

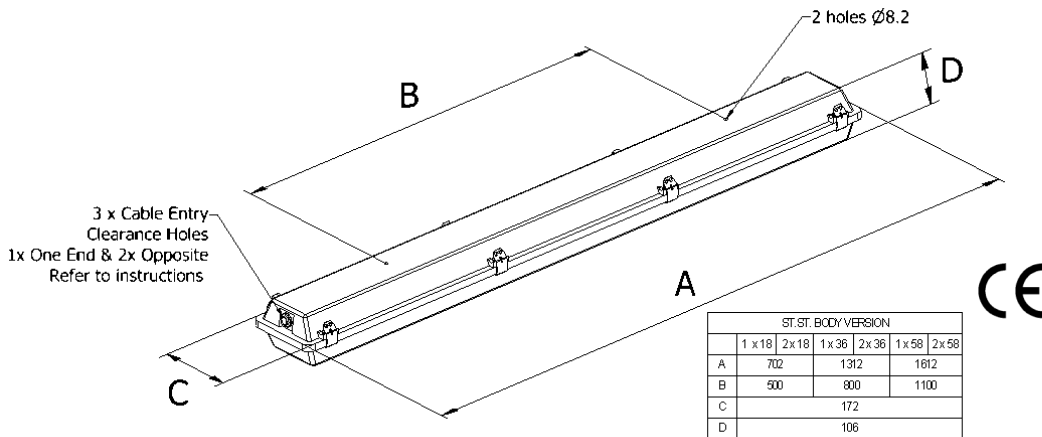
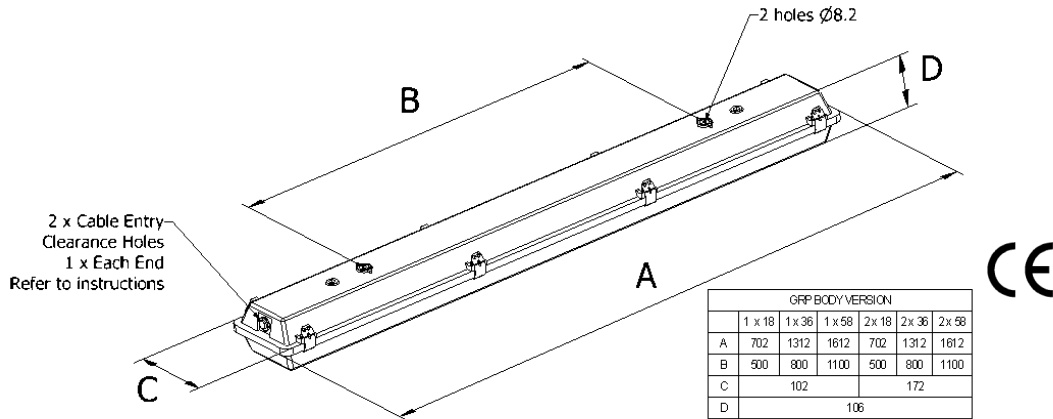
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Installation, Operation and Maintenance Instructions

Marquis II

Models VL55I, VL55I H/F, VL56I, & VL56I H/F Industrial Area Fluorescent Luminaires

Important: Please read these instructions carefully before installing or maintaining this equipment. Good electrical practices should be followed at all times and this data should be used as a guide only.





0.0 Specification

Area Classification Non-Hazardous (Industrial)

Standard EN 60598-1

Ingress Protection IP65 to EN / IEC 60529

CE Mark The CE marking of this product applies to "The Electrical Equipment (Safety) Regulations 1994", "The Electromagnetic Compatibility Regulations 1992", the "Waste Electrical and Electronic Equipment Regulations 2006". [This legislation is the equivalent in UK law of EC directives 2006/95/EC, 2004/108/EC and 2002/96/EC respectively].



1.0 Introduction – Marquis II Industrial Fluorescent Luminaire

1.1 General

The Marquis II Industrial fluorescent luminaires are surface mounted or suspended, utilising the two holes on the base of the body. They are mainly used in harsh environments, and are constructed using a corrosion resistant glass reinforced polyester or stainless steel body, attached to an injection moulded polycarbonate diffuser by stainless steel toggle clips. The control gear and lampholders are mounted on a removable tray that for maintenance purposes has hanging straps.

1.2 Application

The luminaire is designed to be safe in normal operation. The luminaire should not be used where there are environmental, vibration or shock conditions above the normal for fixed installations. The gaskets should not be exposed to hydrocarbons in liquid or high concentration vapour states.

