

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 a British Standard Licence (No. 5567) for the manufacture of mercury and low pressure sodium ballasts to BS.4782 and most discharge lamp 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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Dimmer Control for All Application

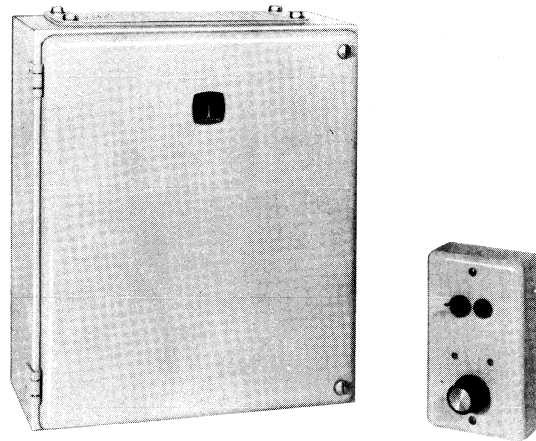
The Thorn range of dimmer systems embraces almost every conceivable lighting control requirement, and extends from the simplest industrial application to the largest theatre or television studio.

Series H Industrial Range

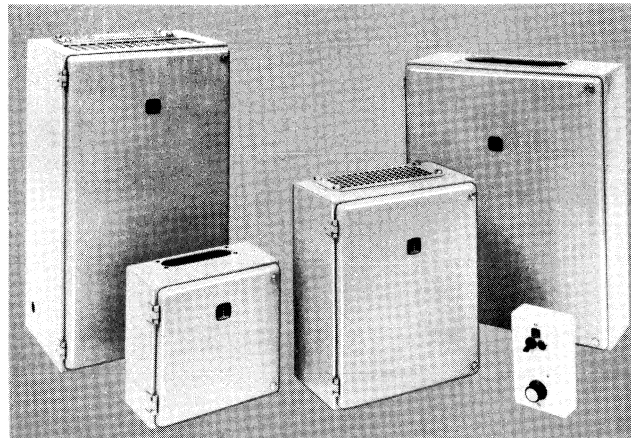
A choice of four dimmer sizes will control filament lamp loads of up to 1, 2.5, 5 or 10 kilowatts respectively. Fluorescent lamp installations are served by a choice of three dimmers controlling for example, 6, 12 or 32 five foot 65 watt tubes.

All the above dimmers are available with control units offering:—

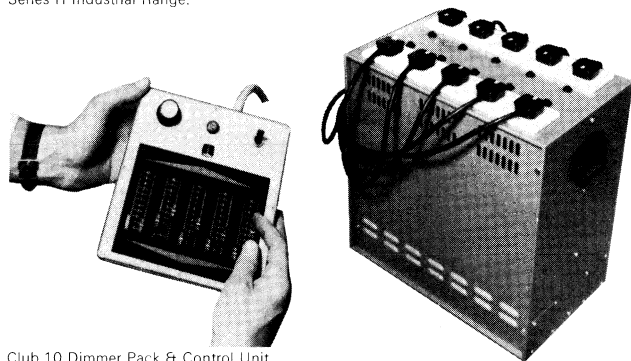
- A hand operated intensity control.
- Automatic fade to Off or Full with single push button control.
- Automatic fade to Off, Intermediate or Full with three push button control.
- Automatic continuous crossfading between two or three dimmers—particularly suitable for colour change effects.



Type TH 40 Dimmer 2500W.



Series H Industrial Range.



Club 10 Dimmer Pack & Control Unit.

