal



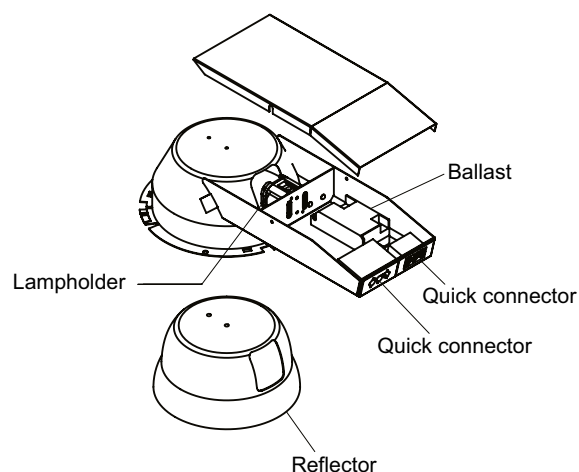
CASA (M) H95 optimal

- Low recessed downlight
- Easy installation and change of light source
- Comprehensive trim choice, including IP45
- Easy mounting of decor with bayonet connection
- Choice of connector system
- Approved for use in B0/B15 ceilings

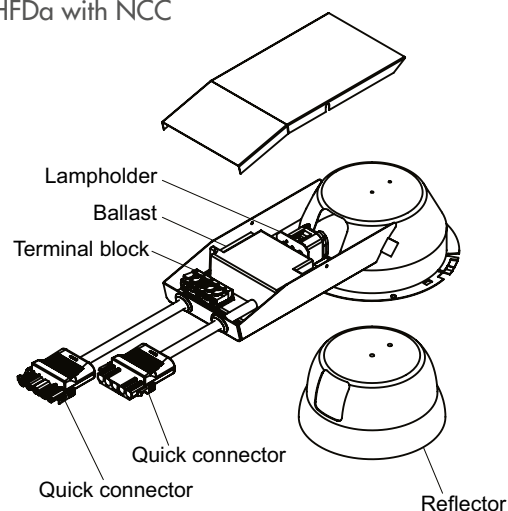
Application	Recessed downlight approved for use in B0/B15 ceiling. Luminaire body of painted steel with reflector of metallized polycarbonate.
Design	According to marine requirements
Housing	Electrical housing of painted and galvanized steel. Decor elements of painted, chromed or brushed steel, brass, aluminium, glass and acrylic. Trim of painted, chromed, brushed steel, brass or aluminium. Trims in white, chrome, brushed aluminium or brass, black baffle available, different decor elements with and without lenses.
Optic	Reflector symmetric in silver or gold made from metallized polycarbonate or optimal aluminium
Electric	Magnetic ballast compensated (F) or uncompensated (L), electronic ballast (HF), dimmable ballast analogue (1-10V) (HFDa) or digital (HFDd). 3 hours emergency on request. Heat resistant wiring and terminals.
Light source	10/13 and 18W TC-D/TC-DEL. (Light source not included).
Mounting	Mounted by screws. Max ceiling thickness 19mm. Plaster ring for mounting in plaster ceilings. For B0 or B15 fire protection look at service manual.
Connection	Ensto NAC 3-pole ready for through wiring. Can be supplied with 5-pole terminal block for through wiring. Other systems on request.

Spare Parts/Accessories

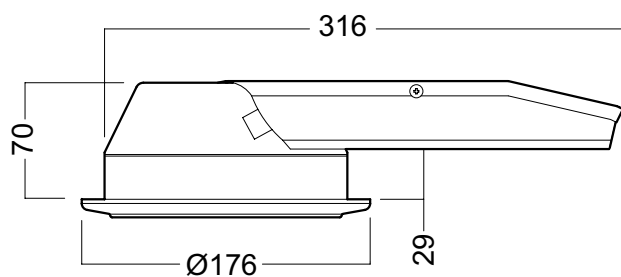
HF with NAC



HFDa with NCC



Ø155



Product	Part-No. F 230/50	Part-No. L 230/50	Part.-No. HF	Part.-No. HFDd	Part.-No. HFDa	Weight kg	Lamp F code	Lamp HF code	Base
CASA (M) H70B0 113 W	100108	100108L	100181	100185	10018502	1.2	TC-D	TC-DEL	G24d1/q1
CASA (M) H70B0 113 SC	100208	100208L	100281	100285	10028502	1.2	TC-D	TC-DEL	G24d1/q1
CASA (M) H70B0 113 S	100308	100308L	100381	100385	10038502	1.2	TC-D	TC-DEL	G24d1/q1
CASA (M) H70B0 113 G	100408	100408L	100481	100485	10048502	1.2	TC-D	TC-DEL	G24d1/q1
CASA (M) H70B0 113 WB	100508	100508L	100581	100585	10058502	1.2	TC-D	TC-DEL	G24d1/q1
CASA (M) H70B0 113 BB	100608	100608L	100681	100685	10068502	1.2	TC-D	TC-DEL	G24d1/q1
CASA (M) H70B0 118 W	100908	100908L	100981	100985	10098502	1.2	TC-D	TC-DEL	G24d1/q2
CASA (M) H70B0 118 SC	101008	101008L	101081	101085	10108502	1.2	TC-D	TC-DEL	G24d1/q2
CASA (M) H70B0 118 S	101108	101108L	101181	101185	10118502	1.2	TC-D	TC-DEL	G24d1/q2
CASA (M) H70B0 118 G	101208	101208L	101281	101285	10128502	1.2	TC-D	TC-DEL	G24d1/q2
CASA (M) H70B0 118 WB	101308	101308L	101381	101385	10138502	1.2	TC-D	TC-DEL	G24d1/q2
CASA (M) H70B0 118 BB	101408	101408L	101481	101485	10148502	1.2	TC-D	TC-DEL	G24d1/q2

W White reflector; SC = Silver cone; S = Silver reflector; G = Gold reflector; GC = Gold cone; WB = White baffle; BB = Black baffle

Complete assortment on www.glamox.com/gmo

CASA (M)

Decor



	Cover trim rings Metal trim rings for final finish/colour detail to ceiling	Chrome Brass Br. Ally White	232200NP 232100NP 232400NP 232000NP
	Deep cover ring Deep metal trim ring for final finish/colour detail to ceiling	Br. Ally	233900
	Glass outer ring Matt glass ring and white cover ring or blue glass ring and chrome cover ring	Chrome/blue White/opaque	233700NP 233701NP
	Centre matt Glass cover with sandblast centre circle	White Brass Chrome Br. Ally	233600NP 233500NP 233501NP 240430NP
	Slim line trim rings Metal trim for final finish/colour detail to ceiling	Chrome Brass Br. steel White Shiny brass	108700 108600 108800 108500 108650
	Metal decor rings 2 metal decor rings for improved cut-off angle	White Brass Br. Ally Chrome	233100 233000 233200 232800
	IP45 clear diffuser Clear diffuser with IP45 gasket	White Brass Chrome Br. Ally	234100NP 234200NP 234300NP 234400NP
	IP45 opal diffuser Opal diffuser with IP45 gasket	White Brass Chrome Br. Ally	234500NP 234600NP 234700NP 234800NP
	10 mm clear edge with IP45 gasket	White Brass Chrome	234102NP 234106NP 234107NP

DL90 ALU METAL HALIDE



Downlight for recessed installation with body made in die-cast aluminium. IP20. Socket GX10. All internal wiring is heat resistant. Trims in two different designs in white, chrome or brass. Tilttable.

Light source	CMH 20W (GX10)		
Housing	Diecasted aluminium		
Dimension (mm)	W: 107/117	H: 113	L: 290

DL90 12V/230V



Downlight for recessed installation with body made in die-cast aluminium. IP20. Socket GU 5.3. All internal wiring is heat resistant. Trims in two different designs in white, chrome or brass. Tilttable. The downlight is available with or without transformer.

Light source	QR (GU5,3)		
Housing	Diecasted aluminium		
Dimension (mm)	W: 107/117	H: 113	L: 152/290

DL90 ALU COMPACT GU10



Downlight for recessed installation with body made in die-cast aluminium. IP20. Compact energy lamp to be ordered as extra. All internal wiring is heat resistant. Trims in two different designs in white, chrome or brass. Tilttable.

Light source	Compact tube 7-9-11W (GU10)		
Housing	Diecasted aluminium		
Dimension (mm)	W: 107/117	H: 113	L: 290

EYEBALL 100R



Downlight for recessed installation. IP20/44. All internal wiring is heat resistant. With or without transformer. Trims in white, chrome or brass. Tilttable max 30°, rotates 90°.

Light source	Light source from 10W up to 50W QR (not included)		
Housing	Self-extinguishing polyester body, trim element of painted/chromed/brushed steel		
Electric	With or without transformer, dimmable. Heat resistant wiring and terminals, equipped with grummet, cable gland or plug. Plugs as Wieland GST or Ensto NAC available.		
Dimension (mm)	W: 130	H: 118	L: 167

0648



Downlight for recessed installation with body made in zinc coated steel. IP20. All internal wiring is heat resistant. Trims in white, chrome or brass. Decors available. The downlight is available with or without transformer.

Light source	QR (GU5,3)
Housing	Zinc coated steel
Dimension (mm)	Ø: 110 H: 163

CASA (M) H87



Solid and easy to install, designed for marine. A recessed downlight for compact fluorescent lamps. Luminaire housing in steel with white painted powder paint. CASA(M) are available with a variety of decors including IP45 decors. 3 hours emergency with battery box.

Light source	1 x TC-D 18W
Housing	Body made of painted steel, reflector in metalized polycarbonate or metalized aluminum.
Electric	Electronic ballast (HF), analogue dimming (HFDa), digital dimming (HFDd) or DALI
Dimension (mm)	Ø: 176 H: 87

CASA (M) H95



Solid and easy to install, designed for marine. A recessed downlight for compact fluorescent lamps. Designed for 50 mm thick B15 ceilings. Luminaire housing in steel with white painted powder paint. CASA(M) are available with a variety of decors including IP45 decors. 3 hours emergency with battery box.

Light source	1 x TC-D 18W
Housing	Body made of painted steel, reflector in metalized polycarbonate or metalized aluminum.
Electric	Electronic ballast (HF), analogue dimming (HFDa), digital dimming (HFDd) or DALI
Dimension (mm)	Ø: 176 H: 95

CASA MARINE UL



Solid and easy to install, designed for marine. A recessed downlight for compact fluorescent lamps. Available in two heights as H70 or H95. Luminaire housing in steel with white painted powder paint. CASA(M) are available with a variety of decors including IP45 decors.

Light source	1 x TC-D 18W
Housing	Body of painted steel, reflector in metalized polycarbonate or metalized aluminum.
Electric	Electronic ballast (HF), analogue dimming (HFDa)
Dimension (mm)	Ø: 176 H: 70/95

DL100 UL

HØVIKOLYS



Interior recessed downlight.

Light source	50W/12V or 50W/120V halogen lamp
Housing	Steel, deep drawn, seamless c/w aluzinc sheet steel connection box
Electric	Flexible wiring, heat resistant to 250°C
Dimension (mm)	W: 130 H: 94 L: 190/219



Photo: RCCL



Photo: RCCL

Architectural lights

Functional and energy effective lighting with a decorative effect



Domino W



Flecto W



Zapp Sign /
Zapp 300W



Zapp 360



Domino T



Flecto T



Zapp 465



1350-402



LHH LED



Circus



OVELO



TEREA



LFM LED



NINETY



HS CHART



AIR LED



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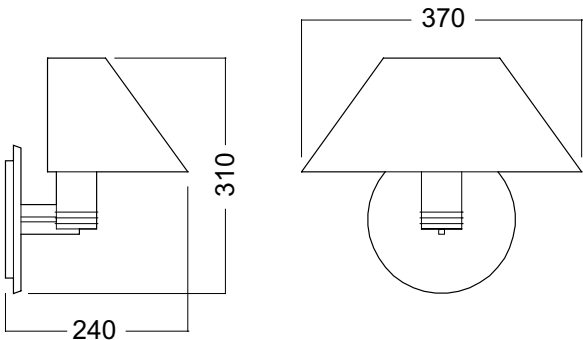
Domino W

Decorative wall lamp



- Stylish wall lamp in highly polished brass with chrome detailing
- Part of the Domino family that consists of wall, table and floor lamps

Design	Wall lamp in polished brass with details in chrome. Half-shade that fits against wall made of off-white Thai or cream coloured Thai texture. The shades have to be ordered separately. All the internal wiring is double insulated and halogen free. With 2-pole switch.
Light source	Incandescent lamp max 60W. Light source is not included.
Mounting	Surface-mounted luminaire for installation directly on the wall
Connection	2-pole terminal block



Product	Part-No.	W	H	Weight	Lamp	Lamp
	MAX 240V	mm	mm	kg	code	base
DOMINO WALL BRASS W/SWITCH	247600	370	310	1.3	A60	E27

Accessories	Part-No.
DOMINO SHADE OFFWHITE THAI	247641
DOMINO WALL SHADE CREAM STRUCT	247649

Complete assortment on www.glamox.com/gmo

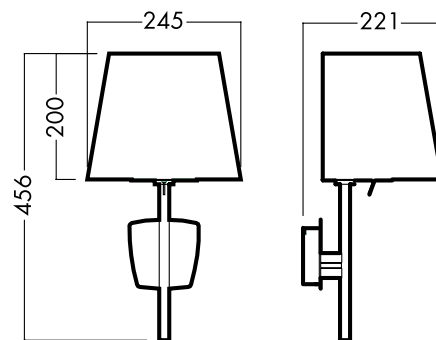
Flecto W

Decorative wall lamp



- Brushed stainless steel
- Interior family for incandescent lamps and compact fluorescent lamps
- Shade in washable, fire retardant and UV resistant material
- Part of Flecto family that consist of wall and table lamps

Design	Wall lamp in brushed stainless steel.
Finish	Shade made in Perlatex which is washable, fire retardant and UV resistant. The shades have to be ordered separately. All the internal wiring is halogen free.
Electric	Electronic driver (HF) or with digital dimming (HFDd)
Light source	1 x TC-TEL 13 or 18W incandescent lamp max 60W. Light source to be ordered separately.
Mounting	Surface mounted luminaire for installation directly on the wall
Connection	3 pole terminal block



