



INSTALLATION & USER MANUAL

SEARCHLIGHTS XENON SL40 R5

NORSElight



Technical Manual for Xenon Searchlight

☐ XS 1000 R5

☐ XS 2000 R5

☐ 1 x 230 VAC 50/60 Hz

☐ 1 x 115 VAC 50/60 Hz

This manual refers to product:

Serial no.:

Controlled by:

Date:

Table of contents:

	Introduction	4
1.0	General description	5
1.1	Options	6
2.0	Technical data and dimensions	7
2.1	Specifications power supply	8
2.2	Overall searchlight dimensions & electrical cable dimensions	9
2.3	Cut/out main/slave panel	10
2.4	Overall dimensions Power supply	11
3.0	Direction for use	16
3.1	Parameter setting for xbo HTP OFR	17
3.2	Program menu - Parameter setting	18
3.3	Operation modes	19
3.4	Program menu - Parameter mode setting	20
4.0	Electrical Installation	21
4.1	Layout XS1000	22
4.2	Layout XS2000	23
4.3	Wiring Searchlight XS1000 with integrated Power supply NP-0725	24
4.4	Wiring Searchlight XS2000 with external Power supply N3-80E	25
4.5	Wiring Searchlight XS1000 with external Powers supply PX-50N	26
4.6	Wiring Main panel XS and SH with focus	27
4.7	Power supply NP-0725 for 500-1000W	28
4.8	Power supply PX-50N for 1000W	29
4.9	Power supply N3-80E for 1600-2000W	30
4.10	Power supply EX-100 D/1 for 1000-3000W	31
5.0	Maintenance	32
5.1	Spare Parts List	33
5.2	Lamp replacement	34
5.3	Trouble shooting	37
6.0	Warranty	38

Introduction:

For more than 90 years,
Norselight have designed and manufactured lighting products for marine vessels.

Through ongoing customer focused product development, **Norselight** continue to deliver quality products as demanded both at sea and on the rugged coastlines of Norway.

This commitment to quality and expertise provides the foundation for **Norselight** to be possibly the world's leading supplier of maritime lighting.

However, in order to stay in front, **Norselight** would very much appreciate all comments that you may have regarding our quality products or services.

Customer Service:

The Customer Service department of **GLAMOX Production GmbH & Co. KG** will be pleased to help you when ordering spare parts, for maintenance and repair work as well as in case of problems and questions.

Manufacturer:
GLAMOX Production GmbH & Co. KG
Glasower Weg 5
17166 Teterow
Germany

Customer Service contact:
GLAMOX Marine and Offshore GmbH
Tel. : +49 421 48 93-0
E-Mail: info@aquasignal.de
Internet: www.glamox.com/gmo

We would also like to use this opportunity to thank you for choosing **Norselight**.

1.0 General description:

Searchlight

The R5 searchlights XS 1000 and XS 2000, are made from seawater resistant aluminium, welded and finished with white powder coat. The forks are made of stainless steel

- The lamp housing contains one lamp, ignitor, silverplated glass-reflector, hardened frontglass, noise filters and a focus-motor for adjustment of the light beam.
- The motor housing contains a complete gear with motors for horizontal and vertical movement, a thermostat driven heating element and the electronic control system.

Note:

These searchlights are intended exclusively for use on watercraft / ships.

They are therefore subject to special regulations which differ significantly from the relevant EU regulations and standards.

For use in Inland applications, additional EU directives may apply, which must then be observed for compliance.

Control Panel

Main Operation Panel.

it contains the following functions:

- Lamp On/Off
- Joystick for horizontal and vertical movement.
- Speed regulator for horizontal
- Focus +/- (light beam adjustment)
- Designed for console or bulkhead mounting.

1.1 Options

- Other RAL colours
- Upside down mounting
- Pedestal standard and custom sizes on request
- Special cable glands on request

2.0 Technical data and dimensions

General specifications searchlight unit:

Technical spec. for all XS models	
IP Classification	56
Maximum ambient temperature	50°C
Minimum ambient temperature	-40°C
Horizontal movement	360°
Vertical movement	+25° / -27,5°
Inclination speed	V/H ≤ 4°/s
Colour	RAL 9016
Forks	Stainless steel

Article no.	Model	Watt	Voltage
500201340	SL 40 R5 XS1000 230V 1000W CFP	1000	230 VAC 50/60Hz
500201540	SL 40 R5 XS2000 230V 2000W CFP	2000	230 VAC 50/60Hz
500221340	SL40 R5 XS1000 115V 1000W CFP	1000	115 VAC 50/60Hz

Technical spec.main panel	
IP Classification	65 (front)
Maximum ambient temperature	50°C
Minimum ambient temperature	-20°C
Connection terminal	12x max 1,5mm ²
Dimensions	96 x 96 x 45mm
Power consumption	0



2.1 Technical data and dimensions

Specifications Power supply:

NP-0725 500-1000W

Art No. 1009158

IP classification	IP20
Temperature ambient	-30°...50°C
Input Voltage	90-264VAC; single phase
Dimensions ABH	180 x 254 x 82,5mm
Weight	3,35kg

NP-0725 500-1000W with heat sink

Art No. 8SL0018800

IP classification	IP20
Temperature ambient	-30°...50°C
Input Voltage	90-264VAC; single phase
Dimensions ABH	507 x 305 x 114mm
Weight	8,40kg

PX-50N 1000W

Art No. 1009155 (115V) / 1009156 (230V)

IP classification	IP20
Temperature ambient	0°-40°C
Input Voltage	100-132VAC; single phase
Input Voltage	208-230VAC; single phase
Cable input max Ø	24mm
Cable output (DC) max Ø	24mm
Cable remote signal max Ø	24mm
Dimensions ABH	245 x 595 x 238mm
Weight	63kg

N3-80E 1600-2000W

Art No. 1009160

IP classification	IP20
Temperature ambient	0°-40 °C
Input Voltage	208-242VAC; 3-phase 50/60Hz
Cable input max Ø	27mm
Cable output (DC) max Ø	27mm
Cable remote signal max Ø	27mm
Dimensions ABH	320 x 380 x 770mm
Weight	105kg

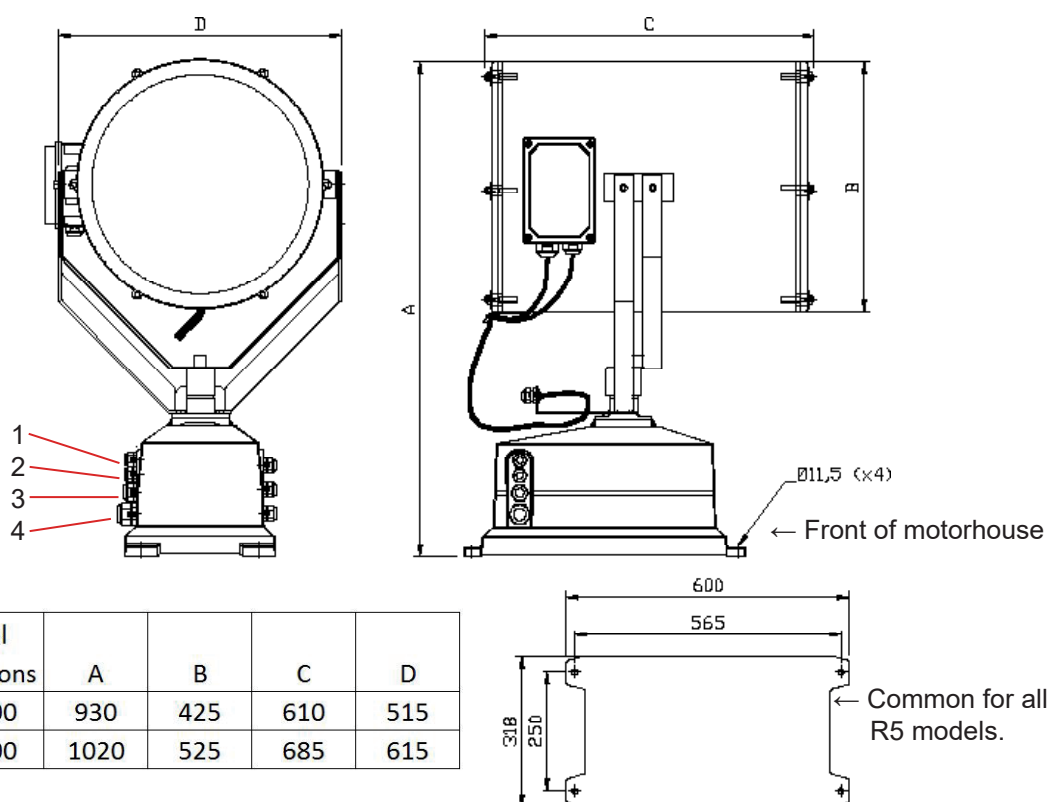
EX-100D/1 1000-3000W

Art No. 1009165

IP classification	IP20
Temperature ambient	-5°-45°C
Input Voltage	185-265VAC; single phase or double phase
Cable Input max Ø	8/20mm
Cable output (DC) max Ø	2 x 20mm
Cable remote signal max Ø	20mm
Dimensions ABH	265 x 436 x 440mm
Weight	19,5kg

2.2 Overall searchlight dimensions & electrical cable dimensions

XS 1000-2000:



Model	A	B	C	D
XS 1000	930	425	610	515
XS 2000	1020	525	685	615

XS 1000

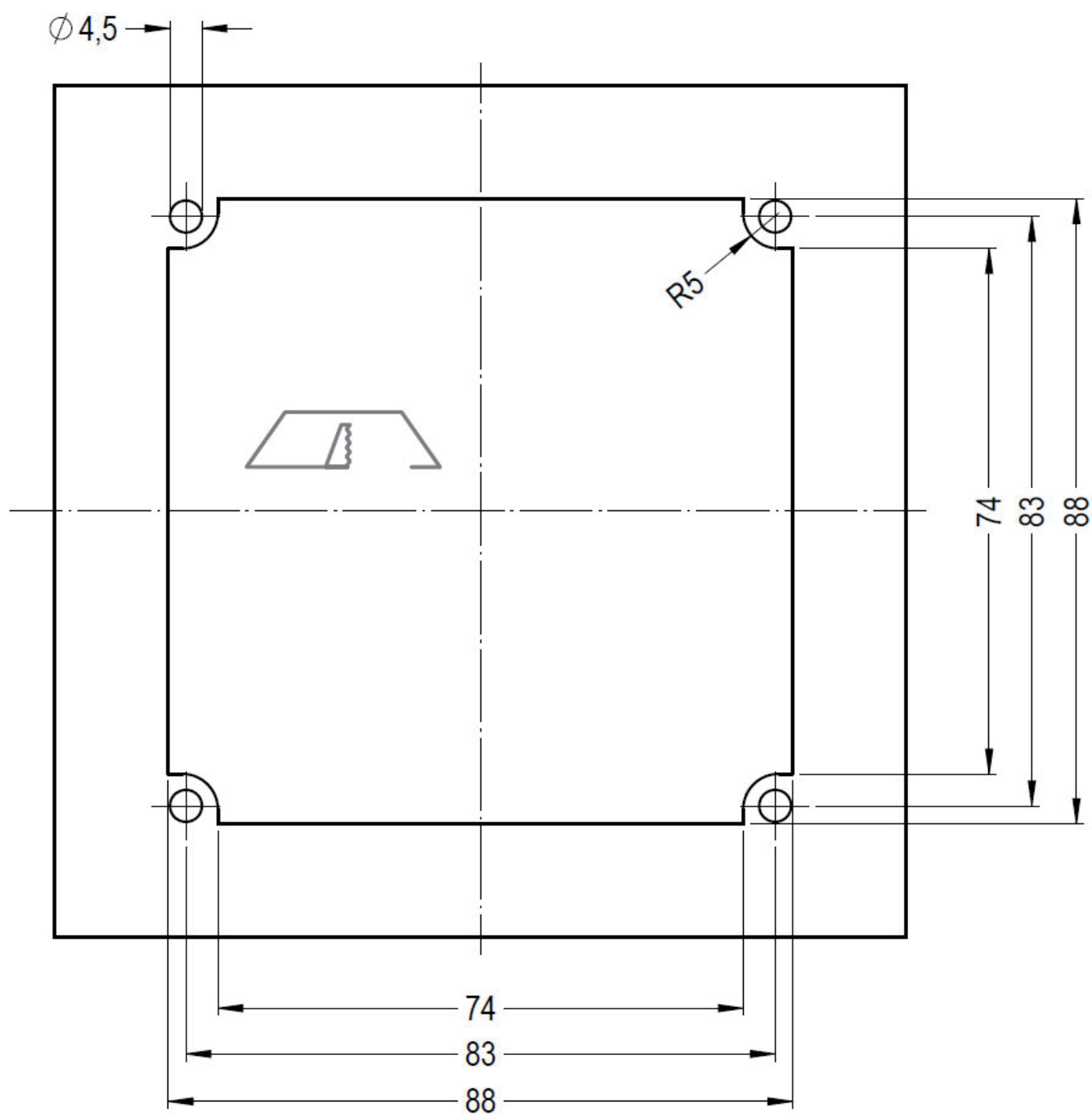
Entry / Description	1	2	3	4
Cable gland	M20	M20	Blind plug	Blind plug
Cable Ø min / max	6-13mm	6-13mm	-	-
Cable entry	115 V AC 230 V AC	LAN	-	-

XS 2000

Entry / Description	1	2	3	4
Cable gland	M20	M20	M25	M32
Cable Ø min / max	6-13mm	6-13mm	9-17mm	13-21mm
Cable entry (*Options are available)	Remote signal to rectifier *	LAN	24V DC / 115V AC / 230V AC *	DC from Xenon rectifier

2.3 Cut/out main/slave panel

Hole dimensions for installing main panel:

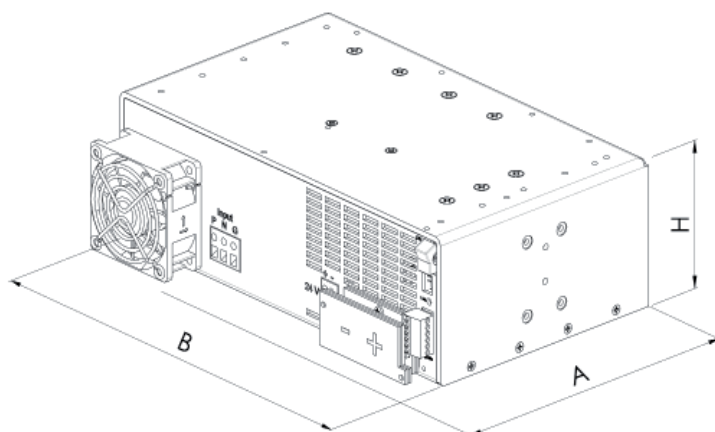


2.4 Overall dimensions Power supply

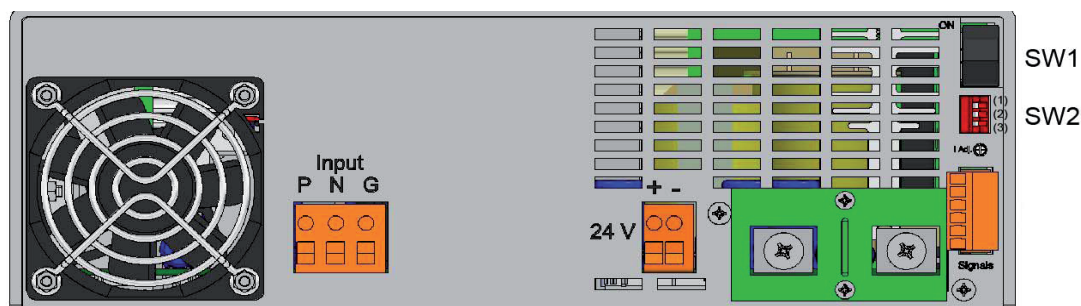
For 500-1000W

NP-0725 (for mounting in the motor-house)

This single-phase rectifier has been designed to ensure correct operation and long life to short arc Xenon lamps up to 1000W. It is characterized by galvanic insulation, a soft inrush current, low residual ripple value and a stable output current. Weight 3,35kg.
Further instructions in Installation guide for Rectifier see page 28.



A:180 mm
B:254 mm
H:82,5 mm



- +

Note (1) The switch SW1 must remain in OFF position when the remote ON/OFF signal is used.

SW1	ON	OFF ⁽¹⁾
	Lamp ON	Lamp OFF

Setting 500W

SW2	(1)	ON ⁽²⁾	OFF
		0.5kW	-
	(2)	-	1kW
	(3)	-	3kW

Setting 1000W

SW2	(1)	ON ⁽²⁾	OFF
		-	0.5kW
	(2)	1kW	-
	(3)	-	3kW

Setting 3000W

SW2	(1)	ON ⁽²⁾	OFF
		-	0.5kW
	(2)	-	1kW
	(3)	3kW	-

Note (2) Put the switch in the ON position to select the lamp power. The rest of switches must remain in the OFF position.



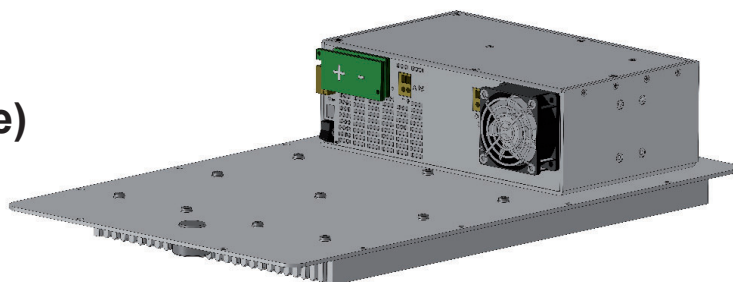
Note: After an automatic safety shutdown of the power supply due to overheating, the input power of the search light (L,N) has to be interrupted and connected again for a reset of the power supply.

(Keep the unit with the fan running for a few minutes and disconnect the mains input for >5 seconds).

1. Ta 50°C max running time until the searchlight will switch off is 2 hours.
2. Ta 45°C max running time until the searchlight will switch off is 6 hours.
3. Ta 35°C and less the searchlight is continuously running.

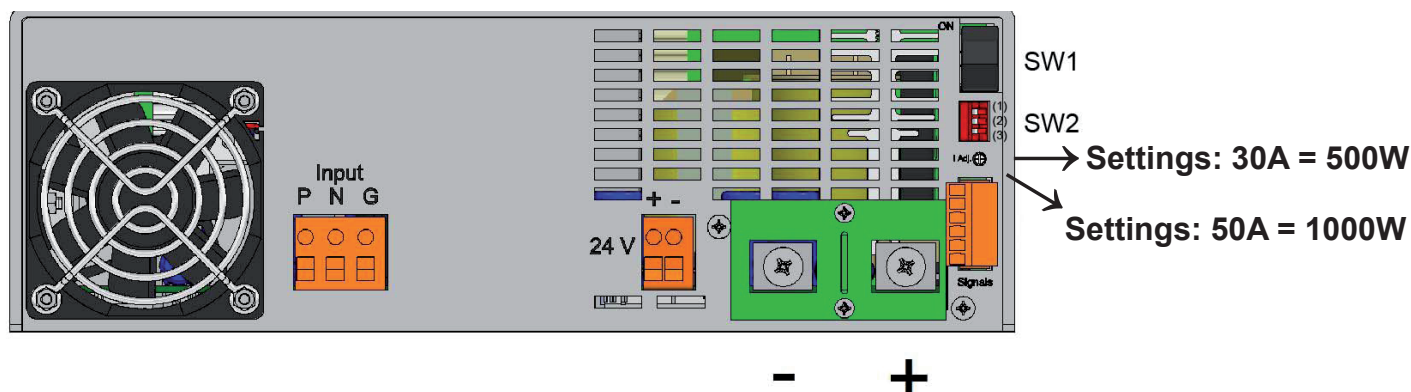
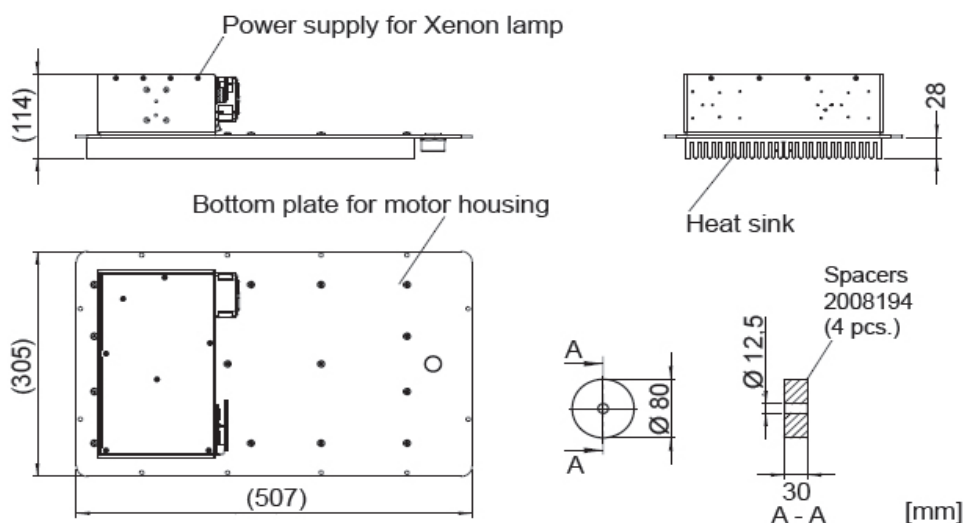
For 500-1000W

NP-0725 with heat sink (for mounting in the motor-house)



This single-phase rectifier has been designed for higher temperature ensure correct operation and long life to short arc Xenon lamps up to 1000W. It is characterized by galvanic insulation, a soft inrush current, a low residual ripple value and a stable output current. Weight 8,4kg. Further instructions in Installation guide for Rectifier see page 28.