2.0 Storage

Luminaires are to be stored in cool dry conditions preventing ingress of moisture and condensation. Any specific instructions concerning emergency luminaires must be complied with.

3.0 Installation and Safety

3.1 General

There are no health hazards associated with this product whilst in normal use. However, care should be exercised during the following operations. Installation should be carried out in accordance with relevant EN / IEC standard. These instructions should be read carefully before attempting to install the luminaire. Copies of these instructions should be held in a safe place for future reference.

It is the responsibility of the installer to ensure that the apparatus selected is fit for its intended purpose and that the installation, operation and maintenance of the apparatus complies with regulations, standards or codes of practice applicable.

Any specific installation instructions must be referred to. In the UK, the requirements of the Health and Safety at Work Act must be met and electrical work associated with this product must be in accordance with the "Manual Handling Operations Regulations" and "Electricity at Works Regulations 1989". Your attention is drawn to the paragraphs (i) 'Electrical Supplies', (ii) 'Electrical Fault Finding and Replacement' and (iii) 'Inspection and Maintenance'. The luminaires are Class 1 and should be effectively earthed.

The luminaires are quite heavy and suitable means of handling on installation must be provided.

The information in this leaflet is correct at the time of publication. The manufacturer reserves the right to make specification changes as required.

3.1.1 Cleaning

The body of the luminaire may be cleaned with a mild solution of household detergent and water, after cleaning the body should be washed and wiped with clean water. The diffuser should not be polished or wiped with a dry cloth, as a risk of explosion due to electrostatic discharge may result. Cleaning of the diffuser with any chemical or hydrocarbon solvent based cleaner may result in severe damage.

3.1.2 Aggressive substances

If the equipment is likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection provided by the equipment is not compromised.

Aggressive substances: e.g. acidic liquids or gases that may attack metals, or solvents that may affect polymeric materials. Suitable precautions: e.g. regular checks as part of routine inspections or establishing from the material's data sheets that it is resistant to specific chemicals.

3.2 Tools

- Suitable spanners for installing cable glands.
- 3mm flat blade screwdriver. No.1 Pozidrive screwdriver.
- Pliers, knife, wire strippers/cutters.

3.3 Electrical Supplies

The supply voltage and frequency should be specified when ordering. A maximum voltage variation of +6%/-6% on the nominal is expected. Luminaires should not be operated continuously at more than +6%/-10% of the rated supply voltage of the control gear.

Copper / Iron control gear luminaires only:-

Care is needed connecting to the nominal 230V UK public supply. The user must determine the actual underlying site supply and purchase or adjust accordingly. The 2x18W & 2x36W luminaires for 230V and 240V, 50Hz rating are supplied with a tap. If the equipment is located in high or low voltage sections of the system an appropriate voltage tap should be selected but care must be taken to log or mark the equipment so that the tapping is re-set if the equipment is re-located. If in doubt, tappings should be set on the high side.

3.4 Lamps

The lamps used in the range can be T8 bi-pin fluorescent with G13 cap. Lamp caps are to IEC 60061, lamp dimensions and safety to IEC 61195 and lamp performance to IEC 60081.

3.5 Mounting

Luminaires should be installed where access for maintenance is practical and in accordance with any lighting design information provided for the installation. The luminaire is mounted using the DIA 8.2mm mounting holes on the rear of the body.

On mounting the luminaire by using the holes, it is the responsibility of the user to ensure that an adequate seal is made, to maintain the IP rating. Sealing Washers are provided.

3.6 Cabling and Cable Glands

3.6.1 Cables

The GRP models have facility for through wiring but do not have a facility for looping. The metal bodied series have the facility both looping and through wiring.

The temperature conditions of the supply cable entry point are such that 70°C (ordinary PVC) cable can be used. On models where there is no fixed through wiring fitted, but where there is a looping facility on the gear tray, any supply wiring passing through the body must either have a rating of 130°C or have sleeving fitted which has a 130°C rating. 300/500V cable ratings are adequate and no special internal construction is necessary. Where MCB's are used, the type with the higher short time tripping current ratio used for motor starting and lighting should be specified. The standard maximum looping size is 2.5mm² with options of 2.5mm² through wiring. An internal earth tag can be fitted to the cable gland.