CLUB 10 Multiway Control System

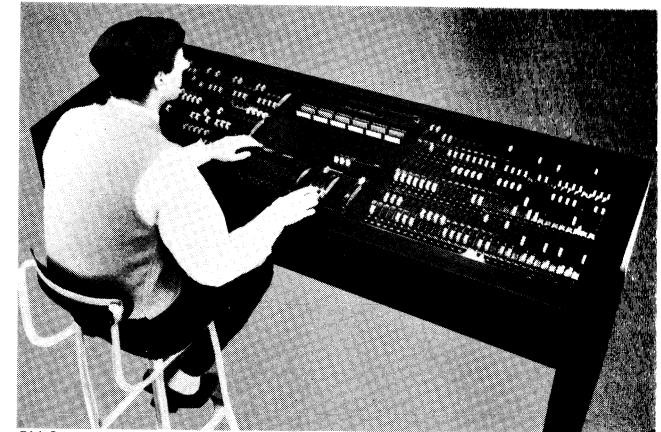
This compact and portable equipment provides simple theatre type lighting control at a price which commends its use in clubs, schools, public halls, photographic studios, etc.

The basic form of this equipment comprises ten 2500 watt dimmers in a cabinet small and light enough to be carried by one man, and a control unit little larger than a cigar box. The latter mounts ten independent controls with a master fader for overall brightness adjustment. Another 'two preset' version carries duplicated faders allowing a crossfade from one multi-circuit lighting scene to another. Five and twenty way versions are also available.

Type SM and PM Systems for Theatre Lighting Control

The SM systems utilise the well known manually operated arrangement involving 1, 2, 3 or 4 control levers for each lighting circuit. Simultaneous operation of two or more master faders allows control to be transferred from one row of individual levers to another and thus permits progressive changes between different combinations of lighting circuits or different intensity levels for the same circuits.

The PM version combines the function of the SM system with the ability to place any required selection of lighting control levers under the group control of any one of ten group master faders. Thus, ten different combinations of lighting circuits can be prepared in advance with a choice of up to four different intensity levels for each circuit.

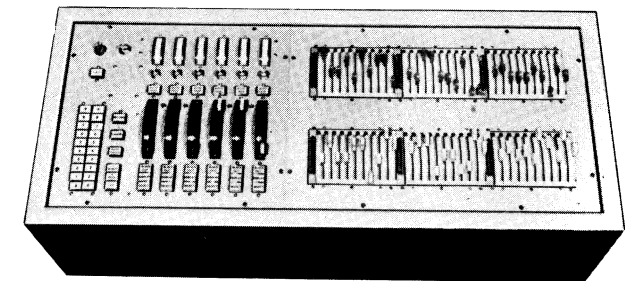


PM System at the Malakoff Theatre Paris.

Q-SET Comprehensive Theatre Lighting Control System with Electronically Memorised Circuit Selections

This very versatile but easy to operate system combines the use of two or more banks of circuit intensity control levers with an extremely flexible group control system in which the identity of all the circuits in use in any group can be instantly recorded in one of one hundred electronic memories. These memorised selections of circuits can subsequently be brought into use under the control of any one of several group master faders serving each of the banks of individual circuit controls. Any number of memories may be added or subtracted to produce a composite result and these memory operations can take place either as an instant effect or as a fade action which can if required, take place automatically in a predetermined time.

Although the intensity levels of the individual circuits are not memorised, the moderately priced Q-SET system provides an excellent means of controlling the lighting in medium sized theatres or television studios.



Q Set 30-way two preset.