Conversion kit heat sink for motor housing XS1000 R5/R60;
for max. extended operation increased ambient temperatures! 8SL0018800



Note: Current adjustments when the bulb is switched on.

The switch SW1 must remain in OFF position when the remote ON/OFF signal is used.

SW1	ON	OFF ⁽¹⁾
	Lamp ON	Lamp OFF

Setting 500W

SW2	ON ⁽²⁾	OFF
	(1) 0.5kW	-
	(2) -	1kW
	(3) -	3kW

Setting 1000W

SW2	ON ⁽²⁾	OFF
	(1) -	0.5kW
	(2) 1kW	-
	(3) -	3kW

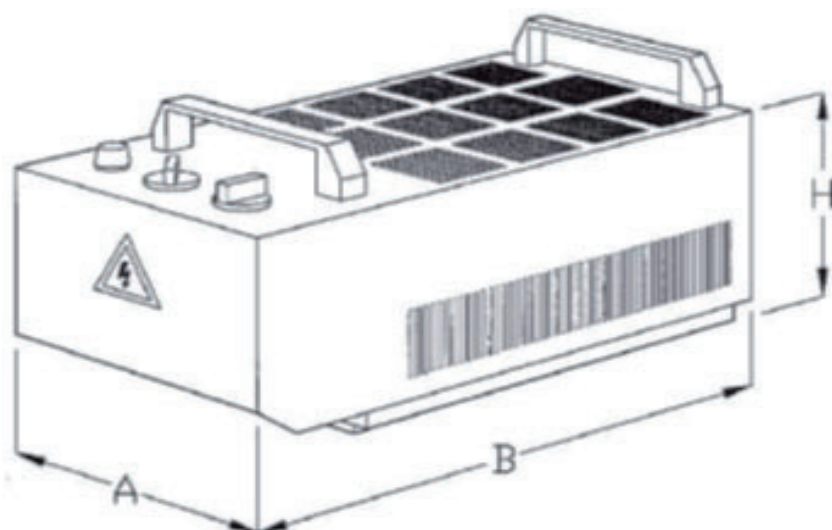
PX-50N for 1000W



These extremely compact rectifiers for single-phase inputs have been designed to feed 1000W Xenon lamps, meeting the requirements of lamps manufacturers to ensure correct operation and long life of the lamp. The units are fitted with a transformer with taps for output lamp power regulation and a special circuit to avoid the lamp turn off during the tap switching.

The cabinet, equipped with carrying handles, permits an easy inspection of the inside components. Weight 63kg.

Further instructions in Installation guide for Rectifier see page 29.



A:245mm
B:595mm
H:238mm

For 1600-2000W

N3-80E

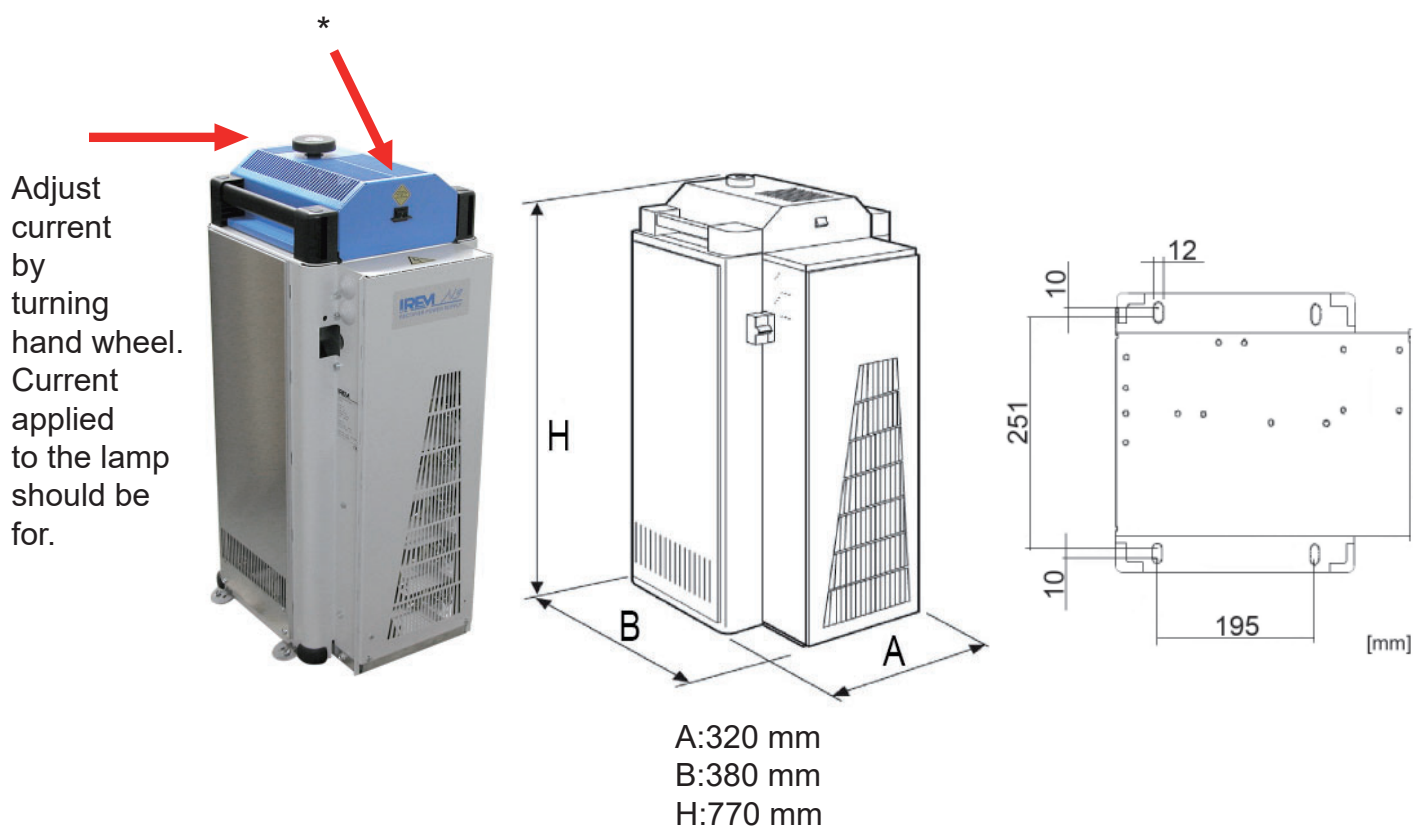
These high quality rectifier power supplies have been expressly designed to ensure the correct operation and long life of short arc Xenon lamps.

These units, developed to meet the recommendations of Xenon lamp manufacturers, are fitted with special IREM transformers with adjustable magnetic shunt for continuous output regulation over the entire operating range.

The new and peculiar design guarantees a low acoustical noise, i.e. less than 55dB(A).

The special design, including an auxiliary filter unit, ensures a low ripple with a negligible starting energy. Weight 105kg.

Further instructions in Installation guide for Rectifier see page 30.



Lamp set-point see page 30.

*To be able to turn off the searchlight from the main panel, the switch on top of the power supply N3-80 must be in position "0" (Zero).

For 1000-3000W

EX-100 D/1

This electronic power supply for single phase or double phase 230Vac 50/60Hz input has been designed to feed from 1000W to 3000W short arc Xenon lamps, meeting all the requirements of lamp manufacturers to ensure correct operation, long life to the lamp, and high reliability.

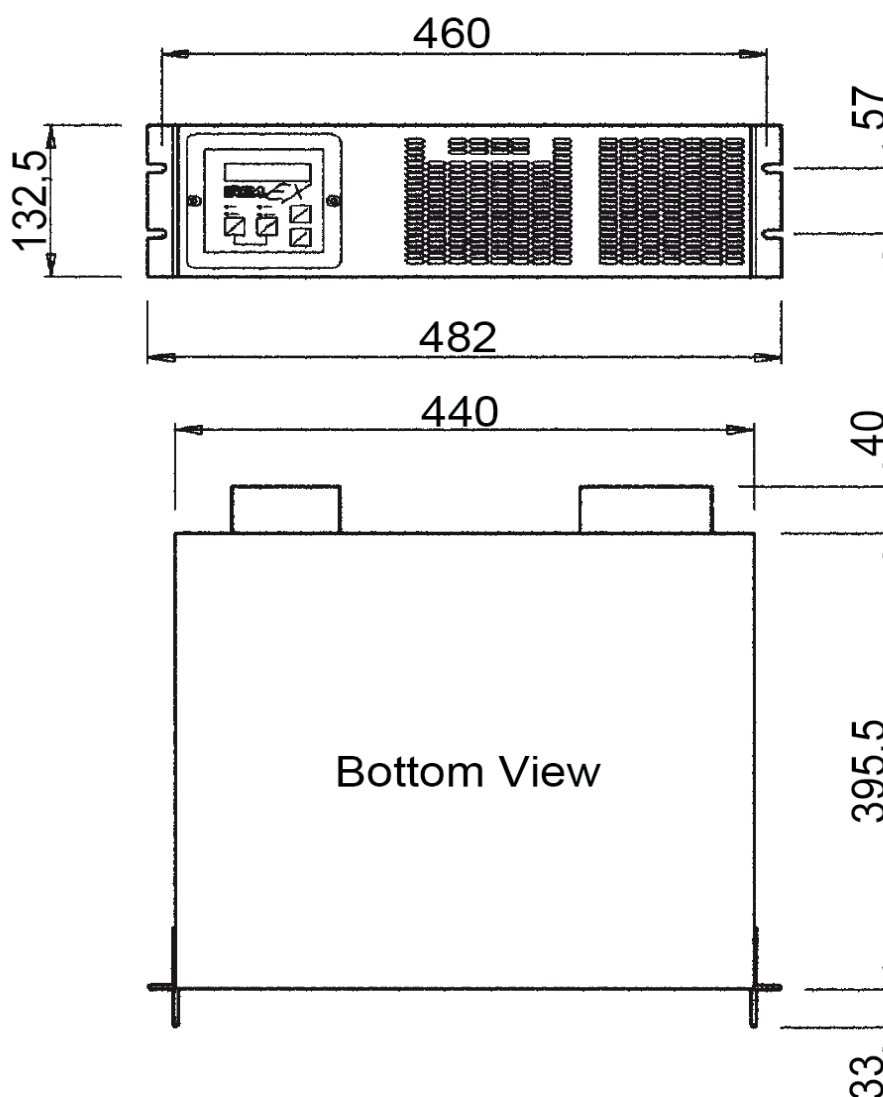
Weight 19,5kg. Further instructions in Installation guide for Rectifier see page 31.