Note: *Through wiring when used, is subject to a maximum current of 16A.*

3.6.2 Cable Gland Types

When fitted with any gland to body sealing method and supply cable, must reliably maintain the IP rating of the enclosure. Sealing plugs for unused entries should be similarly rated and fitted. Ø20 cable entry clearance holes suitable for M20 cable glands are standard.

Alternatively, Ø25 cable entry clearance holes suitable for M25 cable glands may be provided.

3.6.3 Earthing

On GRP bodied luminaires, all internal metal parts are earthed through the metal geartray / reflector. The geartray / reflector is earthed via supplied cable to incoming terminal block. Metal bodied luminaires have additional earth bond from incoming terminal block to the luminaire body.

It is the installer's responsibility to ensure proper earth supply to the luminaire and to ensure any metal cable glands are properly earthed. Cable gland earth kits are available from the manufacturer.

3.7 Cabling

Access for cabling is via diffuser cover; care is to be taken, as there is no suspension of diffuser cover. The diffuser clip screws are removed and the diffuser clips are undone and the diffuser laid aside. The gear tray is dropped down after unclipping the steel mounting clips. The tray can be removed by undoing the spring clips on the suspension cables. Any earth tag connections should be fitted.

The connecting terminals are identified and the conductors should be bared back so that they make full contact in the terminals, but the bare conductor should not be more than 1mm beyond the terminal. Unused terminal screws should be tightened. The cores must be identified by polarity and connected in accordance with the terminal markings. Before re-fitting the cover, a final check on the correctness of connections should be made.

3.7.1 Fitting Lamps

Before opening the diffuser cover, ensure that the luminaire is isolated from mains supply. Access for re-lamping is via the diffuser cover; care is to be taken, as there is no suspension facility for the diffuser cover.

Note: The diffuser cover orientation on removal as the diffuser cover must be refitted in its original orientation to maintain the IP rating.

Make sure that the correct lamp is selected. The lampholders are tombstone type, place the lamp in the lampholder and rotate 90° in lampholder. When inserting new lamps ensure pins and lampholder connection is centralised. Replace diffuser cover in the correct orientation, snap clips into place. NOTE – The supplied locking screws (No.6 x 5/16" (3.5mm x 8) Stainless Steel Self tapping Pozidrive) can be fitted into the diffuser clips to prevent unauthorised access.

3.8 Inspection and Maintenance

Visual inspection should be carried out at a minimum of 12 monthly intervals and more frequently if conditions are severe. The time between lamp changes could be very infrequent and this is too long a period without inspection.

3.8.1 Routine Examination

The equipment must be de-energised before opening. Individual organisations will have their own procedures. What follows are guidelines based on our experience:

- 1 Ensure lamps are lit when energised by mains supply.
- 2 Visually check diffuser cover for damage. This should only be cleaned using a damp cloth and only use recommended detergents for polycarbonate. If the polycarbonate is discoloured or damaged, a new diffuser cover must be fitted.
- 3 When de-energised and left to cool, there should be no significant sign of internal moisture. If there are any signs of water ingress, the luminaire should be opened up, dried and any likely ingress points eliminated by re-gasketing or other replacements. If the diffuser cover is removed, its orientation must be noted and it must be refitted in the original orientation.
- 4 Check cable gland for tightness and nip up if required.
- 5 Check any external and internal earths.
- 6 Check all terminations are firmly screwed down, tighten if necessary.
- 7 Check clips visually for any damage and replace, if necessary.
- 8 If it has been suspected that the luminaire has suffered mechanical damage, a stringent workshop check on all components should be made. All components can be removed from the luminaire for inspection.

3.8.2 Routine Testing of Emergency Lighting Functions

Users should ensure that the performance of emergency lighting remains adequate for their purposes by conducting periodic tests and recording the results. Requirements will differ between countries, applications and organisations. In the United Kingdom BS 5266 Pt1 gives guidance on testing.

3.8.3 Self Test Emergency Lighting Functions

For luminaires with Auto test (Option / BMT) built in, the following procedure and displays apply.

