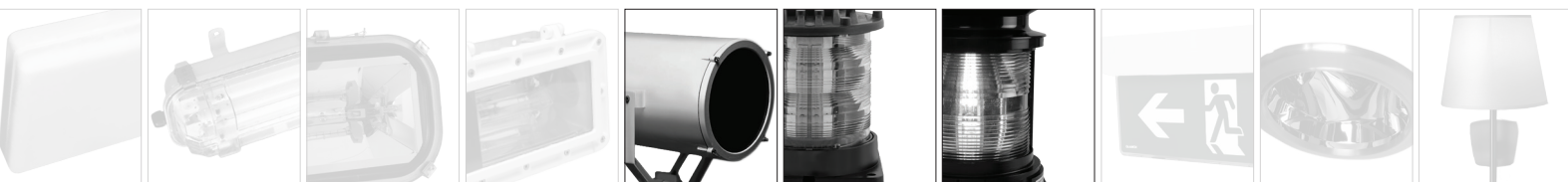# GLOBAL MARINE & OFFSHORE
NAVIGATION LIGHTS, SEARCHLIGHTS & HELIDECK LIGHTING 2012/2013

GLAMOX aqua signal®

GLOBAL MARINE & OFFSHORE
LIGHTING SOLUTIONS

Global Marine and Offshore (GMO)
Lighting Solutions

Global Lighting Solutions
Generations of experience

The Glamox Group is the leading supplier of lighting solutions to the 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.

Photo: Helge Skodvin

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

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

Table of contents

Following catalogues are available:

Navigation lights,
Searchlights &
Helideck lighting
BK999424

Floodlights
BK999425

Technical lighting
BK999448

UL/CSA
Listed Products
BK999614

Premium product brands:

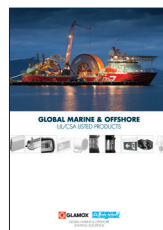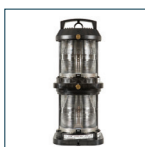**aqua signal** aqua signal specializes in the field of navigation lanterns, floodlights and technical luminaires deployed in widely varying environments. aqua signal supplies products for use in segments such as commercial shipping, cruise ships and ferries, navy vessels and recreational vessels, in other words, anything that operates on water.

GLAMOX Glamox has over decades been concentrating on the challenges of lighting technology for use in industrial environments. Glamox develops a wide range of products and complete lighting technology systems for use on seagoing ships and on the increasingly important offshore installations of the oil and gas industry. They specialieses on explosion-proof luminaires made for hazardous areas.

HØVIK LYS Høvik Lys is a specialist in design and decor for marine hotels. The range of products from Høvik Lys consists primarily of decorative products. Høvik Lys supplies luminaires to the world's largest and most exclusive cruise ships.

LUXO Luxo is committed to supply innovative ergonomic lighting solutions to meet requirements for the right light. Focusing on the individual and the importance of how lighting influence our well being, they aim to be a partner in creating comfortable, flexible and stimulating environments.

NORSElight Norselight is regarded as the specialist in searchlights and floodlights that work reliably even under the most extreme conditions from the Arctic Sea and winter to the Tropics.

TL	TX	FL	FX	SL	NL	NX	DL	AL	HL	TH	EL
Technical light	Ex Technical light	Floodlight	Ex Floodlight	Searchlight	Navigation light	Ex Navigation light	Downlight	Architectural light	Helideck light	Technical heating	Emergency light

Global Marine & Offshore
Total lighting solutions

Your partner in marine lighting

The Glamox group aims to be the first choice when quality, compe-
tence and reliability counts. The company supplies a complete range
of lighting equipment for marine and offshore vessels.

The group is a leader among the world`s suppliers of light fixtures
and lighting solutions to the global marine and offshore markets.
The company's business area is represented globally through its'
own sales companies, agents and distributors. We have sales
units in Norway, Germany, Finland, Dubai, UK, Singapore,
Korea, China, USA and Canada.

The group has a market model that enables it to serve the important
sales and distribution channels aimed at shipyards, oil companies,
FPSO and drilling companies, engineering consultants and installa-
tion contractors.

Our values are:
• Customers
• Cooperation
• Commitment
• Quality
• Ethics

The group's involvement in several prestigious projects is proof of its
ability to plan, execute and deliver on time.

"With a supplier such as Glamox, we are in dialogue from design
to finished product.", Johan Kolstø, HSE Advisor in StatoilHydro

"Wherever there has been a need for special technical solutions
onboard, they have quickly adapted their light fittings to meet our
particular requirements." Pekka Jussila, Electrical systems purchaser,
STX Finland Cruise shipyard

Maritime Lighting for the future

Wide range of products

Our Navigation lights are made according to world-wide standards. We have a full range of navigation- and signalling lights fulfilling all requirements of IMO Anti Collision Regulations and local rules.

A unique laboratory

Our laboratory is one of the best equipped environmental test centres for lighting equipment in Europe. It is recognized by Federal Maritime and Hydrographic Agency (constant light measuring and control).

Long experience

Our experienced staff can give you advice on the navigation- and signalling lights required by all types of vessels – worldwide. We offer the best materials suitable for marine equipment.

Searchlights for more than three generations

We guarantee that our products meet the high quality standards that are required under tough and demanding weather conditions. Our products are designed and manufactured for extreme environmental conditions. Lighting equipment produced by our company for more than 30 years ago is still in use. Extensive Product Range - from direct operated to wireless remote controlled, from 12V to 440V, from 35W to 5000W, from Halogen to Xenon. –You need it, we got it.

© Scarabeo 8

Maritime Lighting for the future
Tips and hints

Tailor-made solutions for Navigation lights and control panels

By giving us your specific light arrangement plan, we can assist you by proposing the required types and numbers of navigation- and signalling lights. We can also propose a suitable navigation- and signalling light control panel. Please tell us about your challenges and we will provide you with solutions.

Searchlight with innovative systems

Did you know that Xenon searchlights can be turned on and off at your request, no need for heat up or cooling down period. A Xenon lamp has a 4 times longer lifetime than a Halogen lamp. With our R50 control system you can control up to 9 searchlights from only one panel. The remote control is either through a fixed main panel, a wireless control panel or computer based (PC). With the computer based control system you can preset or program as many sweep programs as needed.

Navigation Lights

LED and incandescent navigation - and signalling lights fulfilling all requirements of IMO Anti Collision Regulations and local rules
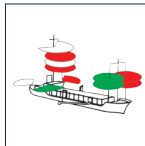
User guide
Navigation Lights
Page 13

Series 65
Page 14

Series 65 Arctic
Page 16

Series 55
Page 18

Series 70
Page 20

Series 70 M
Page 22

Series 55
Steering light blue
Page 24

3330 Allround
signalling lights
Page 26

3334 High
intensity flash light
Page 28

Flashing light blue
Page 30
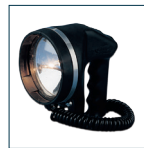
Search Light
"Bremen"
Page 32

Special lights for
inland waterways
Page 34

Daylight Signal.
light DM 60
Page 88

Series 70 Ex d
Page 36

The information shown is based on the International Regulations for Preventing Collisions at Sea 1972 (IMO). (No responsibility is accepted for any errors or omissions in information given.)

Vessels of more than 50 m in length (vessels less than 50 m in length only need 1 masthead and 1 anchor light)				
under way	not under command	restricted in manoeuvrability	at anchor	aground

Pilot vessels on duty	Police vessels on duty	Motor driven up to 12 m in length	Fishing vessels on duty	
			under way	under way, no speed

Dredging and underwater works		Towing and pushing vessels under way	Floating accessories

Vessels restricted by their draught	Mine-sweeping vessels	
		ATTENTION

ATTENTION

Bulbs for Navigation Lights
The bulbs used in Navigation Lights are part of the approval/certification. Bulbs which are non-approved null-invoid your insurance cover as your lights will not be in line with the regulations/certification.

We recommend to use approved material only since this is in the interest of your safety.

Series 65
aqua signal LED navigation lights

Ta -25° | Ta 55° | IP 66 | IP 67 | ⚓ | ◎
24V DC | 115 V AC 230 V AC | 115V AC 230V AC 24V DC | BSH | USCG | LED

- Long lifetime up to 110,000 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. Lights marked ⚓ may also be used on inland waterways without limitation of ship's length

Housing
Glass-Fibre reinforced polycarbonate or brass. Other components of non-corroding materials. Seawater resistant. Lid anodized aluminium or brass

Housing colour
Black, white or brass

Optic
Polycarbonate

Electric
Main lighting (upper unit) and spare lighting (lower unit) with connection box and 2 x M25 x 1.5 cable entry

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
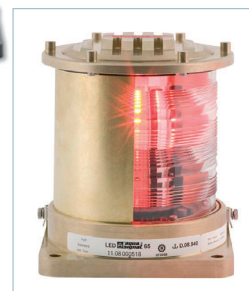
Mounting
4 hole mounting with connection box,
2 x M25 x 1.5 cable entry

Approvals
EC Type Examination (Module B)
Certificate BSH/4612/6011563/10

Min. visibilities
3 nm for port/starboard/stern/all-round signalling
6 nm for masthead
5 nm for manoeuvring light

More variants are available on request. Complete assortment on www.glamox.com/gmo

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

Spare Parts/ Accessories

Accessories

1
2
3
4

Fastening kit 836600600
(4 bolts, washers and nuts)

Equipotential bonding
for the signal- and
navigation lights
with a brass housing.

8366006800

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

*9050013700

8366001300 (Black)
8366001300 (White)
8366007400 (Brass)

Black/White

134
206
49
11
18
234
145
156
176
ø182

Brass

134
206
49
11
18
245
145
156
176
ø182
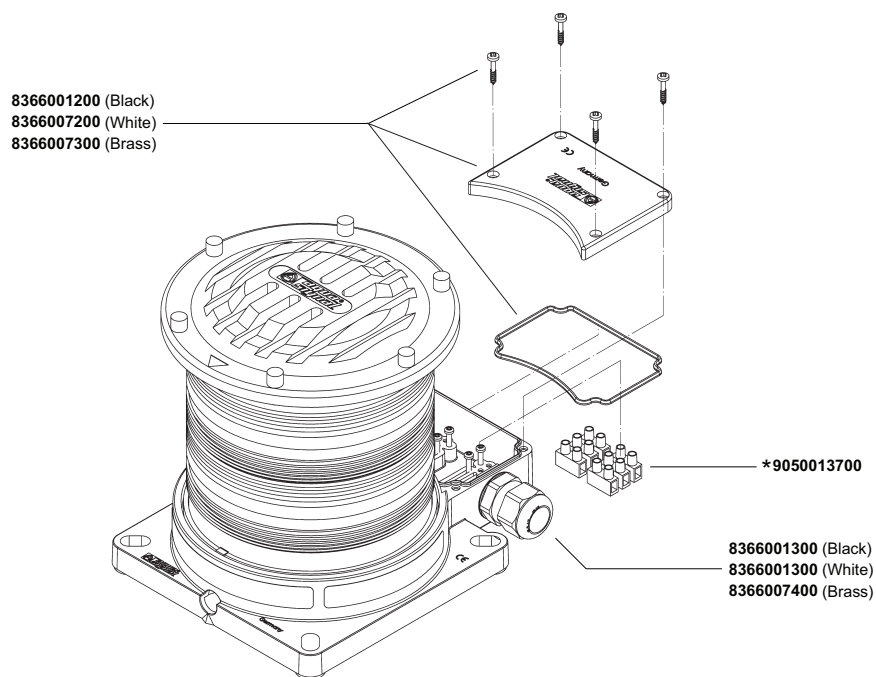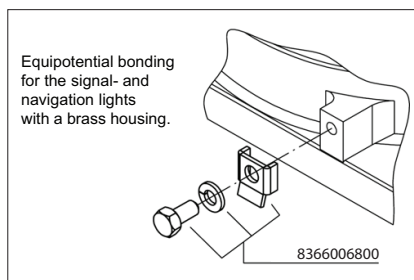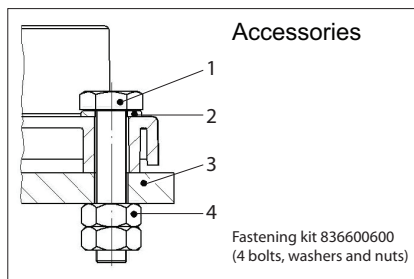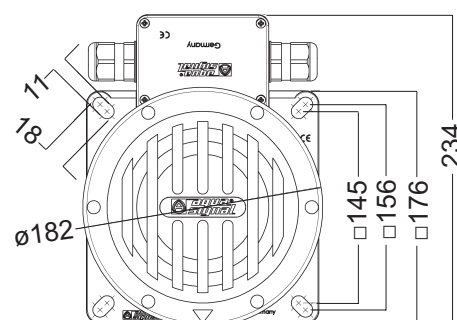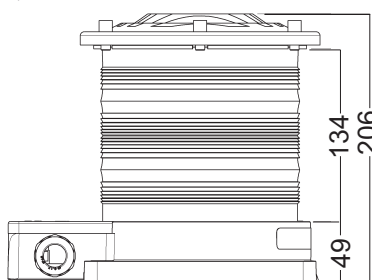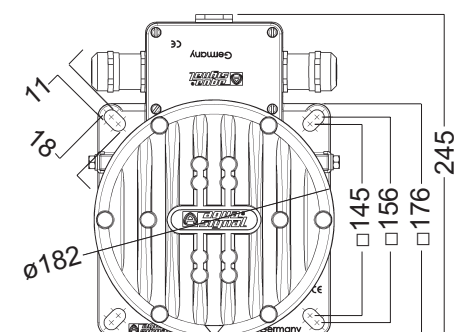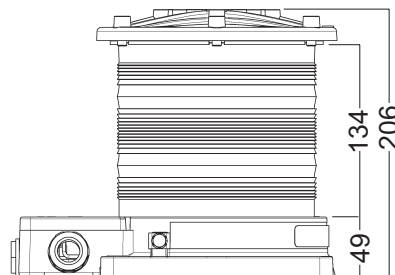
Series 65 Arctic
aqua signal LED navigation lights

Ta -40° | Ta 45° | IP 66 | IP 67 | ⚓
USCG | IMO | BSH | 115 V AC / 230 V AC | LED

- Long lifetime up to 110,000 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. Lights marked ⚓ may also be used on inland waterways without limitation of ship's length; specially designed for vessels in arctic area

Housing
Glass-Fibre reinforced polycarbonate or brass. Other components of non-corroding materials. Seawater resistant. Lid anodized aluminium or brass

Housing colour
Black, white or brass

Optic
Polycarbonate

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

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, 2 x M25 x 1.5 cable entry

Approvals
EC Type Examination (Module B)
Certificate BSH/4612/6012092/11

Min. visibilities
3 nm for port/starboard/stern/all-round signalling.
6 nm for masthead
5 nm for manoeuvring light

Serie 65 Arctic black

More variants are available on request. Complete assortment on www.glamox.com/gmo

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

Spare Parts/ Accessories

Accessories

Fastening kit 8366006000
(4 bolts, washers and nuts)
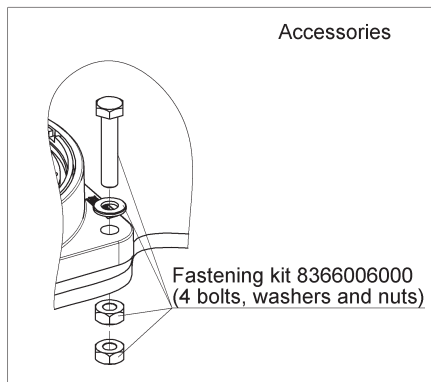
Equipotential bonding for the signal- and
navigation lights with brass housing.

8366006800

*2366001500 (Yellow)
*2366100500 (White)
*2366300300 (Green)
*2366400200 (Red)

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

*9050013700

8366001300 (Black)
8366001300 (White)
8366007400 (Brass)

Black/White

166
241
49
236
11
18
Ø182
145
156
176
234

Brass

166
241
49
11
18
Ø182
145
156
176
243
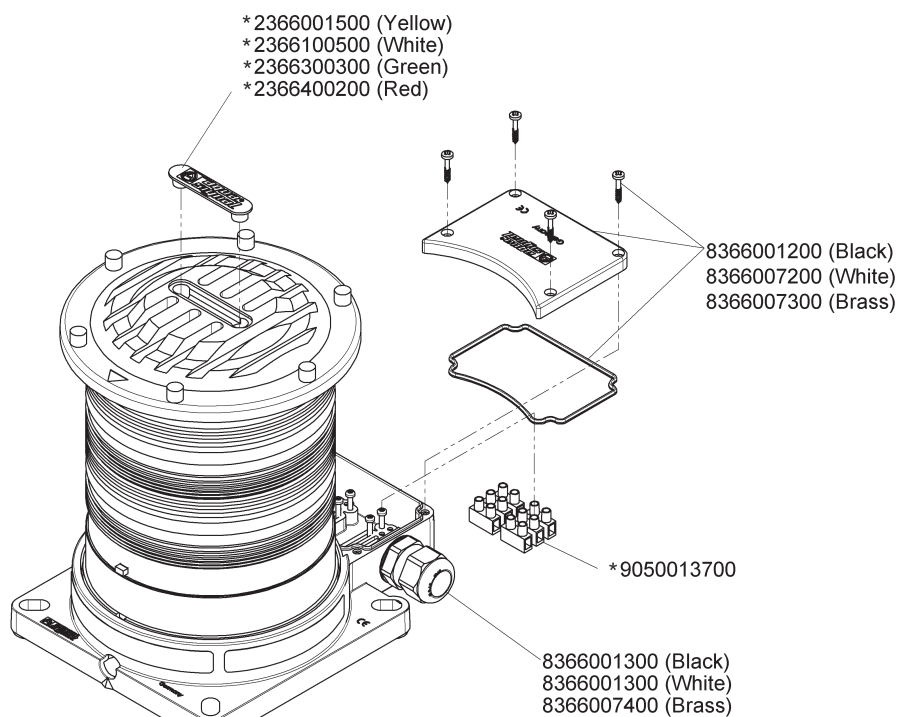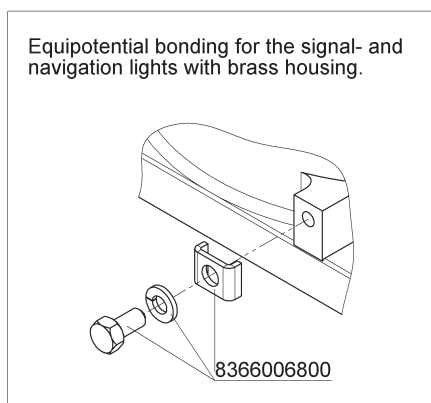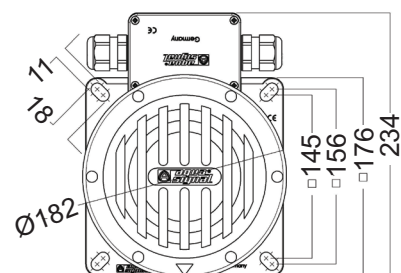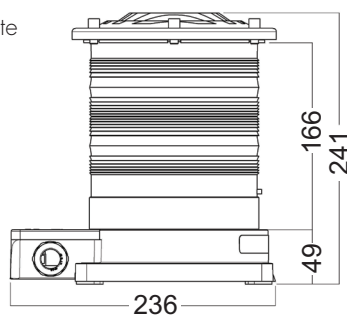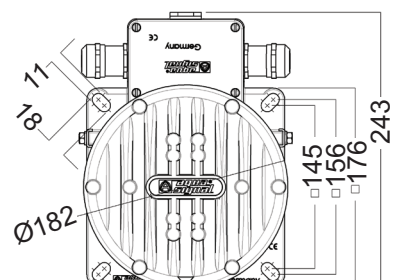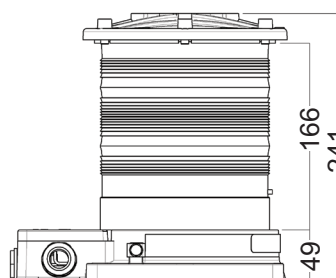
Series 55
Navigation lights

Ta -45° | Ta 45° | IP 56 | CE | ⚓ | ☸
>20-<50 m / >65-<164' | 12 V / 24 V / 120 V | IMO | BSH | USCG | CCS

- Unbreakable and extremely reliable

Application
For vessels > 20 - < 50 m in length. Lights marked ⚓ may also be used on inland waterways without limitation of ship's length

Housing
Polycarbonate, glass fibre reinforced, other components of non-corrosive materials. Nonmagnetic, seawater resistant

Housing colour
Mat black

Electric
Conus inclusive 1.5 m special connection cable 2 x 1.5 mm², self-protective insulation, class II

Lamp
Easy to change tungsten bulb with socket BAY 15d. Light sources installed

Cable insert
PG 13.5 with buckling protection

Mounting
Base flange attachement, 4 screws Ø8 mm (not included). Allround lights may also be hoisted when 2 halyard hooks are attached (not included). Additional mounting aids see drawing

Approvals
International according to IMO Colreg 1972, in Germany through BSH, other countries in particular see list of approvals

Min. visibilities
2 n.m., masthead light 5 n.m

Optics
Seawater resistant special plastic Fresnel lens

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. IMO/BSH 12V/25W	Part-No. IMO/BSH 24V/25W	Part-No. USCG/CCS 12V/120V*	Visible angle	Weigt kg	Base Code
55 STARBOARD GREEN	3535102000	3535103000	3535150000	112.5°	1.3	BAY15d
55 PORT RED	3534202000	3534203000	3534250000	112.5°	1.3	BAY15d
55 MASTHEAD WHITE	3532002000	3532003000	3532050000	225°	1.3	BAY15d
55 STERN WHITE	3533702000	3533703000	3533750000	135°	1.3	BAY15d
55 STERN YELLOW	3533402000	3533403000	3533450000	135°	1.3	BAY15d
55 SIGNALLING WHITE	3531702000	3531703000	3531750000	360°	1.2	BAY15d
55 SIGNALLING RED	3531202000	3531203000	3531250000	360°	1.2	BAY15d
55 SIGNALLING GREEN	3531102000	3531103000	3531150000	360°	1.2	BAY15d

Accessories	Part-No.
HALYARD HOOKS	2353101000

Spare Parts/ Accessories

* 83532001

*23531010 (= 1x)

*23532004
*23532006

*23532010

| IMO | *90400002 12 V / 25 W |
| BSH | *90400003 24 V / 25 W |

| USCG | *90400285 32 V / 25 W |
| CCS | *90400286 120 V / 25 W |

*23531020

95300081

*90200127

*97200035 24 V

| IMO | BSH | 23532011 |
| USCG | CCS | 23070074 |

*23534001 ●●
*23532005 ○●
*23533001 ○○

*83532003

IMO	*23531003 ●
	*23531002 ●
	*23531001 ○ 5 n.m.
BSH	*23531004 ○ 2 n.m.
	*23531005 ○

USCG	*23531029 ●
	*23531028 ●
	*23531027 ○ 5 n.m.
CCS	*23531030 ○ 2 n.m.
	*23531031 ○

*83532002 (= 4x)

23532002

*83531001 (= 1x)

*83535002 ●●
(Stainless steel)

*83533008 ○○
(Stainless steel)

●Starboard ●Port ○Masthead ●●Stern ●●○○Signalling

116   201
16
120
152
9
152

116   201
16
120
152

152

HALYARD HOOKS
(option for allround lights)

Series 70
Navigation lights

Ta 45° | Ta -45° | IP 56 | CE | ⚓ | ◎
≧20m/65' | 24 V / 110 V / 230 V | IMO | BSH | USCG | CCS

- Unbreakable and extremely reliable

Application
All vessels ≥ 20 m in length. Lights marked ⚓ may also be used on inland waterways without limitation of ship's length

Housing
Polycarbonate, glass fibre reinforced, other components of non-corrosive materials. Housing self-ventilated. Nonmagnetic, seawater resistant

Housing colour
Mat black

Electric
Conus inclusive 1.5 m special connection cable 2 x 1.5 mm², self-protective insulation, class II

Lamp
Easy to change special tungsten bulb

Cable insert
Special cabe gland metric pressure screw M24 x 1.5 with protection against buckling

Mounting
Base flange attachment, 4 screws (not included). Allround lights may also be hoisted. Additional mounting aids see drawing

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, China Classification Society. These lights may only be used on ships flying the flags of the USA or P.R. China

Min. visibilities
3 n.m., masthead light 6 n.m., manoeuvre 5 n.m

Optics
Seawater resistant, special plastic Fresnel lens

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. IMO/BSH 24V/40W	Part-No. IMO/BSH 110V/60W	Part-No. IMO/BSH 230V/65W	Part-No. USCG/CCS 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/CCS.

**Without approval.

Spare Parts/ Accessories

*83070003
*95000074

IMO *83070005 ●
     *83070006 ●
BSH *83070004 ○ 6 n.m.
     *83072001 ○ 3 n.m.
     *83070007 ●

USCG *83070018 ●
     *83070019 ●
CCS *83070017 ○ 6 n.m.
     *83072005 ○ 3 n.m.
     *83072006 ●

*23073002 ●
*23074001 ●
*23071001 ○
*23072001 ●●

IMO USCG
BSH *63070014 CCS 23070074

(P 28s)
IMO *90400171 24 V / 40 W
     *90400172 110 V / 60 W
BSH *90400173 230 V / 65 W

(P 28s)
USCG *90400171 24 V / 40 W
     *90400172 110 V / 60 W
CCS *90400173 230 V / 65 W

*97200035 24 V

IMO BSH *83070008
              (P 28s)
IMO   *83070002
BSH   (P 28s)

USCG CCS *83070022
              (P 28s)
USCG   *83070021
CCS   (P 28s)

*97100034 230 V (Brass)
*97100035 230 V (Plastic)
*97100036 24 - 110 V (Brass)
*97100037 24 - 110 V (Plastic)

*63070049

*83070009

*83070001 (= 4x)

*39060010 (= 2x)

*98500043 Morse-key

● Starboard ● Port ○ Masthead ●● Stern ●●○● Signalling

155,5
155,5
140
320
138
23
11
220

155,5
155,5
140
320
138
23
11
220

HOISTABLE VERSION
(allround lights)

Series 70M
Double lens navigation lights

Ta -45° | Ta 45° | IP 56 | CE | ⚓ | ◎
≧20m/65' | 24 V / 110 V / 230 V | IMO | BSH | USCG | CCS

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

Application
All vessels ≥ 20 m in length. Lights marked ⚓ may also be used on inland waterways without limitation of ship's length

Housing
Polycarbonate, glass fibre reinforced, other components of non-corrosive materials. Housing self-ventilated. Nonmagnetic, seawater resistant

Housing colour
Mat black

Electric
Main lighting (upper unit) and spare lighting (lower unit) each come with 1.5 m special connection cable 2 x 1.5 mm², self-protective insulation, class II

Lamp
Easy to change. 2 tungsten bulbs

Cable insert
2 special cable glands metric pressure screw M24 x 1.5 with protection against buckling

Mounting
Base flange attachement, 4 screws (not included). Allround lights may also be hoisted. Additional mounting aids see drawing

Approvals
a) International according to IMO 1972, in Scandinavian countries too, in Germany through BSH, other countries in particular see list of approvals

Easy change of bulb with only one hand.

b) US-Coastguard, China Classification Society. These lights may only be used on ships flying the flags of the USA or P.R. China

Min. visibilities
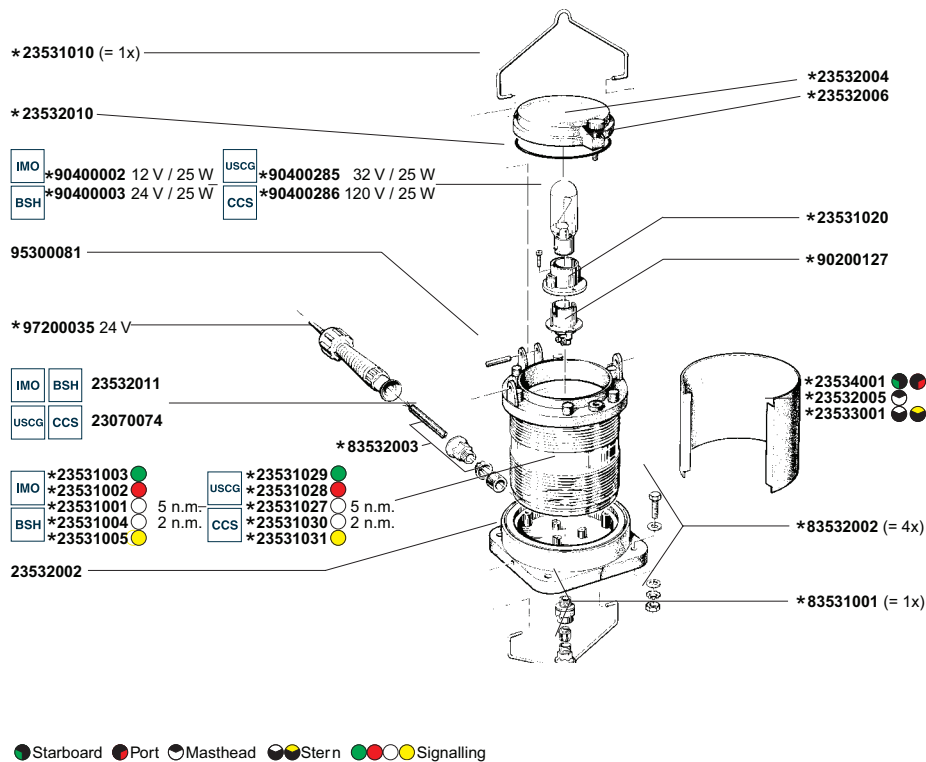3 n.m., masthead light 6 n.m
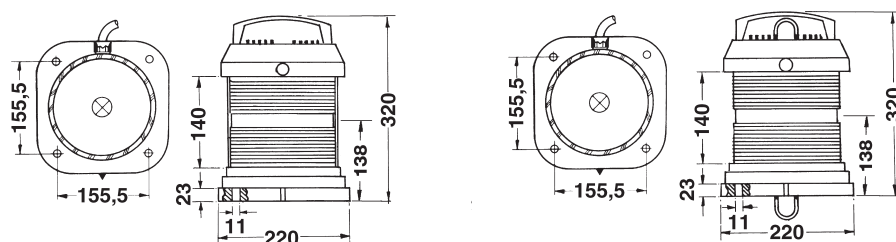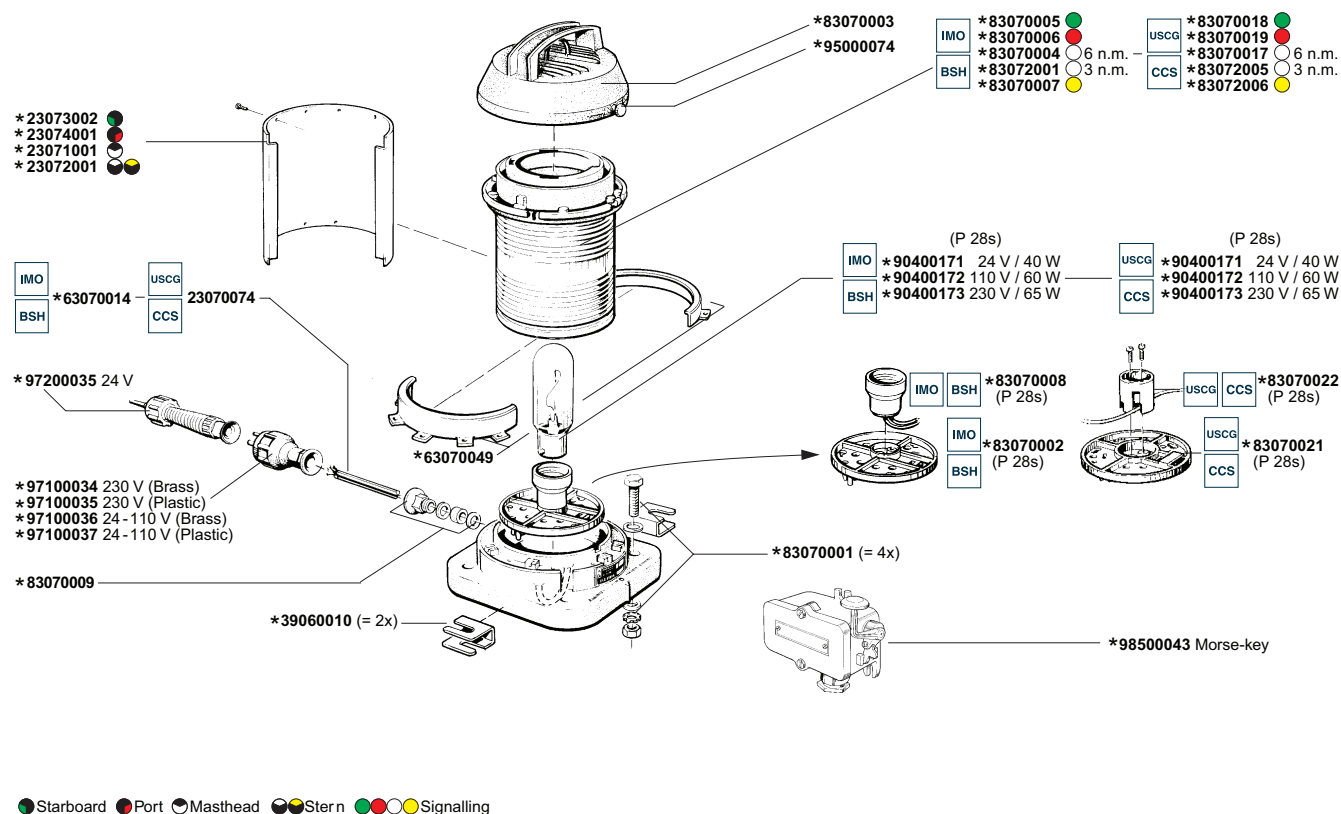
Optics
Seawater resistant, special plastic Fresnel lenses