Q-FILE

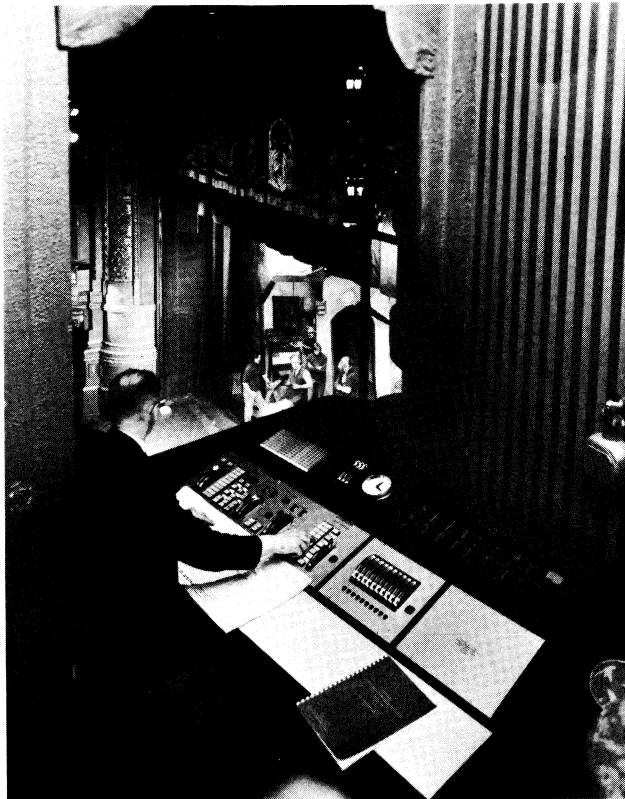
Full Facility System for Theatre and Television Lighting Control

Q-FILE is the best established equipment of its type in the world with more than 40 systems in use or on order for television studios and theatres in Europe, the Middle East and North America.

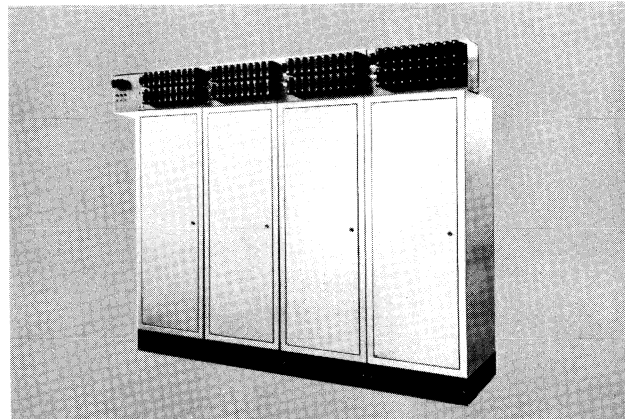
A full description of all the facilities is not practical in the space available but briefly, the Q-FILE system enables the brightness level of any number of lighting circuits to be memorised instantly in 100 (optionally 200) electronic memory files which may be selected sequentially or in random order. Thus, the subsequent use of these memories will provide the choice of 100 or more independent lighting plots, each of which can utilise some or all of hundreds of lighting circuits. Each plot includes a predetermined free choice of brightness level for every circuit used and any number of memories can be combined by addition or subtraction to form composite plots which may then be separately memorised if required. The recall of memorised lighting can take place either with instant effect or in sequence of up to four simultaneously available automatic and independent fade processes. Each fade process may involve the use of any single memory or any combination of memories. Both instant and fade cues may take place concurrently and once a fade action has been initiated, it proceeds automatically, leaving the operator free to introduce shorter term lighting effects.

All these actions can be easily achieved by a single operator seated at a small panel with all the controls at his finger tips.

Optional Q-File facilities include a portable control unit which enables lighting to be set up and memorised from any convenient location, and a tape memory system for the long term storage of lighting information. The latter system enables the entire contents of the Q-File memory bank to be copied into a cassette of magnetic tape. On any later occasion, this cassette may be used to restore the memorised data and thus enable the original lighting programme to be repeated.



Q-File at Grand Theatre Leeds.