Product	Part-No.	W mm	H mm	Weight kg	Lamp code	Lamp base
FLECTO WALL 118HF TC-TE ST STEEL	167510687	245	456	1.3	TC-TEL	GX24q-1
FLECTO WALL 118 HFDd TC-T ST STEEL	167510688	245	456	1.3	TC-TEL	GX24q-1
FLECTO WALL 60W E27 ST STEEL	167510685	245	456	1.3	A60	E27

Accessories	Part-No.
FLECTO WALL LAMPSHADE WHITE PERLATEX	167490
FLECTO WALL LAMPSHADE CREAM PERLATEX	167491

Zapp Sign/ Zapp W300

Decorative luminaires for wall mounting



Zapp Sign



Sign for imprints/stickers



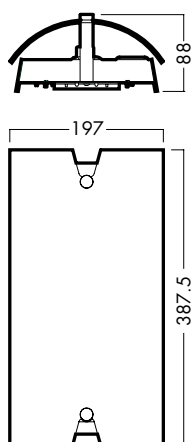
Sign for interchangeable labels



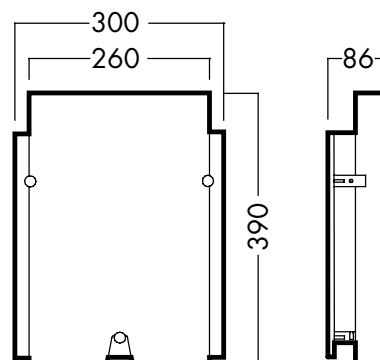
Zapp W300

- Slim and elegant wall luminaires
- Suitable for use in combination with downlights, pendant, ceiling and wall luminaires

Application	Zapp is a well-developed family of luminaires with classic decorative expression. The product family is available for a large range of mounting situations, sizes and material finish. Zapp has many possible applications and a strong design identity.
Design	Wall lamp in brushed steel or white painted steel. Nameplate is available in two sizes. All the internal wiring is halogen free.
Optic	Opal acrylic diffuser
Electric	Electronic driver (HF), analogue 1-10V dimming (HFDa), digital dimming (HFDd) or with compensated conventional ballast (F)
Light source	Zapp Sign; 1 x TC-L 18W Zapp W300; 1 or 2-tubes TC-L 18W
Mounting	Surface mounted luminaire for installation on the wall
Connection	5 pole push-in terminal block prepared for through wiring



Zapp Sign



Zapp W300

Zapp Sign

Product	Part-No. F	Part-No. HF	L mm	W mm	H mm	Weight kg	Lamp code	Lamp base
ZAPP SIGN 118 BRUSHED STEEL	251103	251182	388	197	88	2.4	TC-L	2G11
ZAPP SIGN 118 BR BRASS		251181	388	197	88	2.4	TC-L	2G11
ZAPP SIGN 118 WHITE		251180	388	197	88	2.4	TC-L	2G11

Accessories	Part-No.
SIGN FOR INTERCHANGEABLE LABELS WHITE	251195
SIGN FOR INTERCHANGEABLE LABELS BRASS	251193
SIGN FOR INTERCHANGEABLE LABELS BRUSHED STEEL	251194
SIGN FOR IMPRINTS/STICKERS WHITE	251192
SIGN FOR IMPRINTS/STICKERS BRASS	251190
SIGN FOR IMPRINTS/STICKERS BRUSHED STEEL	251191
ZAPP SIGN SPARE DIFFUSER	252133

Zapp W300

Product	Part-No. F	Part-No. HF	Part-No. HFDa	Part-No. HFDd	L mm	W mm	H mm	Weight kg	Lamp code	Lamp base
ZAPP W300 118 BRUSHED STEEL	254008	254082	25408502	254085	390	300	86	2.4	TC-L	2G11
ZAPP W300 118 WHITE		253981		253985	390	300	86	2.4	TC-L	2G11
ZAPP W300 218 BRUSHED STEEL		253481			390	300	86	2.4	TC-L	2G11
ZAPP W300 218 WHITE		253381			390	300	86	2.4	TC-L	2G11

Accessories	Part-No.
ZAPP W300 SPARE DIFFUSER	253132

Complete assortment on www.glamox.com/gmo

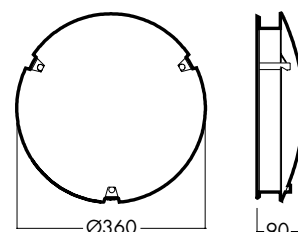
Zapp 360

Decorative luminaire for wall/ceiling mounting



- Slim and elegant ceiling/wall luminaire
- Suitable for use in combination with downlights, ceiling and wall luminaires

Application	Zapp is a well-developed family of luminaires with classic decorative expression. The product family is available for a large range of mounting situations, sizes and material finish. Zapp has many possible applications and a strong design identity.
Design	Ceiling/wall lamp in white painted steel or brushed steel. All the internal wiring is halogen free.
Optic	Opal satin acrylic diffuser
Electric	Electronic ballast (HF). Dimmable variants available on request.
Light source	Circular tube 22W or TC-tubes 18 or 26W
Mounting	Direct to the ceiling
Connection	5 pole push-in terminal block prepared for through wiring.



Product	Part-No.	W	H	Weight	Lamp	Lamp
	HF	mm	mm	kg	code	base
ZAPP 360 126 BRUSHED STEEL	252881	360	90	2.0	TC-DE	2GX13
ZAPP 360 126 WHITE	252781	360	90	2.0	TC-DE	2GX13

Accessories	Part-No.
ZAPP 360 SPARE DIFFUSER OPAL	252732

Complete assortment on www.glamox.com/gmo

Domino T

HØVIKOLYS



Decorative table lamp made in polished brass with details made in chrome. Delivered with switch. Two sizes of shades made of off-white Thai or cream coloured Thai structure. The diffusers have to be ordered separately. All the internal wiring is halogen free.

Light source	Incandescent lamp up to 60W or fluorescent tubes TC 13W or 18W		
Housing	Polished brass		
Electric	E27 or GX24 lamp holder. Halogen free internal wiring. TC-variants with electronic ballast. With cable and plug.		
Dimension (mm)	W: 385/420	H: 428/615	

Flecto T

HØVIKOLYS



Flecto is an interior family of luminaires for incandescent lamps and compact fluorescent lamps. Well suited for cabins and common areas. Supplied with plastic acrylic diffuser with shade made in Perlutex. The shade is washable, fire retardant and UV resistant. All the internal wiring is halogen free. For optimised energy savings, Flecto can be supplied with dimming and sensor for motion and daylight.

Light source	Incandescent lamp up to 60W or fluorescent tubes TC 13W or 18W		
Housing	Polished brass or brushed steel		
Electric	E27 or GX24 lamp holder. Halogen free internal wiring. TC-variants with electronic ballast. With cable and plug.		
Dimension (mm)	W: 385	H: 597	

Zapp 465

HØVIKOLYS



Zapp 465 is an elegant luminaire for surface mounting on walls or ceilings. The luminaire body is made of white painted or brushed steel with a satin opal acrylic diffuser. All internal cables are halogen-free. The luminaire can be delivered with 1-hour or 3-hours integrated battery backup.

Light source	1 x TC-DD 55W, T5-C 40W 2 x TC-L 18W		
Housing	White painted or brushed lacquered steel Opal acrylic diffuser		
Electric	Electronic ballast (HF)		
Dimension (mm)	Ø: 465	H: 90/100	

1350-402

Aqua signal



Decorative wall and table light, according to rules of maritime classification societies, additional UL approval. Can be fixed as wall or table lamp. Brass polished and clear lacquered. Shade in champagne.

Light source	Incandescent lamp 60W E26 socket		
Housing	Polycarbonate, dark brown; Shaft: Brass		
Dimension (mm)	Ø: 250	H: 289/412	

LHH LED

LUXO



LHH is designed especially for demanding viewing conditions that require exceptionally good light such as medical examination and minor procedures. It has widespread applications throughout the health sector, in hospitals, health centers and consulting rooms.

Light source	1 x integrated LED module 15W. Corrected light colour temperature is (CCT) 4300 K. Colour rendition index (CRI) is 90.
Housing	Steel arm with plastic covers. Aluminium and plastic shade. Colour: White.
Optic	Symmetric light output. LHH 20 uses a lens system for maximum illumination. LHH LED uses polycarbonate lenses.
Arm length (mm)	1050

OVELO

LUXO



With its unique design and all metal construction, this impressive task light will stand out in any office environment. It has a particularly good light output, and an arm with covered spring design, long reach and great flexibility. Yet its overall size is modest. Ovelo is dimmable and has an automatic shut-off in order to save energy. Standard version with table clamp. Other accessories can be ordered separately. Colours: White, black or silver grey.

Light source	Supplied with 1 x integrated LED module 6W. Correlated colour temperature (CCT) is 3200 K, Colour rendition index (CRI) is 90.
Housing	Steel arm and aluminium shade. Colours: white, black or aluminium grey.
Optic	Asymmetric light output. White, polycarbonate reflectors.
Arm length (mm)	700

CIRCUS

LUXO



Circus is well suited for demanding work in beauty parlours, clinics and laboratories, or as an aid for people with impaired vision. Circus has a large lens, aluminium head and a highly flexible self-balancing arm and flexible shade neck. The large lens permits comfortable viewing with both eyes. Arm and body colour: white. Plastic detail colour: Black

Light source	1 x T5-C 22W
Housing	Steel arm with aluminium head. Shade neck cover in rubber and sun cover in plastic. Colours: white arm and white head, plastic detail parts in black.
Optic	Standard with 3,5 or 5 dioptr lens
Electric	Electronic ballast (HF)
Arm length (mm)	1000

TEREA

LUXO



This compact task light features low energy LED technology. Its elegant form and slim shape makes it particularly suitable for small work areas. It has a very satisfying light output, and ergonomic details which ensure optimal computer workstation lighting. Terea combines energy efficiency, ergonomics and compact design for an incomparable value. Standard version with integrated table base. Colours: White, black or silver grey

Light source	Supplied with 1 x integrated LED module 7W. Correlated colour temperature (CCT) is 3200 K, Colour rendition index (CRI) is 80.
Housing	Aluminium arm and shade. Iron cast base with plastic cover. Colours: white, black or silver grey.
Optic	Asymmetric light output. White, polycarbonate reflectors.
Arm length (mm)	470

LFM LED

LUXO



Magnifier with spring balanced arm. Lamp house in plastic. White or grey finish. Table clamp included. Supplied with LED energy saving lamp. Alternative mounting brackets available on request. Alternative magnifier lens available on request.

Light source	Supplied with 1 integrated LED module 9,5W
Housing	Steel arm with plastic covers. Plastic shade. Colour: white.
Optic	Standard with 3 or 5 dioptré glass lens. Lens diameter is 1 27 mm. Polypropylene reflector.
Arm length (mm)	1050

HS CHART

GLAMOX



Flexible lamp for lighting of chart table or precision working areas that need light without interruption of surroundings.

Light source	QT9 lamp
Housing	500 mm gooseneck (flexible arm) with fix or hinged lamp head as standard. 700mm length available on request.
Electric	On/off switch in fixing base 12V or 24V 20W QT9 lamp. Lamp is included.
Arm length (mm)	250 - 700

NINETY

LUXO



Ninety has won many international awards for its design and functionality. It is extremely energy efficient. Using light emitting diodes (LED), Ninety offers a bright, warm light while saving energy. Ninety is dimmable and has an automatic shut-off in order to save energy and has a flexible lamp head. Ninety can be mounted in an ingenious double action rotating table base, with a table edge clamp, or in a table insert bracket. Standard version with table bracket. Base and other accessories can be ordered separately. Colours: White, black or silver grey.

Light source	Supplied with 1 x integrated LED module 6W. Correlated colour temperature (CCT) is 3200 K, Colour rendition index (CRI) is 90.
Housing	Full metal body made of zinc, steel and aluminium. Colours: white, black or aluminium grey.
Optic	Asymmetric light output. White, polycarbonate reflectors.
Arm length (mm)	780



Photo: Vikingline

AIR LED

LUXO



Air LED is a modern classic in the best Luxo tradition, with a spring balanced arm for maximum reach and flexibility. It is designed so that the lamp head is always parallel with the table surface. It has a sculptural form, perfect balance and smooth movement, which causes it to seem as light as a feather - despite the steel structure. Air LED is available with long, 80 cm, or short, 60 cm, arm. The unit is dimmable and switches off automatically after 4 or 9 hours to save power. Air LED is supplied with table clamp as standard. Table base is available on request and must be ordered separately. Air can also be fitted with panel/rail and wall brackets. Colors: white, black or silver.

Light source	Supplied with 1 x integrated LED module 6W. Correlated colour temperature (CCT) is 3200 K, Colour rendition index (CRI) is 90.
Housing	Steel arm and aluminium shade. Colours: white, black or aluminium grey.
Optic	Asymmetric light output. Reflectors for halogen version, polycarbonate lenses for LED version.
Arm length (mm)	600/800

L1 | L1 LED

LUXO



L1 is the world's original architect lamp designed in 1937 by Luxo's founder, Jac Jacobsen. Since its creation, 25 million L1 luminaires have been sold worldwide, and L1 has been distinguished by many prestigious awards in the world of industrial design. The unique design and flexible spring-balanced arm have earned L1 a place among the world's all time classics. L1 is available with 11W lamp or LED. L1 LED is dimmable and has an automatic shut-off in order to save energy. Supplied as standard with table clamp. Table base and integrated table mounts available on demand. Colours: Chrome, white, black or silver grey.

