

THORN LIGHTING



COMPREHENSIVE CATALOGUE 1975/76

Control Gear and Accessories

Introduction

Thorn Lighting control gear and accessories have achieved a reputation for consistently high quality at economical prices by a policy of close co-operation between research and engineering departments and the factory where the equipment is made. The factory has been granted British Standard Licences for the manufacture of mercury and low pressure sodium ballasts to BS 4782 and fluorescent

lamp ballasts to BS 2818. Ballasts within this range bear the Kitemark emblem. This emphasises the high standard of quality and inspection at the factory and ensures maximum performance with long life. Manufacture is carried out at Spennymoor, co. Durham, in what is probably the largest control gear factory in Europe. A high proportion of its output is exported.

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Installation

Certain factors must be considered when installing fluorescent lighting equipment which do not apply to the installation of non-reactive loads such as tungsten filament lamps.

- 1 Cable ratings:** A factor of 1.25 is normally applied to the rating of distribution cables, i.e. not more than a 4 amp load on a 5 amp circuit.
- 2 Fuse ratings:** When HRC fuses or quick reaction protective devices are used to control a circuit it may be necessary to halve the normal rating to allow for switching surges, i.e. a 5 amp HRC fuse may be limited to a maximum of 2.5 amps.
- 3 Wall switches:** Because of the high voltage surges that occur when switching fluorescent tubes on or off, a 'quick-make and slow-break' switch action is preferable. Certain quick break actions and switches with an earthed metal plate or mechanism may be unsuitable for fluorescent lighting.
- 4 Harmonics and neutral current:** All fluorescent tube circuits produce a certain amount of harmonic distortion which increases the neutral current in a 3-phase 4-wire system. Where the fluorescent lighting forms a large part of the electrical load, a full-size neutral must be used and the main 4-core distribution cables should have their current rating reduced by a factor of 17 per cent.

- 5 Gear noise:** All control gear having a laminated iron core will produce noise due to the magnetisation of the laminations. The noise level varies according to the type of circuit and the wattage rating. Although all the control gear listed here is suitable for use in offices and factories having a normal background noise level, this control gear could become audible when the ambient noise becomes reduced, e.g. in an office outside normal working hours. Advice should be sought regarding suitable gear for use in exceptionally quiet locations.

The method of mounting the fitting and the surface on which it is fixed play a very important part in securing satisfactory operation in difficult conditions.

- 6 Radio and television interference:** Fluorescent tubes emit a certain amount of high frequency radiation particularly near end of life which can be picked up by radio and television sets. If the tube is more than 2.4–3m/8–10ft from a set which has a good outdoor aerial with a screened lead, interference is not normally experienced. Care should be taken, however, when using portable radios or television sets with indoor aerials close to the fluorescent tube.

- 7** When control gear is not enclosed within a lighting fitting, it is recommended that it should be mounted on a non-combustible material in accordance with the IEE Regulations for the Electrical Equipment of Buildings.

- 8 Dimmable fluorescent lighting**
Standard fluorescent units cannot be successfully dimmed. However, many Thorn fittings are available in dimmable form. These include any units in the Atlantic, SM and New Format ranges which use tubes of 1½ in diameter and 18 in, 2 ft., 3 ft., 4 ft. and 5 ft. length. Specify purpose when ordering. Alternatively, certain non-Thorn units are suitable for modification and your regional Thorn office will be pleased to advise you.

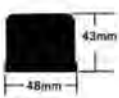
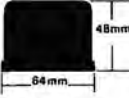
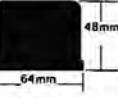
For more detailed information on installation and maintenance of fluorescent lighting equipment see the Thorn Technical Pocket-book.

2400mm 125W Fluorescent tube control gear

SWITCHSTART CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube Circuit Type of control gear Circuit diagram	1 × 2400mm 125W Switchstart LPF choke 228	1 × 2400mm 125W Switchstart LPF choke 2	1 × 2400mm 125W Switchstart Leading p.f. ballast 13
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CHOKES OR BALLAST

Catalogue no.	2 × G.CUH/125	G.CI/125	G.CBS/125
Weight	1.8kg (each)	2kg	2.6kg
Filling	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White
Terminals	Screw	Screw	Screw
Cross section			

t_w
 Δt

120°C
55°C

105°C
55°C

105°C
55°C

CAPACITOR

Catalogue no.	G.C2173	G.C2173	Included in ballast
Capacitance (µF)	7.2 ± 5%	7.2 ± 5%	—
Volts rating	440V	440V	—
Length incl. terminals	156mm	156mm	—
Diameter	38mm	38mm	—
Terminals	Push wire	Push wire	—
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—

STARTER SWITCH

Catalogue no.	155/800	155/800	155/800*
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FUSE

1 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
4 tube – rating	5A	5A	5A
Catalogue no.	G.T1268	G.T1268	G.T1268

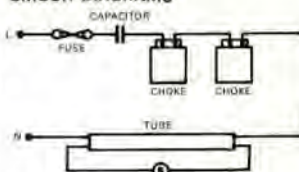
Other choke or ballast ratings

200/210V 50Hz	Not available	G.42355 step-up transformer with G.CI/125	Not available
220V 50Hz	G.42343 step-up transformer with 2 × G.CUH/125	G.42350 step-up transformer with G.CI/125	Not available
250V 50Hz	Not available	Not available	Not available

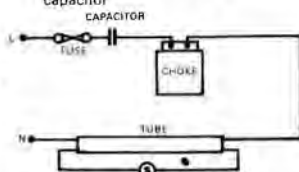
* Order starter switch separately

 Choke or ballast approved to BS 2818

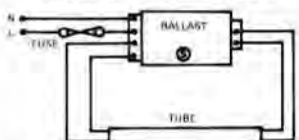
CIRCUIT DIAGRAMS



228 Leading power factor starter switch circuit with essential series capacitor

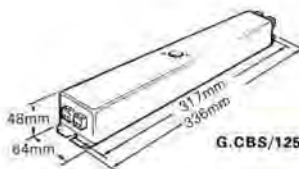
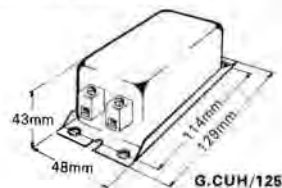


2 Leading power factor starter switch circuit with essential series capacitor

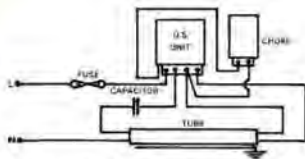


13 Starter switch circuit for leading p.f. ballast

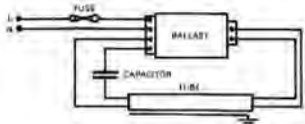
CONTROL GEAR TYPES



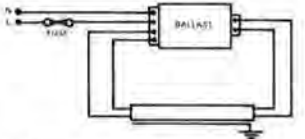
2400mm 125W Fluorescent tube control gear



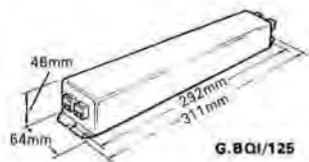
245 Quickstart circuit with separate choke and essential circuit capacitor



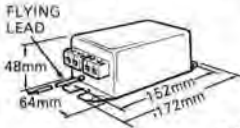
174 Quickstart circuit for LPF ballast with essential circuit capacitor



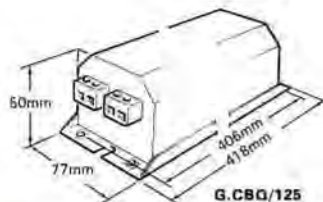
16 Quickstart circuit for HPF ballast



G.8QI/125



G.QS/125



G.CBQ/125

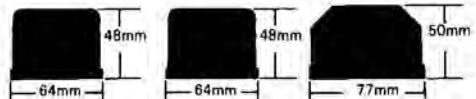
SWITCHLESS START CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube Circuit	1 × 2400mm 125W Quickstart	1 × 2400mm 125W Quickstart	1 × 2400mm 125W Quickstart
Type of control gear	LPF choke	LPF ballast	HPF ballast
Circuit diagram	245	174	16

CHOKES OR BALLASTS

	G.CQI/125	G.BQI/125	G.CBQ/125
Catalogue no.	G.CQI/125	G.BQI/125	G.CBQ/125
Weight	1.9kg	3.4kg	4.65kg
Filling	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White
Terminals	Screw	Screw	Screw

Cross section



	G.CQI/125	G.BQI/125	G.CBQ/125
t_w	105°C	105°C	105°C
Δt	60°C	65°C	65°C

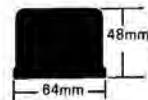
CAPACITORS

	G.C2228	G.C2228	Included in ballast
Catalogue no.	G.C2228	G.C2228	Included in ballast
Capacitance (μF)	7.8 ± 5%	7.8 ± 5%	—
Volts rating	440V	440V	—
Length incl. terminals	145mm	145mm	—
Diameter	38mm	38mm	—
Terminals	Pin	Pin	—
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—

QUICKSTART UNIT

	G.QS/125	Included in ballast	Included in ballast
Catalogue no.	G.QS/125	Included in ballast	Included in ballast
Weight	1.9kg	—	—
Filling	Polyester resin	—	—
Can colour	White	—	—
Terminals	Screw and flying lead	—	—

Cross section



	G.QS/125
t_w	105°C
Δt	55°C

FUSE

	G.CQI/125	G.BQI/125	G.CBQ/125
1 tube - rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
2 tube - rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
3 tube - rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
4 tube - rating	5A	5A	5A
Catalogue no.	G.T1268	G.T1268	G.T1268

Other choke or ballast ratings

	G.42355	G.42355	Not available
200/210 50Hz	step-up transformer with G.CQI/125	step-up transformer with G.BQI/125	Not available
220V 50Hz	G.42350	G.42350	Not available
250V 50Hz	step-up transformer with G.CQI/125	step-up transformer with G.BQI/125	Not available
	Not available	Not available	Not available

Choke or ballast approved to BS 2818

2400mm 85W Fluorescent tube control gear

Control gear for this tube size is not included in BS 2818

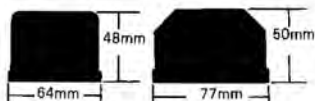
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 2400mm 85W	2 × 2400mm 85W
Circuit	Quickstart	Twinstart
Type of control gear	LPF ballast	HPF ballast†
Circuit diagram	183	6

BALLAST

Catalogue no.	G.BQI/85	G.BV/285
Weight	2.2kg	5.2kg
Filling	Polyester resin	Polyester resin
Can colour	White	White
Terminals	Screw and flying lead	Screw

Cross section



tw	105°C	105°C
Δt	45°C	70°C

CAPACITOR

Catalogue no.	G.C2226	Included in ballast
Capacitance (μF)	5 ± 5%	—
Volts rating	440V	—
Length incl. terminals	125mm	—
Diameter	38mm	—
Terminals	Pin	—
Fused or unfused	Unfused	—
Fixing clip	G.Y5244 and G.Y5245	—

FUSE

1 tube – rating	3A	—
Catalogue no.	G.T1299	—
2 tube – rating	3A	3A
Catalogue no.	G.T1299	G.T1299
3 tube – rating	3A	—
Catalogue no.	G.T1299	—
4 tube – rating	3A	3A
Catalogue no.	G.T1299	G.T1299

Other ballast ratings (Details as 240V units above)

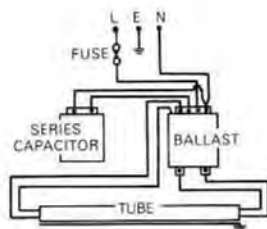
200/210V 50Hz	G.42355 step-up transformer with G.BQI/85	Not available
220V 50Hz	G.42350 step-up transformer with G.BQI/85	G.69222-2†
250V 50Hz	Not available	Not available

†No R.I.S. fitted internally—G.C2139 to be ordered separately.

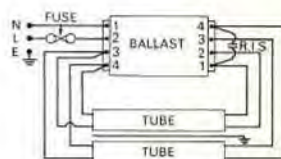
2400mm 85W Fluorescent tube control gear

CIRCUIT DIAGRAMS

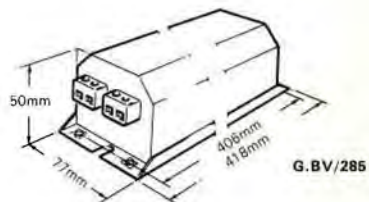
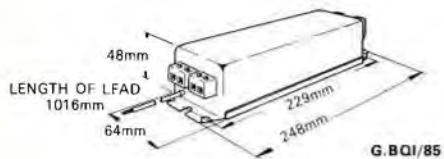
183 Quickstart circuit for combined choke and transformer with essential series capacitor



6 2400mm 85W Twinstart circuit



CONTROL GEAR TYPES



1800mm 85W Fluorescent tube control gear

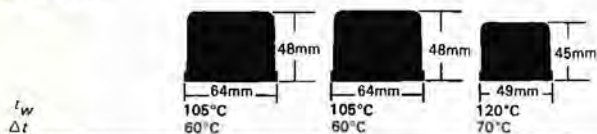
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 1800mm 85W	1 × 1800mm 85W	1 × 1800mm 85W
Circuit	Switchstart	Semi-resonant start	Semi-resonant start
Type of control gear	HPF ballast	LPF ballast	LPF ballast
Circuit diagram	13	7	7

CHOKE OR BALLAST

Catalogue no.	G.CBS/685	G.B1/685	G.BU/685
Weight	2.4kg	1.8kg	1.8kg
Filling	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White
Terminals	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	Included in ballast	G.C2220	G.C2220
Capacitance (μF)	—	8.4 ± 5%	8.4 ± 5%
Volts rating	—	250V	250V
Length incl. terminals	—	121mm	121mm
Diameter	—	38mm	38mm
Terminals	—	Push-wire	Push-wire
Fused or unfused	—	Unfused	Unfused
Fixing clips	—	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245

STARTER SWITCH

Catalogue no.	155/800†	—	—
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FUSE

1 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
4 tube – rating	5A	3A	3A
Catalogue no.	G.T1268	G.T1299	G.T1299

Other choke or ballast ratings

(Details as 240V units above unless otherwise stated)

200/210V 50Hz	Not available	Not available	Not available
220V 50Hz	Not available	Not available	G.69294.2†
250V 50Hz	Not available	Not available	G.69255.5

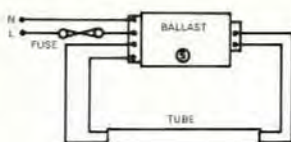
†This unit must be used with capacitor G.C2289 (10μF ± 5%)

‡Order starter switch separately

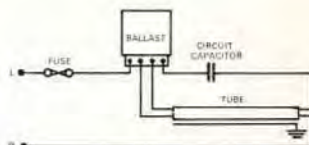
1800mm 85W Fluorescent tube control gear

CIRCUIT DIAGRAMS

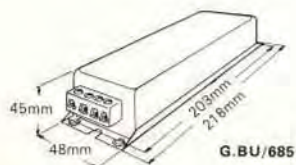
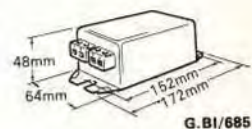
13 Starter switch circuit for HPF ballast




7 Semi-resonant start circuit with essential circuit capacitor



CONTROL GEAR TYPES



1800mm 75W Fluorescent tube control gear

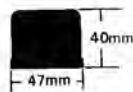
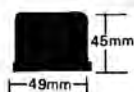
 Control gear for this tube size is not included in BS2818.