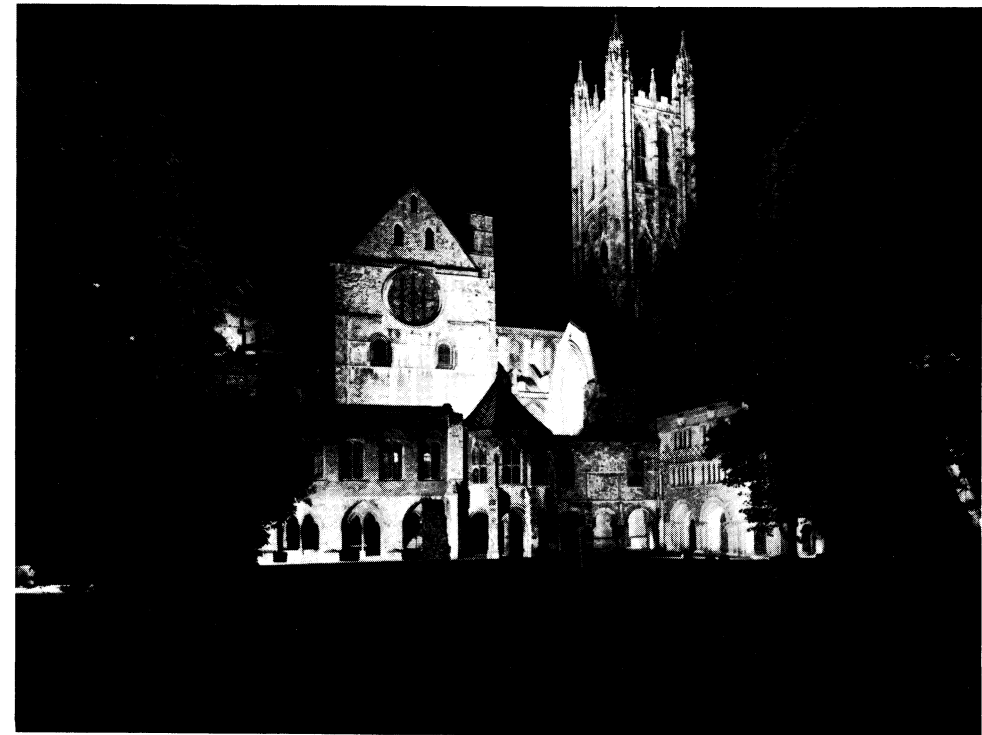


Group of LAO Type Dimmer Cabinets.

Son et Lumière

For many years, nationally important buildings have featured in Thorn Son et Lumière displays in which a wide range of light sources and control equipment are employed to produce a grand spectacle of colour and sound.

All enquiries should be routed to your Regional Office or to:
Theatre Lighting Division,
Great Cambridge Road,
Enfield, Middlesex.



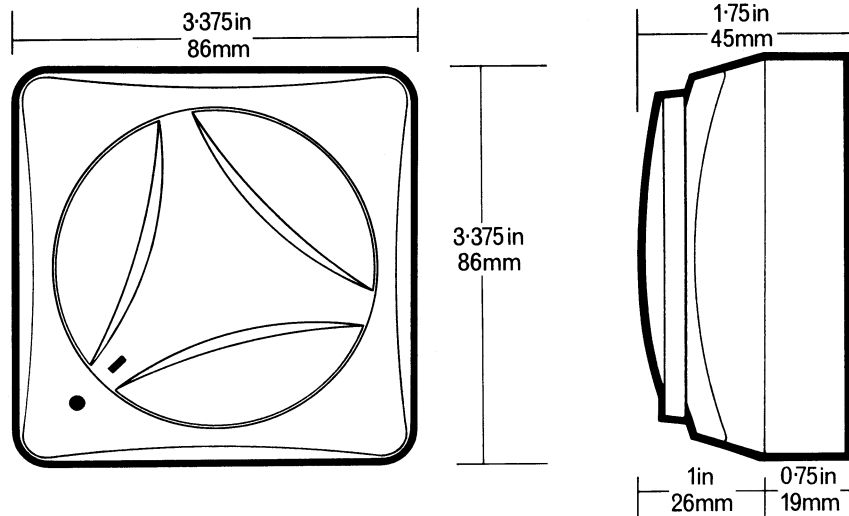
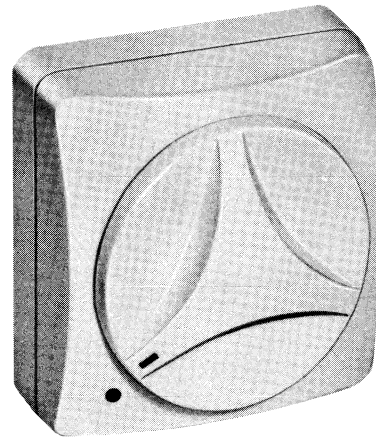
Son-et-Lumière Canterbury Cathedral.