Light source	Supplied with 1 x TC-HSE 11 W. L1 is certified for maximum 40 W. LED: 8W, 350lm. Correlated colour temperature (CCT) is 3000 K, Colour rendition index (CRI) is 90. LED module has a timer and will automatically shut off after 4 or 9 hours.
Housing	Steel arm and aluminium shade
Optic	Symmetric light output. Inner shade painted white for maximum efficiency. L1 LED has a opalic diffuser for a softer light and to avoid glare.
Arm length (mm)	1000



Photo: Vikingline



Photo: RCCL



Photo: Karl Otto Kristiansen

Heaters

Functional and energy effective heaters developed for the marine industry



TELCO T2 RIB



TELCO FIB



TPA offshore

TELCO T2RIB	164
TELCO FIB.....	165
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TELCO T2 RIB

Splash-proof heater for marine and offshore installations



Cable entry rear side



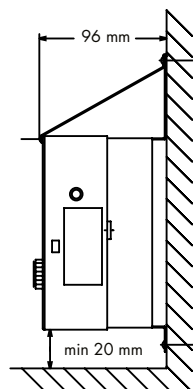
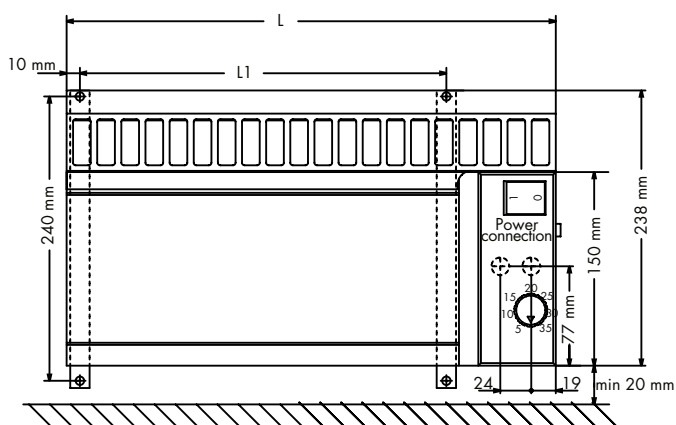
Temperature control on front right side

- Low surface temperature
- Non-corrosive materials
- Splash-proof, IP44
- Low weight
- High efficiency

Application	For mounting indoor in damp accommodations, such as bathrooms and WC's.
Design	Flow through marine heater, designed according to maritime requirements
Housing	Aluminium housing with a protection grating on top
Finish	Powder coated white RAL9016
Electric	With on/off switch, bi-metal thermostat and thermal cut-out protection
Mounting	Wall mounted with included solid brackets
Connection	Two holes for cable entry on the back, right side. Screw type terminal block.
Remarks	Minimum distance to nearest sidewall = 2 cm Minimum distance to floor = 2 cm Minimum distance to window sill, etc. = 38 cm DNV approved, Germanischer Lloyd on request

Product	Effect W	Part-No. 115V	Part-No. 115V	Part-No. 115V	L mm	L1 mm
T2RIB 025	250	54 494 58	54 494 56	54 494 57	379	285
T2RIB 03	300	54 494 62	54 494 60	54 494 61	379	285
T2RIB 04	400	54 494 66	54 494 64	54 494 65	379	285
T2RIB 08	800	54 494 70	54 494 68	54 494 69	629	535
T2RIB 12	1200	54 494 74	54 494 72	54 494 73	869	775
T2RIB 16	1600	54 494 78	54 494 76	54 494 77	1134	1040
T2RIB 20	2000	54 494 92	54 494 90	54 494 91	1395	1300

Complete assortment on www.glamox.com/gmo



TELCO FIB



For mounting indoor for use in all rooms where there is no need for a splash-proof heater.

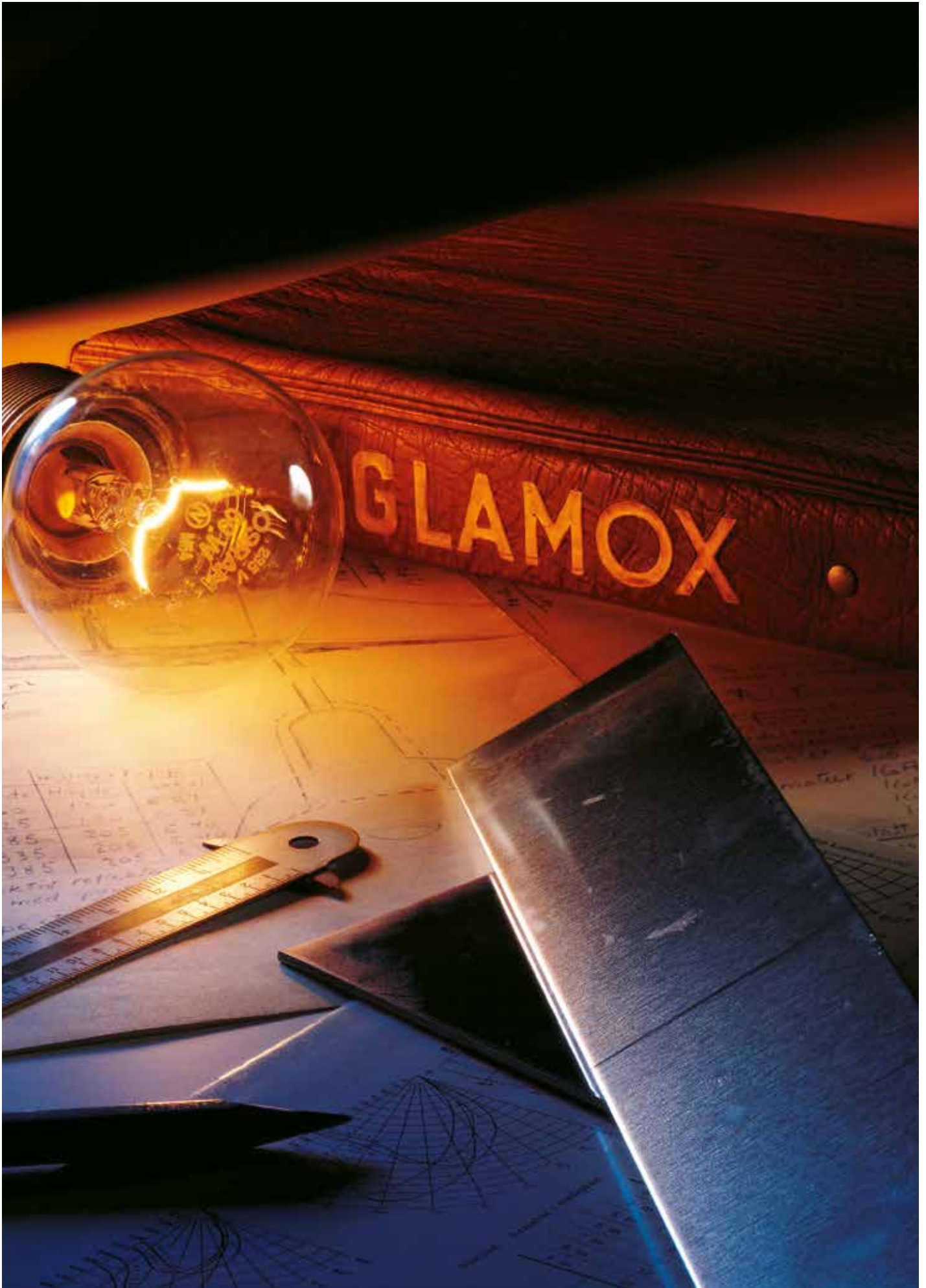
Effect	230 - 400V 500 - 1000W
Electric	With on/off switch, bi-metal thermostat and thermal cut-out protection
Housing	Aluminium housing with a protection grating on top
Dimension (mm)	W: 87 H: 400 L: 620/920/1220

TPA offshore



For mounting indoor for use in all rooms where there is no need for a splash-proof heater.

Effect	400 - 1000W
Electric	With on/off switch, electronic temperature controller and thermal cut-out protection with manual reset. (Temperature controller to be ordered separately)
Housing	Painted steel. Protection grid on top required (to be ordered separately)
Dimension (mm)	W: 84 H: 350 L: 500/650/813/975



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Technical information

General information

Technical requirements for electrical devices that previously were based on each nations requirements, are today based on international agreements for more than one countries.

All international norms concerning electrical devices are the responsibility of the International Electro-technical Commission (IEC), which is a Division of the International Standard Organization (ISO).

The norms from this Division are harmonized at two different continent levels, CENELEC for Europe and NEC for the USA.

Most of the countries have their testing authority, following the national norms and regulations. Examples include NEMKO for Norway, PTB for Germany, CSA in Canada etc. and marine oriented authorities such as DNV for Norway, RINA for Italy, BUREAU VERITAS for France or USCG for USA. All these authorities try to achieve the same goal, to ensure safe installation and operation of electrical equipment.

CE-Mark

As consumers in the EU-market, we meet the CE-mark on all types of products. The CE-mark means that the product meets all relevant norms and the manufacturer is responsible for creating a Declaration of Conformity to assure that the product is designed and produced according to the norms.

Many of the Glamox group products are certified by a 3rd. party, which means that also an independent test approval board has tested the product towards appropriate product norms and created the certificate.

EMC

EMC is short for Electro Magnetic Compatibility, which means the product's capability to function in its environment without disturbing or being disturbed by electromagnetic interference.

The EU Directive refers to European norms for electrical disturbances from a product (EN 50081) and the product immunity towards electrical disturbances (EN 50082).

Glamox has, since the EMC Directive was implemented, built advanced laboratories where we can do all relevant testing. We have in parallel educated our staff accordingly.

Heat

An important criteria when designing luminaires is the temperature on all critical components inside and outside the product.

The Glamox group has standardized laboratories for all types of heat measurements relevant to luminaires.

Electronics has increasing market share and the heat measurements become more and more important. A rule of thumb says that a ten degree decrease in temperature on the electronic component will double its lifetime. That is why we always try to find the optimal and coldest position of the electronic components in the fixture.

Ta means "Temperature ambient". If the fixture is labelled Ta40, it means that it is designed for use in temperature up to 40°C.

IP Class

IP (Ingress Protection) classification tells us the products capability to avoid ingress from water or solid objects.

The first number refers to solid objects/dust and the second to water. The Glamox group has laboratories for testing IP classification.

Mainly, higher IP-rating means higher protection from dust and watertightness. Remember The IP66 -rating also takes in consideration the protection against heavy seas and high pressure water cleaning. IP67-rating does not give any guarantee that IP66 requirements are met.

Technical information

Ex norms and regulations

Introduction to the principles of explosion
protected electrical equipment
IEC 60079-0 to IEC 60079-18

Hazardous Area

For hazardous areas, it is very important that the product is designed for use in the actual area, and that operation and maintenance are according to the requirements.

The norms for hazardous areas are not the same for all over the world, but during the few last years, the world wide harmonizing work have had much focus, and the IEC Ex certification is being ratified by more and more countries. For Europe, the ATEX directives for equipment (94/9/EC) and worker protection (1999/92/EC) in potentially explosive atmospheres became mandatory from 1st July 2003.

This means that all products delivered for installation in hazardous areas in buildings and fixed installations in Europe from that date have to be certified according to the ATEX norms.

The ATEX directives are covering both electrical and non-electrical equipment, and for the first time, mechanical equipment falls under this type of legislation.

Classification of Zones

The hazardous areas have to be classified in Zones:

ZONE 0 is a place where an explosive atmosphere, which consists of a mixture of air with any combination of flammable gas, vapour or mist, is present continuously, frequently or for long periods.

ZONE 1 is a place where an explosive atmosphere, which consists of a mixture of air with any combination of flammable gas, vapour or mist, is present only occasionally during normal operation.

ZONE 2 is a place where an explosive atmosphere, which consists of a mixture of air with any combination of flammable gas, vapour or mist, is not likely to occur in normal operation, but if it occurs, will persist for a short period of time.

For explosive atmospheres due to combustible dust in air, a similar classification exists, with the zones numbered Zone 20, Zone 21 and Zone 22.

Category groups

Electrical equipment has to be classified in two different category groups:

- Group I Electrical equipment for mining
- Group II Electrical equipment for all remaining hazardous areas

Equipment group

For the different areas, the equipment has to be classified

Group II. For gas and dust:

Zone 0/20	Equipment 1G/1D
Zone 1/21	Equipment 2G/2D
Zone 2/22	Equipment 3G/3D

Group I. For mining:

Methane	M1
Dust	M2 or M1

European Standard

European coding marking standard for products designed for use in hazardous areas:

Ex is the coding for products confirming to IEC standard

If the product confirms to the harmonised European Standards which has been notified by EU for the ATEX directive, the product will also carry the hexagon Exsymbol.

ZONE Marking

Directive 1999/92/EC also requires that areas in which explosive atmospheres can occur must have warning signs.



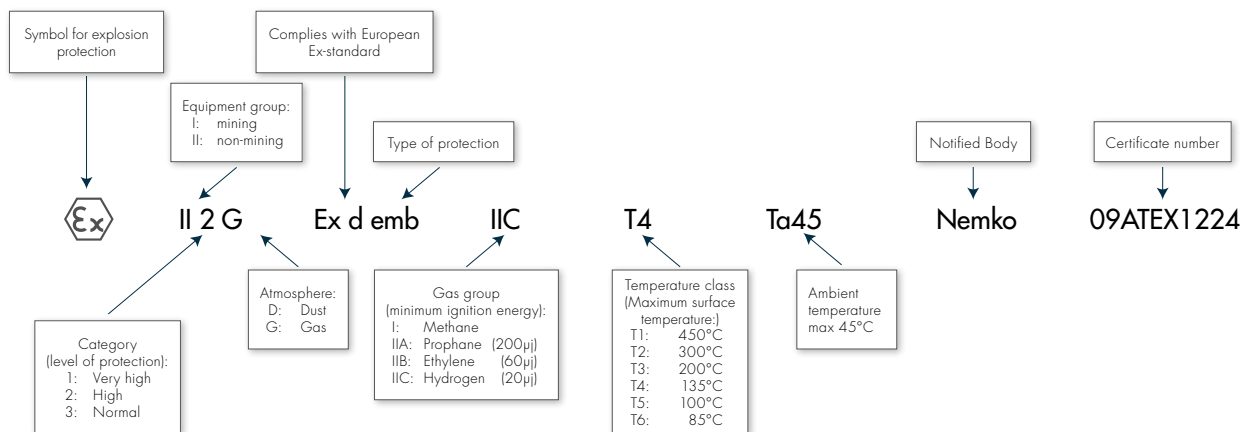
Technical information

Marking of explosion protected electrical apparatus

Product and area marking according to directive 94/9/EC (ATEX)

ATEX labelling

Products certified according to ATEX also have the certification number as well as the certification authority and year of certification on the label. For GFX floodlight you will find: PTB 03ATEX1114
This states that the fixture is approved by PTB (notified body number 0102) in year 2003, according to ATEX and the number given is 1114.



Temperature classes

For safety utilisation, the maximum temperture of the product has to be lower than the ignition temperature of the inflammable gas or dust mixture. Based upon this, the products have to be classified into temperature classes.

Classification of maximum surface temperatures for Group II electrical apparatus

Temperature class	Max. surface temperature	Ignition temperature of combustible material
T1	450°C	> 450°C
T2	300°C	> 300°C
T3	200°C	> 200°C
T4	135°C	> 135°C
T5	100°C	> 100°C
T6	85°C	> 85°C

Technical information

Safety characteristics of flammable gas and vapours

Depending on the minimum ignition energy of the gas, the gases are classified in gas groups.