Monitoring Function Indication					
Remarks	System Status	Green LED	Red LED	Sound	Emergency Lamp
COMMISSIONING	NORMAL	SLOW FLASHING (Once every 2 seconds)	OFF	OFF	OFF *
STANDBY	NORMAL	SLOW FLASHING (once every 10 seconds)	OFF	OFF	OFF*
DURATION TEST	NORMAL	SLOW FLASHING (Once every 2 seconds)	OFF	OFF	ON
FUNCTION TEST	NORMAL	FAST FLASHING	OFF	OFF	ON
EMERGENCY MODE	NORMAL	OFF	OFF	OFF	ON
LAMP FAILURE	FAULT	OFF	FAST FLASHING	3 PULSE TONE	OFF
BATTERY CHARGE FAILURE	FAULT	OFF	SLOW FLASHING	3 PULSE TONE	OFF
BATTERY DURATION FAILURE	FAULT	OFF	SLOW FLASHING	3 PULSE TONE	OFF
CIRCUIT FAILURE	FAULT	OFF	FAST FLASHING	PERMANENT PULSE TONE	OFF

* Emergency Lamp may be on if mains is connected.

The unit is reset by forcing a test by switching it off twice in 10 seconds.

Test duration:

- forced test: 5 seconds
- monthly test: 5 minutes
- 6 month test: 1 hour
- 12 month test: 3 hours

3.9 Electrical Fault Finding and Replacement

The supply must be isolated before opening the luminaire.

Any live fault finding must be done by a competent electrician. Where the control gear is copper and iron, the fitting can be tested for continuity of connections. When electronic high frequency gear is fitted do not megger.

If lamps go out repeatedly, and replacement lamps do not work or expected life is reduced, where applicable replacement starters should be tried. However, if this does not correct the fault the control gear should be returned for replacement/testing. The electronic starter, and where specified, the High frequency ballast will cut out if lamps are defective. On re-assembly, all faulty/damaged wiring should be replaced and connections checked.

3.9.1 Battery Check and Replacement

Isolate before opening. The battery is detached at the plug and socket. Remove the two screws to release the battery. Re-assembly is in reverse order.

Important: *Although the battery pack is fitted with a polarised plug and socket to prevent accidental shorting, Care must be taken not to short the leads together as this can cause sparking which, in turn, could lead to a fire.*

The emergency duration is 3 hours for the 18W, 36W and the 58W. This is in accordance with IEC 60598 2-22. The battery must be replaced when the duration is not acceptable.

Protect the batteries from water ingress and mechanical damage. Take care to fully discharge batteries before transporting or otherwise ensure that there can be no release of stored energy in transit.

4.0 Overhaul

Components to be incorporated into or used as replacement parts of the equipment shall be fitted by suitably trained personnel and other than the fuse are to be purchased from the manufacturer as to ensure that warranty is not invalidated.

The unit is largely made of materials that are very corrosion resistant. This allows the unit to be completely stripped, cleaned, then re-built with new electrical parts as required. The internal wiring is 0.8mm² solid core, HTPVC insulated. All the spares required are available. Please state the model number and lamp details.

The seal is between the polycarbonate diffuser and the base. The diffuser is retained by stainless steel clips. If the sealing gasket has deteriorated by softening or permanent set, a new sealing gasket should be fitted, which can be obtained from the manufacturer. To fit this, care is needed, the old gasket should be removed and remaining adhesive scraped off. The gasket is fixed in place to the body with a small amount of silicone RTV.

It is the end users responsibility to ensure the materials of construction are suitable for intended installation location

5.0 Fuse Ratings

With the availability of MCB's with a wide range of characteristics, the individual engineer can make a better judgement of what is required. Use MCB's suitable for inrush currents to reduce ratings. Where MCB's are used, the type with the higher short time tripping current ratio used for motor starting and lighting should be specified. The inrush current can be calculated where circuit conditions are known. The inrush currents can be obtained from the manufacturer.

The fuse ratings for fluorescent lamp circuits need to take account of three components of circuit current. Where PFC capacitors are fitted, the current inrush can be up to 25 x the rated capacitor current and last 1-2milli seconds The inrush current can be calculated where circuit conditions are known. For luminaires the nominal capacitor current will probably be the determining factor, 0.076A per μ F at 240V, 50Hz (adjust for other supply volts by multiplication, x 6/5 for 60Hz). For HBC fuses use 1.5 x normal capacitor current. All calculations must satisfy wiring regulations.

Note: *Line currents for 240V, 50Hz are as indicated in Table A.*

6.0 Disposal of Material

Any disposal must satisfy the requirements of the WEEE directive [2002/96/EC] and therefore must not be treated as commercial waste. The unit is made from combustible materials. The capacitor is of the dry film type and does not contain PCB's. The control gear contains plastic parts and polyester resin. The ignitor contains electronic components and synthetic resins. All electrical components and the body parts may give off noxious fumes if incinerated. Take care to render these fumes harmless or avoid inhalation. Any local regulations concerning disposal must be complied with.

