

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: Stem Offshore / Harald Walderhaug

This catalogue pooling the products of the brands Glamox, aqua signal and Luxo.
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NO-6405 Molde/Norway













































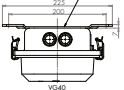





We have done our utmost to make sure that illustrations and technical specifications are correct at the date of publication.

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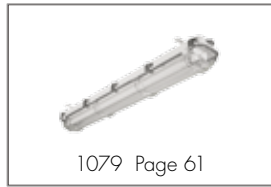
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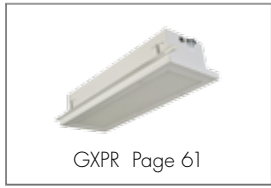
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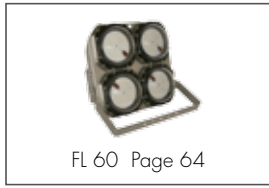
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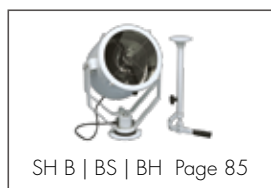
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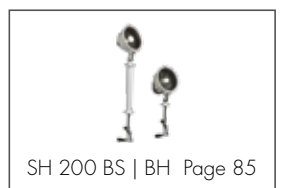
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Premium product brands



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



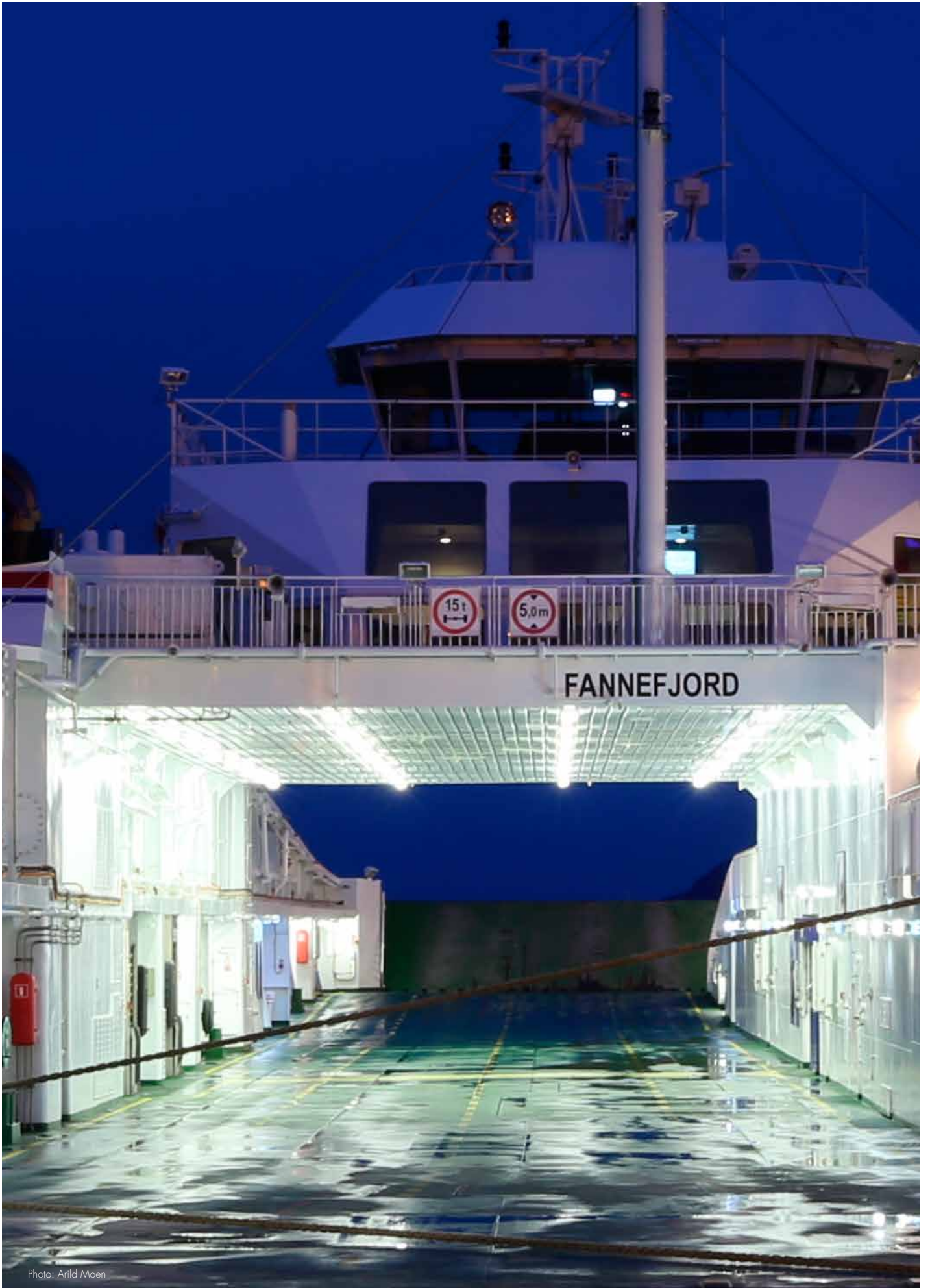


Photo: Arild Moen

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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

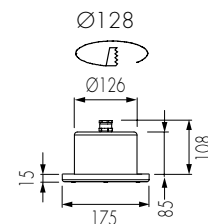
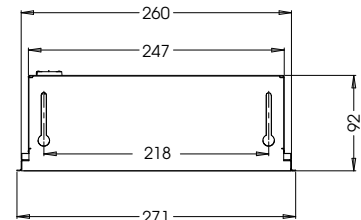
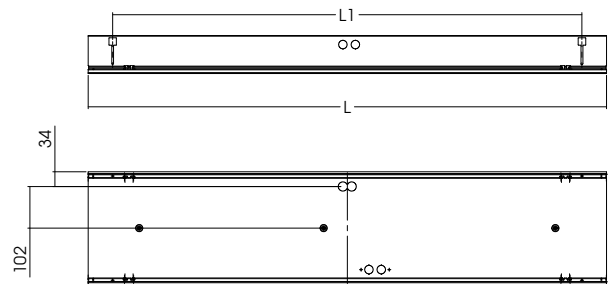


Lighting fixture for panel ceilings



- 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 mm ² . |



Cut out measure
external battery box Ø128



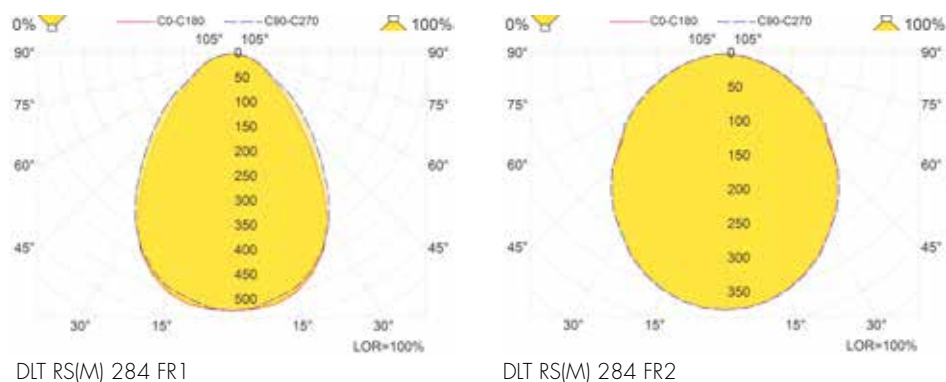
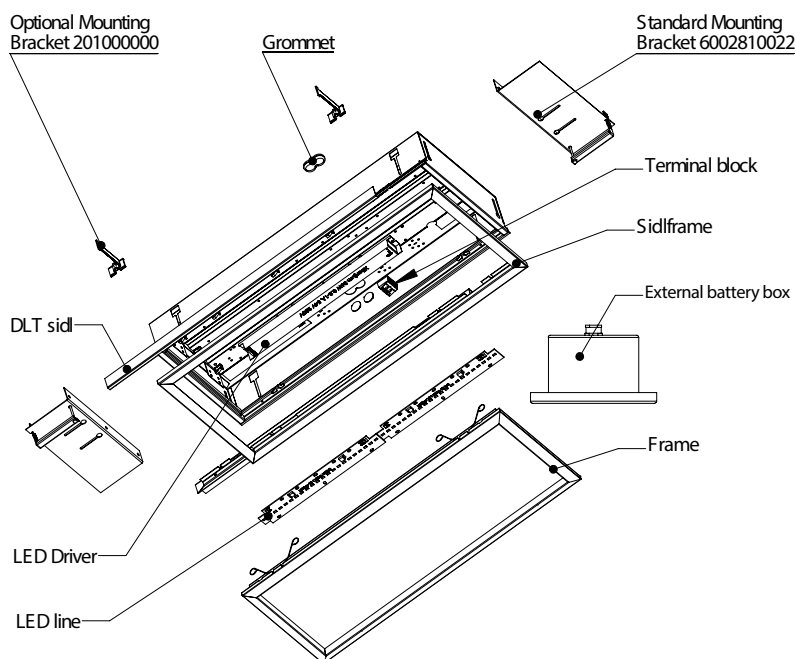
Cut out measure for solid ceiling

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 | | | 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. | Weight kg |
|--------------------------------------|------------|-----------|
| MNT-H DLT RL/RS (End suspension) | 6002810022 | 0.66 |
| MNT DLT RT (Side suspension) | K201000000 | 0.11 |
| DLT SIDL RS 1400 HF Dampa/DAN M300 | 6002812005 | 0.3 |
| DLT SIDL RS 2800 HF Dampa/DAN M300 | 6002814005 | 0.78 |
| DLT SIDLFRAME RS 1400 HF 300x660x10 | 6009242290 | 0.9 |
| DLT SIDLFRAME RS 2800 HF 300x1280x10 | 6009242490 | 1.3 |

Complete assortment on www.glamox.com/gmo

DLT RS(M) T8 DL/FR



Lighting fixture for panel ceilings



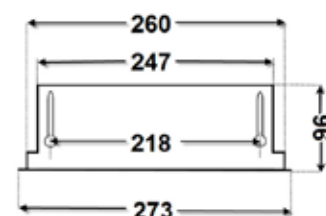
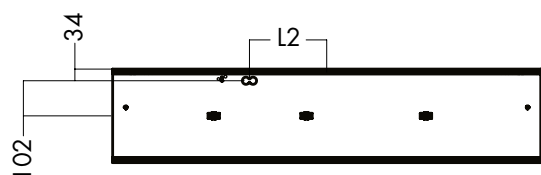
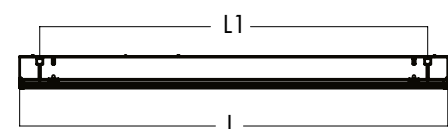
Knock outs and grommet



Terminal blocks

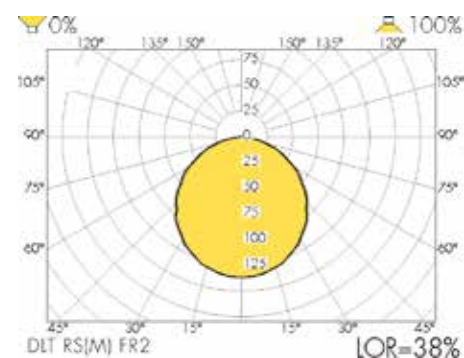
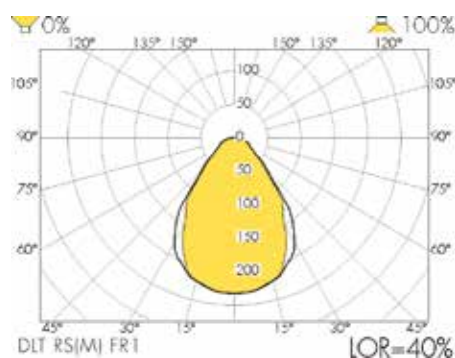
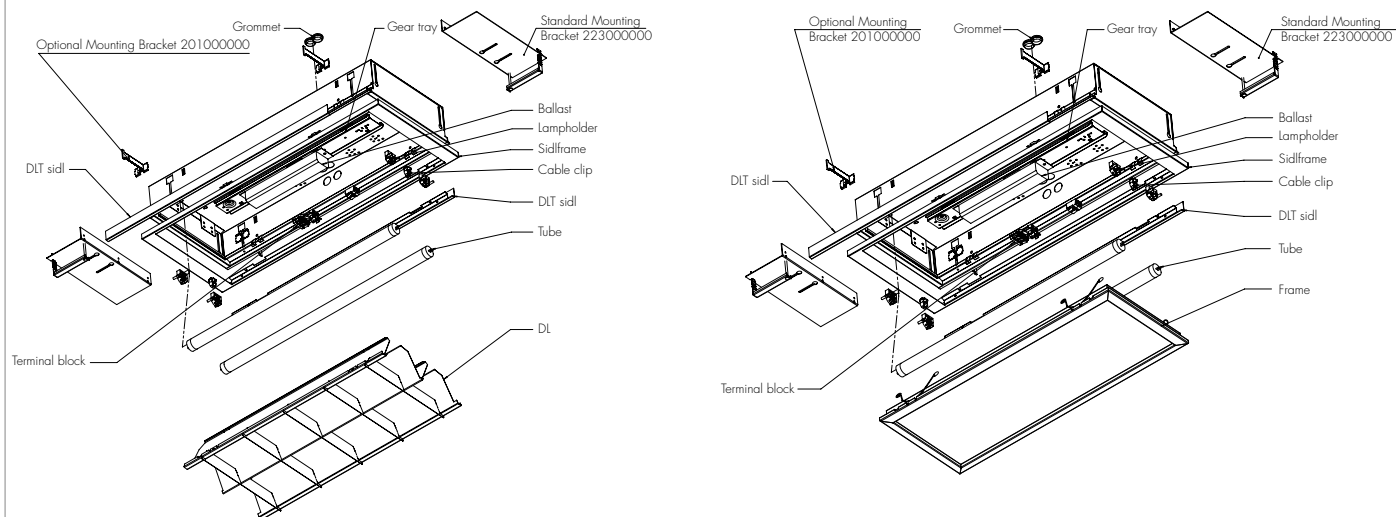
- Single or continuous installation in panel ceilings
- High quality light distribution
- Side profiles or frame for adaption to a wide range of ceiling types
- Wide range of optical systems

| | |
|--------------|---|
| 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 mm ² . |



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 |

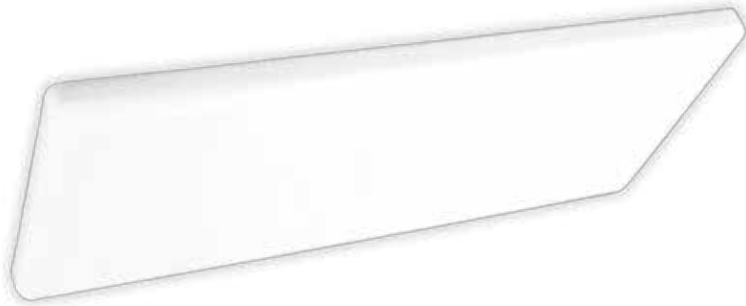
| Frame | FR1 | FR2 | FR3 |
|---------------|-----------|-----------|-----------|
| FR284X640 18 | 111001041 | 111001042 | 223220043 |
| FR284X1250 36 | 111001141 | 111001142 | 223240043 |

| 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

0667

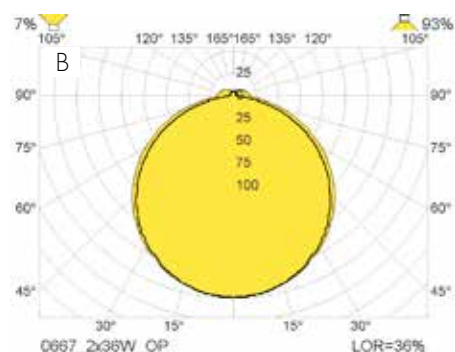
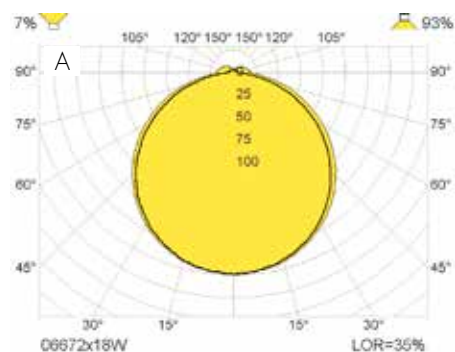
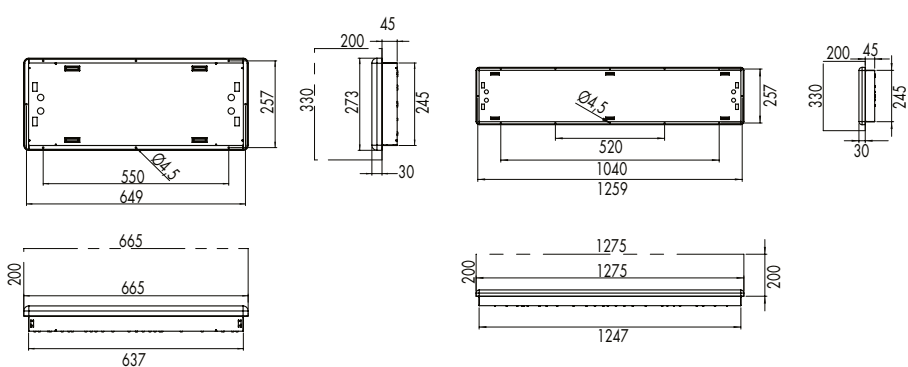
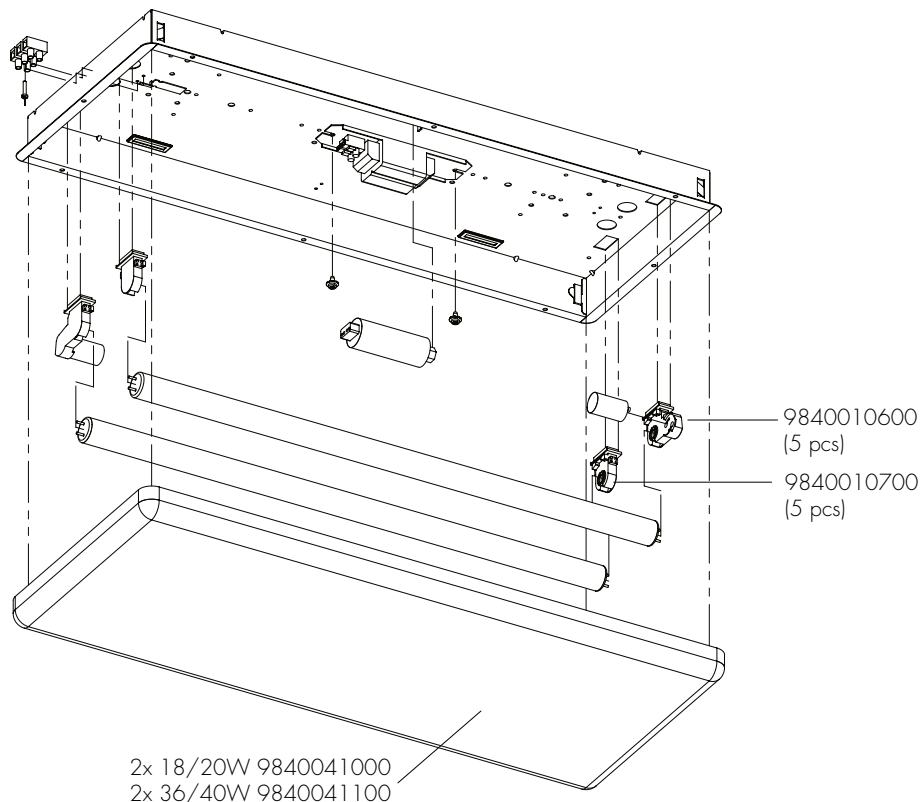
Ceiling luminaire recessed



- 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 mm ² . |

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 |

Complete assortment on www.glamox.com/gmo

TL1 1-R250

Luminaire for recessed installation



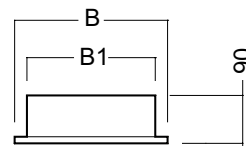
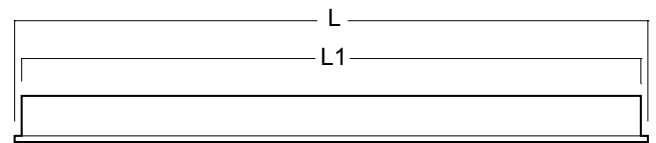
Emergency kit E14



Emergency kit B15

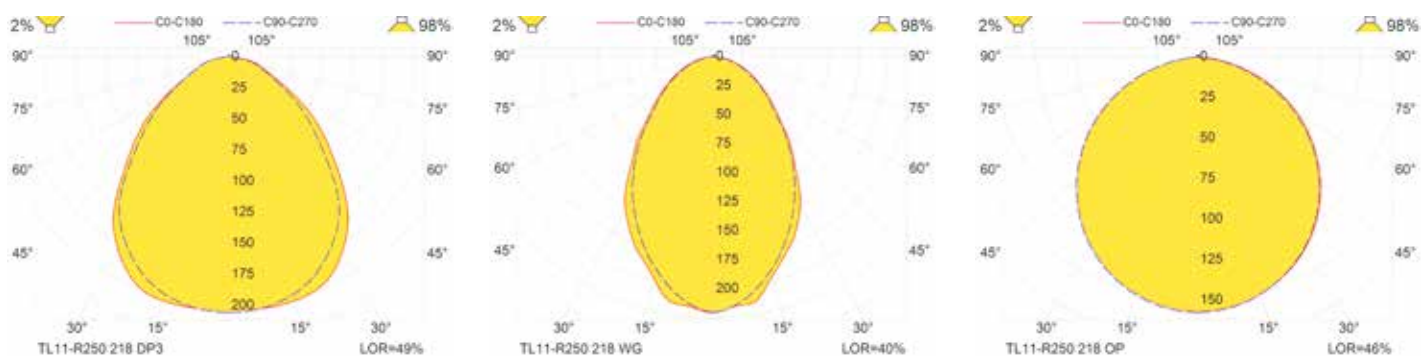
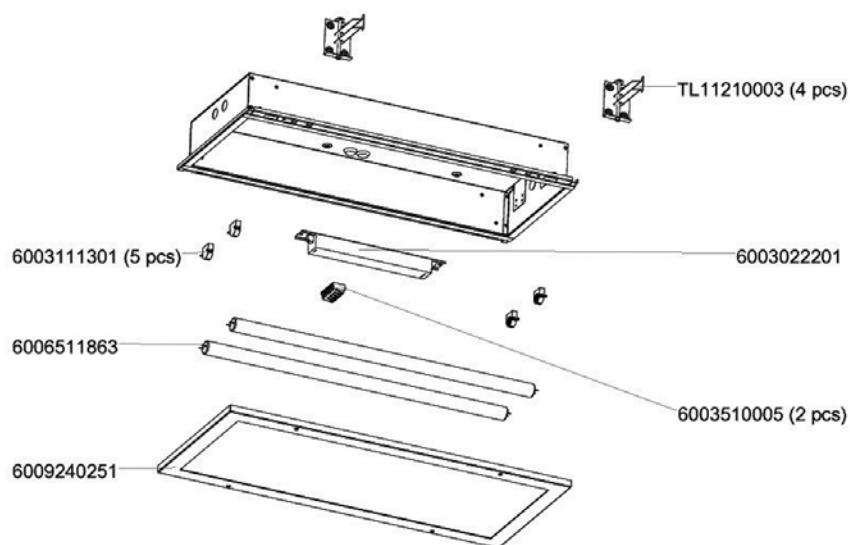
- Luminaire for recessing into solid ceilings
- Robust steel luminaire
- Ingress protection classification IP44/20

| | |
|--------------|--|
| 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 mm ² . |
| 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



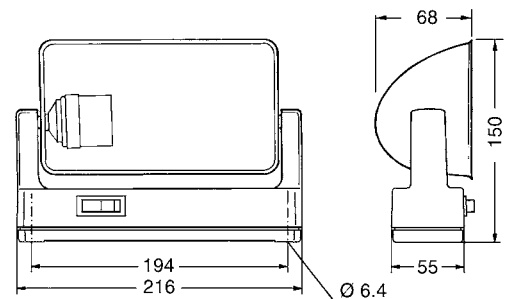
Berth Light



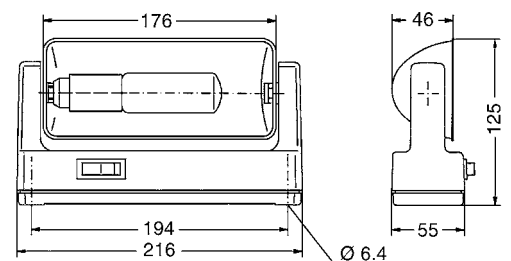
- Direct the beam by swivelling the reflector
- Reflector turnable by almost 360°
- Smooth design

| | |
|--------------|---|
| 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 mm ² . |

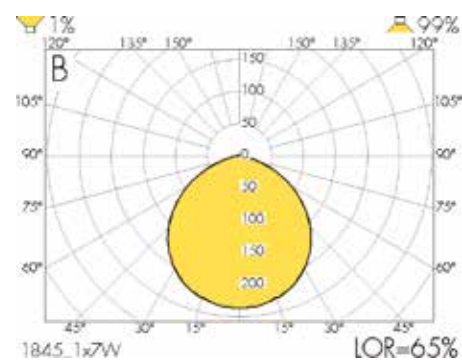
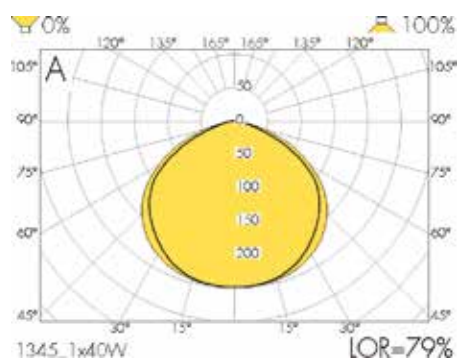
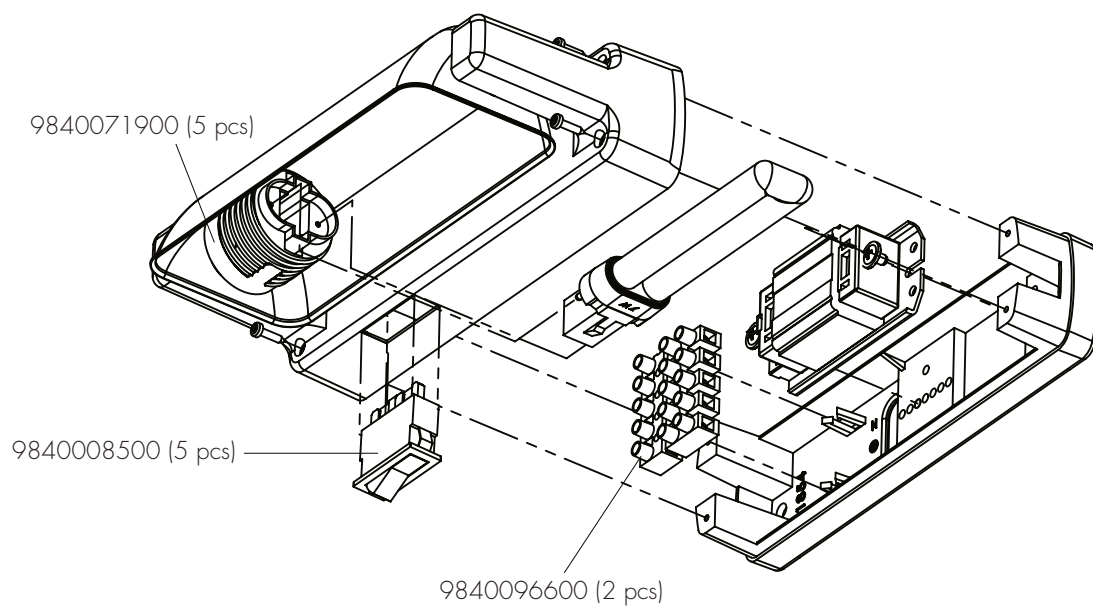
1355



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

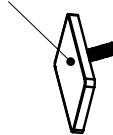
- LED energy and maintenance saving
- Robust mirror lamp
- Diffuser in opal polycarbonate
- Soft light distribution

| | |
|--------------|--|
| 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

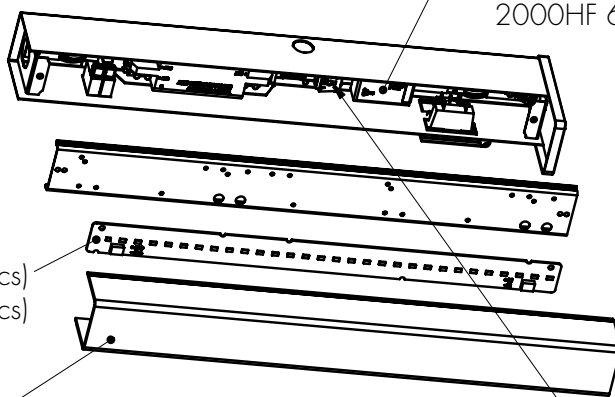
End Cover

6001220701 (2 pcs)



LED Linear

300HF 830 6006563083
 800HF 830 6006568083
 1000HF 830 6006561083 (2 pcs)
 2000HF 830 6006561083 (2 pcs)



LED Driver

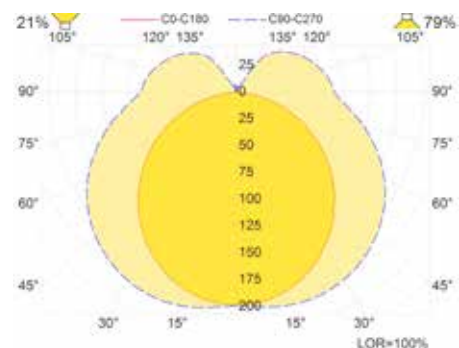
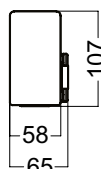
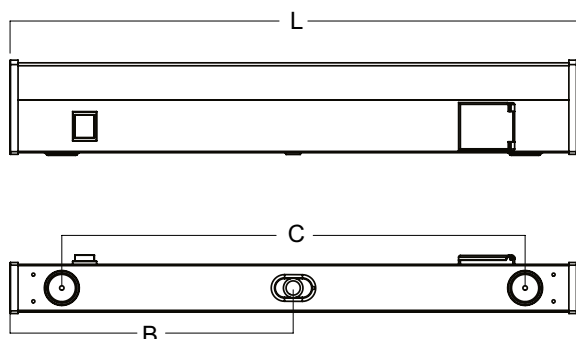
300HF 6003120300
 800HF 6003120300
 1000HF 6003121000 (2 pcs)
 2000HF 6003121000 (2 pcs)

Diffuser, opal polycarbonate

300HF 6004010700
 800HF 6004010701
 1000HF 6004010702
 2000HF 6004010703

Terminal block

6003510000 (2 pcs)



| Product | Part-No. | Part-No. | Part-No. | L | C | Weight | Lamp code |
|------------------------|------------|------------|------------|------|------|--------|-----------|
| | 100-230V | 230V | 110V | mm | mm | kg | |
| 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