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V/24V 40W/40W	Part-No. 110V/110V 60W/60W	Part-No. 230V/230V 65W/65W	Part-No. 24V/230V 40W/65W	Part-No. 24V/110V 40W/60W	Part-No. 110V/230V 60W/65W	Part-No. USCG/CCS 24/110/230V*	Weight kg	Base Code
70M STARBOARD GREEN	3583103000	3583104000	3583105000	3583106000	3583107000	3583108000	3583109000	5.9	P28s
70M PORT RED	3584203000	3584204000	3584205000	3584206000	3584207000	3584208000	3584209000	5.9	P28s
70M MASTHEAD WHITE	3581003000	3581004000	3581005000	3581006000	3581007000	3581008000	3581009000	5.9	P28s
70M STERN WHITE	3582703000	3582704000	3582705000	3582706000	3582707000	3582708000	3582709000	5.9	P28s
70M STERN YELLOW	3582403000	3582404000	3582405000	3582406000	3582407000	3582408000	3582499000	5.9	P28s
70M SIGNAL WHITE	3580703000	3580704000	3580705000	3580706000	3580707000	3580708000	3580009000	5.6	P28s
70M SIGNAL RED	3580203000	3580204000	3580205000	3580206000	3580207000	3580208000	3580209000	5.6	P28s
70M SIGNAL GREEN	3580103000	3580104000	3580105000	3580106000	3580107000	3580108000	3580109000	5.6	P28s
70M SIGNAL YELLOW	3580403000	3580404000	3580405000	3580406000	3580407000	3580408000	3580499000	5.6	P28s

*Lamp not included., for USCG/CCS

Product	Visible angle
70M STARBOARD GREEN	112.5°
70M PORT RED	112.5°
70M MASTHEAD WHITE	225°
70M STERN WHITE	135°
70M STERN YELLOW	135°
70M SIGNAL WHITE	360°
70M SIGNAL RED	360°
70M SIGNAL GREEN	360°

Spare Parts/ Accessories

*83070003
*95000074

*23073002
*23074001
*23071001
*23072001

*83580007

A

*63070049

*83580009

B
*97200035 24 V
E
*97100034 230 V (Brass)
*97100035 230 V (Plastic)
C
*97100036 24 - 110 V (Brass)
D
*97100037 24 - 110 V (Plastic)

*83070009

A

*83580006

*63070049

B
*97200035 24 V
E
C D
*97100034 230 V (Brass)
*97100035 230 V (Plastic)
*97100036 24 - 110 V (Brass)
*97100037 24 - 110 V (Plastic)

*83070001 (= 4x)

*83070009

*39060010 (= 2x)

			IMO	BSH	USCG	CCS
A	🟢		*83070005	*83070018
	🔴		*83070006	*83070019
	⚪	6 n.m.	*83070004	*83070017
	⚪	3 n.m.	*83072001	*83072005
	🟡		*83070007	*83072006
Socket			(P 28s)	(P 28s)
B	24 V / 40 W		*90400171	*90400171
	110 V / 60 W		*90400172	*90400172
	230 V / 65 W		*90400173	*90400173
C			*83070008	*83070022
D			*83070002	*83070021
E			*63070014	*23070074

🟢 Starboard 🔴 Port ⚪ Masthead 🟢🔴⚪🟡 Stern 🟢🔴⚪🟡 Signalling

155,5
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375,5
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23
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155,5
155,5
140
550
375,5
140
138
23
11
220
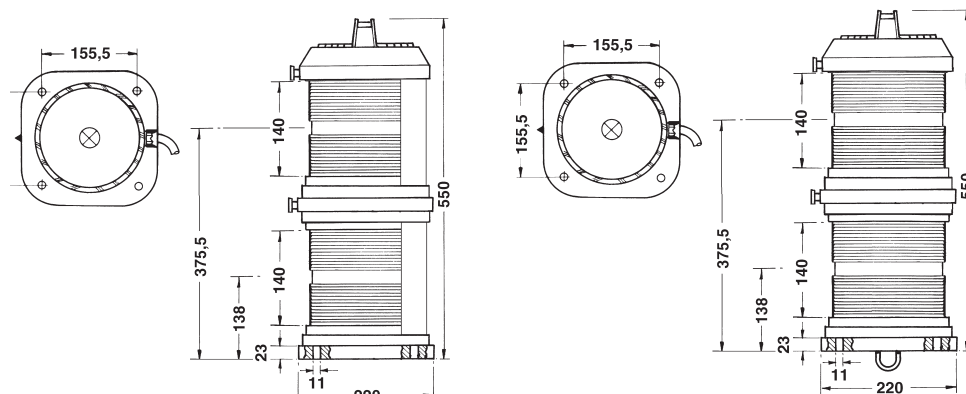
HOISTABLE VERSION
(allround lights)

Series 55
Steering light blue

| Ta -30° | Ta 45° | IP 56 | CE | 24 V / 115 V / 230 V | max. 25W |

- Indication of ships movement

Application
Early indication of ship's movement when operating in narrow waterways or passing canals etc

Housing
Glass fibre reinforced polycarbonate and stainless steel. Other components of non-corrosive materials. Nonmagnetic, sea-water resistant

Housing colour
Mat black and steel coloured

Optics
Wheel cross in two sizes suiting the ship's length included

Electric
Wiring with 1.5 m special cable
3 x 1.5 mm²

Lamp
(included) Easy to change bulb with lamp base B 22

Mounting
Base flange attachement, 4 screws
Ø8 mm (not included)

Cable insert
PG 13.5 with buckling protection
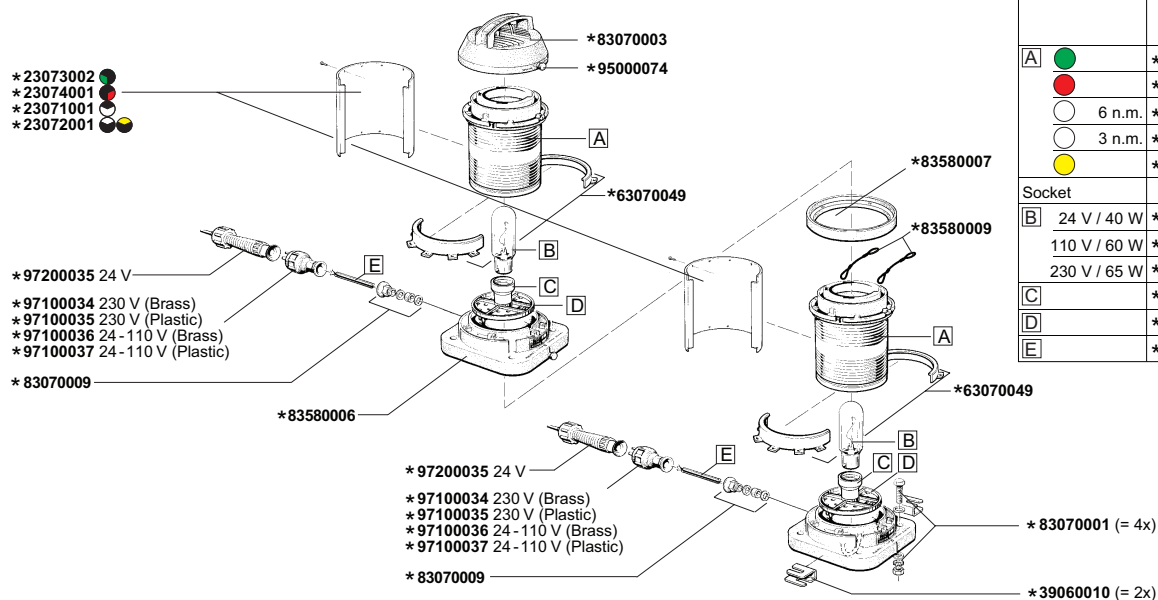
More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	Weight kg	Base Code
STEERING LIGHT BLUE	3533553000	3533554000	3533555000	1.35	B22

Spare Parts/ Accessories
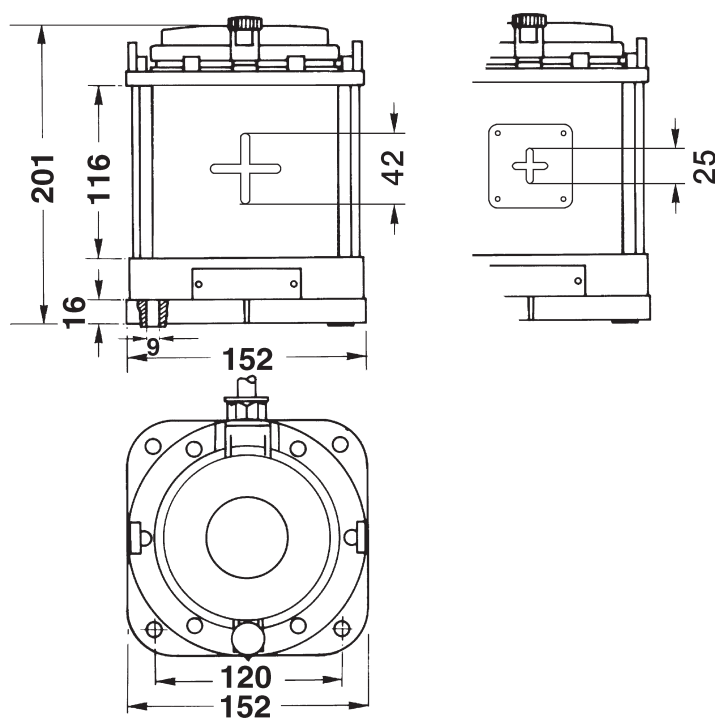
Part. No. Spare parts + Extras		
Lamp	24 V / 25 W	**90400061**
B 22	115 V / 25 W	**90400132**
	230 V / 25 W	**90400133**
Lamp base B22		**83533013**
Screening (cross)		**83533012**
Screening (stern)		**23533001**
Optic blue		**63533053**
Cable		**90300087**
Fastening bolts + nuts (4 off)		**83532002**

3330
Allround signalling lights

| Ta -30° | Ta 45° | IP 67 | CE | 24 V / 115 V / 230 V | max. 60W |

- Allround signalling light

Application
In different colours for all general warning purposes.

Housing
Special plastic

Housing colour
Mat black

Electric
Cable entry from side, M20

Lamp
(included) Standard tungsten bulb E27, 60W

Mounting
With 2 screws Ø8 mm (not included)

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V/60W	Part-No. 115V/60W	Part-No. 230V/60W	Weight kg	Base Code
ALLROUND SIGNALLING WHITE	3330023000	3330024000	3330025000	1.7	E27
ALLROUND SIGNALLING RED	3330223000	3330224000	3330225000	1.7	E27
ALLROUND SIGNALLING GREEN	3330123000	3330124000	3330125000	1.7	E27
ALLROUND SIGNALLING YELLOW	3330423000	3330424000	3330425000	1.7	E27
ALLROUND SIGNALLING BLUE	3330523000	3330524000	3330525000	1.7	E27

Spare Parts/ Accessories
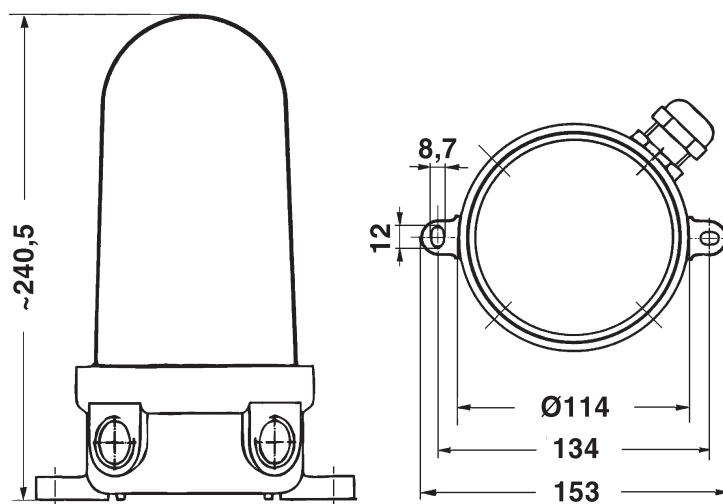
Part No. Spare parts	
Globe clear	83334045
Globe green	83334046
Globe red	83334047
Globe yellow	83334048
Globe blue	83334049
Socket E27 cpl.	83330012
Lamp 24 V / 60 W	90400260
Lamp 110 V / 60 W	90400145
Lamp 230 V / 60 W	90400226

~240,5

8,7

12

Ø114

134

153

3334
High intensity flash light

Ta -30° | Ta 45° | IP 67 | CE | 24 V 115 V 230 V | Xenon Stobe

- High intensity flashing light

Application
In different colours for all general warning purposes e.g. "Huge Vessel Light" or "Dangerous Cargo Light"

Flash rates
60, 120, 180 flashes per min

Housing
Special plastic

Housing colour
Mat black

Electric
Cable entry from side, M20

Lamp
(included) Xenon strobe tube

Mounting
With 2 screws Ø8 mm (not included)

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	Weight kg	Base Code
3334 60 FLASH/MIN WHITE	3334023000	3334024000	3334025000	1.6	Xenon
3334 60 FLASH/MIN GREEN	3334123000	3334124000	3334125000	1.6	Xenon
3334 60 FLASH/MIN RED	3334223000	3334224000	3334225000	1.6	Xenon
3334 60 FLASH/MIN YELLOW	3334423000	3334424000	3334425000	1.6	Xenon
3334 60 FLASH/MIN BLUE	3334523000	3334524000	3334525000	1.6	Xenon
3334 120 FLASH/MIN WHITE	3334013000	3334014000	3334015000	1.6	Xenon
3334 120 FLASH/MIN GREEN	3334113000	3334114000	3334115000	1.6	Xenon
3334 120 FLASH/MIN RED (DANGEROUS CARGO)	3334213000	3334214000	3334215000	1.6	Xenon
3334 120 FLASH/MIN YELLOW	3334413000	3334414000	3334415000	1.6	Xenon
3334 120 FLASH/MIN BLUE	3334513000	3334514000	3334515000	1.6	Xenon
3334 180 FLASH/MIN WHITE	3334033000	3334034000	3334035000	1.6	Xenon
3334 180 FLASH/MIN GREEN (huge vessel)	3334133000	3334134000	3334135000	1.6	Xenon
3334 180 FLASH/MIN RED	3334233000	3334234000	3334235000	1.6	Xenon
3334 180 FLASH/MIN YELLOW	3334433000	3334434000	3334435000	1.6	Xenon
3334 180 FLASH/MIN BLUE	3334533000	3334534000	3334535000	1.6	Xenon

Spare Parts/ Accessories
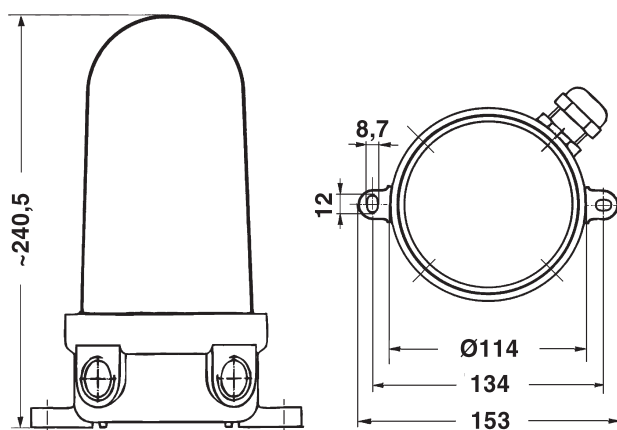
Part. No. Spare parts				
	flashes	24 V =	115 V =/~	230 V ~
Electronic complete	60	83334036	83334039	83334042
	120	83334037	83334040	83334043
	180	83334038	83334041	83334044
Fuses 10 pcs.		83334051	83334052	83334052
Globe	○		83334045	
	🟢		83334046	
	🔴		83334047	
	🟡		83334048	
	🔵		83334049	
Xenon strobe tube			83334053	

~240,5

8,7

12

Ø114

134

153

aqua signal Special
Flashing light blue

IP 56 · CE · ⚓ · 12 V / 24 V

Application
Red Cross-, Sea Rescue Service-, Customs and Border-Patrol crafts and for crafts with comparable tasks

Housing
Special plastic

Housing colour
Black, globe blue

Optics
The striking attraction of the light signals is achieved through the arrangement of the halogen lamp and of the three lenses, which emit a strongly focused light in three directions at the same time. The strong focuses of light are strictly separated from each other and result in the wanted flash light

Electric
Motor and control print-card 12V or 24V

Lamp
(included) Halogen lamp 12V / 55W or 24V / 70W

Mounting
With 3 screws (not included)

Cable insert
PG11, from below

Approvals
International according to IMO COLREG, ICI, ICR, Sea Waterways Rules. In Germany through BSH, under BSH 165/01/91. For the European Inland Waterways under "Anchor" D 16501

Min. visibilities
6 n.m., 120 flashes per minute

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 12V/55W	Part-No. 24V/70W	Weight kg	Base Code
FLASHING LIGHT BLUE	9700022400	9700022300	2.7	Halogen

Spare Parts/ Accessories
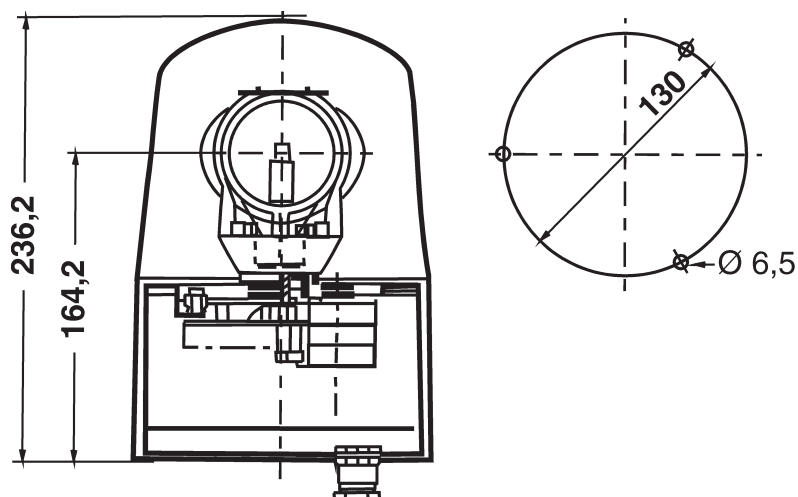
Part No. Spare parts		
Housing (base)	12 V	**97100128**
	24 V	**97100129**
Board with motor and print card /	12 V	**97100130**
	24 V	**97100131**
Driving belt		**97100136**
Gasket		**97100137**
Optical lense		**97100132**
Globe, blue with gasket		**97100133**
Halogen bulb	12 V / 55 W	**97100134**
	24 V / 70 W	**97100135**

236,2

164,2

130

Ø 6,5

aqua signal Bremen
Watertight portable Searchlight "BREMEN"

		SOLAS	NSI
DOT	12 V / 24 V	PAR 36 / 12 V, 30 W	PAR 36 / 24 V, 50 W	PAR HALOGEN 36 / 12 V, 50 W

Application
On deck, in engine rooms, as navigational aid in narrow channels, under water

Housing
Mat black elastic rubber, nonmagnetic, seawater resistant, submersible

Electric
Built-in watertight ON/OFF switch with MORSE facility, 3 m pigtail cable (drawn) 2 x 0.75 m², for connection we recommend the aqua signal plug connectors

Lamp
(included) Built-in sealed beam

Approvals
Approved as portable searchlights for lifeboats as per SOLAS by UK DOT and Dutch NSI

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 12V/30W, 11°, 4°	Part-No. 12V/50W HAL, 7°, 5°	Part-No. 24V/50W, 11°, 5°	Weight kg
WATERTIGHT PORTABLE SEARCHLIGHT	3313002000	3313004000	3313003000	0.75
RANGE 1 Lux	187 m	316 m	212 m	

Spare Parts/ Accessories

83313008

★83313007
(Stainless steel)

90400175 12 V / 30 W
90400228 12 V / 50 W Halogen
90400202 24 V / 50 W

83313015

83313004 12 V
83313011 24 V

★83313002
(Stainless steel)

148

118

164
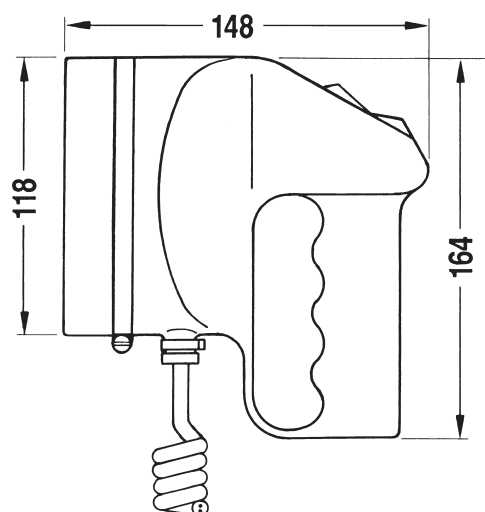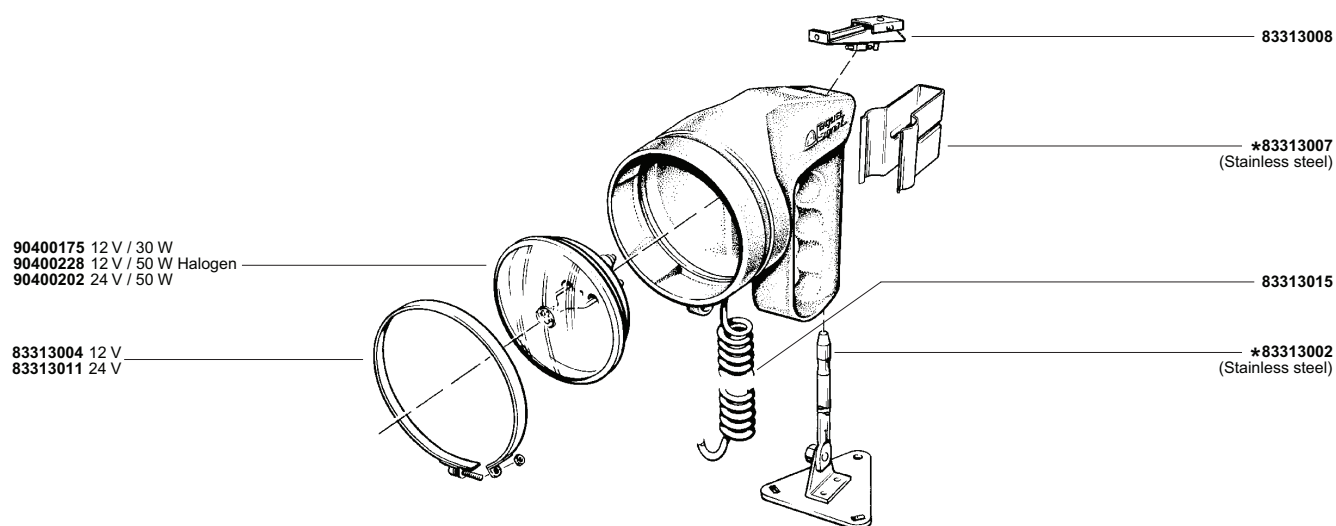
aqua signal Special
Special lights for inland waterways

| Ta -45° | Ta 45° | IP 55 | ⚓ | ◉ | BSH | 24 V |

- Types: Combined white/yellow (flash/horn), flashing white ("head on" light), Yellow sound, Blue tanker, Rhine customs light (hoistable),
- Steering light Electronic flasher: Approved, operating voltage 8-30V DC

Application
For the European inland waterways, approved under "Anker" D by BSH

Housing
Picture 1-5 black polycarbonate, Picture 6 stainless steel. All components are non-corrosive, nonmagnetic, seawater resistant

Housing colour
Picture 1-5 mat black, Picture 6 shining

Optics
Rigid acrylic Fresnel lens

Lamp
(included) Easy to change, special vertical filament tungsten bulb with socket BAY 15d

Mounting
1-4 by means of 3 screws Ø 4 mm, 5 to be hoisted, 6 on short holding bracket. Additional mounting aids see drawing

Cable insert
PG 9

Min. visibilities
As per inland waterways rules

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V/25W	Part-No. 24V/25W	Part-No. 24V/25W	Part-No. 24V/10W	Weight kg	Base Code
1 SPECIAL LIGHT FLASH-TONE SIGNAL	3537473000				0.6	BAY15d
2 SPECIAL LIGHT TANKER LIGHT			3538533000		0.35	BAY15d
3 SPECIAL LIGHT TONE SIGNAL			3538433000		0.35	BAY15d
4 SPECIAL LIGHT FLASHING LIGHT			3538033000		0.35	BAY15d
5 SPECIAL LIGHT RHINE CUSTOMS LIGHT				3539003000	0.31	BAY15d
6 SPECIAL LIGHT RHINE STEERING LIGHT				3096003000	0.55	BAY15d

Spare Parts/ Accessories

1

83537001

★ 83514011

23514024

24 V / 25 W
90400003

90200127

★ 83514002

83538003
83538002
83538001

2 3 4

★ 83514011

★ 83514002

83514012

83538006

¾" Pipe adapter
★ 83538012 (Plastic)

5

6

63030009

24 V / 10 W
90400006

83030006

95800099

83506001

95800155

for **1** + **4**

★ 90400077

⚡ Electronic
8 - 30 V=
max. 30 W
★ 83083006

⚡ Electronic
8 - 30 V=
max. 30 W
★ 83083005

🔵 Tanker light 🟡 Tone signal ⚪ Flashing light

1

Ø 89

221

43
70
49
37
7
19
5

2   **3**   **4**

43
70
49
37
7
19
5

Ø 89

124

6

94
101
137
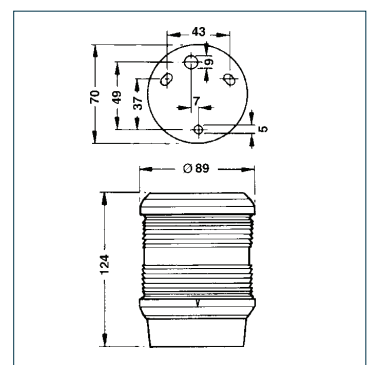117
80
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94
20,5
101

5

Ø 89

210

Series 70 Ex d
Explosion-protected
Navigation - and Signalling Light

IP 67 | **CE** | ⚓
⊙ | **Ex d** | **BSH** | **24 V / 110 V / 230 V**

- Very safe in explosive locations

Application

For use in potentially explosive locations (zones 1 and 2) in accordance with IEC 60079. Lights marked ⚓ may also be used on inland waterways without limitation of ship's length

Housing

Seawater resistant aluminium

Lamp

(included) 230V / 65W / P 28s;
110V / 60W / P 28s;
24V / 40W / P 28s

Optics

Polycarbonate lens

Cable insert

Supplied with 2 m cable 3 x 1.5 mm²
BARTEC 07-9203-H032, PTB 97 ATEX
1079X with 2 m cable 3 x 1.5 mm²

Approvals

Physikalisch-Technische Bundesanstalt, Braunschweig; PTB 04 ATEX 1111; BSH/4615/6010333/06 for Navigation Lights on vessels of 20 m or more in length

Ambient temperature

- 20°C up to + 40°C

Ex code

II 2 G Ex d IIB T6

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V/40W	Part-No. 110-115V/60W	Part-No. 230V/65W	Visible angle	Weight kg	Base Code
70 Ex d STARBOARD GREEN	3093103000	3093104000	3093105000	112.5°	6.8	P28s
70 Ex d PORT RED	3094203000	3094204000	3094205000	112.5°	6.8	P28s
70 Ex d MASTHEAD WHITE	3091003000	3091004000	3091005000	225°	6.8	P28s
70 Ex d STERN WHITE	3092703000	3092704000	3092705000	135°	6.8	P28s
70 Ex d STERN YELLOW	3092403000	3092404000	3092405000	135°	6.8	P28s
70 Ex d ALLROUND RED	3090203000	3090204000	3090205000	360°	6.8	P28s
70 Ex d ALLROUND GREEN	3090103000	3090104000	3090105000	360°	6.8	P28s
70 Ex d ALLROUND YELLOW	3090403000	3090404000	3090405000	360°	6.8	P28s
70 Ex d ALLROUND WHITE	3090703000	3090704000	3090705000	360°	6.8	P28s

Spare Parts/ Accessories

24V/40W **＊9040017100**

110V/60W **＊9040017200**

230V/65W **＊9040017300**

＊8307000800

＊2182206300

＊2182202200

＊9590005300

Maintenance Envelope

∅ 254
∅ 10"

135,5
5.31"

300 ±3
11.8"

370
14.6"

135,5
5.335"

220
8.6"

254 ±3
10"

Cable Dia 8,3 ± 0,8mm, about 2m long;
ng

220
8.6"

13
0.51"

∅ 11
0.4"
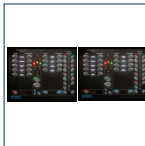
mm/inch
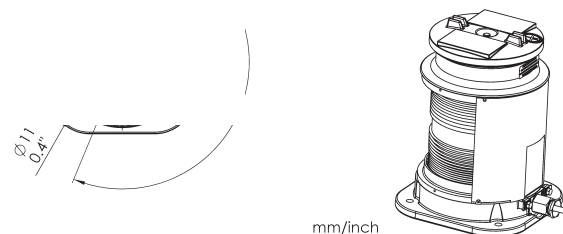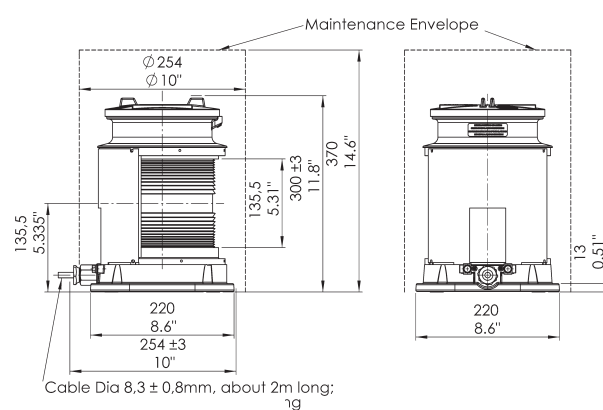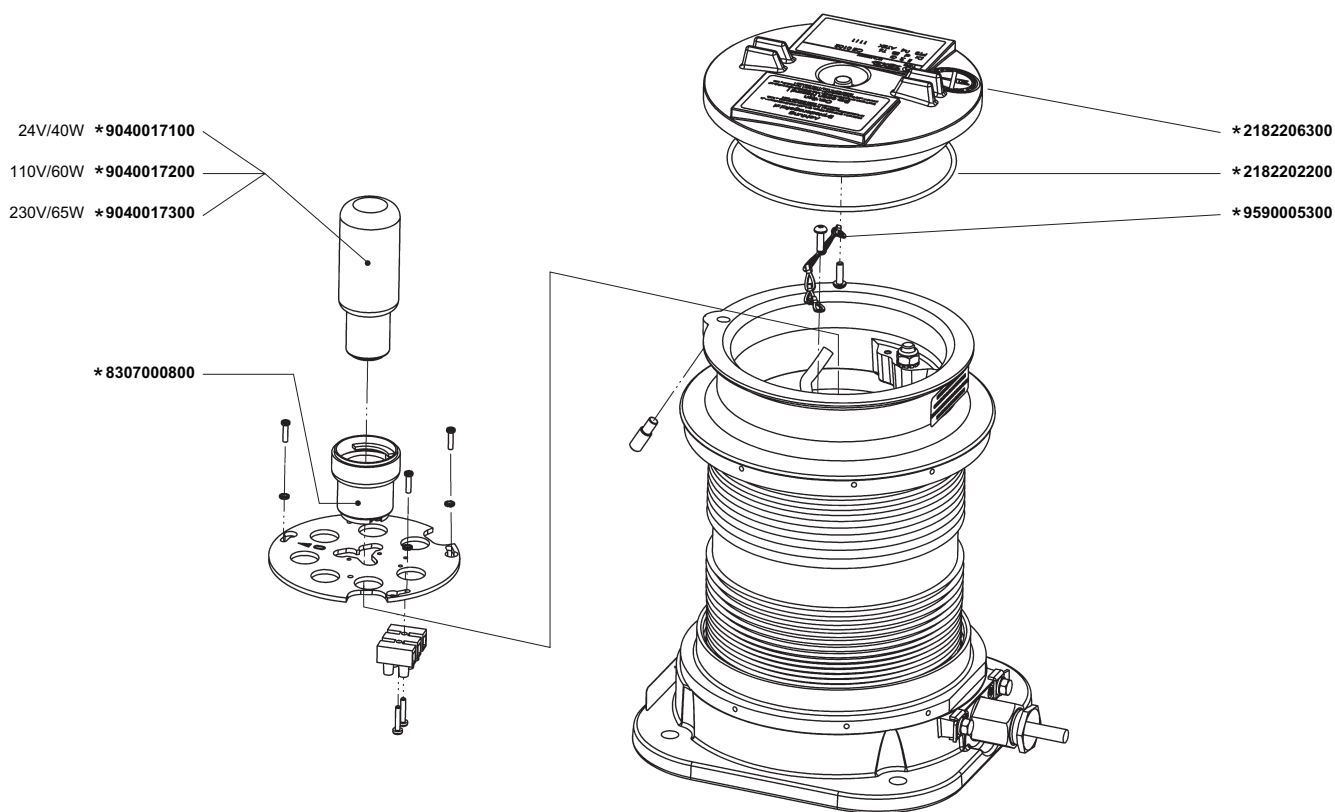
Control Panels for Navigation Lights

Our next generation and proven quality navigation- and signalling lights controllers
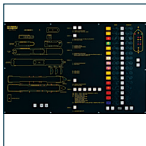- suitable for Series 65 LED lights and conventional incandescent lights

Control Touch
Panel LED
Page 40

Control Panel
Page 42

Panel Safe Return
to Port
Page 44

Switch Panel
Page 46

**CONTROL PANELS -
NAVIGATION LIGHTS**

aqua signal Control
Control Touch Panel (LED)