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 1800mm 75W	1 × 1800mm 75W	1 × 1800mm 75W
Circuit	Semi-resonant start	Switchstart	Switchstart
Type of control gear	LPF ballast	LPF choke	LPF choke
Circuit diagram	7	244 (lag)	244 (lead)

CHOKE OR BALLAST

Catalogue no.	G.BU/675	2 × G.CUH/675	G.CU/65
Weight	1.8kg	0.9kg (each)	1.2kg
Filling	Polyester resin	Polyester resin	Varnish
Can colour	White	White	White
Terminals	Push-wire	Push-wire	Screw
Cross-section			



t_w	120°C	120°C	120°C
Δt	60°C	50°C	60°C

CAPACITOR

Catalogue no.	G.C2220	—	G.C2226
Capacitance (μF)	8.4 - 5%	—	5 ± 5%
Volts rating	250V	—	440V
Length incl. terminals	121mm	—	125mm
Diameter	38mm	—	38mm
Terminals	Push-wire	—	Push-wire
Fused or unfused	Unfused	—	Unfused
Fixing clips	G.Y5244 and G.Y5245	—	G.Y5244 and G.Y5245

STARTER SWITCH

Catalogue no.	—	155/800	155/800
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FUSE

1 tube—rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
2 tube—rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
3 tube—rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
4 tube—rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299

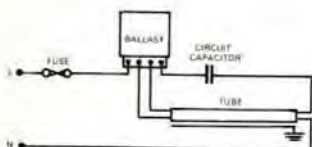
OTHER CHOKE OR BALLAST RATINGS

200/210V 50Hz	Not available	Not available	Not available
220V 50Hz	Not available	Not available	Not available
250V 50Hz	Not available	Not available	Not available

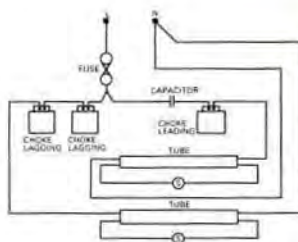
1800mm 75W Fluorescent tube control gear

CIRCUIT DIAGRAMS

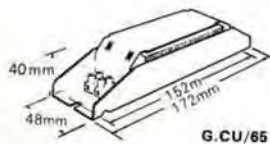
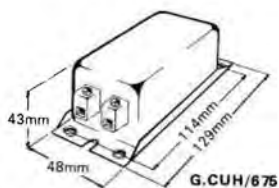
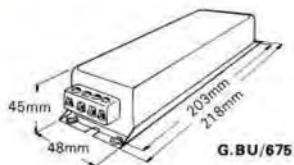
7 Semi-resonant start circuit with essential circuit capacitor



244 Lead/lag starter switch circuit



CONTROL GEAR TYPES



1500mm 80W Fluorescent tube control gear

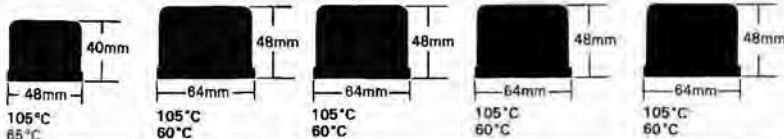
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 1500mm 80W	1 × 1500mm 80W	1 × 1500mm 80W	1 × 1500mm 80W	1 × 1500mm 80W
Circuit	Switchstart	Switchstart	Quickstart	Switchstart	Semi-resonant start
Type of control gear	LPF choke	LPF choke	LPF choke	HPF ballast	HPF ballast
Circuit diagram	1	1	8	13	18

CHOKES OR BALLAST

Catalogue no.	G.CU/685	G.CI/80	G.CI/80	G.CBS/685	G.CBR/80
Weight	1.8kg	1.9kg	1.9kg	2.4kg	3kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	G.C2222	G.C2222	G.C2222	Included in ballast	Included in ballast
Capacitance (µF)	8 ± 10%	8 ± 10%	8 ± 10%	—	—
Volts rating	250V	250V	250V	—	—
Length incl. terminals	99mm	99mm	99mm	—	—
Diameter	38mm	38mm	38mm	—	—
Terminals	Push-wire	Push-wire	Push-wire	—	—
Fused or unfused	Unfused	Unfused	Unfused	—	—
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—	—

STARTER SWITCH

Catalogue no.	155/500	155/500	—	155/500†	—
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QUICKSTART UNIT

Catalogue no.	—	—	G.QS/80	—	—
Weight	—	—	1kg	—	—
Filling	—	—	Polyester resin	—	—
Can colour	—	—	White	—	—
Terminals	—	—	Screw	—	—



FUSE

1 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
4 tube – rating	5A	5A	5A	5A	3A
Catalogue no.	G.T1268	G.T1268	G.T1268	G.T1268	G.T1299

Other choke or ballast ratings (Details as 240V 50Hz units above unless otherwise stated)

200/210V 50Hz	G.89249.1	G.CI/80	G.CI/80	Not available	Not available
220/230V 50Hz	Not available	G.CI/80	G.CI/80	Not available	Not available
240/250V 50Hz	G.89249.5 (250V)	G.CI/80	G.CI/80	Not available	Not available
200/210V 60Hz	Not available	G.62845.T	G.62845.T	Not available	Not available
220/230V 60Hz	Not available	G.62845.T	G.62845.T	Not available	Not available
240/250V 60Hz	Not available	G.62845.T	G.62845.T	Not available	Not available

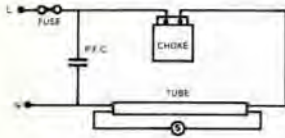
†Order starter switch separately

Choke or ballast approved to BS 2818

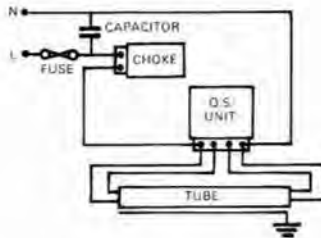
1500mm 80W Fluorescent tube control gear

CIRCUIT DIAGRAMS

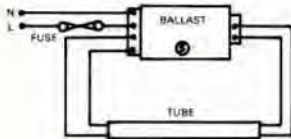
1 Standard starter switch circuit with optional PFC capacitor



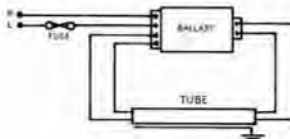
8 Tapped quickstart transformer circuit with optional PFC capacitor



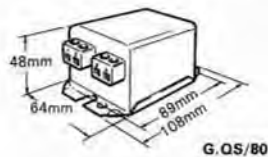
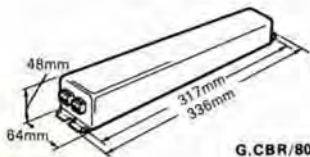
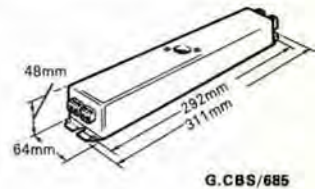
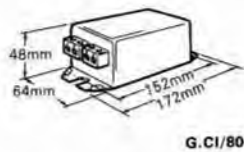
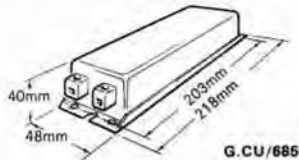
13 Starter switch circuit for HPF ballast



16 HPF ballast (SRS circuit)








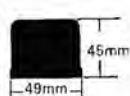
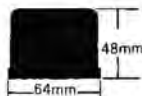
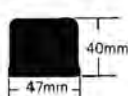
CONTROL GEAR TYPES



1500mm 65W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube Circuit	1 × 1500mm 65W Switchstart	1 × 1500mm 65W Switchstart	1 × 1500mm 65W Semi-resonant start	1 × 1500mm 65W Semi-resonant start	1 × 1500mm 65W Semi-resonant start
Type of control gear	LPF choke	HPF ballast	LPF ballast	LPF ballast	HPF ballast
Circuit diagram	1	13	7	7	16
CHOKE OR BALLAST					
Catalogue no.	G.CU/65	G.CBS/65	G.BU/65	G.BI/65	G.CBR/65
Weight	1.2kg	1.8kg	1.72kg	1.9kg	2.95kg
Filling	Varnish	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can Colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw
Cross section					



$\frac{W}{\Delta t}$

120°C
60°C

105°C
50°C

120°C
65°C

105°C
55°C

105°C
55°C

CAPACITOR

Catalogue no.	G.C2245	Included in ballast	G.C2220	G.C2220	Included in ballast
Capacitance (µF)	5 ± 10%	—	8.4 ± 5%	8.4 ± 5%	—
Volts rating	250V	—	250V	250V	—
Length incl. terminals	99mm	—	121mm	121mm	—
Diameter	38mm	—	38mm	38mm	—
Terminals	Push-wire	—	Push-wire	Push-wire	—
Fused or unfused	Unfused	—	Unfused	Unfused	—
Fixing clips	G.Y5244 and G.Y5245	—	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—

STARTER SWITCH

Catalogue no.	165/500	155/500 †	—	—	—
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FUSE

1 tube — rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
2 tube — rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
3 tube — rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
4 tube — rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 240V 50Hz units above unless otherwise stated)

200/210V 50Hz	G.69418.1	Not available	G.69350.1	G.68063.1	Not available
220V 50Hz	G.69418.2	Not available	G.BU/685	G.BI/685	Not available
250V 50Hz	G.69028.5	Not available	G.69250.5	G.68063.5	Not available
240V 60Hz	G.69418.1	Not available	Not available	Not available	Not available

†Order starter switch separately

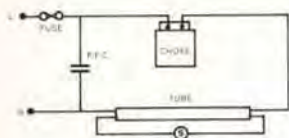


Choke or ballast approved to BS 2818

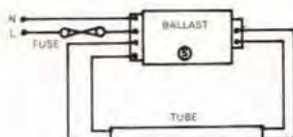
1500mm 65W Fluorescent tube control gear

CIRCUIT DIAGRAMS

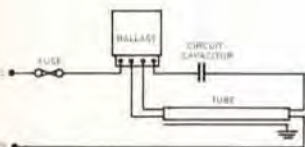
1 Standard starter switch circuit with optional PFC capacitor



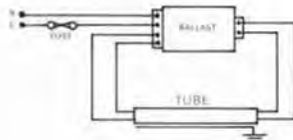
13 Starter switch circuit for HPF ballast



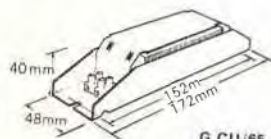
7 Semi-resonant start circuit with essential circuit capacitor



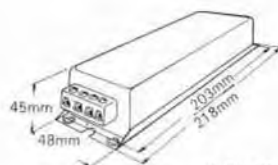
16 HPF ballast (SRS circuit)



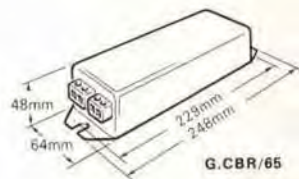
CONTROL GEAR TYPES



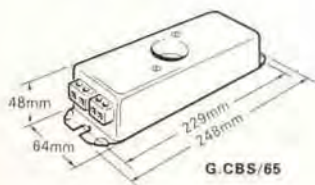
G.CU/65



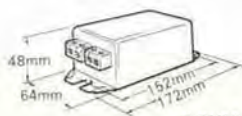
G.BU/65



G.CBR/65



G.CBS/65



G.BI/65

1500mm 50W Fluorescent tube control gear

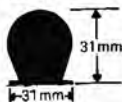
⚠ Control gear for this tube size is not included in BS 2818

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 1500mm 50W
Circuit	Semi-resonant start
Type of control gear	LPF ballast
Circuit diagram	18

CHOKO OR BALLAST

Catalogue no.	G BJ/50 *
Weight	1 kg
Filling	Varnish
Can colour	White
Terminals	Screw
Cross section	



t_w	120°C
Δt	70°C

CAPACITOR

Catalogue no.	G C2368
Capacitance μF	5.7 ± 5%
Volts rating	250V
Length incl. terminals	76mm
Diameter	32mm
Terminals	Pin
Fixing clip	G Y5259 ‡

FUSE

1 tube – rating	3A
Catalogue no.	G 1299
2 tube – rating	3A
Catalogue no.	G 1299
3 tube – rating	3A
Catalogue no.	GT 1299
4 tube – rating	3A
Catalogue no.	GT 1299

Other choke or ballast voltage ratings

200/210V 50Hz	Not available
220V 50Hz	Not available
250V 50Hz	Not available

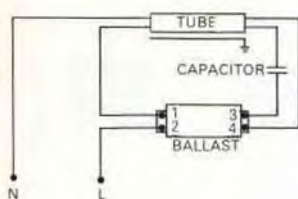
*Made in France

‡For use on Arrowslim fittings only

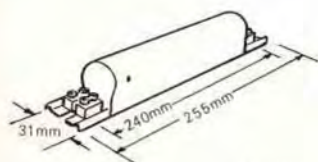
1500mm 50W Fluorescent tube control gear

CIRCUIT DIAGRAM

18 LPF ballast (SRS circuit)



CONTROL GEAR TYPE



G.B.J/50

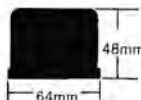
1200mm 40W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 1200mm 40W	1 × 1200mm 40W	1 × 1200mm 40W	1 × 1200mm 40W	1 × 1200mm 40W
Circuit	Switchstart	Switchstart	Semi-resonant start	Semi-resonant start	Semi-resonant start
Type of control gear	LPF choke	HPF ballast	HPF ballast	LPF ballast	LPF ballast
Circuit diagram	1	13	16	7	7

CHOKES OR BALLASTS

CHOKE OR BALLAST	♥	♥	♥	♥	♥
Catalogue no.	G.CU/40	G.CBS/40	G.CBR/40	G.BU/40	G.BI/40
Weight	0.9kg	1.1kg	1.8kg	1.3kg	1.4kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw
Cross section					



t_w	120°C	120°C	105°C	105°C	120°C
Δt	55°C	55°C	50°C	50°C	50°C

CAPACITORS

Catalogue no.	G.C2224	Included in ballast	Included in ballast	G.C2273	G.C2273
Capacitance (μF)	3.5 ± 10%	—	—	5.5 ± 10%	5.5 ± 10%
Volts rating	250V	—	—	250V	250V
Length incl. terminals	75mm	—	—	99mm	99mm
Diameter	38mm	—	—	38mm	38mm
Terminals	Push-wire	—	—	Push-wire	Push-wire
Fused or unfused	Unfused	—	—	Unfused	Unfused
Fixing clips	G.Y5244 and G.Y5245	—	—	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245

STARTER SWITCH

Catalogue no.	155/400	155/400*	—	—	—
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FUSE

1 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
4 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 240V 50Hz units above unless otherwise stated)

200/210V 50 Hz	G.69354.1	Not available	Not available	Not available	Not available
220V 50Hz	G.69369.2	Not available	Not available	G.69004.2†	Not available
250V 50Hz	G.69354.5	Not available	Not available	Not available	Not available
220V 60Hz	G.69374.2	Not available	Not available	Not available	Not available
240V 60Hz	G.69354.1	Not available	Not available	Not available	Not available

*Order starter switch separately

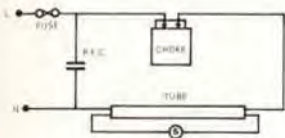
†This unit must be used with capacitor G.C2298 (4 μF = 5% 380V)

♥ Choke or ballast approved to BS 2818

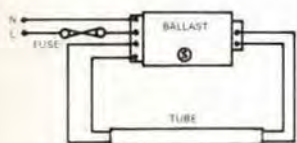
1200mm 40W Fluorescent tube control gear

CIRCUIT DIAGRAMS

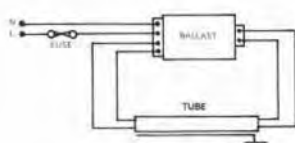
- 1 Standard starter switch circuit with optional PFC capacitor



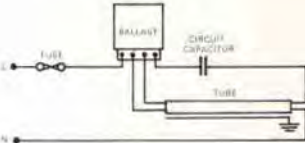
- 13 Starter switch circuit for HPF ballast



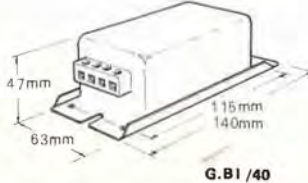
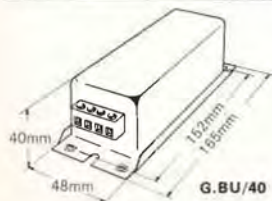
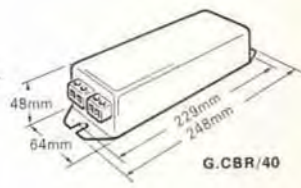
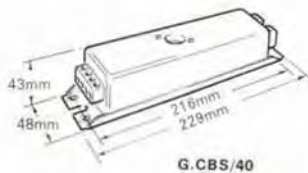
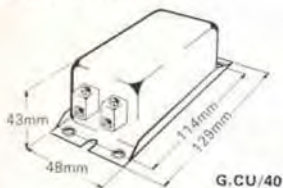
- 16 Semi-resonant circuit for HPF ballast



- 7 Semi-resonant start circuit with essential circuit capacitor



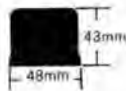
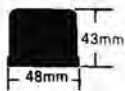
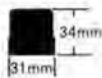
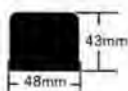
CONTROL GEAR TYPES



