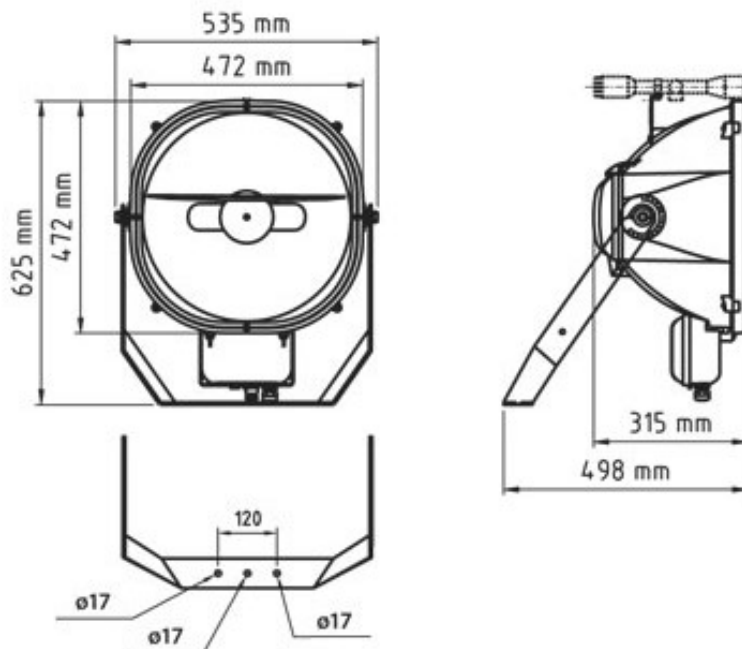


UV-MASTER 1000W ECG IP65 Daylight LIH14132907R9

Rated power output	1000W
Protection class	IP65 (dust tight, protected against high pressure water jets from any direction)
Protection type	I
Impact resistance	IK 08
UV lamp included	Code14031965
UV transparent glass	Code LIH14241964
Nominal line voltage	220..240V AC
Frequency	50 – 60 Hz
Maximum inrush current secondary	12A
Maximal Air-Temperature for ECG	Ta=35°C



Abmessungen

Abmessungen (LxHxP)

625 x 535 x 315 mm

Maximales Gewicht des Gerätes

13.50 kg

Dem Seitenwind ausgesetzte Oberfläche mit
Neigung 70°

0,20 m²

Fig.1: Dimensions

• Safety considerations for people and animals

- *This device **UV Master 1000W ECG IP65 daylight** could be used without additional lighting system. The Daylight lamp has a good color rendering index. It could be causes problems to regulate the UV separately.*
- *So, we recommend to use it only in addition to an efficient lighting system: it was designed for UV B and UV A radiation using UV lamp UV 1000W daylight and may be switched on and off for any period and at any time e. g. by an automatic timer, while visible light is provided by your lighting system. This allows precise control of the exposure of animals to UVB radiation. This is an advantage.*
- UV radiation may cause serious burn injuries to people (sunburn) depending on their skin type. Protect your skin by appropriate clothing and sunscreen and wear glasses with protective lenses. **UV Master 1000W ECG IP65** is not certified for medical treatment of human beings.
- A veterinarian or biologist must define time t and exposure level E_{UV-B} for animals exposed to UV B radiation.
- We recommend a cut-off mechanism at the door protecting animal keepers and other staff members from burn injuries.
- Areas free for visitors must not be exposed to UV radiation.
- Exposure ($H_{UV-B} = E_{UV-B} \times t$) defines the radiation effect.
- For some animals the installation of an additional infrared radiation device may be reasonable. Please always make sure that this will not lead to temperatures too high for the exposed animals. Please always make sure that this will not lead to temperatures too high for the UV Master and his cabinet
- We recommend starting exposure of animals with very small doses. Radiation from above is ideal, as it simulates radiation from the sun and the animals 'eyes are protected naturally.
- Always provide a minimum distance of 2 m between UV Master and exposed surface. Irradiation intensity depends very much on the distance between device and exposed animals. As animals move, this distance will change frequently, and irradiation intensity will change accordingly.