IP 22 | 24V DC | 110V AC / 230V AC

- Suitable to switch and monitor aqua signal LED navigation- and signalling lights series 65 and lights with traditional incandescent lamps
- aqua signal new generation navigation and signalling lights controller

Control Unit

Switches with control function:
Frontplate consisting of aluminium plate with printed foil, standard colour black - other colours upon request, with 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:

On mounting 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

Measurements:
For 16 + 16 + 16 circuits:
Width   750 mm
Height   900 mm
Depth   122 mm

For 16 + 16 circuits:
Width   750 mm
Height   600 mm
Depth   122 mm

For 8 + 8 circuits:
Width   485 mm
Height   600 mm
Depth   122 mm

Approvals

Germanischer Lloyd, Bureau Veritas, Russian Maritime Register of Shipping - others pending

Electric

24 VDC, 230 VAC/115 VAC ± 10% - 50/60 Hz

Special features

With Bus interfaces connection to external systems for uni- or bidirectional data transfer (RS485, RS232, USB or Ethernet)

Frontplate:
- 3 standard sizes
- special designed frontplate also available

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. (melting fuses)	Part-No. (circuit breakers)	Introduction text	Measurements	Weight kg	Drawing
aqua signal Control	3425502	3435502	For max. 16 circuits (8 main + 8 standby lanterns)	Frontplate: 214 mm x 164 mm Aperture: 188 mm x 138 mm Depth: 80 mm	1.0	3425502
aqua signal Control	3425504	3435504	For max. 32 circuits (16 main + 16 standby lanterns)	Frontplate: 214 mm x 251 mm Aperture: 188 mm x 225 mm Depth: 80 mm	1.3	3425504
aqua signal Control	3425506	3435506	For max. 48 circuits (16 main + 16 standby lanterns + 16 extra main lanterns)	Frontplate: 214 mm x 301 mm Aperture: 188 mm x 275 mm Depth: 80 mm	1.5	3425506
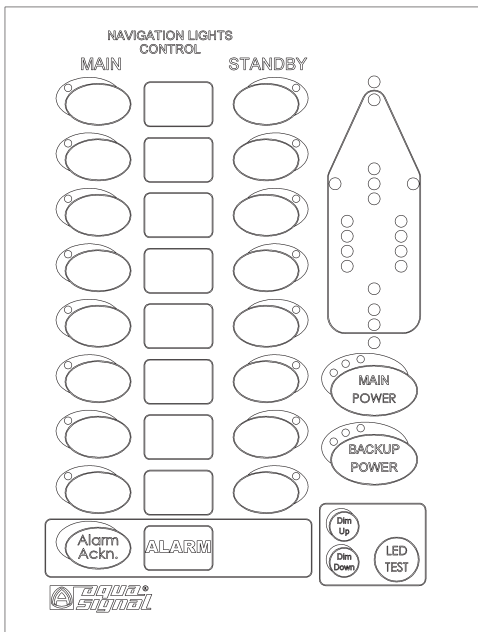
Drawing no. 3425502
For max. 16 circuits (8 main + 8 standby lanterns)
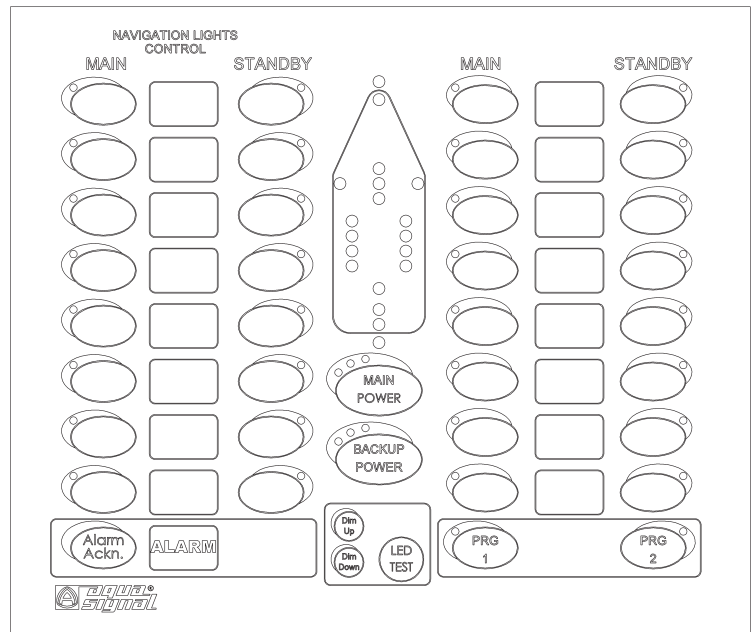
Drawing no. 3425504
For max. 32 circuits (16 main + 16 standby lanterns)
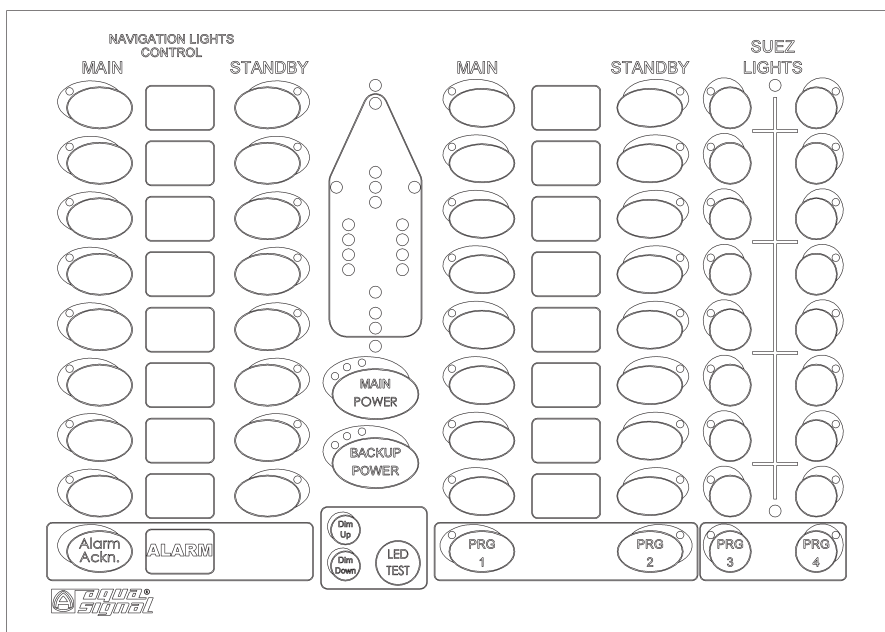
Drawing no. 3425506
For max. 48 circuits (16 main + 16 standby lanterns + 16 extra main lanterns)

aqua signal Control
Control Panel

IP 20 · 24V DC · 110V AC 230V AC

- Unit to switch, fuse and monitor navigation- and signalling lights. Suitable for incandescent lights and aqua signal LED lights series 65

Description
The panel consists of a front plate with switches, indicators and a casing fitting to the front plate. Inside the casing there is the electronic detector and the internal voltage processor. The light circuits are fed via serial terminals located inside the casing. The terminals are numbered. The connecting scheme can be seen from the individually supplied terminal plan

Detector unit
The supervision of the lights is being effected by indirect measurement of the lamp current. There is no electrical connection between the lamp circuit and the detector unit. In case of failure of the detector the navigation and signalling lights remain functioning. There is no voltage drop in the lamp circuit by the electronic detector. With the light switched on, proper functioning of the circuit is monitored by two LEDs. The brightness of the LEDs can be dimmed, however, reduction to zero is prevented. If the lamp circuit is defective (e.g. bulb blown, cable cut, short circuit) the LED will start flashing. Simultaneously an acoustic alarm signal has to be acknowledged (see alarm reset). Printing and colour of frontplate according to your requirements

Application
Ships where navigation lights are to be monitored

Approvals
Type approvals available from all important classification societies. To allow selecting admissable type please advise class in your enquiry

Housing
Black powder coated

Mounting
After having secured the front plate the mechanical installation is completed (4 screws)
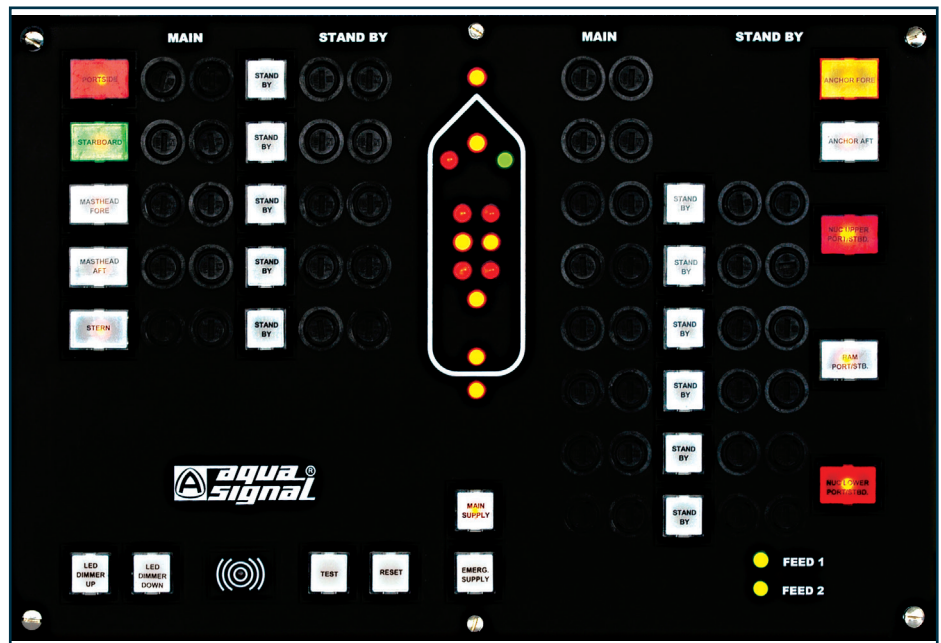
Front plate
Natural or mat black anodized. All RAL colours available at additional charges

Electric
Panel voltages: 230 V ± 10 % 50 / 60 Hz ± 5 %; 110 V ± 10 % 50 / 60 Hz ± 5 %; 24 V DC ± 20% (separate or common supply)

Mounting depth
260 mm + 100 mm to allow changing of print card

Radio interference suppression
IEC 60945

Electrical connection
The terminal plan supplied with each unit indicates the sequence in which the lights to be monitored have to be connected. Terminals for voltage supply to the light circuits and the unit itself are also indicated. One instruction manual with connecting and wiring scheme is included

Voltage supply to the panel
The internal voltage processor supplies the control electronic system with DC. For supply to the internal voltage processor see panel voltages

Important
For units with input voltage monitoring, systems voltage supply to the unit has to be cut off prior to removing print cards because cards of monitoring system are independent on master switch position

Alarm reset
When pressing the push button ""reset"", the audible alarm is acknowledged. In case of another circuit failing the audible alarm is re-activated. The visible alarm keeps on flashing unitl the fault is repaired or the defective circuit is switched off

Standard
"*Input voltage monitoring
*3 Potential-free contacts
 For external alarm
  - Failure of individual lantern
  - Failure of lantern voltage
  - Failure of panel voltage
*Alarm Test"

Available variants
"*Automatic switch-over between 2 identical lantern voltages
*Interface for voyage data recorder
*Different voltages between main and standby lights (24 V and 110 V or 24 V and 230 V) limited to 8 circuits

Drawing no. 3425405

Drawing no. 3425401

Drawing no. 3435405

Drawing no. 3425406

Drawing no. 3425402

Drawing no. 3435406

Drawing no. 3459XXX
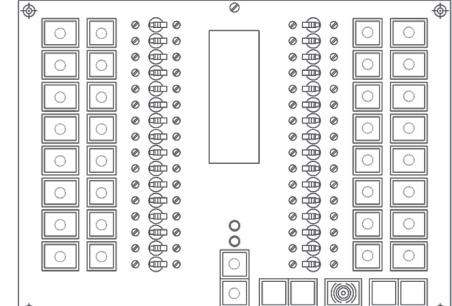
Drawing no. 3435407

More variants are available on request. Complete assortment on www.glamox.com/gmo

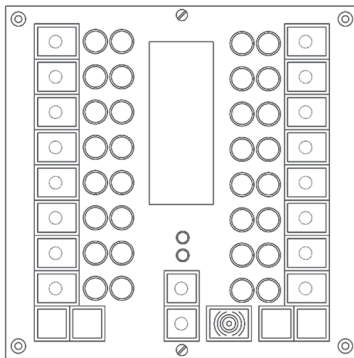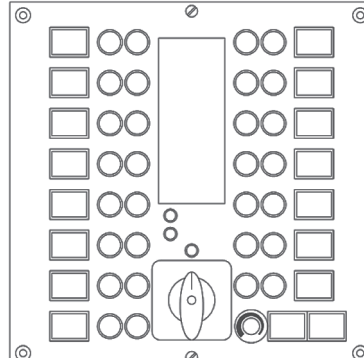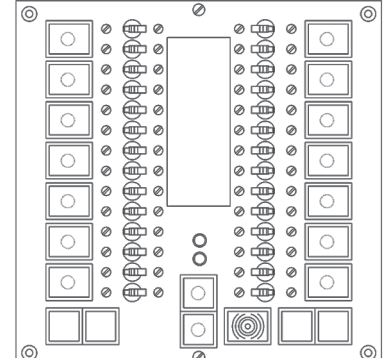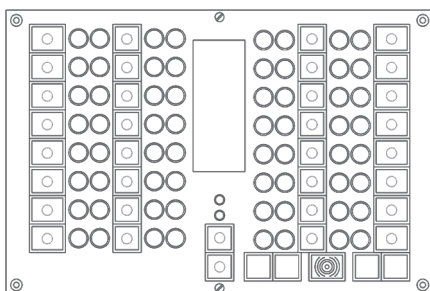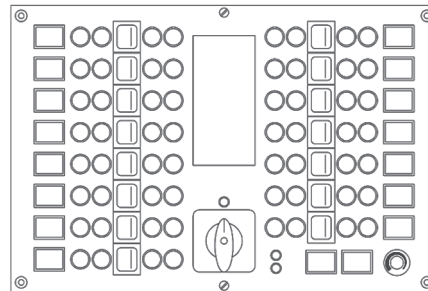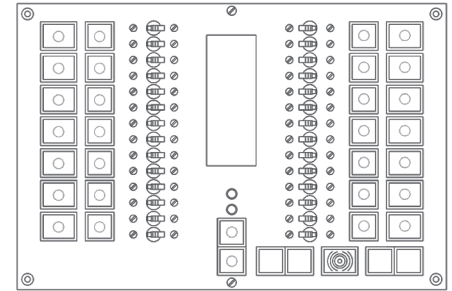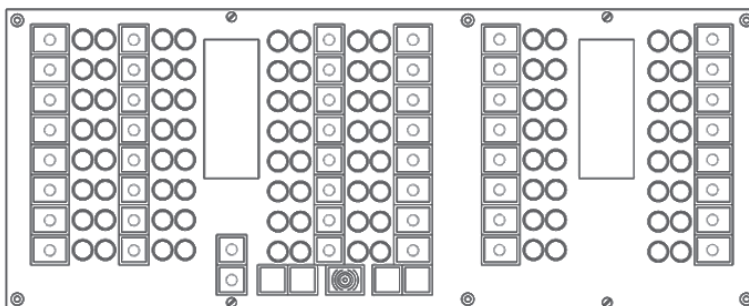| Product	Part-No.	Introduction text	Measurements	Weight (kg)	Drawing
aqua signal Control	3425405	For max. 16 circuits (main lanterns) double pole melting fuses	Frontplate: 220 mm x 220 mm Aperture: 205 mm x 190 mm H x W Depth: 260 mm + 100 mm for cable delta	5.5	3425405
aqua signal Control	3425406	Same as 3425405, however, main and standby lights are monitored by the same system (individual switch-over from main to standby lanterns)	Frontplate: 220 mm x 330 mm H x W Aperture: 205 mm x 300 mm Depth: 260 mm + 100 mm for cable delta	7.1	3425406
aqua signal Control	3459XXX	Example of a special panel. Execution and number of circuit optional			3459XXX
aqua signal Control	3425401	For max. 15 circuits (main lanterns) double pole pole melting fuses	Frontplate: 220 mm x 220 mm Aperture: 205 mm x 190 mm H x W Depth: 260 mm + 100 mm for cable delta	5.5	3425401
aqua signal Control	3425402	Same as 3425401, however, main and standby lanterns are monitored by the same system (individual switch-over from main to standby lights)	Frontplate: 220 mm x 330 mm H x W Aperture: 205 mm x 300 mm Depth: 260 mm + 100 mm for cable delta	7.1	3425402
aqua signal Control	3435405	For max. 14 circuits (main lanterns) fused double pole by automatic circuit breakers acting thermically and magnetically	Frontplate: 220 mm x 220 mm Aperture: 205 mm x 190 mm H x W Depth: 260 mm + 100 mm for cable delta	5.5	3435405
aqua signal Control	3435406	Same as 3435405, however, main and standby lights are monitored by the same system (individual switch-over from main to standby lights)	Frontplate: 220 mm x 330 mm H x W Aperture: 205 mm x 300 mm Depth: 260 mm + 100 mm for cable delta	7.1	3435406
aqua signal Control	3435407	Same as 3435406 however, for max. 16 circuits	Frontplate: 246 mm x 330 mm H x W Aperture: 231 mm x 300 mm Depth: 260 mm + 100 mm for cable delta	8.0	3435407

aqua signal
Panel Safe Return to Port

- Unit to switch, fuse and monitor navigation- and signalling lights. Suitable for incandescent lights and aqua signal LED lights series 65
- Special version for Safe Return to Port (SRtP)

Description

Special requirements "SAFE RETURN TO PORT (short SRtP)" comply to IMO MSC.1/ Circ. 1214

The requirement describes performance standards for the system and services to remain operation on passenger ships for safe return to port and orderly evacuation and abandonment after a casualty.

These performance standards provide additional guidance for the uniform implementation of SOLAS regulation II-1/8-1 and II-2/21.3, basic services be provided to all persons on board and that certain systems remain operation for safe return to port in case of fire or flooding.

Also navigation lights/navigation control panels shall meet these requirements!

One possible implementation is spatially separation of main- and standby control systems.

The split cabinets are connected via 2-wire BUS system (RS485). If there are multiple BUS lines to be provided, shall be also spatially separated from each other.

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No.
aqua signal Control SRtP	3464XXX

Example System overview
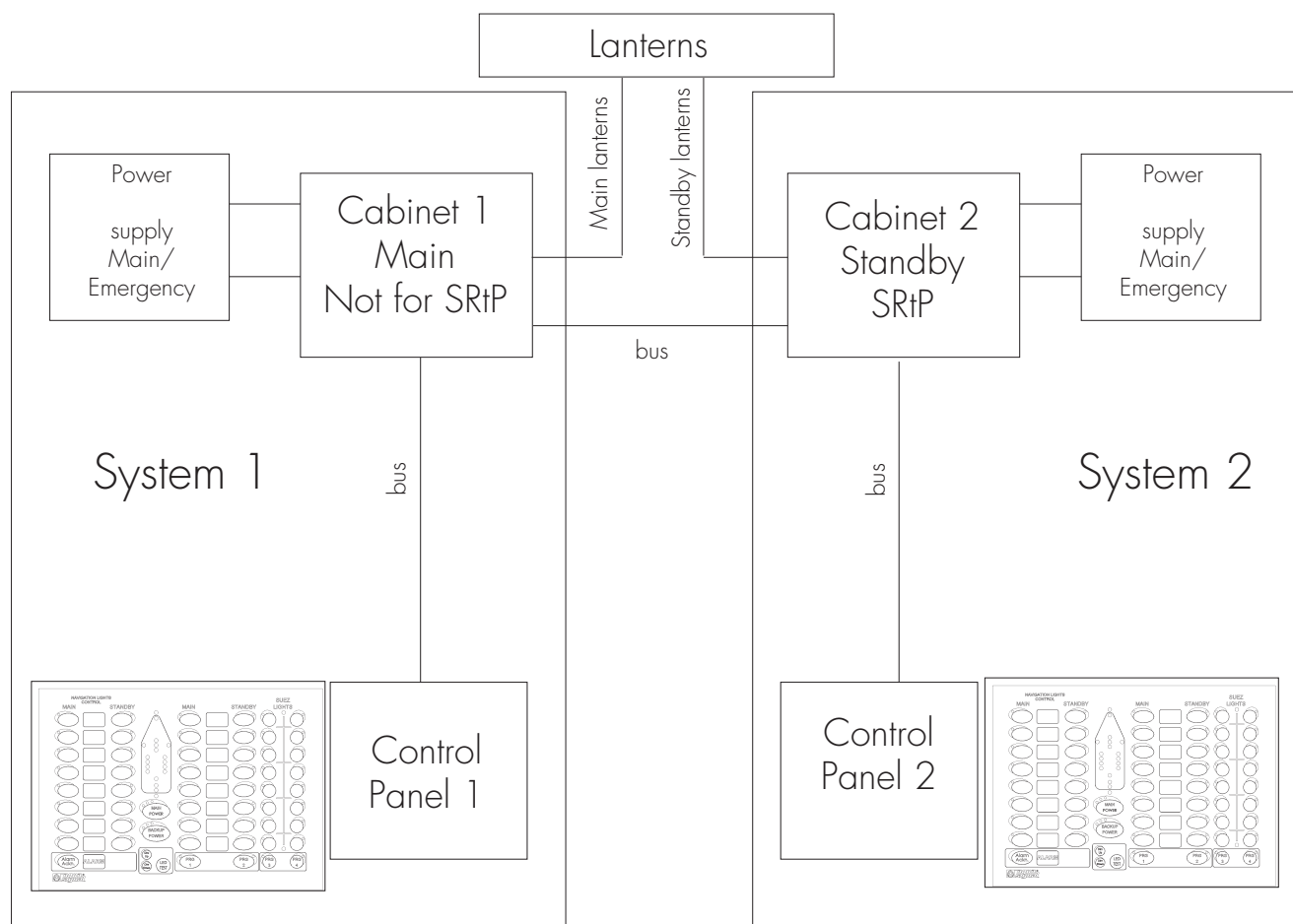
Switch Panel

Switch-Panels for switching of non-safety related lighting, e.g. deck-lighting, interior lighting, searchlights etc., foldable masts with limited switch control

- Max. 4 A per circuit
- Higher Amps. via relays possible
- Switch status is shown in illuminated switches and in mimic (LEDs)
- Direct switching to the consumers or in case of connection to a dimming system only indication via LEDs
- Diodes are dimmable
- With LED-Test
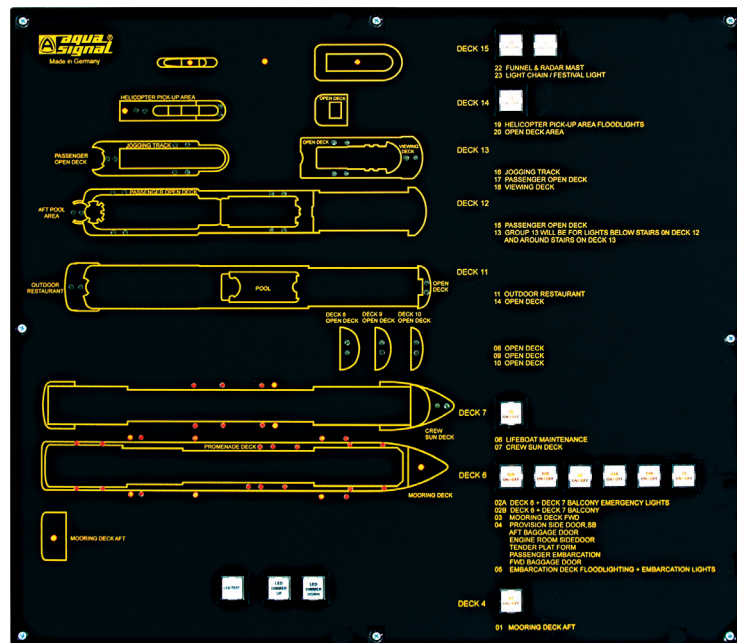
Housing
Powder-coated, colour according to customer`s request

Frontplate
Anodized, black or natural, other colours possible (RAL Chart). With Ship mimic, Deck mimic or depiction of the respective location where the consumer is positioned. Measurements as per customer`s requirements

Custom-made panels according to your requirements:
Size, design and colour of the frontplate. For a quotation we request your technical requirements.

Searchlights

Seawater resistant aluminium searchlights with polyester coating.
Direct operated, bridge operated and remote operated.
Lamps in halogen, xenon and metal halide

SH 200 D/BS/BH
Page 50

SH D
Page 52

SH B
Page 54

SH R10
Page 56

SH R50 BUS
Page 58

SH RS2
Page 60

HR R20
Page 62

XENON BL
Page 64

SHRI 1000 D/DH
Page 66

SHRI 1000 B/BH
Page 68

SHRI 1000 R10
Page 70

SHRI R50 BUS
Page 72

SH 510 Suez
Page 74

MX D - BS - BH
Page 76

XS D - DH
Page 78

XS B - BS - BH
Page 80

XS R10
Page 82

XS R50 BUS
Page 84

XR R20
Page 86

DM 60
Daylight Signal. light
Page 88

Control Panel
Page 90

Equipment for
R50 searchlight
control system
Page 92

Power Supply
Page 94

SH 200 D/BS/BH
Searchlight Halogen for smaller vessels
Direct and Bridge operated

IP67 · ♻ · CE · 12 V/24 V

- Designed to meet applicable marine requirements, IP67
- Stainless steel front ring with snap coupling for easy replacement of lamp
- High quality seawater resistant aluminium housing finished in white polyester coating

Specifications
The Halogen searchlights SH 200 D/BS/BH 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. Light 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. Black drum inside

Light source
Tungsten halogen lamp with G6.35 lamp holder. Variants for 100W 12V or 24V, and for 250W 24V
Lamp included

Mounting
D (Direct Operated), BS (Bridge Short) and BH (Bridge High)

Optics
Adjustable beam, hardened front glass and durable silver-plated glass reflector specially designed for halogen bulbs

Connection
Flexible cable connection

D	BS	BH
Direct operated	Bridge Short	Bridge High

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 12V	Part-No. 24V	L (m)*	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SH 200 D 100W	100100120		540	125	13	2.0	1009365	GY6.35
SH 200 D 100W		100100220	540	125	13	2.0	1009366	GY6.35
SH 200 D 250W		100100320	900	125	13	2.0	1009206	GY6.35
SH 200 BS 100W	100100430		540	125	13	3.5	1009365	GY6.35
SH 200 BH 100W	100100735		540	125	13	3.5	1009365	GY6.35
SH 200 BS 250W		100100630	900	125	13	5.5	1009206	GY6.35
SH 200 BH 250W		100100935	900	125	13	5.5	1009206	GY6.35

* Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

Seal KIT, Drum

Front Ring complete

Deck Flange complete

Operating handle,
complete

Drum complete

Reflector complete

Lamp (see table)

Lamp holder complete

Gasket KIT, Deck Flange

Handle

Ø245

123

352

821

450

371

275

Snap
coupling
for lamp
change

Snap
coupling
for lamp
change

ca. 75

Hole in
Deck Ø30

A A

Vertical and
horizontal
lock screw

Dismount the
Handle when
mounting the
searchlight

Front

3x Ø7

HCD 74

Ø100

A-A

L

SH D
Searchlight Halogen Direct Operated

IP 56 | Ta -40° | (recycle)
CE | N | 24 V / 115 V / 230 V

- Designed to meet applicable marine requirements
- Stainless steel fork, screws and nuts
- Heat resistant, silicone rubber front ring gasket

Specifications
Halogen searchlights SH 260, SH 310, SH 370, SH 470 and SH 480 are suitable for all kinds of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. Light weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures

Light source
Halogen lamp with sockets and wattages as given in product table. Lamp included

Mounting
D (Direct Operated) or DH (Direct Operated High) with pedestal for high mounting

Optics
Adjustable beam. Hardened front glass and durable silver-plated glass reflector, specially designed for halogen bulbs. With anti-dazzle louvre

Options
Spread filter
Canvas cover
Morse shutter
Pedestal for high mounting
More variants and special versions on request.

D Bridge operated -short-	DH Bridge operated -high-

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SH 260 D 250W	100108120			555	333	330	445	2454	327	7.6°	11.0	1009206	GY6.35
SH 260 DH 250W	100108125			555	333	330	445	2454	327	7.6°	19.0	1009206	GY6.35
SH 310 D 500W	100110120			620	380	390	490	2063	210	5.8°	15.0	1009309	E40
SH 310 DH 500W	100110125			620	380	390	490	2063	210	5.8°	23.0	1009309	E40
SH 310 D 1000W		100120420	100110420	620	380	390	540	1540	229	11°	15.0	1009310/ 1009203	GX9.5
SH 310 DH 1000W		100120425	100110425	620	380	390	540	1540	229	11°	23.0	1009310/ 1009203	GX9.5
SH 470 D 2000W		100121520	100111520	780	525	410	640	2366	390	10.8°	22.0	1009311/ 1009202	GY16
SH 470 DH 2000W		100121525	100111525	780	525	410	640	2366	390	10.8°	30.0	1009311/ 1009202	GY16
SH 480 D 3000W			100111620	780	525	735	640	2100	451	10.8°	26.0	1009208	G38
SH 480 DH 3000W			100111625	780	525	735	640	2100	451	12°	34.0	1009208	G38

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

POS	Spare parts Halogen D/DH
1	Front Ring, Complete
2	Lamp code
3	Reflector, Complete
4	Lamp Holder, Complete
5	Focus unit, Complete
5	Focus screw complete Manuel
6	Drum, Complete
7	Forks
9	Seal KIT, Drum
10	Antidazzling screen, Complete
20	Deck Flange, Complete
24	Junction BOX. manuel, Complete
25	Gasket KIT, Deck Flange
N/A	Heat Element Drum

HCD 170
Ø200
Ø11 (x4)
I - I

HCD 350
Ø385
Ø15 (x4)
J - J

800 Other dimension on request
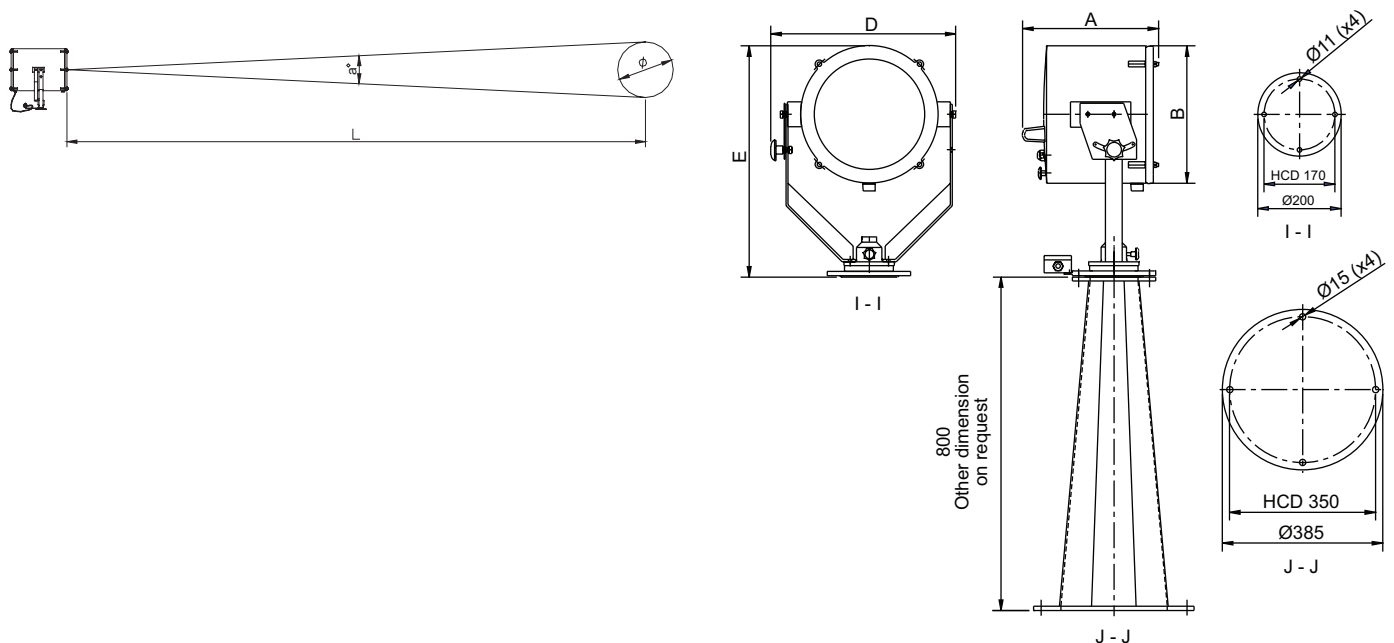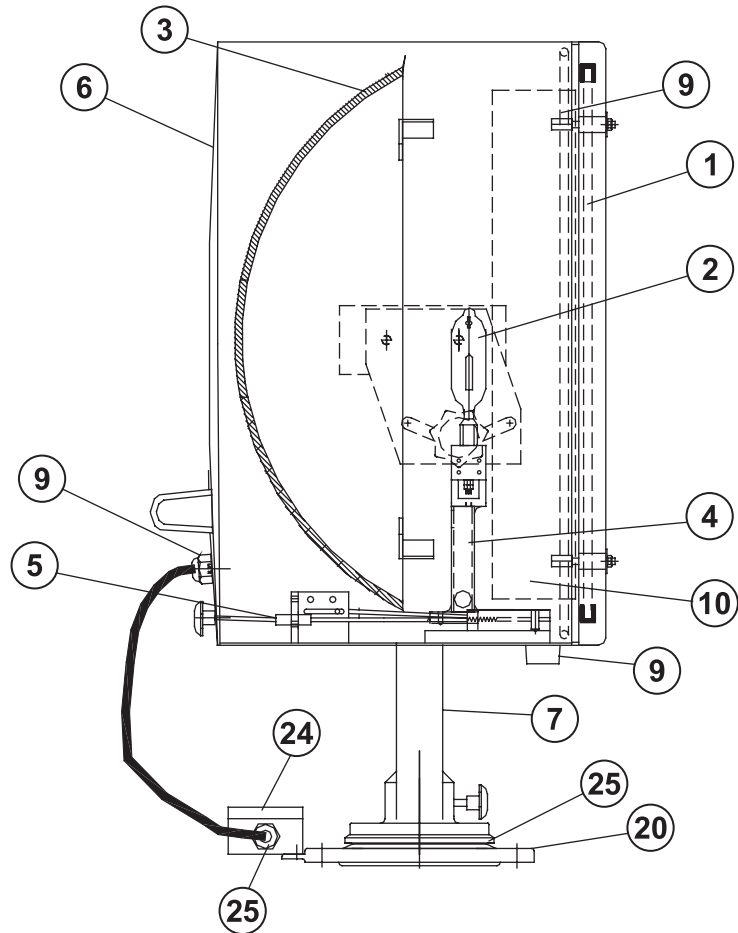
SH B
Searchlight Halogen Bridge Operated
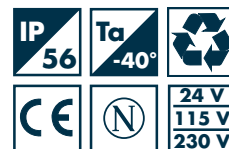
- Designed to meet applicable marine requirements
- Heat resistant, silicone rubber front ring gasket
- High quality seawater resistant aluminium housing finished in white