32W Circular and 900mm 30W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 32W Circular or 1 × 900mm 30W 26mm and 38mm dia.	1 × 900mm 30W 26mm and 38mm dia.	1 × 900mm 30W 26mm and 38mm dia.	1 × 900mm 30W 26mm and 38mm dia.
Circuit	Switchstart	Switchstart	Quickstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF ballast	LPF ballast
Circuit diagram	1	1	219	17
CHOKES OR BALLASTS				
Catalogue no.	G.CU/30	G.CJ/30	G.CBQ/30	G.CBS/30
Weight	0.9kg	0.8kg	1.6kg	1.1kg
Filling	Polyester resin	Varnish	Polyester resin	Polyester resin
Can colour	White	Natural varnish	White	White
Terminals	Screw	Screw	Screw	Screw
Cross section				



T_w
 Δt

120°C
50°C

105°C
55°C

105°C
50°C

120°C
45°C

CAPACITOR

Catalogue no.	G.C2224	G.C2227	G.C2224	G.C2224
Capacitance (μ F)	3.5 ± 10%	3 ± 10%	3.5 ± 10%	3.5 ± 10%
Volts rating	250V	250V	250V	250V
Length incl. terminals	75mm	87mm	75mm	75mm
Diameter	38mm	32mm	38mm	38mm
Terminals	Push-wire	Pin	Push-wire	Push-wire
Fused or unfused	Unfused	Unfused	Unfused	Unfused
Fixing clips	G.Y5244 and G.Y5245	G.Y5259*	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245

STARTER SWITCH

Catalogue no.	155/400	155/400	—	155/400
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FUSE

1 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
4 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 240V units above)

200/210V 50Hz	G.CU/40	Not available	Not available	Not available
220V 50Hz	G.69367.2	G.66051.2	Not available	Not available

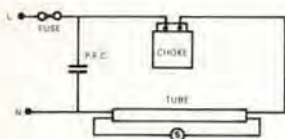
*For use in Arrowslim fitting only

Choke or ballast approved to BS 2818

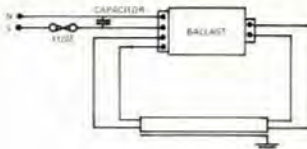
32W Circular and 900mm 30W Fluorescent tube control gear

CIRCUIT DIAGRAMS

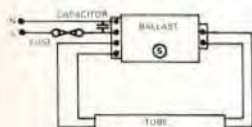
1 Standard starter switch circuit with optional PFC capacitor



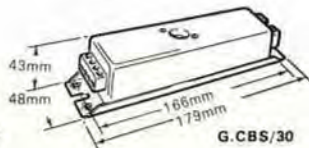
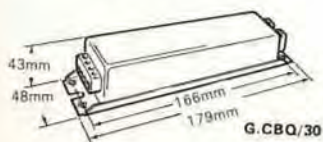
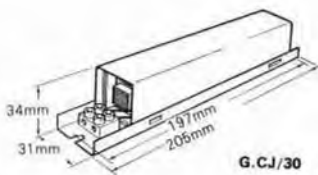
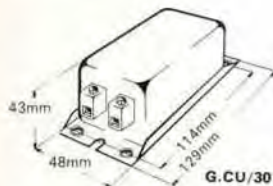
219 Quickstart circuit for LPF ballast with optional PFC capacitor



17 Starter switch circuit for LPF ballast with optional PFC capacitor



CONTROL GEAR TYPES



600mm 40W Fluorescent tube control gear

Control gear for this tube size is not included in BS 2818

SWITCHSTART CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube(s)	1 × 600mm 40W	2 × 600mm 40W	2 × 600mm 40W
Circuit	Switchstart	Switchstart	Switchstart
Type of control gear	LPF choke	LPF choke	HPF ballast
Circuit diagram	1	10	15

CHOKES OR BALLAST

Catalogue no.	G.CI/240	G.CI/2240	G.CBS/685
Weight	1.9kg	1.9kg	2.1kg
Filling	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White
Terminals	Screw	Screw	Screw
Cross section			



t_w	105°C	105°C	105°C
Δt	65°C	65°C	60°C

CAPACITOR

Catalogue no.	G.C2222	G.C2222	Included in ballast
Capacitance (μF)	$8 \pm 10\%$	$8 \pm 10\%$	—
Working volts	250V	250V	—
Length incl. terminals	99mm	99mm	—
Diameter	38mm	38mm	—
Terminals	Push-wire	Push-wire	—
Fused or unfused	Unfused	Unfused	—
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—

STARTER SWITCH

Catalogue no.	155/200	2 × 155/200	2 × 155/200†
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FUSE

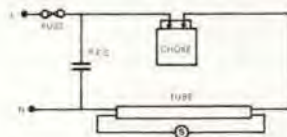
1 tube – rating	3A	—	—
Catalogue no.	G.T1299	—	—
2 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	—	—
Catalogue no.	G.T1299	—	—
4 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings

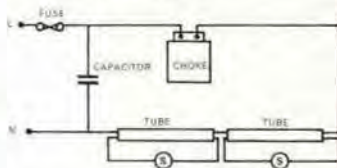
200/210V 50Hz	G.CI/240	G.CI/2240	Not available
220/230V 50Hz	G.CI/240	G.CI/2240	Not available
240/250V 50Hz	G.CI/240	G.CI/2240	Not available

†Order starter switches separately: one starter switch socket will also be required

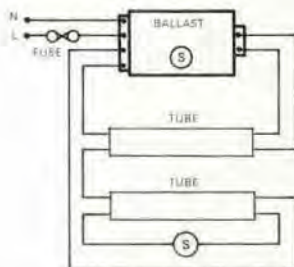
CIRCUIT DIAGRAMS



1 Standard starter switch circuit with optional PFC capacitor

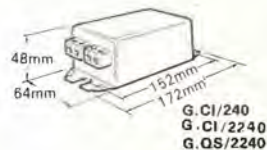


10 Starter switch circuit for series pair tube operation with optional PFC capacitor



15 Twin tube starter switch circuit for HPF ballast

CONTROL GEAR TYPES



G.CI/240
G.CI/2240
G.QS/2240

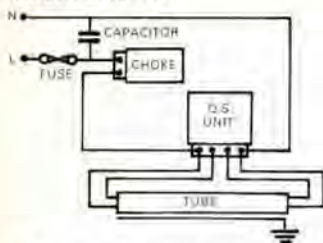


G.CBS/685

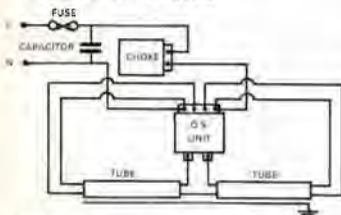
600mm 40W Fluorescent tube control gear

Control gear for this tube size is not included in BS 2818

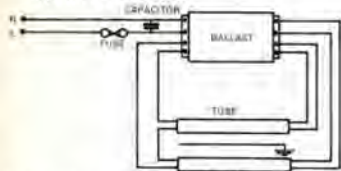
CIRCUIT DIAGRAMS



8 Tapped quickstart transformer circuit with optional PFC capacitor



11 Twin tube quickstart circuit with optional PFC capacitor

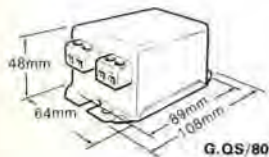


12 Twin tube quickstart circuit for LPF ballast with optional PFC capacitor

CONTROL GEAR TYPES



G.CBQ/2240



G.QS/80

SWITCHLESS START CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube(s)	1 × 600mm 40W	2 × 600mm 40W	2 × 600mm 40W
Circuit	Quickstart	Quickstart	Quickstart
Type of control gear	LPF choke	LPF choke	LPF ballast
Circuit diagram	8	11	12

CHOKES OR BALLAST

Catalogue no.	G.CI/240	G.CI/2240	G.CBO/2240
Weight	1.9kg	1.9kg	2.7kg
Filling	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White
Terminals	Screw	Screw	Screw
Cross section			



t_w
 Δt

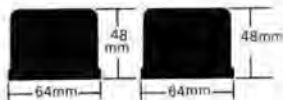
105°C	105°C	105°C
65°C	65°C	65°C

CAPACITOR

Catalogue no.	G.C2222	G.C2222	G.C2222
Capacitance (µF)	8 ± 10%	8 ± 10%	8 ± 10%
Working volts	250V	250V	250V
Length incl. terminals	99mm	99mm	99mm
Diameter	38mm	38mm	38mm
Terminals	Push-wire	Push-wire	Push-wire
Fused or unfused	Unfused	Unfused	Unfused
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245

QUICKSTART UNIT

Catalogue no.	G.QS/80	G.QS/2240	Included in ballast
Weight	1kg	1.4kg	—
Filling	Polyester resin	Polyester resin	—
Can colour	White	White	—
Terminals	Screw	Screw	—
Cross section			



FUSE

1 tube - rating	3A	—	—
Catalogue no.	G.T1299	—	—
2 tube - rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
3 tube - rating	3A	—	—
Catalogue no.	G.T1299	—	—
4 tube - rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings

200/210V 50Hz	G.CI/240	G.CI/2240	Not available
220/230V 50Hz	G.CI/240	G.CI/2240	Not available
240/250V 50Hz	G.CI/240	G.CI/2240	Not available

Twin 600mm20W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2 × 600mm 20W	2 × 600mm 20W	2 × 600mm 20W	2 × 600mm 20W
Circuit	Switchstart	Quickstart	Switchstart	Quickstart
Type of control gear	LPF choke	LPF choke	HFF ballast	LPF ballast
Circuit diagram	10	11	15	12

CHOKES OR BALLAST

Catalogue no.	G.CU/40	G.CU/40	G.CBS/40	G.CBQ/220
Weight	0.9kg	0.9kg	1.1kg	1.2kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
Cross section				



I_w	120°C	120°C	120°C	105°C
Δt	55°C	55°C	55°C	55°C

CAPACITOR

Catalogue no.	G.C2224	G.C2224	Included in ballast	G.C2224
Capacitance (µF)	3.5 ± 10%	3.5 ± 10%	—	3.5 ± 10%
Volts rating	250V	250V	—	250V
Length incl. terminals	75mm	75mm	—	75mm
Diameter	38mm	38mm	—	38mm
Terminals	Push-wire	Push-wire	—	Push-wire
Fused or unfused	Unfused	Unfused	—	Unfused
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—	G.Y5244 and G.Y5245

STARTER SWITCH

Catalogue no.	2 × 155/200	—	2 × 155/200†	—
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QUICKSTART UNIT

Catalogue no.	—	G.OS/220	—	Included in ballast
Weight	—	0.9kg	—	—
Filling	—	Polyester resin	—	—
Can colour	—	White	—	—
Terminals	—	Screw	—	—
Cross section	—	—	—	—



I_w	—	105°C	—	—
Δt	—	20°C	—	—

FUSE

2 tube — rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
4 tube — rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 240V 50Hz units above)

200/210V 50Hz	G.69354.1	G.69354.1	Not available	Not available
220V 50Hz	G.69369.2	G.69369.2	Not available	Not available
250V 50Hz	G.69354.5	G.69354.5	Not available	Not available
220V 60Hz	G.69374.2	G.69374.2	Not available	Not available
240V 60Hz	G.69354.1	G.69354.1	Not available	Not available

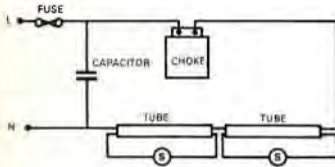
†Order starter switches separately: one starter switch socket will also be required

Choke or ballast approved to BS 2818

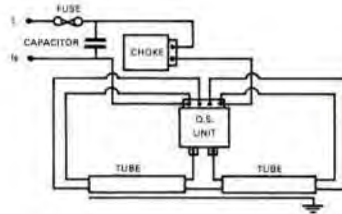
Twin 600mm 20W Fluorescent tube control gear

CIRCUIT DIAGRAMS

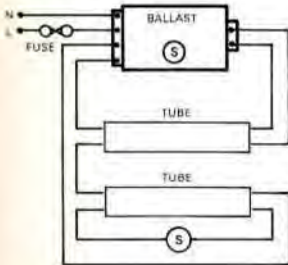
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



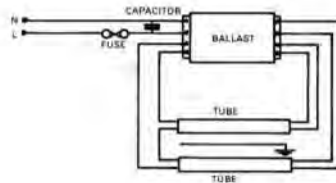
11 Twin tube quickstart circuit with optional PFC capacitor



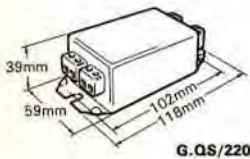
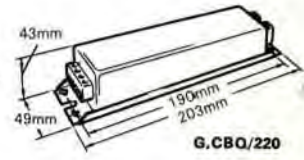
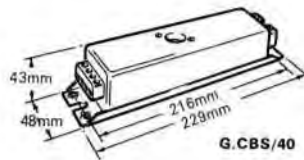
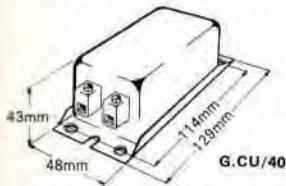
15 Twin tube starter switch circuit for HPF ballast



12 Twin tube quickstart circuit for LPF ballast with optional PFC capacitor



CONTROL GEAR TYPES



Twin 450mm 15W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2 × 450mm 15W 26mm and 38mm dia.	2 × 450mm 15W 26mm and 38mm dia.	2 × 450mm 15W 26mm and 38mm dia.
Circuit	Switchstart	Quickstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF ballast
Circuit diagram	10	11	218

CHOKES OR BALLAST

Catalogue no.	G.CU/30	G.CU/30	G.CBS/30
Weight	0.9kg	0.9kg	1.1kg
Filling	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White
Terminals	Screw	Screw	Screw
Cross section			



t_w
 Δt

120°C
50°C



120°C
50°C



120°C
45°C

CAPACITOR

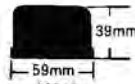
Catalogue no.	G.C2224	G.C2224	—
Capacitance (µF)	3.5 ± 10%	3.5 ± 10%	—
Volts rating	250V	250V	—
Length incl. terminals	75mm	75mm	—
Diameter	38mm	38mm	—
Terminals	Push-wire	Push-wire	—
Fused or unfused	Unfused	Unfused	—
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	—

STARTER SWITCH

Catalogue no.	2 × 155/200	—	2 × 155/200†
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QUICKSTART UNIT

Catalogue no.	—	G.OS/220	—
Weight	—	0.9kg	—
Filling	—	Polyester resin	—
Can colour	—	White	—
Terminals	—	Screw	—
Cross section			



t_w
 Δt

105°C
20°C

FUSE

2 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299
4 tube – rating	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 240V units above)

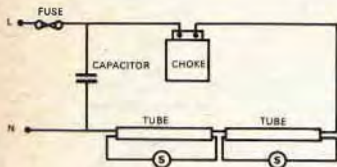
200/210V 50Hz	G.69353.1	G.69353.1	Not available
220V 50Hz	G.69354.5	G.69354.5	Not available
250V 50Hz	G.69353.5	G.69353.5	Not available

†Order starter switches separately: one starter switch socket will also be required.