GROUP I	Methane (mining)
GROUP IIA	Gases with minimum ignition energy more than 80µJ. e.g. Propane
GROUP IIB	Gases with minimum ignition energy from 45 to 80µJ. e.g. Ethylene
GROUP IIC	Gases with minimum ignition energy less than 45µJ. e.g. Hydrogene

Medium	Ignition temperature °C	Temperature class	Explosion group	Medium	Ignition temperature °C	Temperature class	Explosion group
Acetaldehyde	140	T4	II A	Ethylenoxid	440	T2	II B
Acetic acid	485	T1	II A	Ethyl ether	170	T4	II B
Acetic anhydride	330	T2	II A	Ethyl glycol	235	T3	II B
Acetone	540	T1	II A	Fuel oil	220 up to 300	T3	II A
Acetylene	305	T2	II C (3)	Hydrogen aeroxid	560	T1	II C (2)
Ammonia	630	T1	II A	Hydrogen disulphide	270	T3	II B
Amylacetate	380	T2	II A	Methane	595 (650)	T1	II A
Benzene	220	T3	II A	Methanol	455	T1	II A
Benzol	555	T1	II A	Methyl chloride	625	T1	II A
Carbon disulphide	95	T6	II C (1)	n - Butane	365	T2	II A
Carbon monoxide	605	T1	II A / II B	n - Butylalcohol	340	T2	II A
Cerosin	220 up to 300	T3	II A	n - Hexane	240	T3	II A
Cyclohexene	430	T2	II A	n - Propylalcohol	405	T2	*)
1,2 - Dichloretane	440	T2	II A	Naphtalene	540	T1	II A
Diesel fuel	220 up to 300	T3	II A	Oleic acid	360	T2	*)
Ethane	515	T1	II A	Phenol	595	T1	II A
Ethylacetate	460	T1	II A	Propane	470	T1	II A
Ethylalcohol	425	T2	II A / II B	Tetraline	425	T2	*)
Ethylchloride	510	T1	II A	Toluole	535	T1	II A
Ethylene	425	T2	II B				

Source: Appendix B, VDE 0165/9.83

(1) Also Explosion group II B + CS₂

*) The explosion group for this medium has not yet been defined

(2) Also Explosion group II B + H₂

(3) Also Explosion group II B + C₂H₂

Technical information

Protection in hazardous areas

Introduction to the principles of explosion
protected electrical equipment
IEC 60079-0 to IEC 60079-18

Type of protection to IEC Standard		Basic principle	Schematic	Applications
Flameproof enclosure IEC60079-1	d	A type of protection, in which, the flammable parts that can ignite an explosive atmosphere are placed in an enclosure, which can withstand the pressure developed during an internal explosion of an explosive mixture and which prevents the transmission of the explosion to the explosive atmospheres surrounding the enclosure.		Switchgear, control and indicating equipment, control boards, motors, transformers, light fittings and other spark-producing parts
Increased safety IEC60079-7	e	A higher degree of security protection. Reducing the possibility of excessive temperatures, and minimizing the risk of arcs or sparks in the interior or exterior. Also does not produce therm under normal service.		Terminal and connection boxes, control boxes housing Ex-modules (of a different type of protection) squirrel cage motors, light fittings
Pressurized apparatus IEC60079-2	p	A type of protection in which the entry of a surrounding atmosphere into the enclosure of the electrical apparatus is prevented by maintaining inside enclosure a protective gas (air, inert or other suitable gas) at a higher pressure than that of the surrounding atmosphere. The overpressure is maintained either with or without continuous flow of the protective gas.		As above, but especially for large equipment and complete rooms
Intrinsic safety IEC60079-11	i	A type of protection in which the electrical apparatus contains intrinsically safe circuits, which are incapable of causing an explosion in the surrounding atmosphere. A circuit or part of a circuit is intrinsically safe, when no spark or any thermal effect in this circuit, produced in the test conditions prescribed in the standard (which include normal operation and specific fault conditions) is capable of causing ignition.		Measurement and control equipment
Oil immersion IEC60079-6	o	A type of protection in which the electrical apparatus and parts of the electrical apparatus are immersed in oil in such a way that an explosive atmosphere, which maybe above the oil or outside the enclosure cannot be ignited.		Transformers (only used rarely now)
Powderfilling IEC60079-5	q	A type of protection in which the enclosure of electrical apparatus is filled with a material in a finely granulated state so that, in the intended conditions of service, any arc occurring within the enclosure of an electrical apparatus will not ignite the surrounding atmosphere. No ignition shall be caused either by flame or by excessive temperature of the surfaces of the enclosure.		Transformers, capacitors, heater strip connection boxes electronic assemblies
Moulding IEC60079-18	m	A type of protection in which the parts which can ignite an explosive atmosphere are enclosed in a seam sufficiently resistant to environmental influences in such a way that the explosive atmosphere cannot be ignited by either sparking or heating, which may occur within the encapsulation.		Only small capacity switchgear, control gear, indicating equipment, sensors
Non sparking IEC60079-15	n	Electrical apparatus is not capable of igniting a potentially explosive atmosphere (under normal operation and under defined abnormal operating conditions).	explosive atmosphere n: Zone 2 This type of protection includes several methods of ignition protection.	All electrical apparatus for Zone 2, less suitable for switchgear and control gear.

Technical information

Ex norms and regulations

Introduction to the principles of explosion
protected electrical equipment
NEC 500-506 / CEC 18

General

In any industry where flammable materials are produced, processed or stored there is a potential risk of explosion. Although the objective is to prevent the release of gases or flammable mixtures into the atmosphere a release may take place. Therefore actions are taken to assess the probability of occurrence of hazardous areas and explosion-proof equipment must be installed in order to prevent an explosion.

Class I Flammable Gases, Vapors or Liquids

Class I Area Classification		Class I Groups	
NEC 500-503 / CEC 18	NEC 505-506 / CEC 18	NEC 500-503 / CEC 18	NEC 505-506 / CEC 18
Division 1	Zone 0	Division 1 and 2	Zone 0, 1 and 2
Where ignitable concentrations of flammable gases, vapors or liquids can exist all of the time or some of the time under normal operating conditions.	Where ignitable concentrations of flammable gases, vapors or liquids are present continuously or for long periods of time under normal operating conditions.	A (acetylene)	II C (acetylene & hydrogen)
	Zone 1	B (hydrogen)	
	Where ignitable concentrations of flammable gases, vapors or liquids are likely to exist under normal operating conditions.	C (ethylene)	II B (ethylene)
		D (propane)	II A (propane)
		Class I Temperature Codes	
Division 2	Zone 2	Division 1 and 2	Zone 0, 1 and 2
Where ignitable concentrations of flammable gases, vapors or liquids are not likely to exist under normal operating conditions.	Where ignitable concentrations of flammable gases, vapors or liquids are not likely to exist under normal operating conditions.	T1 (≤450°C)	T1 (≤450°C)
		T2 (≤300°C)	T2 (≤300°C)
		T2A, T2B, T2C, T2D (≤280°C, ≤260°C, ≤230°C, ≤215°C)	-
		T3 (≤200°C)	T3 (≤200°C)
		T3A, T3B, T3C (≤180°C, ≤165°C, ≤160°C)	-
		T4 (≤135°C)	T4 (≤135°C)
		T4A (≤120°C)	-
		T5 (≤100°C)	T5 (≤100°C)
		T6 (≤85°C)	T6 (≤85°C)

Technical information

Hazardous areas protection methods

Class I, Division 1 and 2 Protection Methods NEC500 / CEC18

Applicable Certification Documents			
Area	Protection Methods	U.S.	Canada
Div. 1	<ul style="list-style-type: none"> Explosion proof Intrinsically safe (2 fault) Purged/pressurized (Type X or Y) 	UL1203 UL913 NFPA 496	CSA-30 CSA-157 NFPA 496
Div. 2	<ul style="list-style-type: none"> Nonincendive Non-sparking device Purged/pressurized (Type Z) Hermetically sealed Any Class I, Div. 1 method Any Class I, Zone 0, 1 or 2 method 	UL 1604 UL 1604 NFPA 496 UL 1604 ---- UL 2279	CSA-213 CSA-213 FPA 496 CSA-213 ---- CSA-E79 Series

Class I, Zone 0, 1 and 2 Protection Methods NEC505 / CEC18

Applicable Certification Documents					
Area	Protection Methods	U.S.	Canada	IEC	Europe
Zone 0	<ul style="list-style-type: none"> Intrinsically safe, 'ia' (2 fault) Class I, Div. 1 intrinsically safe (2 fault) method 	UL 2279, Pt. 11 UL 913	CSA-E79-11 CSA-157	IEC 60079-11 ----	EN 50020 ----
Zone 1	<ul style="list-style-type: none"> Encapsulation, 'm' Flameproof, 'd' Increased safety, 'e' Intrinsically safe, 'ib' (1 fault) Oil immersion, 'o' Powder filling, 'q' Purged/pressurized, 'p' Any Class I, Zone 0 method Any Class I, Div. 1 method 	UL 2279, Pt. 18 UL 2279, Pt. 1 UL 2279, Pt. 7 UL 2279, Pt. 11 UL 2279, Pt. 6 UL 2279, Pt. 5 ---- ---- ----	CSA-E79-18 CSA-E79-1 CSA-E79-7 CSA-E79-11 CSA-E79-6 CSA-E79-5 CSA-E79-2 ---- ---- ----	IEC 60079-18 IEC 600-79-1 IEC 60079-7 IEC 60079-11 IEC 60079-6 IEC 60079-5 IEC 60079-2 ---- ---- ----	EN 50028 EN 50018 EN 50019 EN 50020 EN 50015 EN 50017 EN 50016 ---- ---- ----
Zone 2	<ul style="list-style-type: none"> Nonincendive, 'nC' Non-sparking, 'nA' Restricted breathing, 'nR' Hermetically sealed, 'nC' Energy limited, 'nC' ('nI' for Europe) Simplified pressurization, 'nP' Any Class I, Zone 0 or 1 method Any Class I, Div. 1 or 2 method 	UL 2279, Pt. 15 UL 2279, Pt. 15 UL 2279, Pt. 15 UL 2279, Pt. 15 UL 2279, Pt. 15 ---- ---- ----	CSA-E79-15 CSA-E79-15 CSA-E79-15 CSA-E79-15 CSA-E79-15 ---- ---- ----	IEC 60079-15 IEC 60079-15 IEC 60079-15 IEC 60079-15 IEC 60079-15 ---- ---- ----	EN 50021 EN 50021 EN 50021 EN 50021 EN 50021 EN 50021 ---- ---- ----

Technical information

Fire classification

Fire test/fire rating

In marine and offshore installations, requirement to fire resistance for the ceiling may be specified. The most common is B0 or B15 class, according to IMO Res.A.754 (18).

To complete the facility, light and ventilation are needed for the rooms. Those installations require cut outs (recess) in the ceiling elements, which concern the ceiling fire classification.

A recessed unit has to be constructed from approved non-combustible materials in accordance with relevant requirements of SOLAS Ch.II-2Reg.3 and intention of 31 and 47.

The lighting fixture as a separate unit cannot be fire approved. It is the complete installation with the covering of the installed unit that have to withstand the fire load. When completing the installation you have to have in mind:

- Fire rating for ceiling installation
- The maximum allowed size of recess in the actual ceiling
- Maximum weight of fixtures/units
- Minimum allowed distance between recesses
- Recess construction
- Method of fixing
- Type of panels the lighting fixture will be accepted onto:
Width and length of panel
Thickness of panel, thickness of steel plate, etc.

The installation on a vessel or a rig will rarely be exactly as the laboratory test installation. In practice there will be a mixing of cut out for lighting and ventilation as well as ceiling hatches. It is therefore very important to have in mind the minimum allowed distance between recess for the actual ceiling, as well as the maximum allowed load for each ceiling element.

For B0 there is no temperature reduction requirements, but no naked flame of fire is allowed to enter the unexposed side during the test period of 30 minutes. This means that, even the fixture is made of steel with no hole or slots in the body, the area between fixtures and ceiling is very important to keep in mind, in order to avoid any gap where the fire can enter.

For other B- and F-classes (B15/B30) there is requirement for insulation. This means that the insulation covering the fixture/recessed unit must have the same rating as the ceiling element. Insulation boxes or matting are to be used. buckle severely when exposed to high temperatures. A stiff insulation cap will not follow the same form, and therefore the area between ceiling and covering insulation also in this aspect is very important to keep in mind.

According to IMO Res.A.754(18), the performance criteria to "A","B"and "F" class ceilings are:

Criteria	A-class	B-class	F-class
Testing duration	60 minutes	30 minutes	30 minutes
Insulation/ Temperature rise: Average	140°C	140°C	140°C
Maximum	180°C	225°C	225°C
Class description	0, 15, 30, 60	0, 15, 30	30

Integrity: The following requirements shall also be satisfied for the test duration.

- Flaming: There shall be no flaming on the unexposed face
- Cotton wool pad: There shall be no warm gases that can ignite a standardised cotton wool pad
- Gap gauges: By use of a gap meter, control that no gap more than 6 mm wide and 150 mm long, or single opening with diameter more than 25 mm exist

Technical information

Protection degrees

The following protection degrees define the protection of electrical appliances against accidental contact, foreign matters and water as laid down in IEC Publication 60529.

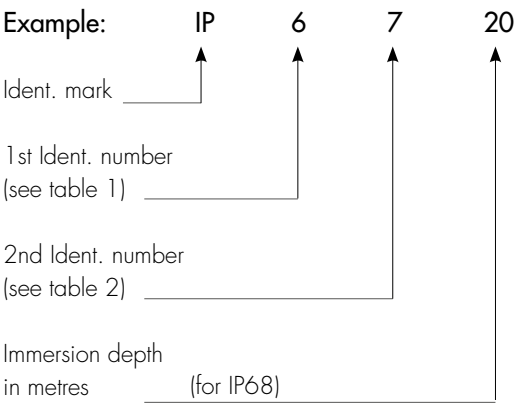


Table 1

First ident. No.	Protection level (contact and foreign matters)
0	No special protection
1	Protection against penetration of solid foreign matters, diameter > 50 mm, no protection against intentional contact e.g. by hand, body contact, however, is prevented.
2	Protection against penetration of solid foreign matters with outside diameter of more than 12 mm, finger contact or similar is prevented.
3	Protection against penetration of solid foreign matters with outside diameter of more than 2.5 mm. Prevents insertion of tools, wires or similar matters larger than 2.5 mm.
4	Protection against penetration of solid foreign matters with outside diameter of more than 1 mm. Prevents insertion of tools, wires or similar matters larger than 1 mm.
5	Protection against damaging dust accumulation. The penetration of dust is not totally prevented but is not permitted to penetrate to such a degree that the effectiveness of the equipment is affected. Complete contact protection.
6	Protection against penetration of dust. Complete contact protection.