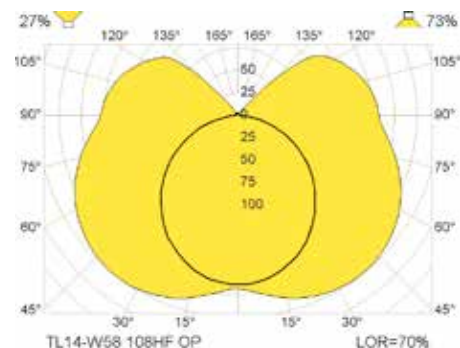
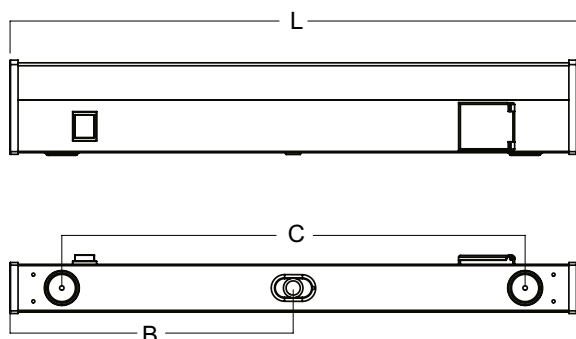
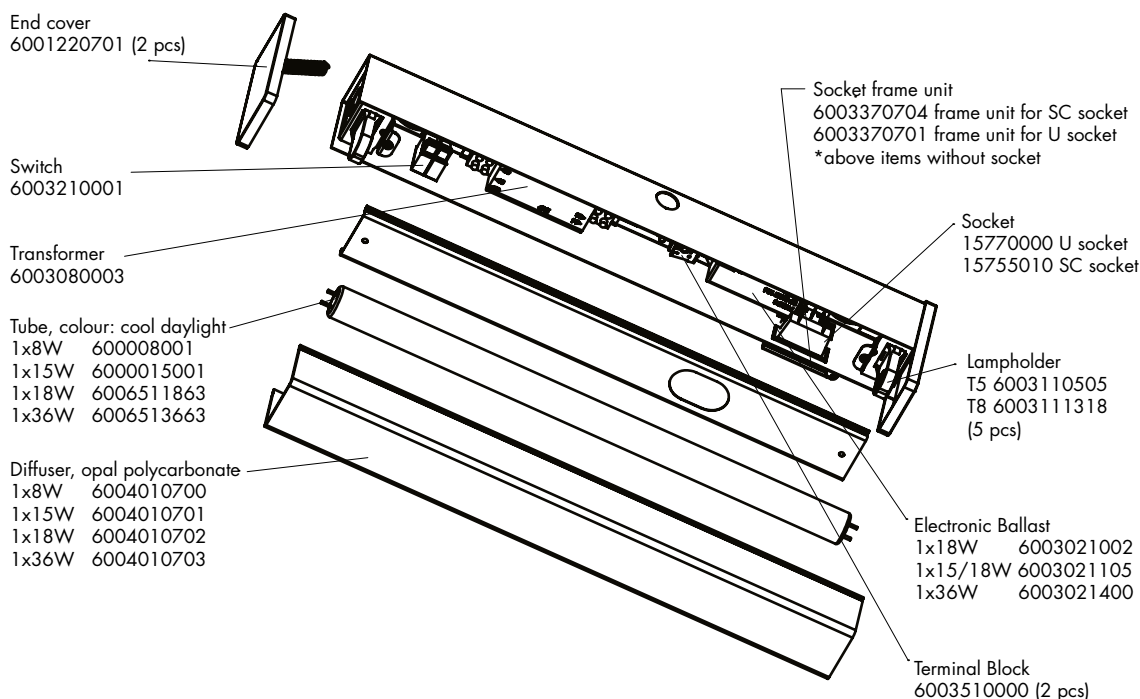
Switch with rubber cover



- 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 mm ² . |

Spare Parts/Accessories



| Product | Part-No. | L | C | B | Weight | Lamp code | Lamp base |
|------------------|------------|------|------|-----|--------|-----------|-----------|
| | HF | mm | mm | mm | kg | | |
| 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



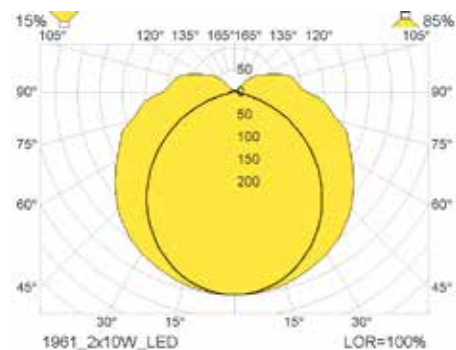
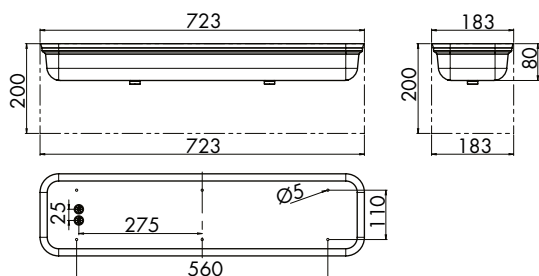
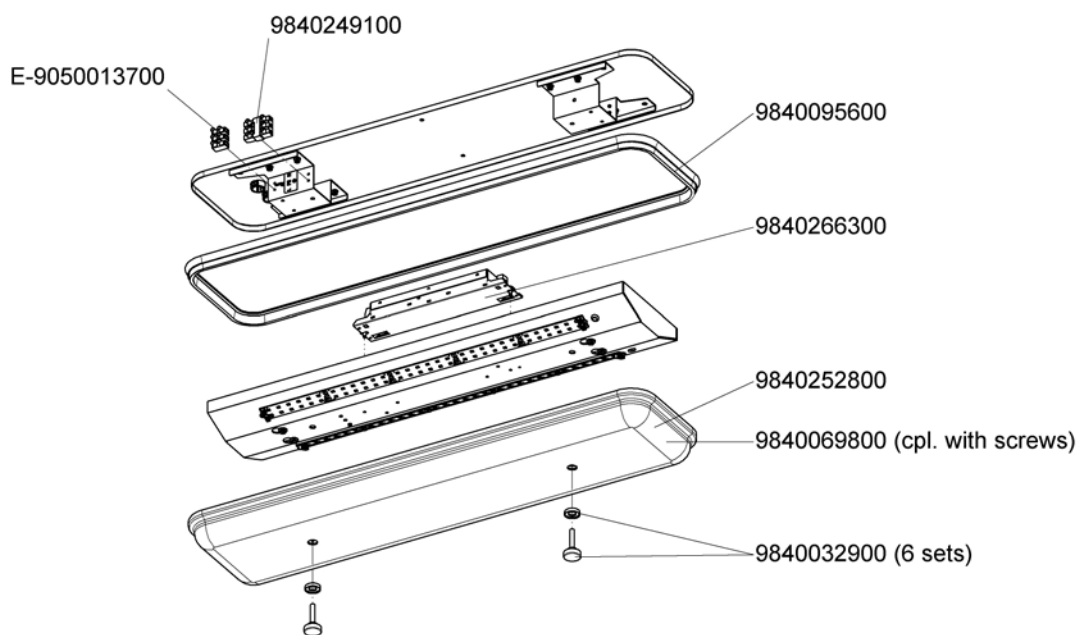
Galley luminaire



- 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 mm ² . |

Spare Parts/Accessories



| Product | Part-No. | Weight kg | Lamp 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 a wall or corner-mounted luminaire supplied with upright for mounting low on walls or with no upright 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 opallic 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

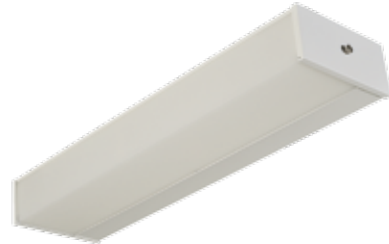
GIM RT 600



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 |

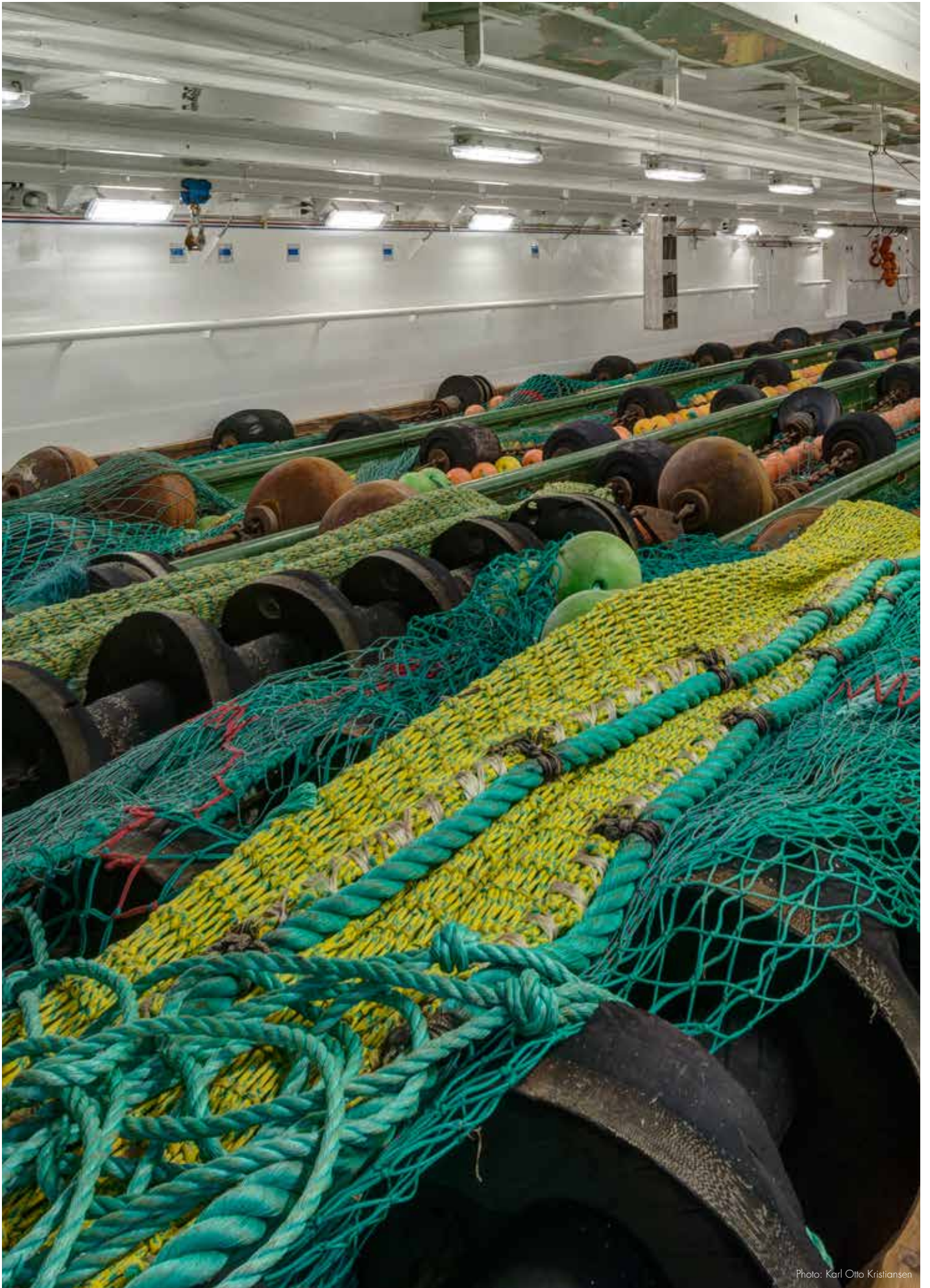


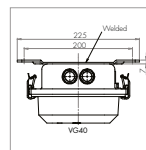
Photo: Karl Otto Kristiansen

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.



| | |
|--------------------------------|----|
| TL60 LED | 32 |
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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

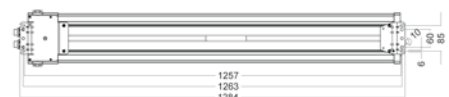
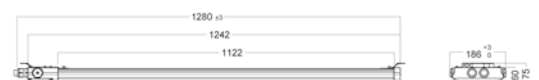
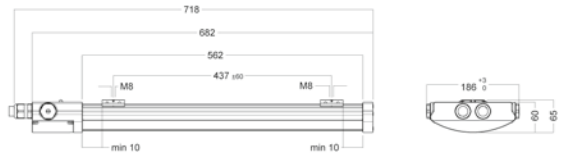
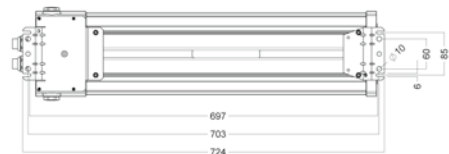
Optic Polycarbonate soft opal

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

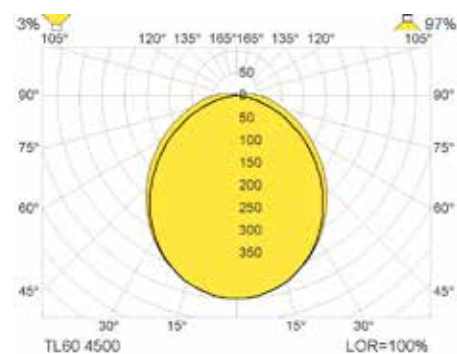
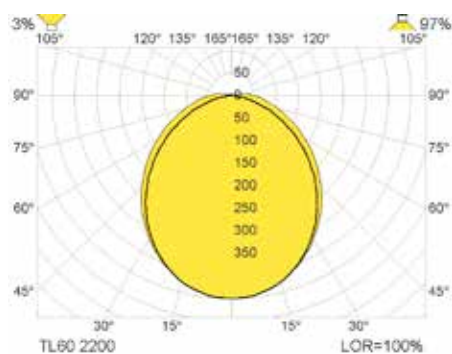
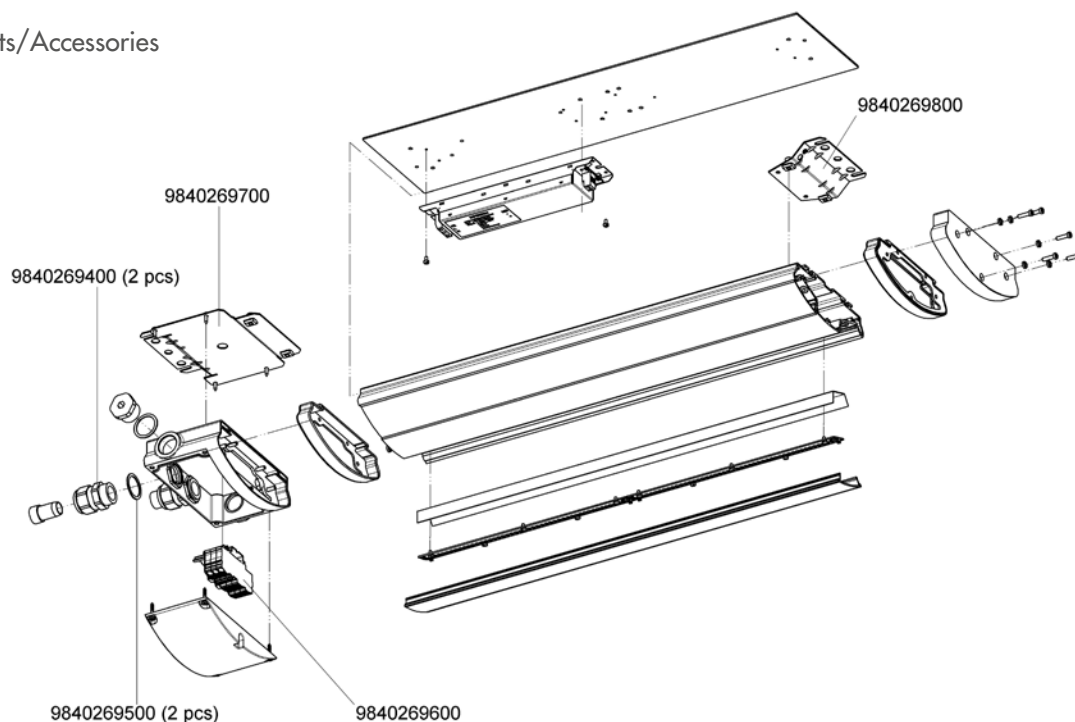
Light source LED 2200, 4500lm output in 4500K light temperature and CRI>80

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 HFD α M25 AS | TL60404003 | | 3.6 | LED 2200 lm |
| TL60 2200 840 110-240 HFD α 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 HFD α M25 AS | TL60704003 | | 6.5 | LED 4500 lm |
| TL60 4500 840 110-240 HFD α 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



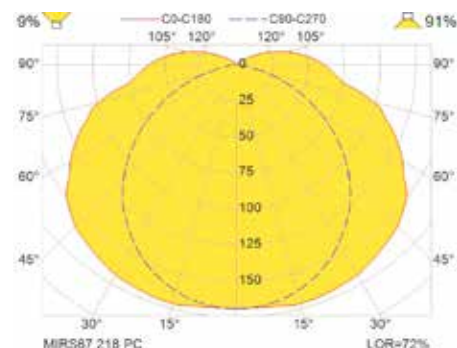
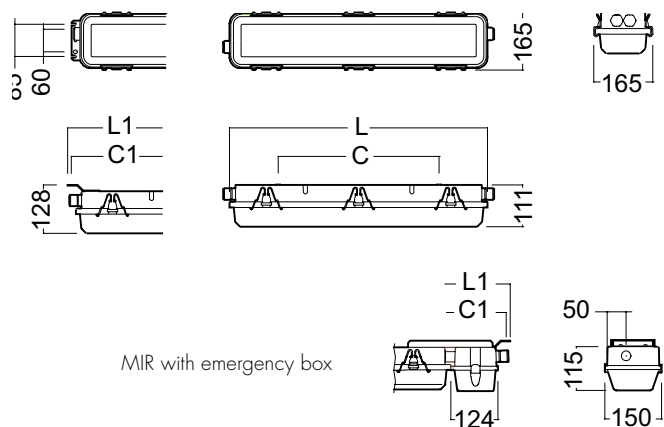
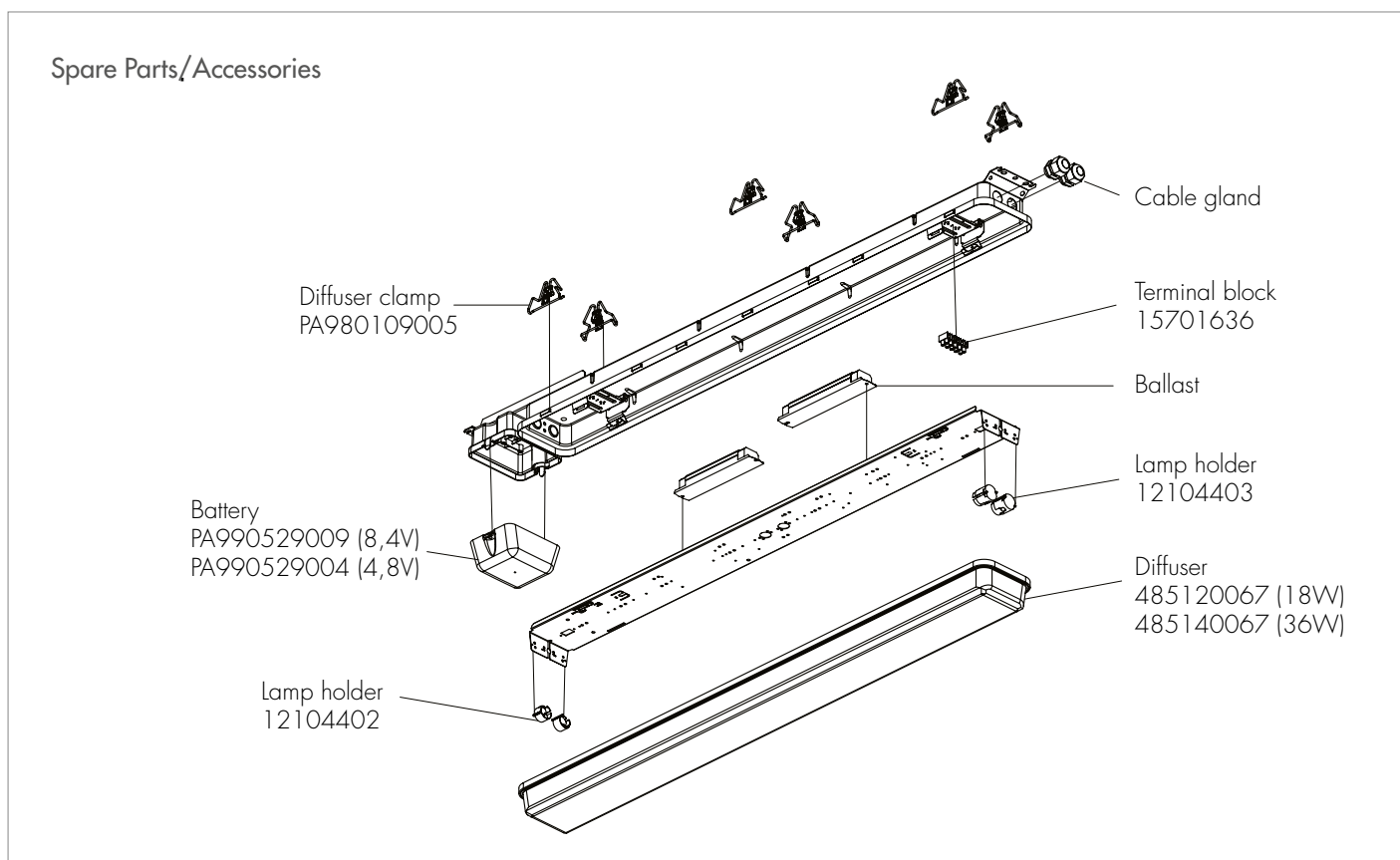
Battery box



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 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 | 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

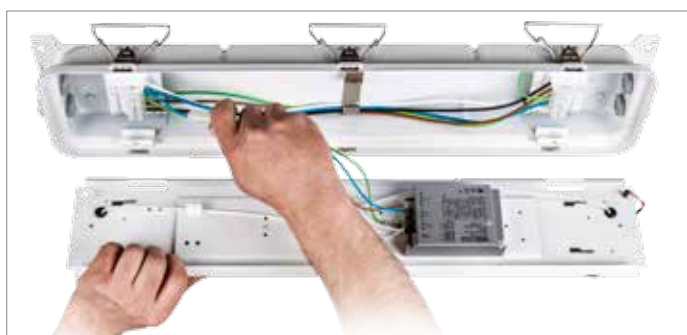
| | |
|--------------|---|
| Application | Complete gear tray LED to replace T8 in MIR luminaire |
| Design | According to rules of marine classification societies |
| Housing | Aluzinc |
| Optic | Soft optic diffuser |
| Electric | All components including LED and driver for 230V mounted on a gear tray |
| 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 |



Remove diffuser



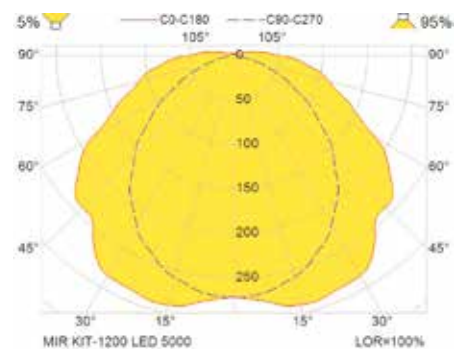
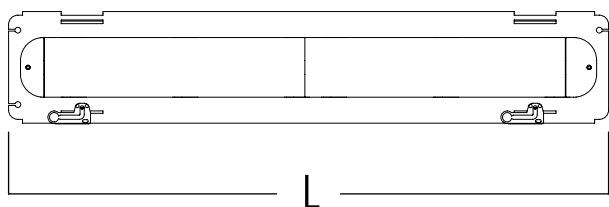
Remove gear tray



Replace with our new MIR LED Replacement Kit



Reinstall diffuser



| Product | Part-No. | L mm |
|------------------------------------|-----------|---------|
| MIR KIT-600 LED 2000 HF 840 | MIRO78954 | 645 |
| MIR KIT-600 LED 2000 HF-E1/S 840 | MIRO78956 | 645 |
| MIR KIT-600 LED 2000 HF-EB1/S 840 | MIRO78957 | 645 |
| MIR KIT-600 LED 2000 HF-EB3/S 840 | MIRO78955 | 645 |
| MIR KIT-600 LED 2500 HF 840 | MIRO78940 | 645 |
| MIR KIT-600 LED 2500 HF-EB3/SS840 | MIRO78952 | 645 |
| MIR KIT-1200 LED 5000 HF 840 | MIRO78941 | 1250 |
| MIR KIT-1200 LED 5000 HF-EB3/S 840 | MIRO78953 | 1250 |

1044/1444

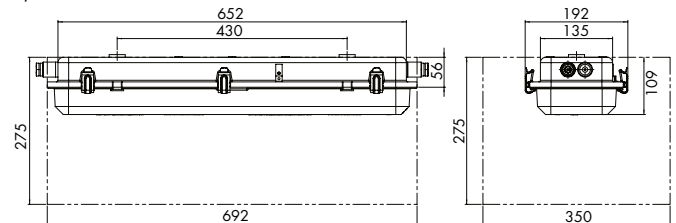
Multipurpose luminaire surface



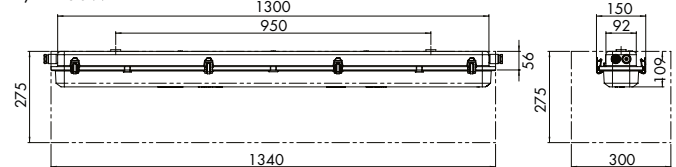
- High quality marine longlife luminaire
- Stainless steel housing available
- Built in battery backup available
- Wide range of variants
- Proven design

| | |
|--------------|--|
| 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 |

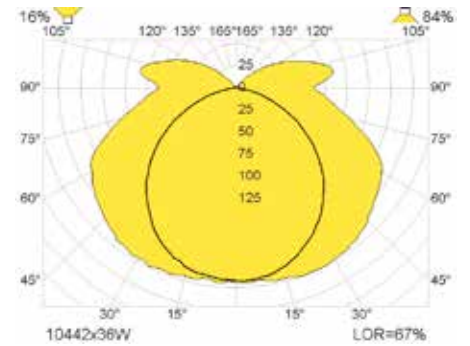
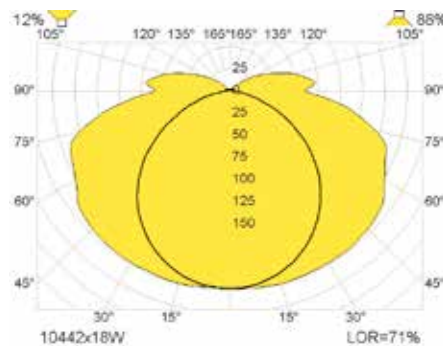
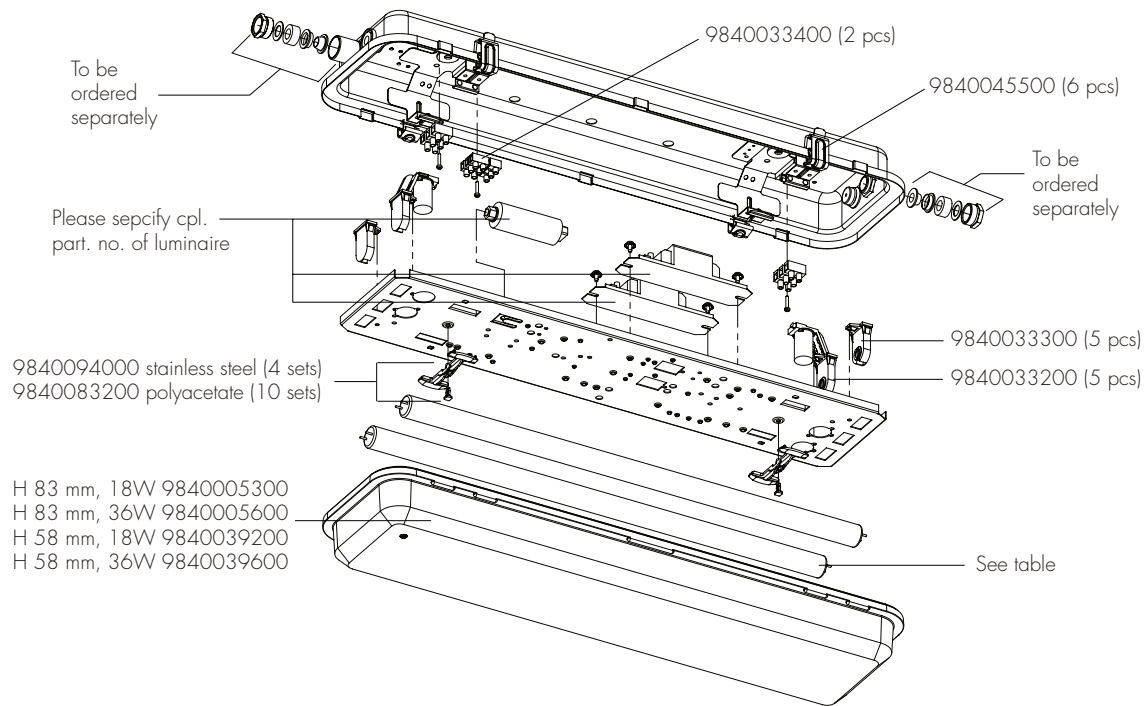
1/2 x 18W



1/2 x 36W



Spare Parts/Accessories



| Product | IP class | Part-No. | | Part-No. | | Part-No. 24V DC | Part-No. 24V DC | 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. | | | | | |
| 1x18W | 55 | | stainless steel | | stainless steel | | | 4.4 | T26 | G13 |
| 1x18W | 67 | | 1444002219 | | 1444004239 | | 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

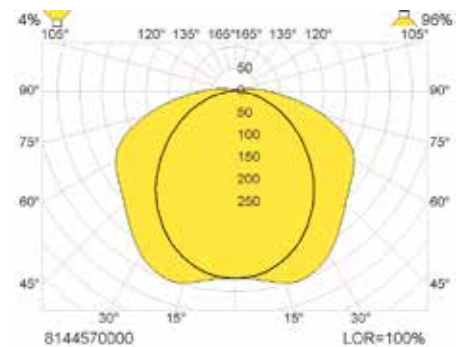
1044 LED KIT

Complete gear tray to convert 1044/1444 T8 to LED



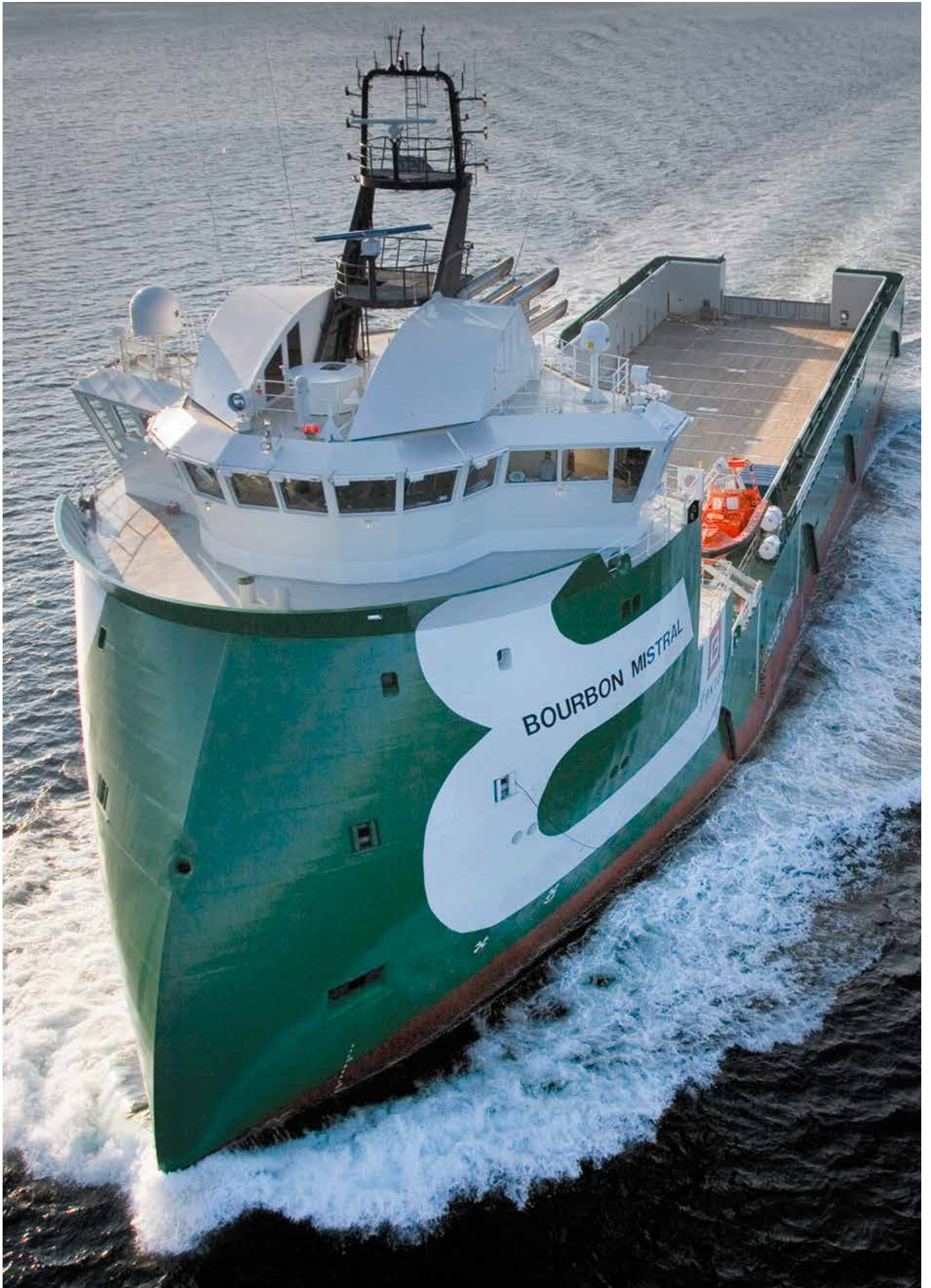
- Long lifetime
- Energy saving
- Enhanced light quality
- Easy conversion from T8 to LED

| | |
|--------------|---|
| 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 |