Mini-dimmer for incandescent lamps

The Atlas Mini-Dimmer is a solid state device designed to produce smooth, reliable, and economic dimming of incandescent lamps up to 300W total load on 200/250V 50 Hz supplies.

This dimmer may be substituted directly for any single pole on-off switch mounted on a standard $3\frac{1}{8}$ " square switch plate. A special mounting frame is supplied with each dimmer for use with "plaster-depth" or other shallow switch boxes.

Suppression against interference on radio and television is provided within the unit.



Installation notes

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 1.7 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.

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

Cat. no. SS300 Rating 300W

2400mm/8ft 125W Fluorescent tube control gear

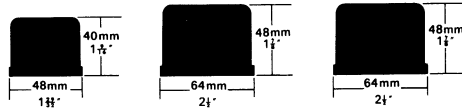
SWITCHSTART CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 8ft 125W	1 × 8ft 125W	1 × 8ft 125W
Circuit	Switchstart	Switchstart	Switchstart
Type of control gear	LPF choke	LPF choke	HPF ballast
Circuit diagram	2	2	13

CHOKES OR BALLAST

Catalogue no.	G.CU/125	G.CI/125	G.CBS 125
Weight	1.8kg/4lb	2kg/4.5lb	2.6kg/5.75lb
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B1	A3	M1
Can colour	White	White	White
Terminals	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2344	AME C2344	Included in ballast
Capacitance μ F	7.2 ± 5%	7.2 ± 5%	—
Volts rating	440V	440V	—
Can length	80mm/3.15in	80mm/3.15in	—
Diameter	40mm/1.5625in	40mm/1.5625in	—
Terminals	Push wire	Push wire	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—

STARTER SWITCH

Catalogue no.	155/800	155/800	155/800‡
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FUSE

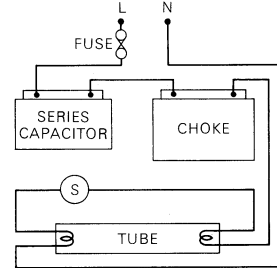
1 tube – rating	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299
2 tube – rating	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299
4 tube – rating	5A	5A	5A
Catalogue no.	AME T1268	AME T1268	AME T1268

Other choke or ballast voltage ratings

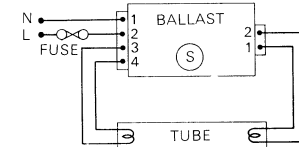
200/210V 50Hz	Not available	Not available	Not available
220V 50Hz	AME 42343 step-up transformer with G.CU/125	AME 42350 step-up transformer with G.CI/125	Not available
250V 50Hz	Not available	Not available	Not available

‡Order starter switch separately

CIRCUIT DIAGRAMS

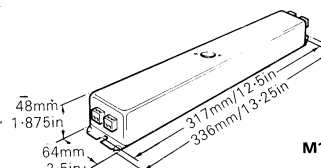
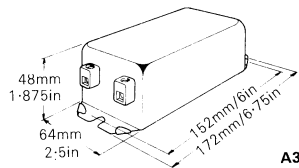
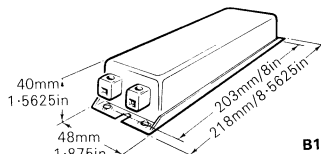


2 Leading power factor starter switch circuit with essential series capacitor



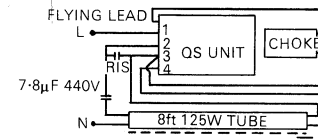
13 Starter switch circuit for HPF ballast