Specifications
Halogen searchlights SH 260, SH 310, SH 470 and SH 480 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

Light source
Halogen lamp with sockets and wattages as given in product table. Lamp included

Mounting
BS (Bridge Operated Short) or BH (Bridge Operated High) with pedestal for high mounting

Optics
Adjustable beam. Hardened front glass and durable silver-plated glass reflector, specially designed for halogen bulbs. With anti-dazzle louvre

Options
Spread filter
Canvas cover
Morse shutter
Pedestal for high mounting

B Bridge operated -short-	BH Bridge operated -high-

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SH 260 B 250W	100108000			555	333	330	445	2454	327	7.6°	12.0	1009206	GY6.35
SH 260 BS 250W	100108030			555	333	330	445	2454	327	7.6°	12.0	1009206	GY6.35
SH 260 BH 250W	100108035			555	333	330	445	2454	327	7.6°	26.5	1009206	GY6.35
SH 310 B 500W	100108400			620	380	390	490	2063	210	5.8°	17.5	1009309	E40
SH 310 BS 500W	100108430			620	380	390	490	2063	210	5.8°	17.5	1009309	E40
SH 310 BH 500W	100108435			620	380	390	490	2063	210	5.8°	31.0	1009309	E40
SH 310 B 1000W		100128700	100108700	620	380	390	540	1540	229	11°	17.5	1009310/ 1009203	GX9.5
SH 310 BS 1000W		100128730	100108730	620	380	390	540	1540	229	11°	17.5	1009310/ 1009203	GX9.5
SH 310 BH 1000W		100128735	100108735	620	380	390	540	1540	229	11°	31.0	1009310/ 1009203	GX9.5
SH 470 B 2000W		100129800	100109800	780	525	410	640	2366	390	10.8°	23.0	1009311/ 1009202	GY16
SH 470 BS 2000W		100129830	100109830	780	525	410	640	2366	390	10.8°	23.0	1009311/ 1009202	GY16
SH 470 BH 2000W		100129835	100109835	780	525	410	640	2366	390	10.8°	37.5	1009311/ 1009202	GY16
SH 480 B 3000W			100112000	780	525	735	640	2100	451	10.8°	27.0	1009208	G38
SH 480 BS 3000W			100112030	780	525	735	640	2100	451	10.8°	27.0	1009208	G38
SH 480 BH 3000W			100112035	780	525	735	640	2100	451	12°	41.5	1009208	G38

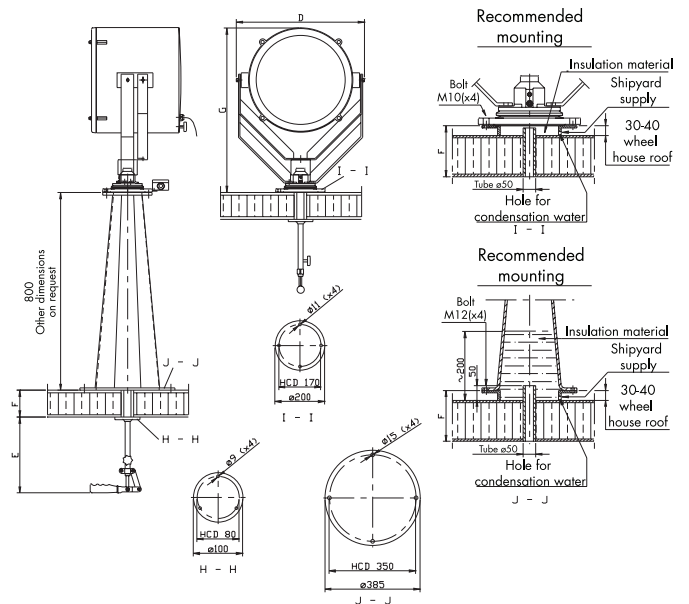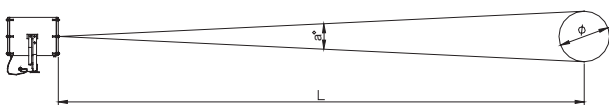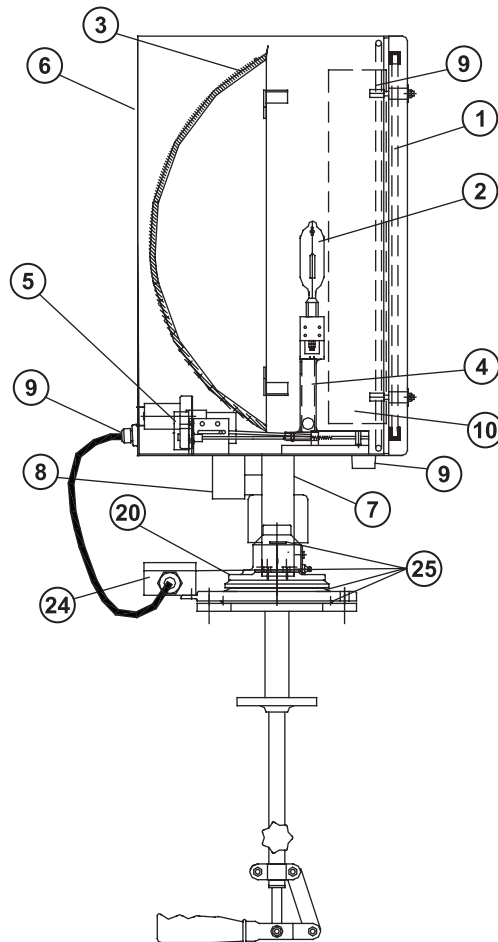Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

POS	Spare parts Halogen B/BS/BH
1	Front Ring, Complete
2	Lamp code
3	Reflector, Complete
4	Lamp Holder, Complete
5	Focus unit, Complete
5	Focus screw, Complete Manuel
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Antidazzling screen, Complete
20	Deck Flange, Complete
24	Junction BOX. Complete
25	Gasket KIT, Deck Flange
N/A	Heat Element Drum

SH R10
Searchlight Halogen Remote Controlled

IP 56 | Ta -40° | ♻
CE | Ⓝ | 24 V / 115 V / 230 V

- Designed to meet applicable marine requirements
- Applicable to sub-zero temperatures of -40°C
- Thermostatic controlled heating in motorhouse for optimal working conditions

Specifications

Halogen searchlights SH 260, SH 310, SH 470 and SH 480 are suitable for all kinds of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures

Light source

Halogen lamp with sockets and wattages as given in product table Lamp included

Mounting

R10 (Remote controlled) or R10H (Remote controlled high) on pedestal

Optics

Durable silver plated glass reflector specially designed for halogen bulbs. With anti-dazzle louvre

Options

Electrical controlled light distribution
Slave panel
Pedestal
Canvas cover
Spread filter
Radio control
Morse shutter
More variants and special versions on request.

More variants are available on request. Complete assortment on www.glamox.com/gmo

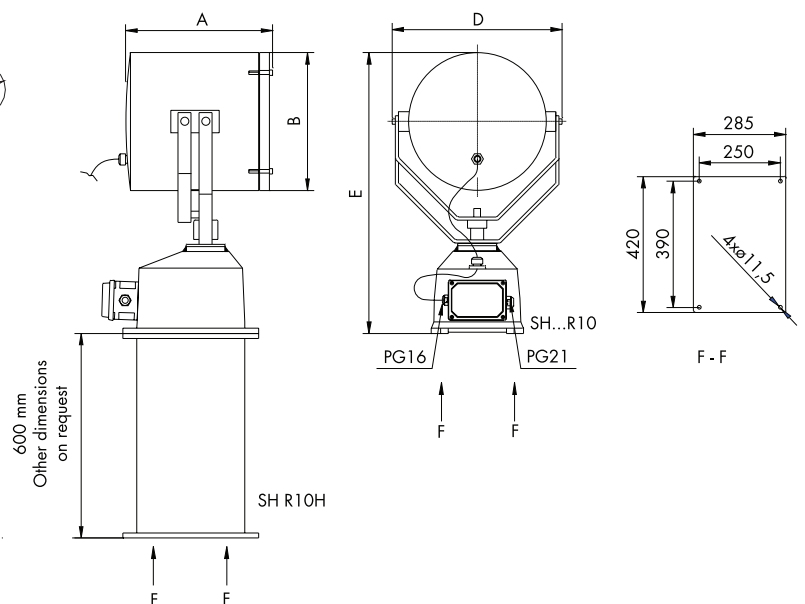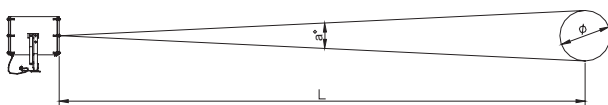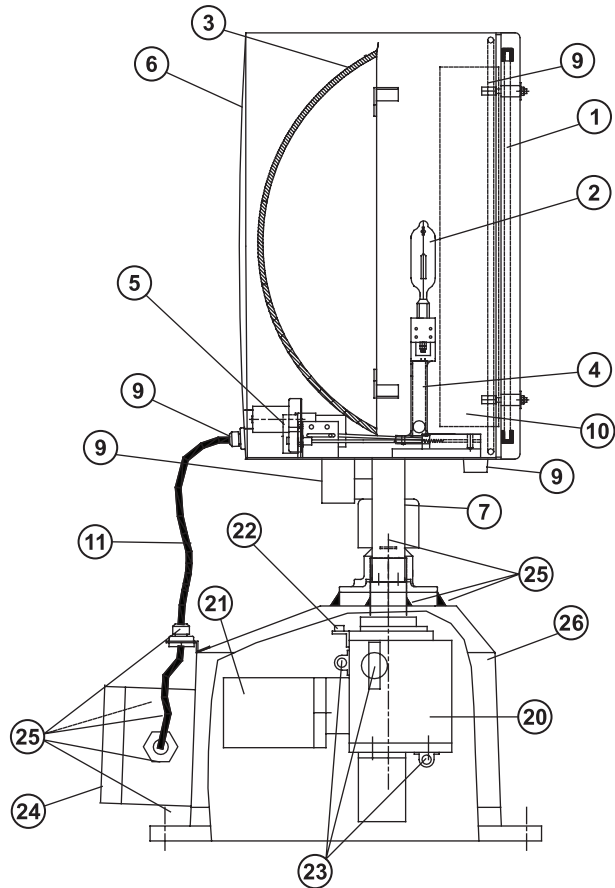| Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SH 260 R10 250W C	100105940			815	330	260	423	2454	327	7.6°	31.0	1009206	GY6.35
SH 260 R19 250W CF	100105941			815	330	260	423	2454	327	7.6°	31.0	1009206	GY6.35
SH 310 R10 500W C	100106140			870	380	330	470	2063	210	5.8°	32.0	1009309	E40
SH 310 R10 500W CF	100106141			870	380	330	470	2063	210	5.8°	32.0	1009309	E40
SH 310 R10 1000W C		100126940	100106940	870	380	330	470	1540	229	11°	32.0	1009310/ 1009203	GX9.5
SH 310 R10 1000W CF		100126941	100106941	870	380	330	470	1540	229	11°	32.0	1009310/ 1009203	GX9.5
SH 470 R10 2000W C		100127240	100107240	1040	525	360	615	2366	390	10.8°	41.0	1009311/ 1009202	GY16
SH 470 R10 2000W CF		100127241	100107241	1040	525	360	615	2366	390	10.8°	41.0	1009311/ 1009202	GY16
SH 480 R10 3000W CF			100112360	1040	525	700	615	2100	451	12°	45.0	1009208	G38

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.
C = Main panel included, no focus adjustment.
CF = Main panel included, including focus adjustment.

Spare Parts/ Accessories

POS	Spare parts Halogen R10
1	Front Ring, Complete
2	Lamp code
3	Reflector, Complete
4	Lamp Holder, Complete
5	Focus unit, Complete 24V
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Antidazzling screen, Complete
11	Cable kit, drum
20	Gear, Complete
21	Motor Vert
21	Motor Hor
22	Micro switch gear, Complete
23	Heat Element Gear
24	Junction BOX. Complete
25	Seal KIT, Motor house
26	Motorhouse, Complete

600 mm
Other dimensions
on request

SH R10H

SH...R10

PG16   PG21

285
250
420
390
4x⌀11,5
F - F

SH R50 BUS
Searchlight Halogen Remote Controlled BUS

IP56 | Ta -40° | 24 V / 115 V / 230 V | CE | N | ♻

- Designed to meet applicable marine requirements
- Designed for Arctic Environments with temperatures down to -40°C
- Thermostatic controlled heating in motorhouse for optimal working conditions

Specifications

Halogen searchlights SH 260, SH 310, SH 470 and SH 480 are suitable for all kinds of ships. The control system is based on TCP/IP technology. 9 different units of Xenon or Halogen searchlights can be connected to the same network through Ethernet cat 5 cables. It is stepless adjustable 360° horizontal and 55° tilting movements. There are several options of control panels both hard wired and wireless, which are fitted to standard solution. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Low weight and simple to mount, these searchlights provide reliable lighting in all kinds of temperatures

Light source

Halogen lamp with sockets and wattages as given in product table. Lamp included

Mounting

R50 (Remote controlled) or R50H (Remote controlled high) on pedestal. Control panel, switch and Spare lamp to be ordered separately

Optics

Durable silver plated glass reflector specially designed for halogen bulbs. With anti-dazzle louvre

Options

Panel Slave SCS
Panel Wireless SCS BUS
PC Software SCS
Pedestal for high mounting
Spread filter
More variants and special versions on request.

More variants are available on request. Complete assortment on www.glamox.com/gmo

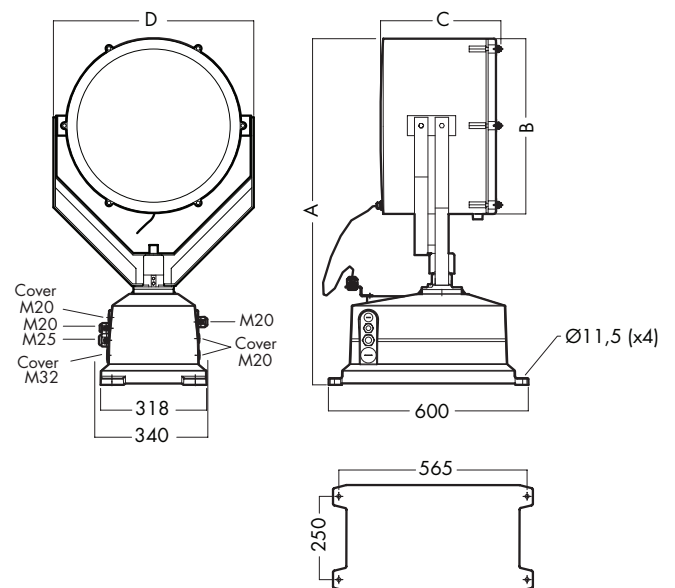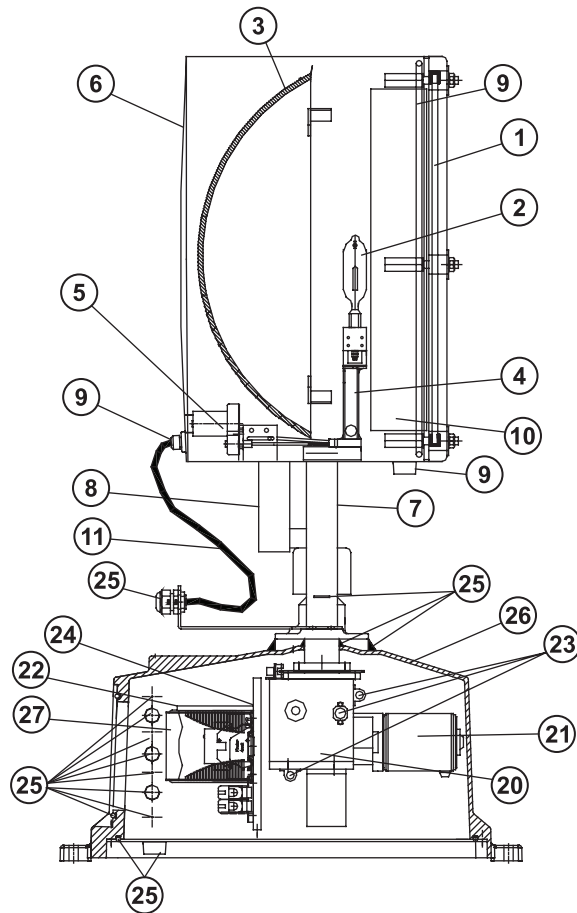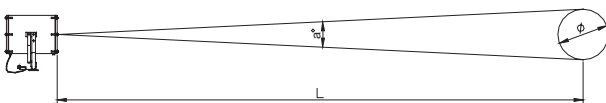| Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel α°	Weight kg	Lamp Code	Base Code
SH 260 R50 BUS 250W	200105938							2454	340	7.6	35.5	1009364	G6.35
SH 310 R50 BUS 500W	200106138			890	420	330	470	2063	229	11°	36.5	1009309	E40
SH 310 R50 BUS 1000W		200126938	200106938	890	420	330	470	1540	229	11°	36.5	1009310/ 1009203	GX9.5
SH 470 R50 BUS 2000W		200127238	200107238	1040	525	700	615	2366	390	10.8°	45.5	1009311/ 1009202	GY16
SH 480 R50 BUS 3000W			200112358	1040	525	700	615	2100	451	12°	49.5	1009208	G38

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.
NOT INCLUDED: Control panels, switches and cables. See "Equipment for R50 Searchlight control system".

Spare Parts/ Accessories

POS	Spare parts Halogen R50
1	Front Ring, Complete
2	Lamp code
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Antidazzling screen, Complete
11	Cable kit, drum
20	Gear, Complete
21	Motor Vert
21	Motor Hor
22	MDC, Complete
23	Heat Element Gear
24	Powermodule R50, Complete
25	Seal KIT, Motor house
26	Motorhouse, Complete
27	Power supply, motor house

SH RS2
Searchlight Halogen Remote Controlled

IP 56 | Ta -40° | 115 V / 230 V | CE | ♻

- Designed to meet applicable marine requirements
- Applicable to sub-zero temperatures of -40°C
- Thermostatic controlled heating in motorhouse for optimal working conditions

Specifications
Halogen searchlight SH 650 RS2 is suitable for all kinds of ships. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Besides low weight and simple mounting, these searchlights provide reliable lighting in all kinds of temperatures. Unlimited cable length between main panel and searchlight. Stainless steel forks and fittings

Light source
G38 socket for 5000 W (SH650). Lamp included

Optics
Durable silver-plated glass reflector specially designed for halogen bulbs

Options
Remote controlled beam
Canvas cover
Spread filter
Slave panel
Radio control

Remarks
Control panel included

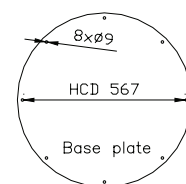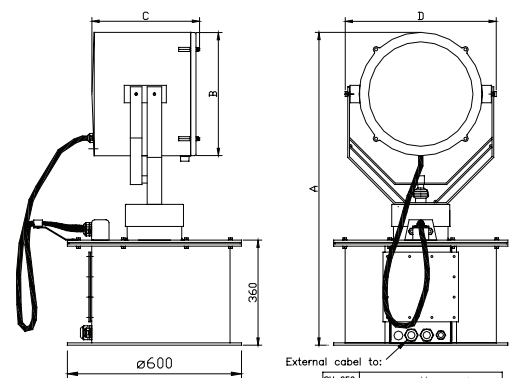More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel α°	Weight kg	Lamp Code	Base Code
SH 650 RS2 5000W	100112160	1530	840	590	900	2500	724	10°	110.0	1701021	G38

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

POS	Spare parts Halogen RS2
1	Front Ring, Complete
2	Lamp code
3	Reflector, Complete
4	Lamp Holder, Complete
5	Focus unit, Complete
5	Focus screw, Complete Manual
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Antidazzling screen, Complete
N/A	Heat Element Drum
20	Drive unit KIT
21	Motor Vert
21	Motor Hor
22	Micro switch horis, Complete
22	Micro switch vert, Complete
23	Heat Element Motorhouse
24	Contactor, SH 480
25	Seal KIT, Motor house
26	Terminal block
27	Motion KIT, horizontal

External cabel to:

SH 650	Cable Gland M32, Dia: 18–25
	Cable Gland M32, Dia: 18–25

8xø9

HCD 567

Base plate
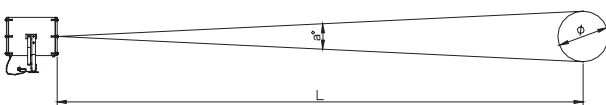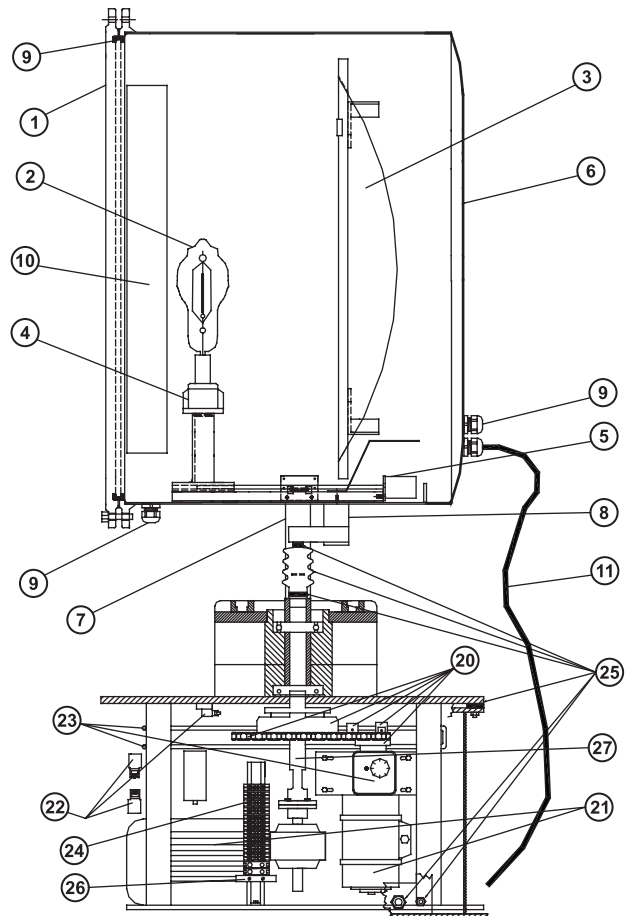
The searchlight movement range
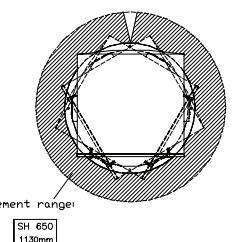
SH 650
1130mm

HR R20

Searchlight Halogen Remote Controlled for fast-running vessels

IP 56 | Ta -40° | Ta 25° | 24 V 115 V 230 V | ♻

- Designed to meet applicable marine requirements
- Applicable to sub-zero temperatures of -40°C
- Low weight and compact design

Specifications

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

250W/24V halogen lamp GX6.35 for 24, 115 and 230V.
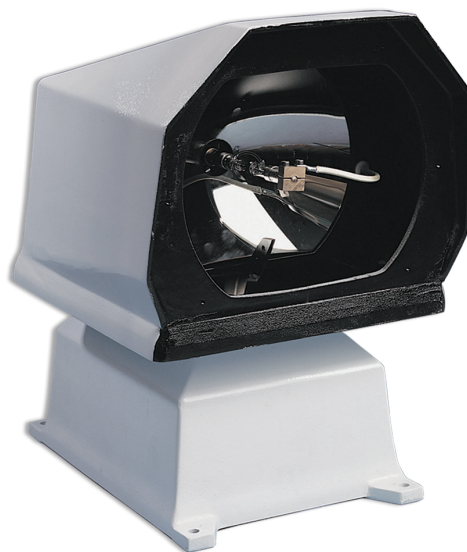650W/230V halogen lamp GX9.5 for 230V
Lamp included

Options
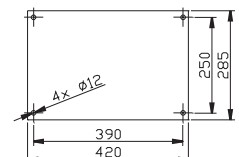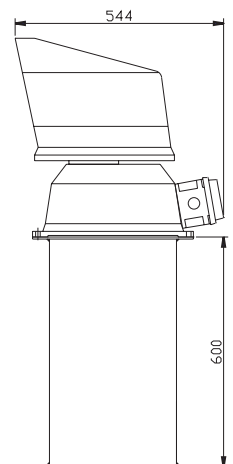
Slave panel
Pedestal for high mounting
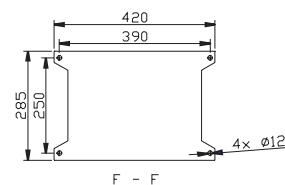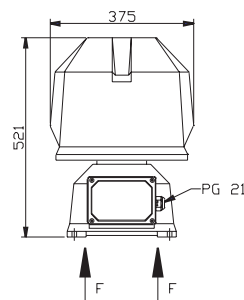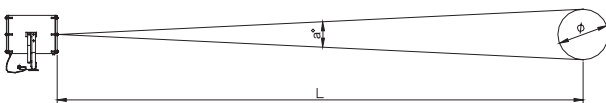Radio control

Optics

Durable silver-plated glass reflector specially designed for halogen bulbs. Remote controlled light distribution (wide or narrow beam)

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
HR 250 R20 250W	100128050		100128020	521	320	544	375	2170	152	4-7°	25.0	1009364	GY6.35
HR 250 R20 250W		100128010		521	320	544	375	2170	152	4-7°	25.0	1009206	GY6.35
HR 650 R20 650W			100128060	930	320	544	375	943	132	8-16°	25.0	1009204	GX9.5

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

Front glass

Lamp (see table)

Lamp holder (see table)

Reflector

Focus arrangement

Vertical motor

Trafo 230/115 / 24V for lamp

Transmission

Heating element and thermostat

Horizontal motor

Seal KIT, Motor house

Junction BOX, complete

375

521

PG 21

F   F

420

390

285

250

4× Ø12

F – F

L

Ø

544

600

250

285

4× Ø12

390

420

XENON BL
Bowlight

IP67 · 12V/24V · CE · ♻
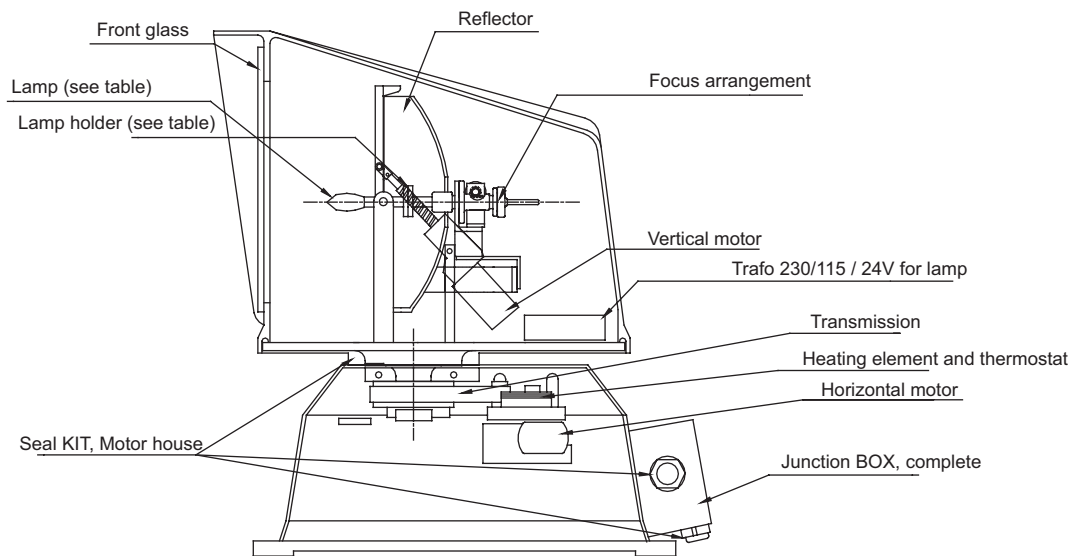
- The "micro xenon" bowlights are especially designed by request from fast ferry operators
- Available with dual and triple reflectors

Application
The lights are mounted in the bow of the vessel and work as «head lights», useful when manouvering in narrow waters and for detection of floating obstacles, ice, navigation buoys, etc. The dual light and reflector type can be individual operated, allowing combinations of wide and narrow beams

Design
Designed to meet applicable marine requirements

Housing
House, frontring, mounting bracket and junction box in seawater resistant aluminium. Protection class IP67

Finish
Powder coated white RAL 9016 and enamelled up to 70 - 80 µm thickness

Pane (Diffuser)
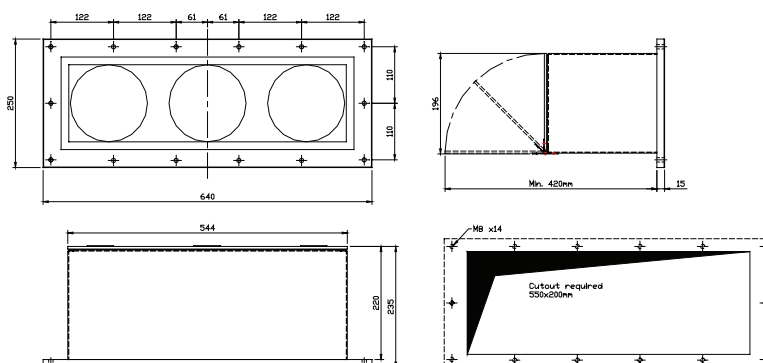Safety glass

Reflector (Optic)
Narrow beam (NB) or wide beam (WB) light distribution

Electric
Flexible wiring, silicone insulated, heat resistant up to 180°C

Lamp base
P32d-2

Light source
Micro Xenon (24V), lamps included

Mounting
Adjustable bracket with three mounting holes, Ø9 mm

Cable entry
Cable gland M20

Termination
Screw Terminal Strips between the range of 0.5 mm² to 4 mm²
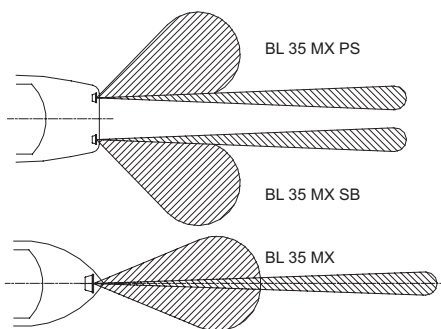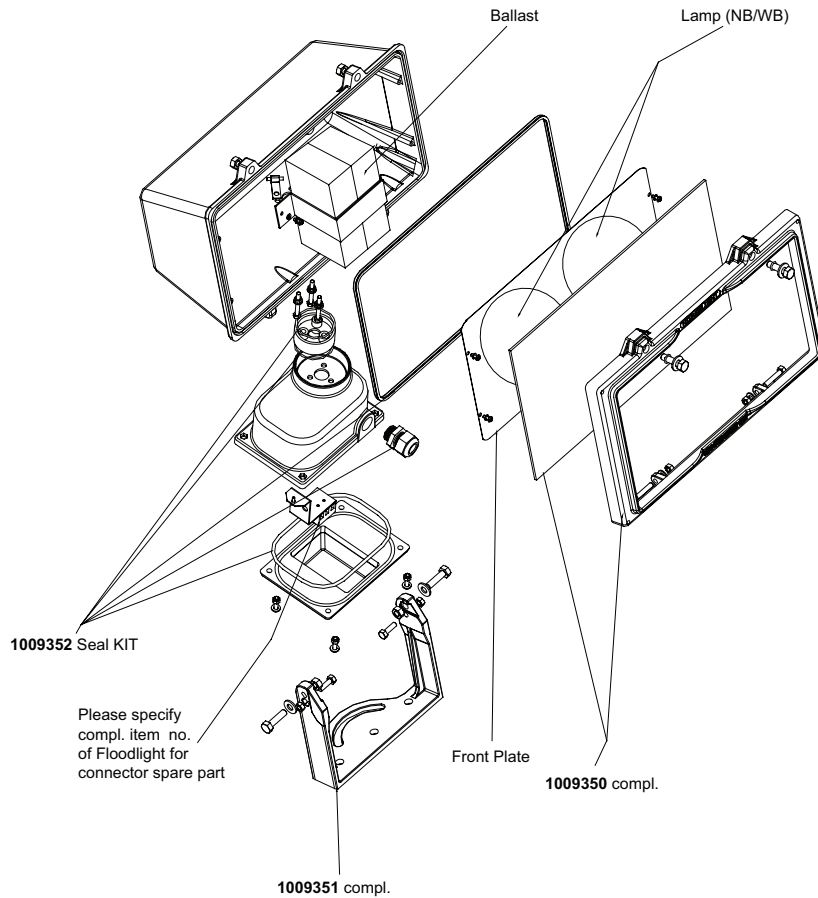
Remarks, Options
Antidazzle shade
Swivel arm
Pendent mounting bracket

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 12V	Part-No. 24V	Range* WB	Range* NB	Dia Ø (m) WB	Dia Ø (m) NB	Angel a° WB	Angel a° NB	Weight kg	Lamp Code	Base code
BL 35 XSB	100305802	100305800	335	725	118	50	20°	4°	7.0	1009369	D2S
BL 35 XPS	100305803	100305801	335	725	118	50	20°	4°	7.0	1009369	D2S
BL 35 X STD NB/WB	100305807	100305804	335	725	118	50	20°	4°	7.0	1009369	D2S
BL 35 X STD 2XWB		100305805	335	725	118	50	20°	4°	7.0	1009369	D2S
BL 35 X STD 2XNB		100305806	335	725	118	50	20°	4°	7.0	1009369	D2S
BL 3X35W 2XWB 1XNB	100305810	100305811	335	725	118	50	20°	4°	20.0	1009369	D2S

* In metre at 1 lux

Spare Parts/ Accessories

Ballast

Lamp (NB/WB)

1009352 Seal KIT

Please specify
compl. item no.
of Floodlight for
connector spare part

Front Plate

1009350 compl.