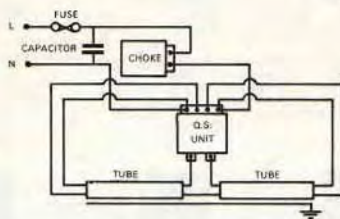
Twin 450mm 15W Fluorescent tube control gear

CIRCUIT DIAGRAMS

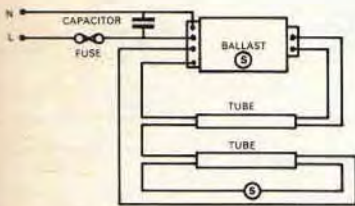
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



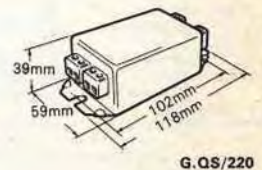
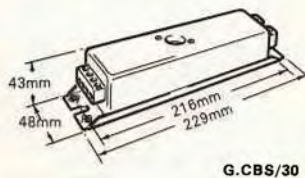
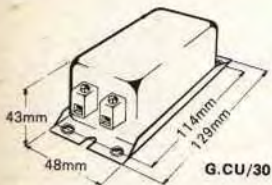
11 Twin tube quickstart circuit with optional PFC capacitor



218 Twin tube starter switch circuit for LPF ballast



CONTROL GEAR TYPES



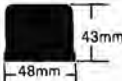



Single 22W Circular, 600mm 20W and 450mm 15W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 600mm 20W or 1 × 450mm 15W	1 × 22W Circular or 1 × 600mm 20W or 1 × 450mm 15W	1 × 600mm 20W or 1 × 450mm 15W	1 × 22W Circular or 1 × 600mm 20W or 1 × 450mm 15W
Circuit	Quickstart	Switchstart	Quickstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF ballast	LPF ballast
Circuit diagram	8	1	219	17

CHOKE OR BALLAST

Catalogue no.	G.CU/20	G.CU/20	G.CBG/20	G.CBS/20
Weight	0.9kg	0.9kg	1.13kg	1.02kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
Cross section				
I_w	120°C	120°C	105°C	120°C
Δt	50°C	50°C	50°C	50°C

CAPACITOR

Catalogue no.	G C2224	G C2224	G C2224	G C2224
Capacitance (µF)	3.5 ± 10%	3.5 ± 10%	3.5 ± 10%	3.5 ± 10%
Working volts	250V	250V	250V	250V
Length incl. terminals	75mm	75mm	75mm	75mm
Diameter	38mm	38mm	38mm	38mm
Terminals	Push-wire	Push-wire	Push-wire	Push-wire
Fused or unfused	Unfused	Unfused	Unfused	Unfused
Fixing clips	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245	G.Y5244 and G.Y5245

STARTER SWITCH

Catalogue no.	—	155/200	—	155/200‡
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QUICKSTART UNIT

Catalogue no.	G.QS/40	—	Included in ballast	—
Weight	0.9kg	—	—	—
Filling	Polyester resin	—	—	—
Can colour	White	—	—	—
Terminals	Screw	—	—	—
Cross section		—	—	—

FUSE

1 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299
4 tube – rating	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 240V 50Hz units above)

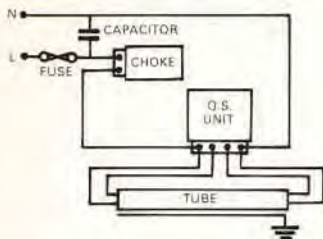
200/210V 50Hz	G.69352.1	G.69352.1	Not available	Not available
220V 50Hz	G.69368.2	G.69368.2	Not available	Not available
250V 50Hz	G.69352.5	G.69352.5	Not available	Not available
220V 60Hz	G.69378.2	G.69378.2	Not available	Not available
240V 60Hz	G.69352.1	G.69352.1	Not available	Not available

‡Order starter switches separately

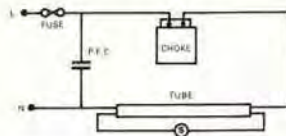
☑ Choke or ballast approved to BS 2818

Single 22W Circular, 600mm 20W and 450mm 15W Fluorescent tube control gear

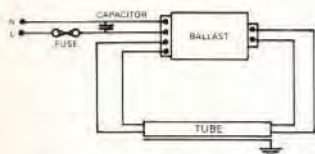
8 Tapped quickstart transformer circuit with optional PFC capacitor



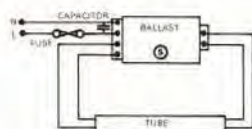
1 Standard starter switch circuit with optional PFC capacitor



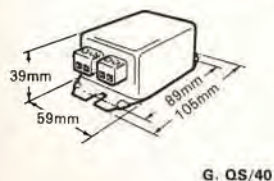
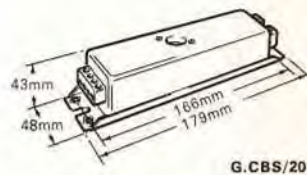
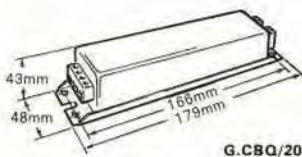
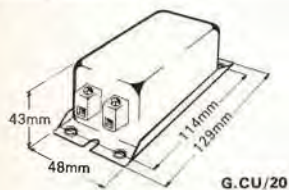
219 Quickstart circuit for LPF ballast with optional PFC capacitor



17 Starter switch circuit for LPF ballast with optional PFC capacitor



CONTROL GEAR TYPES



525mm 13W, 300mm 8W, 225mm 6W and 150mm 4W control gear






CONTROL GEAR FOR 230/250V 50Hz SUPPLY

Tube(s)	1 × 525mm 13W	1 × 525mm 13W or 2 × 300mm 8W	2 × 150mm 4W or 225mm 6W	1 × 300mm 8W	1 × 4/6/8W
Circuit	Switchstart	Switchstart	Switchstart	Switchstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF choke	LPF choke	LPF choke
Circuit diagram	1	1 or 10	10	1	1

CHOKES OR BALLASTS

	▽	▽	▽	▽	▽
Catalogue no.	G.CD/13	G.CPX/28	G.CPX/8	G.CD/8	G.CPX/8
Weight	0.6kg	0.6kg	0.6kg	0.6kg	0.6kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw

Cross section

					
tw	105°C	105°C	105°C	105°C	105°C
Δt	50°C	40°C	40°C	50°C	40°C

CAPACITORS

Catalogue no.	G.C2286	G.C2286	G.C2286	G.C2286	G.C2286
Capacitance (μF)	2 ± 10%	2 ± 10%	2 ± 10%	2 ± 10%	2 ± 10%
Working volts	250V	250V	250V	250V	250V
Length incl. terminals	52mm	52mm	52mm	52mm	52mm
Diameter	26mm	26mm	26mm	26mm	26mm
Terminals	Solder tags	Solder tags	Solder tags	Solder tags	Solder tags
Fused or unfused	Unfused	Unfused	Unfused	Unfused	Unfused
Fixing clip	G.Y5200	G.Y5200	G.Y5200	G.Y5200	G.Y5200

STARTER SWITCH

Catalogue no.	155/500	155/500 (13W) or 2 × 155/100†	2 × 155/100†	155/500	155/500
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FUSE

1 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
2 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
3 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299
4 tube – rating	3A	3A	3A	3A	3A
Catalogue no.	G.T1299	G.T1299	G.T1299	G.T1299	G.T1299

Other choke or ballast voltage ratings (Details as 230/250V 50Hz units above unless otherwise stated)

200/220V 50Hz	G.69160.L	Not available	G.CPX/28	G.69159.L	G.CPX/28
110/115V 50Hz	Not available	Not available	Not available	Not available	G.69346 } *
110/115V 60Hz	Not available	Not available	Not available	Not available	G.69347 }

*Use 155/100 starter switch

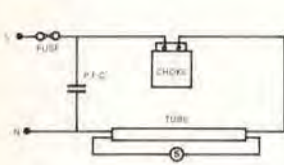
†Due to the asymmetrical construction of these switches, they must be placed in the starter switch sockets correctly orientated (i.e. if the switches refuse to operate, one must be removed and rotated through 180°)

▽ Choke or ballast approved to BS2818

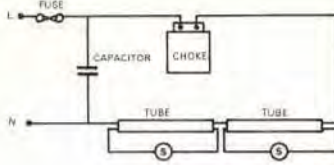
525mm 13W, 300mm 8W, 225mm 6W and 150mm 4W control gear

CIRCUIT DIAGRAMS

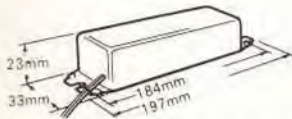
1 Standard starter switch circuit with optional PFC capacitor



10 Starter switch circuit for series pair tube operation with optional PFC capacitor

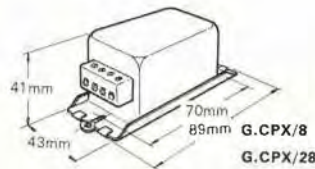


CONTROL GEAR TYPES



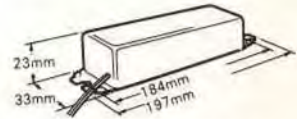
G.CD/8

One brown lead
330mm long
One white lead
51mm long



G.CPX/8

G.CPX/28



G.CD/13

One brown lead
368mm long
One white lead
85mm long

Circuit components for SOX and SLI sodium discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	35, 55W SOX	35, 55W SOX	90W SOX/140W SLI/H	135/180W SOX	200W SLI/H
Circuit diagram	307	307	307	304	302

Ballast

Catalogue number	G 53182.41*	G 53131.4*	G 53232.4*	G 53260.T*	G 53261.T*
Weight	3-4 kg	4-2 kg	5-82 kg	6-55 kg	6-55 kg
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	D11	D13	D1	D14	D15
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw
$t_w/\Delta t$ (°C)	105/60	105/50	120/75	120/85	120/85

Capacitor

Catalogue number	G C2384	G C2384	G C2331 (for 140W) G C2346 (for 90W)	G C2281	G C2382
Capacitance μF	15 \pm 10%	15 \pm 10%	20 \pm 10% (for 140W) 25 \pm 10% (for 90W)	13 \pm 5%	35 \pm 10%
Working voltage	250	250	250	440	250
Terminals	Flying leads	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused	Unfused

Fuse Rating

HRC	5A	5A	5A	5A	5A
Re-wireable	5A	5A	5A	5A	5A

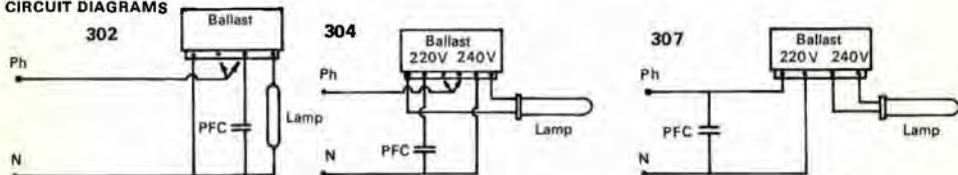
Other ballast voltage ratings

220V 50Hz	G 53182.T†	Not available	G 53232.2*	G 53260.T*	G 53261.T*
250V 50Hz	G 53182.T†	Not available	Not available	Not available	Not available
Illustrated type	D12	—	D1	D14	D15
$t_w/\Delta t$ (°C)	—	—	120/85	120/85	120/85

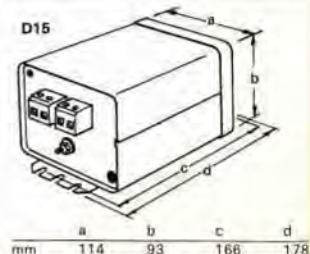
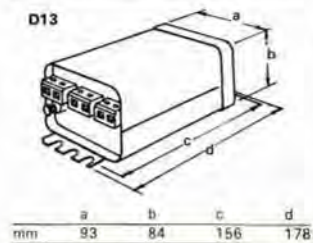
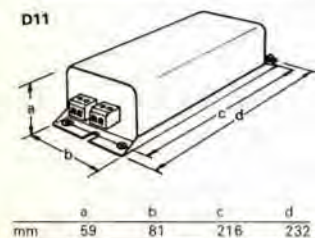
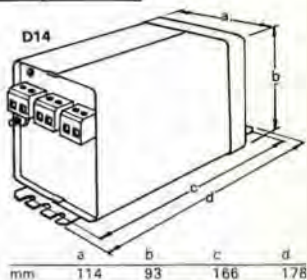
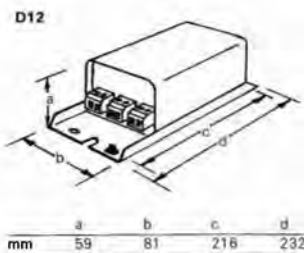
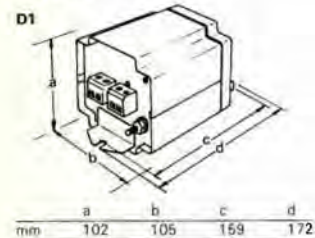
†Fittings use only. For all other applications the G 53131.4 must be used.

*Ballast approved to BS4782.

CIRCUIT DIAGRAMS



CONTROL GEAR TYPES



Circuit components for 250W and 400W SON high-pressure sodium discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	250W	400W
Circuit diagram	315	315

Ballast

Catalogue no.	G. 53251.T	G. 53230.T
Weight	3.8kg	5.7kg
Filling	Polyester resin	Polyester resin
Illustrated type	D2	D1
Can colour	White	White
Terminals	Screw	Screw

Capacitor

Catalogue no.	G. C2386	2 x G. C2331 (in parallel)
Capacitance μ F	30 \pm 10%	20 \pm 10% (each)
Working volts	250V	250V
Terminals	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused

Ignitor

Catalogue no.	G. 53282	G. 53282
Weight	0.065kg	0.065kg
Illustrated type	D27	D27
Can finish	Aluminium	Aluminium
Terminals	Flying leads	Flying leads

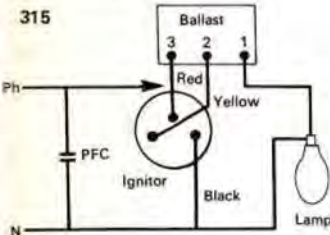
Fuse rating

HRC	10A	15A
Re-wireable	5A	10A

Other ballast voltage ratings

220V 50Hz	G. 53251.T	G. 53230.T
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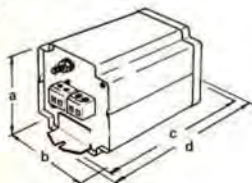
CIRCUIT DIAGRAM



Notes: 1) Maximum permissible distances between lamp and ignitor/ballast combination using 1mm² PVC twin and earth cable are: 250W-45m, 400W-30m.
2) For 220V operation remove phase lead from terminal 3 of ballast and re-connect to terminal 2.

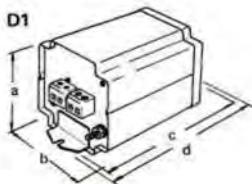
CONTROL GEAR TYPES

D2



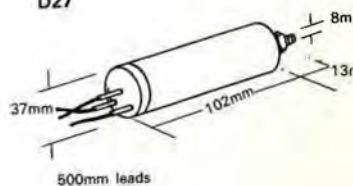
	a	b	c	d
mm	89	98	146	158

D1



	a	b	c	d
mm	102	105	158	171

D27



Circuit components for XB and XE/D compact source xenon discharge lamps

A.C. LAMPS 200/250V 50Hz

Lamp	250W XE/D	500W XE/D	1000W XB	1500W XB
Circuit diagram	320	320	320	320
Ballasts				
Catalogue no.	4 × G 53235 *	6 × G 53235 *	6 × G 53235 *	2 × G 53251.T & * 3 × G 53230.T
Weight	10.4kg (each)	10.4kg (each)	10.4kg (each)	
Illustrated type	D21	D21	D21	D2/D1
Terminals	Screw	Screw	Screw	Screw
Starter				
Catalogue no.	G 53239	G 53239	G 53239	G 53239
Weight	5.9kg	5.9kg	5.9kg	5.9kg
Illustrated type	D25	D25	D25	D25
Capacitors				
Catalogue no.	3 × G C2275 (160 μF) * or 3 × G C2275 & 1 × G C2331 (200 μF)	4 × G C2275 (240 μF) * or 5 × G C2275 (300 μF) *	4 × G C2275 (240 μF) * or 5 × G C2275 (300 μF) *	3 × G C2275 & 1 × G C2331 (200 μF) *
Mains current	3A (180 μF) 2A (200 μF)	8.5A (240 μF) 4.5A (300 μF)	7.5A (240 μF) 5A (300 μF)	9.25A (200 μF)
Working volts	250V	250V	250V	250V
Terminals	Screw	Screw	Screw	Screw
Illustrated type	D36	D36	D36	D36 (G C2275)

