

High Power Electronic Gear Installation and operation Guide

96268731
96267936

GT 1 KW 230-240 V HQITS-S DGE CLI WI SC
GT 2 KW 230-240 V HO/HF DGE CLI WI SC

IP21				
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IP21 electrical gear for 1 and 2 kW
HIT-DE lamp, suitable for the
dedicated Altis DGE floodlight.
To be installed remotely in dedicated
cabinet.

Ignitor not included (integral to the
Altis DGE ignitor box)



Lamp Compatibility: HQITS-HF (OS); MHNSB-HO (PH)
Weight: 3,6 kg

Warning!

Installation is entirely at your own risk. Read this manual from cover to cover before attempting installation and follow all safety instructions. Do not attempt installation unless you are suitably qualified. It is essential to isolate the electronic ballast/ignitor or the connected luminaire electrically from mains voltage before maintenance !

Installation

The electrical installation has to be completed as described in 'Dimensions and Connection'.

Ballasts and fixtures / luminaires must be grounded in accordance with the National Electrical Code and any local regulations. Without proper fixture and ballast grounding, a shock hazard may occur due to the fixture becoming energized by an internal ballast failure. In addition, all ballasts have normal leakage current. When the ballast is properly grounded, the leakage current does not constitute a hazard when conductive parts are touched.

Attention: The ballast/ignitor has been designed to be installed into suitable enclosure, cabinets etc. that guarantee protection against touching of active parts and live voltages.

Provide for sufficient cooling when installing one or more ballasts and the corresponding components into suitable enclosures / switchgear cabinets, poles and boxes. Ambient temperature around the ballasts must not exceed 45 °C during normal continuous operation.

Operation

After connecting to mains voltage, the ballast tries to start the HID lamp of the connected luminaire by activation of the ignitor. In case an immediate start of the lamp is not possible, for example because the lamp is still too hot, every 30s a new ignition sequence will be started automatically. This automatic restart-mode is restricted to a maximum 20min period. If no successful start can be enforced within this time period, the ballast has to be isolated from mains voltage and the installation as well as the lamp has to be checked. In case of overtemperature on the components inside the driver the lamp is turned off, press Reset button for restart after cool down.

Technical data

Type	GT 1KW HQITS-S	GT 2KW HO/HF
Order No.	96268731	96267936
Rated ballast power	1040W	2080W
Rated lamp-type	HQITS-S	HQITS-HF; MHNSB-HO
Input voltage range for operation between phase and neutral of a single phase system	210-240V±10%	210-240V±10%
Maximum Input current	6.1A	11.8A
Line frequency	50/60Hz	
Maximum inrush current (t _{off} ≥60s)	< 35A	
Open circuit voltage approx.	400V	400V
Maximum lamp voltage	140V (f=250Hz)	240V (f=250Hz)
Maximum lamp current	9.5A	11A
Auto restrike function	10s max. ignition time; 30s break; 30 times repeats	
Protection	<i>Ground fault output monitoring with latched shutdown, restart with main voltage reset and reset button (press ≥ 3s)</i> <i>Over temperature protection, restart with main voltage reset or reset button</i> <i>Short circuit protection, automatic shutdown after 4 min; restart with main voltage reset or reset button</i> <i>Open circuit protection / End-of-lamp-life detection, reset with reset button only</i>	
Current ripple	< 4%	
Earth leakage current 264V, 60Hz	< 2,5mA	< 2,5mA
Efficiency	0,91 typ. at U _e = 230V, UL= 120V	0,93 typ. at U _e = 230V, UL= 210V
Max. power dissipation	130W	200W
Power fluctuation in lamp arc / mains	± 5% / ± 1%	
Ambient temperature range	-10°C ... 45°C	
Recommended ambient temperature of use	20-30°C	
Output power tolerance	± 5%	
EMI	internal noise filter	
Maximum dimensions in mm	L x W x H 392 x 145 x 116	
Weight in grams	3.600gram	
PFC	Active Power Factor Correction	
Lamp on	LED – Lamp ON	
Approvals	-	

Generally all discharge lamps can be supplied within following limits:

Limits:

GT 1 KW:	IL _{max} = 9,5A	UL _{max} = 140V	P _{max} = 1040W
GT 2 KW:	IL _{max} = 11A	UL _{max} = 240V	P _{max} = 2080W

Connections

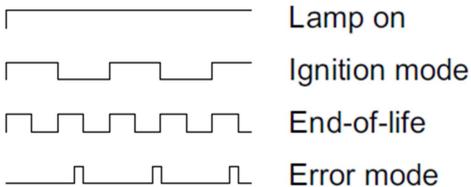
Mains input	Screw clamp terminals	Wire cross section to handle: 1,5 to 4 mm ² (6mm ² – solid wire)	Recommended torque value
		Protective Earth	0.6Nm
	N	Mains ~	0.6Nm
	L	Mains ~	0.6Nm
Output to ignitor	Screw clamp terminals	Wire cross section to handle: 0,5 to 4 mm ² (6mm ² – solid wire)	
		Protective Earth	0.6Nm
	X4	Low Frequency Square Wave	0.6Nm
	X3	Low Frequency Square Wave	0.6Nm
	X5 *)	control	0.6Nm