CONTROL GEAR TYPES

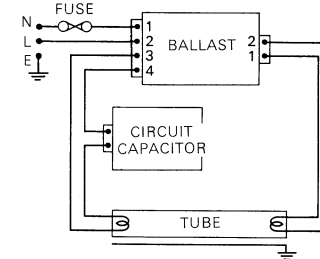


2400mm/8ft 125W Fluorescent tube control gear

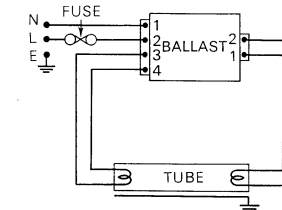
CIRCUIT DIAGRAMS



5 Quickstart circuit with separate choke and essential circuit capacitor

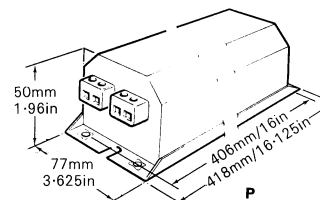
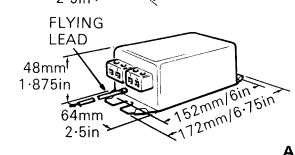
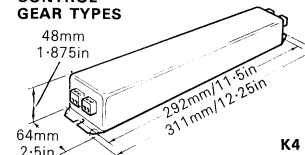


174 Quickstart circuit for LPF ballast with essential circuit capacitor



16 Quickstart circuit for HPF ballast

CONTROL GEAR TYPES



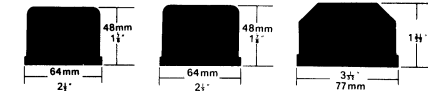
SWITCHLESS START CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 8ft 125W	1 × 8ft 125W	1 × 8ft 125W
Circuit	Quickstart	Quickstart	Quickstart
Type of control gear	LPF choke	LPF ballast	HPF ballast
Circuit diagram	5	174	16

CHOKES OR BALLAST

Catalogue no.	G.CQI/125	G.BQI/125	G.CBQ 125
Weight	1.9kg/4.5lb	3.4kg/8.75lb	4.65kg/10.25lb
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	A3	K4	P
Can colour	White	White	White
Terminals	Screw	Screw	Screw

CROSS SECTION



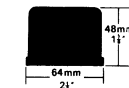
CAPACITOR

Catalogue no.	AME C2228	AME C2228	Included in ballast
Capacitance μ F	7.8 ± 5%	7.8 ± 5%	—
Volts rating	440V	440V	—
Can length	200mm/7.875in	200mm/7.875in	—
Diameter	38mm/1.5in	38mm/1.5in	—
Terminals	Pin	Pin	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—

QUICKSTART UNIT

Catalogue no.	G.OS/125	Included in ballast	Included in ballast
Weight	1.9kg/4.5lb	—	—
Filling	Polyester resin	—	—
Illustrated type	A6	—	—
Can colour	White	—	—
Terminals	Screw	—	—

CROSS SECTION



FUSE

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

Other choke or ballast voltage ratings

200/210 50Hz	AME 42355 step-up transformer with G.CQI/125	AME 42355 step-up transformer with G.BQI/125	Not available
220V 50Hz	AME 42350 step-up transformer with G.CQI/125	AME 42350 step-up transformer with G.BQI/125	Not available
250V 50Hz	Not available	AME 63217.5	Not available

2400mm/8ft 85W Fluorescent tube control gear

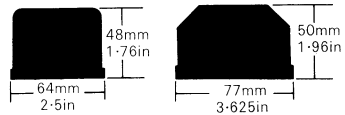
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 8ft 85W	2 × 8ft 85W
Circuit	Quickstart	Twinstart
Type of control gear	LPF ballast	HPF ballast†
Circuit diagram	183	6

CHOKE OR BALLAST

Catalogue no.	G.BQI/85	GBV/285
Weight	2.2kg/6.5lb	11.5lb 5.2kg
Filling	Polyester resin	Polyester resin
Illustrated type	A5	Type P
Can colour	White	White
Terminals	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2226	Included in ballast
Capacitance μ F	5 ± 5%	—
Volts rating	440V	—
Can length	156mm/6.125in	—
Diameter	38mm/1.5in	—
Terminals	Pin	—
Fixing clip	Unfused	—
	AME Y5244 and	—
	AME Y5245	—