6.1 Lamps

Fluorescent lamps in modest quantities are not "special waste". The outer envelope should be broken in a container to avoid possible injury from fragmentation. Avoid inhaling dust. This applies to the UK; there may be other regulations on disposal operating in other countries.

Important: *Do not incinerate lamps.*

6.2 Battery Disposal

Nickel cadmium batteries are defined as 'controlled waste' under the hazardous waste regulations and the user needs to observe a 'duty of care'.

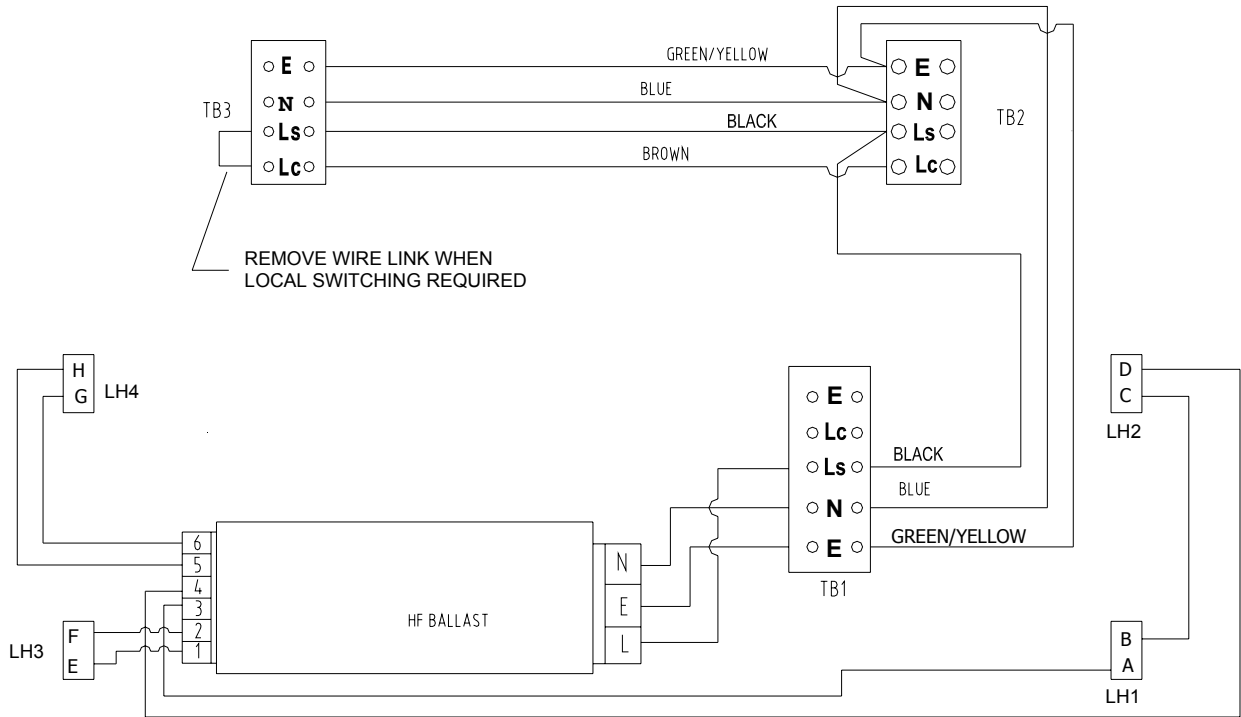
Batteries can be returned to the manufacturers for re-cycling. They must be stored and transported safely and any necessary pollution control forms completed prior to transportation. Take care to fully discharge batteries before transporting or otherwise ensure that there can be no release of stored energy in transit. For further details refer to Technical Department.



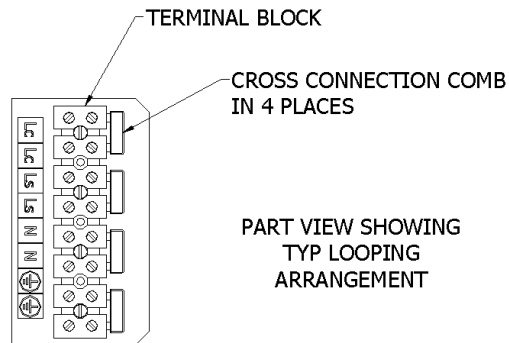
To comply with the Waste Electrical and Electronic Equipment directive 2002/96/EC the apparatus cannot be classified as commercial waste and as such must be disposed of or recycled in such a manner as to reduce the environmental impact.