Table 2

Second ident. No.	Protection level (water)
0	No special protection
1	Protection against vertical falling drip water, shall have no harmful effect.
2	Protection against vertical falling drip water; when fixture is shifted up to 15° from its normal operating condition there shall be no harmful effect (flanking drip water).
3	Protection against spray water falling at any angle up to 60° against perpendicular. It shall have no harmful effect (spray water).
4	Protection against water splashed against the fixture from any direction, shall have no harmful effect (splash water).
5	Protection against water projected by a nozzle against the fixture from any direction, shall have no harmful effect (hosed water).
6	Protection against green water or strong jet stream, water must not enter the fixture in harmful quantities (overflowing).
7	Protection against water when fixture is submerged under defined conditions of time pressure. Water shall not enter fixture in harmful quantities (submerging).
8	The equipment is suitable for continuous submersion in water under conditions specified by the manufacturer.

Technical information

Light technical definitions

Concept	Symbol	Unit	Formula	Explanation
Luminous flux	Φ	Lumen (lm)		Lumen output is the total amount of light from a light source defined toward the sensitivity curve of the human eye.
Luminous intensity	I	Candela (cd)	$I = \frac{\Phi}{\omega}$	Intensity of the light output in a specific direction. Defined as luminous flux per solid angle.
Illuminance	E	Lux (lx)	$E = \frac{\Phi}{A}$	The luminous flux that hits an area divided by the size of that area.
Luminance	L	(cd/ m ²)	$L = \frac{I}{A}$ $(L = \frac{I}{A} \cos \phi)$	The luminous intensity that reflects from a surface divided by the size of the perceived surface.
Luminance distribution				The luminance distribution in the field of view controls the adaptation level of the eyes, which affects task visibility.
Colour temperature		Kelvin K	CIE 17.4	The colour temperature is used to identify the respective light colour. less 4000K = Warm light. Above 4000K = Cold light.
Colour rendering	Ra	Ra-index	CIE 17.4	The colour-rendering index Ra derived from a set of six test colours and is used to evaluate the colour rendering characteristics of the lamp. The index is graded from 1 - 100 where 100 are lamps that contain radiation from the whole visible spectre. DIN 5035 states six of these levels: 1A=90-100; 1B=80-90; 2A=70-80; 2B=60-70; 3=40-60 and 4=20-40. 1B is recommended for indoor working environment.
Luminous efficacy	H	lm/W	$H = \frac{\Phi}{P}$	Luminous flux from the lamps divided by the power loss of the lamps.
System efficacy	Hs	lm/W	$H = \frac{\Phi}{P_s}$	Luminous flux from the lamps divided by the power loss of the system (lamps, ballast and others).
Uniformity / Evenness			$\frac{E_{min}}{E_{mid}}$ $\frac{L_{min}}{L_{mid}}$	Relations between the lowest and the average value. Passes for both Illuminance and luminance.
Glare			CIE-31	A condition that affects the visibility to see details or gives distaste. Normally divided in to: unpleasant glare (UGR/NB) and Sight restrictive glare (TI/°)
Cut-off angle				The angle between a horizontal axes through the luminaire and the sightline when the light source becomes visible.
Light output ratio	η	%		Ratio of the total flux of the luminaire, measured under specific conditions, to the sum of the individual luminous fluxes of the lamps operating outside the luminaire.
Reflection coefficient	p	%	$\frac{\Phi_{out}}{\Phi_{in}}$	Ratio of the total flux reflected from an area to the incoming flux on the same area.
Contrast / Contrast sensitivity	C Cs		$C = \frac{L_b - L_o}{L_o}$	Objects can be distinguished primarily on the basis on the difference in luminance and colour between the objects and its immediate surroundings. The contrast sensitivity expresses the least possible luminance contrast the eye can discern. Cs is influenced among others by glare from the visual field.
Average lifetime		Hours (h)		Average lifetime is defined as when 50% of a larger amount of the product is still running.
Service lifetime		Hours (h)		Service lifetime is defined as when 80% of the calculated lux level is reached.
Economical lifetime		Hours (h)		Economical lifetime is defined as when 70% of a larger amount of the product is still running.

Technical information




Lamp data

Light tubes

Light tubes produce light when a starter generates an electrical pulse, which starts a discharge of gas in the tube. This discharge generates ultraviolet light that is transformed into visible light when it meets the fluorescent coating (light powder) in the tubes glass

wall. Different light powders dictate the spectral characteristics. A current through the tube limits/increases the discharge process and so defines the luminous efficiency.

Lamp data – Light tubes

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)*	Luminous eff. (lm/W)**	Colour Temperatur K)	Item. no.
	T5, Tube Ra>80 Economic lifetime 19000 hr	FDH	T16	G5	14	1200	96	2700	77000336
								3000	77000335
								4000	77000337
	T5, "longlife" tube Ra>80 Economic lifetime 48000 hr				28	2600	104	2700	77000342
								3000	77000343
								4000	77000344
	T8, Tube Ra>80 Economic lifetime 17000 hr (HF) 12000 hr (F)	FD	T26	G13	15	1000	67	2700	77000079
								3000	77000080
								4000	77000081
					18	1350	75	2700	77000274
								3000	77000275
								4000	77000276
					30	2450	82	2700	77000233
								3000	77000324
								4000	77000322
					36	3350	93	2700	77000277
								3000	77000278
								4000	77000279
					58	5200	90	2700	77000280
								3000	77000281
								4000	77000282
	Miniature tube Economic lifetime 8000 hr	FD	T16	G5	8	400	50	2700	77000329
								3000	77000298
								4000	77000299

* Lumen values for T5 at 25°C. Maximum luminance value is at 35°C and is 10 - 14% higher.

**Luminous efficacy is at maximum lumen values.

Technical information






Lamp data

Compact light tubes

A compact light tube is in reality just an ordinary tube that has been bent around on itself so you only need one lamp per fitting. There are two principle types. One has built-in starter (2 pin) and the other does not

(4 pin). Note that for HF ballast or integrated emergency lighting you should always use 4 pin compact tubes as the HF ballast and emergency light units have their own "starter" built in.




Lamp data – Compact light tubes

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)	Luminous eff. (lm/W)	Colour temp. (lm/W)	Item no.
	Compact light tubes 2 limb short 2 pin Ra>80 Economic lifetime 10000 hr	FSD-I	TC-S	G23	7	400	57	2700	77000301
					9	600	67	3000	77000318
								3000	77000317
								4000	77000286
								2700	77000291
3000	77000316								
	Compact light tubes 2 limb short 4 pin Ra>80 Economic lifetime 13000 hr	FSD-E	TC-SEL	2G7	7	400	57	2700	77000159
					9	600	67	4000	77001040
								2700	77000160
								4000	77000294
								3000	77000406
4000	77000295								
	Compact light tubes 2 limb long Ra>80 4 pin Economic lifetime 20000 hr (HF) 15000 hr (F)	FSD-E	TC-L	2G11	18	1250	69	2700	77000122
								3000	77000056
								4000	77000120
					24	1800	75	2700	77000123
								3000	77000121
								4000	77000058
		FSDH-L	TC-L	2G11	36	2900	81	2700	77000124
								3000	77000084
								4000	77000086
					40	3500	87	3000	77000095
								4000	77000096
55	4850	88	3000	77000136					
	Compact light tubes 4 limb, 2 pin Ra>80 Economic lifetime 10000 hr	FSQ-I	TC-D	G24d-1	10	600	60	2700	77000015
								3000	77000016
								4000	77000017
				G24d-2	13	900	69	2700	77000022
								3000	77000019
								4000	77000026
				G24d-3	18	1200	67	2700	77000009
								3000	77000010
								4000	77000011
								2700	77000221
								3000	77000219
4000	77000222								
	Compact light tubes 4 limb, 4 pin Ra>80 Economic lifetime 13000 hr	FSQ-E	TC-DEL	G24q-1	10	600	60	2700	77000097
								3000	77000018
								4000	77000098
				G24q-2	13	900	69	2700	77000099
								3000	77000002
								4000	77000100
				G24q-3	18	1200	67	2700	77000012
								3000	77000013
								4000	77000014
								2700	77000220
								3000	77000217
4000	77000218								



Technical information

Lamp data

Lamp data – Compact light tube

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)	Luminous eff. (lm/W)	Colour temp. (K)	Item no.
	Compact light tubes 6 limb, 2 pin Ra>80 Economic lifetime 10000 hr	FSM-I	TC-T	GX24d-1	13	900	69	2700	77000252
								3000	77000256
								4000	77000253
				GX24d-2	18	1200	69	2700	77000255
								3000	77000254
								4000	77000251
				G24d-3	26	1800	69	2700	77000431
								3000	77000429
								4000	77001045
	Compact light tubes 6 limb, 4 pin Ra>80 Economic lifetime 13000 hr	FSM-E	TC-TEL	GX24q-2	18	1200	67	2700	77000169
								3000	77000173
								4000	77000166
				GX24q-3	26	1800	69	2700	77000170
								3000	77000174
								4000	77000165
				GX24q-3	32	2400	75	2700	77000171
								3000	77000319
								4000	77000320
				GX24q-4	42	3200	76	2700	77000365
								3000	77000366
								4000	77000367
				GX24q-5	57	4300	75	2700	77000379
								3000	77000368
								4000	77000363
				2G8-1	120	9000	75	3000	77000361
								4000	77000362
	Compact light tubes 2D, 2 pin Economic lifetime 12000 hr	FS-I	TC-DD	GR8	16	1050	65	2700	77000139
				GR8	28	2050	73	2700	77000178
	Compact light tubes 2D, 4 pin Economic lifetime 12000 h	FS-E	TC-DD/E	GR10q	16	1050	65	2700	77000140
				GR10q	28	2050	73	2700	77000184
				GR10q	38	2850	75	2700	77000183

Lamp data – Circular tube

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)	Luminous eff. (lm/W)	Colour temp. (K)	Item no.
	T5 circular tube 16 mm Ra>80 Economic lifetime 16000 hr-	FCH	T16-R	2GX13	22	1800	82	2700	77001000
								3000	77001001
								4000	77001003
					40	3200	80	2700	77001005
								3000	77001007
								4000	77001009
					55	4200	76	2700	77001011
								3000	77001013
								4000	77001015
	Circular D = 216 d = 29	FC-E		G10q	22	1250	57	4000	77000456

For North American lamp types please consult factory

Technical information

Lamp data





Metal halide

Metal halide lights produce light by starting an electrical discharge in argon gas between primary and secondary electrodes. This causes ionisation in the discharge tube



so the discharge between the electrodes starts. This requires a high starting voltage. For this reason an external starter is used that gives start pulses of 1.5 – 4 kV. It can

take up to 10 min. before the light has reached full light flux. Ceramic versions give more stable colour temperatures and color rendering throughout their lifetime.





Lamp data – Metal halide

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)*	(Ra) Colour rendering	Colour temp. (K)	Item no.
	Miniature Single ended Ceramic	MT	HIT-CRI	G12	35	3600	80+	3000	77000310
					70	7300	80+	3000	77000264
						6800	90+	4200	77000314
			HIT-TC-CRI	PGJ5	150	13000	80+	3000	77000265
						14500	90+	4200	77000309
					20	1650	85	3000	77001196
	Double ended Ceramic	MD	HIT-DE-CRI	RX7s	70	6800	80+	3000	77000266
						6500	90+	4200	77000312
					150	14500	80+	3000	77000267
			HIT-DE	RX7s		14400	90+	4200	77000308
					70	5700	80+	4000	77000182
					150	12000	80+	4000	77000181
	Double ended Quartz	MD	HIT-DE	Fc2	250	20000	80+	4200	77000112
				E27	70	7000	80+	3000	77000104
				E40	150	14500	80+	3000	77001039
	Tube formed Quartz	MT	HIT	E40	250	20000	90	5200	77000148
					400*	34000	80+	4000	77001047
					400*	35000	90	5200	77000110
					1000	85000	90	7250	77000118
					1000	110000	65	3500	77000126
					2000	180000	90	7250	77000115
					2000	240000	65	4400	77000119
					2000	210000	65	3800	77001204
	Elliptical formed Diffuse Ceramic**	ME	HIE-CRI	E27	70	6700	80+	3000	77000104
		ME	HIE-CRI	E27	150	13700	90	3000	77000108
	Elliptical formed Diffuse Quartz	ME	HIE	E27	100	7900	80	2900	77000023
					100	7700	80	4000	77001064
					150	11600	70	2900	77001060
					150	11500	80+	4000	77001042
				E40	250	19000	90	5200	77000102
					400*	31000	90	5300	77000514

* Can be used with both Sodium (HS) and Metal Halide (HI) ballast. Lumen values are shown Sodium values. For Metal Halide ballast the lumen value is approx. 15% lower. ** Can be used in open luminaires.

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Beam angle	Light strength (cd)	Colour temp. (K)	Item no.
	PAR 30	MR	HIPAR 30	E27	35	10	37000	3000	41886
						30	7000	3000	41887
					70	10	55000	3000	41621
						40	10000	3000	41620
	HIPAR 51		HIPAR 51	GX10	20	25	4000	2910	403141
					20	40	1700	2910	403140

Supplier definitions – Metal Halide

Figure	ILCOS	ZVEI	Base	Wattage (W)	GE	Osram*	Philips**	Iwasaki	Sylvania
	MT	HIT	G12	35	CMH 35/T	HCHT 35	CDM-T 35		
				70	CMH 70 T	HCHT 70	CDM-T 70	MHT 70	HSI-T 70
				150	ARC 150	HCHT 150	CDM-T 150		CMH-T 150
	MD	HIT-DE	RX7s	70	CMH 70 TD	HCHT-S 70	CDM-TD 70		HSI-TD 70
				150	ARC 150	HCHT-S	CDM-TD 150		HSI-TD 150
				250	ARC 250	HCHT-S 250	MHN-TD 250		HSI-TD 250
	MT	HIT	E40	150		HCHT-T	CDO-TT	MT 150	
				250	ARC 250/T	HCHT 250	HPI-T 250	MT 250	HSI-T 250
				400 ¹	ARC 400/T	HCHT 400	HPI-T plus 400	MT 400	HSI-T 400
	ME	HIE	E27	70		HCHT 70	CDO-ET 70	MT 70	HSI-MP
				100	MXR 100	HCHT-E 100	CDO-ET 100		HSI-MP 100
				150		HCHT-E 150		MT 150	
			E40	250	ARC 250/D	HCHT-E 250	HPI-E 250	MT 250	HSI-S 400
				400 ¹	ARC 400/D	HCHT-E 400	HPI-E 400	MT 400	HSI-S 400

*Osram definition with Ceramic burner = HCHT with Quartz burner= HCHT. ** Philips definition with ceramic burner = CD, with Quartz burner = HPI.