* Connected in parallel

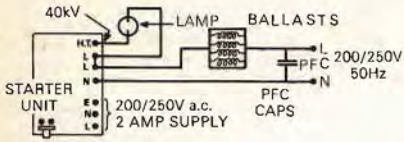
D.C. LAMPS ON 200/250V 50Hz SUPPLY

Lamp	250W XE/D	500W XE/D	2000W XE/D	2000W XE/D
Circuit diagram	323	323	2 electrode 321	3 electrode 322
Starter				
Catalogue no.	G 53239	G 53239	G 53233	G 53234
Weight	5.9kg	5.9kg	12.7kg	4.1kg
Illustrated type	D25	D25	D19	D20
Rectifier ballast				
Catalogue no.	G 53236	G 53236	G 53237	G 53238
Weight	37kg	37kg	180kg	180kg
Illustrated type	D22	D22	D23	D24
D.C. LAMPS ON 35/65V D.C. SUPPLY				
Lamp	250W XE/D	500W XE/D	2000W XE/D	2000W XE/D
Circuit diagram	323	323	2 electrode 321	3 electrode 322
Starter				
Catalogue no.	G 53239	G 53239	G 53233	G 53234
Weight	5.9kg	5.9kg	12.7kg	4.1kg
Illustrated type	D25	D25	D19	D20
Series resistance				
Resistance value (ohms)	V—16.5 15	V—22 85	V—25 80	V—23.5 85
Current (amps)	15A	23A	80A	85A

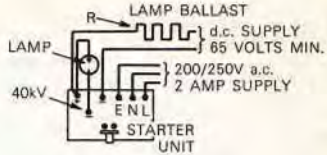
Circuit components for XB and XE/D compact source xenon discharge lamps

CIRCUIT DIAGRAMS

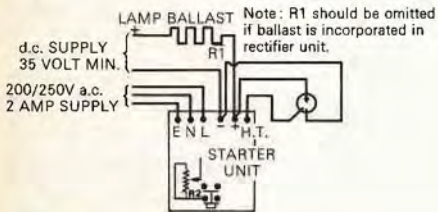
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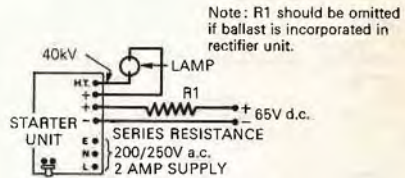
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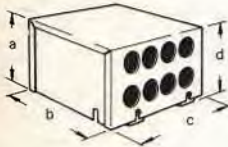
322



323

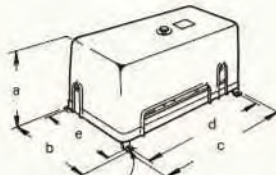


CONTROL GEAR TYPES



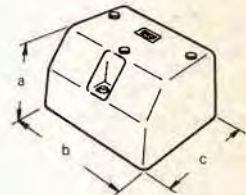
D21

mm	a	b	c	d
	140	203	208	150



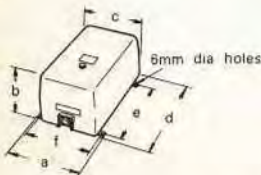
D25

mm	a	b	c	d	e
	165	191	318	289	175



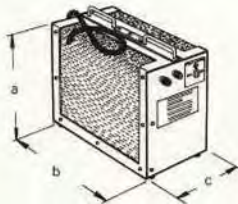
D19

mm	a	b	c
	203	314	267



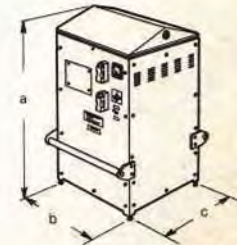
D20

mm	a	b	c	d	e	f
	222	156	187	292	232	203



D22

mm	a	b	c
	356	432	216



D23/D24

mm	a	b	c
	1035	464	565

Circuit components for 50W, 80W, 125W and 250 W MBF, MBFR and MBF Kolorlux lamps



CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	50W	80W	125W	250W
Circuit diagram	301	301	301	301

Ballast (Filling polyester resin; can colour white)

Catalogue no.	G 53184.4†	G 53162.4*	G 53306.4*	G 53198.4*‡
Weight	1.2kg	1.8kg	1kg	2.72kg
Illustrated type	D16	D9	D7	D5
Terminals	Screw	Screw	Screw	Screw
$t_w/\Delta t$ (°C)	—	105/50	105/55	130/90

Capacitor (unfused)

Catalogue no.	G C2203†	G C2383	G C2383	G C2370
Capacitance μ F	$6 \pm 10\%$	$8 \pm 10\%$	$8 \pm 10\%$	$13 \pm 10\%$
Working volts	250V	250V	250V	250V
Terminals	Solder tags	Flying leads	Flying leads	Flying leads

Fuse rating

HRC	5A	5A	5A	10A
Re-wireable	5A	5A	5A	5A

Other ballast voltage ratings (Filling polyester resin; can colour white)

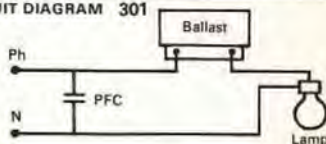
220V 50Hz	G 53188.2†	G 53176.2†	G 53134.2†	G 53198.2*‡
Catalogue no.	G 53188.2†	G 53176.2†	G 53134.2†	G 53198.2*‡
Illustrated type	D16	D17	D18	D5
Weight	1.2kg	1.36kg	1.87kg	2.72kg
$t_w/\Delta t$ (°C)	—	—	—	130/85
200/250V 50Hz	—	G 53162.T	G 53306.T	G 53158.T
Catalogue no.	—	G 53162.T	G 53306.T	G 53158.T
Illustrated type	—	D10	D8	D31
Weight	—	1.8kg	—	3.86kg
Voltage tappings	—	200/210; 220/230; 240/250V	200/210; 220/230; 240/250V	200; 210; 220; 230; 240; 250V

†For fittings use only.

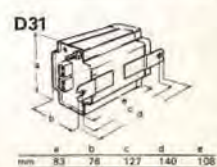
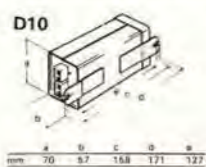
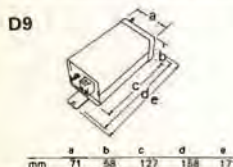
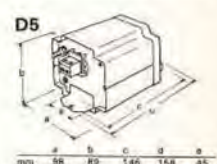
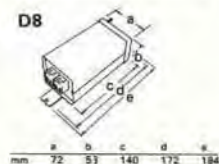
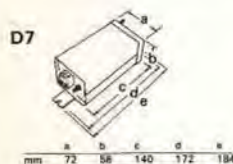
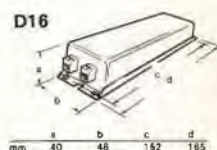
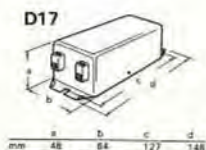
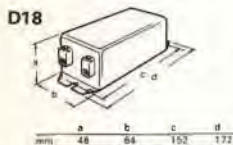
*Ballast approved to BS4782.

‡The heat dissipation from these ballasts is extremely efficient and it is therefore necessary to ensure that cables in close proximity to the ballast surface are high temperature grade or suitably protected by high temperature sleeving.

CIRCUIT DIAGRAM 301



CONTROL GEAR TYPES



Circuit components for 400W, 700W and 1000W MBF, MBFR and MBF Kolorlux mercury discharge lamps



CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp Circuit diagram	400W 301	700W 306	1000W 306
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Ballast

Catalogue no.	G 53193.4*††	G 53157.T† +	G 53198.4*††	2 × G 53243.4*††
Weight	3.86kg	5.6kg	2.72kg	3.86kg (each)
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	D3	D30	D5	D4
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
$t_w / \Delta t$ (°C)	130/90	—	130/90	130/90

Capacitor

Catalogue no.	G C2331	G C2331 * +	G C2370 *	2 × G C2346 *
Capacitance μ F	20 \pm 10%	20 \pm 10%	13 \pm 10%	25 \pm 10% (each)
Working volts	250	250	250	250
Terminals	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused

Fuse ratings

HRC	15A	15A	15A	20A
Re-wireable	10A	10A	10A	15A

Other ballast voltage ratings

220V 50Hz	G 53193.2††	Not available	Not available	2 × G 53243.2*††
Illustrated type	D3	—	—	D4
Weight	3.86kg	—	—	3.86kg
Filling	Polyester resin	—	—	Polyester resin
Can colour	White	—	—	White
$t_w / \Delta t$ (°C)	130/85	—	—	—
200/250V 50Hz	G 53157.T	G 53157.T +	G 53158.T*	2 × G 53164.T*
Illustrated type	D30	D30	D31	D30
Weight	5.5kg	5.5kg	3.86kg	5.5kg (each)
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Can colour	White	White	White	White
Voltage tappings	200; 210; 220; 230; 240; 250	—	200; 210; 220; 230; 240; 250	190; 200; 210; 220; 230; 240

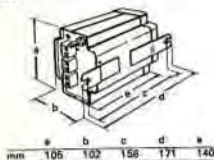
*Connected in parallel

†Ballast approved to BS4782

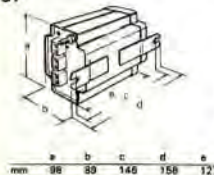
†The heat dissipation from these ballasts is extremely efficient and it is therefore necessary to ensure that cables in close proximity to the ballast surface are high temperature grade or suitably protected by high temperature sleeving

CONTROL GEAR TYPES

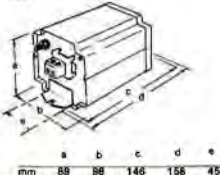
D30



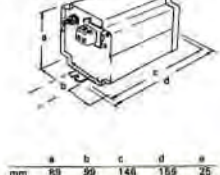
D31



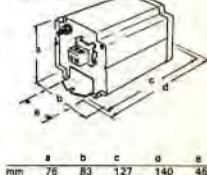
D3



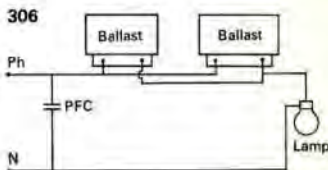
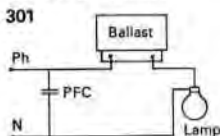
D4



D5



CIRCUIT DIAGRAMS



Circuit components for 250W, 400W and 1000W Kolorarc metal halide discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	250W	400W	1000W
Circuit diagram	324	324	311

Ballast

Catalogue no.	G.53251.T	G 53193.4	G 53247.4
Weight	3-8kg	3-86kg	24kg
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	Type D2	Type D3	Type D6
Can colour	White	White	Black
Terminals	Screw	Screw	Flying leads

Ballast fixing bracket

Catalogue no.	—	—	G M6181
---------------	---	---	---------

Capacitor

Catalogue no.	G C2386	G C2331	4XG C2346 (in parallel)
Capacitance μF	$30 \pm 10\%$	$20-0 \pm 10\%$	$25 \pm 10\%$ (each)
Working volts	250	250	250
Terminals	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused

Ignitor

Catalogue No.	G 53283	G 53283	—
Weight	0-15kg	0-15kg	—
Illustrated type	Type D28	Type D28	—
Can finish	Aluminium	Aluminium	—
Terminals	Flying leads	Flying leads	—

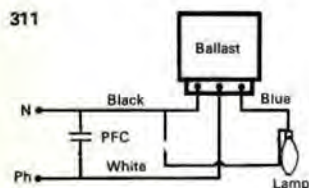
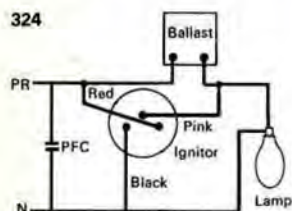
Fuse rating

HRC	10A	15A	20A
Re-wireable	5A	10A	15A

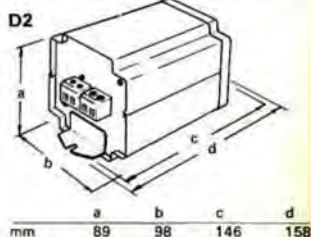
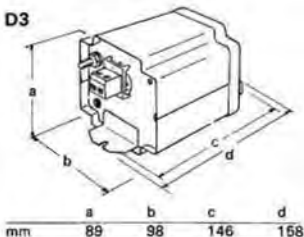
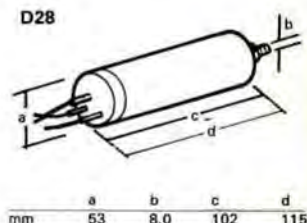
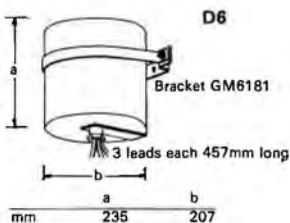
Other ballast voltage ratings available

220V 50Hz	G 53251.T	G 53193.2	G 53247.2
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CIRCUIT DIAGRAMS



CONTROL GEAR TYPES



Circuit components for M1 and M2 miniature mercury discharge lamps

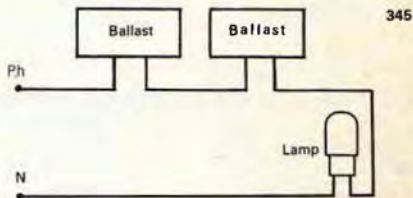
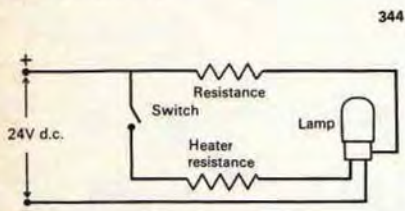
Lamp type	M1	
Circuit diagram	344	
Supply voltage	24V d.c.	
Ballast		
Catalogue no.	—	
Weight	—	
Filling	—	
Illustrated type	—	
Can colour	—	
Terminals	—	
Series resistance †	24 ohms	
Heater resistance †	30 ohms	

M2	
345	
200/250V 50Hz	
GCI/80 + G69343*	
1.9kg	0.57kg
Polyester resin	Polyester resin
A2	G
White	White
Screw	Screw

†Supplied by installer

*Ballasts connected in series

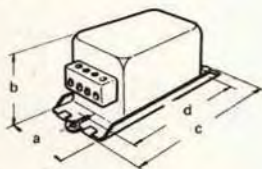
CIRCUIT DIAGRAMS



Note: Alternatively, series resistors of values between 480 and 160 ohms may be used in place of the two series chokes to give operating currents in the range 0.5 to 1.5 amps.

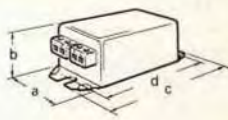
CONTROL GEAR TYPE S

G



	a	b	c	d
mm	43	41	89	70

A2



	a	b	c	d
mm	64	48	172	152

Circuit components for MB/D, MBL/D, MBW/U and ME/D mercury discharge lamps

CONTROL GEAR FOR 200/250V 50Hz SUPPLY

Lamp	125W MB/D 125W MBL/D 125W MBW/U	250W ME/D	1000W ME/D
Circuit diagram	301	301	316

Ballast

Catalogue no.	G 53306.T	G 53235	4 × G 53235 (in parallel)
Weight	2.54kg	10.43kg	10.43kg (each)
Filling	Polyester resin	—	—
Illustrated type	D8	D21	D21
Can colour	White	—	—
Terminals	Screw	Screw	Screw

Capacitor

Catalogue no.	G C2383	G C2275	4 × G C2275 (in parallel)
Capacitance μ F	8 ± 10%	60	60 (each)
Working volts	250	250	250
Terminals	Flying leads	Screw	Screw
Illustrated type	—	D36	D36

Starting capacitor

Capacitance μ F	—	—	0.5
Working volts	—	—	1000
Manufacturer and ref. no.	—	—	TCC type CP142W or equivalent

Fuse rating

HRC	5A	10A	20A
Re-wireable	5A	5A	20A

Starting switch

Type	—	—	Pushbutton rated at 5A
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CONTROL GEAR FOR 200/250V D.C. SUPPLY

Lamp	125W MBL/D	250W ME/D	1000W ME/D
Circuit diagram	341	342	343

Ballast

Catalogue no.	G 53306.T	G 53235	Not required
Resistance	See table 1 below	See table 2 below	See table 3 below

Starting switch

Type	Quick break	Pushbutton rated at 10A	Pushbutton rated at 5A
------	-------------	-------------------------	------------------------

RESISTANCE TABLES

1

Supply voltage	Resistance \pm 5%	Current rating (amps)
200	79	2.3
210	87	2.3
220	95	2.3
230	105	2.3
240	112	2.3
250	123	2.3

2

Supply voltage	Resistance \pm 5%	Current rating (amps)
200	35.2	5.6
210	37.9	5.5
220	40.6	5.4
230	43.3	5.3
240	46.0	5.2
250	48.7	5.1

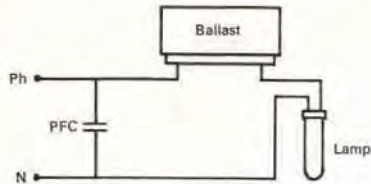
3

Supply voltage	Resistance \pm 5%	Current rating (amps)
200	8.9	22.5
210	9.5	22.0
220	10.2	21.6
230	10.9	21.0
240	11.5	20.8
250	12.2	20.4

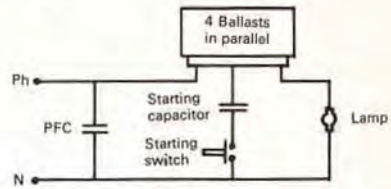
Circuit components for MB/D, MBL/D, MBW/U and ME/D mercury discharge lamps

CIRCUIT DIAGRAMS

301

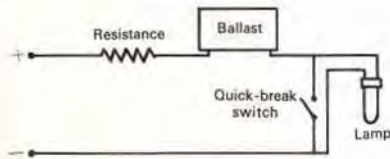


316

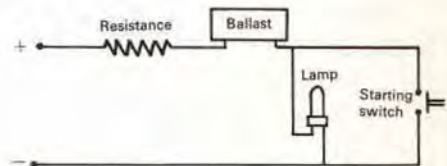


Note: The starting capacitor and switch are connected to the appropriate tapping in the first of the parallel ballasts only.