1009351 compl.

BL 35 MX PS

BL 35 MX SB

BL 35 MX

Wide beam: 1 lux at 335m
5.6 lux at 200m
22.4 lux at 100m
divergence 30°

Narrow beam: 1 lux at 725m
Ø50 at 725m
divergence 3°

242
122
A A
20
Ø9 (x3)
R 45
65 65
205
25
40
Cross-section A-A

200
364
325
283

Light to be adjusted to
preferred angle, link to be
permanently fixed to
bracket by drilling Ø6mm
hole by installer/customer.

96
87
96 87
BRED PÅ SMAL
AV
VERTIKAL OPP
NED
NORSELIGHT

76
76
Cutout required
76x76mm
M4 x4
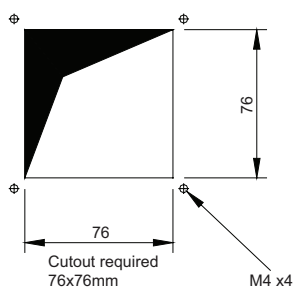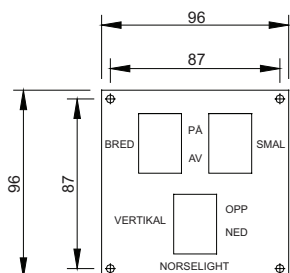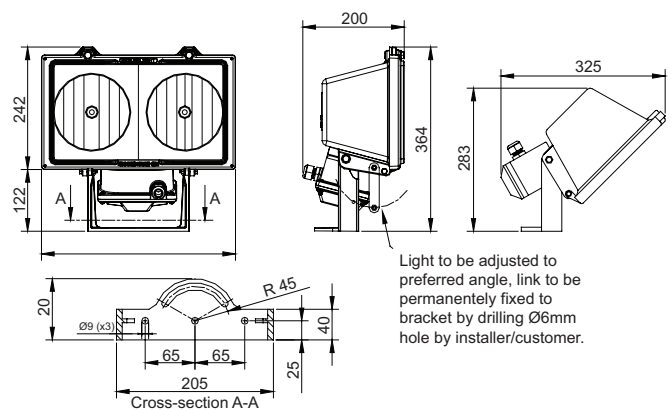
SHRI 1000 D/DH
Searchlight Metal Halide
Direct Operated

IP 56 | Ta -40° | 230 V | CE | ♻

- Designed to meet applicable marine requirements
- Heat resistant silicone rubber front ring gasket
- Thermostatic controlled heating in drum for opimal working conditions

Specifications
Metal halide searchlight SHRI 1000 D/DH is suitable for all kinds of ships, especially vessels demanding high light output or operating in harsh winter/ice conditions such as tugs, icebreakers, offshore supply vessels or ice-classed vessels. The performance of the Metal Halide light is similar to Xenon, though with a wider and shorter beam range. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Stainless steel forks and fittings. The searchlight provides reliable lighting in all kinds of temperatures, has low weight and simple mounting

Light source
Metal Halide lamp 1000W included

Mounting
D (Direct operated) or DH (Direct operated High) with pedestal for high mounting. Ballast unit in separate box included

Optics
Hardened front glass and durable silver-plated glass reflector. Remote controlled light distribution (wide or narrow beam).

Options
Pedestal for high mounting
Morse shutter
Spread filter
Canvas cover

Power supply in separate box included see page 96-97

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 230V	L (m) *	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SHRI 1000W D	100308020	2000	250	2-7°	28.0	1009284	NLMH 10

* Theoretical estemated range at 1 lux.

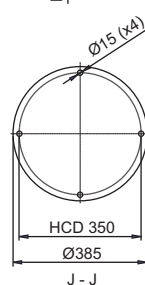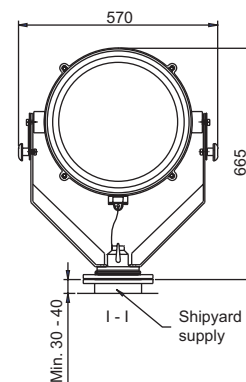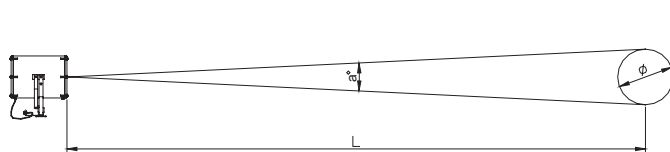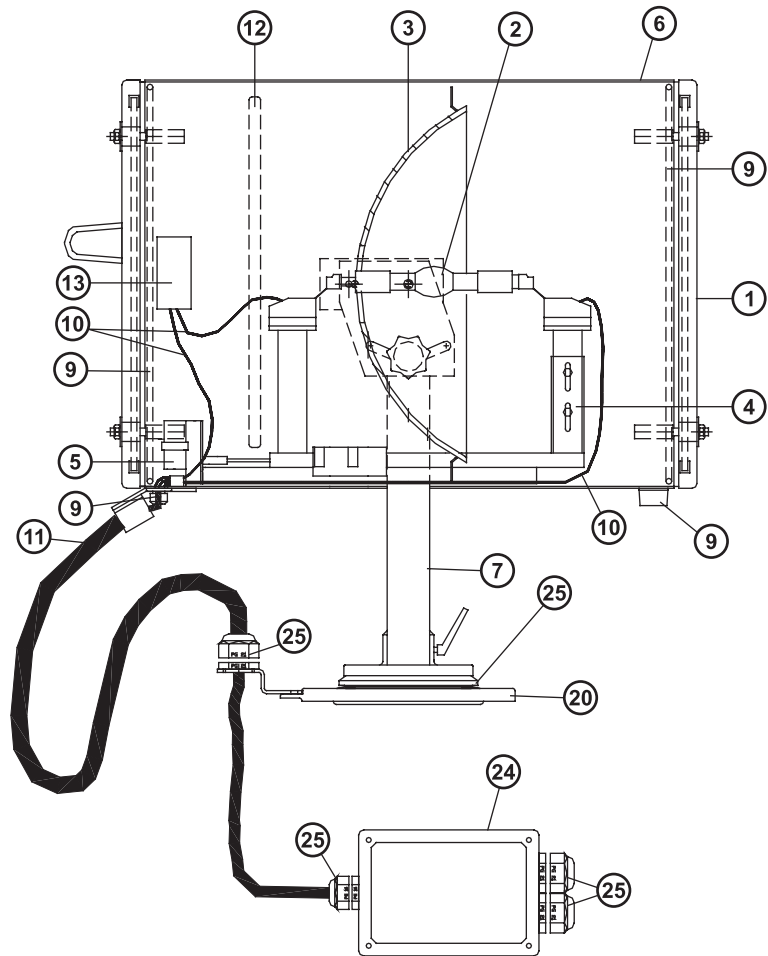## Spare Parts/ Accessories

POS	Spare parts SHRI D/DH
1	Front Ring, Complete
2	Lamp SHRI, HQI
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, Xenon
12	Heat Element Drum 230V
13	Ignitor SHRI, Z1000
20	Deck Flange, Complete
24	Junction BOX. Complete
25	Gasket KIT, Deck Flange

570
665
Min. 30 -40
I - I   Shipyard supply

540
1465
800
Other dimensions on request
J - J

Ø15 (x4)
HCD 350
Ø385
J - J

Ø11 (x4)
HCD 170
Ø200
I - I
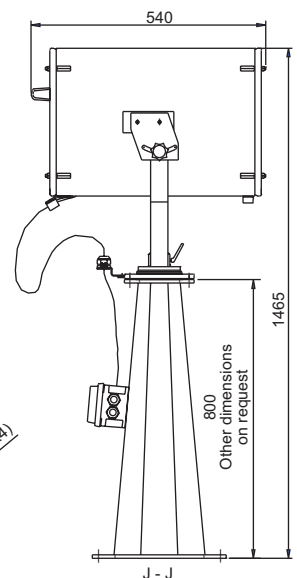
SHRI 1000 B/BH
Searchlight Metal Halide Bridge Operated

IP 56 | Ta -50° | 230 V | CE | ♻

- Designed to meet applicable marine requirements
- Applicable to sub-zero temperatures of -50°C
- Stepless adjustable 340° horizontal and 55° vertical movement

Specifications

Metal halide searchlight SHRI 1000 BS/BH is suitable for all kinds of ships, especially vessels demanding high light output or operating in harsh winter/ice conditions such as tugs, icebreakers, offshore supply vessels or ice-classed vessels. The performance of the Metal Halide light is similar to Xenon, though with a wider and shorter beam range. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Stainless steel forks and fittings. The searchlight provides reliable lighting in all kinds of temperatures, has low weight and simple mounting

Light source

Metal Halide lamp 1000W included

Mounting

BS (Bridge Operated Short) or BH (Bridge Operated High) with pedestal for high mounting. Ballast unit in separate box included

Optics

Hardened front glass and durable silver-plated glass reflector. Remote controlled light distribution (wide or narrow beam)

Options

Pedestal for high mounting
Morse shutter

Power supply in separate box included see page 96-97

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 230V	L (m) *	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SHRI 1000W B	100308000	2000	250	2-7°	29.0	1009284	NLMH 10

* Theoretical estemated range at 1 lux.

Spare Parts/ Accessories
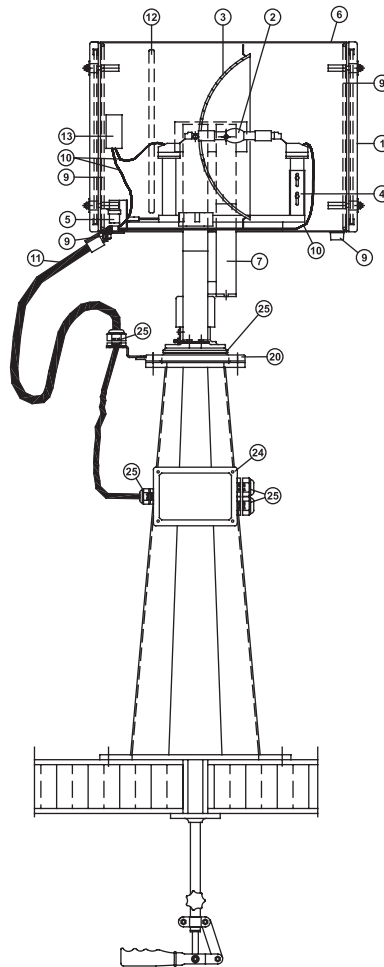
POS	Spare parts SHRI B -BS -BH
1	Front Ring, Complete
2	Lamp SHRI, HQR
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, SHRI
12	Heat Element Drum 230V
13	Ignitor, SHRI, Z1000
20	Deck Flange, Complete
24	Junction BOX. Complete
25	Gasket KIT, Deck Flange
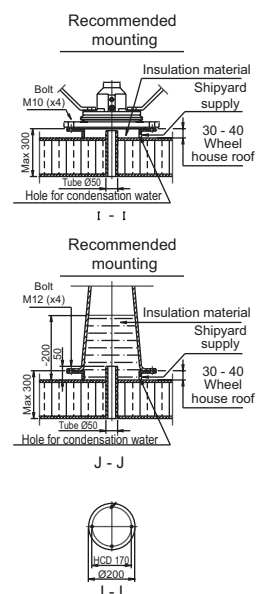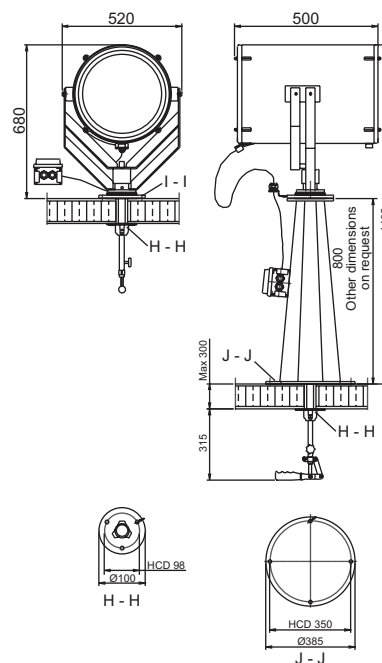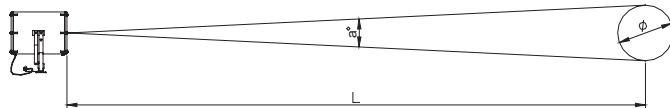
SHRI 1000 R10
Searchlight Metal Halide
Remote Controlled

IP 56 | Ta -40° | 230 V | CE | ♻

- Designed to meet applicable marine requirements
- Applicable to sub-zero tempratures of -40°C
- Stepless adjustable 340° horizontal and 55° vertical movement

Specifications
Metal halide searchlight SHRI 1000 R10 is suitable for all kinds of ships, especially vessels demanding high light output or operating in harsh winter/ice conditions such as tugs, icebreakers, offshore supply vessels or ice-classed vessels. The performance of the Metal Halide light is similar to Xenon, though with a wider and shorter beam range. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Stainless steel forks and fittings. The searchlight provide reliable lighting in all kinds of temperatures, has low weight and simple mounting

Light source
Metal Halide lamp 1000W included

Mounting
R10 (Remote controlled) or R10H (Remote controlled high) on pedestal. Ballast unit in separate box included

Optics
Hardened front glass and durable silver-plated glass reflector. Remote controlled light distribution (wide or narrow beam)

Options
Pedestal for high mounting
Radio control
Spread filter
Slave panel

Power supply in separate box included, see page 96-97

More variants are available on request. Complete assortment on www.glamox.com/gmo

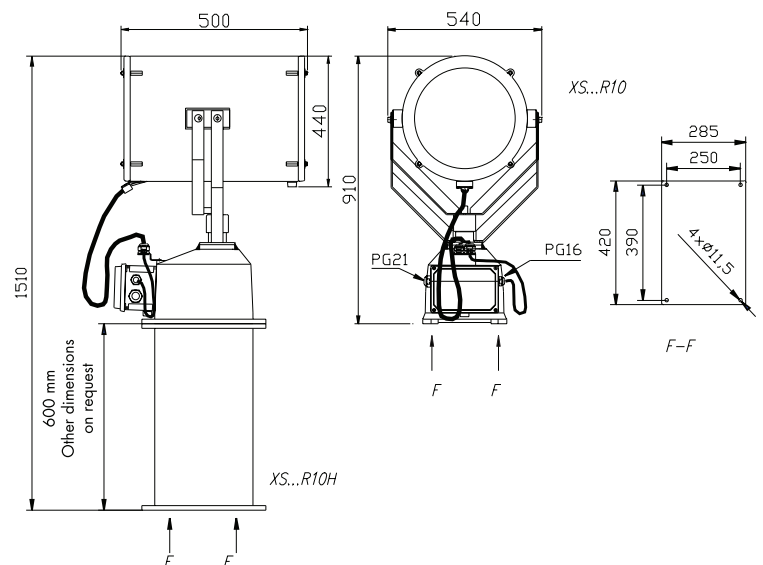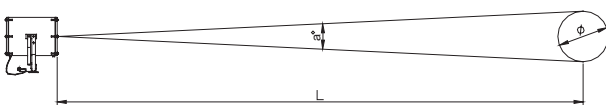| Product	Part-No. 230V	L (m) *	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SHRI 1000W R10	100308040	2000	250	2-7°	47.0	1009284	NLMH 10

* Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

POS	Spare parts SHRI R10
1	Front Ring, Complete
2	Lamp SHRI, HQI
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, SHRI
12	Heat Element Drum 230V
13	Ignitor SHRI, Z1000
20	Gear, Complete
21	Motor Vert
21	Motor Hor
22	Micro switch gear, Complete
23	Heat Element Gear
24	Junction BOX. Complete
25	Seal KIT, Motor house
26	Motorhouse, Complete

SHRI R50 BUS

Searchlight Metal Halide Remote Controlled BUS

IP 56 · Ta -40° · 230 V · CE · ♺

- Designed to meet applicable marine requirements
- Applicable to sub-zero tempratures of -40°C
- Stepless adjustable 360° horizontal and 55° vertical movement

Specifications
Metal halide searchlight SHRI 1000 R10 is suitable for all kinds of ships, especially vessels demanding high light output or operating in harsh winter/ice conditions such as tugs, icebreakers, offshore supply vessels or ice-classed vessels. The performance of the Metal Halide light is similar to Xenon, though with a wider and shorter beam range. The control system is based on TCP/IP technology. 9 different units of Metal halide, Xenon or Halogen searchlights can be connected to the same network through Ethernet cat 5 cables. It is stepless adjustable 360° horizontal and 55° tilting movements. There are several options of control panels both hard wired and wireless, which are fitted to standard solution. Built with corrosion resistant components, and designed for extreme marine environments which require minimum maintenance. High quality seawater resistant aluminium housing finished in white polyester coating. Stainless steel forks and fittings. The searchlight provide reliable lighting in all kinds of temperatures, has low weight and simple mounting

Light source
Metal Halide lamp 1000W included

Mounting
R50 (Remote controlled) or R50H (Remote controlled high) on pedestal. Control panel, switch, ballast unit (part# 1009157) and spare lamp to be ordered separately.

Optics
Hardened front glass and durable silver-plated glass reflector. Remote controlled light distribution (wide or narrow beam)

Options
Panel Slave SCS
Panel SCS BUS
PC Software SCS
Pedestal for high mounting
Spread filter

Ballast unit to be ordered separately, part# 1009157.

More variants are available on request. Complete assortment on www.glamox.com/gmo

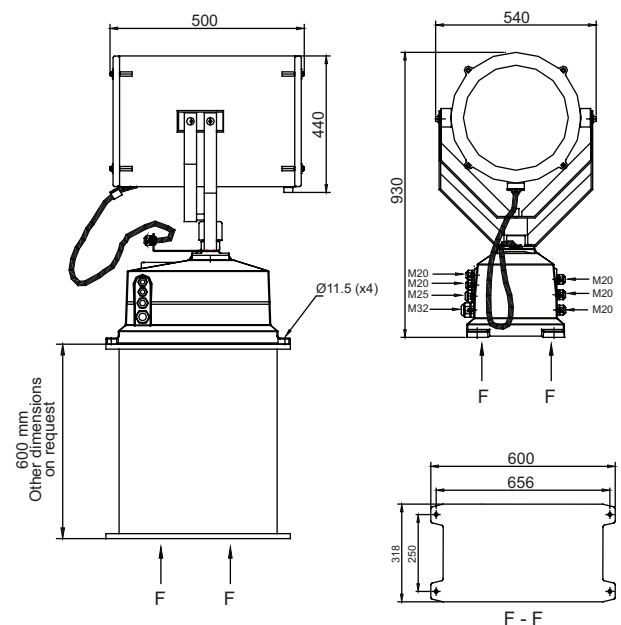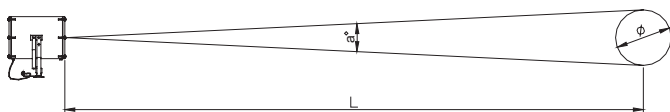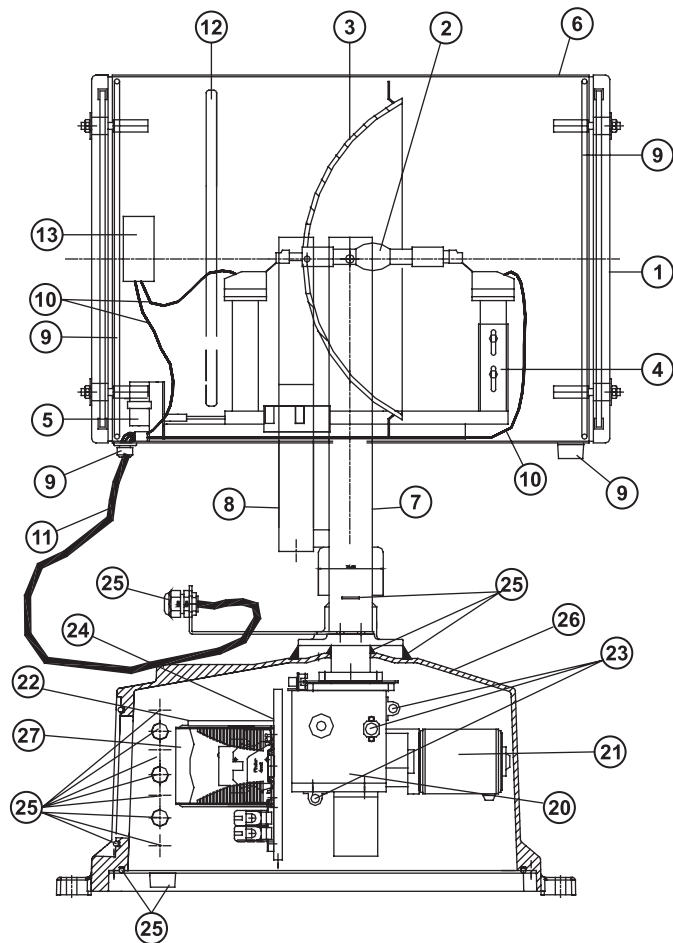| Product	Part-No. 230V	L (m) *	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
SHRI 1000W R50	200308038	2000	250	2-7°	51.5	1009284	NLMH 10

* Theoretical estemated range at 1 lux.
NOT INCLUDED: Control panels, switches and cables. See "Equipment for R50 searchlight control system".

Spare Parts/ Accessories

POS	Spare parts SHRI R50
1	Front Ring, Complete
2	Lamp SHRI, HQI
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, SHRI
12	Heat Element Drum 230V
13	Ignitor SHRI, Z1000
20	Gear, Complete
21	Motor Vert
21	Motor Hor
22	MDC, Complete
23	Heat Element Gear
24	Powermodule R50, Complete
25	Seal KIT, Motor house
26	Motorhouse, Complete
27	Power supply, motor house

SH 510 Suez
Suez Canal Searchlight

IP56 | 115V / 230V | CE | N | ♻

- Designed to meet applicable marine requirements
- Certified in accordance with Suez Canal Authorities
- Water and gas-tight drum with ventilation and safety valve

Specifications

SH 510 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. The SH 510 Suez Canal Searchlights are equipped with dual projector lamps with external switchover arrangement in case of burn out

Light source

Vessels above 30000 DWT shall be equipped with a searchlight of 3000W, and vessels less than 30000 DWT with 2000W Lamps included

Optics

SH 510 produces two horizontal lightbeams of 5° with a dark central sector of 10°. SH 510 is delivered with hardened temperature resistant front glass and controllable split reflector, made of durable silver-plated glass
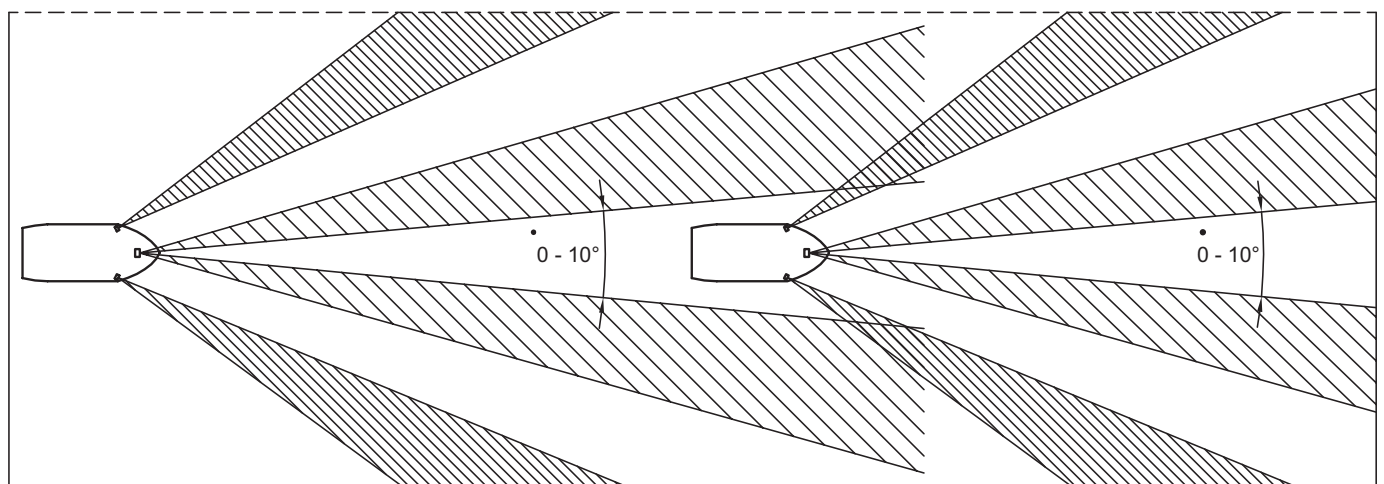
Options

Storage bow
Eex de IIC T6 plug, socket and switch
IP56 plug and socket
Front glass cover
Canvas cover

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 115V	Part-No. 220V	Range (m)*	Angel a°	Weight kg	Lamp Code	Base Code
SH 510 2000W		2005005	1850	2x5°	30.0	1009202	GY16
SH 510 2000W	2005007		1850	2x5°	30.0	1009311	GY16
SH 510 3000W		2005006	2056	2x5°	30.0	1009208	G-38
SH 510 3000W	2005008		2056	2x5°	30.0	1009367	G-38

* Theoretical estemated range at 1 lux.

NORSElight

GLOBAL MARINE & OFFSHORE
LIGHTING SOLUTIONS

Spare Parts/ Accessories

648

I - I

Ø11 (x4)

HCD 170
Ø200

I - I

648

Ø256

780

I - I

Light sector to
Bridge wing projector

Light sector
to Suez

0 - 10°

0 - 10°
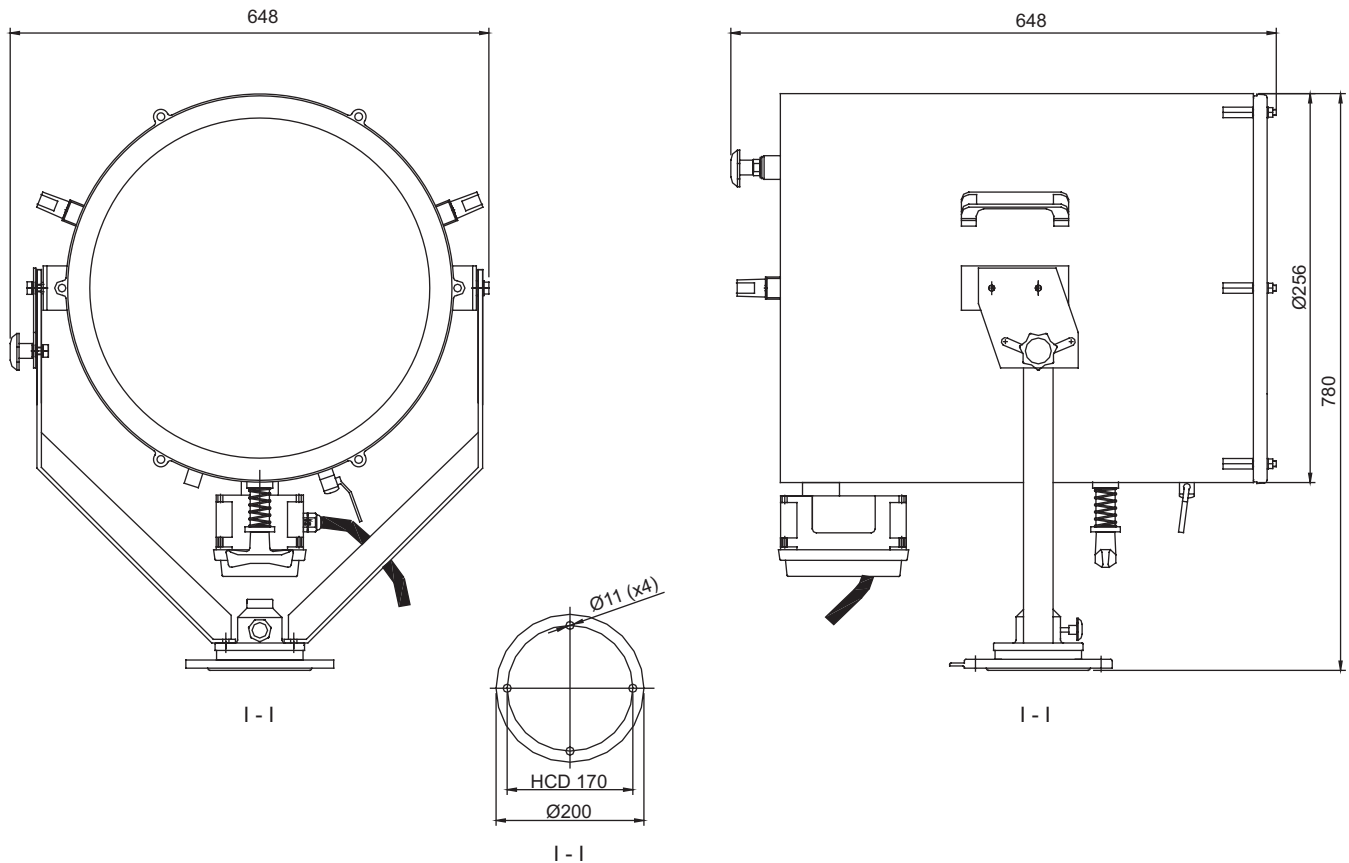
MX D - BS - BH

Searchlight Xenon for smaller vessels
Direct and Bridge Operated

IP67 | CE | ♻ | 12 V / 24 V

- Built for marine environment, IP67
- Front ring with snap coupling simplifying
- Water and gas-tight drum with ventilation and safety valve

Specifications

The «micro xenon» searchlights MX 35 D, MX 35 BS and MX 35 BH are intended for smaller tonnage, e.g. fishing boats, tugs and work boats, or as a «backup» searchlight powered by the ship battery system.
The unique 35W micro xenon light source ensure extreme light output at a very low effect. All the components are chosen to withstand corrosion. The searchlights are designed for use in extreme marine environments and require a minimum of maintenance. Benefitting from low weight and simple mounting, these searchlights are designed to operate across a wide temperature range

Light source
Lamp DL-35W white d2s hella, lamp included

Mounting
D (Direct operated), BS (Bridge Short) and BH (Bridge High)

Options
Adjustable beam, hardened front glass and durable silver-plated glass reflector specially designed for xenon bulbs

Features
- Hardened front glass
- High quality silver-plated glass mirror
- Front ring and snap coupling of stainless steel
- Narrow or wide beam
- 1lux at 726 m (Narrow beam) or 335 m (Wide beam)
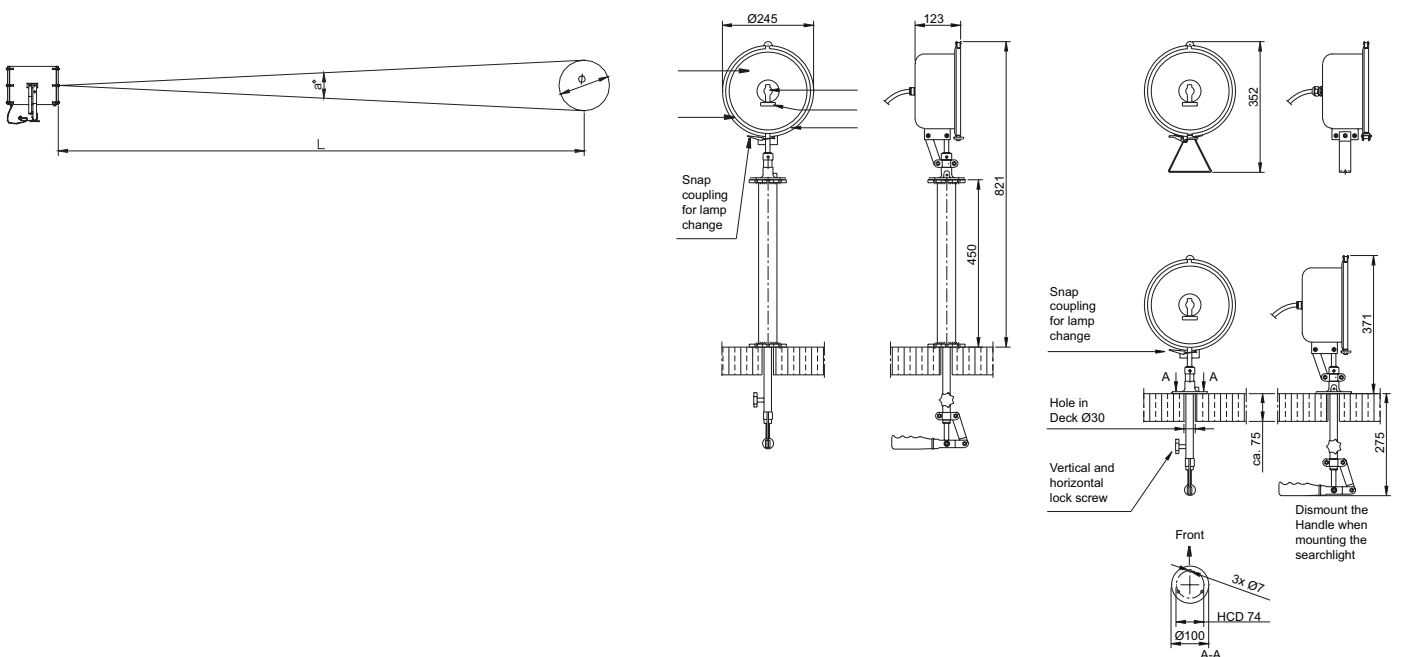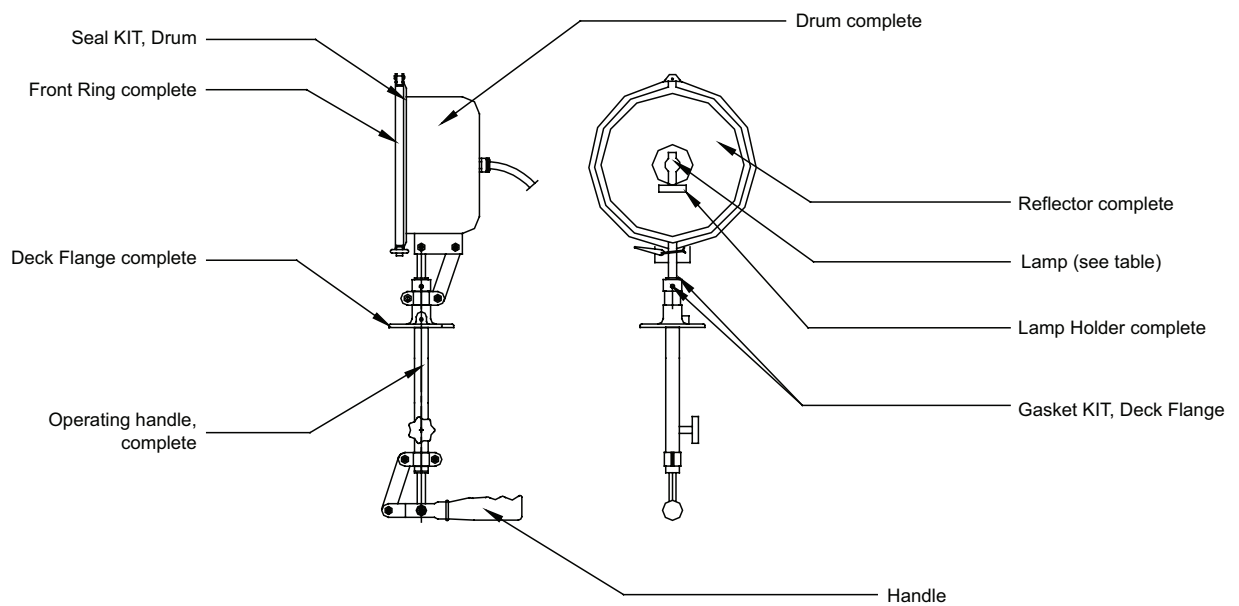- Low power consumption, only 35Watt

D	BS	BH
Direct operated	Bridge Short	Bridge High

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 12V	Part-No. 24V	L (m) *	Dia Ø (m)	Angel a°	Weight kg	Lamp Code	Base Code
MX 35 DS NB	10030420	10030525	726	38	3°	3.5	1009369	D2S
MX 35 DS WB	10030425	10030520	335	240	20°	3.5	1009369	D2S
MX 35 BS NB	10030550	10030530	726	38	3°	5.0	1009369	D2S
MX 35 BS WB	10030555	10030540	335	240	20°	5.0	1009369	D2S
MX 35 BH NB	10030535	10030435	726	38	3°	8.1	1009369	D2S
MX 35 BH WB	10030533	10030430	335	240	20°	8.1	1009369	D2S

* Theoretical estemated range at 1 lux.