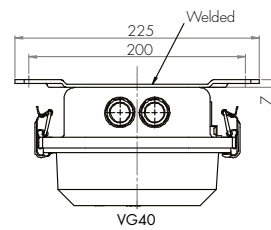
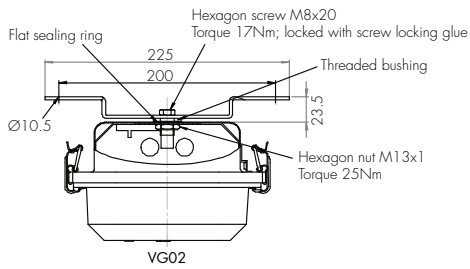
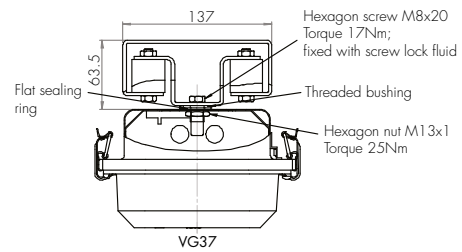
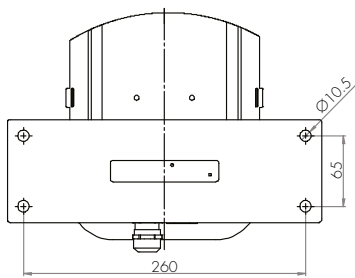
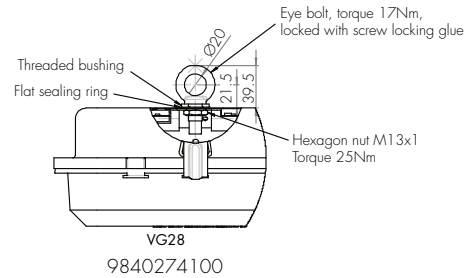
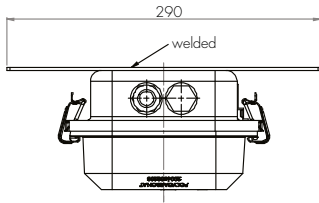
1444 UL



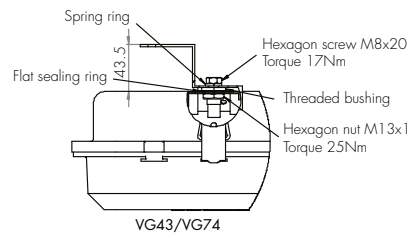
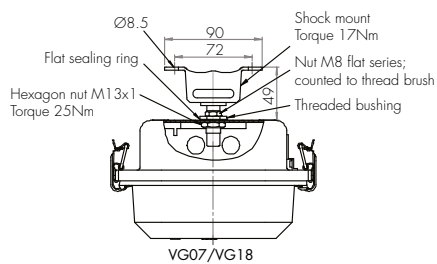
Multipurpose luminaire surface with UL approval. For workshops, engine rooms, stores, holds and passage ways, etc. Aluzinc sheet steel or stainless steel, deep drawn, seamless. Epoxy powder coated, white RAL 9016. Optional with 90 minute battery backup.

| | |
|----------------|--|
| 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

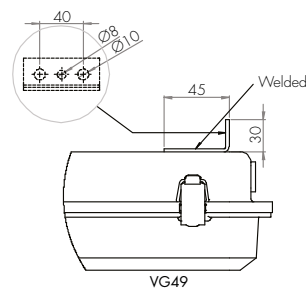
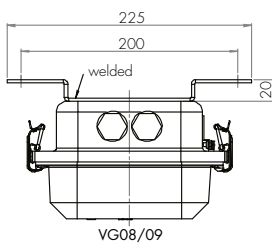


18W = 9840274400
36W = 9840274300



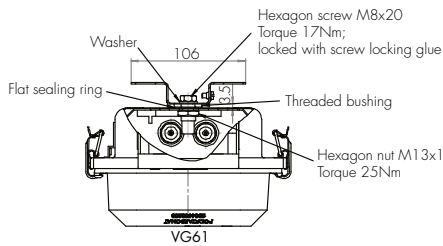
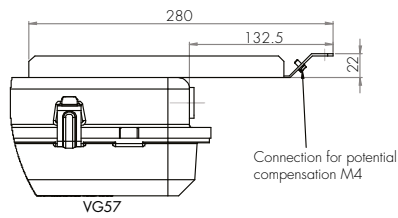
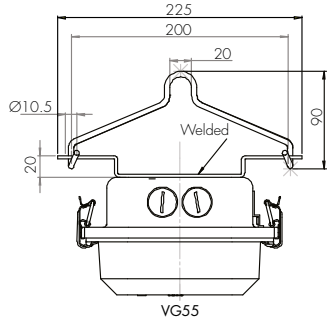
VG18 = 9840274200

VG43
18W = 9840274000
36W = 9840273300

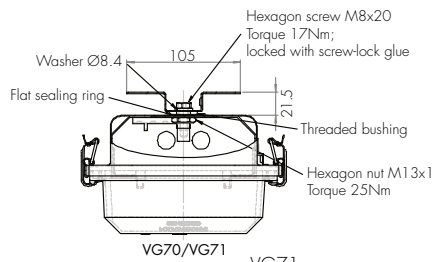
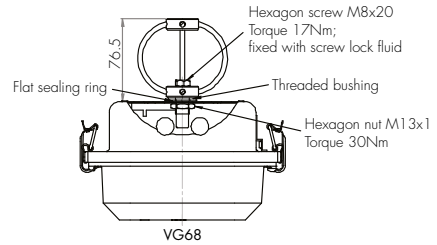
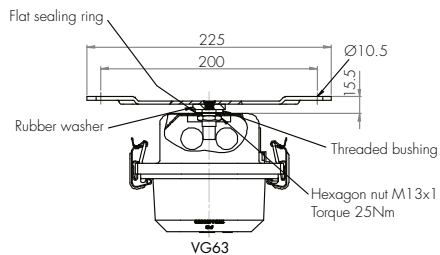
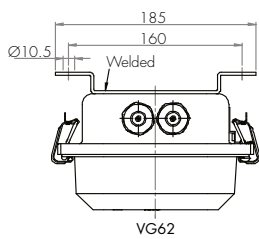


Measurements are in mm

Range of optional suspension possibilities for multi purpose luminaires

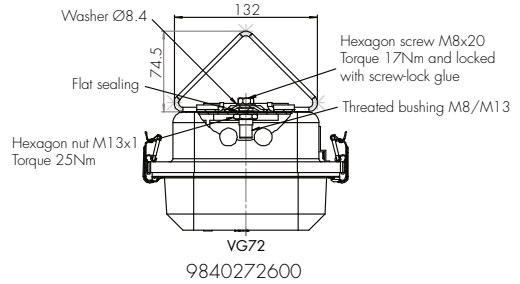


18W = 9840273200
36W = 9840273100

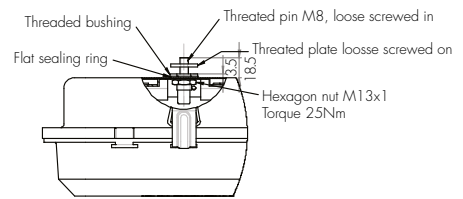


VG70
18W = 9840273000 (Zink coated)
36W = 9840272900 (Zink coated)

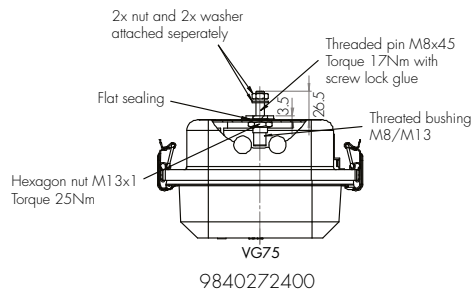
VG71
18W = 9840272800 (Stainless steel)
36W = 9840272700 (Stainless steel)



9840272600



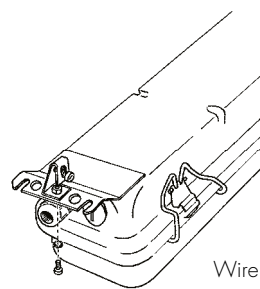
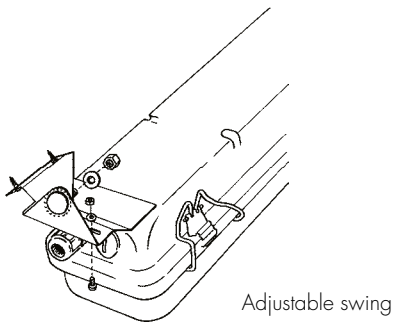
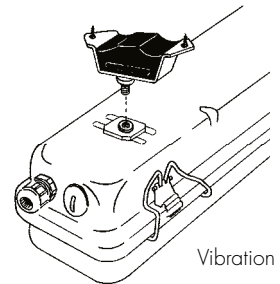
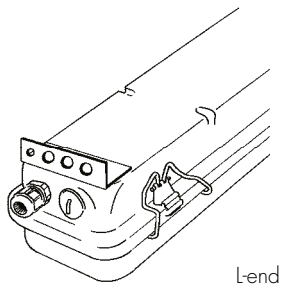
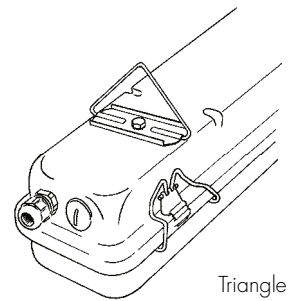
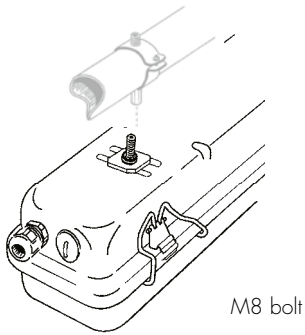
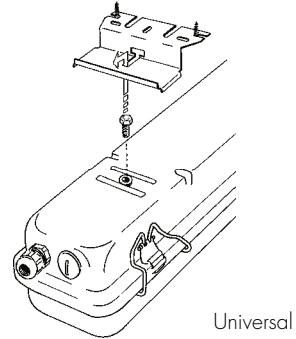
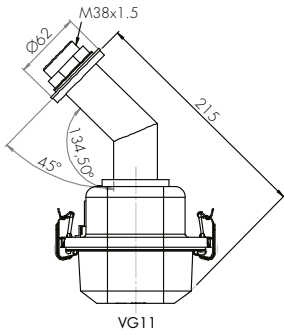
9840272500



9840272400

Measurements are in mm

Range of optional suspension possibilities for multi purpose luminaires



Measurements are in mm

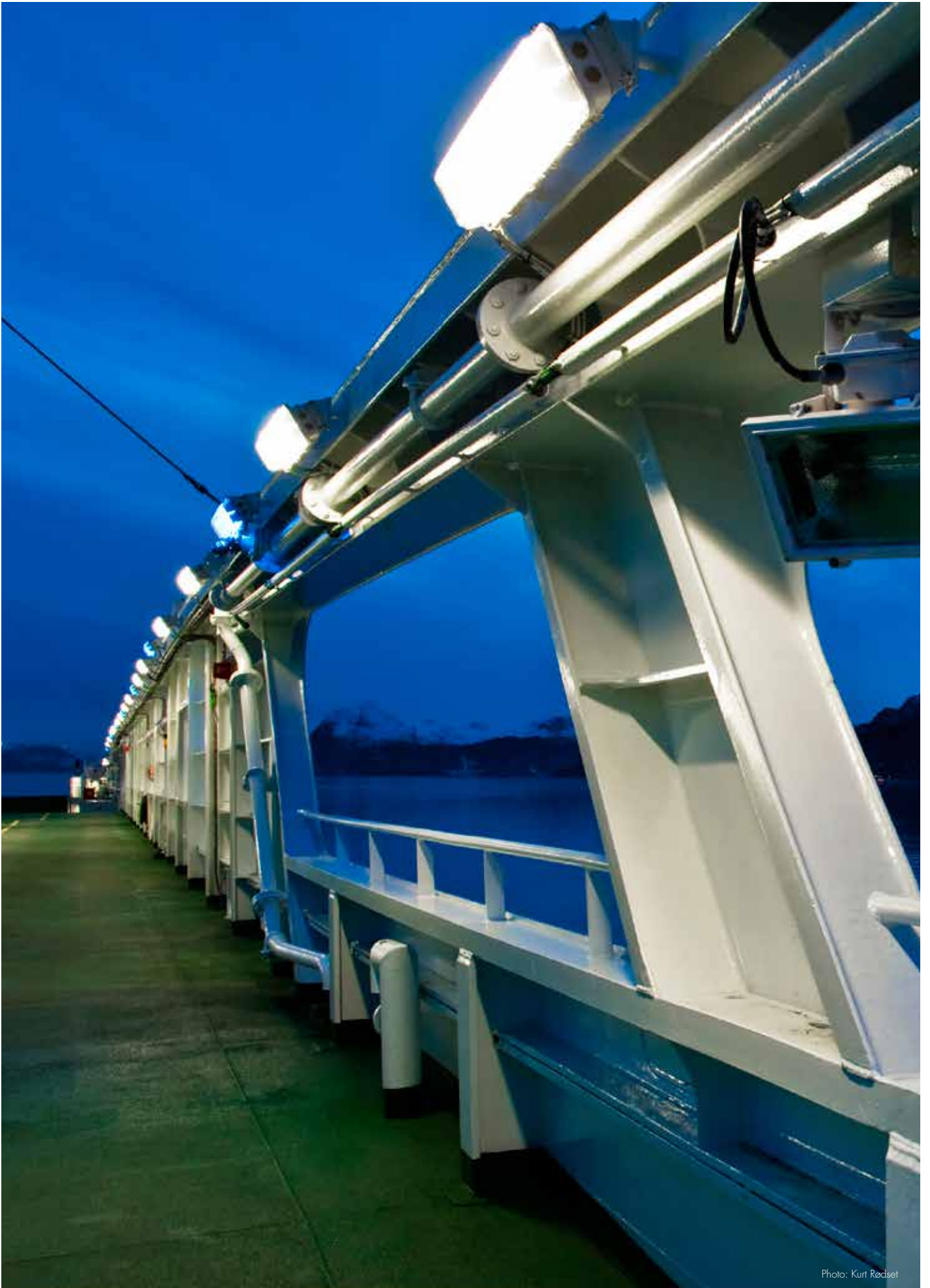


Photo: Kurt Rødset



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



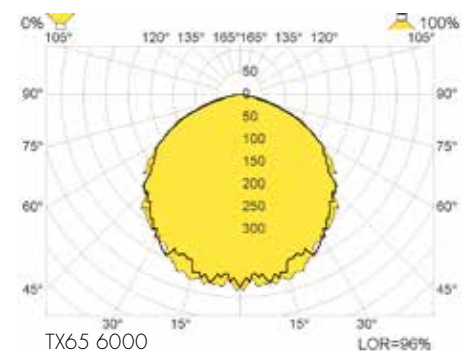
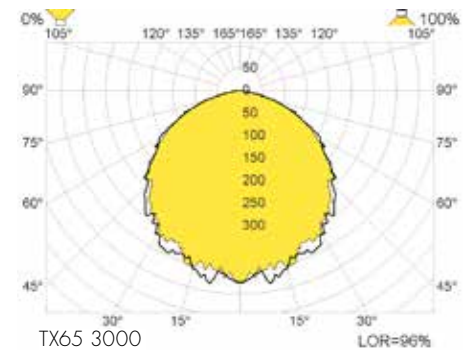
Ceiling mounting

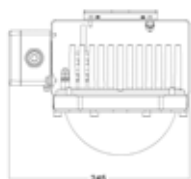
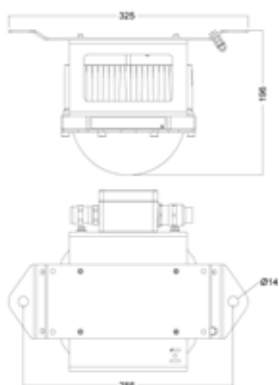


Pole mounting

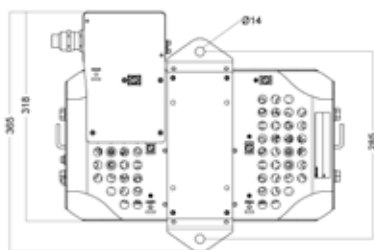
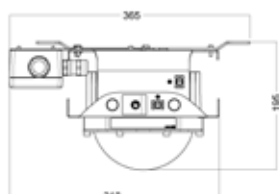
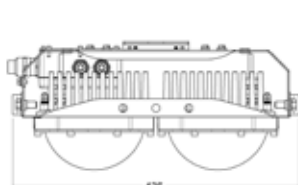
- Long lifetime, 100 000 hours at ambient temperature 45°C
- Low maintenance
- Low power consumption
- Instant light
- Enhanced light quality

| | |
|---------------------|---|
| 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 |

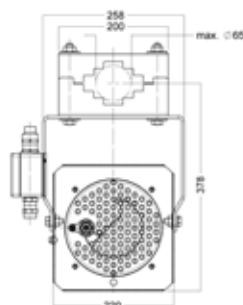
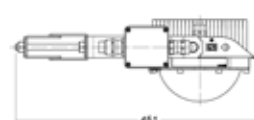
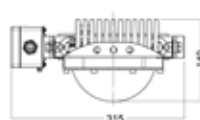




Ceiling mounting



Ceiling mounting



Pole mounting

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

Complete assortment on www.glamox.com/gmo

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

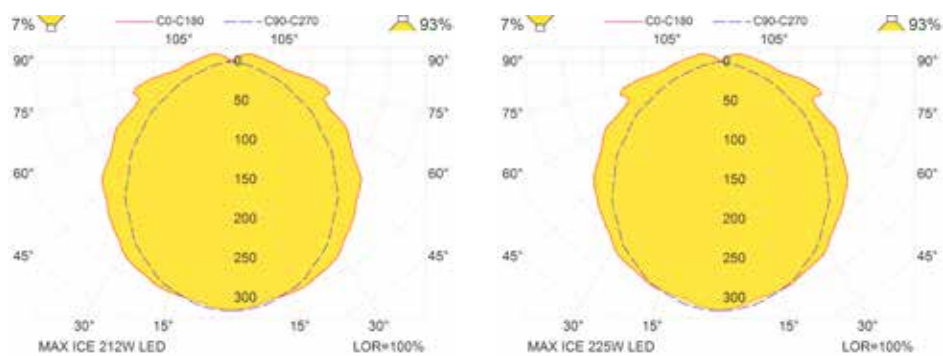
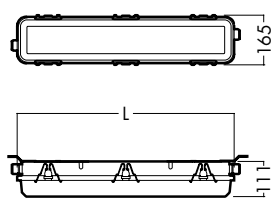
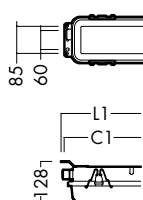
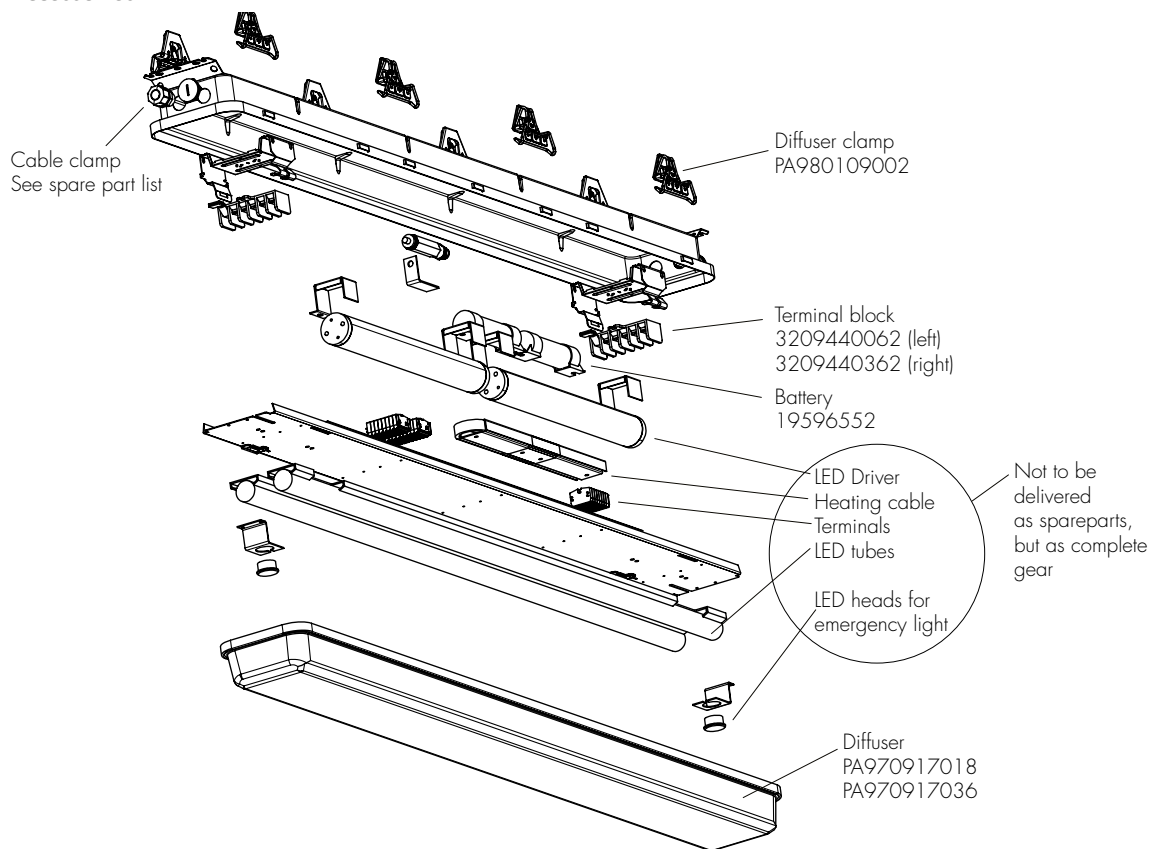


LEDs covered by opalic tube

| | |
|---------------------|---|
| 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 self-locking 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 kg | LED |
| MAX ICE 2x25W LED | MAX201010 | 50W | 1291 | 1334 | 1314 | 9.8 kg | LED |
| MAX ICE 2x25W LED 1xE3 | MAX201012 | 52W + 75W at start | 1425 | 1468 | 1448 | 11.0 kg | LED |
| MAX ICE 2x25W LED 2xE3 | MAX201015 | 52W + 98W at start | 1425 | 1468 | 1448 | 12.0 kg | LED |
| MAX ICE 2x12W LED 1xE3 | MAX201011 | 29W + 75W at start | 815 | 858 | 828 | 6.7 kg | LED |

Complete assortment on www.glamox.com/gmo

Ex-e hazardous area luminaire for fluorescent tubes

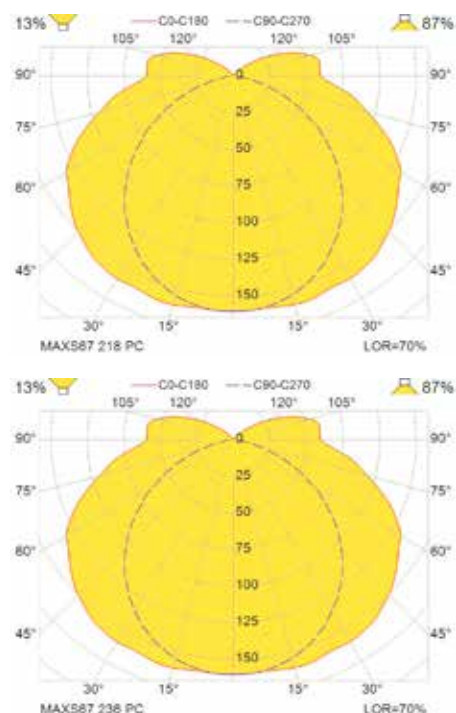
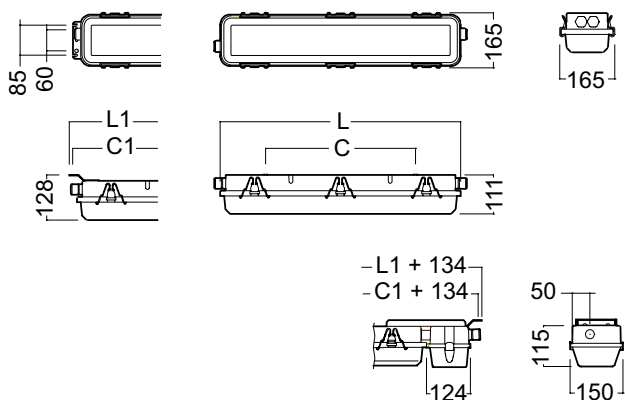
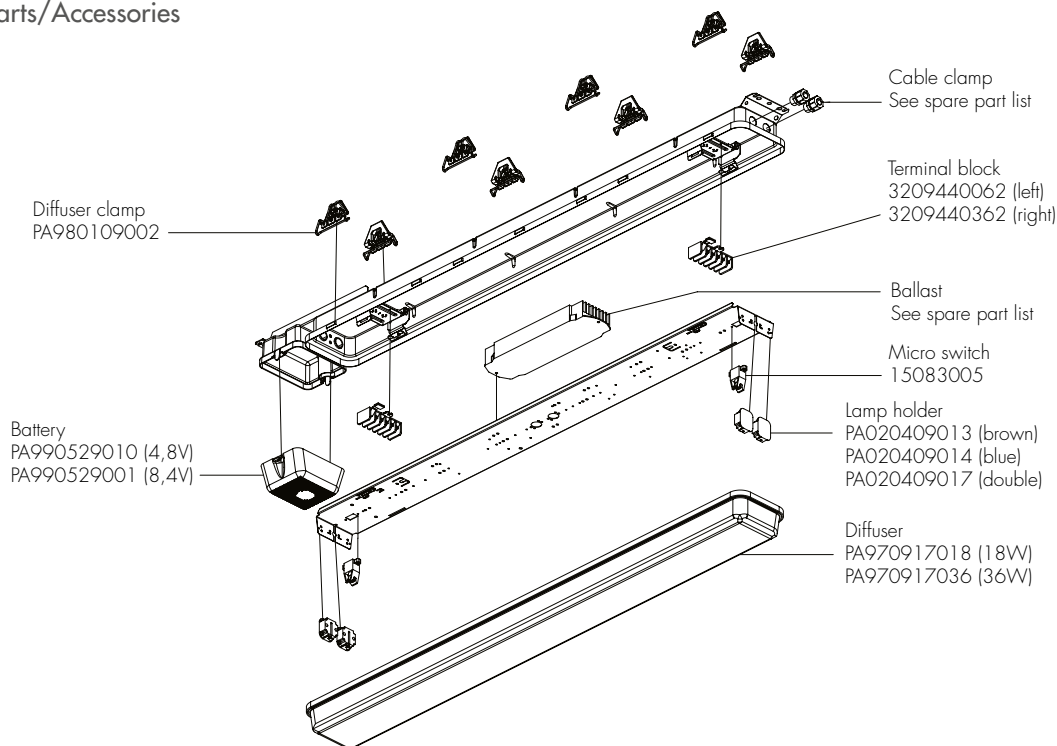


MAX with emergency

- 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. | L1 | C1 | L | C | Weight | Lamp | Lamp |
|----------------------|---------|-----------|------|------|------|-----|--------|---------|------|
| | | HF | mm | mm | mm | mm | kg | code | 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

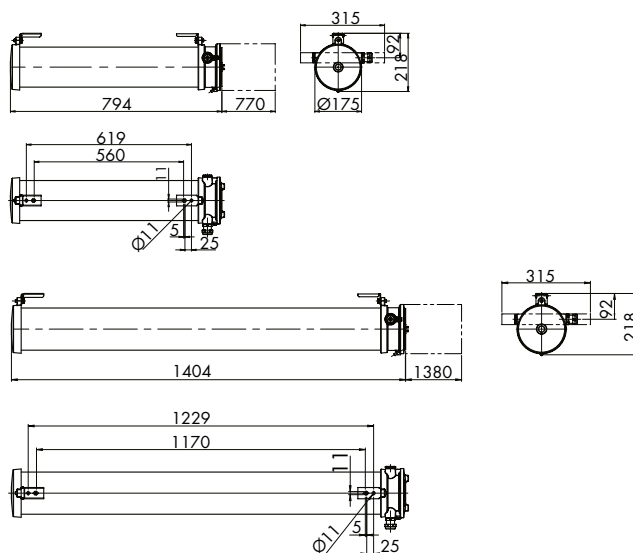
Complete assortment on www.glamox.com/gmo