Control devices

1. Synoptic panel
2. Output terminal block
3. Input terminal block
4. RS232 connector
5. Auxiliary connector



Front View



3.0 Directions for use

Parameter setting for xbo HTP OFR (only for: **EX-100 D/1** with factory settings)

Lamp **P_{max}** (operating range: 1000 and 2000W): max: power of the lamp.
When entered, an automatic control will avoid exceeding this value. Factory setting: is on 1000W.

Lamp **I_{max}** (operating range: 55A - 85A): max. admitted current of the lamp.
When entered, an automatic control will avoid exceeding this value. Factory setting: 55A.

Lamp **I_{min}** (operating range: 40 - 50A): min. admitted current of the lamp.
When entered, an automatic control will avoid exceeding this value. Factory setting: 40A.

Lamp **stand-by** (operating range I_{max} - I_{min}): lamp stand-by current when contacts 11 and 12 of J/P2 have been closed. When the contacts are closed, an automatic control will be change the current according to the admitted operating range. Factory setting: 40A.

Lamp **set-point** (operating range: I_{max} - I_{min} : value of the current delivered in output.
Factory setting: 40A.

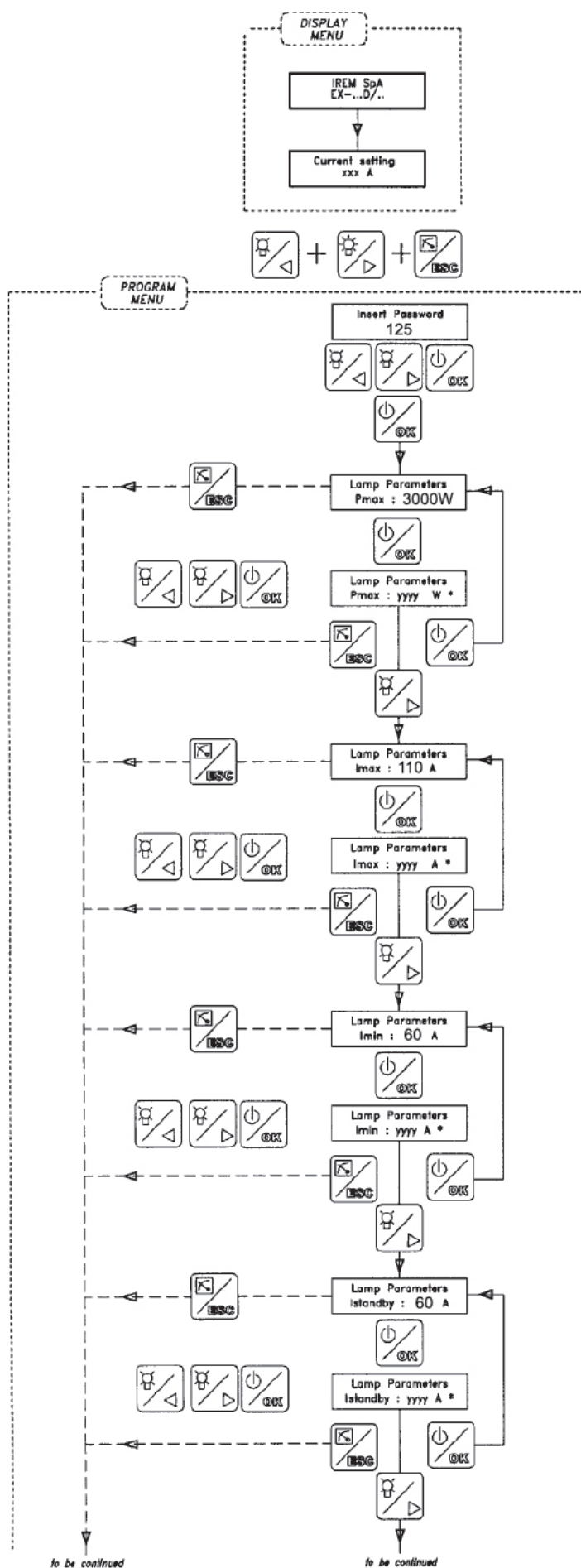
Remarks:

- 1) When entering an I_{max} value lower than I_{min} , I_{min} will be set to I_{max} . Enter a new I_{min} value.
- 2) When entering a I_{max} exceeding I_{max} value, I_{min} will correspond to I_{max} .

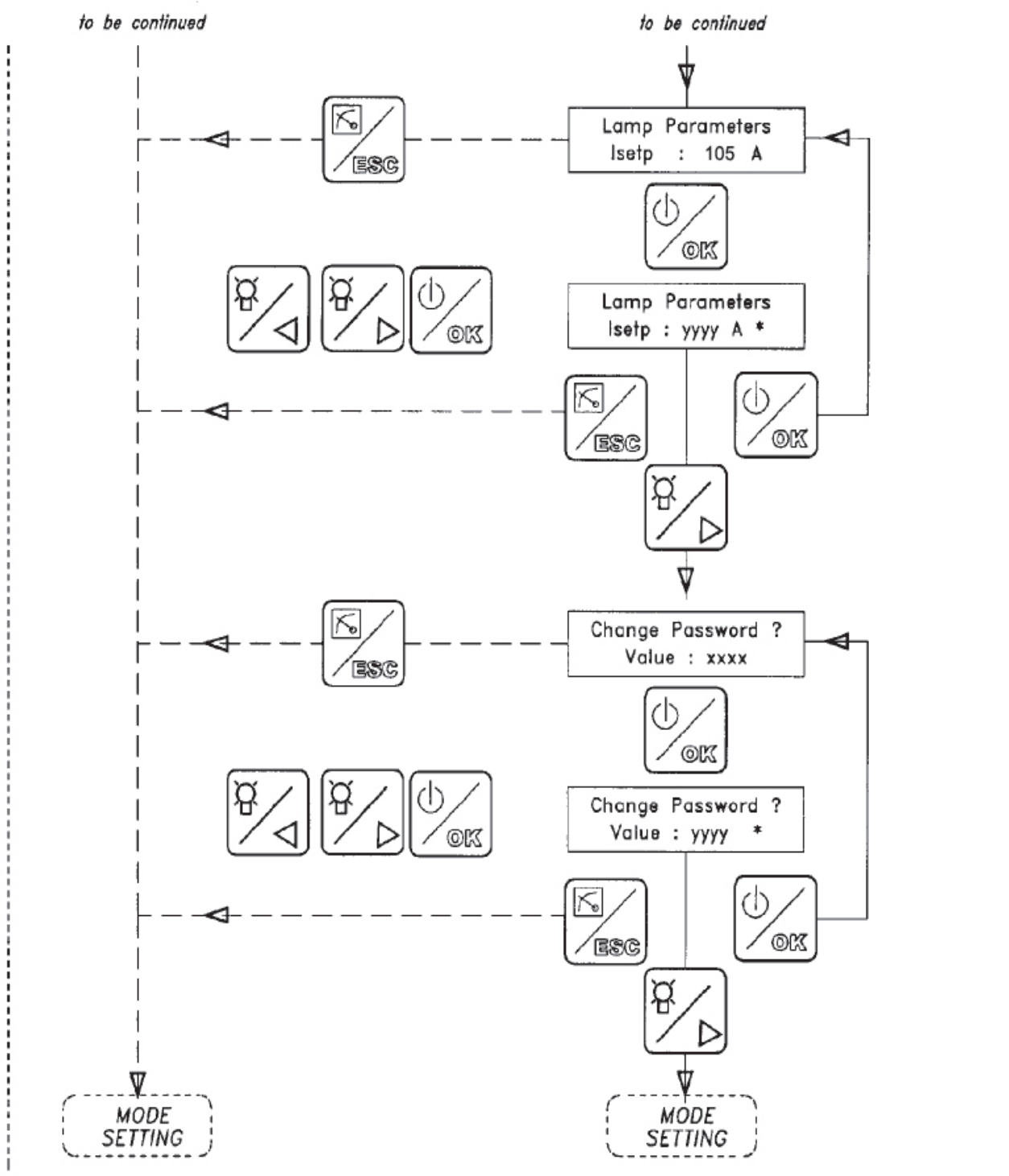
EX-100 D/1		
Lamp P_{max}	2000W	1000W
Lamp I_{max}	85A	55A
Lamp I_{min}	50A	40A
Lamp stand-by	50A	40A
Lamp set-point	70A	50A

3.1 Program menu - Parameter setting

Example for 3000W Xenon



3.2 Program menu - Parameter setting



3.3 Operation modes

The three operation modes can be used alternately but not all at the same time.

Act on the keys of the synoptic panel to shift from one mode to the other. The default mode is: manual mode from synoptic panel.

When the RS232 serial line is ON, the operating parameters will be sent through this line.

From any mode, press the keys    to change the operation mode.

Manual mode

Under this condition the lamp current setting is managed through the synoptic panel (press left -decreasing- key and right -increasing- key). Press and hold one of the two setting keys for at least 2 seconds, then enter the password within 30 seconds. The current setting is now enable (a question mark is present on the right side of the current value).

The lamp current range has to be within 40A and 85A.

Press The ON/OFF key  to switch on/off the lamp.

