

CSI

**Compact Source Iodide Projector Lamp
(Hot Restrike) 1kW**

Identification

Specification Ref. 99-0421

Applications

The high efficiency, robustness, and small size of this lamp makes it eminently suitable for cinema and television lighting use. For photographic purposes it is suitable for use with daylight colour film stock.

Description

The 1kW CSI Compact Source Iodide Lamp Ref. 99-0421 is a modified form of the standard 1kW CSI Ref. 99-0221 in which the lamp terminations have been modified to give better insulation so enabling the lamp to be restarted instantly when hot.

Performance

Electrical Characteristics

Supply voltage	220V, 240V
Arc watts	1000
Arc volts	70/85
Arc current	15 amps
Run-up time	30 sec.
Restart time	Instantaneous
Starting current (cold)	17 amps approx.

Dimensions

Overall length	118 mm max.
L.C.L.	63.5 ± 2 mm
Diameter	32 mm max.
Arc length	14-15 mm
Cap	Bipost G 38

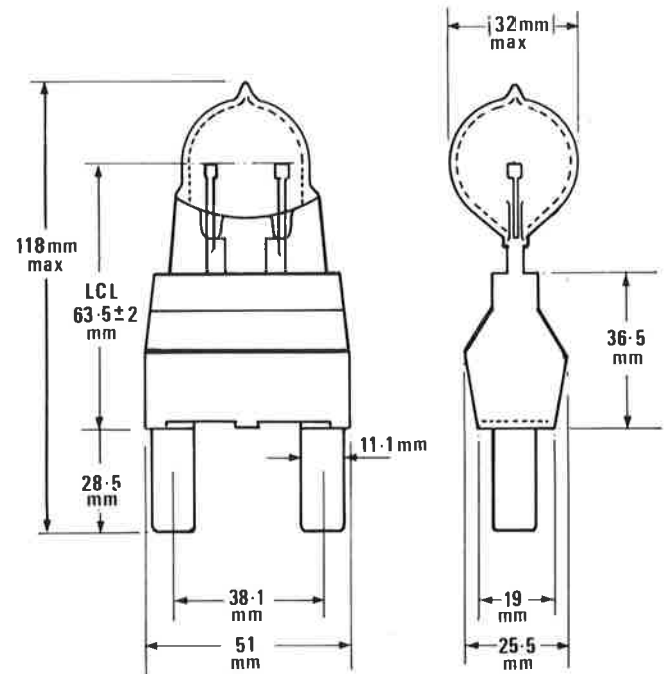
Luminous Characteristics

Initial efficiency	90 L/W
Lumen maintenance	85%
Centre arc brightness	8,000 stilbs
Life	500 hrs
Operating position	Universal
Chromaticity co-ordinates	x = 0.385 y = 0.395
Colour rendering index	RA 85

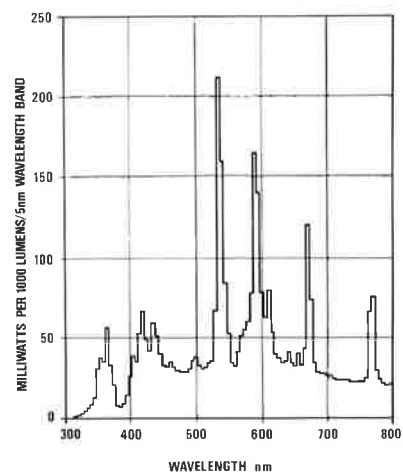
Control Gear

One choke G53307.T in parallel, PF correction capacitors and 20kV minimum output starter unit.

Recommended type, G53352.
See circuit diagram.