Robust Ex d luminaire

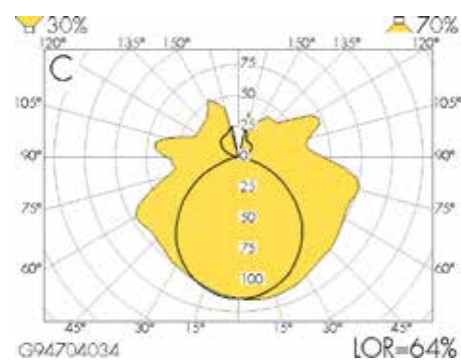
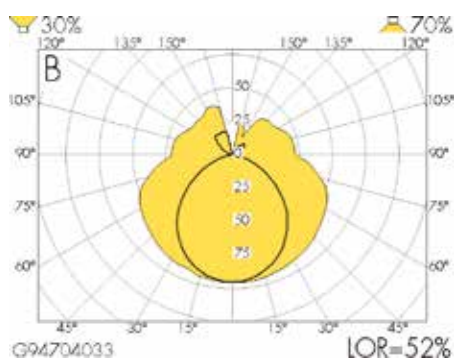
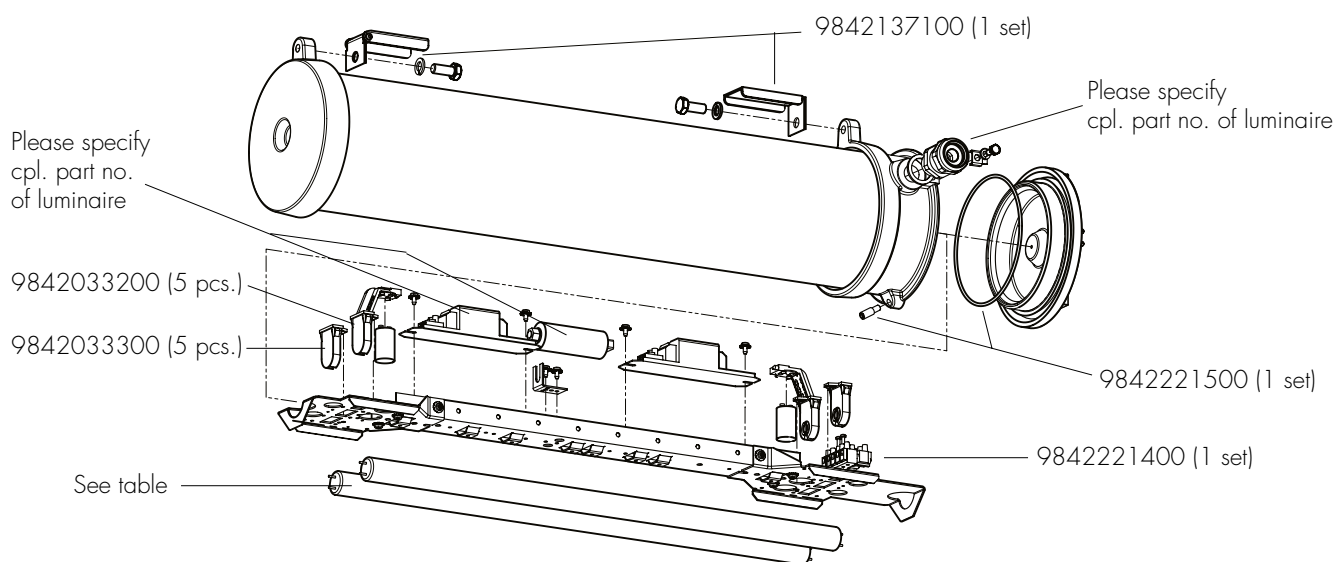


- Fluorescent luminaire for hazardous areas zone 1 and 2
- Satisfy rules of maritime classification societies
- Seawater resistant aluminium housing

| | |
|--------------|--|
| 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 ± 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



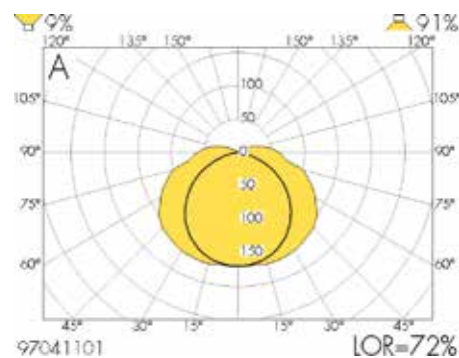
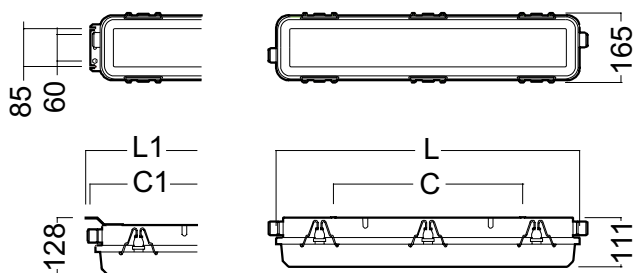
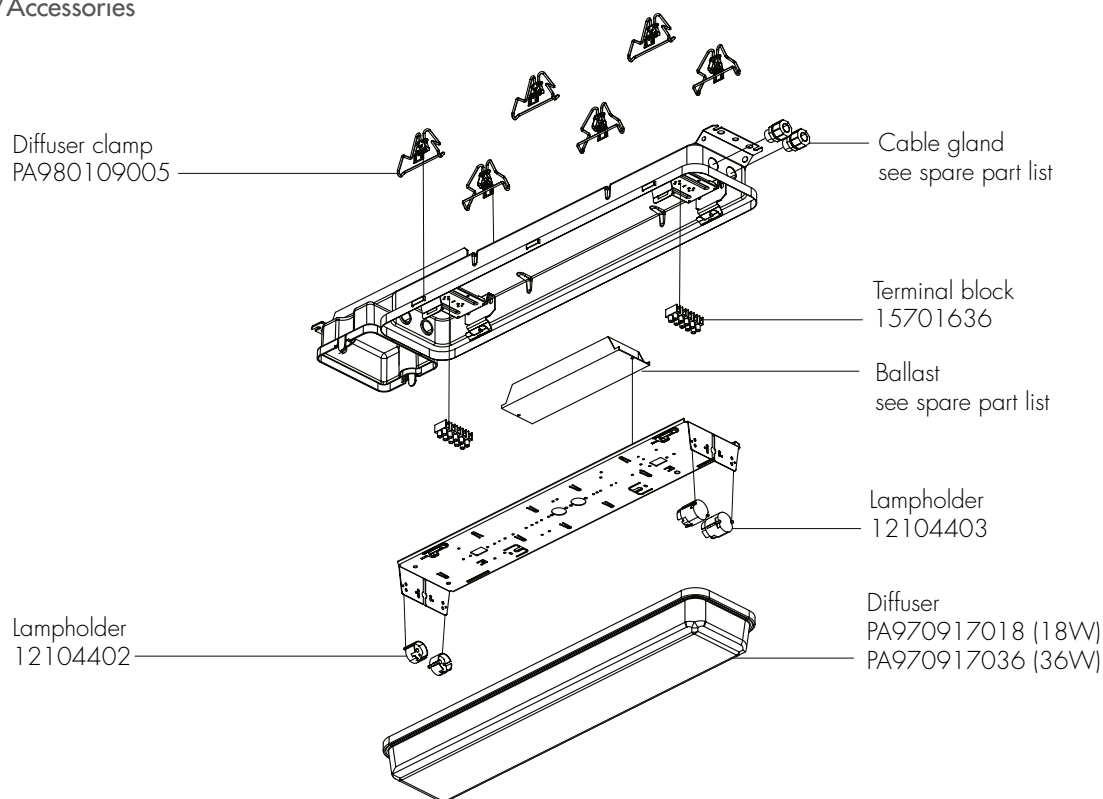
Hinged gear tray



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. | Part-No. | Part-No. | L1 | C3 | L | C | Weight | Lamp | Lamp |
|----------------------|-----------|-----------|-----------|------|------|------|-----|--------|---------|-------|
| | F 230/50 | F 230/60 | HF | mm | mm | mm | mm | kg | code | 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



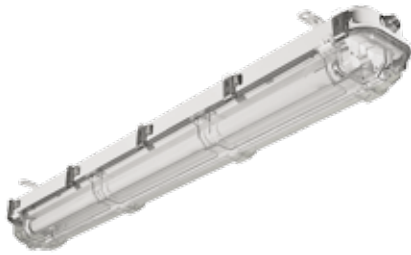
Explosion proof interior lighting fixtures are applicable for hazardous areas, zone 1. They are designed according to rules of maritime classification societies and IEC standards. Recessed interior lighting fixtures with frame designed for adaption to ceiling type are easy to install and maintain. Also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

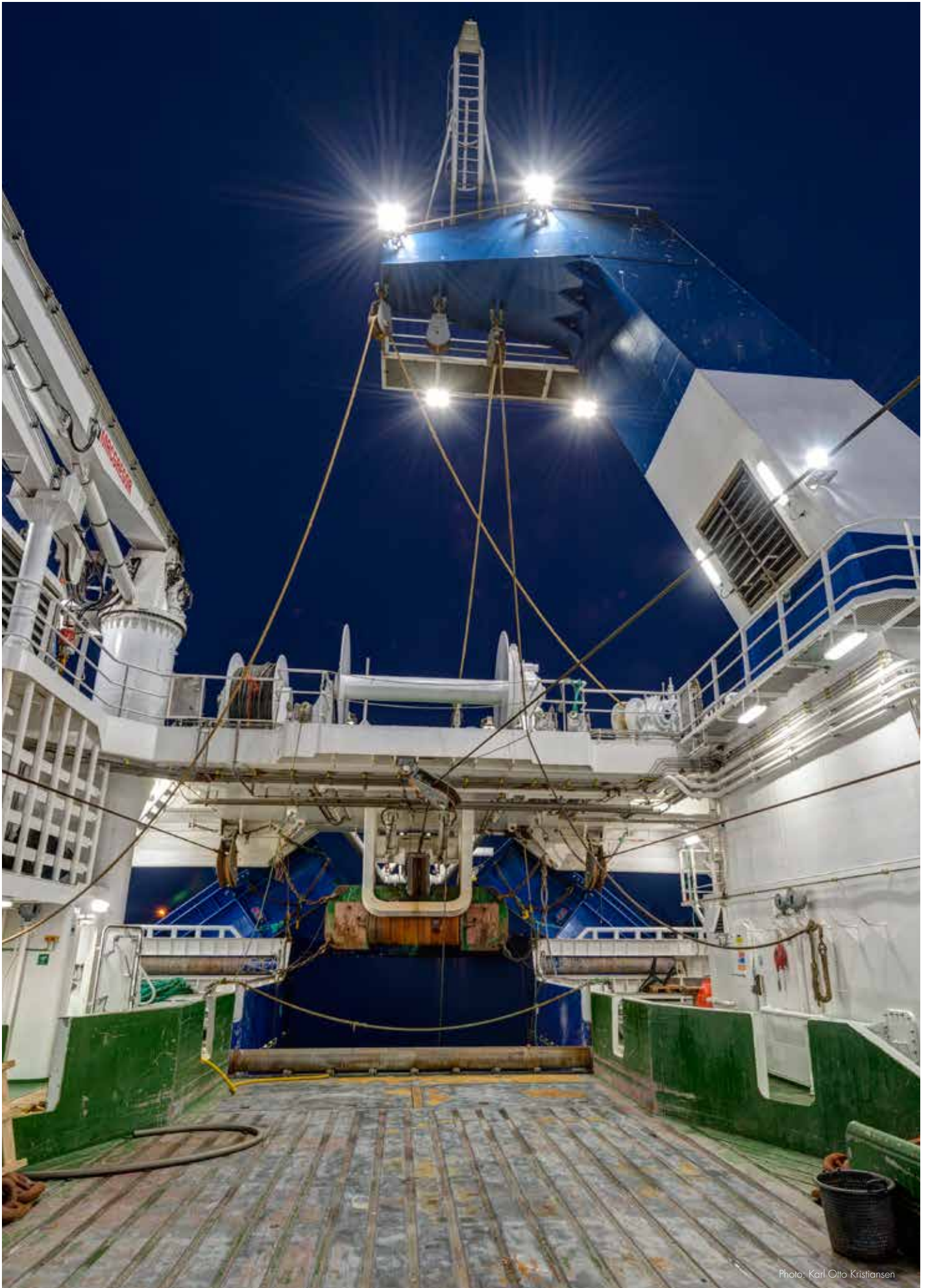


Photo: Karl Otto Kristiansen

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



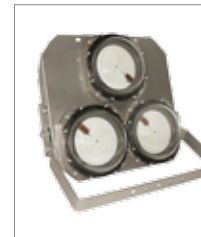
Floodlight with LED lightsource



FL60 1 module



FL60 2 modules



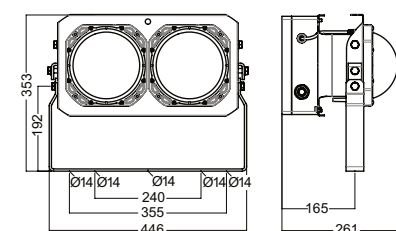
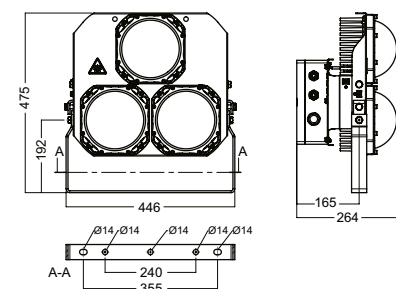
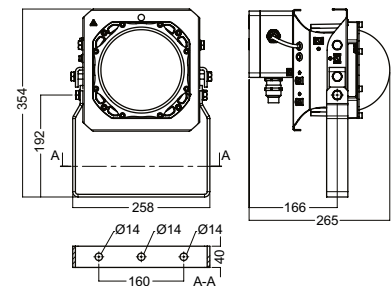
FL60 3 modules



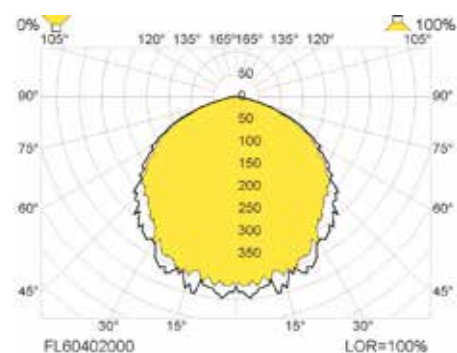
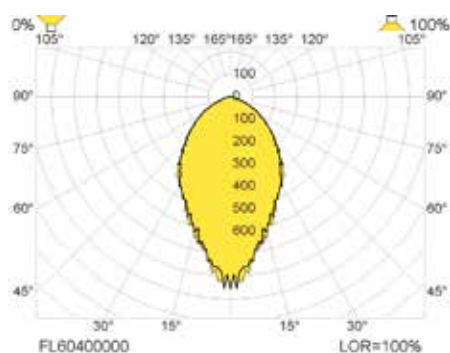
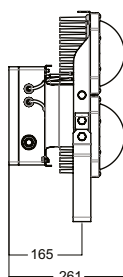
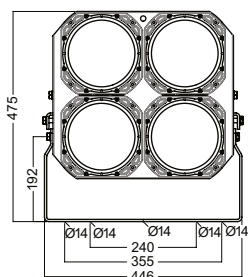
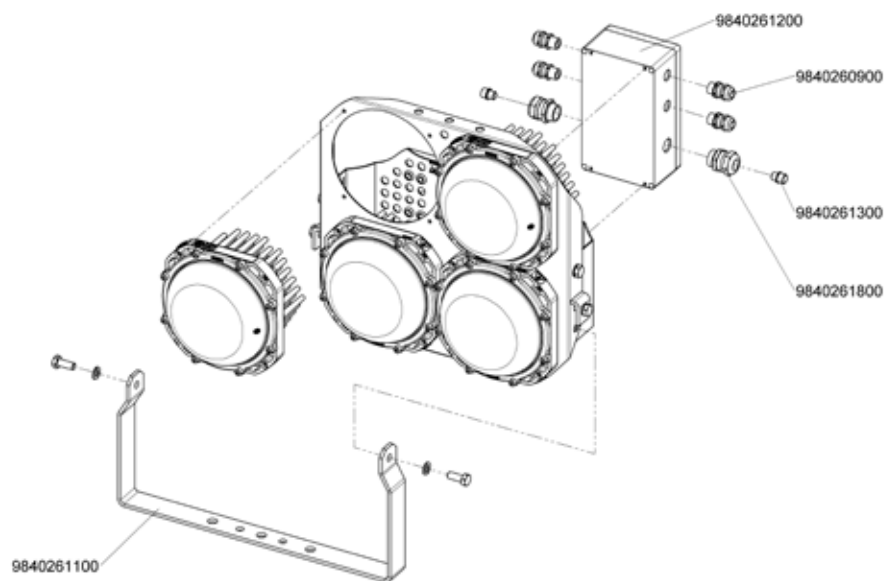
FL60 4 modules

- 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 6mm ² 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

Complete assortment on www.glamox.com/gmo

FX60



Ex de - LED floodlight



FX60 1 module



FX60 2 modules



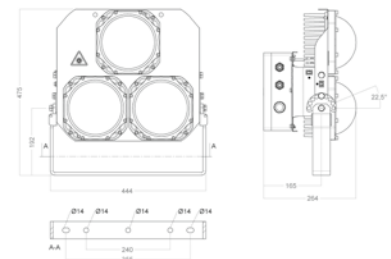
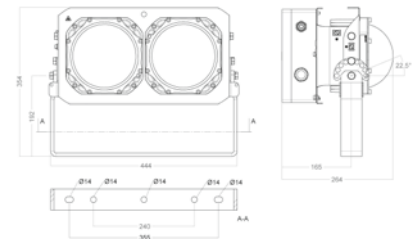
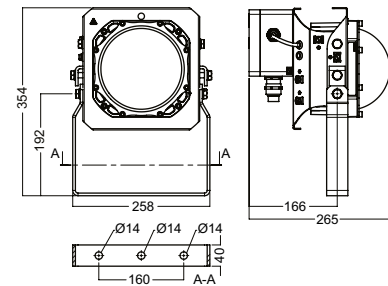
FX60 3 modules



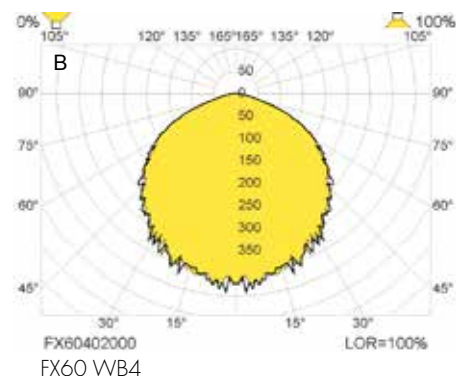
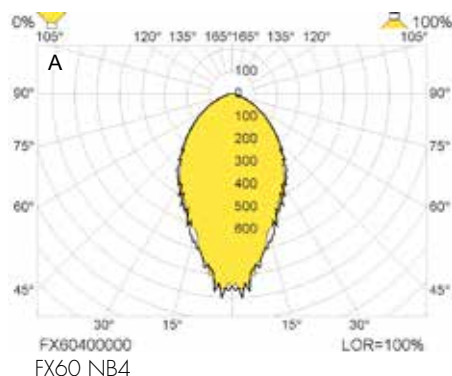
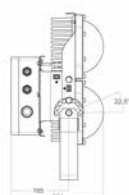
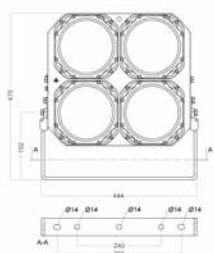
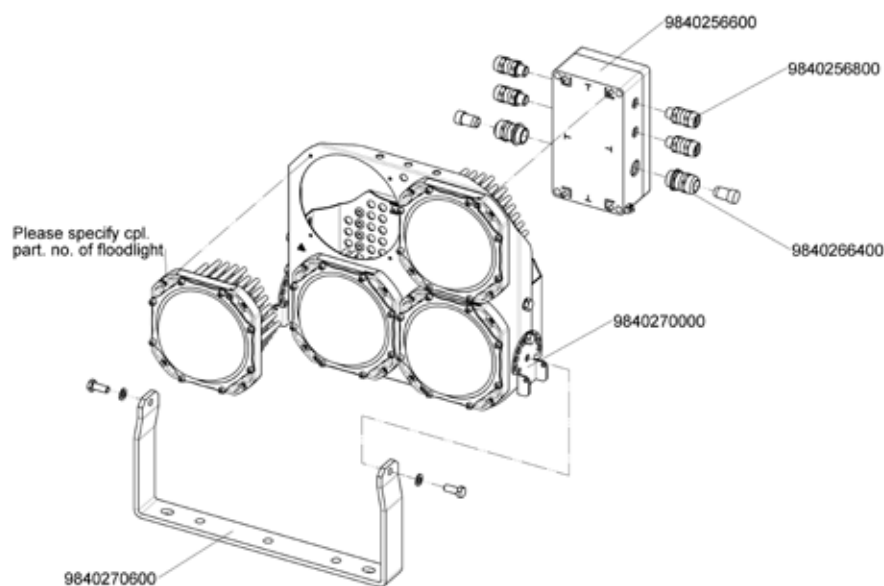
FX60 4 modules

- 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. | | | Weight kg | Lamp code | Light distr. |
|---------------------------|--------------|--------------|--------------|--------------|--------------|-----------------|
| | 120V 50/60Hz | 230V 50/60Hz | 254V 50/60Hz | | | |
| 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 WB | 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 WB | 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 WB | 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 WB | FX60412000 | FX60402000 | FX60422000 | 17.0 | LED | |

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

Complete assortment on www.glamox.com/gmo

1076 007/009

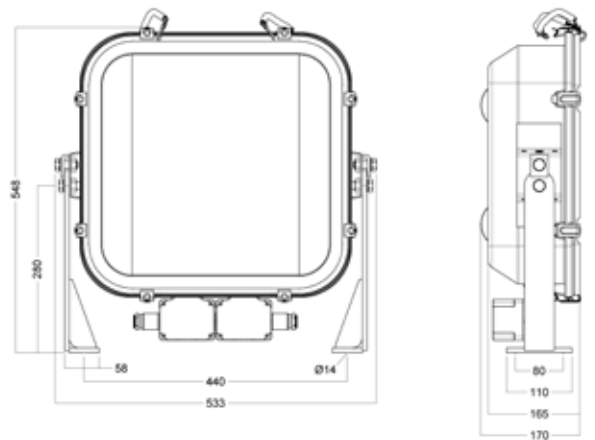


Floodlight for high pressure sodium lamps or metal halide lamps

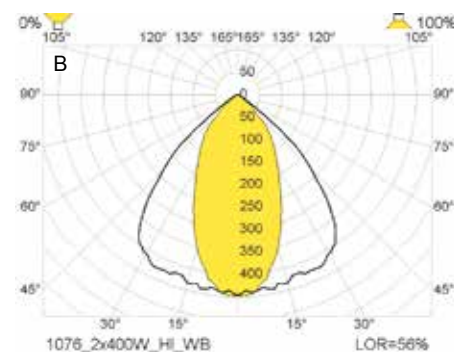
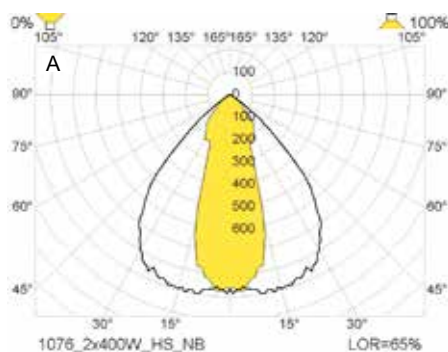
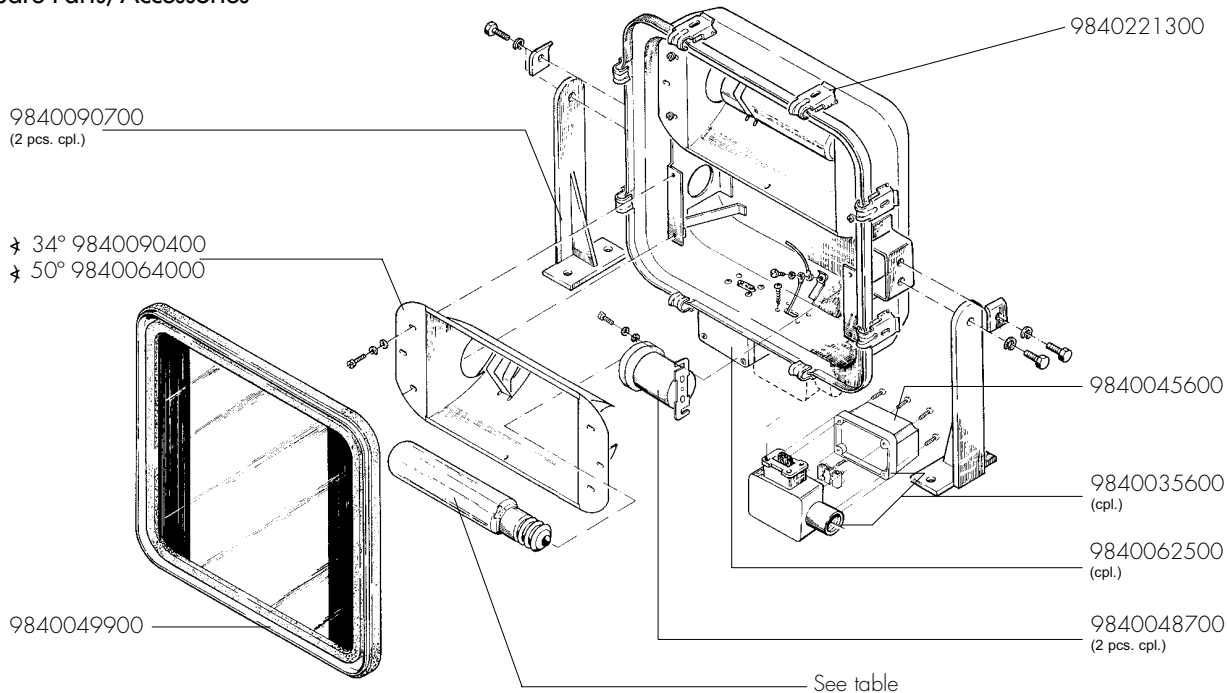


- Deep drawn seamless steel housing
- High light output
- No tools required to open the housing

| | |
|---------------------|--|
| 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 (HL) (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 kg | Lamp code | Lamp base | Light distr. |
|------------------------------|------------------------|--------------|--------------|--------------|-----------------|
| 1076 2x250/400W HS/Hi NB B24 | max 240V 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

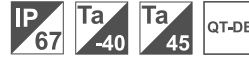
1076 001



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 |

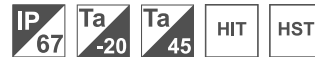
1076 081-082



Floodlight for metal halide (HI) or high pressure sodium (HS) with seamless housing of deep drawn stainless steel ASIS 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 ASIS 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 (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 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. Bracke and housing stainless steel AISI 316. The housing is powder coated white and enamelled up to 70-80µm 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 mm thickness. |
| Dimension (mm) | W: 210 H: 327 L: 495 |

1076 152



IP 67 Ta -20 Ta 45 HST



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



IP 67 Ta -20 Ta 45 HIT HST



Ballast for floodlights for high pressure sodium (HS) or metal halide (HI) 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



IP 67 Ta -20 Ta 45 XEN



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



IP 67 Ta -20 Ta 40 HIT



Ballast for floodlights for high pressure sodium (HS) or metal halide (HI) 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 (HI) or high pressure sodium (HS) 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 (HS) 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 (HI) or high pressure sodium (HS) 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 |

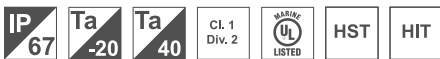
1069 040



Floodlight for halogen (QT) with seamless housing of deep drawn stainless steel ASIS 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 |

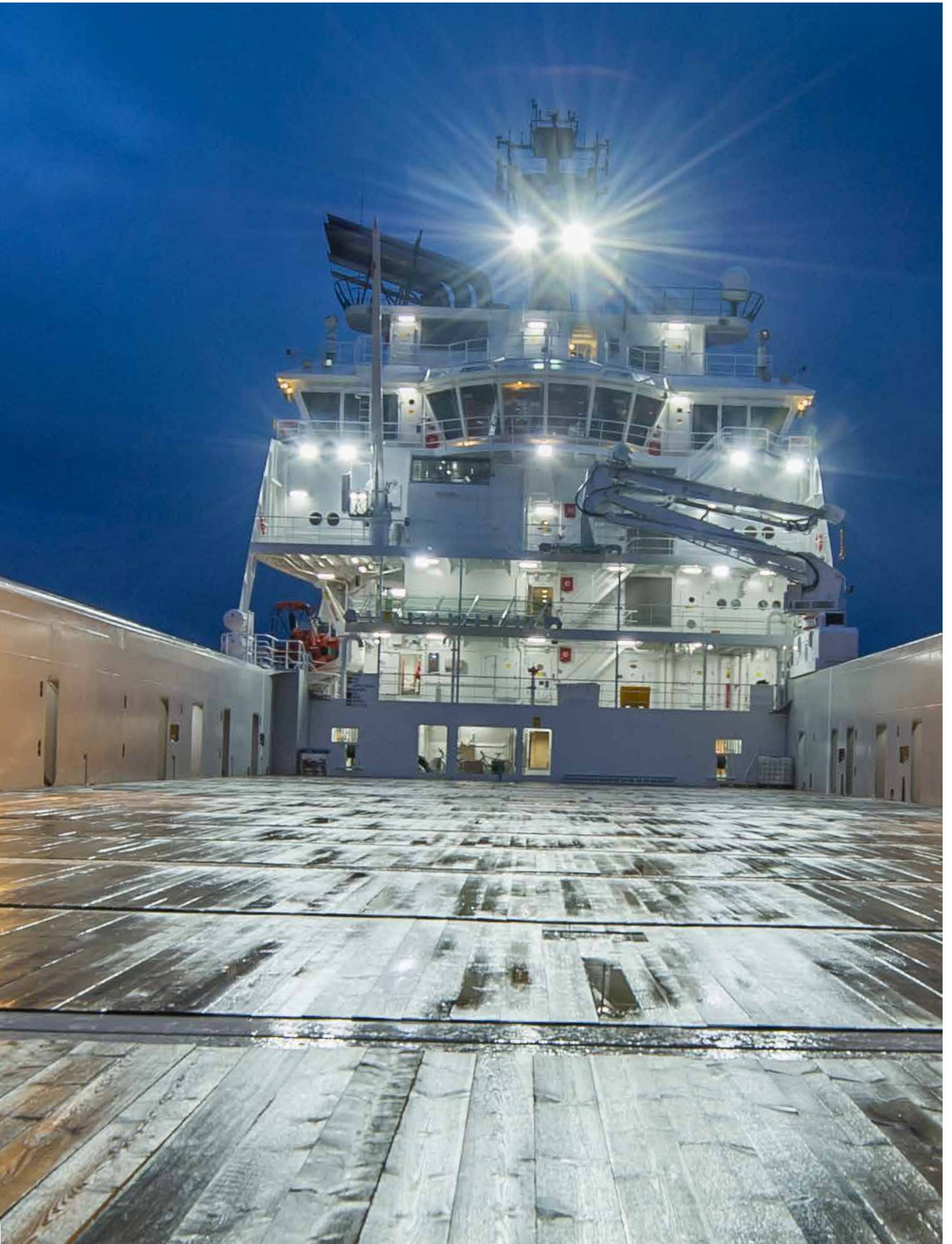
1069 028-031



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 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 |