• How to influence UV-B irradiance level:

- Change of spacing or direction: the intensity of UV B radiation is very dependent on the distance between device and exposed animal.
- Change of reflector: choosing different reflectors from our product range enables you to control intensity and radius of the light beam.
- Change of lamp with higher UV output: if you replace the preinstalled lamp UV 1000W daylight LL K12s (LIH14031965) by UV 1000W skylight (LIH14041965) the irradiance level will increase significantly, while the quality of visible light and service life of the lamp will decrease.
- Change of lamp with lower UV output: if you replace the preinstalled lamp UV 1000W daylight LL K12s (LIH14031965) by UV 1000W warm white LL (LIH14021965), the irradiance level will decrease significantly, while the quality of visible light of the lamp will increase.

lamps for UV Master

		Name	Life-time [h]	UVB Waste	colour rendering index	UVB output [W]	light flux [lm]	colour temperature [K]ur
8	LIH-14041965	UV 1000W skylight K12s LA	800	30%	70	50	45.000	15.000
9	LIH-14031965 LL	UV 1000W daylight K12s SA	2000	30%	80	17	90.000	6.000
10	LIH-14021965	UV 1000W warmlight K12s SA	2000	30%	80	8	90.000	4.500

● Installation guide:

- Select a distance between UV Master and objects in its environment considering the selected application as well as UV sensitivity and temperature sensitivity of the exposed animals.
- If you install the device on flammable materials (DIN 4102) make sure to provide minimum distances as shown in fig. 2.
- Fix UV Master in a manner that prevents it from damage caused by the exposed animals.
- Install the device according to the technical requirements for the UV lamp used.
- Don't connect your UV Master directly to the power supply. Always use a ballast unit that meets the technical requirements of your power supply. Supply frequency and voltage are country-specific. The Ignition device IGZ 12 is in the connection box. This allows you to install your ballast units in groups in a distance away from the UV MASTER devices: up to 10 m distance for electronic control gear (ECG); up to 50m distance for low loss ballasts (LLB). For maintenance it is essential to observe the correct line cross-sections.
 - If you want to install the electronic gear on a distance more then 10m up to 50m you should follow the special conditions:
 - 1. Use an extra plastic tube I for the electrical wire (PE, D, N_L, N_I) between electronic gear and lamp housing.
 - 2. Use an second extra plastic tube II for the power cord and the Control line (maybe for an relay).
 - 3. Keep the distance between plastic tube I and II of more than 30cm
 - 4. Keep the distance of minimum 30cm between other power cord wires (230V, 400V) and the plastic tube I.
- Each ballast unit 1000W (LLB or ECG) needs to be protected by 2x16A (LLB) or 1x16A(ECG) (B).
- For fixing the UV Master we recommend using M16 bolts, spring lock washers and nuts. Tighten the fixing bolts with a torque of 100N/m.
- Turn off the voltage before opening the device.
- Open the special glass screen only, if any works need to be performed near the reflector or if front screen or reflector need to be replaced. After finishing these works make sure that the frame seal is integrated correctly into the notches. Then carefully tighten the 6

bolts.

- Broken front screens must be replaced immediately; use original LIH screen only (code LIH14241964).
- Safe operation of your UV Master can be guaranteed only if all operating instructions will be applied.
- Keep this manual after installation for later reference.

• Safety instructions, possible positions:

- The device may be fixed to flammable surfaces if a minimum distance according to Fig. 2 is guaranteed.
- When in operation the UV Master must not be inclined more than 80° , see Fig. 3! In the first place, radiation from above is more natural for animals. In the second place, angles exceeding 80° may lead to overheating, which will cause the glass to shatter.
- Please use the original mounting holders for the cabinet of Rittal. So, you will have a good additional air cooling between wall and cabinet.