FUSE

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

Other choke or ballast voltage ratings

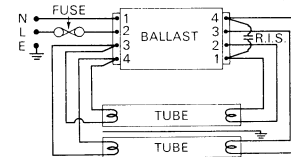
200/210V 50Hz	AME 42355 step-up transformer with GBQI/85	Not available
220V 50Hz	AME 42350 step-up transformer with GBQI/85	AME 69222-2†
250V 50Hz	Not available	AME 63213-H†

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

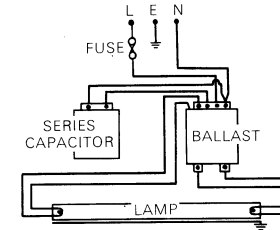
2400mm/8ft 85W Fluorescent tube control gear

CIRCUIT DIAGRAMS

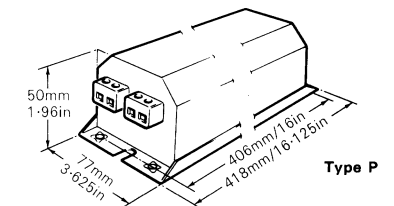
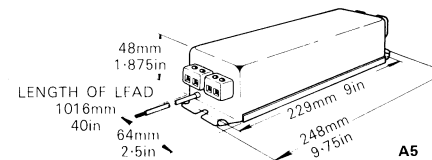
6 8ft 85W Twinstart circuit



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



CONTROL GEAR TYPES



1800mm/6ft 85W Fluorescent tube control gear

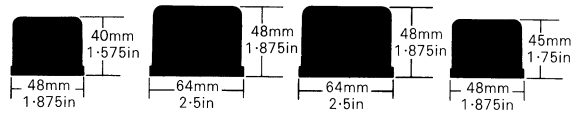
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 6ft 85W	1 × 6ft 85W	1 × 6ft 85W	1 × 6ft 85W
Circuit	Switchstart	Switchstart	Semi-resonant start	Semi-resonant start
Type of control gear	LPF choke	HPF ballast	LPF ballast	LPF ballast
Circuit diagram	1	13	7	7

CHOKE OR BALLAST

Catalogue no.	G.CU/685	G.CBS/685*	G.BI/685	G.BU/685
Weight	1.8kg/4lb	2.4kg/5.25lb	1.8kg/4lb	1.8kg/4lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B1	M2	A2	B8
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw

CROSS SECTION



CAPACITOR

Catalogue no.	AME C2223	Included in ballast	AME C2220	AME C2220
Capacitance μ F	6 ± 10%	—	8.4 ± 5%	8.4 ± 5%
Volts rating	250V	—	250V	250V
Can length	104mm/4.094in	—	104mm/4.094in	104mm/4.094in
Diameter	38mm/1.5in	—	38mm/1.5in	38mm/1.5in
Terminals	Pin	—	Pin	Pin
Fused or unfused	Fused	—	Unfused	Unfused
Fixing clips	AME Y5244 and AME Y5245	—	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245

STARTER SWITCH

Catalogue no.	—	155/800†	155/800	—	—
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FUSE

1 tube – rating	3A	3A	1.25A	1.25A
Catalogue no.	AME T1299	AME T1299	AME T1342	AME T1342
2 tube – rating	3A	3A	1.25A	1.25A
Catalogue no.	AME T1299	AME T1299	AME T1342	AME T1342
3 tube – rating	3A	3A	2 × 1.25A	2 × 1.25A
Catalogue no.	AME T1299	AME T1299	2 × AME T1342	2 × AME T1342
4 tube – rating	5A	5A	2 × 1.25A	2 × 1.25A
Catalogue no.	AME T1268	AME T1268	2 × AME T1342	2 × AME T1342