Spare Parts/ Accessories

Seal KIT, Drum

Front Ring complete

Drum complete

Reflector complete

Lamp (see table)

Deck Flange complete

Lamp Holder complete

Operating handle, complete

Gasket KIT, Deck Flange

Handle

Ø245

123

352

821

450

371

275

Snap coupling for lamp change

Snap coupling for lamp change

Hole in Deck Ø30

Vertical and horizontal lock screw

ca. 75

Dismount the Handle when mounting the searchlight

Front

3x Ø7

HCD 74

Ø100

A-A

L

XS D - DH
Searchlight Xenon Direct Operated

IP 56 | Ta -50° | 115 V / 230 V | CE | ♻

- Designed to meet applicable marine requirements
- Heat-resistant, silicone rubber front ring gasket
- Seawater-resistant aluminium housing finished with white polyester coating

Specifications
Xenon searchlights XS 500, XS 1000, XS 1600, XS 2000 and XS 3000 are 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. Power supply unit and main control panel is included

Light source
500, 1000, 1600, 2000 or 3000W Xenon lamp included. Through a unique colour distribution, the Xenon lamp rapidly detects ice and illuminates surface objects. Its beam range is about 4 times that of a Halogen light

Mounting
D (Direct Operated) or DH (Direct Operated High) with pedestal for high mounting

Optics
Durable silver plated glass reflector and hardened front glass. NIRH version with Nickle Rhodium reflector for maximum light output. Remote controlled light distribution (wide or narrow beam)

Options
Spread filter
Morse shutter
Pedestal for high mounting

Power supplies, see page Power Supply

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg**	Lamp Code	Base Code
XS 500 D	100221720	100201720	620	410	515	515	4600	161	2 - 7°	19.0	1009211	NLX 5
XS 500 DH	100221725	100201725	620	410	515	515	4600	161	2 - 7°	34.0	1009211	NLX 5
XS 1000D	100220020	100200020	660	425	675	570	6400	223	2 - 7°	24.0	1009207	NLX 10
XS 1000 DH	100220025	100200025	660	425	675	570	6400	223	2 - 7°	39.0	1009207	NLX 10
XS 1600 D	100220520	100200520	660	425	675	570	7200	377	3 - 8°	24.0	1009209	NLX 16
XS 1600 DH	100220525	100200525	660	425	675	570	7200	377	3 - 8°	39.0	1009209	NLX 16
XS 2000 D	On request	100200620	750	525	730	670	9600	321	2 - 7°	36.0	1009210	NLX 20
XS 3000 D	On request	100201120	750	525	730	670	12500	603	3 - 8°	39.0	1009213	NLX 30
XS 3000 D NIRH	On request	100209119	750	525	730	670	14000	N/A	N/A	39.0	1009370	NLX 3H

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.   ** Weight excl. power supply.

Spare Parts/ Accessories

POS	Spare parts Xenon D DH
1	Front Ring, Complete
2	Lamp Xenon
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, Xenon
12	Heat Element Drum
13	Ignitor,
14	Noise filter kit, Complete
20	Deck Flange, Complete
24	Junction BOX
25	Gasket KIT, Deck Flange

XS B - BS - BH
Searchlight Xenon Bridge Operated

[IP 56] [Ta -40°] [115 V / 230 V] [CE] [♻]

- Designed to meet applicable marine requirements. Heat-resistant, silicone rubber front ring gasket
- Seawater-resistant aluminium housing finished with white polyester coating
- Thermostatic controlled heating in drum for optimal working conditions

Specifications
Xenon searchlights XS 500, XS 1000, XS 1600 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. Control panel and power supply unit included

Light source
500, 1000 or 1600W Xenon lamp included. Through a unique colour distribution, the Xenon lamp rapidly detects ice and illuminates surface objects. Its beam range is about 4 times that of a Halogen light

Mounting
BS (Bridge Operated Short) or BH (Bridge Operated High) with pedestal for high mounting. Power supply included

Optics
Durable silver plated glass reflector and hardened front glass. Remote controlled light distribution (wide or narrow beam)

Options
Morse shutter
Spread filter
Pedestal for high mounting

XS BH

Power supplies, see page Power Supply

More variants are available on request. Complete assortment on www.glamox.com/gmo

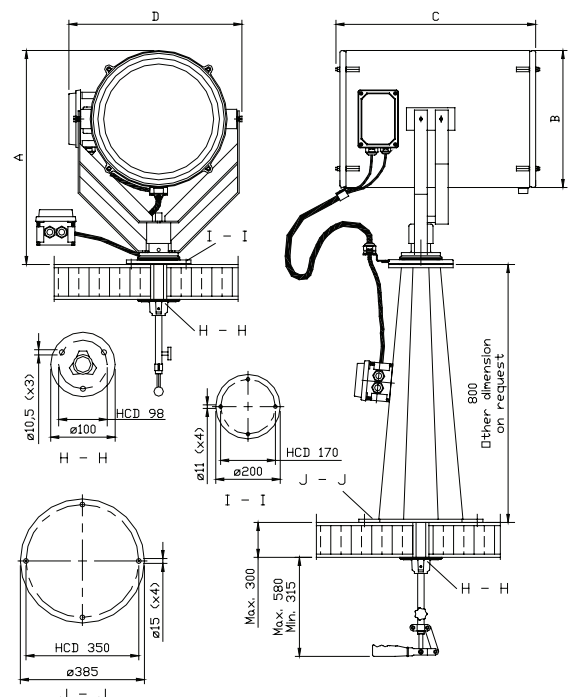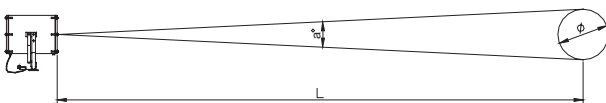| Product	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg**	Lamp Code	Base Code
XS 500 B	100221800	100201800	620	410	470	470	4600	161	2 - 7°	19.0	1009211	NLX 5
XS 500 BS	100221830	100201830										
XS 500 BH	100221835	100201835	620	410	470	470	4600	161	2 - 7°	34.0	1009211	NLX 5
XS 1000 B	100220100	100200100	660	425	610	515	6400	223	2 - 7°	24.0	1009207	NLX 10
XS 1000 BS	100220130	100200130										
XS 1000 BH	100220135	100200135	660	425	610	515	6400	223	2 - 7°	39.0	1009207	NLX 10
XS 1600 B	On request	100200200	660	425	610	515	7200	377	3 - 8°	24.0	1009209	NLX 16
XS 1600 BS	On request	100200230										
XS 1600 BH	On request	100200235	660	425	610	515	7200	377	3 - 8°	39.0	1009209	NLX 16

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.   ** Weight excl. power supply

Spare Parts/ Accessories
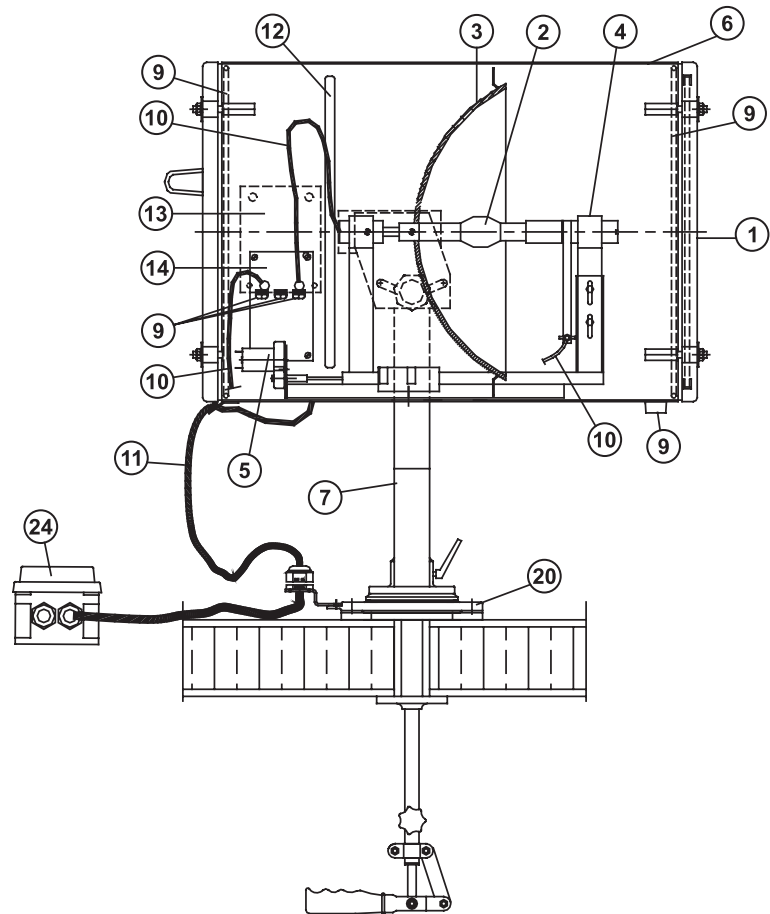
POS	Spare parts Xenon B - BS - BH
1	Front Ring, Complete
2	Lamp Xenon
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, Xenon
12	Heat Element Drum
13	Ignitor,
14	Noise filter kit, Complete
20	Deck Flange, Complete
24	Junction BOX. Complete
25	Gasket KIT, Deck Flange

XS R10
Searchlight Xenon Remote Controlled

IP 56 | Ta -40° | 115 V / 230 V | CE | ♻

- Designed to meet applicable marine requirements. Heat-resistant, silicone rubber front ring gasket
- Seawater-resistant aluminium housing finished with white polyester coating
- Thermostatic controlled heating in drum for optimal working conditions

Specifications

Xenon searchlights XS 500, XS 1000, XS 1600, XS 2000 and XS 3000 are suitable for all kinds 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. Seawater-resistant aluminium housing finished with white polyester coating. Stainless steel forks and fittings. Benefitting from low weight and simple mounting, these searchlights are designed to operate across a wide range of temperatures. Power supply unit and main control panel included

Light source

500, 1000, 1600, 2000 or 3000W Xenon lamp included. The colour distribution of the Xenon lamp makes it especially applicable for detection of ice and illuminates surface objects, as well as having a range 4 times higher than that of a Halogen light

Mounting

To deck/base

Optics

Durable silver plated glass reflector. NIRH version with Nickle Rhodium reflector for maximum light output. Remote controlled light distribution (stepless wide or narrow beam).

Options

Slave panel
Pedestal for high mounting
Wireless control
Spread filter

Power supplies, see page Power Supply

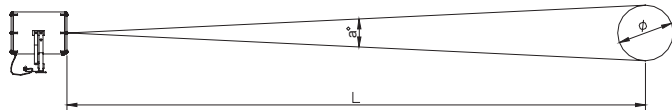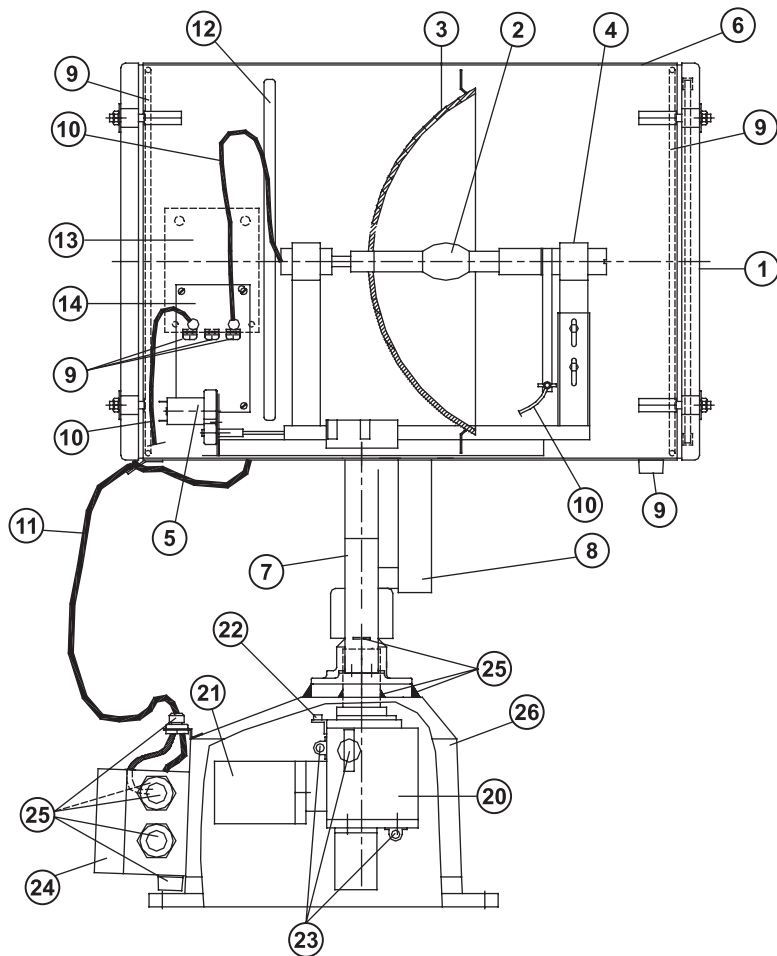More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg**	Lamp Code	Base Code
XS 500 R10	On request	100201640	890	380	470	470	4600	161	2 - 7°	42.0	1009211	NLX 5
XS 1000 R10	On request	100201340	930	425	610	515	6400	223	2 - 7°	47.0	1009207	NLX 10
XS 1600 R10	On request	100201440	930	425	610	515	7200	377	3 - 8°	47.0	1009209	NLX 16
XS 2000 R10	On request	100201540	1020	525	685	615	9600	321	2 - 7°	59.0	1009210	NLX 20
XS 3000 R10	On request	100201240	1020	525	685	615	12500	603	3 - 8°	61.0	1009213	NLX 30
XS 3000 R10 NIRH	On request	100209540	1020	525	685	615	14000	N/A	N/A	61.0	1009370	NLX 3H

Messurement A, B, C and D in mm.   * Theoretical estemated range at 1 lux.   ** Weight excl. power supply.

Spare Parts/ Accessories

POS	Spare parts Xenon R10
1	Front Ring, Complete
2	Lamp Xenon
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, Xenon
12	Heat Element Drum
13	Ignitor,
14	Noise filter kit, Complete
20	Gear, Complete
21	Motor Vert
21	Motor Hor
22	Micro switch gear, Complete
23	Heat Element Gear
24	Junction BOX. Complete
25	Seal KIT, Motorhouse
26	Motorhouse, complete

XS R50 BUS
Searchlight Xenon Remote Controlled BUS

IP56 | Ta -40° | 115 V / 230 V | CE | ♻

- Meets applicable marine requirements
- Is designed for Arctic environments with temperatures down to -40°C
- Thermostatic controlled heating in motor and drum for optimal working conditions

Specifications
Xenon searchlights XS 500, XS 1000, XS 1600, XS 2000 and XS 3000 are suitable for all kinds of ships. The control system is based on TCP/IP technology were 9 different units of Xenon or Halogen searchlights can by connected to the same network through Ethernet cat 5 cables. There are several options of control panels both hard wired and wireless, which are fitted to standard solution.
All the components are chosen to withstand corrosion. The searchlights are designed for use in extreme marine environments and require a minimum of maintenance. Seawater-resistant aluminium housing finished with white polyester coating. Stainless steel forks and fittings. Benefiting from low weight and simple mounting, these searchlights are designed to operate across a wide range of temperatures

Light source
500, 1000, 1600, 2000 or 3000W Xenon lamp included. The colour distribution of the Xenon lamp makes it especially applicable for detection of ice and illuminates surface objects, as well as having a range 4 times longer than that of a Halogen light

Mounting
To deck/base. Control panel, switch, spare lamp and power supply to be ordered separately.

Optics
Durable silver plated glass reflector. NIRH version with Nickle Thodium reflector for maximum light output. Remote controlled light distribution (stepless wide or narrow beam)

Options
Panel Slave SCS
Panel Wireless Radio SCS BUS
PC Software SCS
Pedestal for high mounting
Spread filter
Rectifier

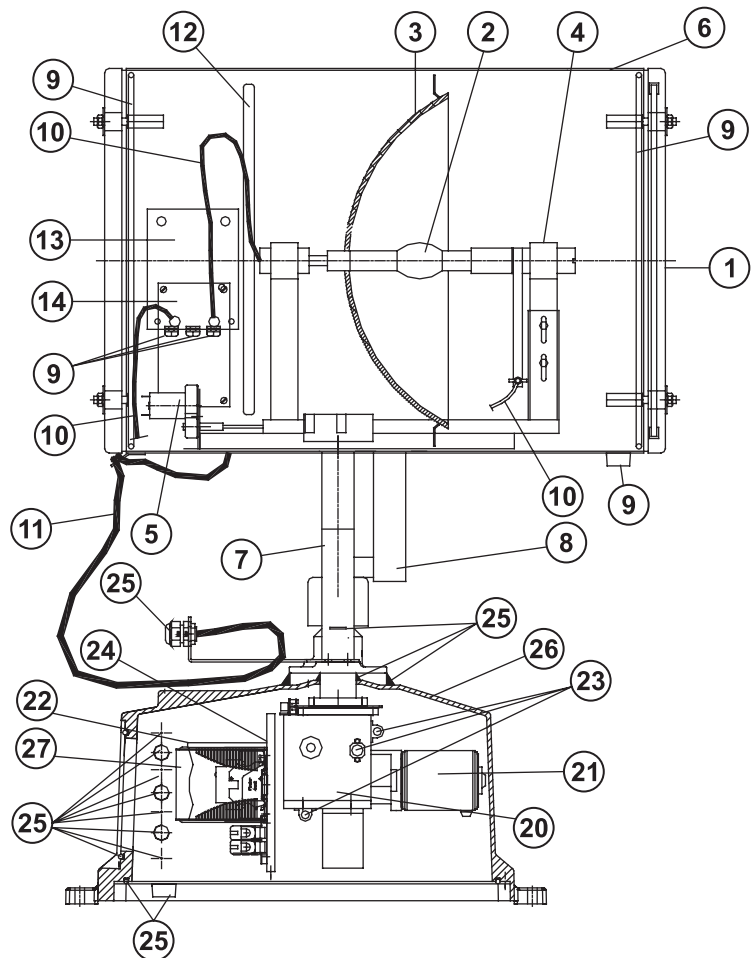Power supplies, see page Power Supply
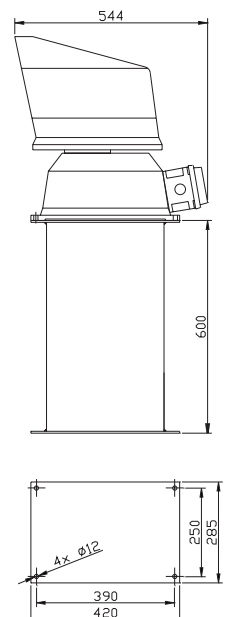
More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m)*	Dia Ø (m)	Angel a°	Weight kg**	Lamp Code	Base Code
XS 500 R50 BUS	On request	200201638	890	410	470	470	4600	161	2 - 7°	46.5	1009211	NLX 5
XS 1000 R50 BUS	200221338	200201338	930	425	610	515	6400	223	2 - 7°	49.5	1009207	NLX 10
XS 1600 R50 BUS	200221438	200201438	930	425	610	515	7200	377	3 - 8°	51.5	1009209	NLX 16
XS 2000 R50 BUS	On request	200201538	1020	525	685	615	9600	321	2 - 7°	61.5	1009210	NLX 20
XS 3000 R50 BUS	On request	200201238	1020	525	685	615	12500	603	3 - 8°	64.5	1009213	NLX 30
XS 3000 R50 BUS NIRH	On request	200209538	1020	525	685	615	14000	N/A	N/A	64.5	1009370	NLX 3H

Messurement A, B, C and D in mm. * Theoretical estemated range at 1 lux. ** Weight excl. power supply.
NOT INCLUDED: Control panels, switches and cables. See "Equipment for R50 searchlight control system".

Spare Parts/ Accessories

POS	Spare parts Xenon R50
1	Front Ring, Complete
2	Lamp Xenon
3	Reflector, Complete
4	Lamp Holder, Complete w/focus
5	Focus unit Xenon, Complete
6	Drum, Complete
7	Forks
8	Manouver Fork
9	Seal KIT, Drum
10	Cable kit, Drum
11	Cable, external, Xenon
12	Heat Element Drum
13	Ignitor,
14	Noise filter kit, Complete
20	Gear, Complete
21	Motor Vert
21	Motor Hor
22	MDC, Complete
23	Heat Element Gear
24	Powermodule R50, Complete
25	Seal KIT, Motorhouse
26	Motorhouse, Complete
27	Power supply, motor house

XR R20

Searchlight Xenon Remote Controlled for fast-running vessel

IP 56 | Ta -50° | 115 V / 230 V | CE | ♻

- Designed to meet applicable marine requirements
- Low weight and compact design
- Applicable to sub-zero temperatures of -50°C

Specifications

XR 150 and XS 500 are very well suited for high speed vessels, tug boats, pilot vessels and luxury yachts, due to the clean compact design and low weight. All the components are chosen to withstand corrosion. The searchlights are designed for use in extreme marine environments and require a minimum of maintenance. Seawater-resistant aluminium housing finished with whitepolyester coating. Benefitting from low weight and simple mounting, these searchlights are designed to operate across a wide range of temperatures. Integrated power supply on XR 150 R20. Control panel and power supply unit included

Light source

150 or 500W Xenon lamp included. The colour distribution of the Xenon lamp makes it especially applicable for detection of ice, as well as having a range 4 times higher than that of a Halogen light

Mounting

To deck/base. Integrated power supply for XR 150
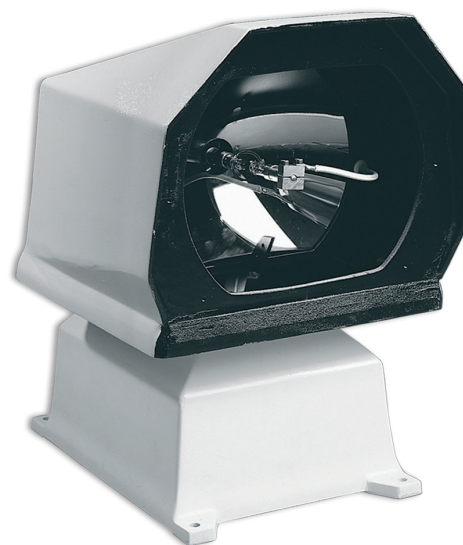
Optics

Durable silver plated glass reflector. Remote controlled light distribution (wide or narrow beam)

Options

Pedestal for high mounting
Slave panel
Radio control

Power supplies, see page Power Supply

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 115V	Part-No. 230V	A	B	C	D	L (m) *	Dia Ø (m)	Angel a°	Weight kg **	Lamp Code	Base Code
XR 150 R20 150W	100201950	100202050	521	320	544	375	3000	105	2 - 7°	25.0	1009212	NL X1.5
XR 500 R20 500W	100204050	100203050	521	320	544	375	4000	140	2 - 7°	25.0	1009211	NL X5

Messurement A, B, C and D in mm. * Theoretical estemated range W/1 lux. ** Weight excl. power supply.

Spare Parts/ Accessories

Front glass

Reflector Complete

Focus unit Complete

Lamp (See Table)

Lamp Holder Complete

Vertical motor

Power supply (for 150W)

Belt, Transmission

Heating element and thermostat

Horizontal motor

Seal KIT, Motor house

Junction BOX, Complete
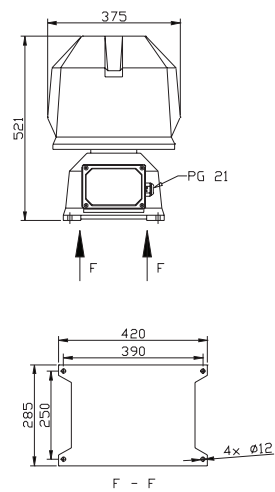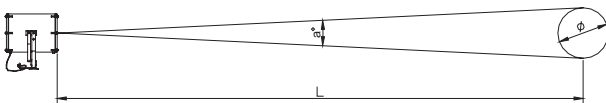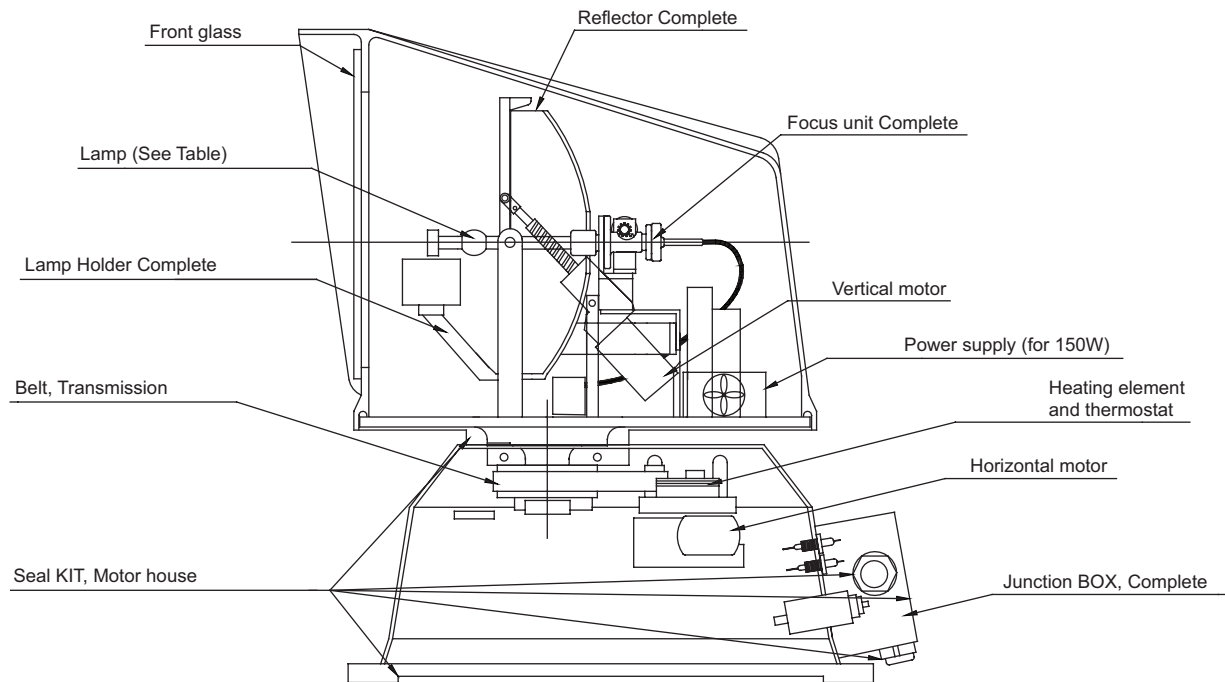
DM 60
Daylight signalling light

- Sliding shutter mechanism
- Integrated sighting tube with aiming device and rubber eyepiece
- Signalling range 14 km (8 miles)

Application
In accordance with SOLAS and the relevant national authorities.
All passenger vessels exceeding 12m and vessels of at least 150 tons must carry a type approved portable daylight signalling lamp. Transmission rate max 12 words/min

Housing
Housing in seawater resistant aluminium. IP56

Electric
Battery capacity 6 hours signalling, and 1,5 hours continuous use

Finish
White polyester coating

Pane
Safety glass

Reflector
Highly polished aluminium reflector with front glass of toughened soda lime quality

Light source
P30D/60W (12/24V)

Mounting
DM 60 is as standard supplied with:
Storage box, red and green filters, 60W bulbs, battery and charger

Termination
5m self curling extendable cable

Options
3 pin socket
3 pin socket in WT box
Portable transformer

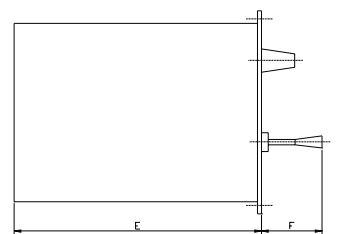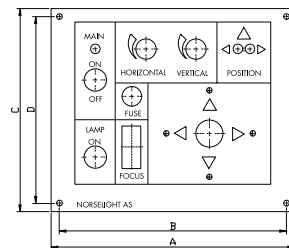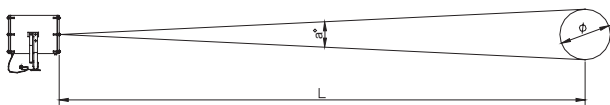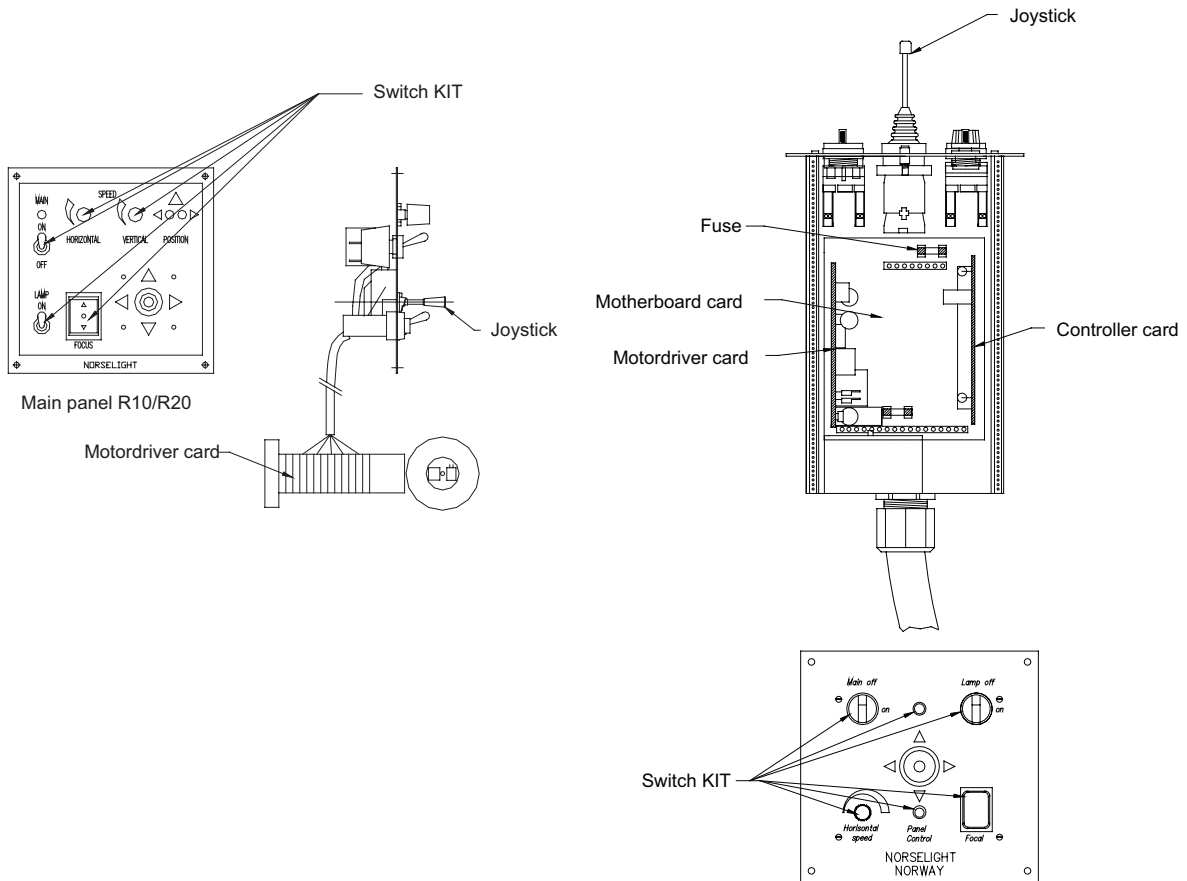More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 12V	Part-No. 24V	Part-No. 110-230V/12V	Part-No. 110-230V/24V	Weight kg	Lamp Code
DM60/FSP127	1806000*	1806001*	1805998	1805999	2,2	P30D
DM60/FSP127 W.10M CABEL			1805993	1805994	2,2	P30D

* Hand held unit only.