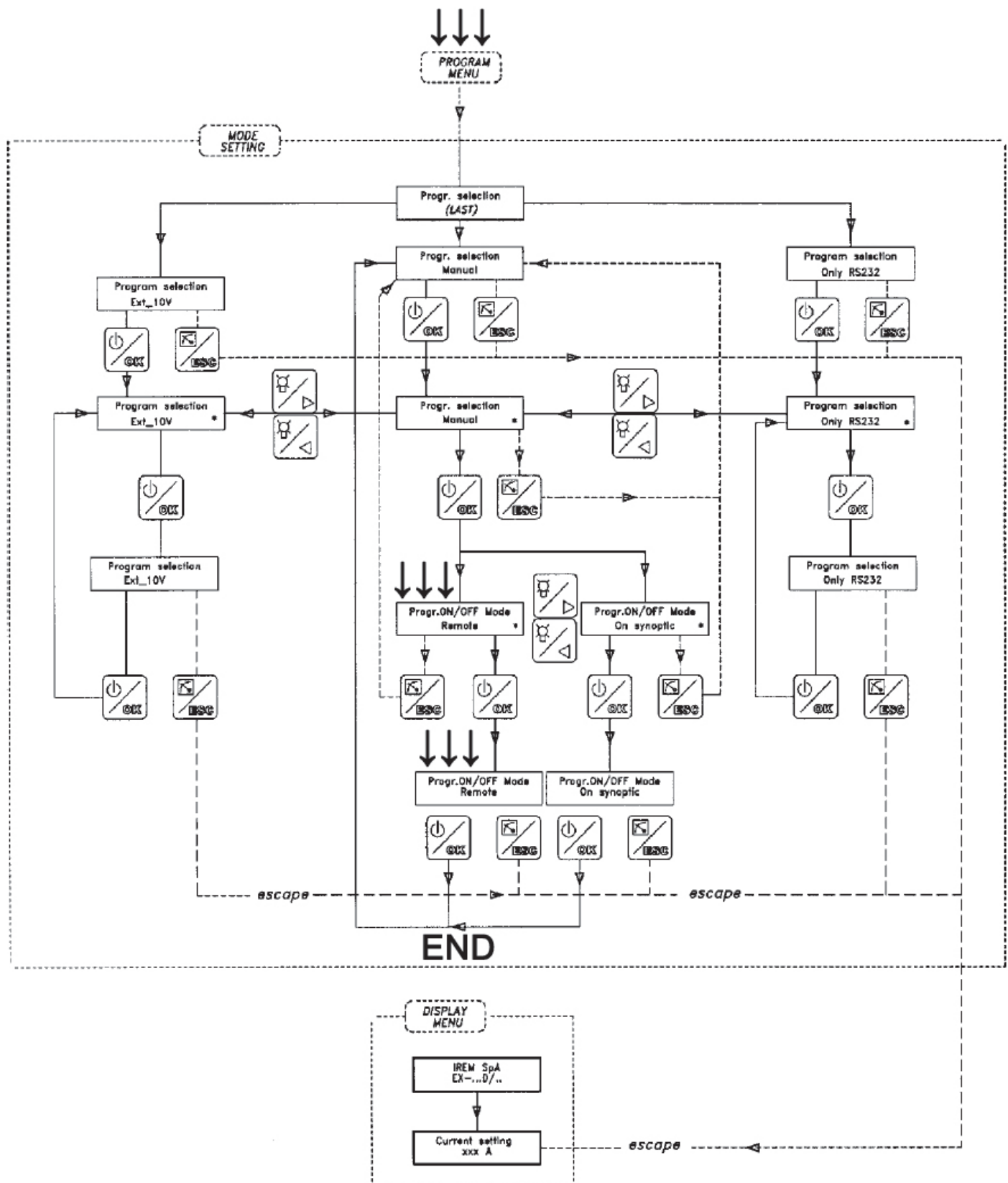
Note:

under manual mode from remote control, the switching on must be forced by shorting contacts 3 and 4 of J/P2 connector. Please check the contacts 5 and 6 (set jumper), see page 30.

Under this operating condition the synoptic panel is no longer active.

3.4 Program menu - Parameter mode setting

FOLLOW



4.0 Electric installation

Note: Disconnect the power when working on the equipment!



Electrical equipment must be installed by authorized personnel!

Check the polarity when connecting 24V DC!

All searchlight system equipment MUST BE connected to ground/earth!

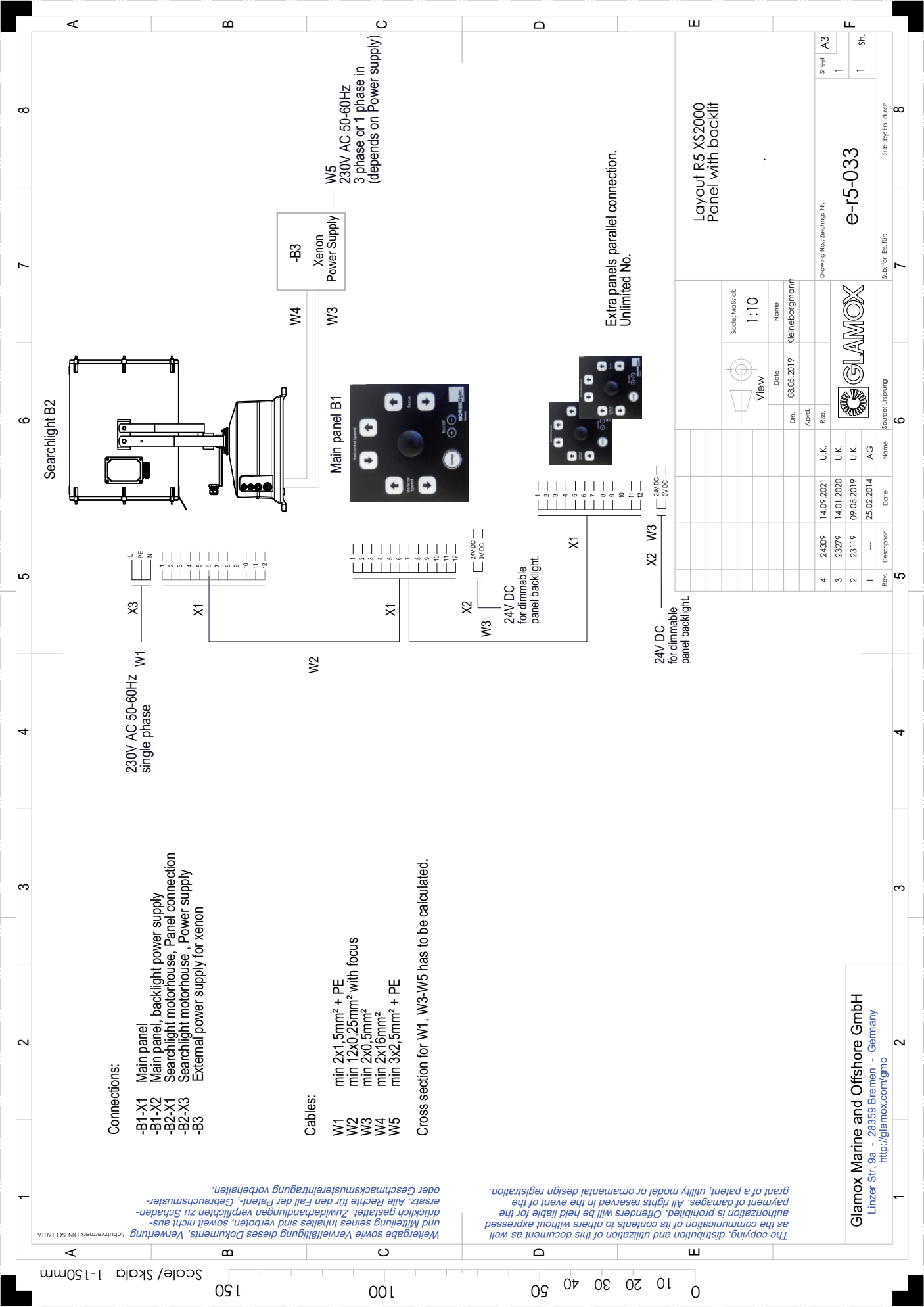
The main operation panel requires 24V DC connected in series with a 3A slow fuse to the positive (+) conductor.

- The switch requires 24V DC in addition to grounding.
- Depending on the searchlight model it requires 115V AC or 230V AC.
- Power supplied to the power supply unit must be 2 or 3-phase.
- Current supplied to the lamp unit must be specific, (see Technical data for specific type).

Current applied to the lamp unit see page 31. EX100 D/1 is pre. programmed.