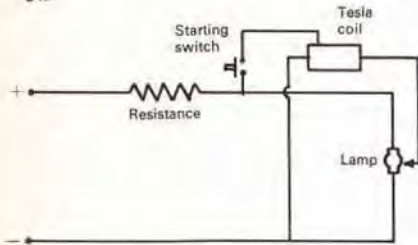
341



342

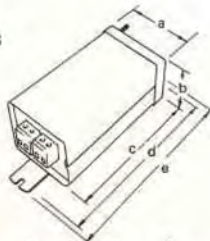


343



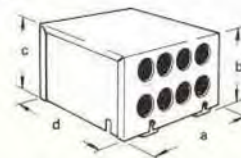
CONTROL GEAR TYPES

D8



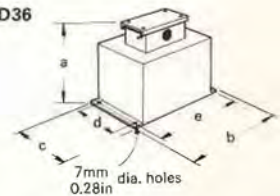
	a	b	c	d	e
mm	72	58	140	172	184

D21



	a	b	c	d
mm	208	150	140	203

D36



	a	b	c	d	e
mm	178	197	114	89	178

Circuit components for 400W and 1000W CSI compact source iodide lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	400W	1000W	1000W Hot restrike
Circuit diagram	338	339	340
Ballast			
Catalogue no.	G 53230.T	3 × G 53230.T†	3 × G 53230.T†
Weight	5.7kg	5.7kg (each)	5.7kg (each)
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	D1	D1	D1
Can colour	White	White	White
Terminals	Screw	Screw	Screw
Capacitor			
Catalogue no.	2 × G C2331 ‡	8 × G C2346 ‡	8 × G C2346 ‡
Capacitance, µF	20 ± 10% (each)	25 ± 10% (each)	25 ± 10% (each)
Working voltage	250	250	250
Terminals	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused
Fuse rating			
HRC	15A	20A	20A
Re-wireable	10A	20A	20A
Pulse transformer			
Catalogue no.	G 47075	G 47077	—
Weight	—	0.8kg	—
Illustrated type	D34	D35	—
Filling	Polyester resin	Polyester resin	—
Can colour	White	White	—
Terminals	Screw	Screw	—
Starter			
Type	Vibrating relay †	Vibrating relay †	Walter Bauch Type 240*
Components	See chart 1 opposite	See chart 1 opposite	or IREM Type A1530
Starter Switch			
Type	—	—	Double pole push-button rated at 5A
Additional components			
	—	—	See chart 2 opposite
Combined units			
220V 50Hz	G 53196.2	G 53255.T	—
240V 50Hz	G 53196.4	G 53255.T	—
Illustrated type	D32	D33	—
Weight	11.8kg	27.2kg	—
Colour	Light grey	Black/White	—

*These starters are not supplied by Thorn Lighting Ltd. and should be obtained direct from the manufacturers: Walter Bauch, Elektrogerate, 1 Berlin 44, Elbestrasse 28-29, W. Germany; or IREM, 10050 S. Antonino (Torino), Italy.

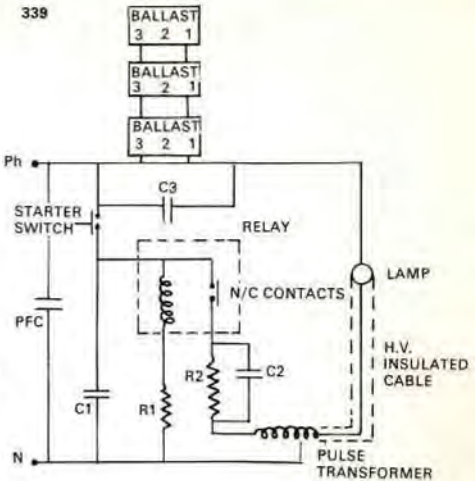
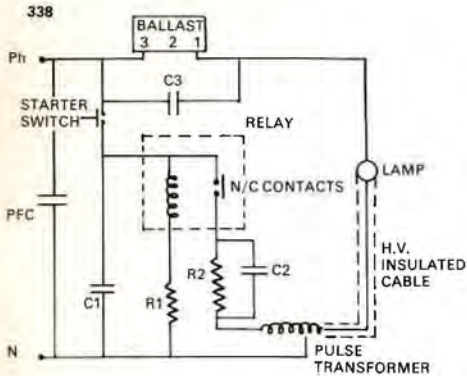
†Starter units incorporating the respective pulse transformer are available under the following catalogue numbers:

400W	G 53318
1000W	G 53319

‡Connected in parallel.

Circuit components for 400W and 1000W CSI compact source iodide lamps

CIRCUIT DIAGRAMS

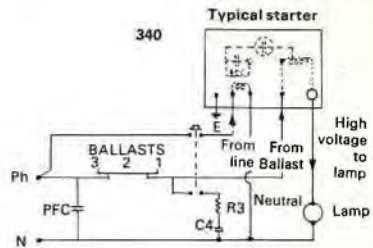


COMPONENT CHART—1

Component	Type	Where obtainable
C1, C2	0.22 μ F 1000V d.c. mixed dielectric	R.S. Components
C3	0.005 μ F 1000V d.c. disc ceramic	R.S. Components
R1	4.7K Ω 1W carbon	R.S. Components
R2	4.7K Ω 10W wire-wound	R.S. Components
Relay	Reference 325/T5 14084/2	Magnetic Devices Ltd.

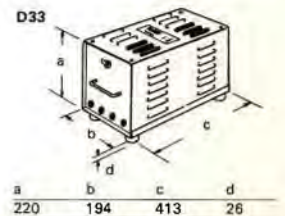
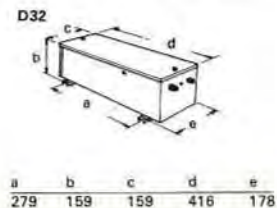
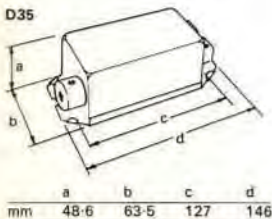
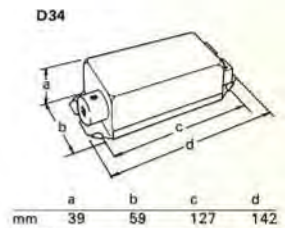
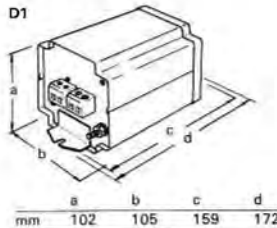
COMPONENT CHART—2

Component	Type	Where obtainable
R3	27 Ω 2.5W wire-wound	R.S. Components
C4	2 μ F \pm 10% 250V	R.S. Components



Note: For 220V operation connect phase lead to terminal 2 on ballast(s)

CONTROL GEAR TYPES



Circuit components for 400W and 400/800W Graph X 365/420 photoprinting lamps

CONTROL GEAR FOR 240V 50HZ SUPPLY

Lamp	400W	400/800W
Circuit diagram	333	334

Ballast

Catalogue no.	G 53230.T	2 × G 53230.T
Weight	5.7kg	5.7kg (each)
Filling	Polyester resin	Polyester resin
Illustrated type	D1	D1
Can colour	White	White
Terminals	Screw	Screw

Capacitor

Catalogue no.	2 × G C2331	2 × G C2331 + G C2386
Capacitance μ F	20 ± 10% (each)	20 ± 10% (each) + 30 ± 10%
Working voltage	250	250
Terminals	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused

Fuse rating

HRC	15A	15A
Re-wireable	10A	10A

Starter

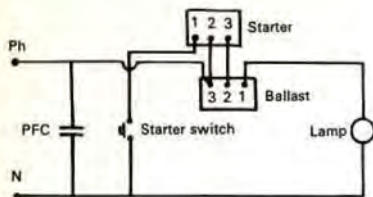
Catalogue no.	G 53279.T	G 53279.T
Weight	0.35kg	0.35kg
Illustrated type	D26	D26

Relay

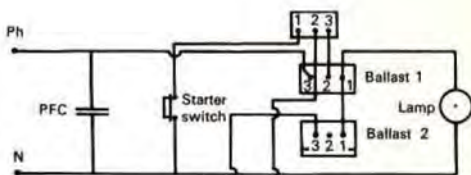
Type	PO 3000 reference 3EH2DA available from Keyswitch, Bendon Valley, Wandsworth S W18. <i>OR</i> An alternative relay capable of withstanding 4 kV both between contacts, when open, and also to earth.
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Circuit components for 400W and 400/800W Graph X 365/420 photoprinting lamps

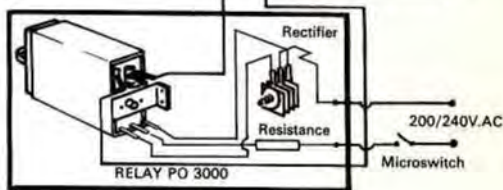
CIRCUIT DIAGRAMS



333



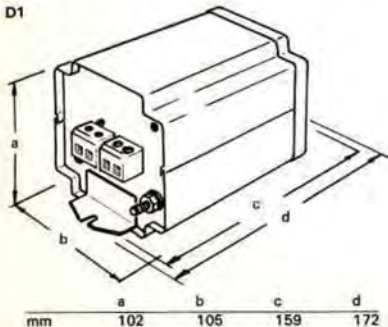
334



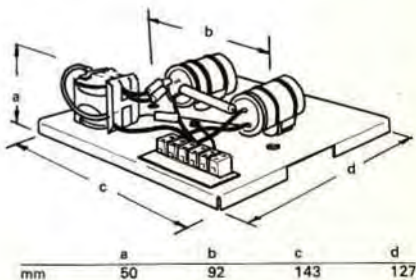
Note: For 220V operation reverse connections at 2 and 3 on ballast(s).

CONTROL GEAR TYPES

D1



D26



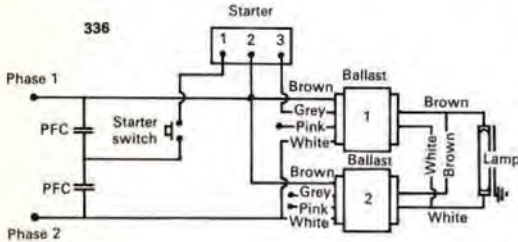
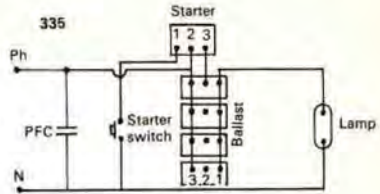
Circuit components for 1800W and 2000W MBIL linear metal halide discharge lamps

Lamp	1800W	2000W	2000W simmering
Supply voltages	240V 50Hz	415V 3 Phase 50Hz	415V 3 Phase 50Hz
Circuit diagram	335	336	337
Ballast			
Catalogue no.	4 × G 53230.T	2 × G 53299	2 × G 53299
Weight	5.7 kg (each)	—	—
Filling	Polyester resin	—	—
Illustrated type	D1	D29	D29
Can colour	White	Black	Black
Terminals	Screw	Flying leads	Flying leads
Capacitor			
Catalogue no.	6 × G C2331 <i>or</i> 5 × G C2346	2 × G C2275	2 × G C2275
Capacitance μ F	20 \pm 10% (each) <i>or</i> 25 \pm 10% (each)	60 (each)	60 (each)
Working voltage	250	250	250
Terminals	Flying leads	—	—
Fused or unfused	Unfused	—	—
Illustrated type	—	D36	D36
Fuse rating			
HRC	30A	20A	20A
Re-wireable	25A	15A	15A
Starter			
Catalogue no.	G 53279.T	G 53279.T	G 53279.T
Weight	0.35kg	0.35kg	0.35kg
Illustrated type	D26	D26	D26

Circuit components for 1800W and 2000W MBIL linear metal halide discharge lamps

CIRCUIT DIAGRAMS

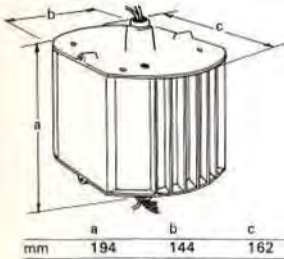
Note: For 220V operation reverse connections 2 and 3 on ballasts.



Note: For 380V 3 Phase 50Hz operation remove grey lead from starter terminal 3 and connect to phase 1. Remove existing brown lead from phase 1 and re-connect to starter terminal 3. Remove connection from relay to brown lead of 2nd ballast and connect to grey lead.

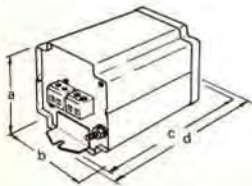
CONTROL GEAR TYPES

D29



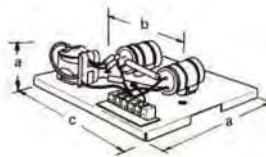
Length of leads outside of can 250 ± 5 mm

D1



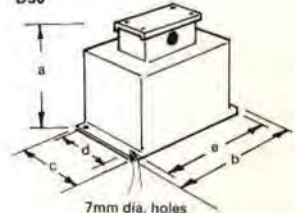
mm	a	b	c	d
	102	105	158	171

D26

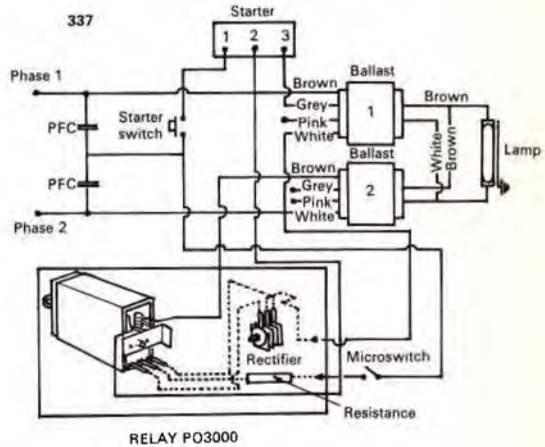


mm	a	b	c	d
	50	92	143	127

D36



mm	a	b	c	d	e
	178	197	114	89	178

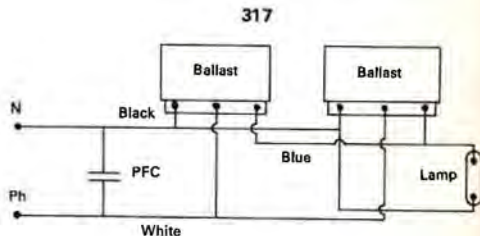
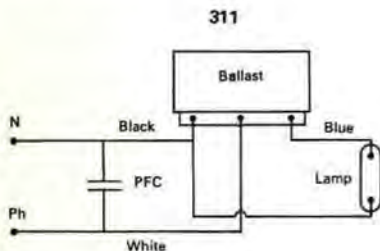


Circuit components for 750W 1200W and 1600W MBIL linear metal halide discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

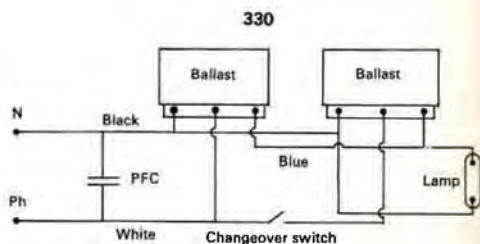
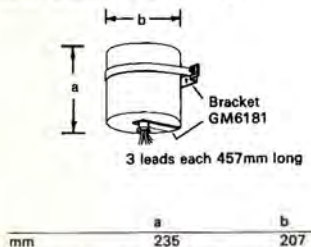
Lamp	750W	1200W	1200W simmering	1600W
Circuit diagram	311	317	330	317
Ballast				
Catalogue no.	G 53254.4	2 × G 53254.4	2 × G 53254.4	2 × G 53254.4
Weight	23.2kgs	23.2kgs (each)	23.2kgs (each)	23.2kgs (each)
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	D6	D6	D6	D6
Can colour	Black	Black	Black	Black
Terminals	Leads	Leads	Leads	Leads
Ballast fixing bracket				
Catalogue no.	GM6181	2 × GM6181	2 × GM6181	2 × GM6181
Capacitor				
Catalogue no.	3 × GC2346	8 × GC2346	8 × GC2346	6 × GC2346
Capacitance, μF	25 ± 10% (each)	25 ± 10% (each)	25 ± 10% (each)	25 ± 10% (each)
Working voltage	250	250	250	250
Terminals	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused
Fuse rating				
HRC	15A	20A	20A	20A
Re-wireable	10A	15A	15A	15A
Changeover switch				
Type	—	—	Crabtree 20A Rocker Grid Switch Type 2450 or MK 15/20A Rocker Grid Switch Type 4891	—

CIRCUIT DIAGRAMS



CONTROL GEAR TYPE

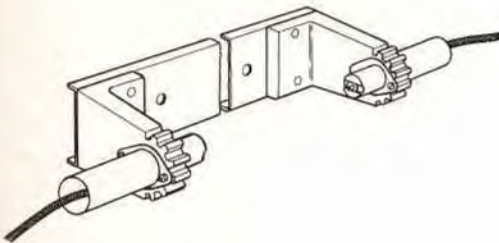
D6



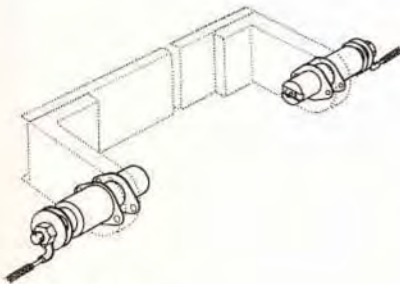
Lampholders for Hytek lamps



Lampholder L 1101
for use with 400W CSI lamps.