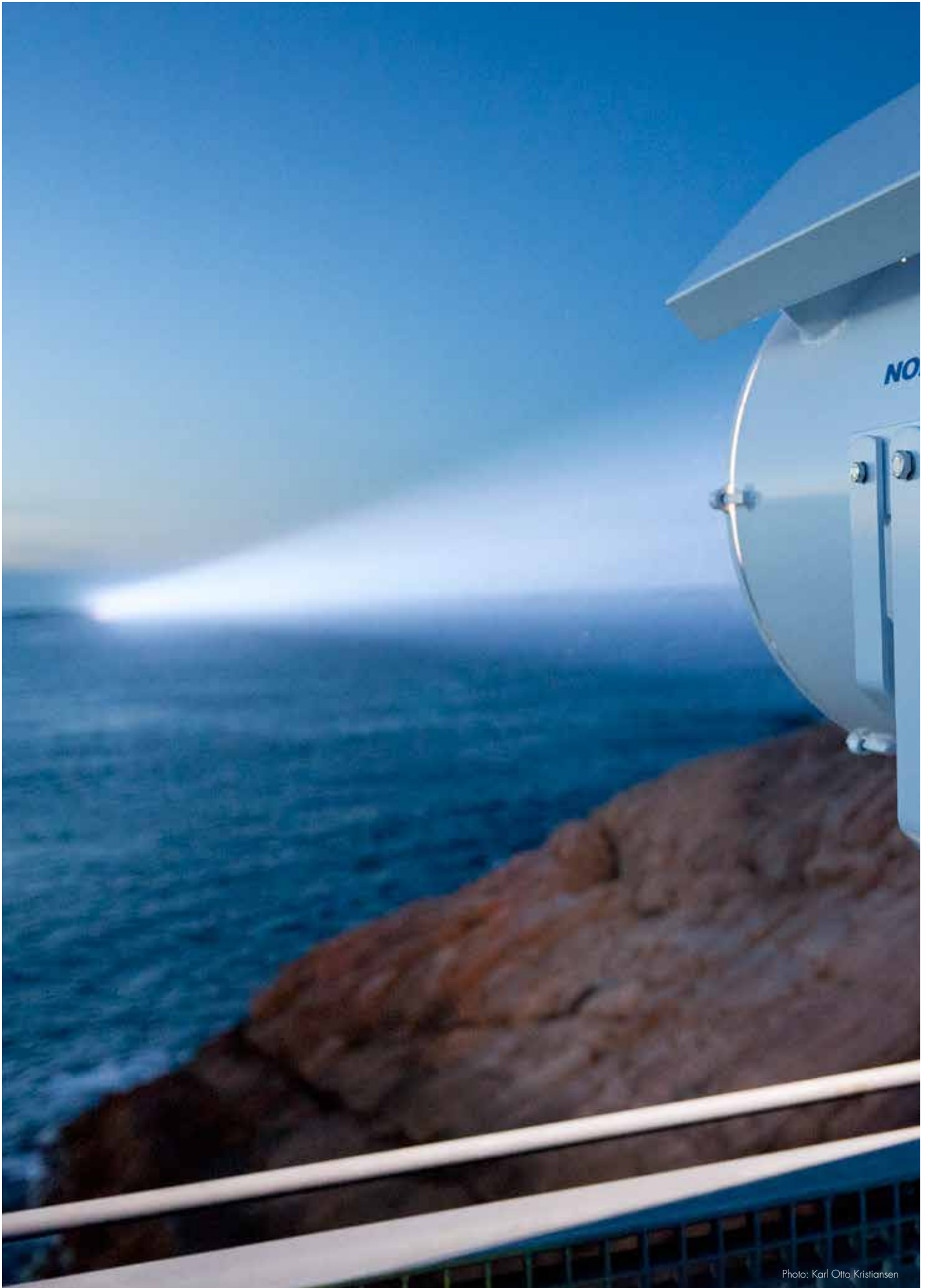


Photo: Karl Otto Kristiansen

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)



| | |
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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 runtime 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

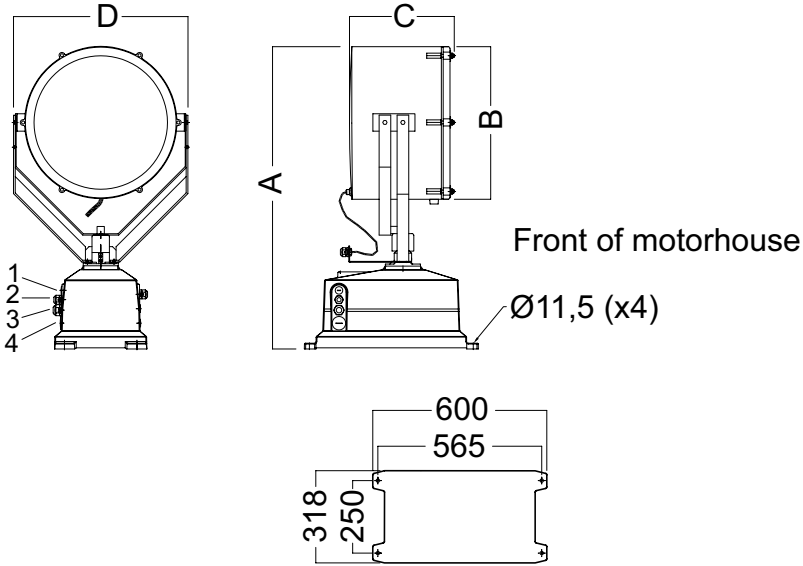


Slave panel

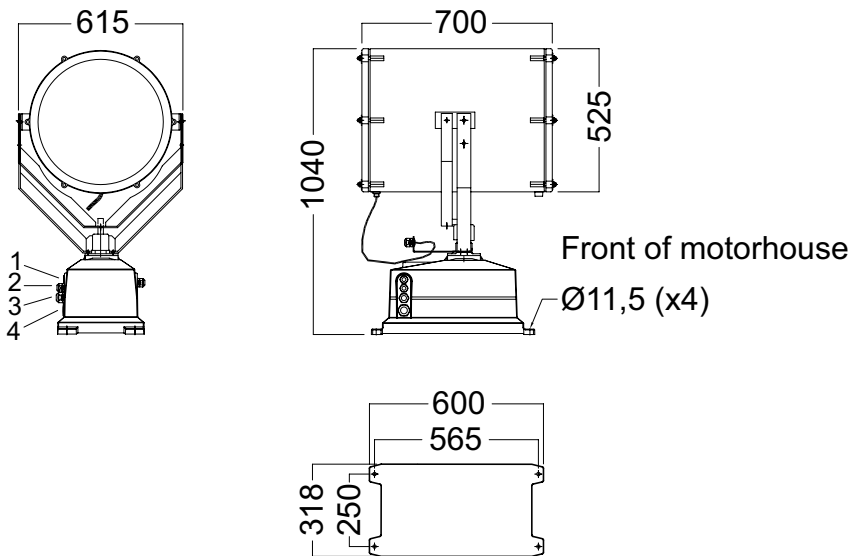


PC panel

SH R60 310/470



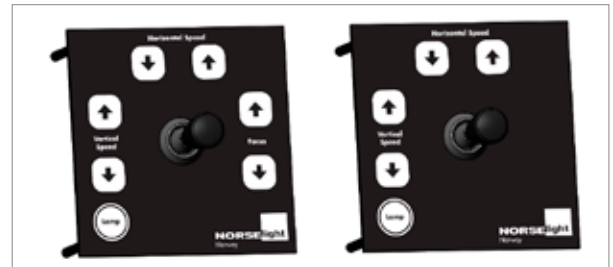
SH R60 480



| 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 |

Complete assortment on www.glamox.com/gmo

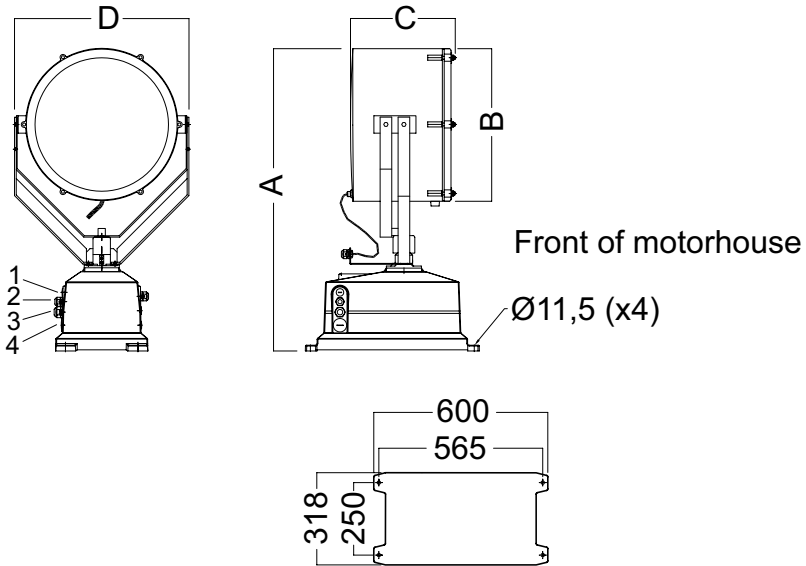
SL40 R5 Halogen Searchlight



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 | 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. 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. |
| 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 | 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 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

NORSElight

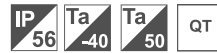


Searchlight Halogen Remote Controlled BUS R50, suitable for all kinds of ships. The control system is based on TCP/IP technology where 9 different units of Halogen searchlights can be connected to the same network through Ethernet CAT5-E LAN cables. It is stepless adjustable 360° horizontal and 55° tilting 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 |

SH R10

NORSElight



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 |

HR R20

NORSElight



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 D | DH

NORSElight



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 Nickel 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

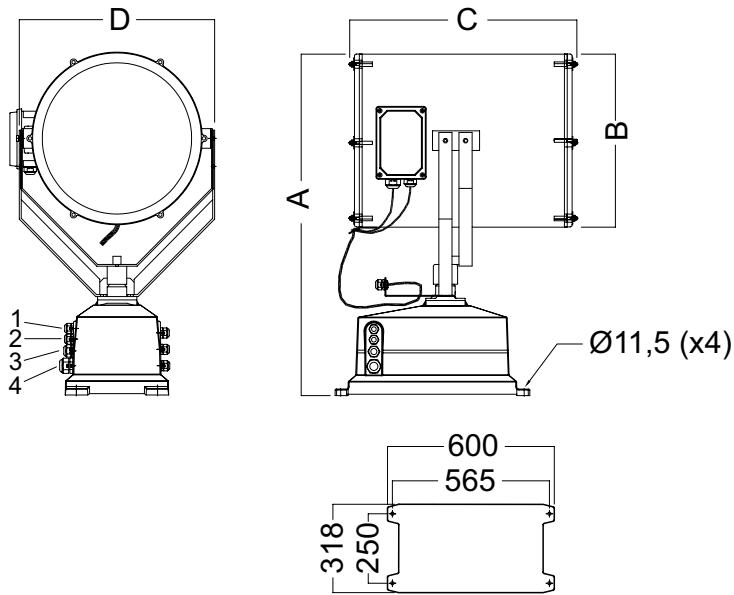


Slave panel

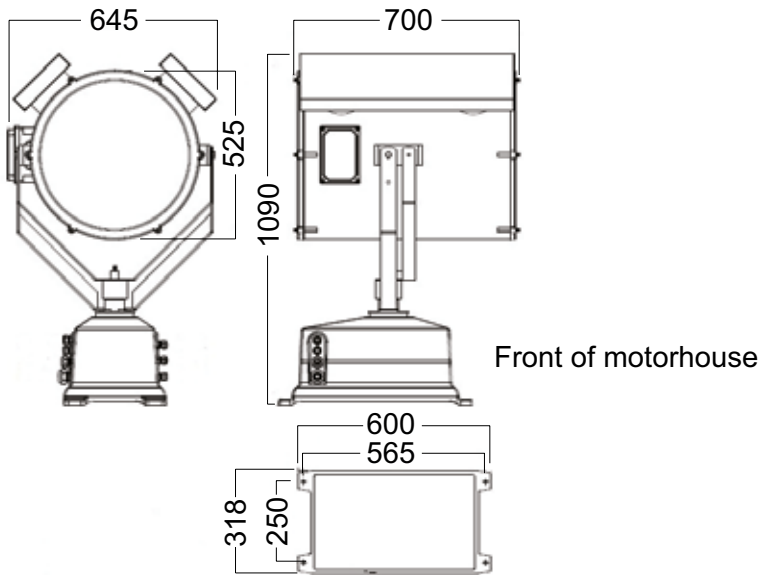


PC panel

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 | 645 | 3.0 - 8.0 | 12 500 m |
| XS3000 R60 230V NR | 600209538 | 3000W | 230V | 1090 | 700 | 645 | 645 | 1.7 - 5.5 | 14 000 m |

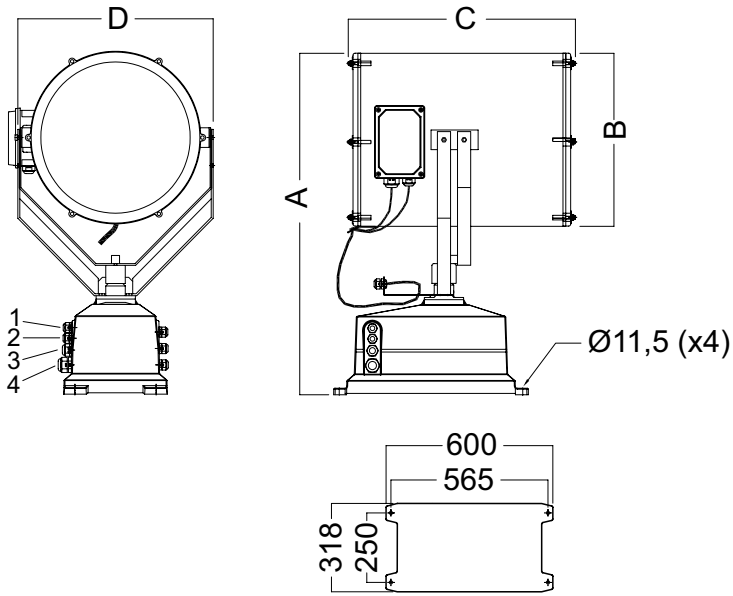
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Main control panel with focus adjustment

- 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 | 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. 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. |
| 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



Series 65 LED
Arctic



Series 70



Series 70M



Series 70 Ex d



Series 55



Flashing light



Suez signalling
light



LED Navigation
light panel



Navigation
light panel
conventional

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Series 65 LED



Aqua Signal LED navigation lights

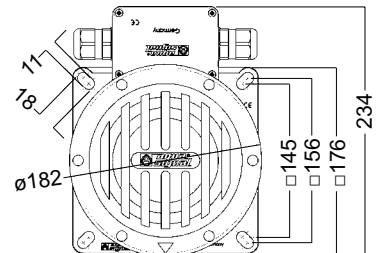
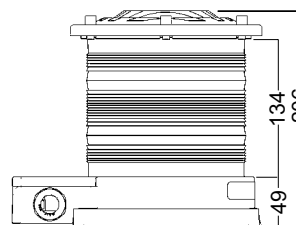


Series 65 brass housing

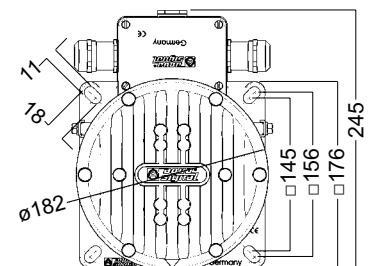
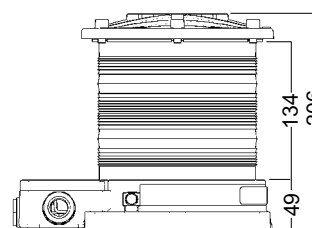
- Long lifetime, up to 100 000 operating hours (depending on ambient temperature)
- Main and back up system in one housing
- High level of reliability

| | |
|--------------|---|
| 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 |

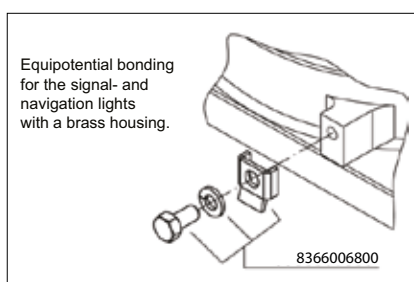
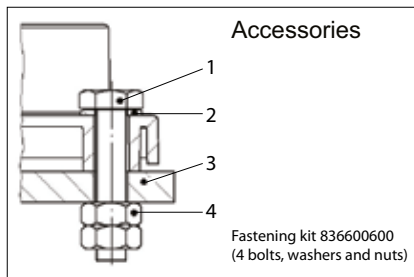
Black/White



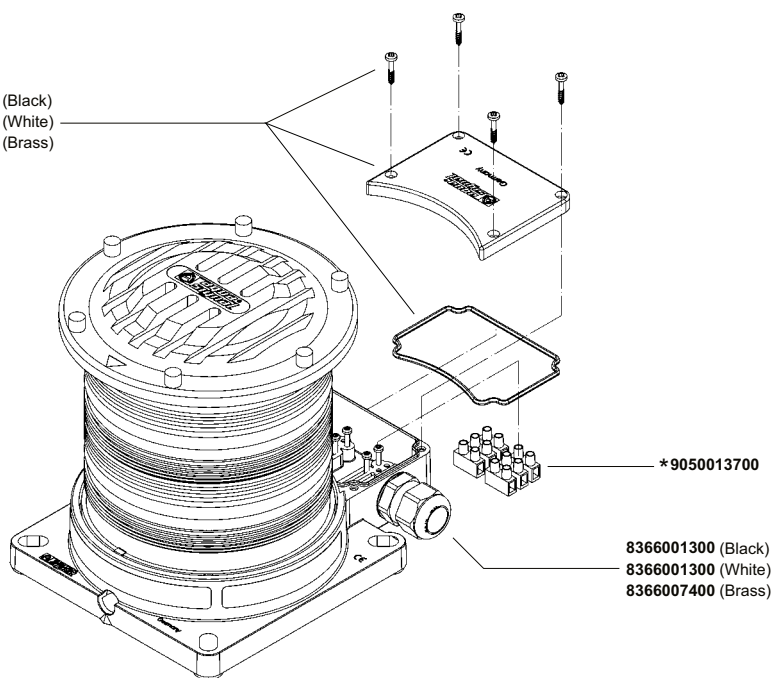
Brass



Spare Parts/Accessories



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



| Product | Part-No. | Part-No. | Part-No. | Part-No. | Part-No. | Part-No. |
|------------------------------|-----------------|-------------------|-----------------|-------------------|-----------------|--------------------|
| | Black 24V DC | Black 115/230V | Brass 24V DC | Brass 115/230V | White 24V DC | 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



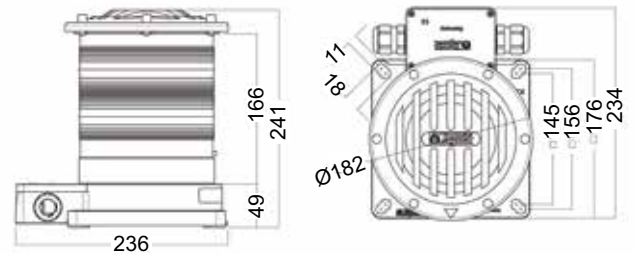
Serie 65 arctic black housing

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

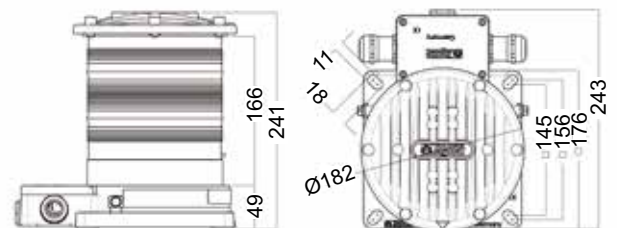
- High level of reliability
- Designed for low temperatures

| | |
|--------------|---|
| 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 |

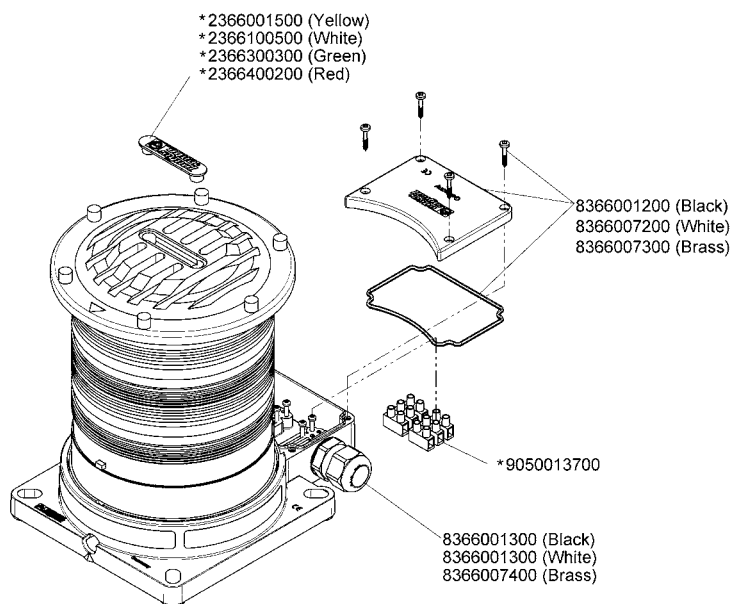
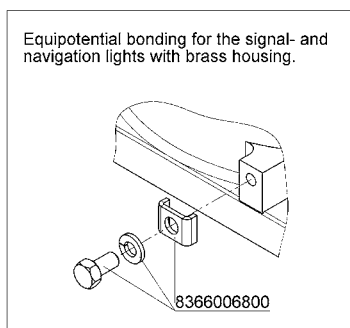
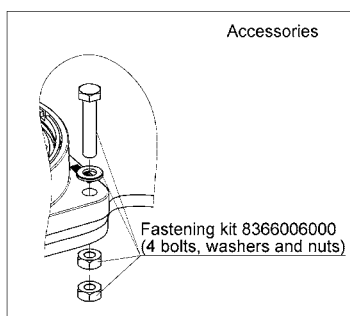
Black/White



Brass



Spare Parts/Accessories



| Product | Part-No. | Part-No. | Part-No. | Part-No. | Part-No. | Part-No. |
|------------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|
| | Black 115 V | Black 230V | Brass 115V | Brass 230V | White 115V | 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

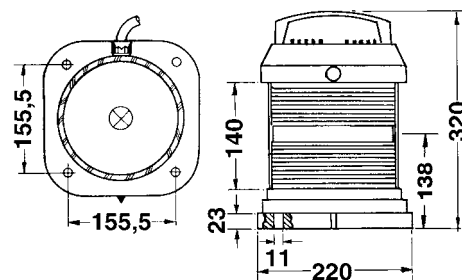
Series 70

Navigations lights

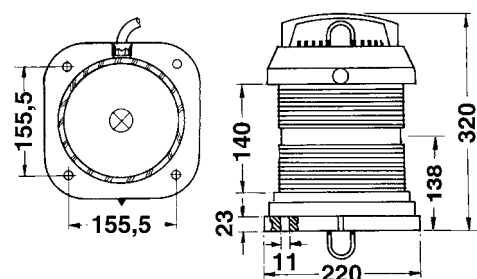


- Unbreakable and extremely reliable

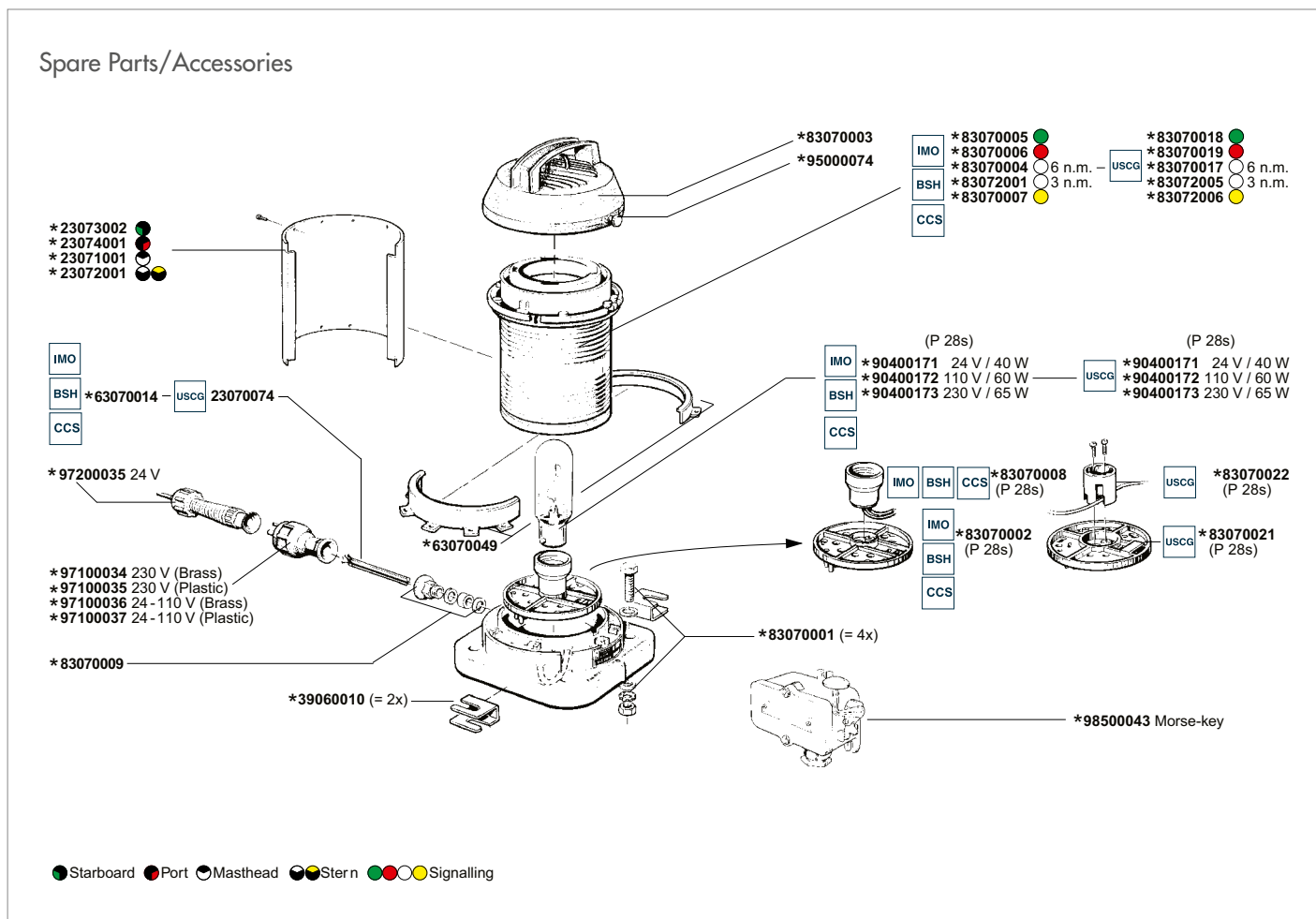
| | |
|--------------|--|
| Application | For all vessels ≥ 20 m in length |
| Approvals | a) International according to IMO Colreg 1972, in Scandinavian countries too, in Germany through BSH, other countries in particular see list of approvals b) US-Coastguard. These lights may only be used on ships 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 mm ² , 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



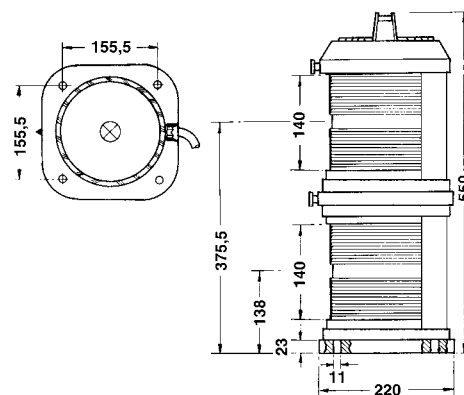
Double lens navigation lights



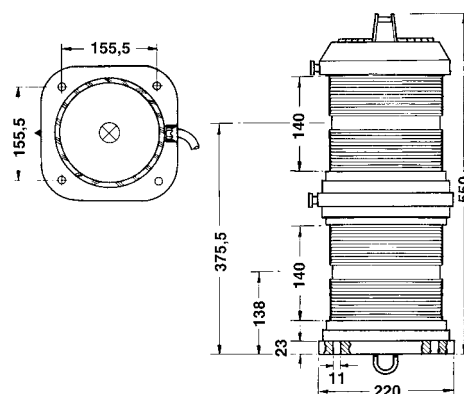
Easy change of bulb with only one hand

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

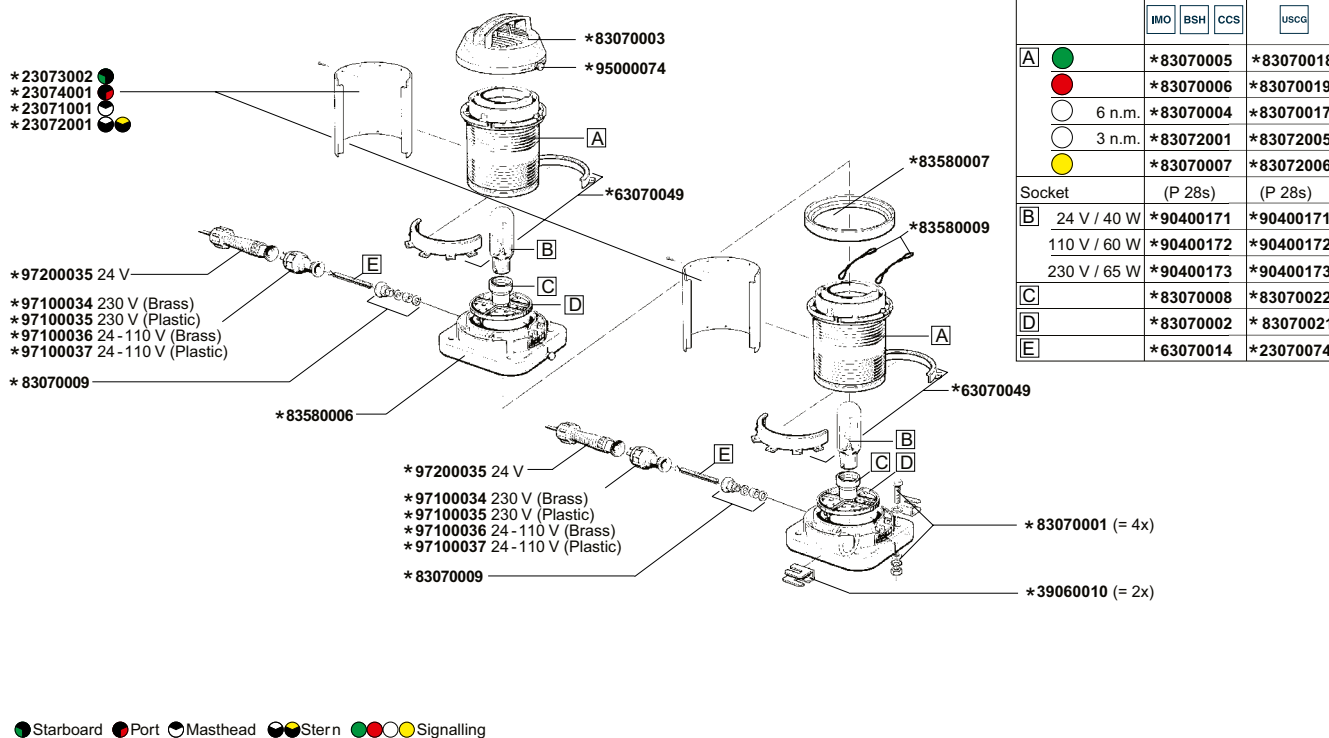
| | |
|--------------|---|
| Application | For all vessels ≥ 20 m in length |
| Approvals | a) International according to IMO Colreg 1972, in Scandinavian countries too, in Germany through BSH, other countries in particular see list of approvals. b) US-Coastguard. These lights may only be used on ships 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. |
| 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. | Part-No. | Part-No. | Part-No. | Part-No. | Part-No. | Part-No. |
|---------------------|--------------------|----------------------|----------------------|---------------------|---------------------|---------------------|----------------------|
| | 24V/24V 40W/40W | 110V/110V 60W/60W | 230V/230V 65W/65W | 24V/230V 40W/65W | 24V/110V 40W/60W | 110/230V 60W/65W | 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 |

Series 55



The Series 55 Navigation lights are applicable for vessels > 20 - < 50 m 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 |

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 |

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



HL55-O



HL55-P



HX55-O



HX55-P



GLI-GFH



TL55-W
Windsock



TL55-C
Helideck controller

| | |
|---------------------------------|-----|
| HL55-O..... | 108 |
| HL55-P..... | 110 |
| HX55-O..... | 112 |
| HX55-P..... | 114 |
| GLI-GFH..... | 116 |
| TL55-W Windsock..... | 116 |
| TL55-C Helideck controller..... | 116 |