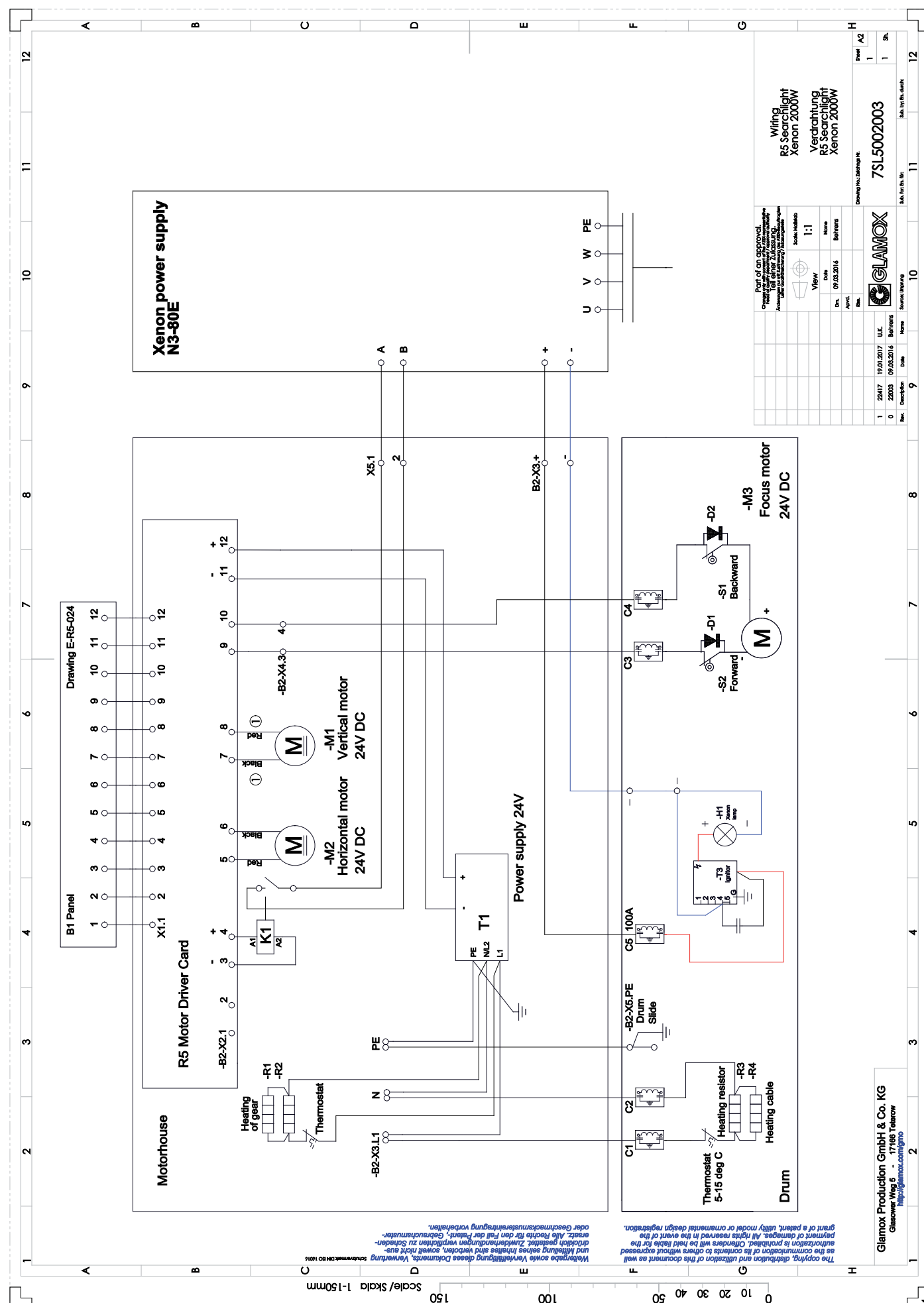


4.2 R5 XS2000 System Layout; R5 XS1000 with external PSU

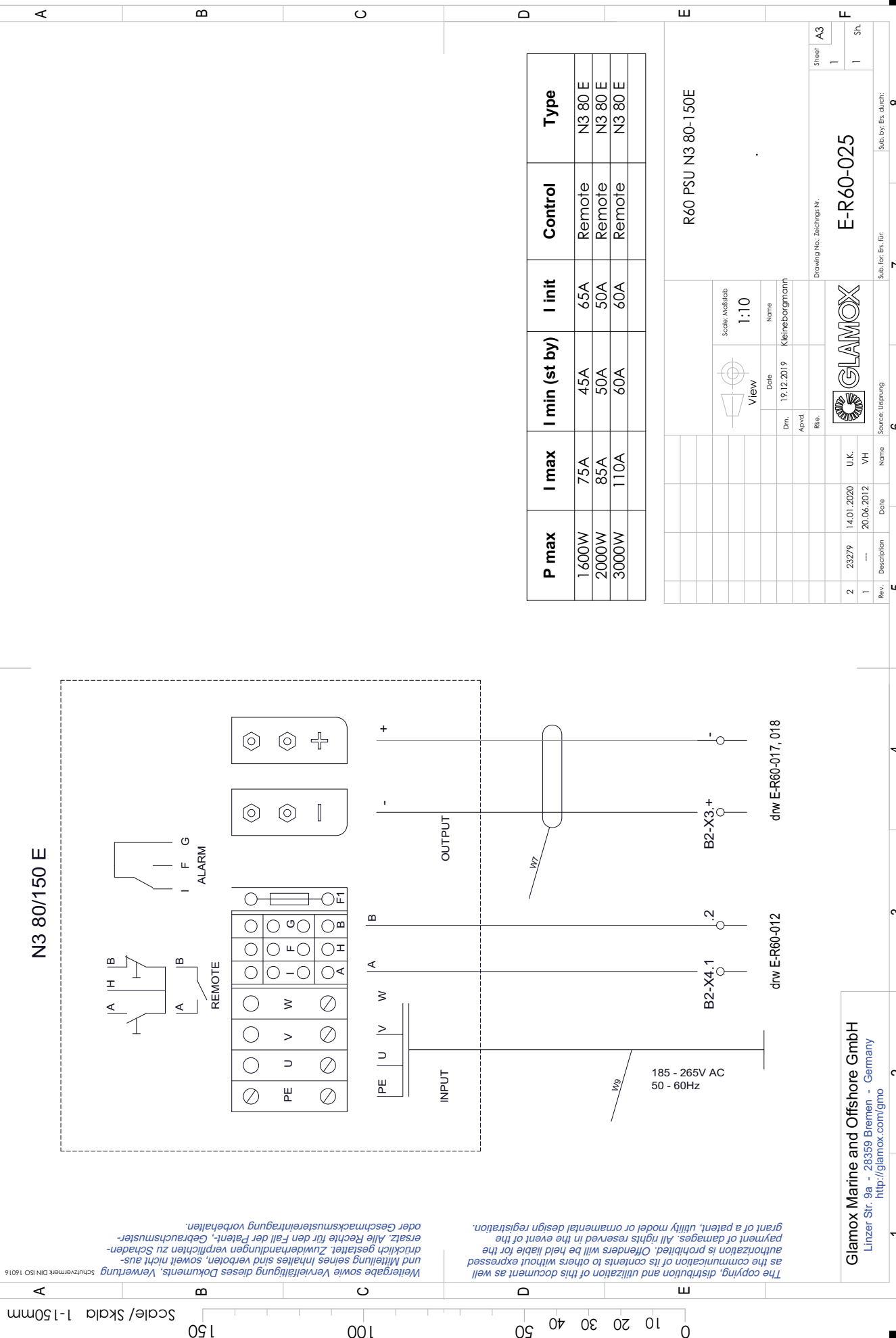


The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed consent of the copyright owner is prohibited. The copyright owner will not be liable for damages in the event of the payment of damages. All rights reserved or assumed by the grant of a patent, utility model or non-patented design, or other Geschmacks- oder Geschmacksmusterrecht, are hereby reserved. The copyright owner does not assume any liability for damages in the event of the payment of damages. All rights reserved or assumed by the grant of a patent, utility model or non-patented design, or other Geschmacks- oder Geschmacksmusterrecht, are hereby reserved.

4.4 Wiring Searchlight XS 2000 with Power supply N3-80E



4.6 Wiring Main panel with focus

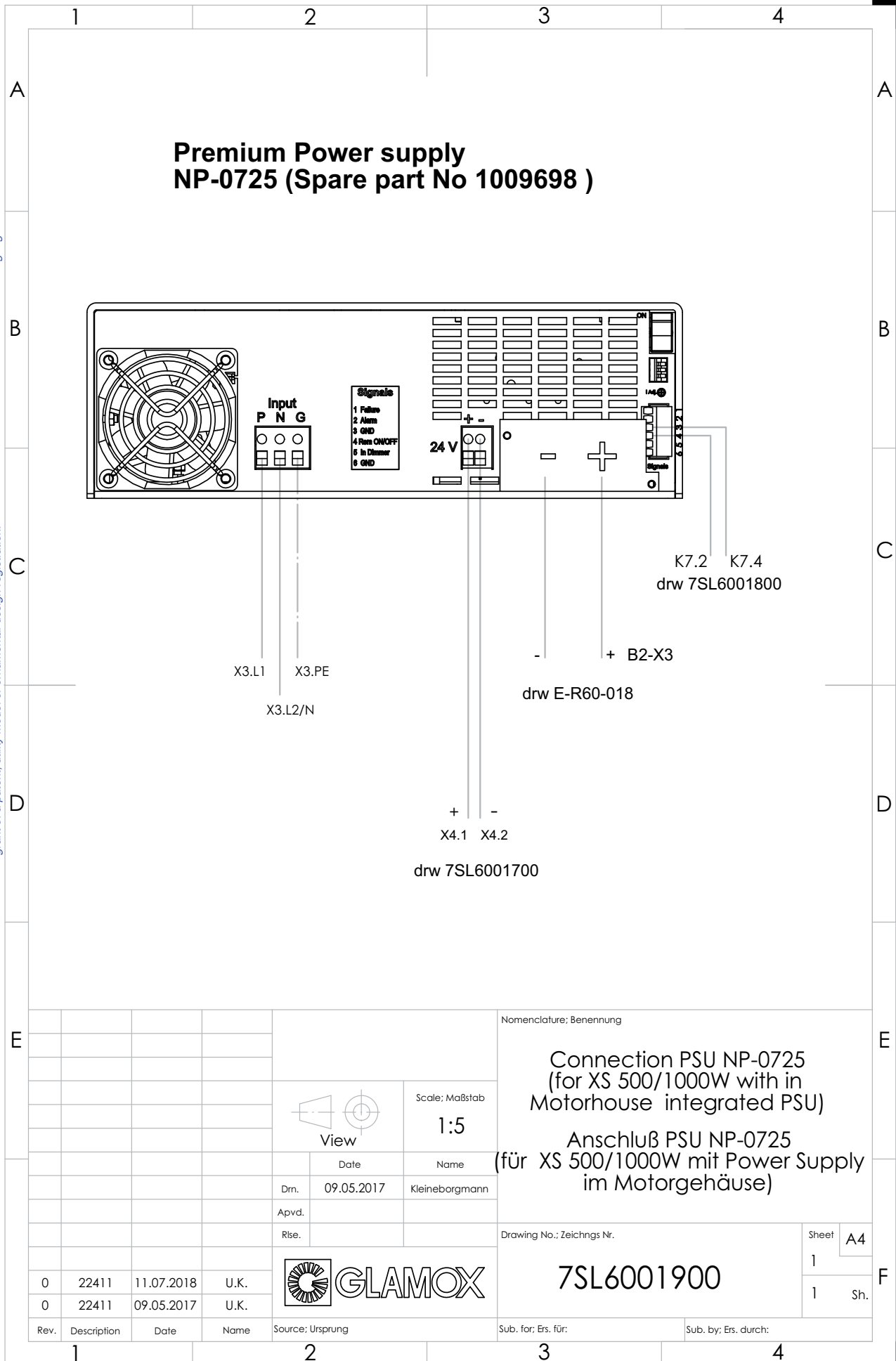


4.7 Power supply NP-0725 for 500-1000W

Weitergabe sowie Vervielfältigung dieses Dokuments, Verwertung und Mitteilung seines Inhaltes sind verboten, soweit nicht ausdrücklich gestattet. Zuwiderhandlungen verpflichten zu Schadenersatz. Alle Rechte für den Fall der Patent-, Gebrauchsmuster- oder Geschmacksmusterertragung vorbehalten.

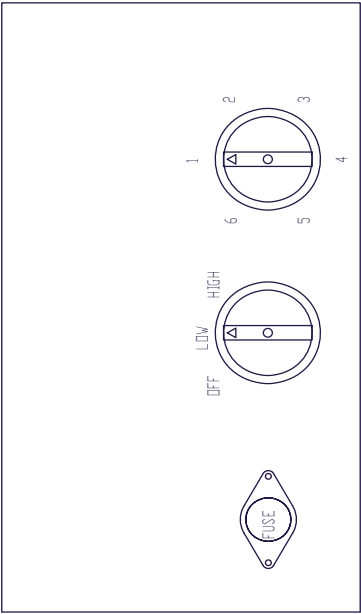
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration.