Accessories	Part-No.
LAMP FOR DM 60 24V 60W P30D	1009463
BATTERY 12V 7.2AH DM60	1009483
SOCKET 3-PIN 3A	1009492
LAMP 12V 60W DM60 P30D	1009542
ELECTRICAL PLUG	1009582
BATTERY CHARGER 12V #9940	1009583
SOCKET 3-PIN IN W.T. BOX	1009591
FILTER DM 60 GREEN	1009593
REDUCTION SCREEN	1009594
FILTER BLUE ASSY FHS5 C09901-1	1009595
STORAGE BOX FOR DM 60	1009596
BATTERY CHARGER 24 VOLT #9940	1009598

Top view - storage box without cover

1.5 m

Charger

Battery

Accessories

272 (with cover)
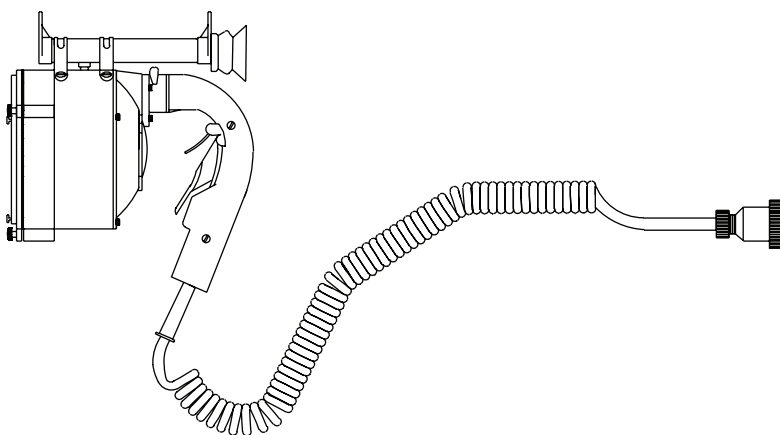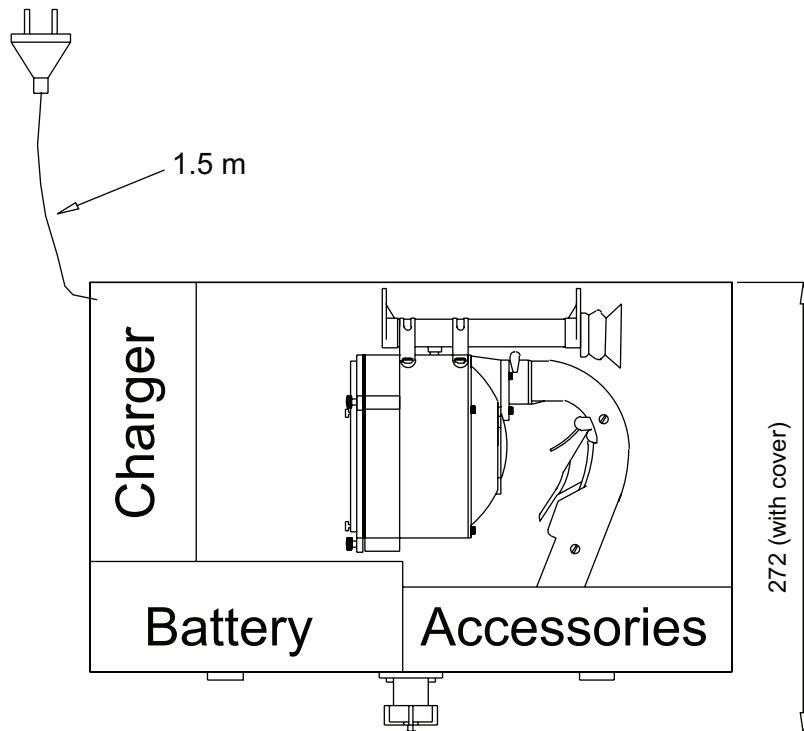
Front view - storage box

385 x 240

40

261
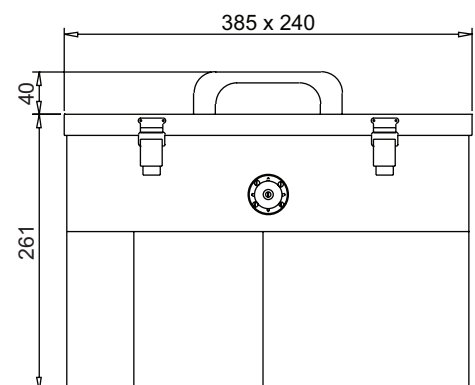
Control Panel

Control Panel for R10/R20/RS2 Halogen and Xenon Searchlights

IP 22 | 24 V / 115 V / 230 V | CE

- The control panels are intended for flush mounting
- Glare free panel front with engraved text
- Simple operation with joy-stick

Specifications

R10/R20 control panel and slave panel for remote control of searchlights with R10 or R20 motor unit

R10/R20 is a modern, lightweight and compact remote control unit which require minimum maintenance

RS2 control panel and slave panel for remote control of searchlights with RS2 motor unit

RS2 is a solid and powerful remote control system intended for large searchlights, and for searchlights which are located more than 100 meters away from the control panel.
- Stepless adjustment of horizontal/vertical speed on R10/R20
- Adjustment of horizontal movement on RS2

Options

Mounting in IP56 box
Slave panel

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 24V	Part-No. 115V	Part-No. 230V	Cutout WxHxD	Weight kg
PANEL R10 H	2009019	2009018	2009017	167x132x250	4.5
PANEL R10 HF	2009042	2009041	2009040	167x132x250	4.5
PANEL R20 HF	2009020	2009025	2009021	167x132x250	4.5
PANEL RS2 H		1009009	1009016	140x135x290	3.5
PANEL RS2 HF		1009076	1009058	140x135x290	3.5
PANEL R10 X		2009027	2009026	167x132x250	4.5
PANEL R20 X		2009023	XR150:2009021/ XR500:2009022	167x132x250	4.5
PANEL RS2 X		1009030	1009029	140x135x290	3.5
SLAVE R10-20 ONE SLAVE	1009035	1009035	1009035	100x135x290	0.6
SLAVE R10-20 2 OR MORE	1009039	1009039	1009039	100x135x290	0.6
SLAVE RS2 SLAVE NO.1		1009005	1009005	108x59x100	0.6
SLAVE RS2 SLAVE NO. 2-3		1009036	1009036	108x59x100	0.6

Spare Parts/ Accessories

Switch KIT

Main panel R10/R20

Motordriver card

Joystick

Joystick

Fuse

Motherboard card

Motordriver card

Controller card

Switch KIT
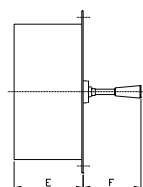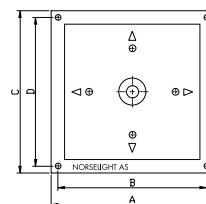
Equipment for R50 Searchlight Control System

- Connect up to nine searchlights on the same control panel
- The searchlight can be operated without the light being turned on
- Standard panel for XS, and SH searchlights

Specifications

Recessed control panel and slave panel for remote control of searchlights with R10 motor unit. The control system is based on TCP/IP technology were 1 to 9 different Operator Panel can control separately up to 9 searchlights of Xenon or Halogen. The system is connected to the same network through Ethernet cat 5 cables with RS485 connectors. Panel uses RJ45 connections routed to LAN switch to connect the panel(s) to a network of searchlights. There are several options of control panels both hard wired and wireless, which are fitted into a standard solution. LED's to indicate; Lamp ON/OFF, positioning, speed control and Searchlight number in use indicator

Mounting

Flush mounting to the Wheel House consol using power 24 VDC. Easy to add on slave panel. (plug and play)

Operation

The Panel is a modern, lightweight and compact remote control unit which require minimum/easy maintenance. Functions:
Joystick control
Searchlight selection
Step less adjustment of horizontal vertical speed
Focus adjustment
Lamp ON/OFF
Backlight dimmer
Position indicator
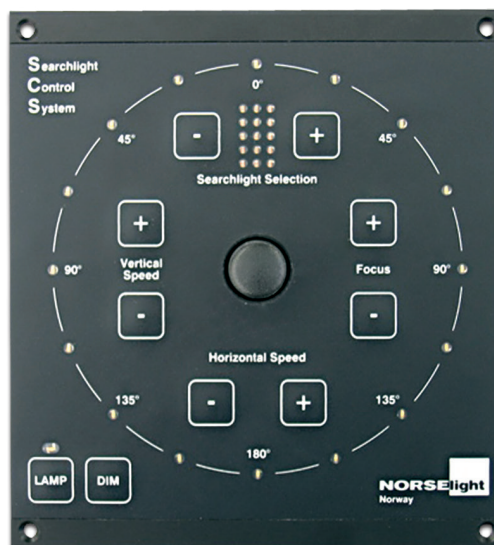
Slave Panel with Joystick   Easy Plug & Play

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No.
PANEL MAIN R50	3009001
PANEL SLAVE R50	3009002
PANEL WIRELESS R50	3009003
SWITCH R50 LAN	3009004
ANTENNA WIRELESS R50 SINGEL	3009005
ANTENNA WIRELESS R50 TWIN	3009006
SWITCH R50 LAN/FIBER	3009008
POWER CONVERTER 100-240/24V	3009009
PANEL PC R50	3009010
CONNECTOR RJ45 FOR LAN CABLE	3009011
CABLE FIBRE OPTIC, IN METER	3009012
TERMINATION FIBRE OPTIC CABLE	3009013
CABLE-Y R50 MAIN-SLAVE	3009014
BATTERY CHARGER R50 WOP	3009016
BATTERY PACK R50 WOP HR-3U	3009017
CONNECTOR FOR 8 CORE LAN CABLE	3009018
TERMINATION TOOL FOR LAN CABLE	3009019
PEDESTAL R50 BUS 60CM	200900500

24VDC

ID 21
OP 1
IP 192.168.001.021
Slaves 2

ID 22
OP 2
IP 192.168.001.022
Slaves 0

ID 56
PC OP
IP 192.168.001.050

Access
Point

24 VDC

24 VDC

ID 1
IP 192.168.001.011
200106938 SH 310 R50 230VAC 1000W BUS

230VAC

ID 2
IP 192.168.001.012
200106938 SH 310 R50 230VAC 1000W BUS

230VAC

ID 3
IP 192.168.001.013
200201338 XS 1000 R50 230VAC BUS
1009156 PWR SUPPL 230V 1KW P-X50C N

230VAC   230VAC

ID 4
IP 192.168.001.014
200201338 XS 1000 R50 230VAC BUS
1009156 PWR SUPPL 230V 1KW P-X50C N

230VAC   230VAC

ID 66
WOP 1
IP 192.168.001.066

Offer/order number: GMO catalogue Date: 03.06.2009 Initials: mhk Version: 03

2 - 200201338 XS 1000 R50 230VAC BUS
2 - 200106938 SH 310 R50 230VAC 1000W BUS
2 - 1009156 PWR SUPPL 230V 1KW P-X50C N
2 - 3009001 PANEL MAIN SCS BUS
2 - 3009002 PANEL SLAVE SCS BUS
1 - 3009003 PANEL WIRELESS SCS BUS
1 - 3009005 WIRELESS AP RECEIVER 2,4GHz
1 - 3009010 PANEL PC SCS BUS
2 - 3009004 SWITCH BUS

210   95   117   46

M3 x4

130x130
Depth: 50 mm

M3 x4

76x76
Depth: 40 mm

280   228   72

147
135
148
160

96
86
86
96

Access point

POWER SUPPLY
Ballast unit for Xenon searchlights

IP 22   CE   115 V   230 V

- Protection class IP22
- ON/OFF switch
- Current adjustment switch

Applications

Xenon searchlights must be powered through a specially designed AC/DC Power supply unit.
The power supply unit should be installed indoor, near to the seachlight

500W compact   1600/2000W/3000

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No. 115V	Part-No. 230V	A	B	H	Weight kg
EX 30 500W	1009150	1009150	260	335	135	8.0
PX 50 1000W	1009155	1009156	245	595	273	63.0
N3-80 1600W	On request	1009160	350	410	840	101.0
N3-80 2000W	On request	1009160	350	410	840	101.0
N3-150 3000W, 50Hz	On request	1009167	410	460	940	154.0
N3-150 3000W, 60 Hz	On request	1009166	410	460	940	154.0
EX-100D/1 3000W	On request	1009165	440	395.5	132.5	18.0
PWR SUPPL. SHRI 1000W 50/60 HZ	On request	1009157				9.0

Messurement A, B and H in mm.

EX30

N3

PX50

380
354
190
164
4x ø6,5
160

Power Supply SHRI

Helideck
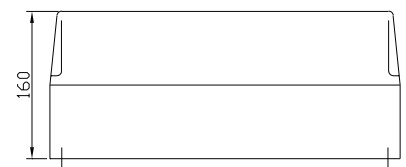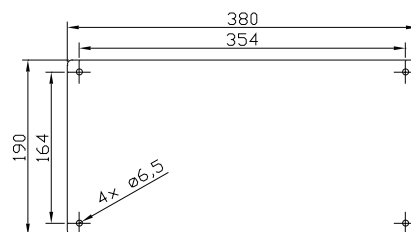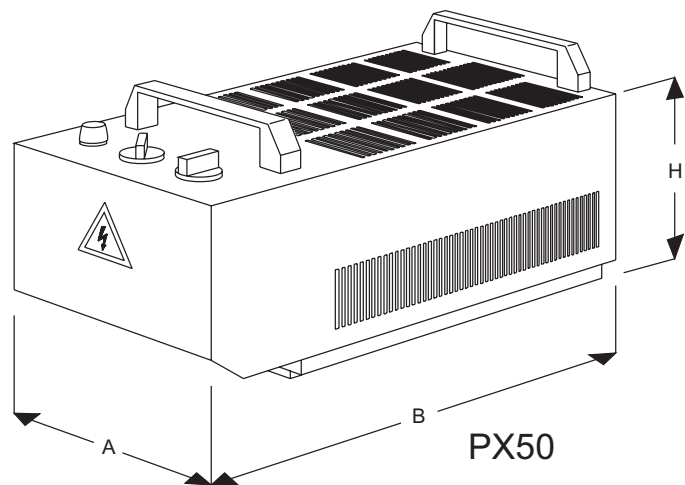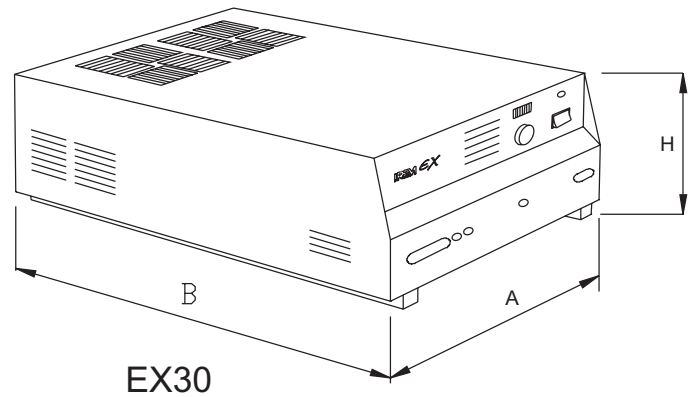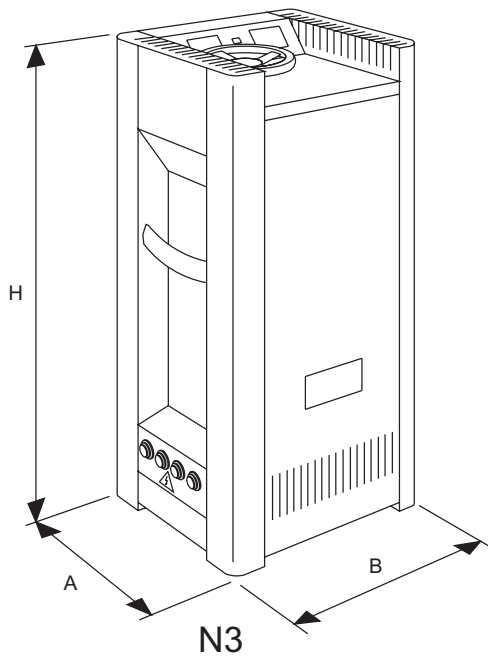
Special lighting and control unit
for helicopter landing platforms
according to ICAO Annex 14

LED

HL55-P S LED
Page 98

LED

HL55-P R LED
Page 100

LED

HL55-O S LED
10cd+32cd
Page 102

TL55-F S 135XX
Page 104

TL55-W S 118 T26
Page 106

TL55-W S 460 E27
Page 108

TL55-C
Page 110

HL55-P S LED
Perimeter Light surface

- Long lifetime = Low maintenance
- Slim design
- With dimming function

Application
Perimeter lights on helideck,
Green light, Safe areas

Approval
ICAO Annex 14 Vol II, CAP437

Housing
Seawater resistant aluminium

Finish
Anodized aluminium

Optic
PMMA

Reflector
Special LED optic

Cable entry
Available with 2 x M20 cable glands
(Perimeter Light on connection box) and
with M16 cable gland with 0.5 m cable
(Perimeter light with bracket)

Mounting
4 mounting holes Ø6.5; 106 mm x 82 mm
(Perimeter Light with connection box);
3 mounting holes Ø6.5; pitch circle Ø104
(Perimeter Light with bracket)

Power consumption
Max. 7W (depending on voltage/type)

Electric
Integrated fail safe function

We reserve the right to make technical changes without further notice

With bracket

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Description	Part-No.	Voltage	Weight kg	Lamp Code
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
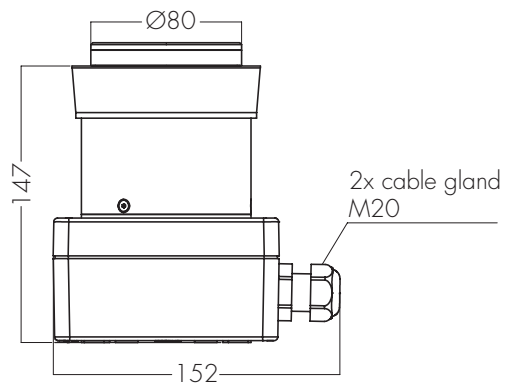
On connection box

With bracket

Ø6.5
(4x)

106

34

82

Ø100

Ø80

(93)

143

50

Breakout cable
7 lines

Ø80

147

2x cable gland
M20

152

159

122

120° (3x)

40

Ø104

Ø122

Ø6.5
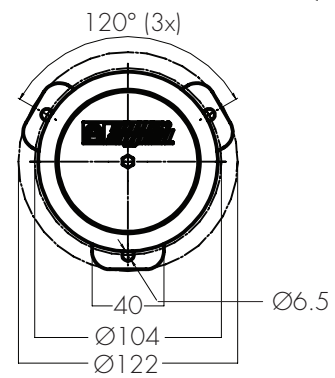
HL55-P R LED
Perimeter Light recessed

| IP 67 | Ta -40° | Ta 55°C | LED | 24V DC | 110V - 230V AC |

- Long lifetime = Low maintenance
- Slim design
- With dimming function

Application
Perimeter lights on helideck,
Green light, Safe areas

Approval
ICAO Annex 14 Vol II, CAP437

Housing
Seawater resistant aluminium

Finish
Anodized aluminium

Optic
PMMA

Reflector
Special LED optic

Cable entry
Available with M16 cable gland with
0.5 m cable

Power consumption
Max. 7W (depending of voltage)

Electric
Integrated fail safe function

Remarks
Different sizes available, also containers
designed to serve as airport light bases

We reserve the right to make technical changes without further notice
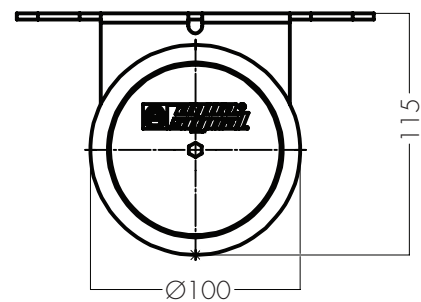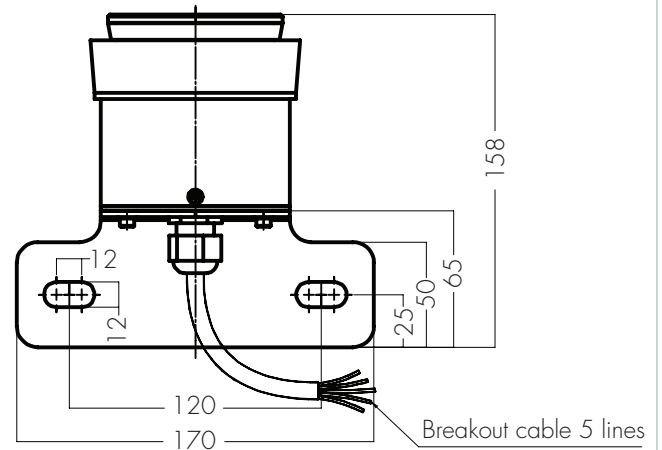
More variants are available on request. Complete assortment on www.glamox.com/gmo

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
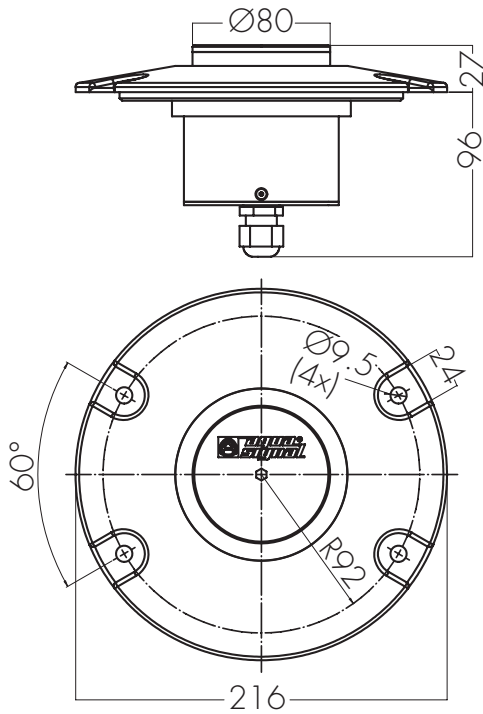
HL55-O S LED 10cd and 32cd
Obstacle Light 10cd + 32cd

IP 67 | Ta -40° | Ta 55°C | LED | 24V DC | 110V - 230V AC

- Long lifetime = Low maintenance
- Slim design

Application
Obstacle lighting Industrial and Aviation

Approval
ICAO Annex 14 Vol I Type A (10cd)
or B (32cd)
AVV (10cd)
Cap 168 approval pending

Housing
Seawater resistant aluminium

Finish
Anodized aluminium

We reserve the right to make technical changes without further notice

Optic
PMMA

Electric
Integrated fail safe function

Reflector
Special LED optic

Power consumption
Max. 5W (depending of type)

With wall
mounting bracket

Cable entry
Available with M16 cable gland with
0.5 m cable

Mounting (depends on type)
3 mounting holes Ø6.5; pitch circle Ø104
(horizontal bracket)
2 mounting holes Ø12; distance 120 mm
(vertical bracket)

More variants are available on request. Complete assortment on www.glamox.com/gmo

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

Obstacle Light
with horizontal bracket/
breakout cable 5 lines
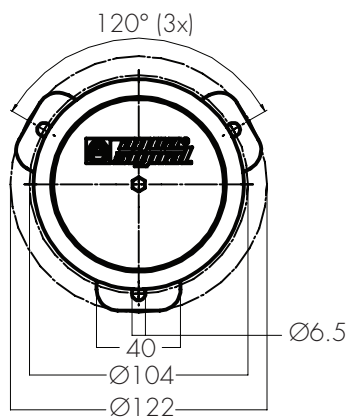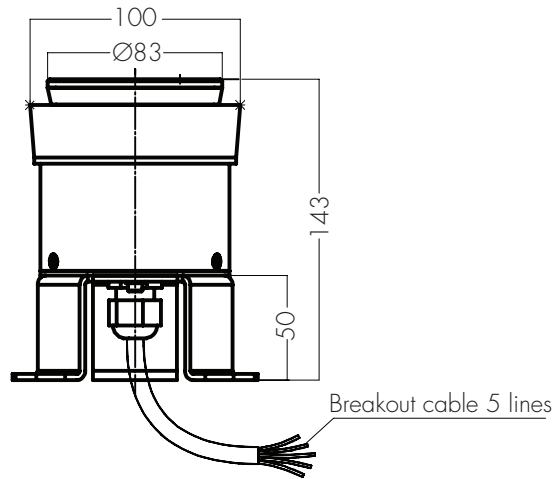
Obstacle Light
with vertical bracket/
breakout cable 5 lines

100

Ø83

143

50

Breakout cable 5 lines

158

12

12

65

50

25

120

170

Breakout cable 5 lines

120° (3x)

Ø6.5

40

Ø104

Ø122

115

Ø100

TL55-F S 135XX
Xenon Floodlight

| IP 67 | Ta -40° | Ta 55°C | 110V AC 230V AC |

- Instant ignition at all tempratures
- Slim design

Application
Floodlight for helideck,
landing area, safe area

Design
ICAO Annex 14 Vol II

Housing
Aluminium, sea water resistant

Finish
Anodized Aluminium

Electric
Connection box

Pane
Glas

Reflector
Special Xenon optic

Cable entry
M20

Mounting
Two brackets with two mounting holes
each Ø8.5 mm

We reserve the right to make technical changes without further notice

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No.	Voltage	Power	Weight kg
TL55-F S 135XX	3360001000	230V AC	P=51W	6.0
TL55-F S 135XX	3360001100	110V AC	P=51W	6.0

[6.79 ±0.08]
172.5 ±2

[4.86 ±0.08]
127,5 ±2

[22.36 ±0.20]
568 ±5

[11.02 ±0.04]
280 ±1

[0.33]
Ø8.5

[6.16 ±0.04]
156,5 ±1
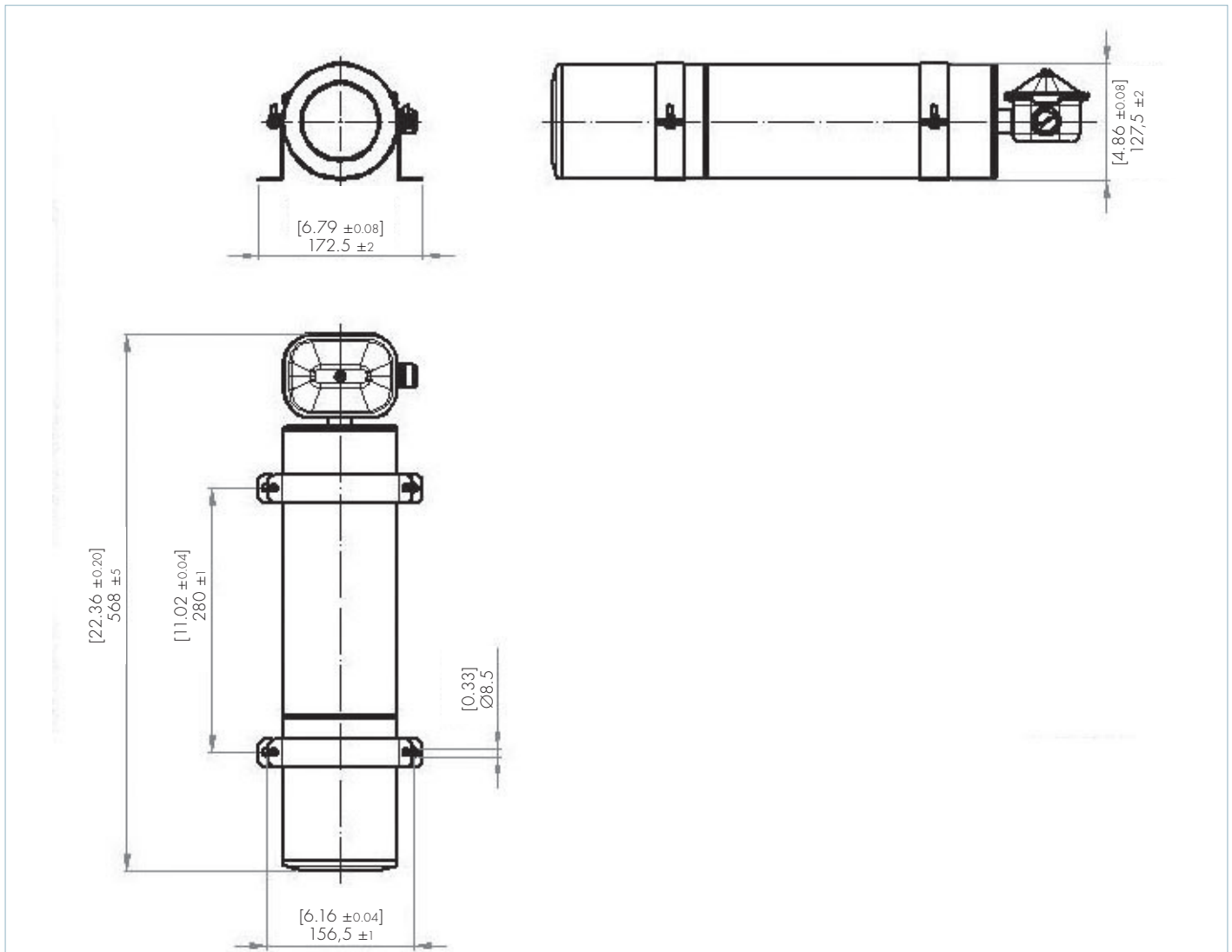
TL55-W S 118 T26
Wind Sock

IP 68 **Ta -20°** **Ta 40°C** **T26**

- Prepared for obstruction
  light HL55-O at top
- Cone as extra

Aplication
Windindicator for helicopter landing areas,
airports and bridges, for safe areas

Design
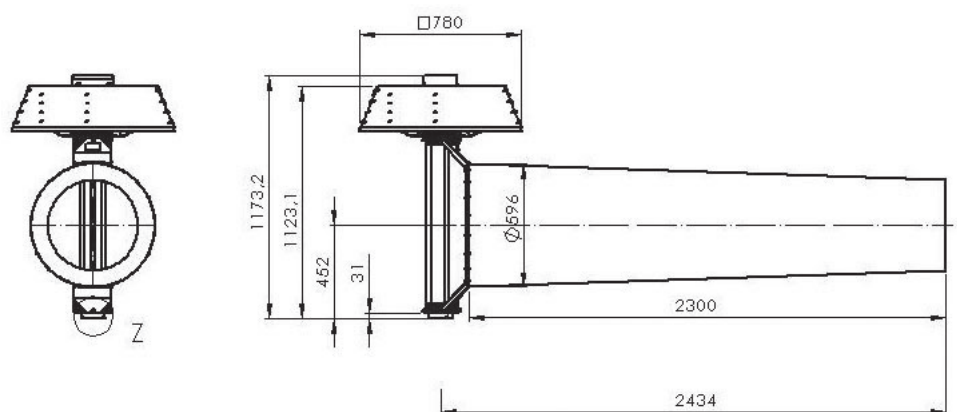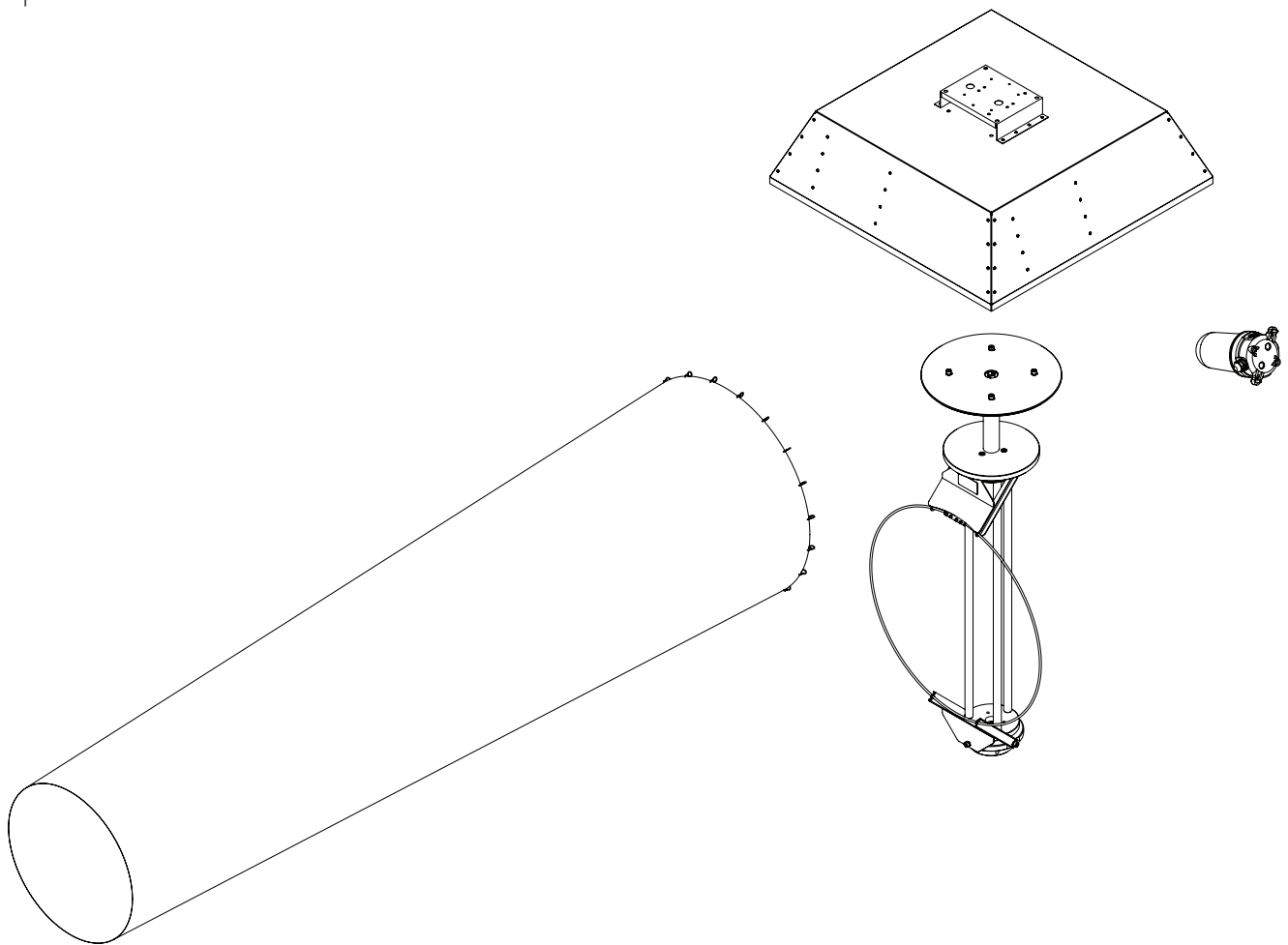ICAO Annex 14 Vol II