*) Not used in combination with 2-wire ignitors

LED Status indicators

LED Status	Operating/error mode description	Reset by
Continuously lighting	Lamp on	-
Flashing at low frequency (~0.5Hz)	Ignition mode	-
Flashing at higher frequency (~5Hz)	End-of-lamp-life shutdown	Reset Button
Flashing with short flash pulses	Error mode ^{*)}	Reset Button

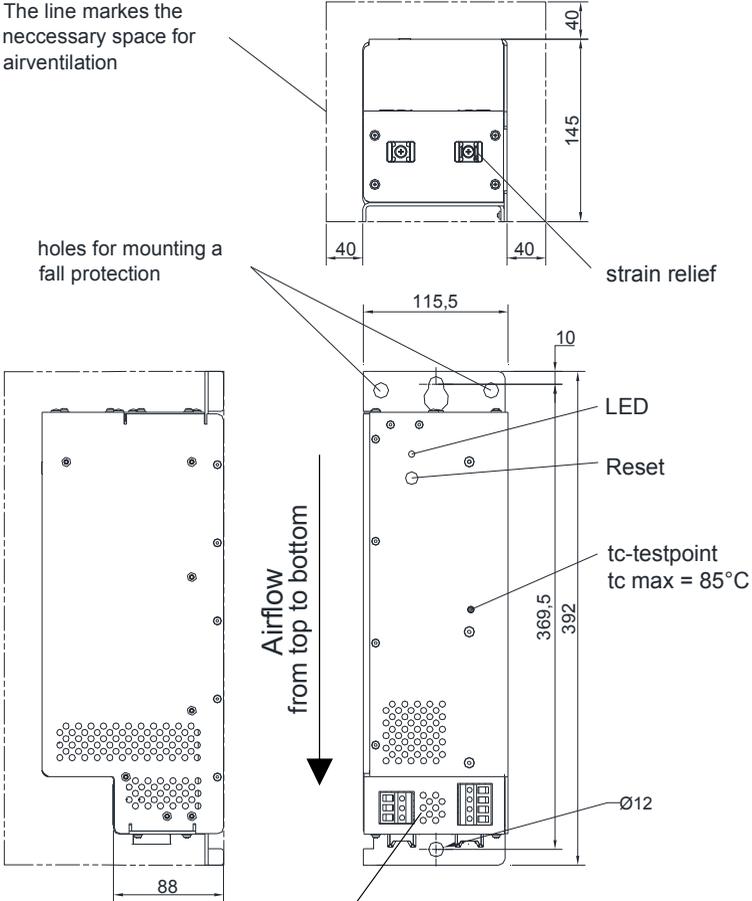
^{*)} Refer section "First action in case of malfunction" for list of possible root causes



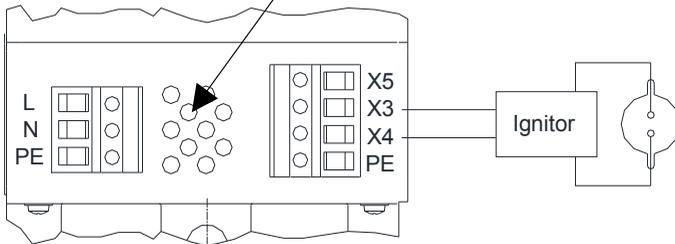
Dimensions, mounting-, wiring data and tc - testpoint.

The line marks the necessary space for airtventilation

holes for mounting a fall protection



dimensions in mm



Maintenance recommendations

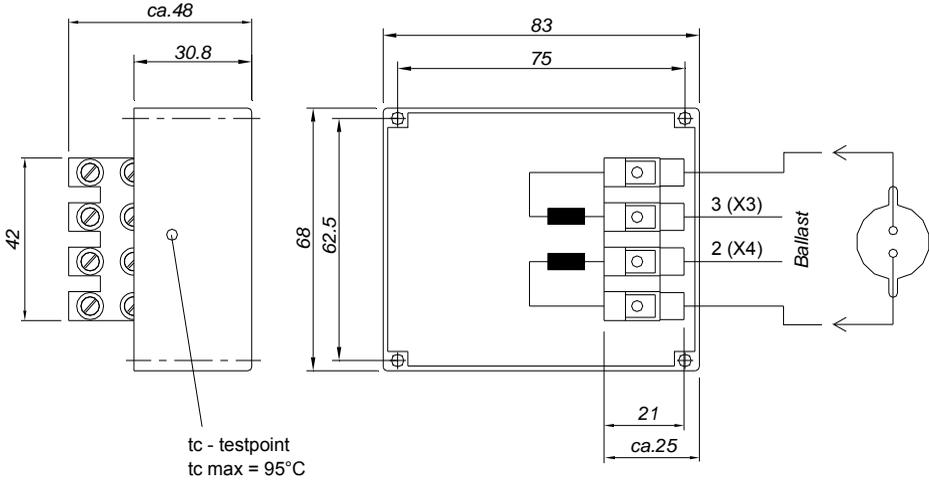
Visual check shall be performed each year to ensure ballast performance over time:
No dust or moisture on ballast.