For North American lamp types please consult factory









Technical information

Lamp data



High intensity sodium

High intensity sodium lamps do not require secondary electrodes. The Xenon gas is ionised with the help of an external starting ignitor that also starts the discharge of sodium vapour. Beyond this starting the operation is as with metal halide lamps.

Lamp data – High intensity sodium

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)	Luminous eff. (lm/W)	Colour temp. (K)	Item no.
	Tube formed Standard Ra=25 Clear	ST	HST	E27	70	5900	84	2000	77001017
				E40	150	14500	97	2000	77001019
					250	27000	108	2000	77001021
					400	48000	120	2000	77001023
					1000	130000	130	2000	77000206
					1000	130000	130	2000	77001205
 	Tube formed Long life High Output Ra=25 Clear	ST	HST	E27	50	4400	88	2000	77000212
				E40	70	6500	93	2000	77000213
					100	10000	100	2000	77000214
					150	17500	117	2000	77000215
					250	33000	132	2000	77000216
					400	55500	139	2000	77000378
					600	90000	150	2000	77000377
	Tubular Twin Arc			E40	250	32000	128	2050	9040081800
					400	55000	138	2050	9040081900
	Tube formed Double ended	SD	HST-DE	Rx7s	70	6800	96	2000	77001070
					150	15000	100	2000	77001069
	Elliptical formed Standard Ra=25 Diffuse	SE	HSE	E27	50	3500	70	2000	77001027
				E40	70	5600	80	2000	77001029
					150	14000	93	2000	77001031
					250	25000	100	2000	77001033
					400	47000	117	2000	77001035
					1000	120000	120	2000	77000116
	Elliptical formed Long life High Output Ra=25 Diffuse	SE	HSE	E27	50	3500	70	2000	77000003
				E40	70	5600	80	2000	77000001
					100	9500	95	2000	77000226
					150	17000	113	2000	77000227
					250	32000	128	2000	77000228
					400	54000	135	2000	77000225
	Citylight Ra>50	STM	HST	E27	80	5600	70	3000	77001037
		SEM	HSE	PG12-3	80	6000	75	3000	77001036

Supplier definitions – Sodium lamps

Figure	ILCOS	ZVEI	Base	Wattage (W)	GE	Osram	Philips	Iwasaki	Sylvania
	ST	HST	E27	70	LU70/90/T	NAV T 70	SON-T 70		SHPT 70
			E40	100	LU 100/.T	NAV T 100	SON-T 100	NHT 100	SHPT 100
				150	LU150/.T	NAV T 150	SON-T 150	NHT 150	SHPT 150
				250	LU250/.T	NAV T 250	SON-T 250	NHT 250	SHPT 250
				400	LU400/.T	NAV T 400	SON-T 400	NHT 400	SHPT 400
				1000	LU1000/T	NAV T 1000	SON-T 1000	NHT 1000	SHPT 1000
	SE	HSE	E27	50	LU50/90/D	NAV E 50	SON-E 50	NH 50	SHPS 50
			E40	70	LU70/90/D	NAV E 70	SON-E 70	NH 70./HV./	SHPS 70
				100	LU 100/.D	NAV E 100	SON-E 100	NH 100 F	SHPS 100
				150	LU150/.D	NAV E 150	SON-E 250	NH 150..	SHPS 150
				250	LU250/.D	NAV E 250	SON-E 250	NH 250..	SHPS 250
				400	LU400/.D	NAV E 400	SON-E 400	NH 400..	SHP 400
				1000	LU1000/D	NAV E 1000	SON-E 1000	NH 1000	

For North American lamp types please consult factory

Technical information

Lamp data




Halogen incandescent lamps

From a light technical point of view halogen lamps function in the same way as normal incandescent lamps. The difference lies in the fact that a halogen is added to prevent the vaporised tungsten from settling on the bulb



and blackening it, but instead returns to the electrode. Since the problem of blackening is eliminated, smaller glass bulbs can be used, which are also stronger. This means that higher intensity in the lamp is

possible. This raised pressure produces less vaporisation of the filament and so an even higher temperature. The result is a significant higher luminous efficacy compared to conventional incandescent lamps.

Lamp data – Low voltage reflector lamp

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Beam angle	Intensity (cd)	Colour temp. (K)	Item no.
	Cold light lamp with front glass 4000hr	HRGI	QR-CBC	GU5,3 51mm	20	10	5000	2900	77000030
					20	36	780	2900	77000029
					20	60	350	2900	77001043
					35	10	8000	3000	77000033
					35	24	3100	3000	77000032
					35	36	1500	3000	77000031
					35	60	700	3000	77001041
					50	10	1200	3000	77000037
					50	24	4400	3000	77000036
					50	36	2200	3000	77000035
	Miniature 4000hr	HRGI	QR-CBC	GU4 35mm	20	10	4500	2900	77001034
					20	36	700	2900	77001032
					35	10	8000	2900	77001030
					35	36	1350	2900	77001028
	Aluminised Reflector With front glass 3000hr	HRGI	QR-CBC	GU5,3 51mm	20	10	3000	2900	77000460
					20	36	480	2900	77000461
					35	10	6000	2900	77001050
					35	36	1000	3000	77000464
					50	36	1450	3000	77000459




Lamp data – Low voltage halogen burner

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm) ¹	Luminous eff. (lm/W) ²	Colour temp. (K)	Item no.
	2 pin burner UV blocked	HSG	QT9	G4	5	60	12	2900	77000356
					10	130	13	2900	77000186
					20	300	15	3000	77000199
	2 pin burner UV blocked	HSG	QT12	GY6,35	20	300	15	2900	77000196
					35	600	17	3000	77000194
					50	910	18	3000	77000191
					75	1450	19	3000	77000189


Technical information

Lamp data



Lamp data – 230V halogen PAR lamp

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Beam angle	Intensity (cd)	Colour temp. (K)	Item no.
	Halo PAR16 CB	HAG	QPAR 16	GZ10	50	40	750	3000	77001026
	Halo PAR16 AI			GU10	50	40	800	3000	77001024
	Halo PAR 20 Cool Beam	HAG	QPAR 20	E27	50	10	3200	3000	77001022
					50	30	1100	3000	77001020
	Halo PAR 20 Alu reflector	HAG	QPAR 20	E27	50	10	3000	3000	77000425
					50	30	1000	3000	77000426
	Halo PAR 30 Cool Beam	HAG	QPAR 30	E27	75	10	7500	3000	77001018
					75	30	2400	3000	77001016
	Halo PAR30 Alu reflector	HAG	QPAR 30	E27	75	10	6900	3000	77000142
					75	30	2200	3000	77000143

Lamp data – 230V halogen tube

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Length (mm)	Lumen (lm) ¹	Colour temp. (K)	Item no.
	Halogen tube-double ended	HDG	QTD	RX7s	70	74.9	1600	3000	9040091500
					100	74.9	1600	3000	77000411
					120	74.9	2500	3000	9040091600
					150	74.9	2500	3000	77000413
					200	114.2	3200	3000	77000412
					230	114.2	5000	3000	9040091700
					300	114.2	5000	3000	77000414
					400	114.2	9500	3000	9040091800
	Halogen tube		QT	E40	500	210	9500	3000	9840102400
					1000	270	21500	3000	9840042000

Lamp data – Incandescent lamp

Figure	Type	ILCOS	ZVEI	Base	Wattage (W)	Lumen (lm)	Colour temp.(K)	Item no.
	Incandescent Frosted	IBB/F	C35	E14	15	90	2500	77001014
					25	200	2500	77001012
					40	400	2500	77001010
	Halogen Classic (Replacement for incandescent lamp)		QT56	E27	18	200	2800	77001224
					28	345	2800	77001218
					42	630	2800	77001221
					52	840	2800	77001222
					70	1240	2800	77001223

For North American lamp types please consult factory

Technical information

Load table LED

Load table light luminaires and floodlight with LED

Type	System Lumen (lm)	Total wattage (W)	Main current (A)	Max no. of luminaires on Max type 16C no.
DL60-R92/R92H/R108	500	7	0.041	220
DL60-R92/R92H/R108	700	12	0.1	50
DL60-RF/R155	800	13,5	0.07	74
DL60-RF/R155	1100	19	0.094	74
DL60-RF/R155	1400	25	0.11	84
DL60-RF/R155	2100	27,5	0.12	80
DLT RS(M) 1400HF FR1	1362	21	0.094	-
DLT RS(M) 2800HF FR1	2724	44	0.183	-
DLT RS(M) 1400HF FR2	1336	21	0.094	-
DLT RS(M) 2800HF FR2	2673	44	0.183	-
TL14-WV58 300HF OP	290.7	8	0.041	-
TL14-WV58 800HF OP	833	11	0.051	-
TL14-WV58 1000HF OP	980	13	0.07	-
TL14-WV58 2000HF OP	1960	27	0.14	-
MIR LED 2500	2470	26	0.12	28
MIR LED 5000	5095	52	0.25	20
TL60 2200	2200	25	0.117	26
TL60 4500	4500	50	0.231	13
FL60/FX60/TX65 1 module	4130	40	0.18	90
FL60/FX60/TX65 2 module	8250	80	0.36	45
FL60/FX60 3 module	12270	120	0.54	30
FL60/FX60 4 module	17010	160	0.72	22
HL55-O 230V	-	max 9	0.3	-
HL55-P 230V	-	max 7	0.3	-

Technical information

Load table HF

With simultaneous connection of a large number of electronic ballasts, voltage can fall, which can cause individual luminaires not to start. In such circumstances we recommend that the luminaires are split into groups using a contactor that delays the starting point by 1 - 2 seconds.

Type	Watt	Lamp wattage	Ballast loss	Total wattage	Max no. of HF ballasts on 16 amp C fuse*	
		(W)	(W)	(W)	HF	HFDd
T5 HE	1x14	14	3	17	80	86
	2x14	28	4	32	80	84
	3x14	42	5	47	50	40
	4x14	56	5	61	50	40
	1x21	21	3	24	86	64
	2x21	42	4	46	80	42
	1x28	28	3	31	80	62
	2x28	56	4	60	30	32
	3x28	84	7	91	20	20
	1x35	35	4	39	80	62
T5 HO	2x35	70	5	75	30	32
	1x24	24	3	27	44	42
	2x24	48	4	52	44	42
	1x39	39	4	43	44	62
	2x39	78	5	83	30	32
	1x54	54	4	58	44	42
	2x54	108	5	113	24	30
	1x49	49	4	53	44	48
	2x49	98	5	103	30	26
	3x49	147	9	156	19	19
T8	1x80	80	5	85	30	30
	2x80	160	6	166	15	15
	1x18	16	3	19	74	46
	2x18	32	4	36	60	32
	3x18	48	5	53	80	32
	4x18	64	5	69	52	32
	1x36	32	4	36	60	60
	2x36	64	5	69	38	32
T5 Mini	1x58	50	4	54	60	42
	2x58	100	5	105	30	30
	1x8	8	3	11	80	
TC-SEL	2x8	16	4	20	80	
	1x9	8	3	11	80	
	2x9	16	4	20	80	
TC-L	1x11	10	3	13	80	86
	2x11	20	4	24	80	62
	1x18	16	3	19	80	44
	2x18	32	4	36	80	26
	1x24	22	3	25	80	66
	2x24	44	4	48	80	32
	1x36	32	4	36	80	62
	2x36	64	5	69	40	32
	1x40	40	4	44	80	62
TC-DEL	2x40	80	5	85	26	32
	1x55	55	4	59	40	42
	2x55	110	5	115	20	24
	1x10/13	9	3	12	80	86
	2x10/13	18	4	22	80	62
	1x18	16	3	19	80	70
TC-TEL	2x18	32	4	36	80	62
	1x26	23	3	26	80	62
	2x26	46	4	50	80	42
	1x32	32	4	36	80	42
	2x32	64	5	69	30	30
	1x42	42	4	46	80	42
	2x42	84	5	89	30	30

*Using a B type fuse the number should be divided by two.

Technical information

Load table F

Load table light tubes, conventional ballast

Type	Lamp wattage (W)	Reactor loss (W)	Total wattage (W)	Ballast loss Low loss (W)	Tot. wattage Low loss (W)	Mains current (A)	Lamp current (A)
T8	15	10	25	6	21	0,12	0,31
	18	11	29	7	25	0,13	0,37
	30 / 2x15	11	41	7	37	0,18	0,36/0,35
	36 / 2x18	12	48	8	44	0,22/0,2	0,43/0,4
	58	13	71	9	67	0,32	0,67
TC-S	7	7	14	5	12	0,05	0,18
	9	8	17	6	15	0,06	0,17
	11	7	18	6	17	0,07	0,16
TC-L	18	11	29	7	25	0,13	0,37
	24	11	35	7	31	0,14	0,35
	36 / 2x18	12	48	8	44	0,22/0,2	0,43/0,4
TC-D	10	10	20	7	17	0,07	0,19
	13	9	22	6	19	0,08	0,17
	18	11	29	7	25	0,11	0,22
	26	12	38	8	34	0,15	0,32
TC-T	18	11	29	7	25	0,11	0,22
	26	12	38	8	34	0,15	0,32
TC-DD	10	9	19	6	16	0,07	0,18
	16	10	26	6	22	0,1	0,2
	28	11	39	7	35	0,15	0,32
	38	12	50	8	46	0,23	0,43

Load table high intensity lamps

Type	Lamp wattage (PL) (W)	Ballast loss (Pb) (W)	Tot. wattage (Ptot) (W)	Mains current (Im) (A)	Lamp current (IL) (A)
Natrium HS/ (HIS)	50	14	64	0,3	0,76
	70	15	85	0,4	1
	100	16	116	0,54	1,2
	150	22	172	0,83	1,8
	250	33	283	1,35	3
	400	43	443	2,2	4,6
	1000	96	1096	5,66	10,3
Metal halogen HI/ (HID)	35	13	48	0,22	0,53
	70	15	85	0,43	1
	150	22	172	0,8	1,8
	250	30	280	1,3	3
	400	33	433	1,9	3,5
	1000	51	1051	5,1	8,9
	2000	80	2080	6,0	10,3

LED lighting

The LED technology is in rapid development, and LED has many applications, because of the robustness of the diodes. LED is fast becoming the preferred light source in cold environments such as outdoor applications. The longevity of the diodes makes them popular in inaccessible areas where there are high installation heights in buildings, entrances and in pole mounted luminaires, while the sizes make them particularly suitable in really small spaces.