Housing
Stainless steel

Pane
PC

Reflector
Integrated in luminaire

Cable entry
M20

Mounting
Pool mounting
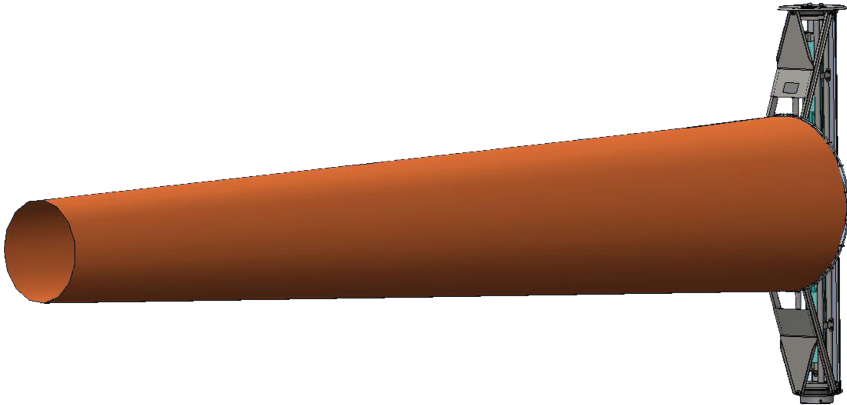
We reserve the right to make technical changes without further notice

More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No.	Voltage	Power	Cone mm	Weight kg	Lamp Code	Lamp Base
TL55-W S 118T26	1795003000	230V/50Hz	18W	Ø600x2300	30	T26	G13
TL55-W S 118T26	1795003002	230V/50Hz	18W	Ø300x1200	30	T26	G13

Explosion view
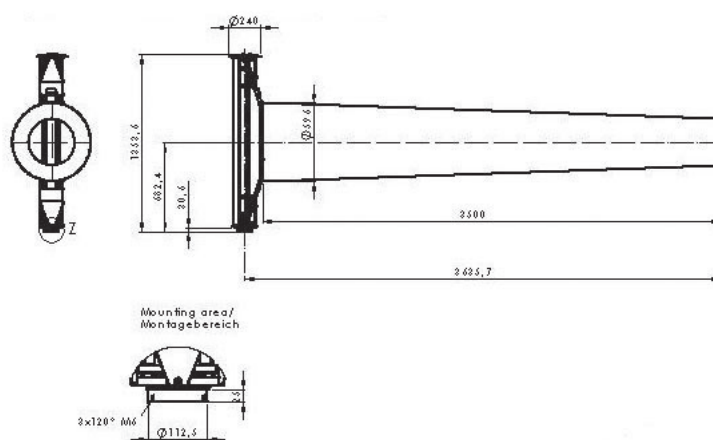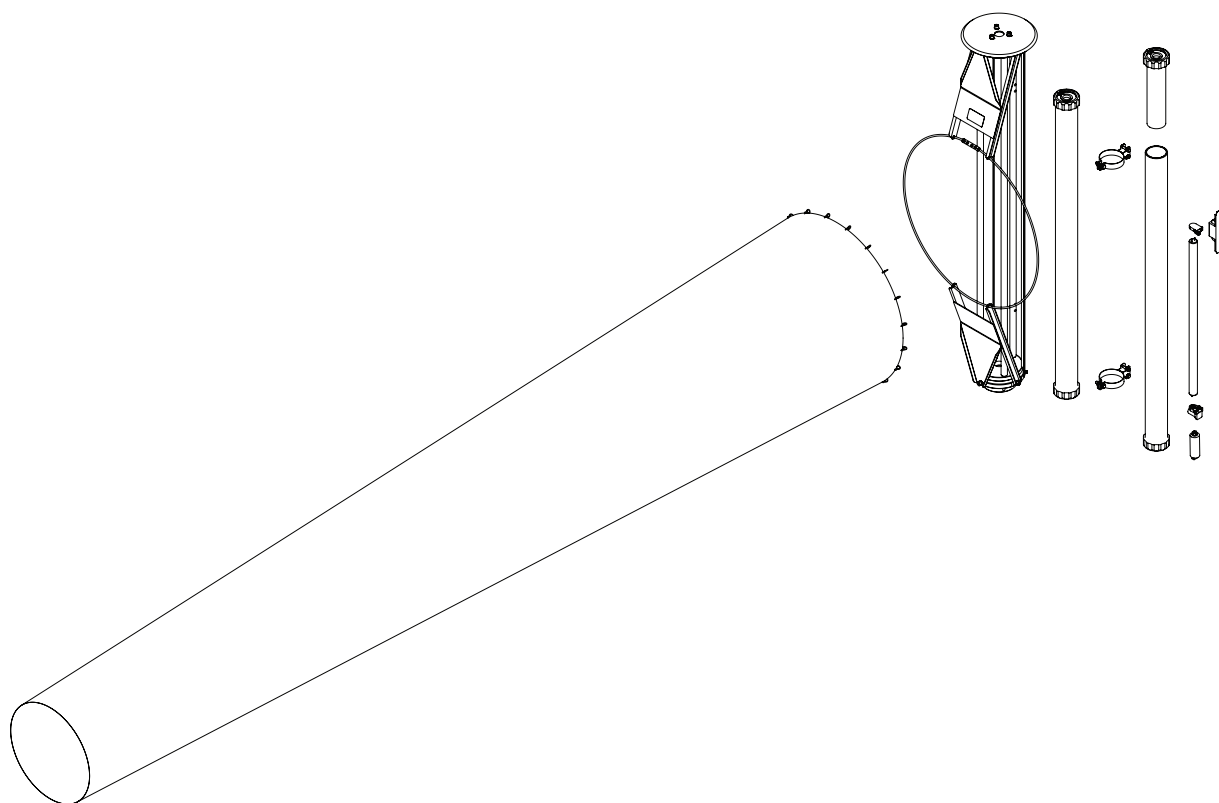
TL55-W S 460 E27
Wind Sock

IP 67 | E27 60 W

- Prepared for obstruction
  light HL55-O at top
- Cone as extra

Aplication
Windindicator for helicopter landing areas,
airports and bridges, for safe areas

Design
ICAO Annex 14 Vol II

Housing
Stainless steel

Pane
PC

Reflector
Not included

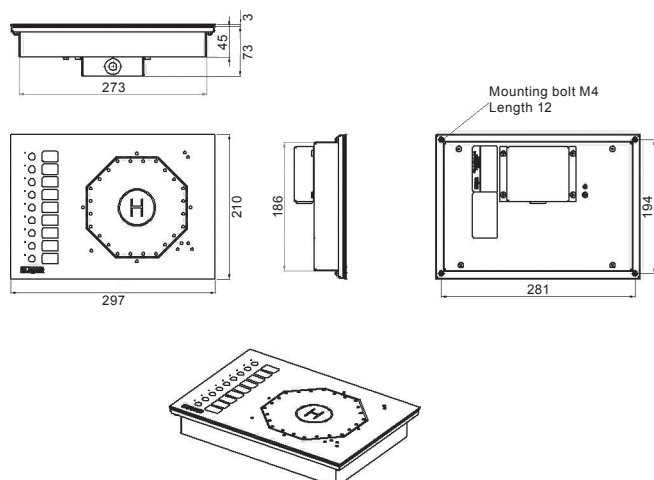**Cable entry**
M20

Mounting
Pool mounting
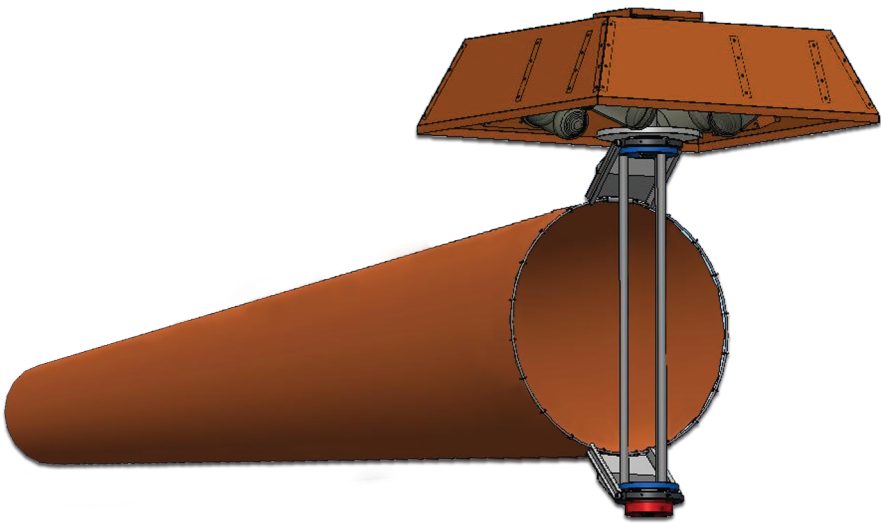
We reserve the right to make technical changes without further notice

More variants are available on request. Complete assortment on www.glamox.com/gmo.

Product	Part-No.	Power	Cone mm	Weight kg	Lamp Code	Lamp Base
TL55-W S 460E27	1795003001	4x60W	Ø600x2300	30		E27
TL55-W S 460E27	1795003003	4x60W	Ø300x1200	30		E27

Explosion view

□780

1173,2

1123,1

452

31

Ø596

2300

2434

Z

Mounting area

3x120° M6

Ø112,5

25

Control Panel

IP 20
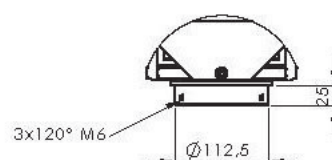
- Compact size
- With alarm system

We reserve the right to make technical changes without further notice

Controller consisting of

• Control - unit
(Switches with control function):

Frontplate consisting of aluminium plate with printed foil, standard colour black - other colours upon request. With coloured diodes which are illuminated when the respective light is switched on. With visual and acoustic alarms. With alarm acknowl- edgment

• Switch and monitoring unit:

On mounting plate which has to be ac- commodated in a stainless 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

Electric
24 VDC 230 VAC /115 VAC ± 10% - 50/60 Hz
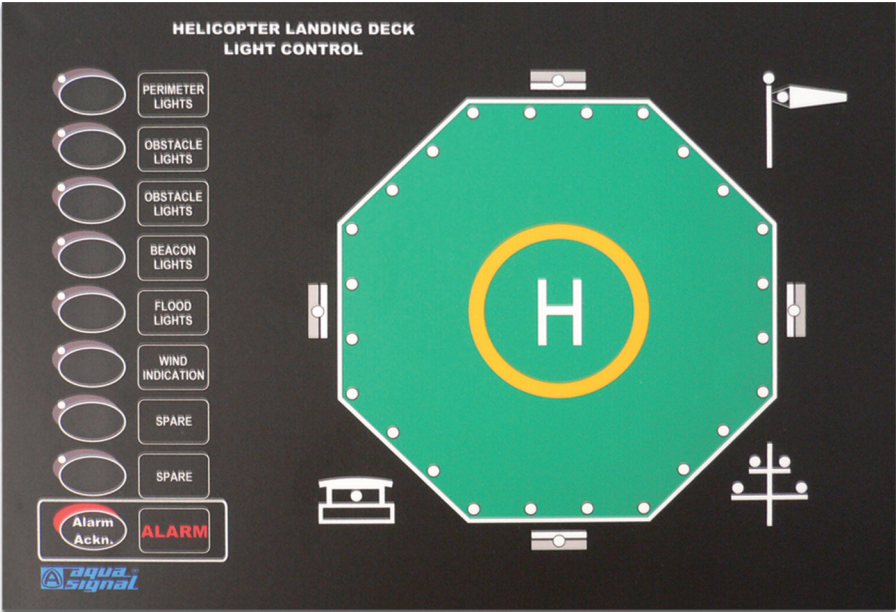
More variants are available on request. Complete assortment on www.glamox.com/gmo

Product	Part-No.	Measurements mm	Weight kg
TL55-C	3364001000	Frontplate: 214 x 301 Aperture: 188x 275 Depth: 80	1,3

Control unit

273

3
45
73

210

297

186

Mounting bolt M4
Length 12

194

281

Switch and monitoring unit

290

11

Ø12

345

380

100

Ø12

476

508

290

120

135

330

Maintenance
envelope

Maintenance envelope/
Montagebereich

Technical information

Electrical devices are to confirm norms and regulations approved by actual country. For common understanding, the norms today are agreed for more countries in the International Electro-technical Commission (IEC) which is a Division of the International Standard Organistation (ISO)

Light definitions
Page 114

IP 67
Protection degrees
Page 115
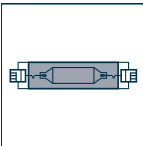
Light sources
Page 116

Cable entries
Page 118
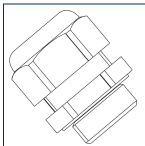
IEC 60945
International Standard
Requirements for remote controllers
Page 119

Ex
Norms and regulations
Page 120

ATEX Labeling
Ex II 2 G
ATEX Labeling
Page 121
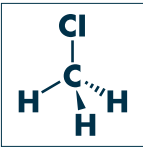
Cl C H H H
Safty characteristics
Page 122

Protection in hazardous areas
Page 124

OptiWin®
OptiWin®
Page 126

Technical information
Light technical definitions

Consept	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/ m²)	$L = \frac{I}{A}$ $(L = \frac{I}{A}\cos\phi)$	The luminous intensity that reflects from a surface divided by the size of the perceived surface.
Luminance distribution				The luminance distribution in the field of view controls the adaptation level of the eyes, which affects task visibility.
Colour temperature		Kelvin K	CIE 17.4	The colour temperature is used to identify the respective light colour. We often divide in to three categories. < 3300K = warm white; > 3300K<5000< = Neutral white and >5000K = Daylight.
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	$H = \frac{\phi}{Ps}$	Luminous flux from the lamps divided by the power loss of the system (lamps, ballast and others).
Uniformity / Evenness			$\frac{Emin}{Emid}$ $\frac{Lmin}{Lmid}$	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 coef-ficient	p	%	$\frac{\phi out}{\phi in}$	Ratio of the total flux reflected from an area to the incoming flux on the same area.
Contrast / Con-trast sensitivity	C Cs		$C = \frac{Lb \div Lo}{Lb}$	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.

The following protection degrees define the protection of electrical appliances against accidental contact, foreign matters and water as laid down in IEC Publication 60529
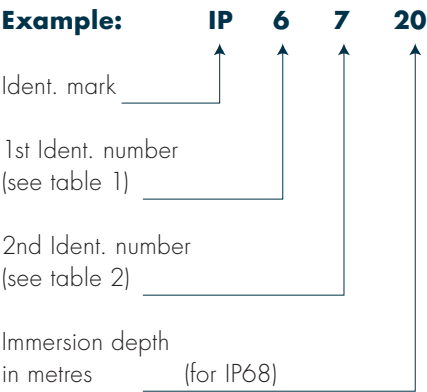
Example: **IP   6   7   20**

Ident. mark

1st Ident. number
(see table 1)

2nd Ident. number
(see table 2)

Immersion depth
in metres   (for IP68)

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 (overflooding).
		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 continous submersion in water under conditions specified by the manufacturer.

Technical information
Light sources

Light sources

Halogen lamps

Traditional incandescent lamps lose part of their light intensity in the course of time since tungsten evaporates from the filament and condenses on the inside surface of the bulb forming a dark layer. In modern halogen lamps they prevent this effect by adding halogenes to the filling gas. Within the so-called halogen cycle the halogenes combine with the evaporated tungsten. This gaseous combination drifting with the heat flow towards the hot filament the tungsten will leave the combination and re-join the filament. The released halogenes are again available for the cycle.

Further advantages of halogen lamps:
- equally bright light throughout life time
- nice, brilliant light for fresh colours and attractive glamour effects
- increased light output about 25 % compared with traditional incandescent lamps
- small dimensions

Halogen high voltage lamps

Are available as standard with bases E27, E40 and R7s. They don't need a transformer.

High pressure sodium lamps (HS)

These lamps offer much light output because of their high efficiency despite of their small dimensions. They are not very sensitive to vibration and have proved as outdoor floodlights on board of ships. You need a ballast and an ignitor. The average lifetime is about 6000 hours.

High pressure sodium lamps with instant ignition (HS)

have bases at both ends and need a special ignitor. In hot condition the lamp requires about 10 seconds to ignite.
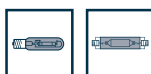
Metal halide lamps (HI)

are similar to high pressure mercury vapour lamps concerning design and operation. Light output and colour response have been improved by adding some halogen combinations. Depending on the type they may operate with or without ignitor. There is a special version with one base at each end of the bulb enabling instant igniting in hot condition by means of a high voltage puls.

High pressure mercury lamps (HM)

These lamps don't need an ignitor but a ballast. There are types with E27 and with E40 base. The high pressure lamps contain a quartz burner as discharge tube. This tube is positioned inside a glass bulb on the inner surface of which there is a fluorescent layer. Having been switched on the burner slowly gets hot thus making more and more mercury evaporate. The more mercury evaporated the brighter the light output. All mercury evaporated means the lamp features its rated luminous flux. The average lifetime of this lamp is about 6000 hours. Its disadvantage is that it reacts to shortest interruptions of power supply and to severe voltage fluctuations by extinguishing and then needing several minutes to re-ignite.

Traditional incandescent lamps

In general there are no problems with incandescent lamps in lighting systems. They are economical to install since they require just a lampholder and two terminals. Their operating position is not critical. They are almost independent on ambient temperature and can easily be dimmed by phase control or phase reverse control. Luminaires for incandescent lamps may as a standard be operated on 115 V or 230 V by simply changing the lamps. The average lifetime is 1000 hours and thus not very high. Incandescent lamps for navigation lights are a special case. They were developed precisely for application within an optical system and thus differ in many aspects from standard lamps:

- They have a special lampbase to make sure only these especially approved lamps are used in navigation and signalling lights. Moreover the particular base ensures the lighting filament being always in the correct position in relationship to lens and screening.
- Their maximum light efficiency / minimum power consumption ratio is set to its best.

- Their lighting filament is suspended in a very special way to prevent screening the filament in signalling lights.
- Their production process is particularly sophisticated for smallest tolerances with the filament and its suspension.
- They are approved by the responsible authorities of almost all important countries in the world.

Fluorescent lamps

Their advantage is their excellent economy. Their light efficiency per watt of invested power (lumen per watt) is very high. The elongated shape results in a low luminous density on their surface and thus in little glare. Lifetime is about 8000 hours if operated with conventional ballast respectively about 12.000 with electronic ballast. Fluorescent lamps may be dimmed down to 1 % of their rated luminous flux without any problems if operated by dimmable electronic ballasts.

Sealed beam

Sealed Beam Lamps are designed for those applications requiring specific bulb size, base, and voltage. These lamps are operated in special applications utilizing low voltage sources. Most lamps are designated by common ANSI (American National Standards Institute). Available in 12V/50W and 24V/100W.

XENON

Xenon

Xenon lamps are DC-operated lamps that are especially suited for applications requiring excellent arc stability and a high luminance.

Xenon lamps are short arc lamps in which the discharge arc fires in a pure xenon atmosphere under high pressure. Xenon lamps have a very good color rendering and extremely high luminance. For this reason they are often used in light guide systems, e.g. for endoscopy or dental technology.

The Xenon lamps are designed for horizontal burning position, and excel with their compact dimensions.

Ignitors

Metal halogen lamps and high pressure sodium lamps require a voltage of between 800 and 5000V to start working. There are two different igniting device systems. One is based on additional voltage load and the other one on pulsation technique. aqua signal has decided in favour of the modern extra voltage load system. Its big advantage is that the ignitor produces the ignition voltage without loading it on the ballast. This is of particular importance towards the end of the lamp's lifetime when the ignitor tries again and again to restart the exhausted lamp. Moreover the extra voltage load technique offers reproducible ignition properties independent on the ballast.

aqua signal's ignitors for high pressure discharge lamps have currently been improved to adapt them to the extremely rough operating conditions our floodlights have to meet with. They may be called unique since they not only ignite the lamps tenderly but also supervise ignition process and operation and recognize lamp failures due to ageing in which case they carefully switch the lamp off.
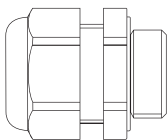
Technical information

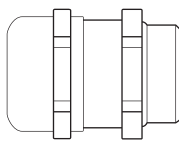Cable entries

Cable entries

1

M 20 x 1.5 plastic, polyamide
for use on luminaires up to protection degree IP 67. Possible cable diameters 7 mm to 14 mm. Other diameter requirements should be stated when ordering.
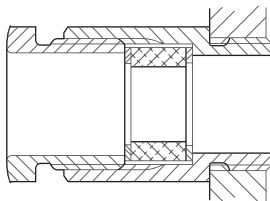
2

M 20 x 1.5 brass, nickel plated
for use on luminaires up to protection degree IP 67. Possible cable diameters 8 mm to 13 mm. Other diameter requirements should be stated when ordering.

3

**M 24 x 1.5 without earthing inserts,
similar to DIN 89280 for cable MGG**
(without protective cover). Possible cable diameters 8 mm to 17 mm. Standard sealing ring for cable diameter of 10 mm to 12 mm. Other diameter requirements should be stated when ordering.

4
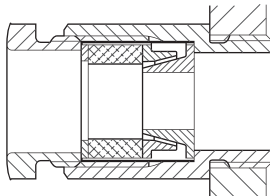
**M 24 x 1.5 with earthing inserts,
similar to DIN 89280 for cable MGCG**
(with protective cover). Possible cable diameters 8 mm to 17 mm. Standard sealing ring and earthing insert for cable diameter of 10 mm to 12 mm. Other diameter requirements should be stated when ordering.

Requirements for radio equipment hereunder remote controllers.

Radio equipment and remote controllers.

This International Standard assists in meeting a requirement of the International Convention for Safety of Life at Sea (SOL AS), adopted by the International Maritime Organization (IMO), that the radio equipment, and the navigation equipment be type-approved by administrations to conform with performance standards not inferior to those adopted by the IMO.

This standard specifies minimum performance requirements, methods of testing and required test results for general requirements which can be applied to

those characteristics common to all equipment described hereunder:

a) Shipborne radio equipment forming part of the global maritime distress and safety system required by the International Convention for Safety of Life at Sea (SOL AS) as amended, and by the Torremolinos International Convention for the Safety of Fishing Vessels as amended

.

b) Shipborne navigational equipment required by the International Convention for Safety of Life at Sea (SOL AS) as amended, and by the Torremolinos International Convention for the Safety of

Fishing Vessels as amended, and to other navigational aids, where appropriate.

c) For EMC only, all other bridge-mounted equipment, equipment in close proximity to receiving antennas, and equipment capable of interfering with safe navigation of the ship and with radio communications (see IMO Resolution A.813).

Note:

For EMC, this standard is in the IEC category "product family". The requirements of this standard are not intended to prevent the use of new techniques in equipment and systems, provided the facilities offered are not inferior to those stated.

Technical information
Ex norms and regulations

Introduction to the principles of explosion protectied 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 for Europe, they have been harmonized.
The ATEX directives for equipment (94/9/EC) and worker protection (1999/92/EC) in potentially explosive atmospheres become mandatory from 1st July 2003.

This means that all products delivered for installation in hazardous area in buildings and fixed installations in Europe from that date have to be certified according to the ATEX norms, while for the worker protection in existing enterprises, there is a 3-year transitional period to be updated.

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 consisting of a mixture of air with any combination of flammable gas, vapour or mist is present continously, frequently or for long periods.

ZONE 1 is a place where an explosive atmosphere consisting 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 consisting 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 similaire 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:
Methan   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

EEx European CENELEC Standard

⟨Ex⟩ 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 do also have requirement that areas in which explosive atmospheres can occur must have warning signs.

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.
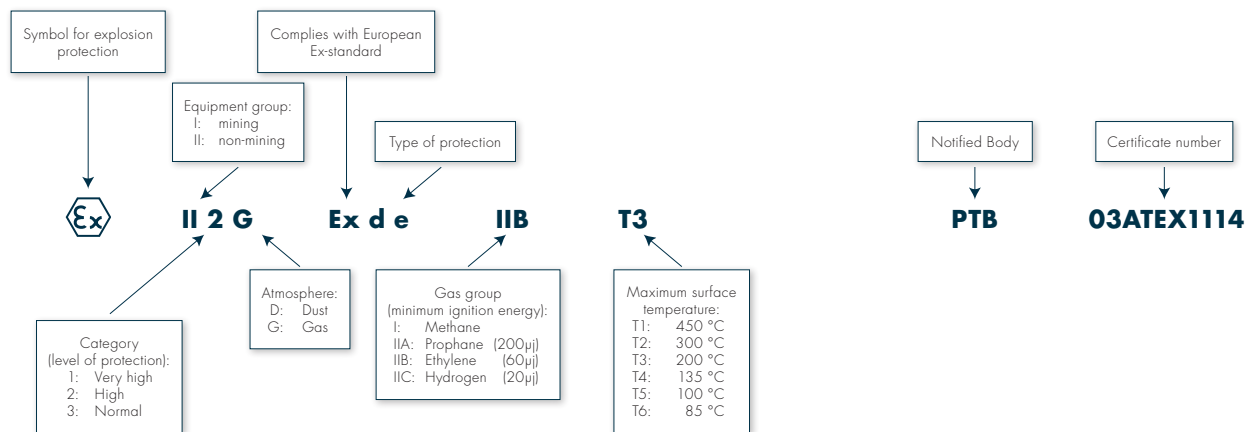
Temperature classes

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
Acetaldehyde	140	T4	II A
Acetic acid	485	T1	II A
Acetic anhydride	330	T2	II A
Acetone	540	T1	II A
Acetylene	305	T2	II C (3)
Ammonia	630	T1	II A
Amylacetate	380	T2	II A
Benzene	220	T3	II A
Benzol	555	T1	II A
Carbon disulphide	95	T6	II C (1)
Carbon monoxide	605	T1	II A / II B
Cerosin	220 up to 300	T3	II A
Cyclohexene	430	T2	II A
1,2 - Dichloretane	440	T2	II A
Diesel fuel	220 up to 300	T3	II A
Ethane	515	T1	II A
Ethylacetate	460	T1	II A
Ethyalcohol	425	T2	II A / II B
Ethychloride	510	T1	II A
Ethylene	425	T2	II B

Medium	Ignition temperature °C	Temperature class	Explosion group
Ethylenoxid	440	T2	II B
Ethyl ether	170	T4	II B
Ethyl glycol	235	T3	II B
Fuel oil	220 up to 300	T3	II A
Hydrogen aeroxid	560	T1	II C (2)
Hydrogen disulphide	270	T3	II B
Methane	595 (650)	T1	II A
Methanol	455	T1	II A
Methyl chloride	625	T1	II A
n - Butane	365	T2	II A
n - Buthylalcohol	340	T2	II A
n - Hexane	240	T3	II A
n - Propylalcohol	405	T2	*)
Naphtalene	540	T1	II A
Oleic acid	360	T2	*)
Phenol	595	T1	II A
Propane	470	T1	II A
Tetraline	425	T2	*)
Toluole	535	T1	II A

Source: Appendix B, VDE 0165/9.83   *) The explosion group for this medium has not yet been defined
(1) Also Explosion group II B + CS$_2$ (2) Also Explosion group II B + H$_2$ (3) Also Explosion group II B + C$_2$H$_2$

NO SMOKING

ARCTIC PRINCESS

Technical information
Protection in hazardious areas

The basis principle of explosion protection is the same worldwide. It is the prevention of flammable materials (gas, vapour, mist or dust) in dangerous quantities air (oxygen) and sources of ignition, occuring at the same time. Areas, where the occurance of explosive mixtures of flammable materials and air cannot be prevented by applying primary explosion protection, special measures for the prevention of ignition sources are to be taken. Special construction and installation inquirements therefore apply to all electrical apparatus in hazardous locations.
According to EN 50014 and IEC 60079-0 the construction of explosion protected apparatus can be designed in various types of protection. The following table shows the types of protection.
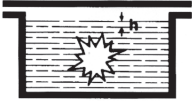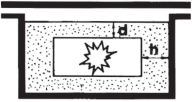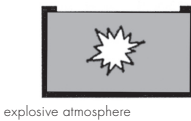
Type of protection to IEC Standard		Basic principle	Schematic	Applications
Flameproof enclosure EN 50018 / IEC60079-1	d	A type of protection in which the parts, which can ignite an explosive atmosphere are placed in an enclosure, which can withstand the pressure developed during an internal explosion 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 EN 50019 / IEC60079-7	e	A type of protection in which measures are applied so as to prevent with a higher degree of security the possibility of excessive temperatures and of the occurance of arcs or sparks in the interior and on the external parts of electrical apparatus, which does not produce therm in normal service.		Terminal and connection boxes, control boxes housing Ex-modules (of a different type of protection) squirrel cage motors, light fittings
Pressurized apparatus EN 50016 / IEC60079-2	p	A type of protection in which the entry of a surrounding atmosphere into the enclosure of the electrical apparatus is pre-vented by maintaining inside the said 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 EN 50020 / 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

Type of protection to IEC or European Standard		Basic principle	Schematic	Applications
Oil immersion EN 50015 / IEC60079-6	o	A type of protection in which the electrical apparatus o parts of the electrical apparatus are immersed in oil in such away that an explosive atmosphere, which maybe above the oil or outside the enclosure cannot be ignited.		Transformers (only used rarely now)
Powderfilling EN 50017 / 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 occuring 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 EN 50028 / IEC60079-18	m	A type of protection in which the parts which can ignite an explosive atmosphere are enclosed in a ream 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.	explosive atmosphere	Only small capacity switchgear, control gear, indicating equipment, sensors
Non sparking EN 50021 / IEC60079-15	n	Electrical apparatus is not capable of igniting a potentially explosive atmosphere (under normal operation and under defined abnormal operating conditions).	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.

OptiWin®
Light calculation software

- Allows for importing both 2D and 3D drawings from AutoCAD
- Unique tool for advanced engineering
- Projecting and documentation of complex lighting installations

- OptiWin® 3D Pro makes it possible to calculate the most demanding environments
- Save up to 80% engineering time. The light calculation enables you to take corrective actions at a very ealy stage

- The results will also secure the installation as you are taking into consideration all equipment from the drawing level
- All results are available in a comprehensive report

- You can exchange the result-database with other users through E-mail, reducing communication time
- The product database can be updated online to keep your result up to date
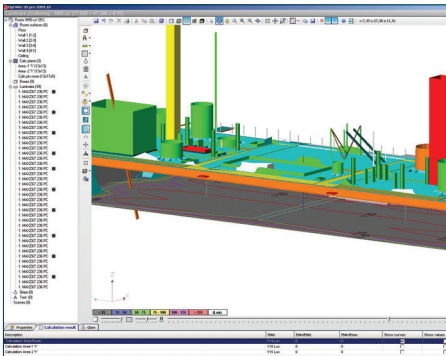
Big Models
With the 3D editor you can open the AutoCAD drawing and select the area to import into OptiWin® 3D Pro

Large Surfaces
Place the luminaries, perform the calculation. The result can be incorporated into the AutoCAD drawing
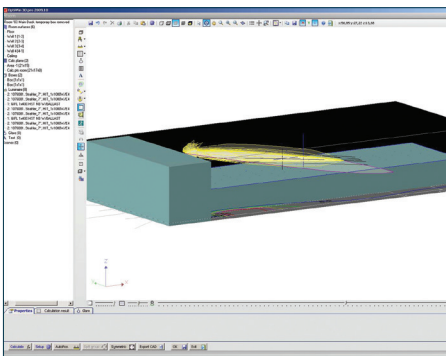
Time Saving
New tool showing the light distribution of a fitting. Excellent feature for location and orientation of floodlights

Real Life Illustration
The product database can be updated online, ensuring your results are up to date

Alphabetic index

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