Lampholder Assembly L 1153
for use with 1200W MBIL lamps.



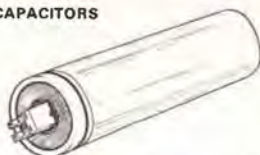
Lampholder L 1173
for use with 1800W MBIL lamps.

Capacitors for fluorescent tube circuits

STANDARD PFC AND SERIES CAPACITORS



R with pin terminals
Pins at 10mm crs.



Q with push wire terminals

A range of capacitors for fluorescent tube circuits in cases of aluminium or approved plastics. All capacitors detailed below are fitted with a suitable internal discharge resistor.

Type Q capacitors have push-wire terminals of the screwless, releasable, push-wire type and accept one or two 0.5 sq. mm. to 1.0 sq. mm. conductors per terminal; conductor release apertures are provided.

CAPACITOR SUPPORT CLIPS

GY5244 For 38mm dia. capacitors
GY5245 Clip for GY5244
GY5200 For 25mm dia. capacitors



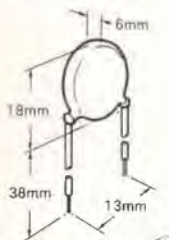
GY5244

Catalogue no.	Rated capacitance (μF) and tolerance	Rated voltage (V)	Rated frequency (Hz)	Fused or unfused	Self-healing	Rated min/max. temperatures ($^{\circ}\text{C}$)	Type	Dia. (mm)	Length* (mm)	Use
G C2220	8.4 \pm 5%	250	50/60	Unfused	Yes	-40/85	Q	38	100	6ft 85W/6ft 75W/5ft 65W SRS
G C2222	8 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	38	78	5ft 80W/2ft 40W SS/QS
G C2274	10 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	38	104	2 x 5ft 65W SS
G C2368	5.7 \pm 5%	250	50/60	Unfused	Yes	-40/85	R	32	78	5ft 50W SRS
G C2228	7.8 \pm 5%	440	50	Unfused	Yes	-40/85	Q	38	124	8ft 125W QS
G C2173	7.2 \pm 5%	440	50/60	Unfused	Yes	-40/85	Q	38	135	8ft 125W SS
G C2223	6 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	38	78	6ft 85W SS
G C2273	5.5 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	38	78	4ft 40W SRS
G C2226	5 \pm 5%	440	50	Unfused	Yes	-40/85	Q	38	104	8ft 85W QS/6ft 75W leading SS
G C2245	5 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	38	78	5ft 65W SS
G C2224	3.5 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	38	54	2ft 20W/3ft 30W/4ft 40W SS/QS
G C2227	3 \pm 10%	250	50	Unfused	Yes	-40/85	R	32	48	3ft 30W (for Arrowslim fitting)
G C2286	2 \pm 10%	250	50/60	Unfused	Yes	-40/85	Q	26	44	13/8/6/4W SS

* Length is can length only. Pin terminals project 9mm
Push wire terminals project 21mm

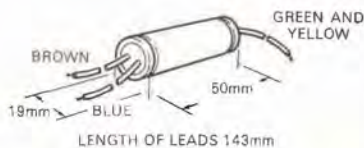
RADIO INTERFERENCE SUPPRESSION CAPACITORS

All starter switches and starting transformers shown in this catalogue incorporate a 0.005 μF radio interference suppressor. For additional suppression the following capacitors are available:



G C2139

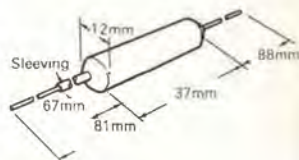
A ceramic base 0.005 μF 800V a.c. capacitor to BS 4017 with high temperature PVC sleeved 38mm leads.



G C2051

A radio interference suppression filter network comprising two 0.005 μF and one 0.1 μF delta connected for additional suppression where the GC2139 fails to suppress the interference.

ARTIFICIAL EARTH

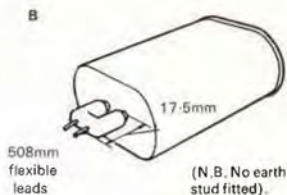
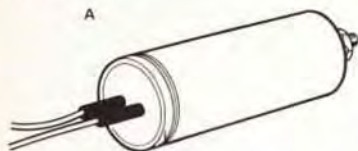


G C2050

An artificial earth unit for connection between the tube earth strip, or a metal chassis in close proximity to the tube, and neutral when no earth is available.

Capacitors for mercury and sodium discharge lamp circuits

CAPACITOR TYPES

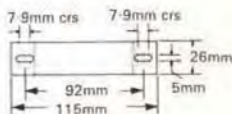


RANGE

Catalogue no.	Rated capacitance (μF) and tolerance	Rated voltage (V)	Rated frequency (Hz)	Fused or unfused	Self healing	Rated min/max temperatures ($^{\circ}\text{C}$)	Type	Diameter mm	Length mm	Fixing clip
G C2383	$8 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	38	74	GY5319
G C2370	$13 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	104	GY5320
G C2384	$15 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	104	GY5320
G C2345	$16 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	104	GY5320
G C2385	$18 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	107	GY5320
G C2331	$20 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	107	GY5320
G C2346	$25 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	107	GY5320
G C2386	$30 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	105	GY5320
G C2382	$30 \pm 10\%$	250	50	Unfused	Yes	$-40/+85$	A	45	105	GY5320
G C2281	$13 \pm 5\%$	440	50	Unfused	Yes	$-40/+70$	B	51×76	105	GY5279
G C2278	$15 \pm 5\%$	350	50	Unfused	Yes	$-40/+70$	B	51×76	121	GY5279
G C2288	$17.5 \pm 5\%$	350	50	Unfused	Yes	$-40/+70$	B	51×76	137	GY5279

CAPACITOR CLIP

G.Y5279
For 76mm \times 51mm
capacitors



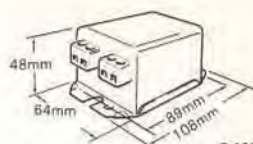
Voltage transformers and voltage conversion units

SUPPLY VOLTAGE STEP-UP TRANSFORMERS

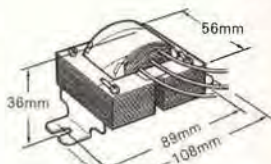
Used in conjunction with 240V circuits

RANGE

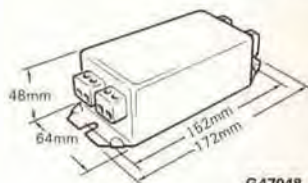
Catalogue no.	G42343	G42350	G42355	G47048
Voltage input	220V	220V	200/210V	110V
Maximum load	220VA	220VA	170VA	100VA
Weight	0.45kg	0.9kg	0.9kg	1.86kg
Insulation	Varnish	Polyester resin	Polyester resin	Polyester resin
Can colour	Natural	White	White	White
Terminals	Leads	Screw	Screw	Screw



G42350
G42355



LENGTH OF LEADS 305mm
G42343



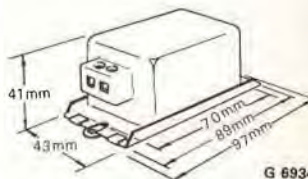
G47048

CONVERSION CHOKES (50Hz supply)

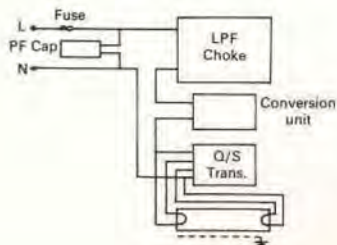
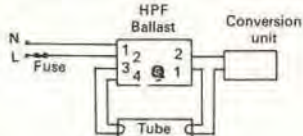
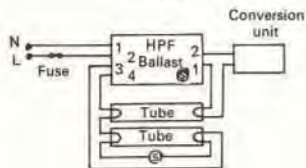
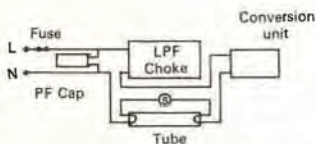
Used in series with 200/210V choke on 240/250V supply. See circuits below.

RANGE

Catalogue no.	Maximum Tube size	Weight kg	Insulation	Can colour	Terminals
G 69342	5ft 80W	0.57	Polyester resin	White	Screw
G 69343	4ft 40W	0.57	Polyester resin	White	Screw



G 69342
G 69343



Combined ballast units for fluorescent tubes

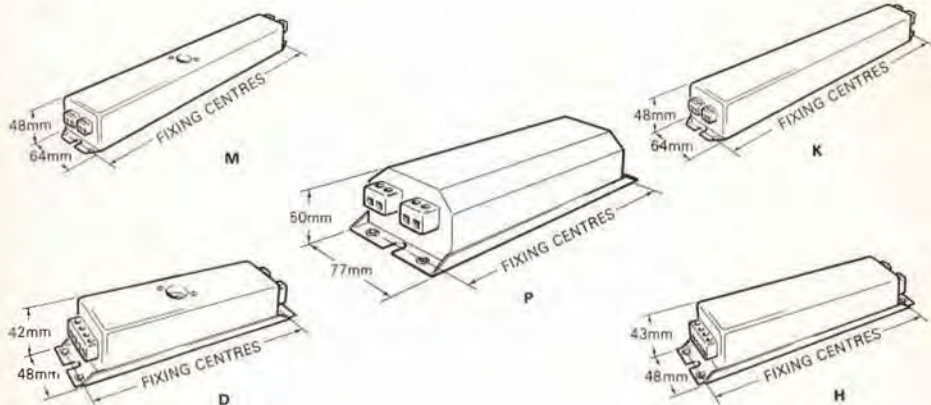
A range of 240V 50Hz HPF and LPF ballasts incorporating all necessary circuit components in one can.

These ballasts provide completely self-contained units ideal for mounting at some distance away from the tube or, alternatively, for use adjacent to the tube when shortage of space prevents the use of a complete fluorescent fitting.

These units are ideal for mounting within interior signs, or within suitably designed exterior signs, and are also used for some showcase lighting and in certain architectural features such as alcoves, pelmets, etc.

All ballasts have screw terminal connections.

When required, starter switches must be ordered separately.



RANGE

Catalogue no.	Use	Can colour	Illustrated type	Fixing centres mm	Weight kg
G CBS/125	2400mm 125W Leading PF SS	White	M	317	2.6
G CBQ/125	2400mm 125W HPF QS	White	P	406	4.5
G CBS/685	1800mm 85W, 1500mm 80W, 2 x 600mm 40W* HPF SS	White	M	292	2.4
G CBR/80	1500mm 80W HPF SRS	White	K	229	3.0
G CBS/65	1500mm 65W HPF SS	White	M	229	1.8
G CBR/65	1500mm 65W HPF SRS	White	K	229	2.9
G CBS/40	1200mm 40W, 2 x 600mm 20W* HPF SS	White	D	216	1.1
G CBR/40	1200mm 40W HPF SRS	White	K	229	1.8
G CBS/30	900mm 30W, 2 x 450mm 15W* LPF SS †	White	D	166	1.1
G CBQ/30	900mm 30W LPF QS †	White	H	166	1.6
G CBQ/2240	2 x 600mm 40W LPF QS †	White	K	229	2.7
G CBQ/220	2 x 600mm 20W LPF QS †	White	H	190	1.4
G CBS/20	600mm 20W, 450mm 15W LPF SS †	White	D	166	1.0
G CBQ/20	600mm 20W, 450mm 15W LPF QS †	White	H	166	1.1

SS= Switchstart QS= Quickstart SRS= Semi-resonant start

*An additional starter switch socket will be required when these units are used for series pair operation.

†Low power factor: use separate capacitor for HPF correction.

Control gear boxes

WEATHERPROOF BOXES FOR EXTERIOR USE

These boxes are made of zinc coated sheet steel finished stove enamel acrylic grey to BS 4800 18B 25. A weatherproof seal is effected between lid and box by means of a closed cell neoprene sponge gasket. Two 20mm diameter holes are provided in one end of each box for supply and lamp connections. A wooden baseboard is fitted for control gear mounting and an earth terminal is available on one end.

These boxes are not supplied complete with control gear or terminal blocks.

G M6174

1000W HPMV or 400W MBI

Internal dimensions

Length 425mm

Width 244mm

Height 130mm

External dimensions

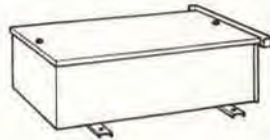
Length 437mm

Width 247mm

Height 155mm

Fixing centres

279 × 279 × 7.92mm diameter



Weight

6.84kg

G M6172

80–400W HPMV or 35–200W SLI/H
or SOX

Internal dimensions

Length 406mm

Width 144mm

Height 130mm

External dimensions

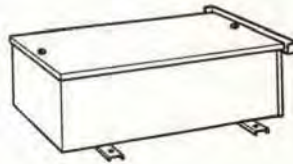
Length 420mm

Width 168mm

Height 163mm

Fixing centres

279 × 178 × 7.92mm diameter



Weight

3.74kg

G M6169

This box is made of high quality aluminium designed to accommodate a larger range of control gear for exterior use. It can accommodate either:

- 1 80W or 125W MBF type control gear with time switch and fuses;
- 2 35W SOX, 55W SOX type control gear with time switch and fuses;
- 3 250W or 400W MBF type control gear with time switch and fuses only; or
- 4 140/200W SLI control gear only. No time switch.

Internal dimensions

Length 387mm

Width 127mm

Height 121mm

External dimensions

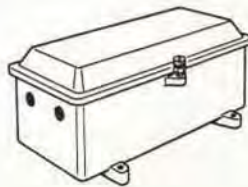
Length 425mm

Width 203mm

Height 152mm

Weight

Weight 3.63kg



REMOTE BOXES FOR INTERIOR USE

These boxes are made of sheet steel finished stove enamel acrylic light grey to BS 4800. Two 20mm diameter holes are provided in one end of each box for supply and lamp connections to two-way 10A porcelain terminal blocks. A separate earth terminal is close to these blocks. Boxes are wired complete with 240V 50Hz HPF control gear.