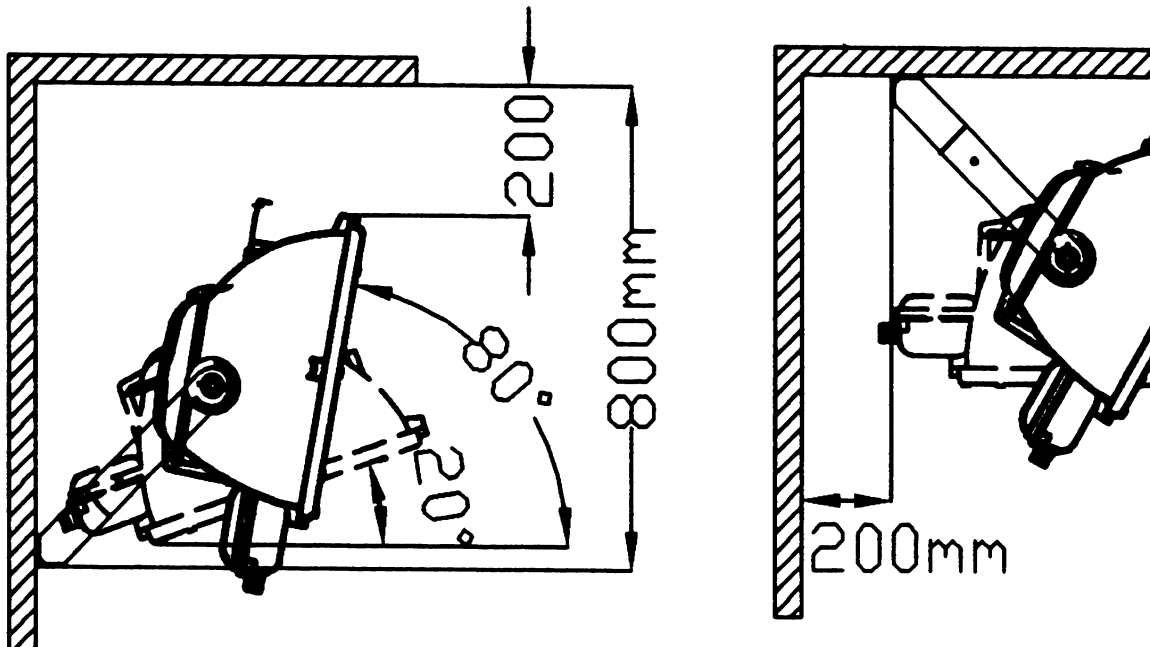


Fig. 2: Minimum distances on flammable materials.

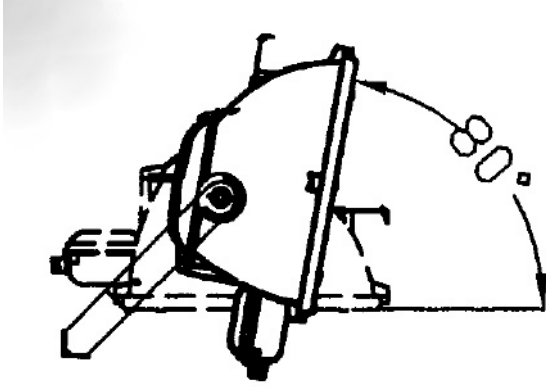
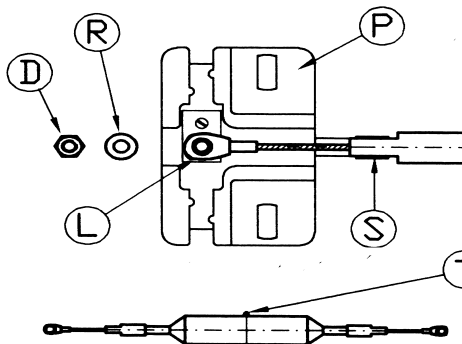


Fig. 3: Maximum angle of inclination

• Fitting and replacement of the UV lamp

- For fitting and replacement of the UV lamp open the rear hatch of the UV MASTER by opening both steel clamps „M“ by hand.
- Perform fitting according to Fig. 4.

Fig. 4



- **Warning:** when mounting the lamp make sure the protuberance “T”(exhaust tube) does not point downwards facing the front screen!
- Insert the UV lamp tightly in the steel springs “S” of socket “P”.
- Then connect the stranded wire to the electrical contact of the socket.
- Insert washer “R”, then carefully tighten nut “D” with a torque of 2,5N/m.
- Make sure the UV lamp is positioned in the very center of the reflector.
- When the UV lamp is mounted safely, close the rear hatch of the UV MASTER device by pressing it into place using minimal force. Make sure the housing seal is positioned correctly. Then close the cover clicking the springs shut.

• Electrical Connections

- Fig. 5 and 6 show the electrical diagram.

Fig. 5 in cabinet

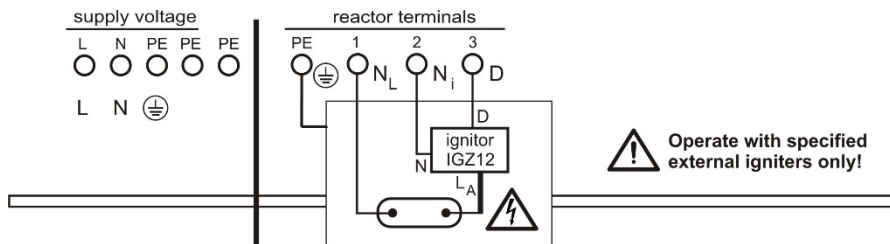


Fig. 6 in connection box of UV Master

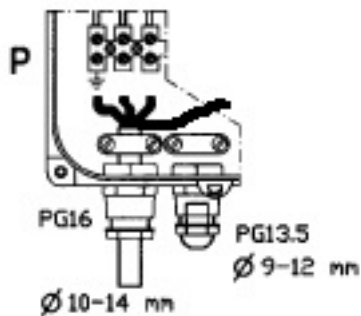
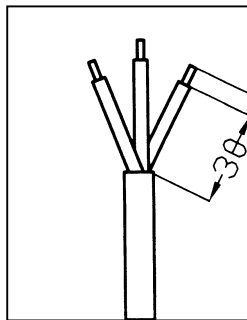