Ignitor

Ignitor delivered pre-wired in floodlight

In case of replacement, please use: 96270858 AMORC. KZG 12-8 THORN

12A / 8kV^{*)} max input voltage: 400 Vp



*) Ignition pulse voltage measured according EN 61347-2-1:2001 circuit figure 1

First action in case of malfunction (Disconnect from the mains before maintenance!)

Description malfunction	possible error cause	trouble shooting
Shutdown (over temperature)	<i>over temperature at internal components detected</i>	<p><i>Take care for sufficient air circulation</i></p> <p><i>Check the distance between the devices (>=40mm)</i></p> <p><i>Check fans</i></p> <p><i>Press reset button >=3s for restart after cool down.</i></p>
Shutdown (End-of-lamp-life)	<i>Lamp reaches max. operating hours</i>	<i>Replace lamp and press reset button >= 3s</i>
Shutdown (Ignition time limit)	<i>No successful ignition happens during complete ignition sequence</i>	<i>Check lamp and ignitor and press reset button >=3s for restart</i>
Shutdown (mains low)	<i>Mains voltage low</i>	<i>Ballast performs automatic restart as soon as the mains voltage has reached nominal range values again.</i>



Safety warnings

Do not attempt to handle or operate an electronic power supply (EPS) and ignitor before completely reading and understanding this notice. Contact THORN if you are uncertain of hazards associated with these devices.

The Ballast and the ignitor produce starting voltages of up to 10 kV and electromagnetic radiation interference which are hazardous to personnel and sensitive instrumentation. Exercise appropriate care in the handling of high voltages. Do not touch any conductive parts during operation.

Ballasts and fixtures / luminaires must be grounded in accordance with the National Electrical Code and any local regulations.

Without proper fixture and ballast grounding, a shock hazard may exist due to the fixture becoming energized by an internal ballast failure. In addition, all ballasts have normal leakage current. When the ballast is properly grounded, the leakage current does not constitute a hazard.

Ensure the units are isolated electrically / disconnected from the mains before maintenance / exchanging the lamp of the luminaire connected to the ballast / ignitor. Caution: The residual charge on the capacitors inside the ballast / ignitor can be a danger to life even if the units are disconnected from the mains. Please handle with care. Also be aware that the lamp / ballast module may still be hot, so exercise necessary caution to avoid burns. Both, electronic lamp ballast and ignitor must never be installed or operated in an explosive or

volatile atmosphere. Never use the ballast or ignitor near flammable gases or liquids. See that there will be no moisture, dust or similar which could lead to short circuits or fire.

Before using the ballast or ignitor in any kind of outdoor application you have to take additional measures and observe special requirements. If you are uncertain, contact THORN.

No potential isolation is provided between line input and output. Accidentally grounding of an output terminal by direct contact or arcing to GND can damage the unit (no warranty replacement).

The electronic ballast / ignitor has been designed to be installed in closed housings (switchgear cabinet). Mounting, wiring, maintenance and replacement if necessary has to be done by qualified personnel only. Due observation of the valid norms and safety regulations is mandatory when mounting and wiring the device. The user is responsible for ensuring that sufficient cooling is provided during operation.

THORN does not assume liability for disregarding of this notice, incorrect use of the ballast and ignitor or disregarding of any legal requirements. This product is subject to technical changes without prior notice.

CAUTION:

Mains supply must be fused according to local safety regulations. THORN recommends 2 pole fuse (L+N). The appropriate fuse value can be calculated as:

$$1,5 * \frac{P_{\text{lamp}}}{V_{\text{line}}} \geq I_{\text{fuse}} \geq 1,2 * \frac{P_{\text{lamp}}}{V_{\text{line}}}$$

symbols

	CE conformity
	Attention: Device operates on high voltage!!!
	Attention: Device is getting hot during operation
	Special waste: After product life, device has to be disposed in special waste.
	Installation and servicing of electronic device only by qualified electrical employees.
	Disconnect electronic device from power supply before servicing.
	For indoor use only.
	Read attached instructions before use.