SPECTRAL POWER DISTRIBUTION CSI COMPACT SOURCE METAL HALIDE



Electrical Characteristics 220/240V 50Hz

Supply voltage	220	240
Supply frequency (Hz)	50	50
Supply current (A)	5.6	5.0
Total circuit watts (W)	1120	1140
Supply power factor (lagging)	0.91	0.94
Lamp voltage (V)	77	77
Lamp current (A)	14.7	14.7
Lamp wattage (W)	1000	1000
Maximum starting current (A)		
1) line current (175 μ F PFC)	5	3.5
2) lamp current no PFC	16	16
% 3rd harmonic content in line current	18	18
Recommended fuse rating	20A	20A

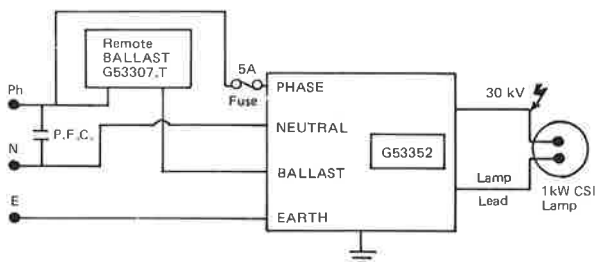
Power Factor Correction

Capacitors are connected between phase and neutral for single phase operation. The recommended value of power factor correction is 175 μ F which results in a supply power factor of 0.94 (lagging) in the 240V circuit and 0.91 in the 220V circuit.

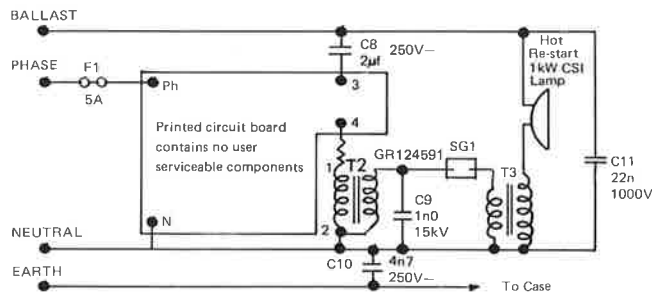
For details of Three Phase Operation and supply voltages other than 220/240V AC 50Hz see Thorn Lighting Data Sheet Ref. T49/T available on request.

Circuit Diagram

1kW Hot Re-start Circuit (for 220/240V 50Hz supplies)



Schematic wiring diagram for Hot Re-strike with G53352 ignitor



The G53352 consists of a 50/60Hz transformer (T2) high voltage capacitor (C9), spark gap (SG1), output transformer (T3) and control circuitry.

Installation

Standard G38 lampholders should not be used with this lamp and circuit as they will not necessarily carry the high pulse voltages required for hot restart. A lampholder with well insulated sockets is necessary.

Suitable lampholders GL1198.

Short well insulated leads between starter and lamp are essential to prevent actual arcing and to minimise pulse losses by 'brushing'. The following minimum clearance and creepage distances between the hot lead and any adjacent metal, whether earthed or not, are recommended.

- Clearance distance (1) Between smooth surfaces 15 mm.
(2) Between sharp projections 30 mm.

Creepage distances i.e. bridged by an insulating surface 30 mm.

Operation and Maintenance

Safety

Before Use

Always isolate the equipment from the electricity supply before inserting or replacing a lamp.

Check that the replacement lamp is the correct type for the application, wattage and cap for use in the circuit and with control gear.

Ensure that the lamp is correctly located in the lampholder and the quartz envelope is not scratched during insertion.

During Use

High pressure mercury discharge lamps with quartz envelopes without glass outer bulbs emit short wave ultra violet radiation which is readily transmitted through quartz. This radiation is harmful to eyes and skin. Operators must be shielded from direct or reflected short wave ultra violet radiation.

Certain metal halide lamps have operating restrictions, details of which are specified with the lamps.

Disposal

These lamps should be broken in a container. Precautions must be taken against flying glass or other fragments. The operation should be carried out outdoors (or in a well ventilated area). Where applicable, the debris of large quantities of lamps must be disposed of in accordance with the rules of the Local Authority.

Thorn Lighting reserve the right to alter the specification without prior notice or public announcement.