Fig. 7



- Run the three-pole connection cable of the ballast unit (diameter 10-14mm) through the cable bushing "A" and connect it to the cable clamp. Strip cable ends as shown in Fig. 5.
- Each cable must be connected to the connector block and locked safely.
- When all cables are connected, make sure that there is no bare copper protruding out of the clamps.
- Tighten the ring nut of the cable gland using a model 27 wrench.
- Make sure the screws of the connection box are tight and the frame seal is seated firmly in the notches.

Attention

- This device (ECG) houses a DIP switch for selection of the output power. 2000 W is the output power the switch cabinet is designed for. Higher output power can lead to excessive heating inside the cabinet, while overheating inside the cabinet will turn off the device automatically. It can be restarted, though, after cooling down.
- Only LIH ignition devices with the marking IGZ12 may be used. They must be connected according to the wiring diagram. Never change the wiring inside the switch cabinet! Open the cabinet only after disconnecting it from the power supply.

Parameters

Rated power output	1000 W
Starting current	12 A (until reaching 1000 W)
Current form	50 - 60 Hz, rectangular
Ignition voltage IGZ12	4 – 5 kV
Connected power at nominal power	max. 2200 W
Protection class	IP65 (with closed cabinet, using supplied mounting material)
Ambient temperature	long term 35°C

Function description

Starting the device	<ul style="list-style-type: none"> - the device starts as soon as it is connected to the power supply - ignition device switches on (attention: high voltage up to 5 kV) - lamp ignites - ignition device switches off - the device supplies lamp current at 12 A until the lamp power is at 1000 W - lamp is being adjusted to 1000 W
Re-ignition (hot lamp)	<ul style="list-style-type: none"> - first ignition fails, lamp is too hot - ignition device ignites at intervals of 15 s - total duration: 600 s, then abortion due to error (LED „lamp fault“ on)


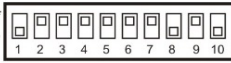







Status of the LEDs

No.	LED	Name	OFF	BLINK	ON
1	●	ballast on / standby	ECG off	ECG in standby	ECG on
2	●	communication		digital communication	response to ping
3	●	ballast fault			ECG error
4	●	temperature protection	temperature OK	critical temperature	ECG overheated
5	●	mains voltage fault	line voltage OK	critical line voltage	line voltage drop (e. g. brownout)
6	●	ground fault			ground fault detected
7	●	lamp on		fast: ignition (high voltage) slow: lamp starting	lamp on (power control)
8	●	lamp fault			lamp fault

Trouble Shooting

Error	- device switched off
Procedure	- disconnect the device from power supply! - verify assembly - verify setting of the DIP switch - connect the device to power supply
Device doesn't start	- verify setting of the DIP switch

No.	LED	Name	Recommended tests
3	●	ballast fault	- all following steps - contact LIH
4	●	temperature protection	- is air inlet or outlet blocked? - does fan rotate freely?
5	●	mains voltage fault	- is input power sufficient? - when starting the lamp and when device is in maximum operation, switch off all other loads. Lamp may be dimmed in operation.
6	●	ground fault	- verify cabling
8	●	lamp fault	- lamp connected? - verify cabling - lamp defective? - lamp does not ignite (e. g. overtemperature)

Configuration table: DIP switch - lamp type					
ID 0		LIH 1403 1965 1000 W	ID 5		LIH 1403 1962 2000 W
ID 1		LIH 1402 1965 1000 W	ID 6		LIH 1404 1962 2000 W
ID 2		LIH 1404 1965 1000 W	ID 7		LIH 1405 1962 2000 W
ID 3		LIH 1401 1962 2000 W	ID 8		LIH 1404 1970 250 W
ID 4		LIH 1402 1962 2000 W			

Please use always the label on the device. This is only a sample for understanding.

LIH

WARNING!

Never spray cold water on the protective screen while it is still hot, as this will cause damage to the screen!

Always switch off your UV Master and allow it to cool off before cleaning

Any failure to comply with these instructions may cause severe burn injuries or make the protective screen burst!

LIH

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