Benefits

New light emitting diode (LED) technology can cut lighting energy cost by several percentages, and more with controls, while delivering additional benefits including long-life, reduced maintenance costs, and improved lighting uniformity.

The marine sector can gain higher quality light that uses less energy and can be more easily controlled by replacing traditional high-intensity discharge (HID) light sources with light-emitting diode (LED) light sources. LEDs work better than HID lamps with controls (e.g., movement sensors and dimmers) and have longer-rated life spans. Recent engineering advances now enable LED to rival the metal halide and high pressure sodium lights that have traditionally dominated the world of the marine lighting. LEDs generate the same amount of lumen flux as traditional technologies, but with less use of energy.

Additionally, LED commercial lights more uniformly light an area due to their greater directional control of light itself. Lamp life rated on these luminaires is 100,000 hours or more, which is significantly higher than 15,000 or even 35,000 for high pressure sodium (HPS) and metal halide (MH) sources. They also power on instantly with no run-up time or delays.

Energy efficiency and correct light levels

Energy efficiency is not as simple as the amount of power a luminaire uses. Lumi-

naires are only useful if they produce the desired levels of light. True energy efficiency can only be calculated by looking at the lumens per watt ratio of a luminaire and how efficient the luminaire directs the light in the desired direction. Lighting unintended areas is considered a waste of energy, and it can also obscure visibility by creating glaring white spots. Producing high lumen values with high wattage is also a waste of energy, because too much energy goes into powering the luminaire.

The ideal scenario for the energy conscious is to find a light source that will use a relatively low wattage to produce a very bright light that can be focused without light spill and only in the direction of the intended target. LED sends light in one direction and is much easier to control when it comes to distribution.

Colour temperature

LED's come in all colour temperatures. Because LED's do not have a full colour spectrum, we must pay special attention to their colour quality and colour rendering capabilities. Otherwise, a lighting installation with visible colour differences may be the outcome. LED light fixtures operate within the 3000K to 5000K colour temperature range. Average CRI for fixtures made by the best manufacturers is between 70 and ≥ 80 . Compare this to MH CRI of 80-90, fluorescent (FL) at approximately the same, and HPS at only 22. One can quickly see that LED is virtually equivalent for practically all applications, especially when one also considers that a CRI of only 50 often is all that is needed for an outdoor area lighting system.

Long lifetime

LED luminaires have amazingly long lives. However, these lamps may deteriorate in performance prior to expiration if they are not designed correctly. The most important thing to ensure when purchasing LED luminaires is that the fitting is designed with appropri-

ate heat management in place. Cheaper luminaires lack the ability to draw heat off the diode. More sophisticated luminaires compensate for this by maintaining heat sink and balanced air flow. Good heat management increase lifetime for LED's.

We normally define the lifetime of a LED as the time expected for it to drop to 70% of its initial light output (L70). A typical L70 lifetime is 100,000 hours. For Glamox the stated lifetime is related to L70 at the stated ambient temperature (Ta value) of the luminaire.

Directional lighting

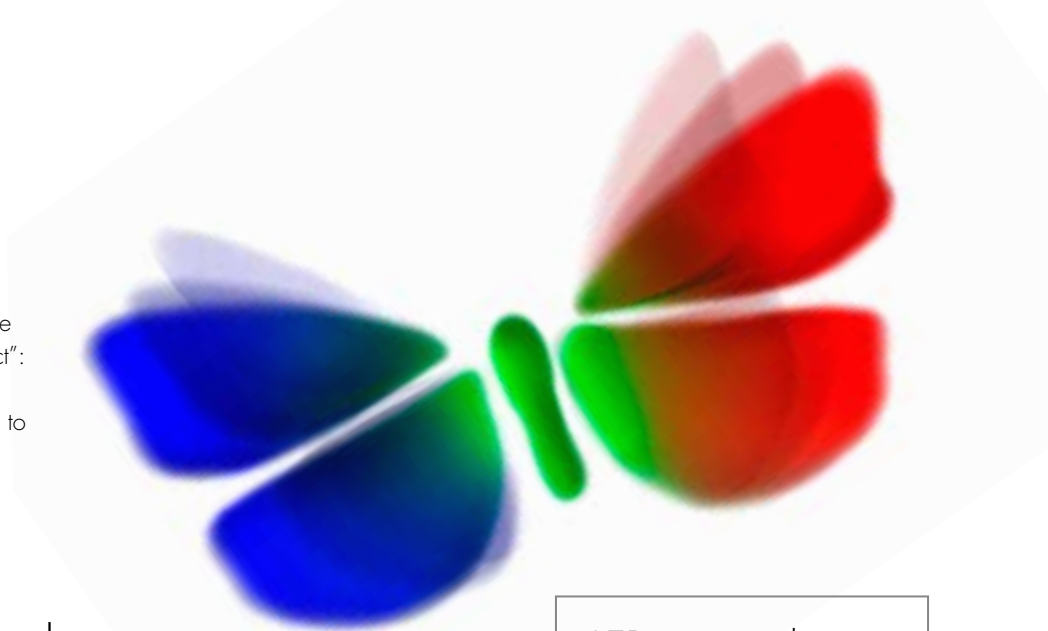
A single point LED emits light in one direction only. HID lamp emits light in all directions. A well designed reflector will contribute and increase the illuminance where you need it. But there will always be some loss in the reflector. A lot of illuminance is wasted with HID, and there is often a great deal of light pollution. Since the light is sent in one direction only with LED, this will improve the Light Output Ratio (LOR) and the energy efficiency. Use of LEDs makes it easier to control and redirect the light. This makes it possible to design a lighting system that is much more uniform, glare free, and optically precise.

Total cost of ownership

Total cost of ownership is a type of calculation designed to get an overview of direct and indirect costs and benefits related to the purchase of a new lighting solution. It is important analysing investment in luminaires, energy costs, lamp change costs, cleaning costs and other. Also sensors should be taken into account since they will reduce energy costs and increase luminaire lifetime further. The initial investment in the LED installation may be higher than a traditional installation, but the LEDs lower energy consumption and maintenance cost may provide a lower total cost over the lifetime of the installation.

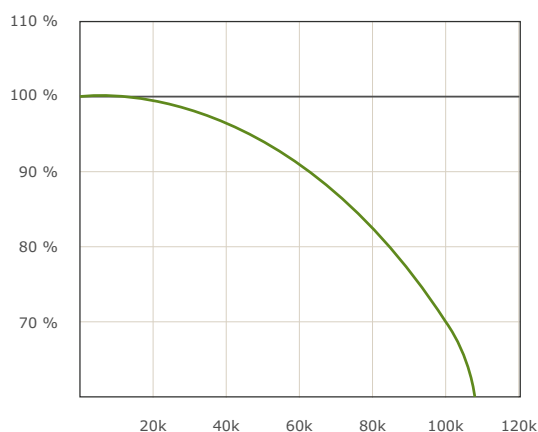
THE BUTTERFLY EFFECT

LED is a small and powerful light source that is changing the world of lighting. The butterfly is a symbol of the "butterfly effect": that a small change at one place in a model (e.g. a weather system) may lead to big changes at another place. See www.glamox.com/gmo for more information on LED.

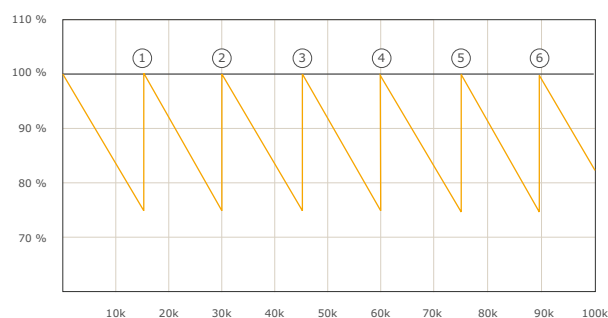


Checklist for LED products

- Photometric test reports
- 5 year warranty on equipment
- Details on luminaire temperature control and lumen depreciation
- Colour temperature suitability for intended application
- Optimal configuration for minimal glare
- Estimated pay-back time based on energy savings and minimized maintenance costs.



The lumen maintenance curve of LEDs.
After 100.000 hours, the remaining light output is 70% of the original output.



Lumen maintenance curves including number of lamps shifts before 50.000 hours for conventional light sources. Fluorescent tubes are normally replaced after 12.000 hours for T8 tubes at ambient temperatures of 25 degrees.

LED terminology

LED: Light emitting Diode.

LED module: An assembly of one or more LEDs on a printed circuit board.

LED driver: The power control used to manage the light output of the LED module.

Total luminous flux:
The amount of light coming from a light source or luminaire.

Total power consumption:
The power consumption of the whole luminaire or system, including losses.

Lm/W: Lumen per watt.
Lumen out of the light source or luminaire, divided by the total power consumption. Also known as efficacy.

CCT: Correlated Colour Temperature. Whether the light is perceived as warm-, neutral- or cool white.

MacAdam's ellipse/ steps: A measure of colour tolerance.

CRI: Colour Rendering Index.
A measure on how well a light source renders colours. Also known as Ra.

L70: The time elapsed to a LED emits 70% of its original light output. A typical lifetime is L70 minimum 100.000 hours.

Ta = Ambient temperature

OptiWin 3D Pro

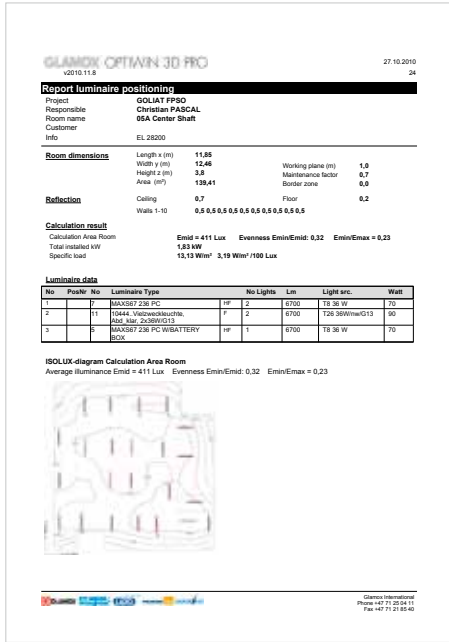
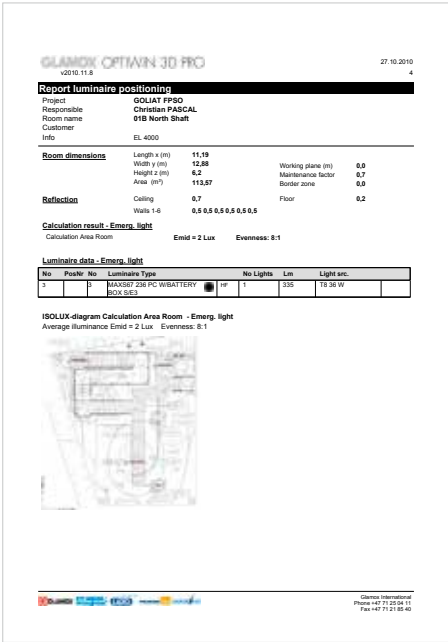
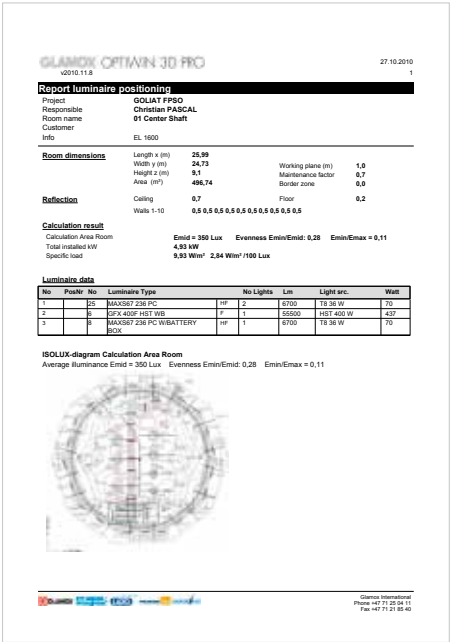
Lighting design

Optiwin 3D Pro is developed for designing and documenting lighting in the most complex outdoor structures. The goal is to offer effective and safe installation work, it makes it possible to calculate the most demanding environments. The result will secure the installation as you are taking into consideration all equipment from drawing level. All results are available in comprehensive reports. You can exchange the result database with other users through E-mail, reducing communication time.

Glamox is a total supplier of lighting design and products. With knowledge on design and light calculation we want to build a long term relationship with our customers.



The result of the lighting design programme is a comprehensive report.



OptiWin 3D Pro

Like working in the real world

"I have worked with lighting design for Glamox since 1994. Previously design projects could take up to a month with the tools we had available. Nowadays, with Optiwin 3D Pro, I can do the same work in half an hour."