RB G1000-4 Gear box complete with 1000W MBF control gear

RB G700-4 Gear box complete with 700W MBF control gear

External dimensions

Length 425mm

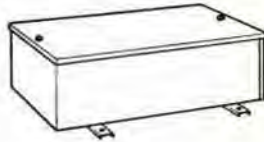
Width 247mm

Height 149mm

Weights

RB G1000 17-92kg

RB G700 13-95kg



Fixing centres

279 × 279 × 7-92mm diameter

RB G400-4 Gear box complete with 400W MBF control gear

RB IG400-4 Gear box complete with 400W MBI control gear

RB SG400-4 Gear box complete with 400W SON control gear

RB SG250-4 Gear box complete with 250W SON control gear

RB G250-4 Gear box complete with 250W MBF control gear

RB IG250-4 Gear box complete with 250W MBI control gear

External dimensions

Length 416mm

Width 157mm

Height 149mm

Weights

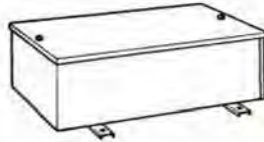
RB G400 8-05kg

RB IG400 8-59kg

RB SG400 8-17kg

RB G250 6-35kg

RB SG250 6-8kg



Fixing centres

279 × 178 × 7-92mm/11 × 7 × 0-31in diameter

CONTROL GEAR BOXES FOR INTERIOR USE WITH 80 or 125W MBF KOLORLUX LAMPS

Enclosed gear trays fitted with 240V 50Hz HPF control gear wired to a fused terminal block for incoming mains supply and a two-way terminal block for lamp connection. Boxes finished gloss white externally.

RB G125-4 Gear box complete with 125W MBF control gear

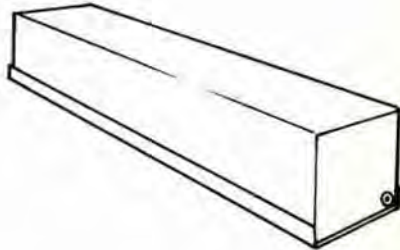
RB G80-4 Gear box complete with 80W MBF control gear

External dimensions

Length 337mm

Width 92mm

Height 83mm



Fixing centres

292 × 51mm

Weights

RB G125 3-63kg

RB G80 3-18kg

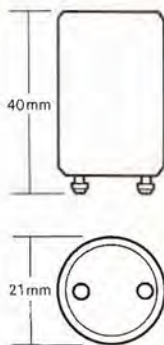
Note: Flicker is occasionally noticeable on MBF Kolorlux lamps and to eliminate it rectified circuit versions of these gear boxes are available to special order.

Starters for fluorescent lamps

This range of 2 pin, small can, glowstarters in plastic canisters incorporates constructional features resulting in switches of high quality, reliability and appearance. A high temperature grade of plastic is used for the canister with brand detail in distinctive black or red ink. The canister is inherently electrically safe and non-corrodible. The plastic moulding is tremendously tough, difficult to squash, virtually unbreakable and cannot be dented. Plastic can switches are electrically and mechanically interchangeable with metal can types of equivalent rating.

Solid pins are secured to the insulated base disc and solderless junctions connect these pins to the interior wiring.

A radio interference suppression capacitor is fitted internally to each canister.



RANGE

2 pin ; small can ; a.c. glow switch

Catalogue no.	Application	Operating voltage
155/800	2400mm 125W leading circuit or 1800mm 75/85W	230/250V
155/501	1500mm 50W leading circuit	240V
155/500	4W, 6W, 8W, 13W, 30W, 32W, 1200mm 40W, 65W or 80W	200/250V
155/400	4W, 6W, 8W, 30W, 32W or 1200mm 40W	200/250V
155/200	Single 15W, 20W, 22W or 600mm 40W	105/250V
	Series pair 15W, 20W or 600mm 40W (two 155/200)	200/250V
155/100	Single 4W, 6W or 8W	110/130V
	Series pair 4W, 6W or 8W (two 155/100) †	230/250V

†Due to the asymmetrical construction of these switches, they must be placed in the starter switch sockets correctly orientated (i.e. if the switches refuse to operate, one must be removed and rotated 180 degrees).

Terminal blocks, fuse holders and starter switch sockets

FUSES

G T1268, G T1299

All fuses comply with BS 1362 dimensions and must be used with T1265, A5079 and T1304 fuseholders.

Catalogue no.	Rating	Colour
G T1299	3A	Red
G T1268	5A	Black



G T1334

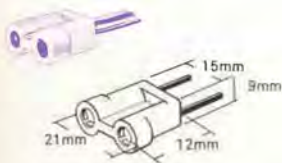
White nylon end entry fuse holder which enables control units to be disconnected before maintenance. Fuse loading cap has bayonet-catch fixing and is finger or coin operated. Push wire terminals for single incoming and double outgoing. Fuses to be ordered separately.

G T1359 Replacement loading cap.



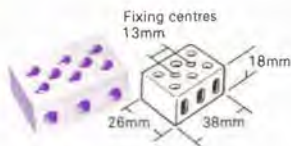
G M6064/12/Loop

White PVC moulding enclosing starter switch contacts crimped to 305mm loop 16/0-2mm white PVC cable which can be cut at a point to suit wiring layout. This holder does not support the starter switch and the G Y5274 black oil dipped spring steel clip can be supplied. The clip latches into a square hole (5.6mm min. to 5.8mm max.) in the fittings chassis.



G T1308

A 10A 250V 3-way white porcelain terminal block. Inserts are of extruded brass with 0-125in x 0-118in o.d. round bore barrels and pinch screw terminals. These inserts give facility for loop-in cables. Line, earth and neutral terminals clearly marked on terminal block.



G A5079

Combined fused terminal block with mains plug. Comprises fused block similar to G T1265, above, but with pins in line and neutral barrels, and a black phenolic moulded plug with a pin in the earth barrel. Fuses to be ordered separately. G A5037—replacement mains plug.



G Y5204, G Y5200, G5201

A range of bright zinc plated spring steel tube support clips which can be used around the glass of the tube or around the metal cap. When used around the lamp cap to earth the cap to the metalwork of the fitting chassis any paint should be scraped from the chassis to give good continuity.

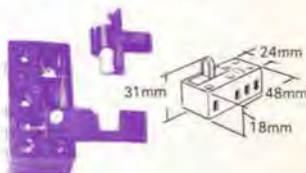


Catalogue no.	Tube dia. mm	A mm	B mm	C mm
G Y5204	16	7.5	10.3	7.9
G Y5200	26	12.7	17.8	9.5
G Y5201	38	16.7	26.2	9

G T1265

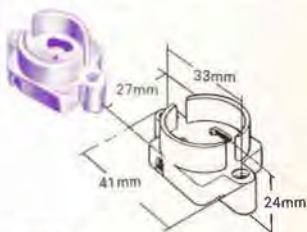
A mains circuit terminal block incorporating a fuse in the line circuit. Black phenolic moulded body with black polypropylene fuse carrier and fuse retaining plate. Earth and neutral connections are of the through barrel type with pinch screw terminals and two line connections are provided for mains input and circuit feed.

Back fixing is achieved by means of screw and shakeproof washer provided. For front fixing a 1.2mm 6BA screw must be used which is not provided. Either method of fixing provides earth connection to chassis. Fuses to be ordered separately.



G A5019/X

White urea moulding with paxolin backplate. Side pressure switch contacts. Draw nut terminals giving side and rear cable entries. Optional extra earth clips (Catalogue no. G Y5267) are held by the holder fixing screws and pass through gaps in the holder skirt. When mounted on 22mm distance pieces behind fitting chassis the starter switch projects enough for easy removal.



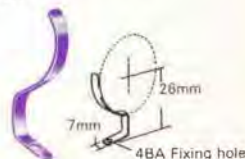
G Y5257

A nickel plated spring steel support clip for circular fluorescent tubes. Three clips are required per tube, mounted inside the tube circumference.

Note: Fixing details are approximate and must be adjusted to suit lamp used because of variation in lamp size from different manufacturers.

Fixing details

22W tube: 149mm radius
32W tube: 232mm radius
40W tube: 333mm radius
or 60W

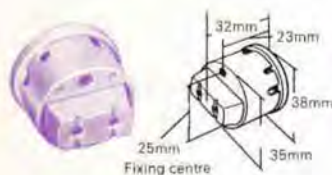


Lampholders for fluorescent tubes

For T12 (38mm diameter) bi-pin fluorescent tubes

G B1502

White urea moulding with double-sided independently sprung tube pin contacts and pinch screw terminals for incoming cables. 6BA tubular tapped nuts are provided for fixing. Earth contact (Catalogue no. G Y5420) is available as an optional extra. This holder is not suitable for use with 2400mm tubes which have large tolerances in length.



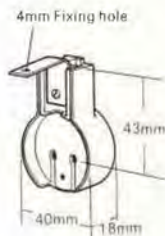
G B1512

A white urea two-piece moulding with earth clip and double-sided lamp pin contacts. Pinch screw cable terminals. A recess allows a neat termination of 2-core or 3-core flexible cable.



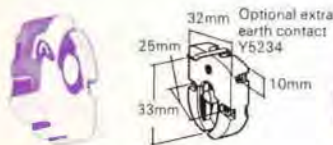
G B1580/A4

White polycarbonate mouldings with shroud, to give tube cap support, and side pressure lamp pin contacts. push-wire terminals for single conductor cables. lampholder is vertical with a nominal length tube.



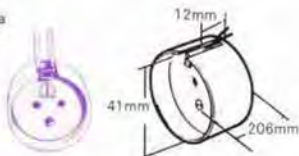
G B1524

White urea moulding with paxolin backplate. Single-sided tube contacts with pinch screw terminal for incoming cables. Earth contact G Y5234 is available as an optional extra. 6BA tubular tapped nuts are provided for fixing. This lampholder is not suitable for use with 2400mm tubes which have large tolerances in length.



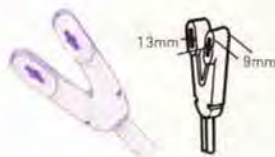
G B1573

A white urea two-piece moulding with an earth spring and deep skirt which covers the tube cap giving additional support. Double-sided side-pressure contacts are crimped to 305mm loop of high-temperature 16/0-2mm white PVC flexible cable. Earth lead connection is to lamp pin terminal.



G B1529

A high temperature white PVC moulding with double-sided brass contacts crimped to 1220mm flat twin 23/0076in white high-temperature PVC flexible cable. The extra firm contact grips make this holder suitable for vertical tubes subjected to vibration. No earth clip is available.



FIXING DETAILS

Dimensions below are distances between backs of lampholders. The dimensions given for G B1512 and G B1573 are for lampholders when fitted to the fluorescent tube.

The dimensions for G B1524 and G B1502 are recommended distances between backs of lampholders when mounted on support brackets. Dimensions for G B1580/A4 are recommended distances between fixing centres.

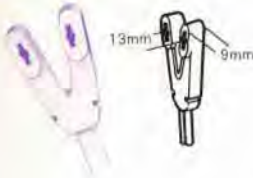
Tube size mm	G B1512 mm	G B1573 mm	G B1524 mm	G B1580/A4 mm	G B1502 mm
2400	2395-5	2398	—	2329	—
1800	1784	1786	1784	1718	1827
1500	1521	1523	1520	1454	1563
1200	1220	1222	1220	1154	1263
900	915	916	915	849	958
600	610	613	610	544	653
450	458	460	458	392	501

Lampholders for fluorescent tubes

For T8 (26mm diameter) bi-pin fluorescent tubes

G B1529

The G B1529 tube holder shown for T12 tubes is also suitable for T8 tubes.



G B1555/Z

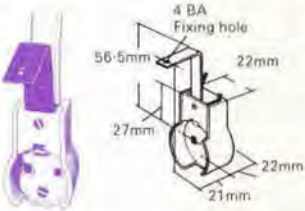
White urea mouldings with shroud to give tube cap support. Side pressure lamp pin contacts with incoming cable crimped to contacts. Cable is high temperature 16/0.2mm white PVC flexible in 305mm loop which can be cut at any point to suit the wiring layout. Other loop lengths available on request. This holder has no current carrying springs or moving parts. The bracket enables the holder to be mounted on a fixed or detachable bridge across the channel.

A locating notch or other means must be provided to stop rotation. Lampholder is vertical with a nominal length tube.

Fixing details

Dimensions below are recommended distances between fixing centres.

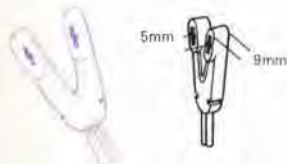
Tube size	mm
1500mm	1444-2
900mm	840
450mm	381-8



For T5 (15mm diameter) miniature bi-pin fluorescent tubes

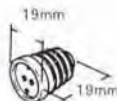
G B1525

A high-temperature PVC moulding with double-sided brass contacts crimped to 1.220mm flat twin 28/0.15mm white high-temperature PVC flexible cable. No earth contact available.



G B1561

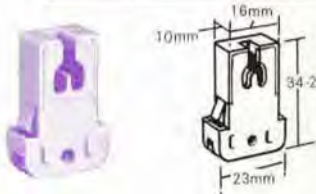
White PVC moulding with paxolin insert. Plated brass contacts with solder tag connections. This holder is assembled by threading the incoming cables through the PVC moulding and soldering them to the solder tags on the paxolin insert. This insert is then pressed into the PVC moulding.



G B1598

White polycarbonate moulding with single-sided phosphor bronze lamp pin contacts. Push-wire terminals for single conductor cables. This lampholder is self-fastening into a 17.5mm x 10.5mm hole in 22SWG (0.7mm) metal. Dimensions between holes are shown below.

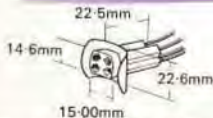
Tube size	mm
525mm	517
300mm	289
225mm	212
150mm	136



Lampholder for circular fluorescent tubes

G B1623

A single moulding high-temperature white polycarbonate body with 305mm PVC 16/0.2mm leads (one pair, yellow for starter holder connection, one lead, white, for choke connection and one lead, blue for connection to neutral supply terminal). Split cylinder grip pin brass contacts crimped to leads.



Bi-pin to BC adaptor

G B1515

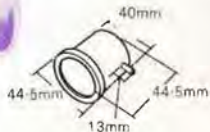
Bi-pin/BC adaptor with earth contact. A pair of these adaptors enables modern bi-pin tubes to be used where BC lampholders are fitted in a fitting. Two adaptors required per tube.



Weatherproof sleeve (for T12 38mm diameter) bi-pin fluorescent tubes

G M6028

White neoprene moulding suitable for use with G B1512 lampholder. It is recommended that AC 1981 circular flex be used for connection to lampholder and the cable entry into the cap be made waterproof with silicone grease.

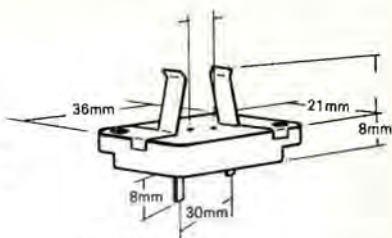


Miscellaneous Lampholders

The G.L 1079 series are for use with miniature tungsten halogen LV lamps having G6.35 caps, e.g. M28, M32, M36, M37. Both tab and lead wire versions are available. The basic flat holder is suitable where the lamp is not subject to any vibration and is unlikely to sag. Where extra support for the lamp is necessary the versions with springs which support the lamp pinch are recommended.



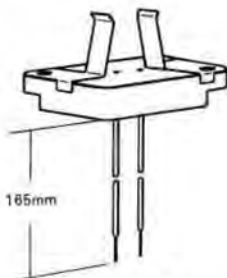
G.L 1079



G.L 1079 S/L
Lampholder suitable for use with G6.35 caps.



G.L 1079 W



G.L 1079 S/LW



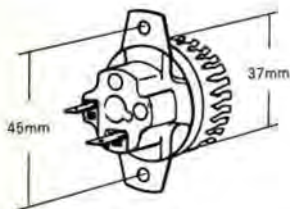
G.L 1123/A

Suitable for use with low volt miniature tungsten lamps having G 4 caps. eg. M29, M30, M34, M35



G.L 1105

Suitable for tungsten halogen lamps having GY9.5 cap. e.g. A1/233 and A1/247



G.L 1042/LV
for lamp voltages up to and including 21-5V



G.L 1042/HV
for lamp voltages over 21-5V

Suitable for use with lamps having G.17q caps.