HL55-O



Obstacle lights for indication of aviation obstacles HL55-O

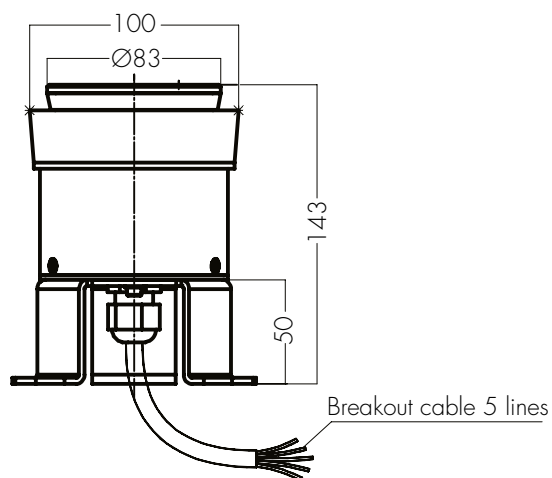


Vertical bracket

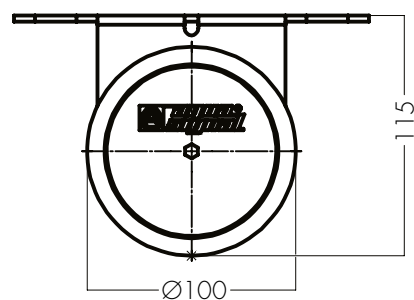
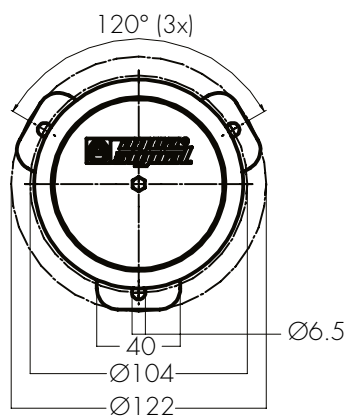
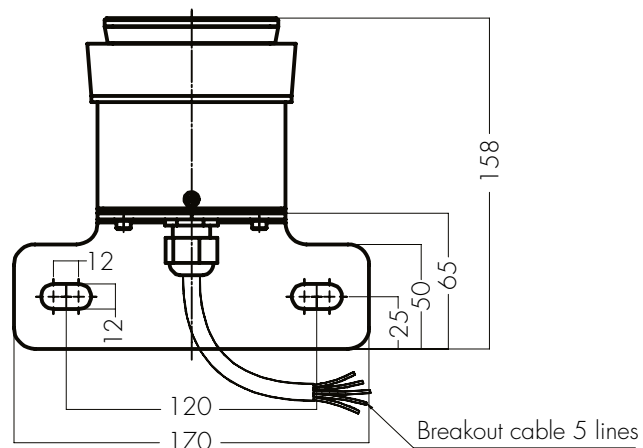
- Seawater resistant materials
- Small compact structure
- Easy installation
- Low power consumption max 9W
- Maintenance free LED technology
- Integrated fail safe function
- Vibration-resistant technology

| | |
|--------------|--|
| 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

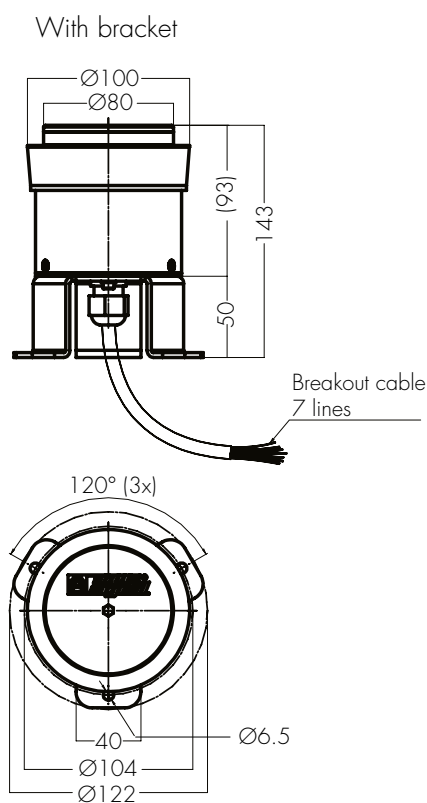
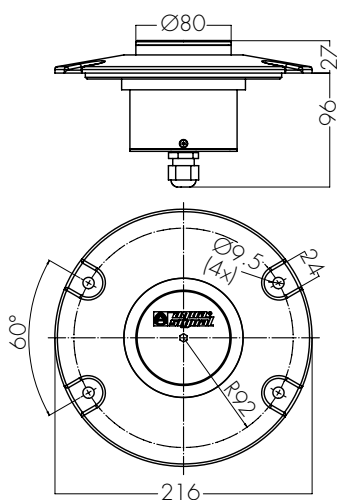
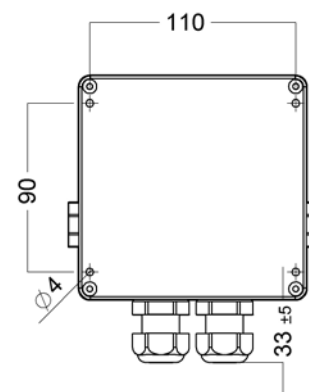
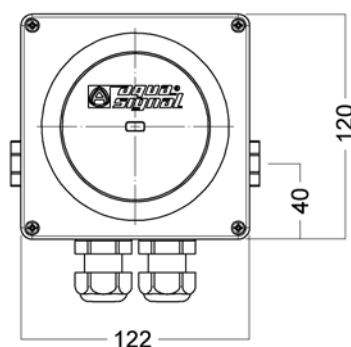
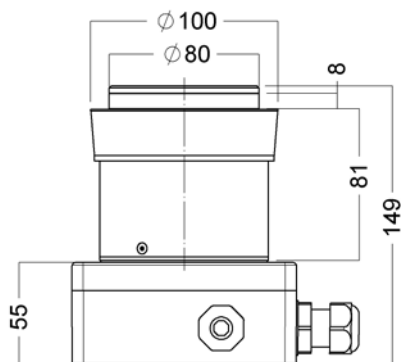
Finish Black anodized aluminium

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

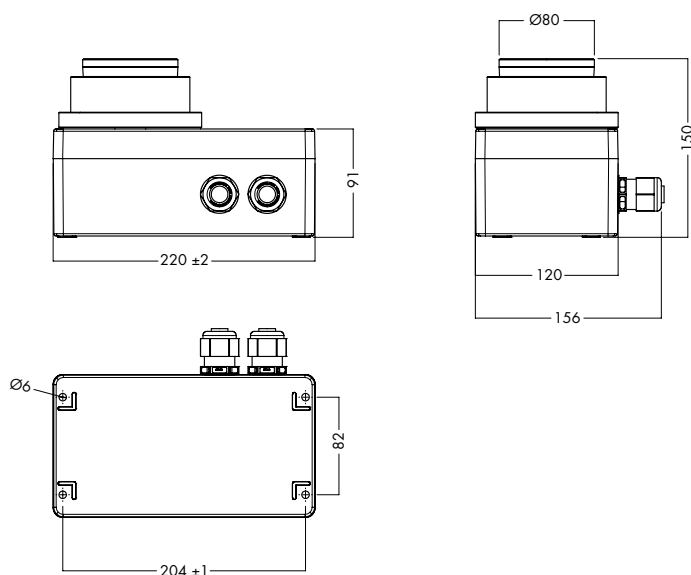
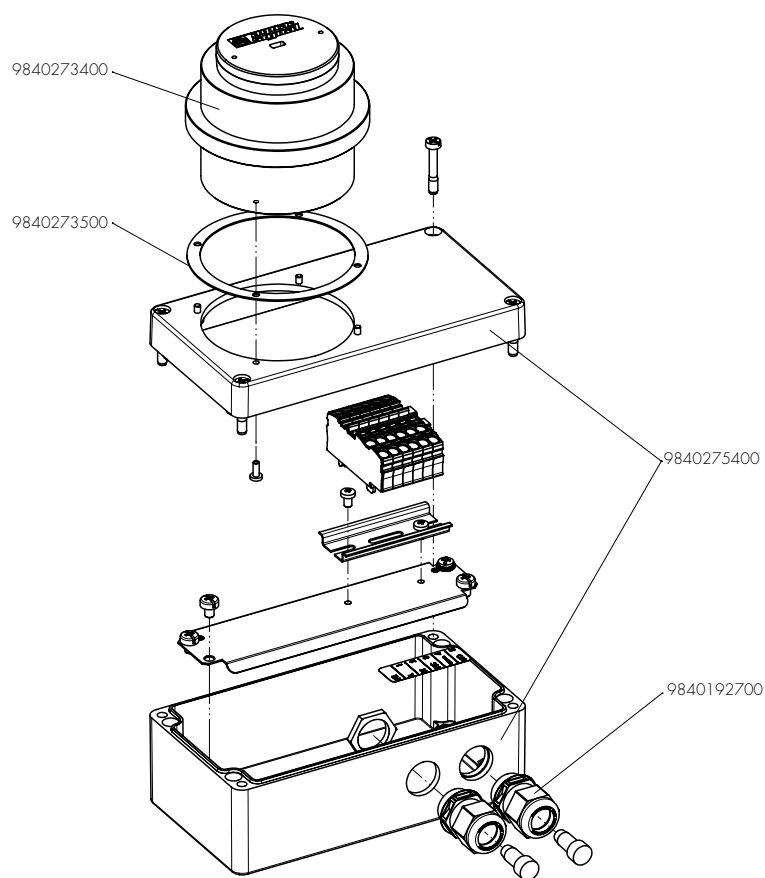


- Extremely long lifetime, rated 100 000 hours at ambient temperature 45°C
- Easy to install
- Integrated fail safe function

- 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

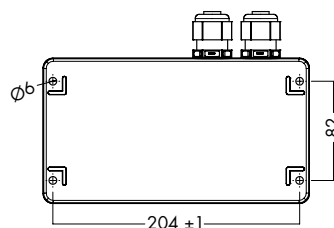
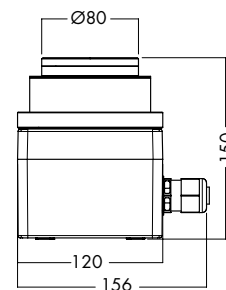
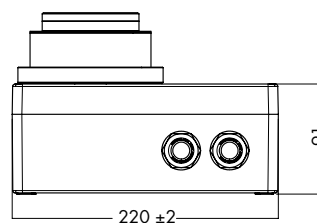
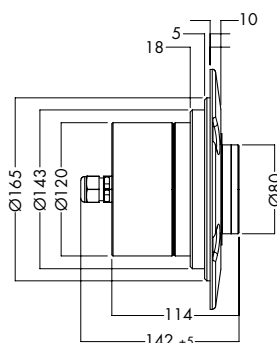
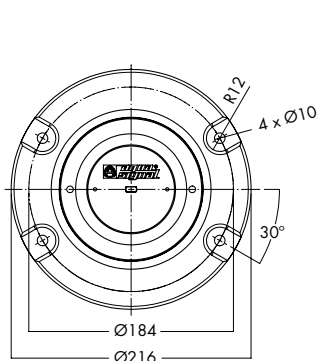
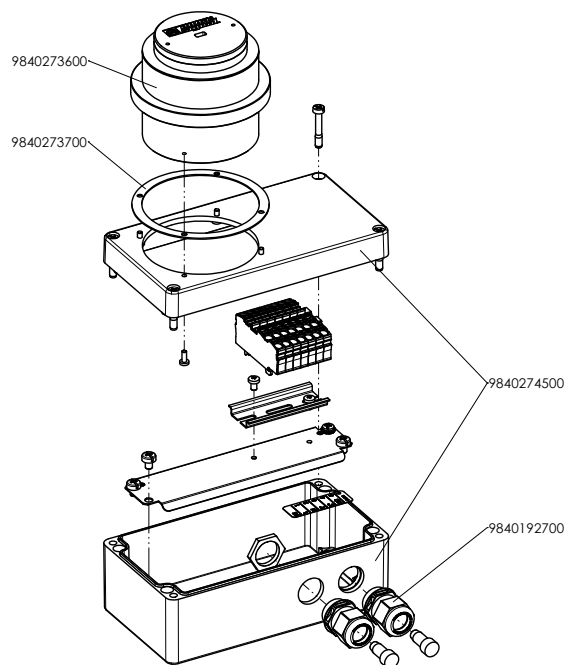
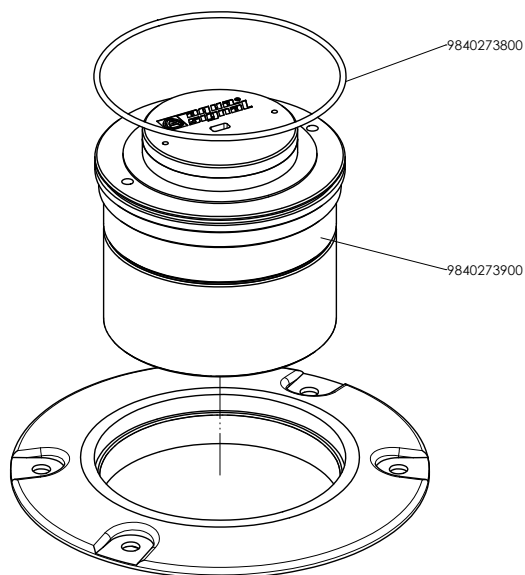


On connection box

- 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 up 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: Different 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



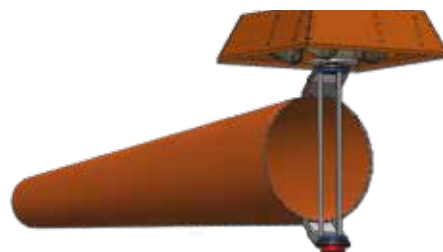
Ex and non-Ex floodlight for helideck landing and safe areas, vibration resistant technology, compact and slim design CAP437 certification.

| | |
|----------------|--|
| 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



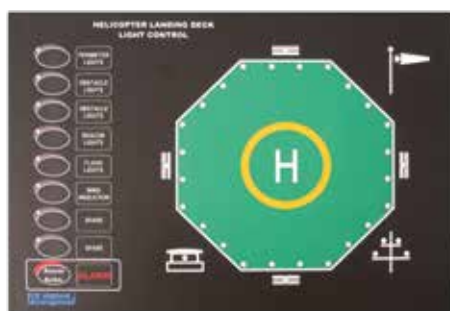
T8



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 |

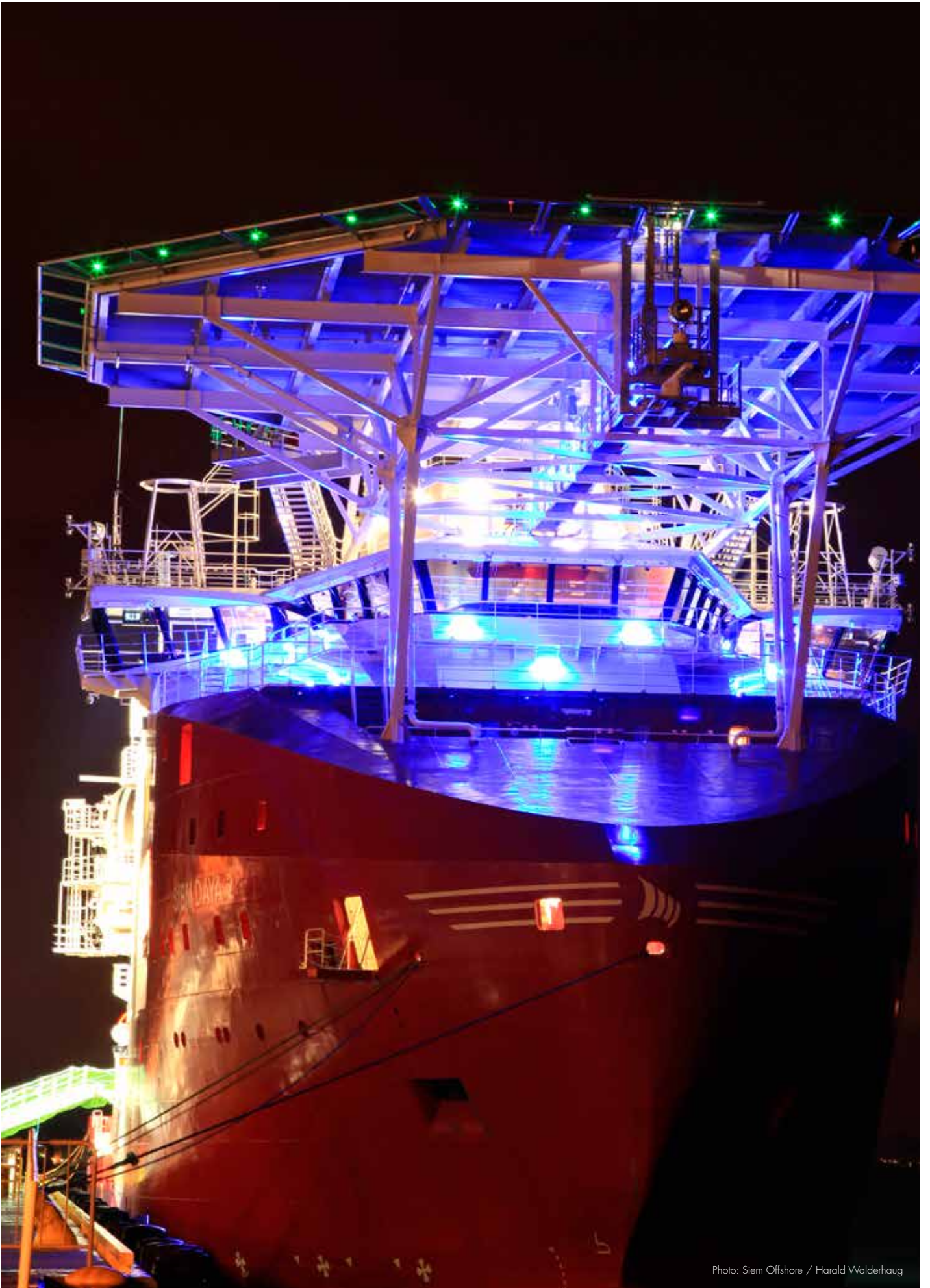


Photo: Siem Offshore / Harald Walderhaug



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 |
| E80-S..... | 122 |
| E85-R(M) | 124 |
| E85-S..... | 126 |
| O631 | 126 |
| GEF | 126 |
| GFI UL..... | 127 |
| O633 UL | 127 |

E80-R(M)

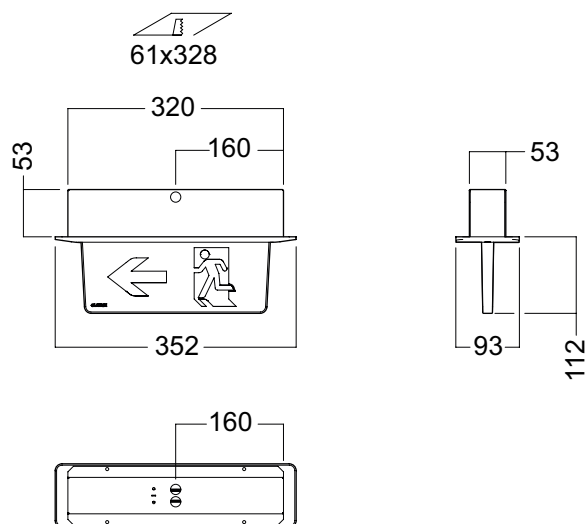
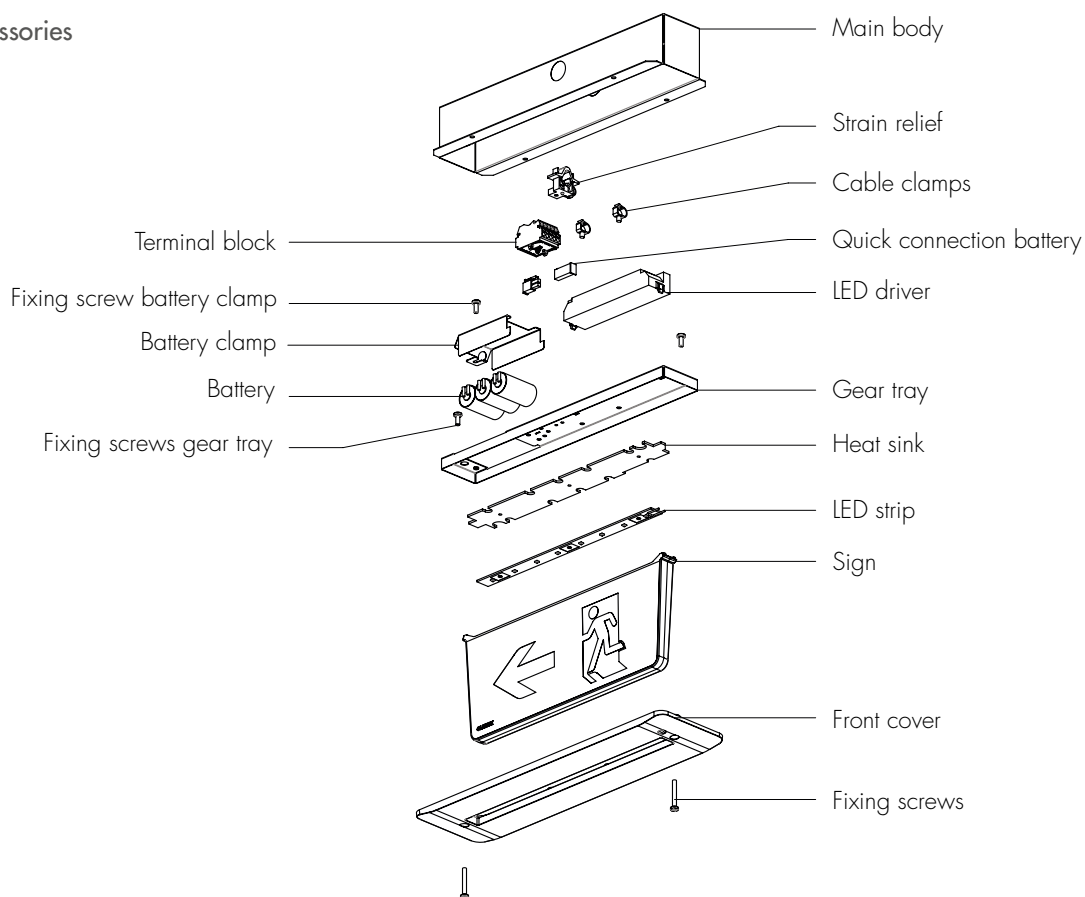
EXIT sign recessed



- 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 | 220/240V 50/60 Hz 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



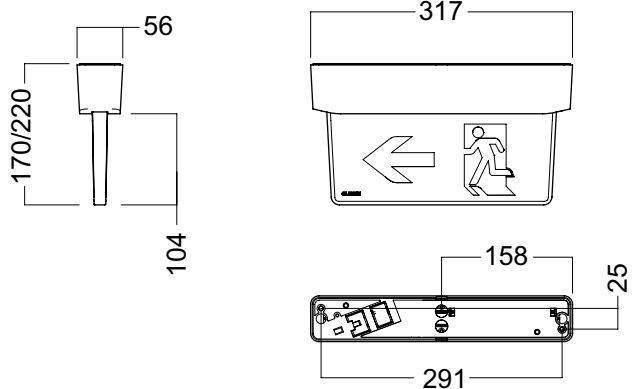
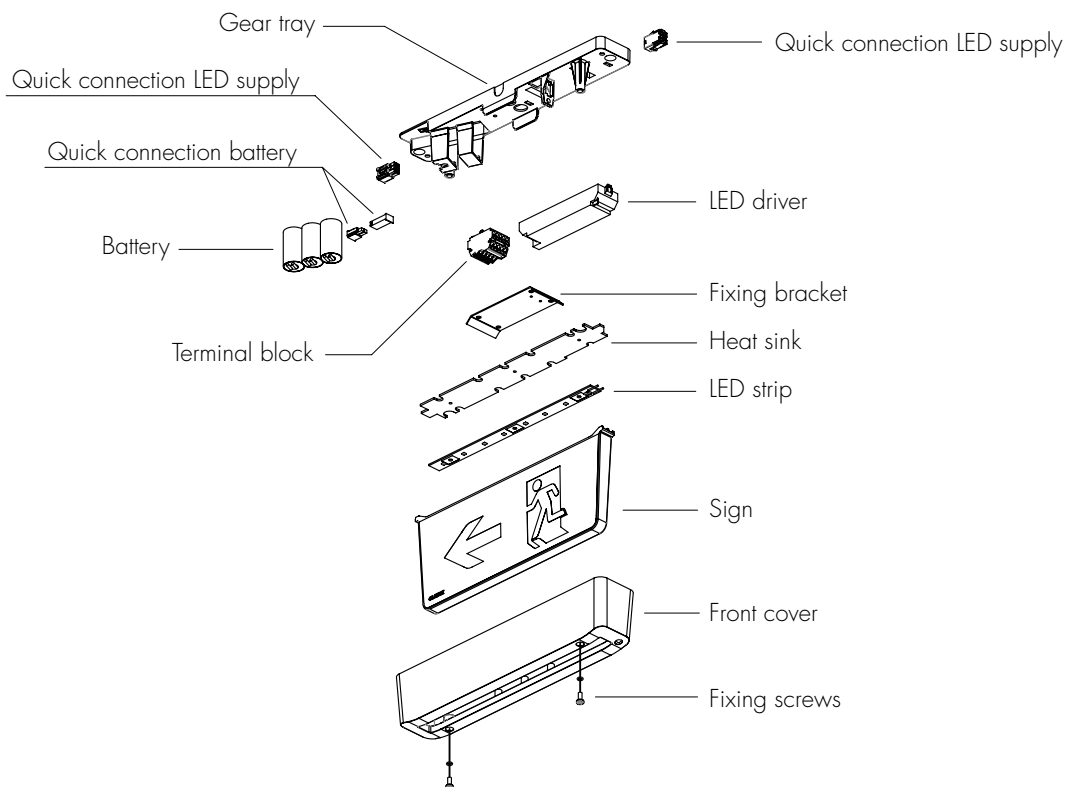
Flag mounting



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



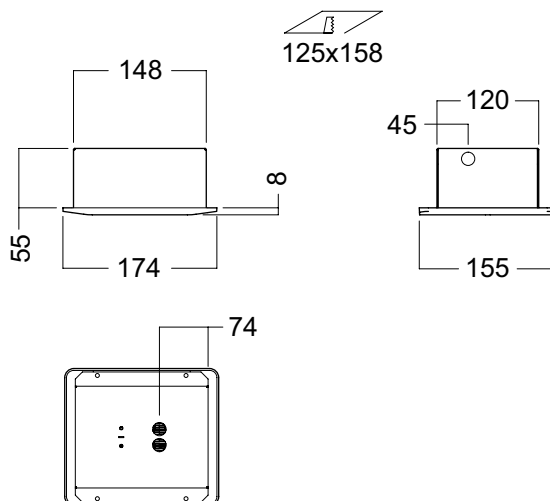
E85-R (M) C



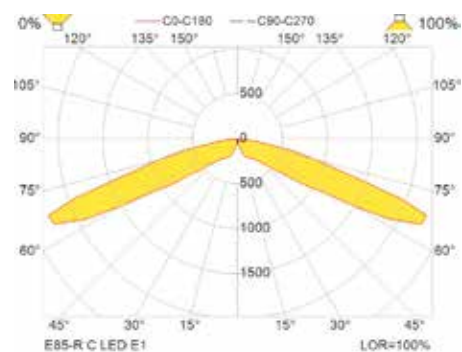
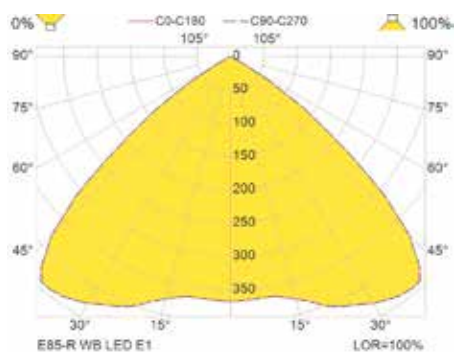
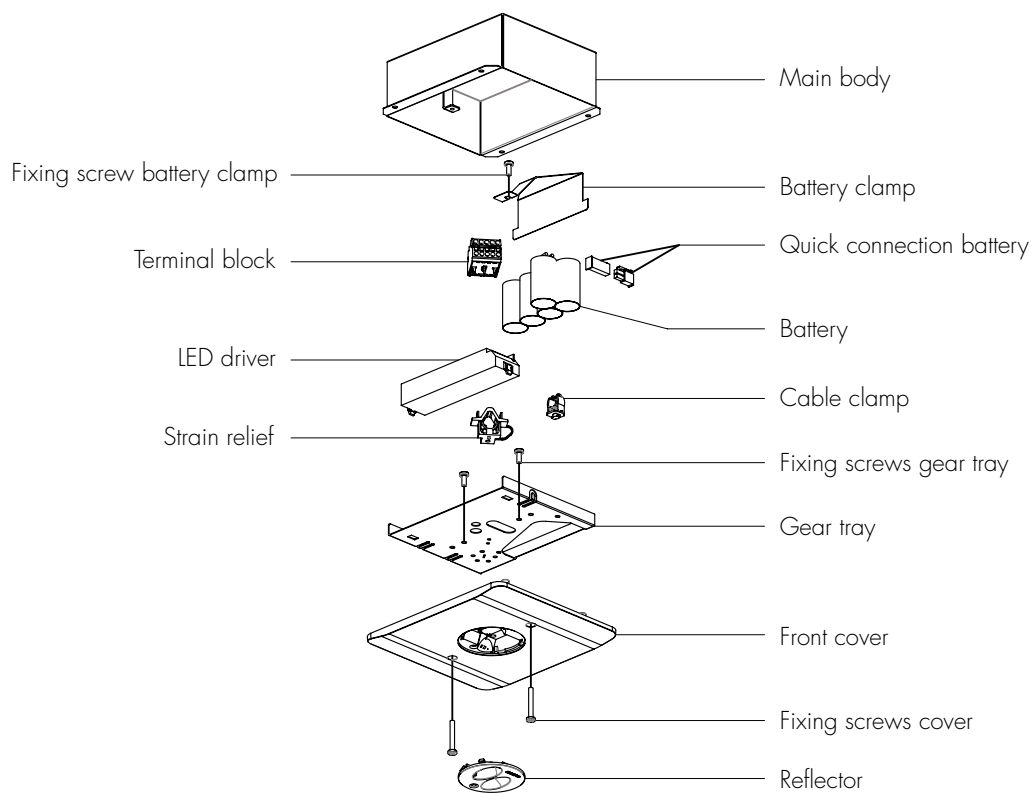
E85-R (M) WB

- 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 WB, 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 |

0633 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 | 130 |
| DL60-R92H LED 500/700 | 132 |
| DL60-R108 500/700..... | 134 |
| DL60-R108 900 | 136 |
| DL60-RF155 LED 800/1100 | 138 |
| DL60-R155 LED 800/1100..... | 140 |
| DL60 Decor & Accessories | 142 |
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| DL90 ALU METAL HALIDE | 147 |
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| DL90 ALU COMPACT GU10..... | 147 |
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| O648 | 148 |
| CASA (M) H87..... | 148 |
| CASA (M) H95..... | 148 |
| CASA MARINE UL..... | 148 |
| DL100 UL..... | 149 |

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 (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 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 mm ² . Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request. |