Glamox Production GmbH & Co. KG
Glasower Weg 5 - 17166 Teterow
<http://glamox.com/gmo>

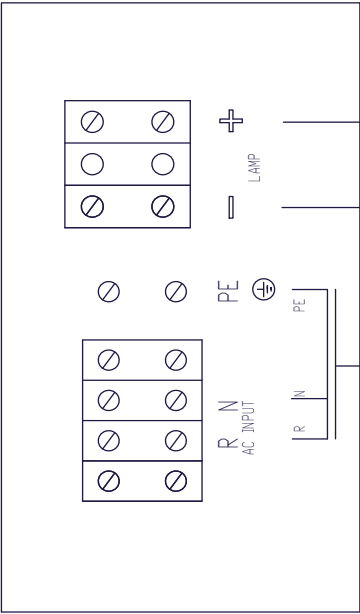


4.8 Power supply PX-50N for 1000W

P max	I max	I Init	Control
1000W	50A		Direct

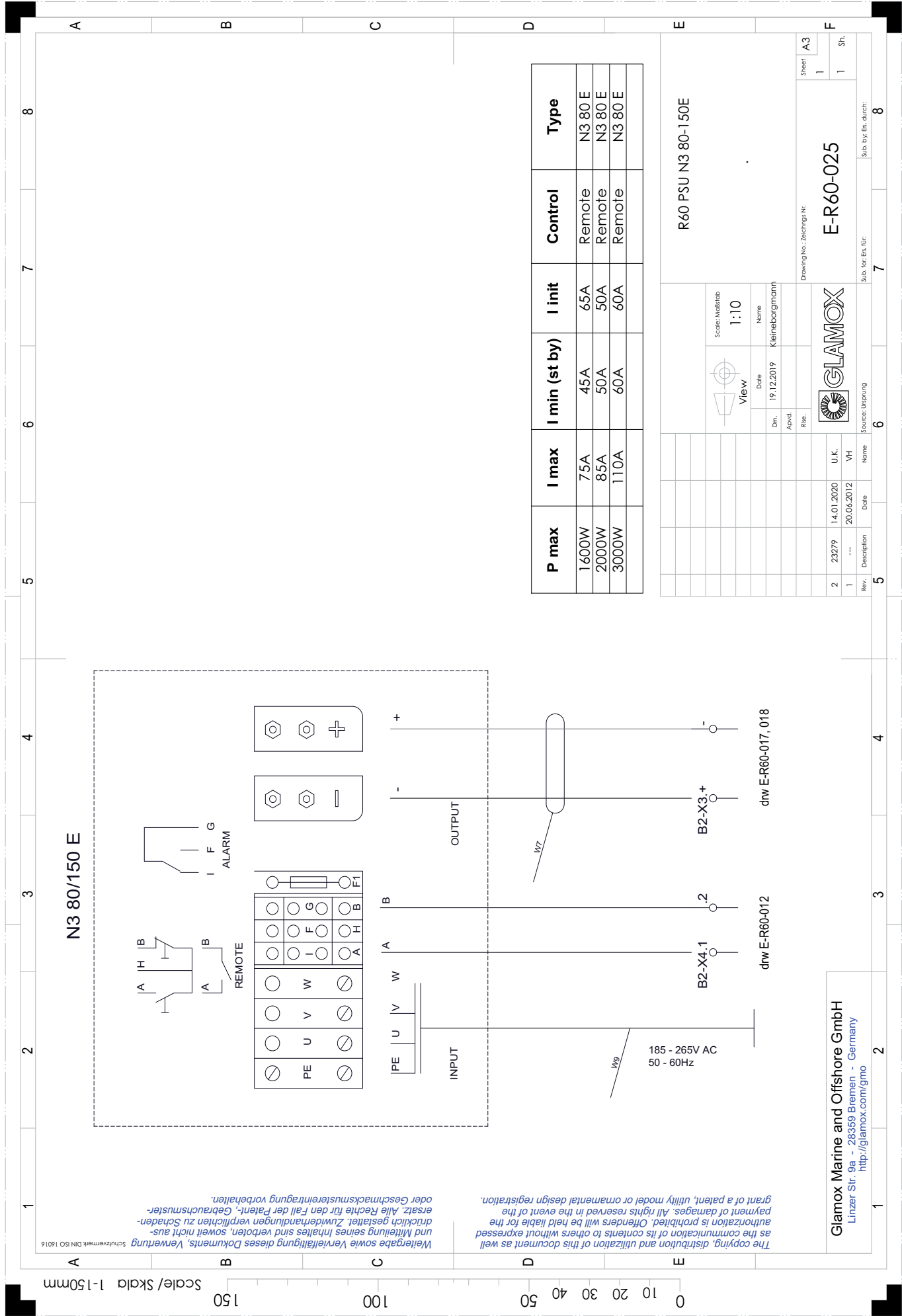


Set the right switch to 5.
Set the left switch to HIGH
and turn the light on.
Then measure the current with an ammeter.
Adjust right switch until you reach 50A

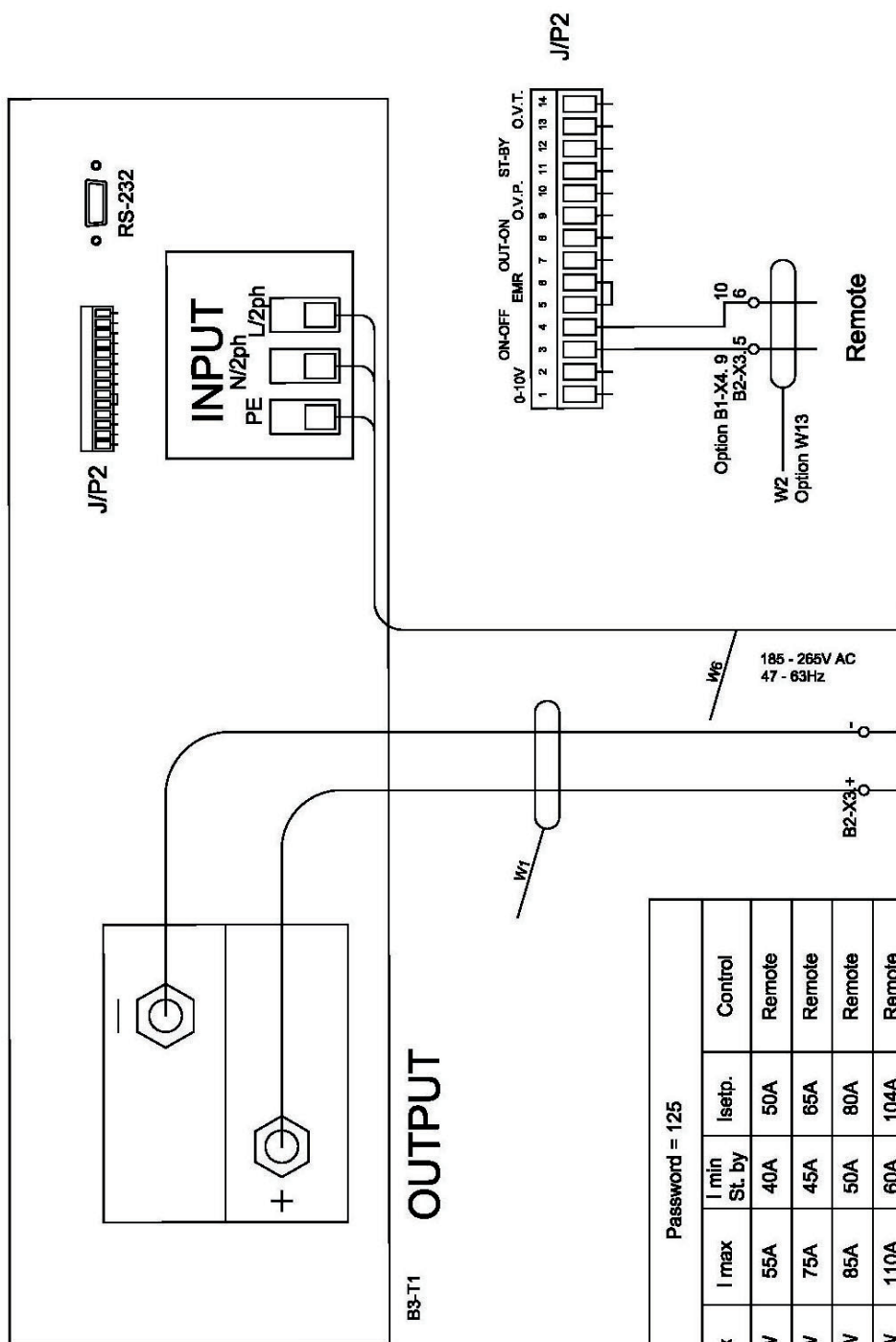


Pos. nr.	Navn, type, dimension	Materiale	Art.nr.
1	Kontaktskruv / VH	Winkelstuk	NORSElight
2	TM 007-14		Estetikkon
3	TM 22458		Utgave
4	TM 22458		E-R60 - 034
5	TM 22458		2
6	TM 22458		Prosjekt
7	TM 22458		A4
8	TM 22458		Prosjekt

4.9 Power supply N3-80E for 1600-2000W



4.10 Power supply EX-100 D/1 for 2000-3000W



Password = 125				
P max	I max	I min St. by	Isetp.	Control
1000W	55A	40A	50A	Remote
1600W	75A	45A	65A	Remote
2000W	85A	50A	80A	Remote
3000W	110A	60A	104A	Remote

[illegible]

5.0 Maintenance

The guarantee is only valid against production faults. It do not cover damage caused by transportation, damage due to disregard of this technical Manual or adverse external effects. Guarantee regarding the bulb, please look at the guarantee papers following the bulb. This must be filled in and returned to **GLAMOX Production GmbH & Co. KG**.



Before installation, maintenance and repair work (also cleaning), disconnect searchlight from power supply and secure against reactivation by third parties. Servicing and maintenance work may only be carried out by qualified and electrically skilled personnel.



**Use safety equipment, face cover and gloves all times!
Do not clean the searchlight with the high pressure!**

General Searchlight Maintenance

Recommended intervals not exceeding:

6 months:

Visual inspection of gasket and glands.

Control of **all screws and nut connections**.

Check the level of grease and refill when needed in glider for lamp holder.