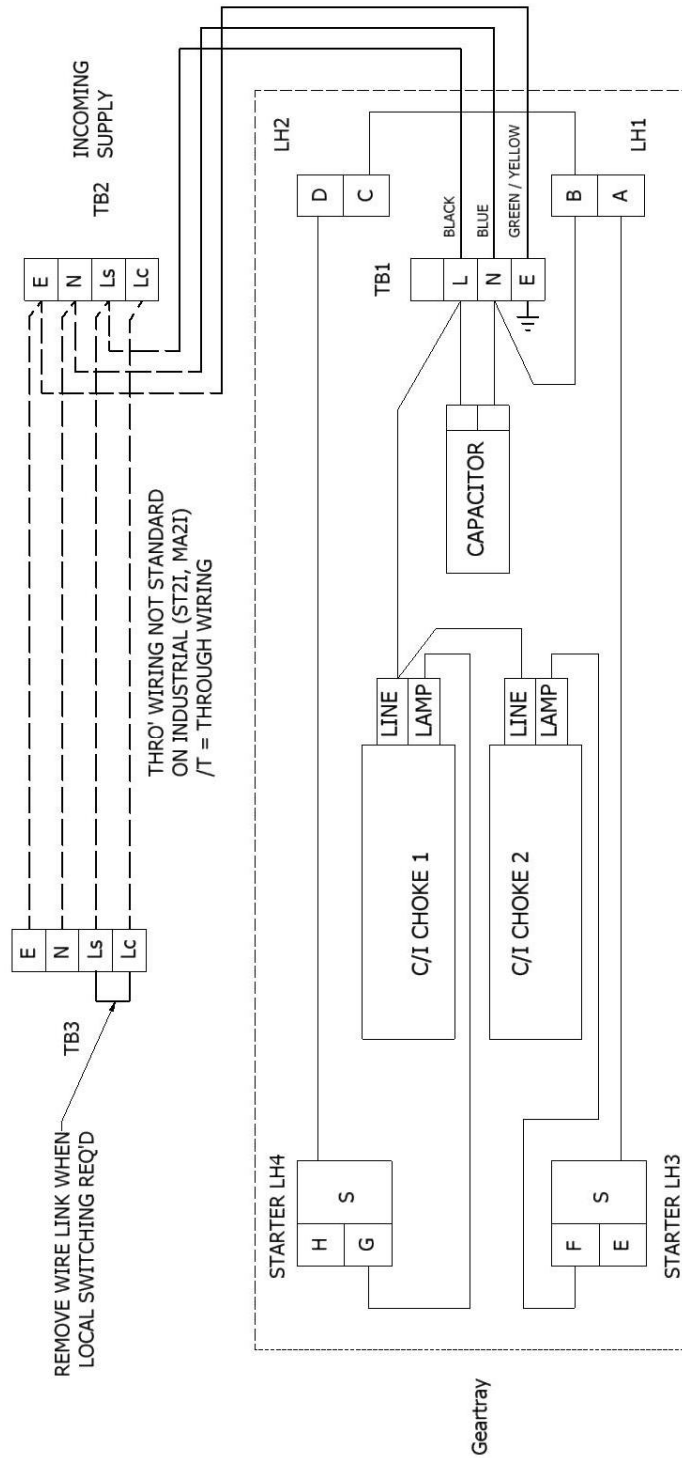
Table A - Series Circuit					
No. Off Lamp	Gear Type	Lamp W	Nominal Circuit Power W	PFC μ f	Line Current
1	CuFe	18	24.3	4	0.16
2		18	48.6	6	0.32
2*		18	42.0	4	0.23
1		36	42.0	4	0.23
2		36	84.0	8	0.46
1		58	66.5	6	0.34
2		58	133	10	0.68
1		HF	18	20	
2	18		38	0.17	
1	36		36	0.16	
2	36		72	0.32	
1	58		56	0.25	
2	58		107	0.49	

Typical Twin Lamp HF Wiring Diagram



Typical Twin Lamp HF Wiring Diagram





TYPICAL TWIN LAMP C/I CIRCUIT

For Technical support, please contact technical@victor-lighting.com
 Note: Victor Lighting reserves the right to amend characteristics of our products and all data is for guidance only.