Project Manager Christian Pascal

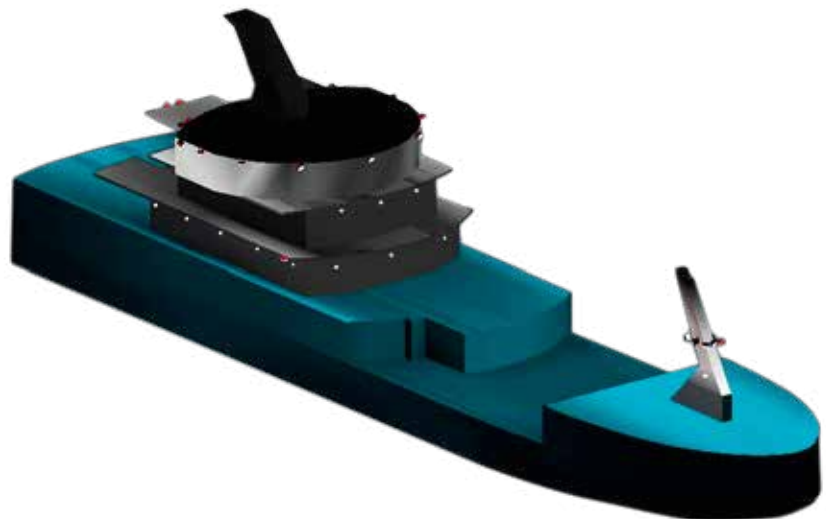


Christian Pascal's working day at Glamox, and that of customers working with light calculation, is much simpler with the calculation programme Optiwin 3D Pro.

"Customers using the new system indicate their savings to be up to 70% in electro-engineering. It is now possible to view the positioning of light fixtures in 3D at an early stage of a project. This also reduces the possibility of installation errors and the costs they incur. The fact that we have spent so much time and money on developing such an advanced calculation program is proof of our commitment to helping our customers do a good job", explains Pascal.

He continues talking as he opens a model of a production vessel on his computer screen. "We import the vessel, place the lighting and are able to carry out all the necessary calculations swiftly and easily." Christian Pascal studies the screen to make sure there is no shadowing or conflict with other equipment. "I can use the screen to take a walk around the vessel, moving in between pipelines, machines and other equipment to make sure the lighting is correct. It really is great fun to work with such an advanced and detailed system, almost more fun than playing a computer game", he tells us with a smile.

"Optiwin 3D Pro is available for all our customers. Contact us to find out how this can work for you."



When light calculations are required for an area on a production vessel, the customer submits 3D drawings which are imported into Optiwin 3D Pro. Once the necessary parameters have been specified, the system takes just seconds to calculate lighting and the positioning of light fixtures.



Emergency lights standards

Planning emergency lights in your projects is not just about showing users the escape route. Lights must be carefully located to provide sufficient illumination according to the different areas of premises and must conform to the latest legislation. An emergency escape lighting system should normally cover the following areas:



Escape routes with exit doors



Intersections of corridors



In change of direction



Staircase



Emergency escape signs



Fire fighting equipment



Task that needs to be shut down and turned on in an emergency



Changes in floor level

Emergency lights standards



International / National / European Standards

EN 1838:1999 Emergency light includes light technical conditions like reading distance, uniformity and level of light.

EN 50171:2001 Central power supply systems

Central power supply systems is a system standard that includes design, operation and maintenance of a central based emergency power supply. This is then referring to product standards for UPS and emergency luminaires.

EN 50172:2004/BS 5266-8:2004 Emergency light systems

System standard for emergency light. This is a system standard that includes design, operation and maintenance of an emergency light system. This is then referring to product standards for Emergency luminaires and stationary batteries.

IEC 60598-2-22 (Emergency luminaires)

Product standards for emergency luminaires and Uninterruptible Power Systems (UPS).

The Health and Safety (Safety Signs and Signals) Regulations 1996 state that final exits and locations where the escape route may be unclear must have signs installed to reduce uncertainty.

Plan according to rules and regulations. The classification society will approve the installation according to IEC, IMO and Solas standards.

Product marking and certification

When quality matters



As a leading supplier of lighting solutions to the maritime and offshore markets we feel an obligation to provide the highest quality because, in the final instance, quality at sea equals reliability and safety.

We thus use our bundled know-how to develop maritime lighting solutions which are reliable, innovative, low maintenance and energy saving. When doing so we always listen closely to what our customers are saying. Our engineers are continuously developing technologies to meet customers' needs and expectations.

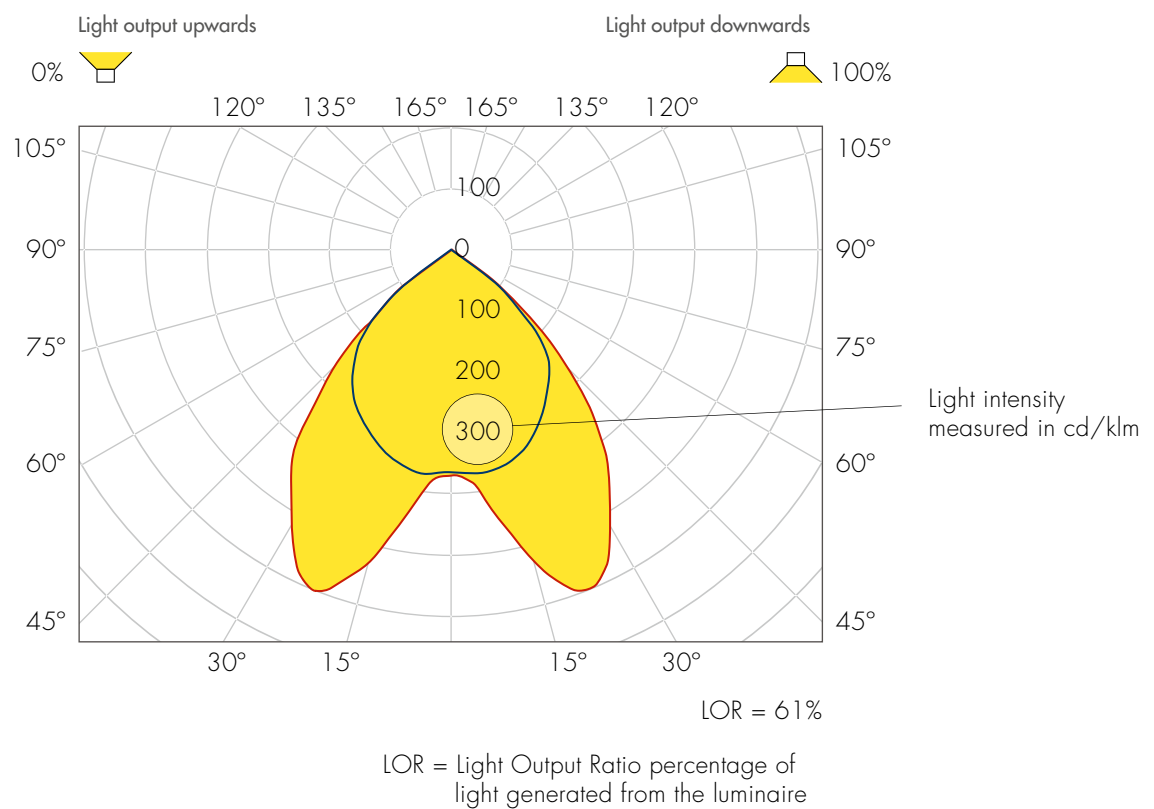
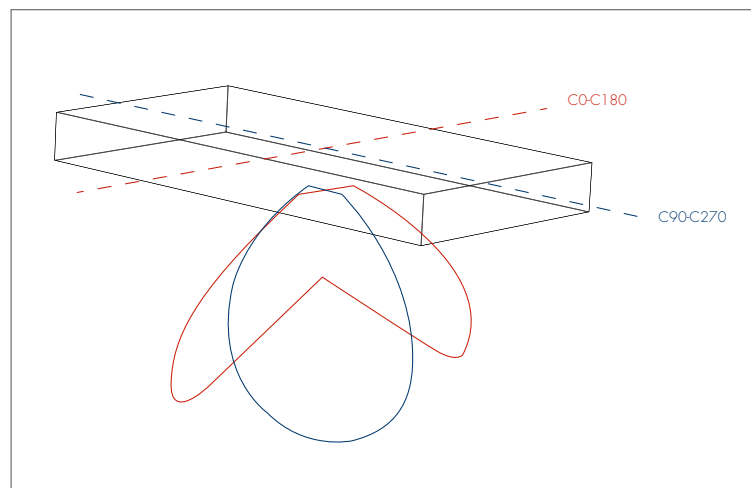
The extreme environmental conditions at sea not only require technologies of a high quality standard but also which are robust and resistant. At our ultra-modern operational environment simulation centres in Norway and Germany we subject our products to rigorous testing. No product leaves the testing laboratories without meeting all the relevant quality and environmental standards as well as also our own requirements, such as long service life and high efficiency.

All our lighting solutions are certified by the world's leading classification societies.






Light distribution

How to interpret the light distribution curve



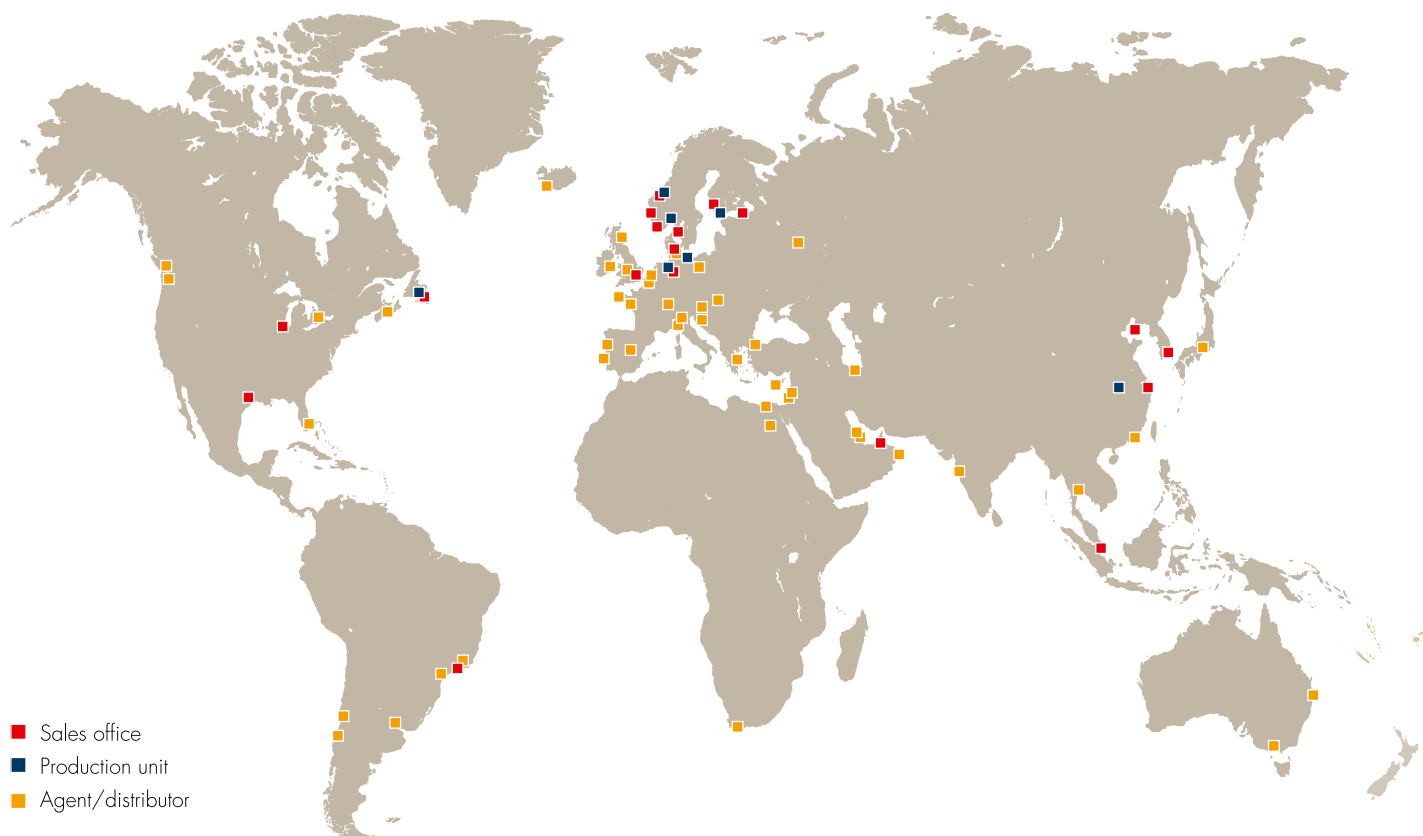
Icon description

Available choices are marked with different symbols (icons) or optic descriptions. Use of symbols indicates an option within that product group and not that all products have that functionality.

Icon	Description	Icon	Description
	5-year warranty		Emergency lights
	Equipment certified for use in hazardous areas, IEC/CENELEC Area Classification Zone 1 and Zone 2		Medical cross
	Equipment certified for use in hazardous areas, IEC/CENELEC Area Classification Zone 2		Can be delivered with dimming
	Equipment certified for use in hazardous areas, NEC505/CEC18 Hazard category; Class1 Area Classification; Zone1		Double isolated
	Equipment certified for use in hazardous areas, NEC505/CEC18 Hazard category; Class1 Area Classification; Zone2		LED light source
	Equipment certified for use in hazardous areas, NEC500/CEC18 Hazard category; Class1 Area Classification; Division1		Sodium tubular
	Equipment certified for use in hazardous areas, NEC500/CEC18 Hazard category; Class1 Area Classification; Division2		Metal Halide tubular
	In marine and offshore installations, requirement to fire resistance for the ceiling may be specified. The most common is B0 or B15 class, according to IMO Res.A.754, (18).		Halogen tube
	In marine and offshore installations, requirement to fire resistance for the ceiling may be specified. The most common is B0 or B15 class, according to IMO Res.A.754, (18).		T8 fluorescent tube
	Certified to European directive 94/9/EC, ATEX		T5 fluorescent tube
	Certified to global certification scheme, IECEx		Thermo tube
			T5 circular fluorescent tube
	INMETRO certified for use in hazardous area		Compact fluorescent 4-pin
	GOST R certified for use in hazardous area		Compact fluorescent tube long
	Underwriters Laboratories Inc (USA)		Compact fluorescent tube 2D
	Canadian Standards Association		T12 fluorescent tube
	Bureau Veritas		Xenon lamp
	CAP 168 approved		Incandescent Tubular
	CAP 437 approved		Incandescent Tubular
	Wheel mark approved		With E27 socket
	Bundesamtes für Seeschifffahrt und Hydrographie approved		Metal halide lamp
	Germanische Lloyd approved		High pressure sodium lamps
	Lloyds Register approved		Indicates ambient temperatures higher than standard (25°C). Best value is indicated
	DNV approved		Indicates IP rating from 20 - 68
	ENEC - Common on european safety label. Tested by a certified test institute		Indicates impact resistance, see table

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