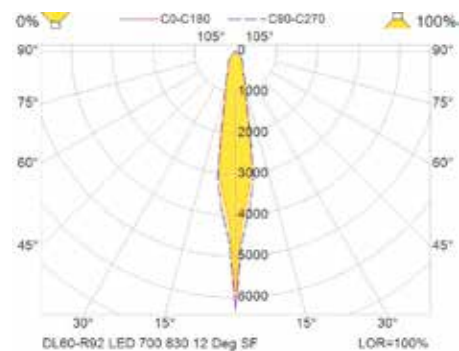
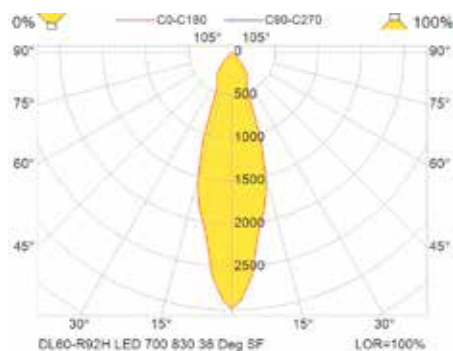
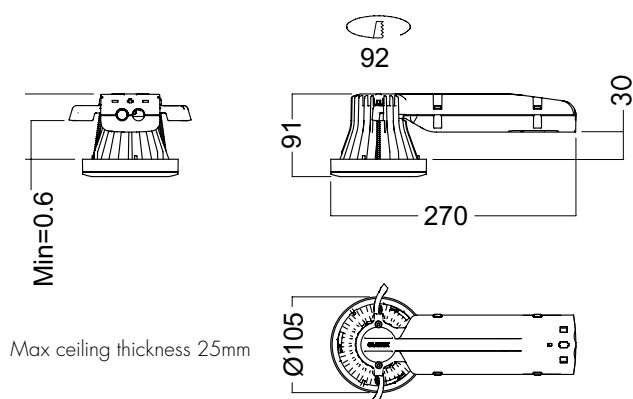
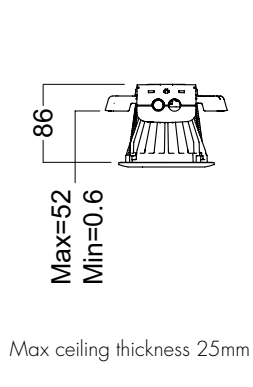


Distance ring accessories



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 HFDα 830 1xQCE 12° SF | DL60514441 | DL60514445 | DL60514449 | DL60514453 | 7W | 0.6 | LED |
| DL60-R92 LED 500LM HFDα 830 12° SF | DL60514442 | DL60514446 | DL60514450 | DL60514454 | 7W | 0.6 | LED |
| DL60-R92 LED 500LM HFDα 830 1xQCE 36° SF | DL60514145 | DL60514147 | DL60514149 | DL60514151 | 7W | 0.6 | LED |
| DL60-R92 LED 500LM HFDα 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 HFDα 830 1xQCE 12° SF | DL60514153 | DL60514155 | DL60514157 | DL60514159 | 9W | 0.6 | LED |
| DL60-R92 LED 700LM HFDα 830 12° SF | DL60514154 | DL60514156 | DL60514158 | DL60514160 | 9W | 0.6 | LED |
| DL60-R92 LED 700LM HFDα 830 1xQCE 36° SF | DL60514443 | DL60514447 | DL60514451 | DL60514455 | 9W | 0.6 | LED |
| DL60-R92 LED 700LM HFDα 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



- 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 mm ² . Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request. |

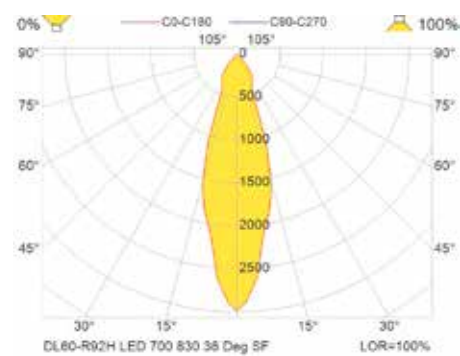
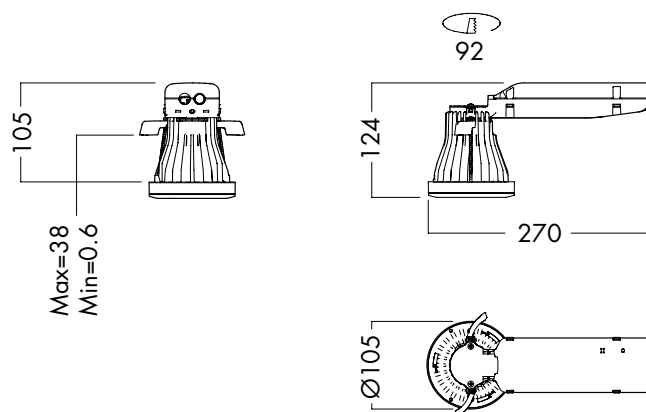
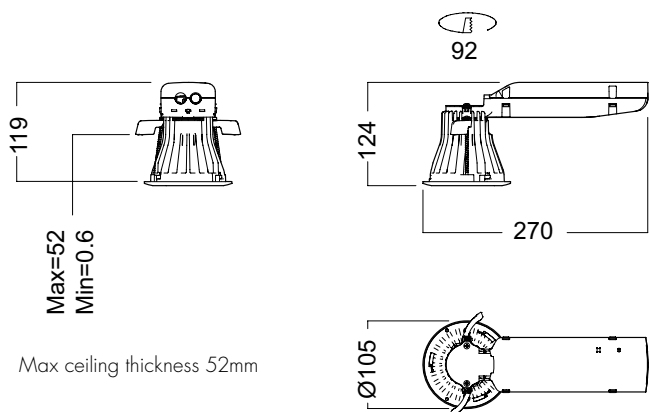


Trimring



IP55 clear accessorie

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



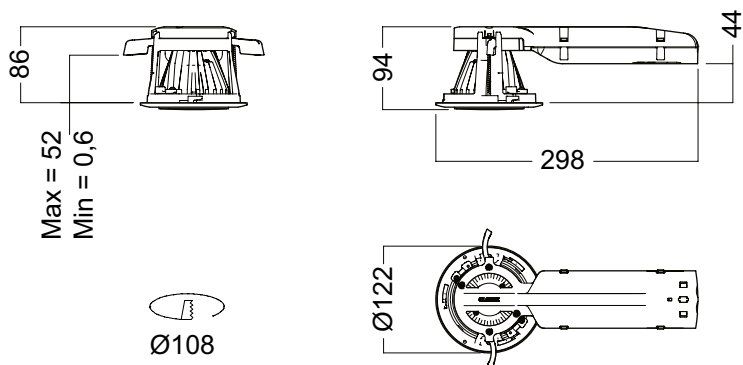
Adjustable heat sink white



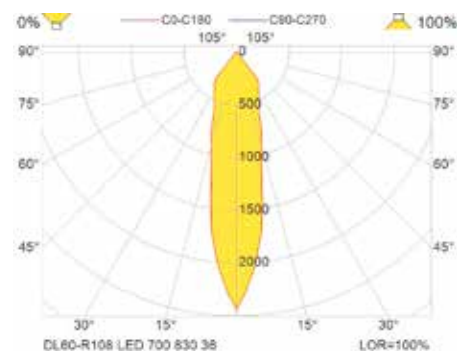
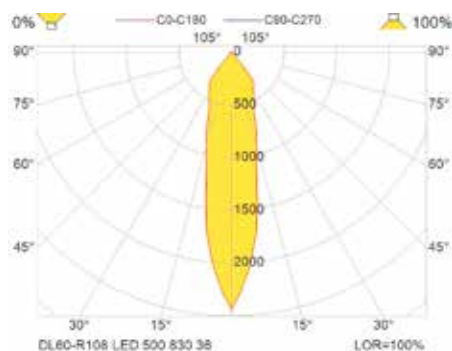
Adjustable heat sink brass



Trim ring



Max ceiling thickness 35mm



| Product | Part-No. | Part-No. | Part-No. | System power | Weight kg | Lamp code |
|---|------------|-------------|------------|--------------|-----------|-----------|
| | White trim | Chrome trim | Brass trim | | | |
| 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 HFD α 830 1xQCE 12° SF | DL60518116 | DL60518117 | DL60518118 | 6.5W | 0.6 | LED |
| DL60-R108 LED 500LM HFD α 830 12° SF | DL60518110 | DL60518111 | DL60518112 | 6.5W | 0.6 | LED |
| DL60-R108 LED 500LM HFD α 830 1xQCE 36° SF | DL60517865 | DL60517866 | DL60517867 | 6.5W | 0.6 | LED |
| DL60-R108 LED 500LM HFD α 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 HFD α 830 1xQCE 12° SF | DL60518104 | DL60518105 | DL60518106 | 9.5W | 0.6 | LED |
| DL60-R108 LED 700LM HFD α 830 12° SF | DL60518098 | DL60518099 | DL60518100 | 9.5W | 0.6 | LED |
| DL60-R108 LED 700LM HFD α 830 1xQCE 36° SF | DL60517871 | DL60517872 | DL60517873 | 9.5W | 0.6 | LED |
| DL60-R108 LED 700LM HFD α 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 $5 \times 2 \times 2.5$ mm ² . Possibility for 2 cables in or out. Quick connector Wago Midi (QCA) on request. |



Adjustable heat sink chrome



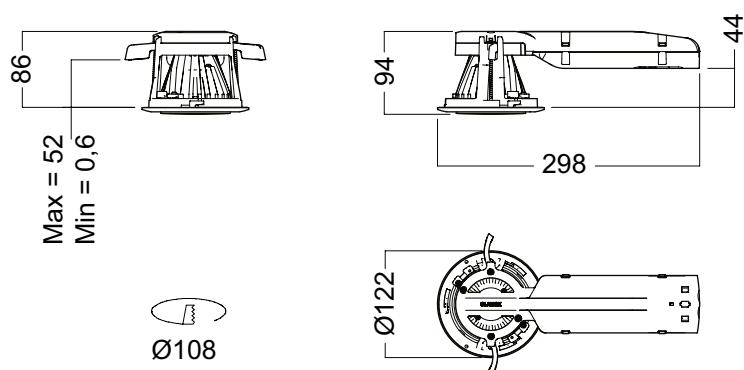
Adjustable heat sink white



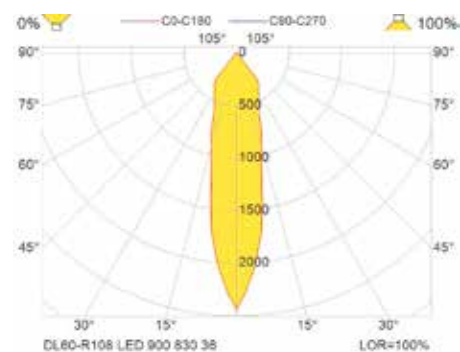
Adjustable heat sink brass



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 HFD _a 830 1xQCE 12° SF | DL60518086 | DL60518090 | DL60518094 | 15.6W | 0.6 | LED |
| DL60-R108 LED 900LM HFD _a 830 12° SF | DL60518084 | DL60518088 | DL60518092 | 15.6W | 0.6 | LED |
| DL60-R108 LED 900LM HFD _a 830 1xQCE 36° SF | DL60517877 | DL60517878 | DL60518079 | 15.6W | 0.6 | LED |
| DL60-R108 LED 900LM HFD _a 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



Decor matt glass

- 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 (WO 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.

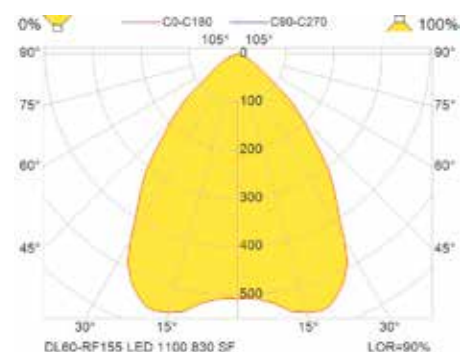
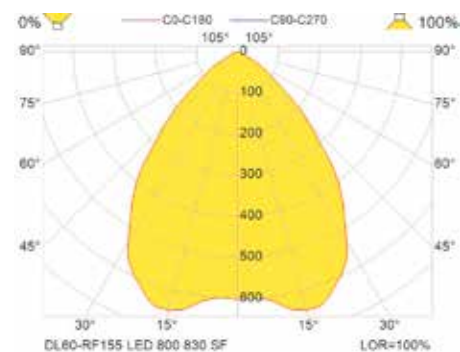
Optic The reflector is available in faceted high gloss (SF) surface/finish. Reflector is built into a light chamber that reduce glare through an "satine" diffuser. The reflector is also available in matt (SM) or high gloss (SI) on request. Delivered with a dust cover for protection during the building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

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

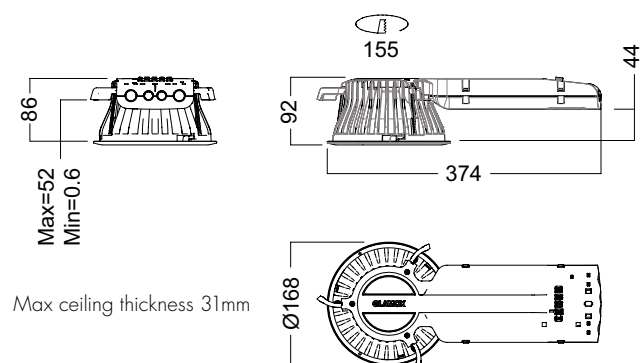
Light source LED 800 or 1100 lumen 830, 840 on request

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.

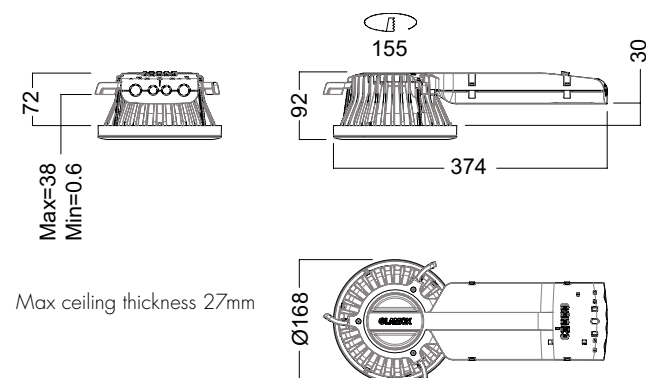
Connection To be delivered with quick connector 1 or 2 x Ensto NAC (QCE), option for 1 or 2 x Wago Midi (QCA) or with push in terminal block 5x2x2.5mm² with Linect® (U).



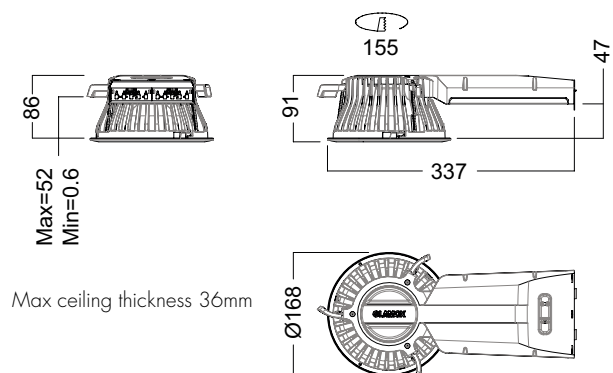
DL60-RF155
with HFDa/DALI 2xQCE or without QCE/CCA



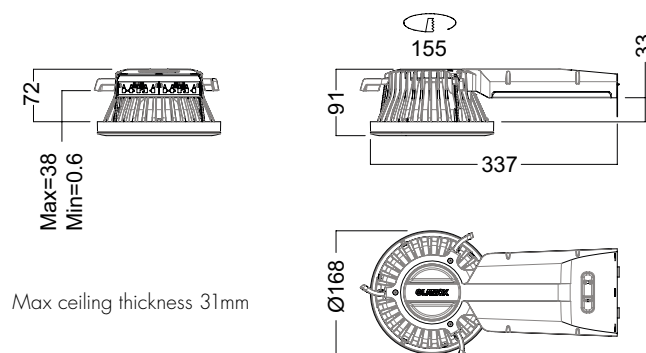
DL60-RF155 with distance ring
with HFDa/DALI 2xQCE or without QCE/QCA



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

L1 = Linect® with 5 way push in terminal block

Complete assortment on www.glamox.com/gmo

DL60-R155 LED 800/1100



Downlight LED



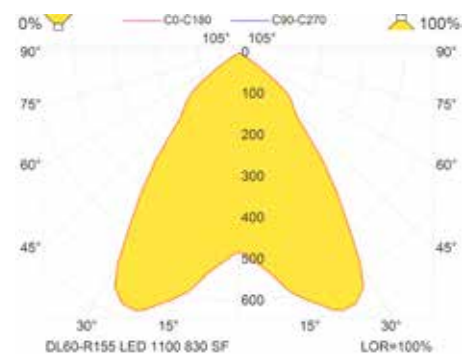
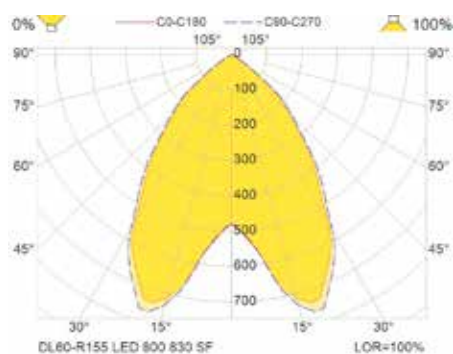
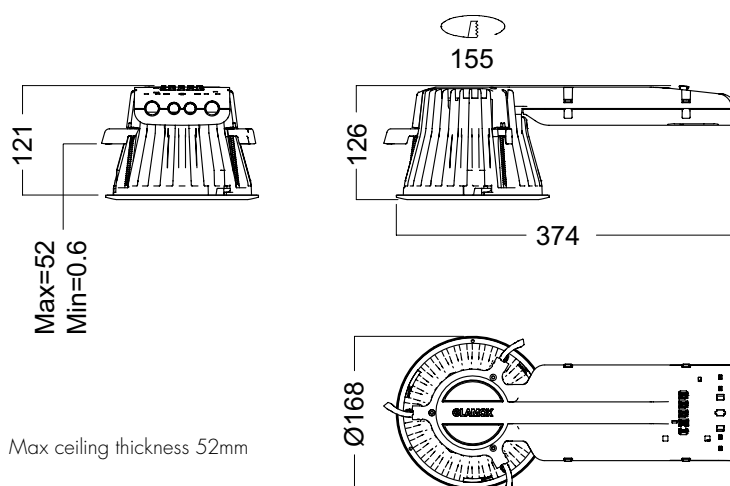
Faceted high gloss reflector



IP55 decor opalac 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 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 (WO 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 HFD _a 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 HFD _a 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 Opalic 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



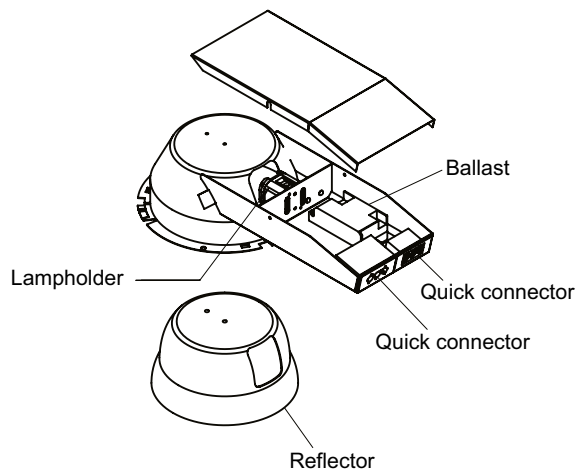
CASA (M) H95 optimal

- 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

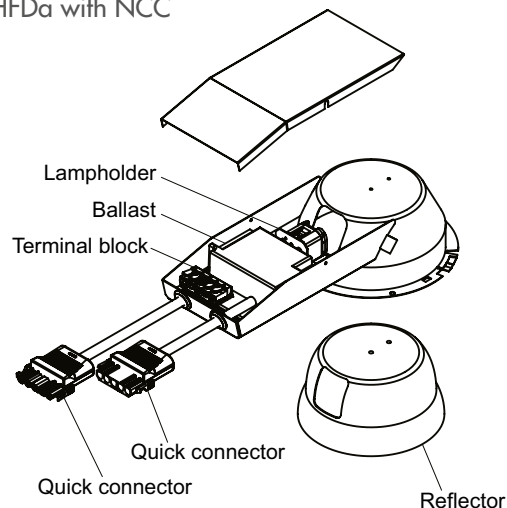
| | |
|--------------|--|
| Application | Recessed downlight approved for use in B0/B15 ceiling. Luminaire body of painted steel with reflector of metallized polycarbonate. |
| Design | According to marine requirements |
| Housing | Electrical housing of painted and galvanized steel. Decor elements of 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

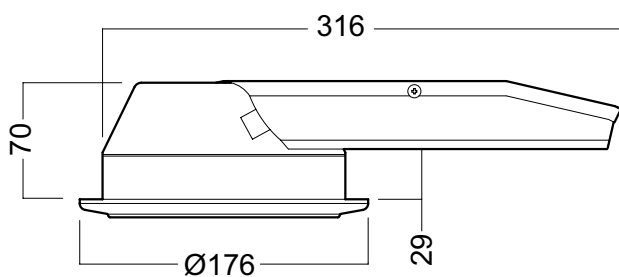
HF with NAC



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

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

DL90 ALU METAL HALIDE

HØVIKØLYS



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. Tiltable.

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

DL90 12V/230V

HØVIKØLYS



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. Tiltable. 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

HØVIKØLYS



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. Tiltable.

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

EYEBALL 100R

HØVIKØLYS



Downlight for recessed installation. IP20/44. All internal wiring is heat resistant. With or without transformer. Trims in white, chrome or brass. Tiltable 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

HØVIK LYS



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

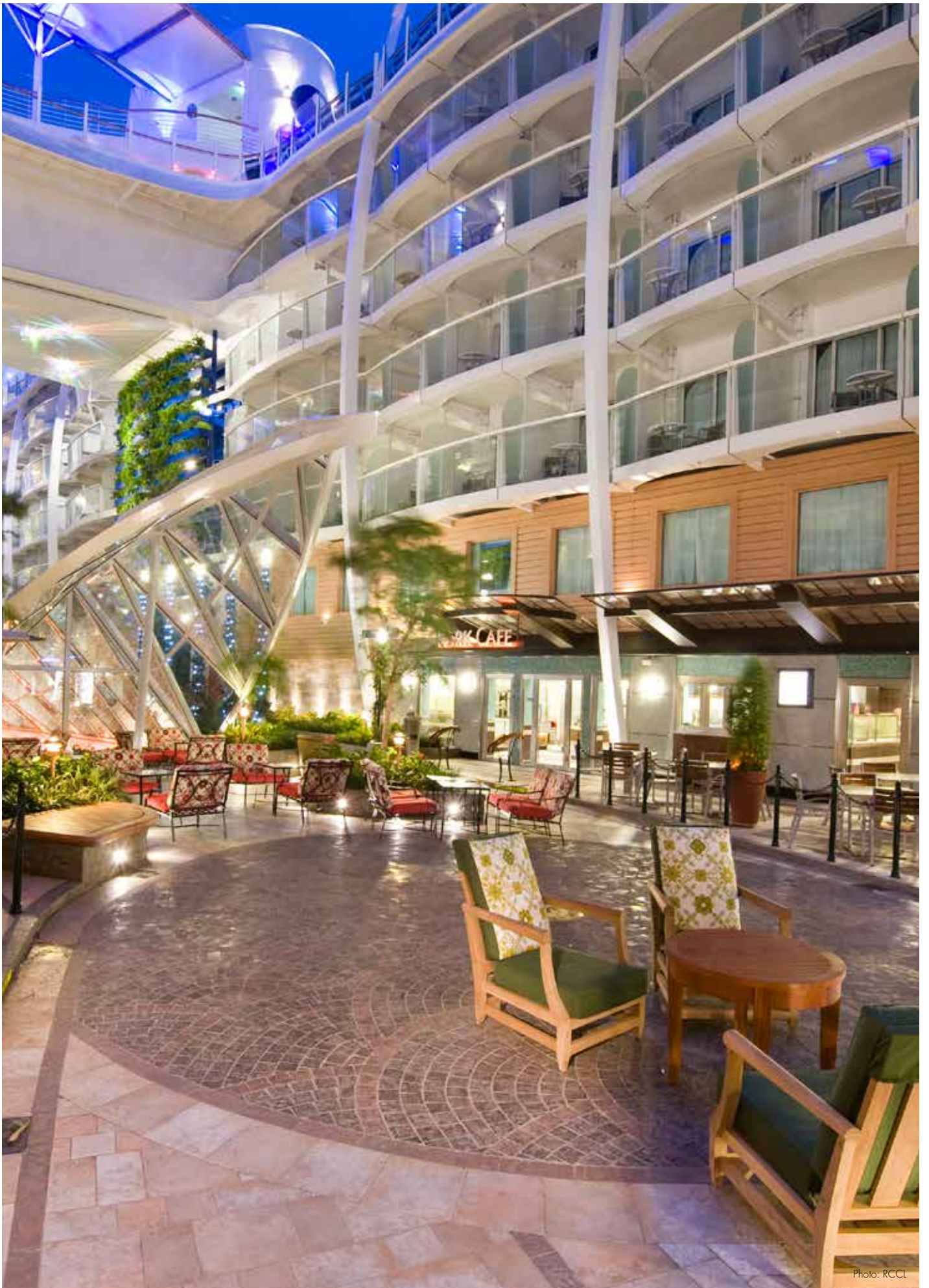


Photo: RCCL

Architectural lights

Functional and energy effective lighting with a decorative effect



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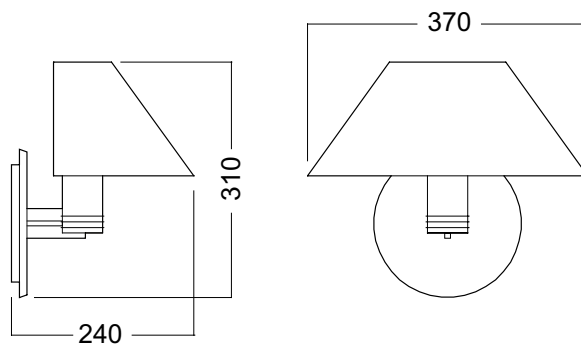
Domino W

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 code | Lamp base |
|--------------------------------|----------|-----|-----|--------|-----------|-----------|
| | MAX 240V | mm | mm | kg | | |
| 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

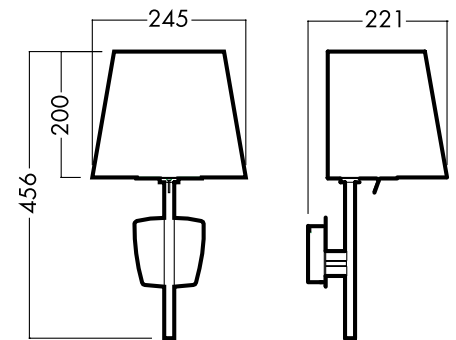
Flecto W

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 Perlutex 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



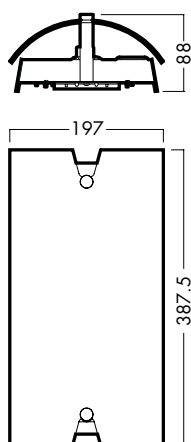
Sign for interchangeable labels



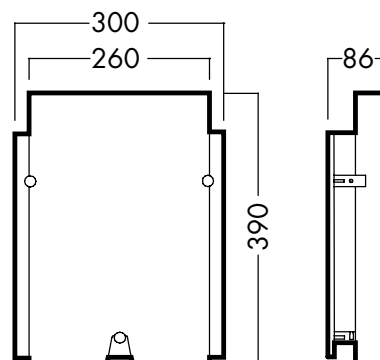
Zapp W300

- 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

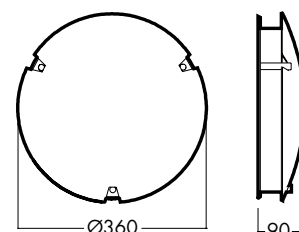
Zapp 360

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

HØVIKØLYS



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

HØVIKØLYS



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

HØVIKØLYS



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 dioptr glass lens. Lens diameter is 1 27 mm. Polypropylene reflector. |
| Arm length (mm) | 1050 |

HS CHART

GLAMOX

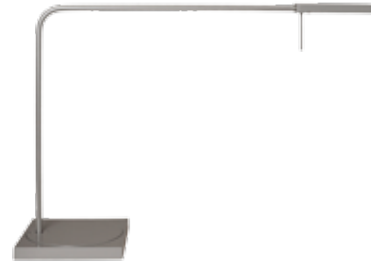


Flexible lamp for lighting of chart table or precision working areas that need light without interruption of surroundings.

| | |
|-----------------|---|
| Light source | QT9 lamp |
| Housing | 500 mm gooseneck (flexible arm) with fix or hinged lamp head as standard. 700m 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. Colors: 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. Colors: 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

| | |
|-------------------|-----|
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TELCO T2 RIB

Splash-proof heater for marine and offshore installations



Cable entry rear side



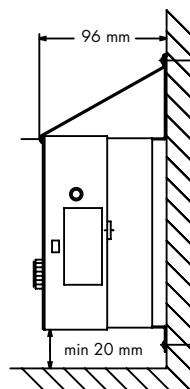
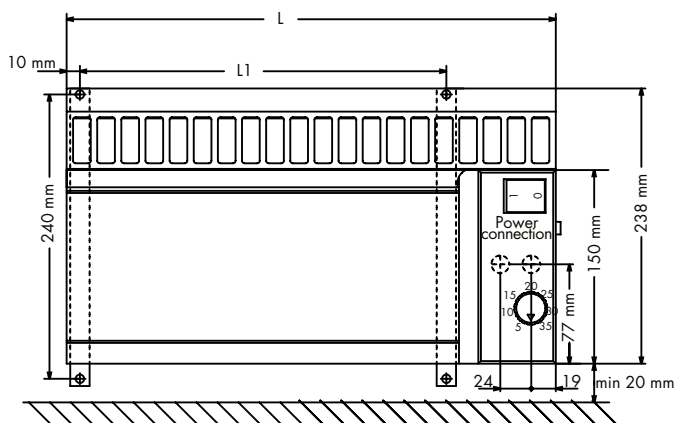
Temperature control on front right side

- 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.

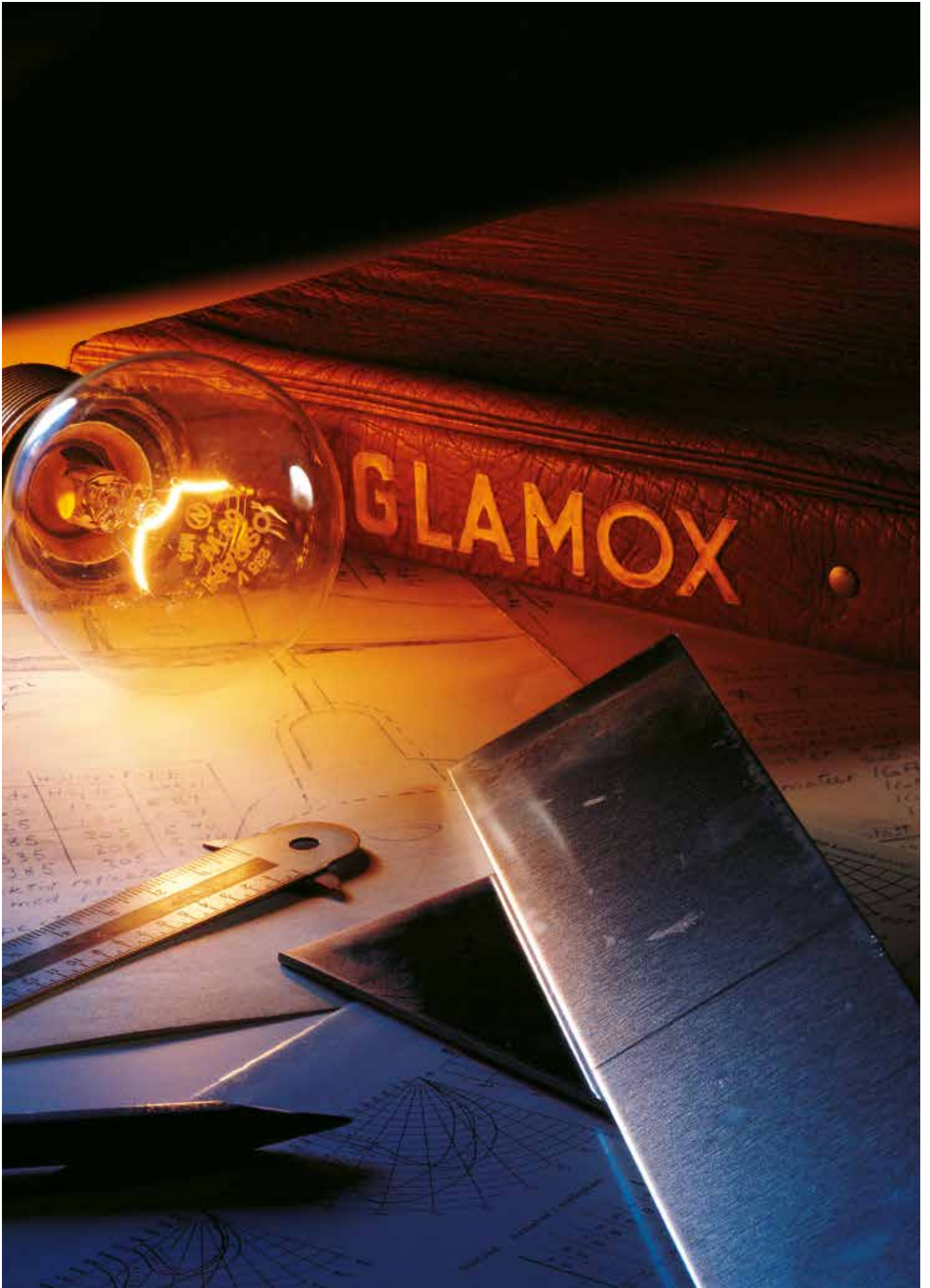
| | |
|----------------|--|
| Effect | 230 - 400V 500 - 1000W |
| Electric | With on/off switch, bi-metal thermostat and thermal cut-out protection |
| Housing | Aluminium housing with a protection grating on top |
| Dimension (mm) | W: 87 H: 400 L: 620/920/1220 |

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 nation's requirements, are today based on international agreements for more than one country.