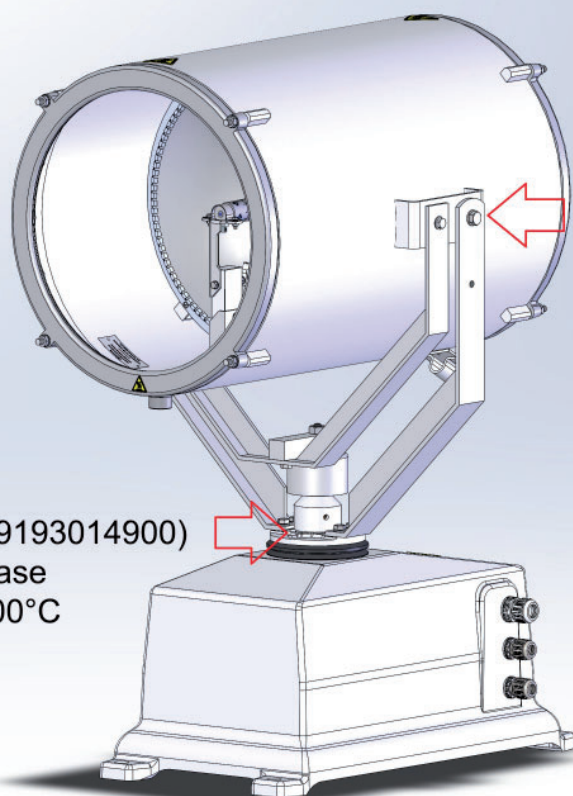
Reflector and front glass to be cleaned with a soft cloth and ethanol or similar.

1 year:

Fill up the grease-nipple on the top of the motorhus with a grease-gun.

3 year:

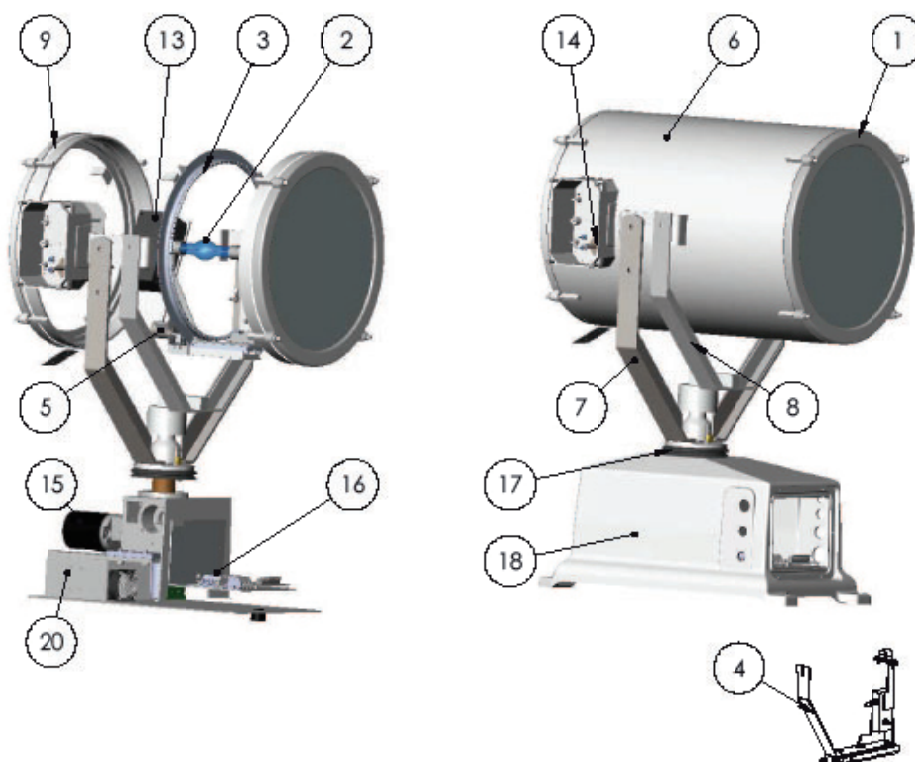
Tighten all terminal strips in the searchlight junction box.



Grease: Lubriplate SFL1 (Art No 9193014900)
or similar Sea water resistant grease
with temperature range -50....+100°C



5.1 Spare Parts List



Pos	Spare part	XS1000	XS2000
1	Front ring complete	1009169	1009149
2	Lamp Xenon - up to series no. 402028	1009699	-
2	Lamp Xenon - from series no. 402029	1006207	-
2	Lamp Xenon - up to series no. 402018	-	1009700
2	Lamp Xenon - from series no. 402019	-	1009210
3	Reflector complete	1009172	1009179
4	Lamp holder kit - up to series no. 402028	1009260	-
4	Lamp holder kit - from series no. 402029	1009296	-
4	Lamp holder kit - up to series no. 402018	-	1009261
4	Lamp holder kit - from series no. 402019	-	1009189
5	Focus unit	2008153	2008153
6	Drum complete	1009303	1009304
7	Forks	1009314	1009313
8	Manouver fork	1009383	1009382
9	Seal kit drum	1009245	1009308
10	Cable kit drum	1009318	1009319
11	Cable external	1009344	1009345
12	Heat element drum 115V	1009135	on request
	Heat element drum 230V	1009173	1009118
13	Ignitor	1009348	1009349
14	EMC filter kit	1009346	1009347
15	Motor Vertical/Horizontal	1009224	1009224
16	Transistor module	1009356	2008077
17	Seal kit motorhouse	1009375	1009375
18	Motorhouse complete	1009358	1009359
20	Power supply	1009698	1009628 (external)

5.2 Lamp replacement

1. Turn off the fuse to the power-supply/rectifier and make sure nobody can turn it on during the replacement of the lamp.
Allow the lamp to cool down.
Use safety equipment. Face cover and Gloves are a minimum.
Caution! Because of its high internal pressure, there is a risk that this lamp will explode in either the hot or cold state.



2. Remove the 4 nuts (6 for the bigger lamps) that are holding the front glass



3. Loosen one bolt, and remove the other bolt fixing the lamp holder bracket.

Note! It is not necessary to loosen the white lampholder from the bracket.

If this has been loosened or adjusted, it is important that the lamp has approximate 1 to 1,5mm of free running space.

See the picture on part number 12 in this document.



4. It might be necessary to use a small screwdriver to loosen the bracket.



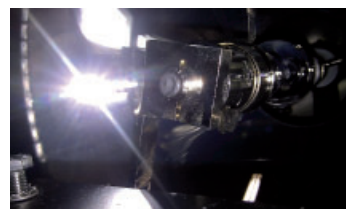
5. Remove the bracket



It is very easy to see where the bracket was mounted, make sure to put it back in the same position when the lamp is replaced.



6. Loosen the bolt holding the positive (+) lamp connector



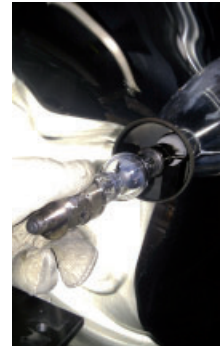
7. Use a flat screwdriver to release the connector



8. Unscrew the lamp using hand force.



9. Replace the lamp, tighten by hand force.



10. Put back the positive connector

Must be pushed in as far as possible, and the bolt tightened firmly.



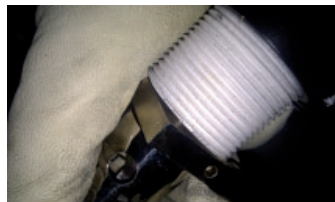
11. Put back the lamp holder bracket



12. Put back the front glass on the searchlight, and you are done.

Note! It is not necessary to loosen the white lamp holder from the bracket when doing a normal bulb change. If this have been loosened or adjusted, it is important that the light bulb has approximate 1 to 1,5mm of free running space because it is expanding when warm.

Check this by pushing the bulb backwards in the lamp holder using light force, the spring holder in the back shall give you the necessary space when installed correctly.



14. Safety

During operation it emits intense UV radiation which is harmful to the eyes and skin.

Keep light beam and hot components away from flammable materials!

15. Disposal

Read attached operating instruction for the lamp

5.3 Troubleshooting

Searchlight don't move , horizontal or vertical:

Check that there is no obstructions eg. stucked cable .

Open the lid on motor house and check the red warning lamps on the PCB.

If the light is red (and the searchlight is not in end position) on one of the lamps it can be caused by the actual motor or the gear.

24V can be connected directly to the motor for testing. (Be aware that the current limitation is bypassed)

The light does not turn on:

Check on the lamp that it get the ignition spark, if no spark change the ignitor

Check the lamp, if the glass is white or black it is broken and have to be replaced

Check that the power supply is on and switch for remote controll is Off (only 2000W)

Check fuses on the power-supply

Focus does not work:

Control that limitswitches is working (with ohm-meter) see page 15-16

Check that there is enough grease on the moving parts

Check for alarm lamp inside the motorhouse on the Motor DriverCard, red means that the motor is blocked.

6.0 Warranty

The warranty does not cover damage due to disregard of specified operating parameters.

Claimhandling: **Contact your Customer service office, see page 4.**

The lamp must be sent back in its original box together with the guarantee card.

The Supplier shall in a period of two (2) year following the date on which the risk in the Products passed to the Purchaser, be liable for defects in the delivered Products.

The Supplier's liability for defects is limited to defects that the Purchaser can prove existed at the date the risk in the Products passed to the Purchaser.

The Purchaser shall notify the Supplier in writing of any defects in the Products that could have been detected upon inspection of the Products at receipt, immediately, and no later than 30 days following the receipt. Should the Purchaser fail to provide the Supplier with such notification, the Supplier shall be discharged of any liability for defects in the Products that reasonably could have been detected by such inspection at receipt.

The Supplier shall not be liable for any defects in the Products caused by incorrect or negligent use or storing of the Products, faulty assembly and/or faulty installation, including defects resulting from faulty modification work or repair of the Products initiated by the Purchaser or third parties without the prior written approval of the Supplier. Further, the Supplier shall not be liable for defects in the Products caused by natural wear and tear.

The Supplier shall, at its own choice, either repair or replace the defective Products.

The Supplier shall be given reasonable time and opportunity for such repair or replacement and any denial of the same by the Purchaser shall discharge the Supplier from his liability.

In so far as the Purchaser's notification of defects proves justified the Supplier will cover necessary costs related to the repair work or replacement of products leading to a restoration of the defective Products.

The Purchaser shall not be entitled to return the Products to the Supplier unless the Supplier has provided his prior written approval thereto.

If the repair or replacement of defective Products is unsuccessful or can not be effected within agreed deadlines, the Purchaser shall be entitled to cancel the contract whereby the Supplier shall credit the Purchaser for the payments that have already been made for the Products (if any).