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 product's 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.



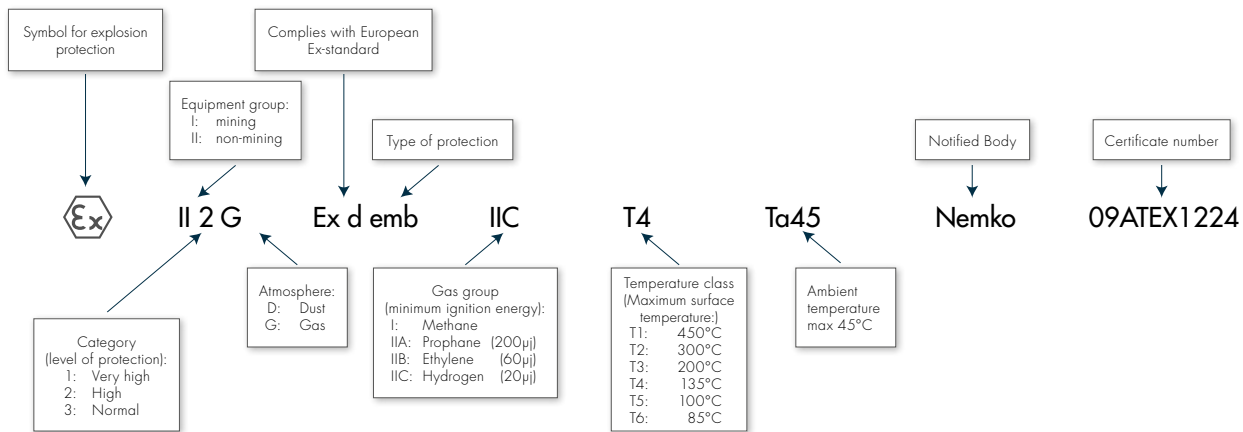
Technical information

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 temperature 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




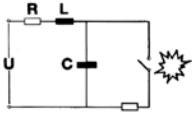

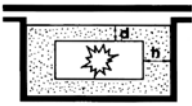

(2) Also Explosion group II B + H₂

(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). | <small>explosive atmosphere</small> 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) | IIC (acetylene & hydrogen) |
| | Zone 1 | B (hydrogen) | IIB (ethylene) |
| Where ignitable concentrations of flammable gases, vapors or liquids are likely to exist under normal operating conditions. | Where ignitable concentrations of flammable gases, vapors or liquids are likely to exist under normal operating conditions. | C (ethylene) | |
| | | D (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' ('nL' 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.

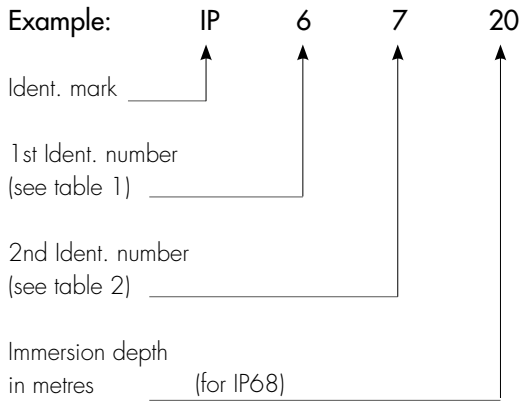


Table 1

Table 2

| First ident. No. | Protection level (contact and foreign matters) | Second ident. No. | Protection level (water) |
|------------------|--|-------------------|---|
| 0 | No special protection | 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. | 1 | Protection against vertical falling drip water, shall have no harmful effect. |
| 2 | Protection against penetration of solid foreign matters with outside diameter of more than 12 mm, finger contact or similar is prevented. | 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 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. | 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 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. | 4 | Protection against water splashed against the fixture from any direction, shall have no harmful effect (splash water). |
| 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. | 5 | Protection against water projected by a nozzle against the fixture from any direction, shall have no harmful effect (hosed water). |
| 6 | Protection against penetration of dust. Complete contact protection. | 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) | $L = \frac{I}{A}$ $(L = \frac{I}{A} \cos \theta)$ | 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 | ρ | % | $\frac{\Phi_{out}}{\Phi_{in}}$ | Ratio of the total flux reflected from an area to the incoming flux on the same area. |
| Contrast / Contrast sensitivity | C Cs | | $C = \frac{I_b - I_o}{I_o}$ | 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.

For North American lamp types please consult factory

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 | | |
|  | 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 | | |
|  | 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 | | |
| | | | | | | | | 2700 | 77000123 | | |
| | | | | | | | | 3000 | 77000121 | | |
| | | FSDH-L | TC-L | 2G11 | 36 | 2900 | 81 | 4000 | 77000058 | | |
| | | | | | | | | 2700 | 77000124 | | |
| | | | | | | | | 3000 | 77000084 | | |
| | | | | | | | | 4000 | 77000086 | | |
| | | | | | | | | 3000 | 77000095 | | |
|  | Compact light tubes 4 limb, 2 pin Ra>80 Economic lifetime 10000 hr | FSQ-I | TC-D | G24d-1 | 10 | 600 | 60 | 4000 | 77000016 | | |
| | | | | | | | | 2700 | 77000017 | | |
| | | | | G24d-2 | 13 | 900 | 69 | 2700 | 77000022 | | |
| | | | | | | | | 3000 | 77000019 | | |
| | | | | | | | | 4000 | 77000026 | | |
| | | G24d-3 | 18 | 1200 | 67 | 2700 | 77000009 | | | | |
| | | | | | | 3000 | 77000010 | | | | |
| | |  | Compact light tubes 4 limb, 4 pin Ra>80 Economic lifetime 13000 hr | FSQ-E | TC-DEL | G24q-1 | 10 | 600 | 60 | 4000 | 77000011 |
| | | | | | | | | | | 2700 | 77000221 |
| | | | | | | G24q-2 | 13 | 900 | 69 | 3000 | 77000222 |
| | | | | | | | | 4000 | 77000097 | | |
| | | | | | | | | 2700 | 77000018 | | |
| G24q-3 | 18 | | | 1200 | 67 | 4000 | 77000098 | | | | |
| | | | | | | 2700 | 77000099 | | | | |
| G24q-3 | 18 | | | 1200 | 67 | 2700 | 77000002 | | | | |
| | | | | | | | | | 4000 | 77000100 | |
| | | | | | | | | | 2700 | 77000012 | |
| | | | | | | | 3000 | 77000013 | | | |
| | | | | | | | 4000 | 77000014 | | | |
| G24q-3 | 26 | 1800 | 69 | 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 | | | | |
| | | | | | | | | 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 | | | | |
| | | | | | | | | 2700 | 77000171 | | | | |
| | | | | | | | | 3000 | 77000319 | | | | |
| | | | | | | | | 4000 | 77000320 | | | | |
| | | | | GX24q-3 | 32 | 2400 | 75 | 2700 | 77000365 | | | | |
| | | | | | | | | 3000 | 77000366 | | | | |
| | | | | | | | | 4000 | 77000367 | | | | |
| | | | | | | | | 2700 | 77000379 | | | | |
| | | | | | | | | 3000 | 77000368 | | | | |
| | | | | | | | | 4000 | 77000363 | | | | |
| | | | | GX24q-4 | 42 | 3200 | 76 | 3000 | 77000361 | | | | |
| | | | | | | | | 4000 | 77000362 | | | | |
| | | | | | | | | GX24q-5 | 57 | 4300 | 75 | 2700 | 77000139 |
| | | | | | | | | | | | | 3000 | 77000178 |
| | | | | | | | | | | | | 4000 | 77000184 |
| | | | | | | | | 2G8-1 | 120 | 9000 | 75 | 2700 | 77000183 |
| 3000 | | | | | | | | | | | | | |
| 4000 | | | | | | | | | | | | | |
|  | 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 |
| | | | | | | | | 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 | |
| | | | | 150 | 13000 | 80+ | 3000 | 77000265 | | |
| | | | | | 14500 | 90+ | 4200 | 77000309 | | |
|  | Double ended Ceramic | MD | HIT-DE-CRI | RX7s | 20 | 1650 | 85 | 3000 | 77001196 | |
| | | | | | 70 | 6800 | 80+ | 3000 | 77000266 | |
| | | | | | | 6500 | 90+ | 4200 | 77000312 | |
| | | | | 150 | 14500 | 80+ | 3000 | 77000267 | | |
| | | | | | 14400 | 90+ | 4200 | 77000308 | | |
|  | Double ended Quartz | MD | HIT-DE | RX7s | 70 | 5700 | 80+ | 4000 | 77000182 | |
| | | | | | 150 | 12000 | 80+ | 4000 | 77000181 | |
| | | | | Fc2 | 250 | 20000 | 80+ | 4200 | 77000112 | |
| | | | | | E27 | 70 | 7000 | 80+ | 3000 | 77000104 |
|  | Tube formed Ceramic | MT | HIT-CRI | E40 | 150 | 14500 | 80+ | 3000 | 77001039 | |
| | | | | Tube formed Quartz | MT | HIT | E40 | 250 | 20000 | 90 |
| | 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 |
| | | | 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 | | |
| | 250 | | | | 19000 | 90 | 5200 | 77000102 | | |
| E40 | 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 |
| | | | | | | 10 | 55000 | 3000 | 41621 |
| | | | | | 70 | 40 | 10000 | 3000 | 41620 |
| | | | | | | 20 | 25 | 4000 | 2910 |
| HIPAR 51 | HIPAR 51 | HIPAR 51 | HIPAR 51 | GX10 | 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' | 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' | 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 |
| 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 |
| | | | | | 20 | 10 | 3000 | 2900 | 77000460 |
|  | Aluminised Reflector With front glass 3000hr | HRGI | QR-CBC | GU5,3 51mm | 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 |

For North American lamp types please consult factory

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 Al | | | 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 |
| | | | | | 500 | 114.2 | 9500 | 3000 | 77000054 |
|  | 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 (W) | Ballast loss (W) | Total wattage (W) | Max no. of HF ballasts on 16 amp C fuse* | |
|---------|---------|---------------------|---------------------|----------------------|---|------|
| | | | | | 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 |
| | 1x58 | 50 | 4 | 54 | 60 | 42 |
| | 2x58 | 100 | 5 | 105 | 30 | 30 |
| T5 Mini | 1x8 | 8 | 3 | 11 | 80 | |
| | 2x8 | 16 | 4 | 20 | 80 | |
| TC-SEL | 1x9 | 8 | 3 | 11 | 80 | |
| | 2x9 | 16 | 4 | 20 | 80 | |
| | 1x11 | 10 | 3 | 13 | 80 | 86 |
| TC-L | 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 |
| | 2x40 | 80 | 5 | 85 | 26 | 32 |
| | 1x55 | 55 | 4 | 59 | 40 | 42 |
| TC-DEL | 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 |
| | 2x18 | 32 | 4 | 36 | 80 | 62 |
| | 1x26 | 23 | 3 | 26 | 80 | 62 |
| TC-TEL | 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 |
| Metal halogen HI/ (HID) | 1000 | 96 | 1096 | 5,66 | 10,3 |
| | 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.

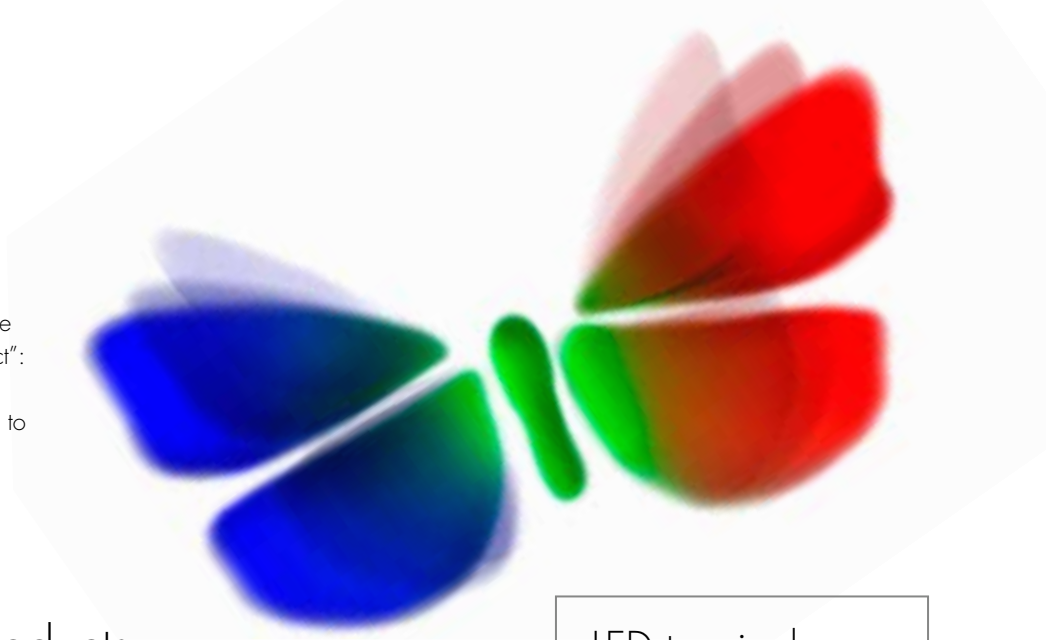
We normally define the lifetime of a LED as the time expected for it to drop to 70% of its initial light output (L70). A typical L70 lifetime is 100,000 hours. For Glamox the stated lifetime is related to L70 at the stated ambient temperature (Ta value) of the luminaire.

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.

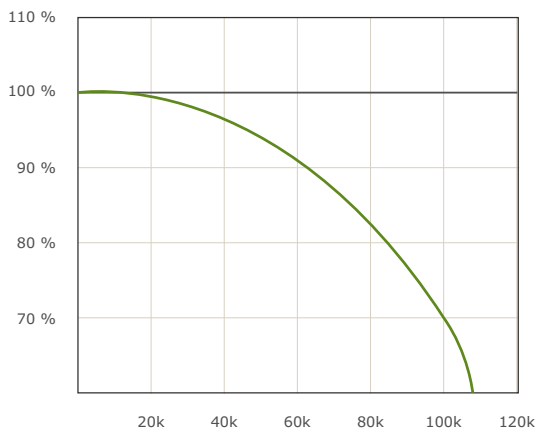


THE BUTTERFLY EFFECT

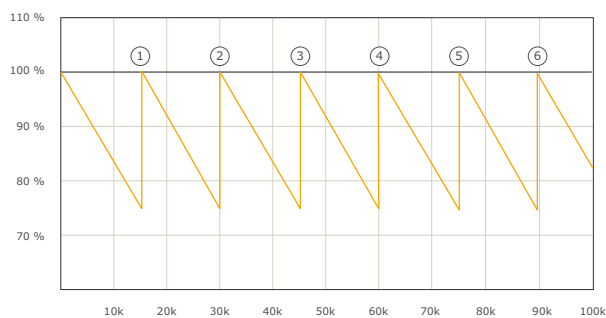
LED is a small and powerful light source that is changing the world of lighting. The butterfly is a symbol of the "butterfly effect": that a small change at one place in a model (e.g. a weather system) may lead to big changes at another place. See www.glamox.com/gmo for more information on LED.

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.

GLAMOX OPTIWIN 3D PRO 27.10.2010
v2010.11.8 1

Report luminaire positioning

Project: GOLIAT FPSO
Responsible: Christian PASCAL
Room name: 01 Center Shaft
Customer:
Info: EL 1600

| Room dimensions | Length x (m) | 25.99 | Width y (m) | 24.73 | Working plane (m) | 1.0 |
|-----------------|--------------|--------|--------------------|-------|-------------------|-----|
| | Height z (m) | 9.1 | Maintenance factor | 0.7 | | |
| | Area (m²) | 496.74 | Border zone | 0.0 | | |

Reflection

| Reflection | Ceiling | 0.7 | Floor | 0.2 |
|------------|---------|-----|-------|-----|
| Walls 1-10 | 0.5 | 0.5 | 0.5 | 0.5 |

Calculation result

Calculation Area Room: Emid = 350 Lux Evenness Emin/Emid: 0.28 Emin/Emax = 0.11
Total installed kW: 4.93 kW
Specific load: 9.93 W/m² 2.84 W/m² /100 Lux

Luminaire data

| No | Posite | No | Luminaire Type | No Lights | Len | Light arc | Watt |
|----|--------|------------------------|----------------|-----------|-------|-----------|------|
| 1 | B | MAXSRT 238 PC | HF | 2 | 6700 | T8 36 W | 70 |
| 2 | B | EPX 40SP HST WB | HF | 1 | 25500 | HST 400 W | 457 |
| 3 | B | MAXSRT 238 PC WBATTERY | HF | 1 | 6700 | T8 36 W | 70 |

ISOLUX-diagram Calculation Area Room
Average illuminance Emid = 350 Lux Evenness Emin/Emid: 0.28 Emin/Emax = 0.11

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v2010.11.8 4

Report luminaire positioning

Project: GOLIAT FPSO
Responsible: Christian PASCAL
Room name: 01B North Shaft
Customer:
Info: EL 4000

| Room dimensions | Length x (m) | 11.19 | Width y (m) | 12.88 | Working plane (m) | 0.0 |
|-----------------|--------------|--------|--------------------|-------|-------------------|-----|
| | Height z (m) | 6.2 | Maintenance factor | 0.7 | | |
| | Area (m²) | 115.57 | Border zone | 0.0 | | |

Reflection

| Reflection | Ceiling | 0.7 | Floor | 0.2 |
|------------|---------|-----|-------|-----|
| Walls 1-6 | 0.5 | 0.5 | 0.5 | 0.5 |

Calculation result - Emerg. light

Calculation Area Room: Emid = 2 Lux Evenness: 8:1

Luminaire data - Emerg. light

| No | Posite | No | Luminaire Type | No Lights | Len | Light arc |
|----|--------|------------------------|----------------|-----------|------|-----------|
| 1 | B | MAXSRT 238 PC WBATTERY | HF | 1 | 6700 | T8 36 W |
| 2 | B | MAXSRT 238 PC WBATTERY | HF | 1 | 6700 | T8 36 W |

ISOLUX-diagram Calculation Area Room - Emerg. light
Average illuminance Emid = 2 Lux Evenness: 8:1

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Report luminaire positioning

Project: GOLIAT FPSO
Responsible: Christian PASCAL
Room name: 06A Center Shaft
Customer:
Info: EL 28200

| Room dimensions | Length x (m) | 11.86 | Width y (m) | 12.48 | Working plane (m) | 1.0 |
|-----------------|--------------|--------|--------------------|-------|-------------------|-----|
| | Height z (m) | 3.8 | Maintenance factor | 0.7 | | |
| | Area (m²) | 138.41 | Border zone | 0.0 | | |

Reflection

| Reflection | Ceiling | 0.7 | Floor | 0.2 |
|------------|---------|-----|-------|-----|
| Walls 1-10 | 0.5 | 0.5 | 0.5 | 0.5 |

Calculation result

Calculation Area Room: Emid = 411 Lux Evenness Emin/Emid: 0.32 Emin/Emax = 0.23
Total installed kW: 1.83 kW
Specific load: 13.13 W/m² 3.19 W/m² /100 Lux

Luminaire data

| No | Posite | No | Luminaire Type | No Lights | Len | Light arc | Watt |
|----|--------|------------------------|----------------|-----------|------|---------------|------|
| 1 | B | MAXSRT 238 PC | HF | 2 | 6700 | T8 36 W | 70 |
| 2 | B | 10444_MQ2wskulocut | HF | 2 | 6700 | T26 36W/mwG13 | 90 |
| 3 | B | MAXSRT 238 PC WBATTERY | HF | 1 | 6700 | T8 36 W | 70 |

ISOLUX-diagram Calculation Area Room
Average illuminance Emid = 411 Lux Evenness Emin/Emid: 0.32 Emin/Emax = 0.23

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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



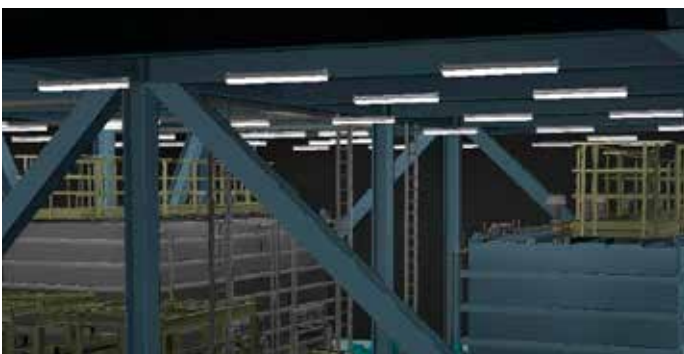
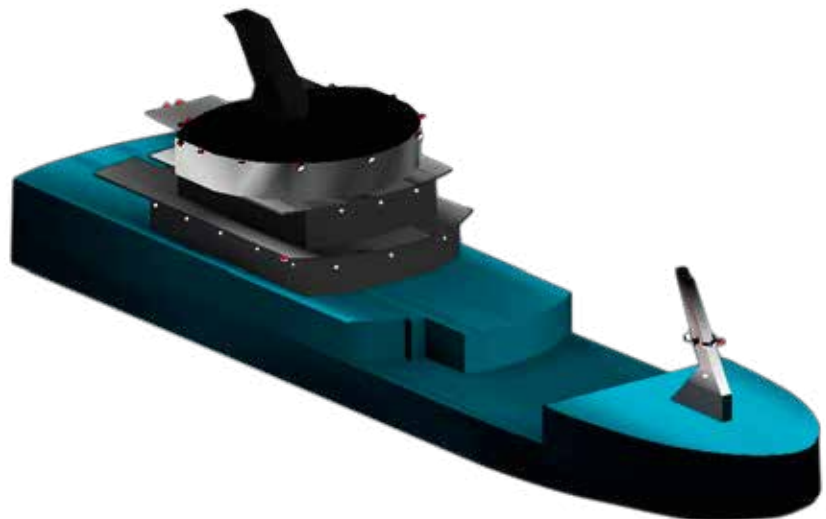
"Customers using the new system indicate their savings to be up to 70% in electro-engineering. It is now possible to view the positioning of light fixtures in 3D at an early stage of a project. This also reduces the possibility of installation errors and the costs they incur. The fact that we have spent 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."

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.

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.

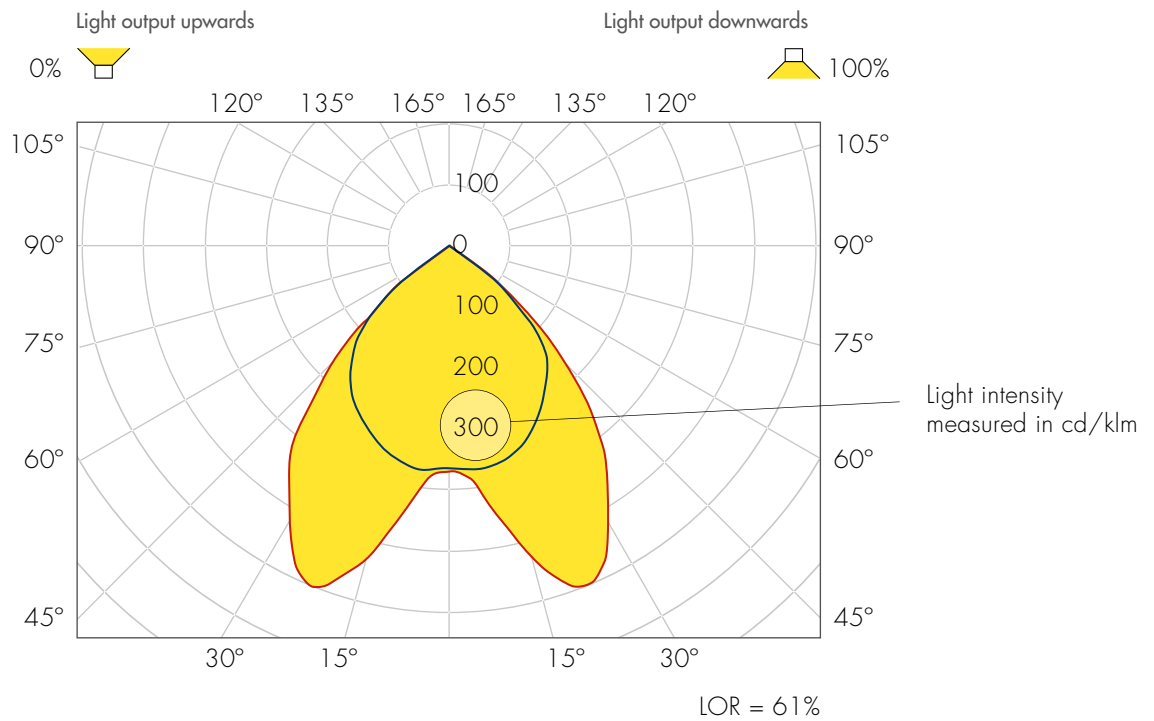
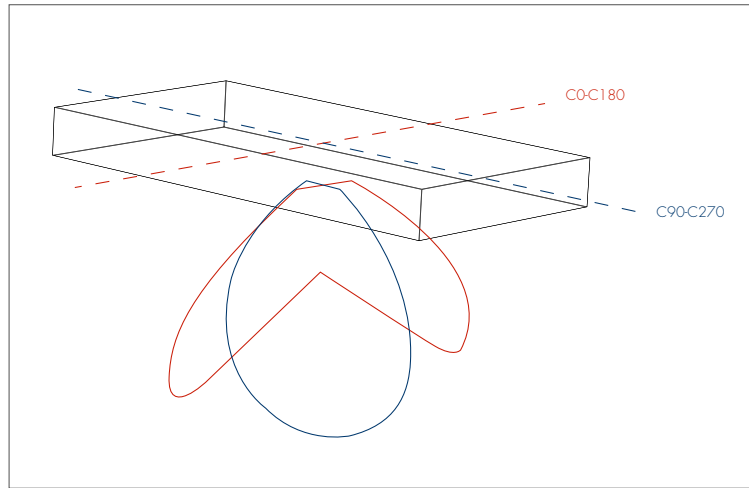
The extreme environmental conditions at sea not only require technologies of a high quality standard but also which are robust and resistant. At our ultra-modern operational environment simulation centres in Norway and Germany we subject our products to rigorous testing. No product leaves the testing 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



LOR = Light Output Ratio percentage of light generated from the luminaire

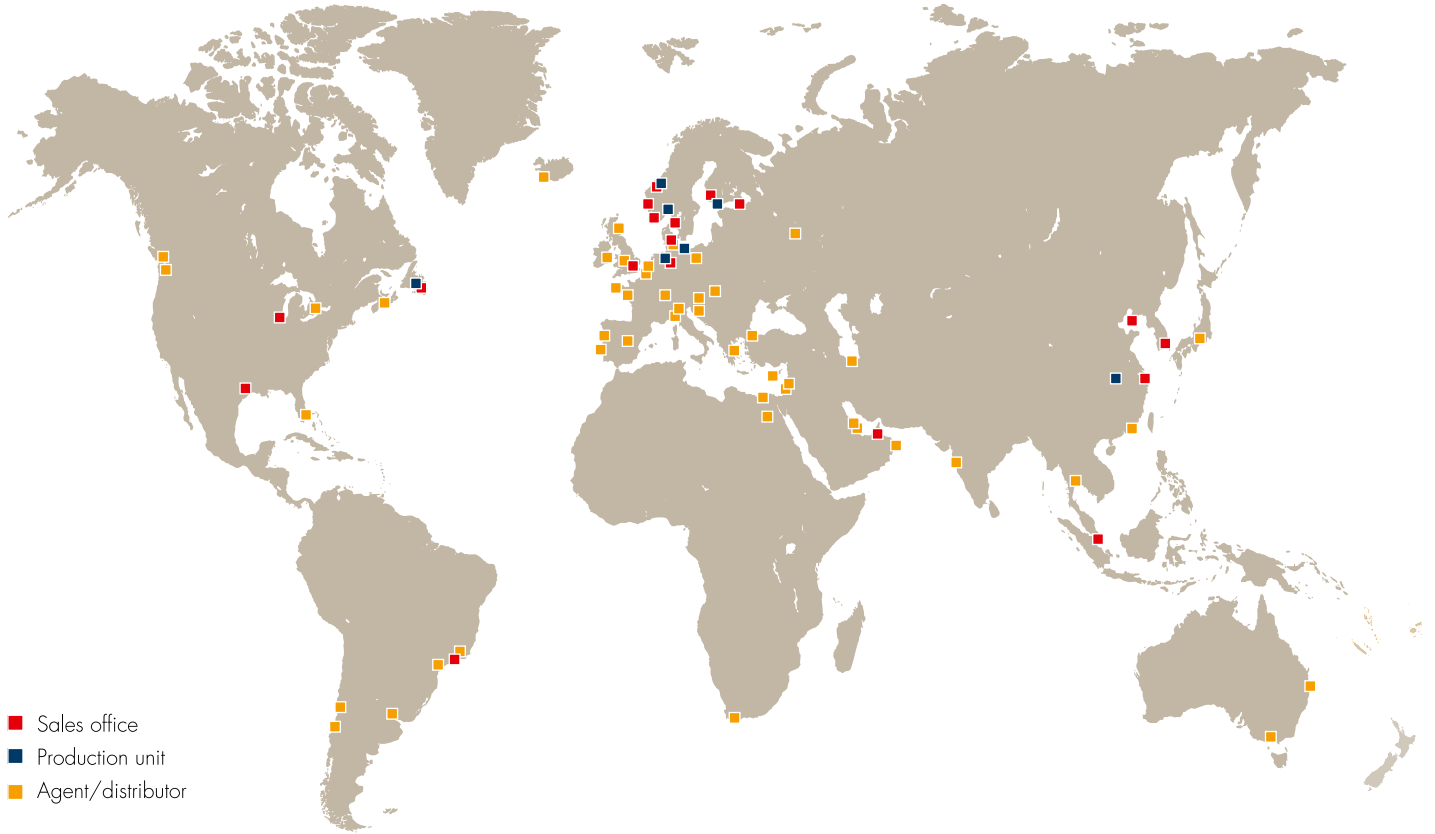
Icon description

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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