Other choke or ballast voltage ratings

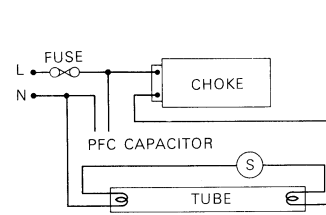
200/210V 50Hz	Not available	Not available	Not available	Not available
220V 50Hz	AME 42350 step-up transformer with CU/685	Not available	AME 69271.2	AME 69294.2†
250V 50Hz	AME 69229.5**	Not available	Not available	Not available

*This unit can also be used for 5ft 80W or two 2ft 40W
 **This unit has pin terminals
 †This unit has pin terminals and must be used with capacitor AME C2289 (10 μ F ± 5%)
 ‡Order starter switch separately

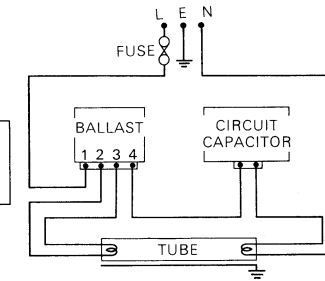
1800mm/6ft 85W Fluorescent tube control gear

CIRCUIT DIAGRAMS

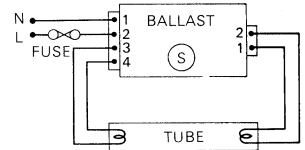
1 Standard starter switch circuit with optional PFC capacitor



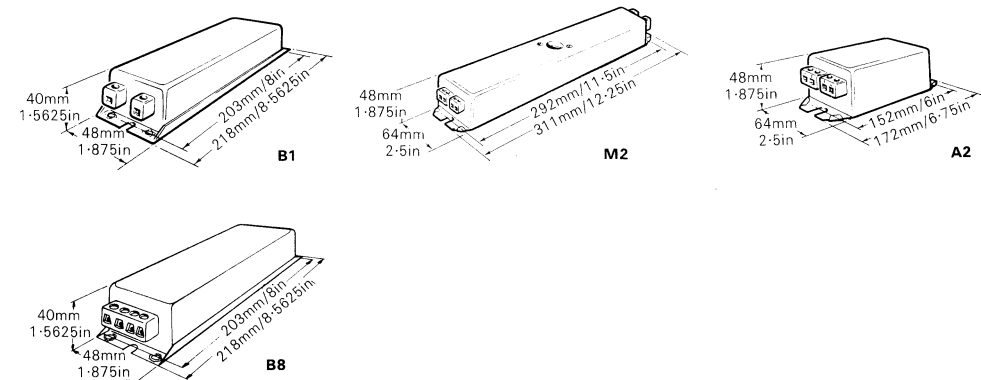
13 Starter switch circuit for HPF ballast



7 Semi-resonant start circuit with essential circuit capacitor



CONTROL GEAR TYPES



1500mm/5ft 80W Fluorescent tube control gear

1500mm/5ft 80W Fluorescent tube control gear

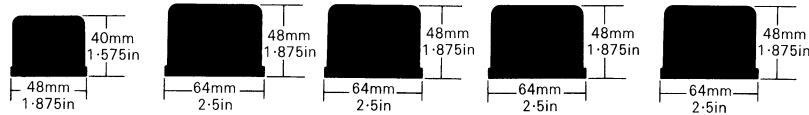
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 5ft 80W	1 × 5ft 80W	1 × 5ft 80W	1 × 5ft 80W	1 × 5ft 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	16

CHOKE OR BALLAST

Catalogue no.	G.CU/685	G.CI/80	G.CI/80	G.CBS 685	G.CBR 80
Weight	1.8kg/4lb	1.9kg/4.25lb	1.9kg/4.25lb	2.4kg/5.25lb	3kg/6.75lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B1	A2	A2	M2	K1
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2222	AME C2222	AME C2222	Included in ballast	Included in ballast
Capacitance μ F	8 ± 10%	8 ± 10%	8 ± 10%	—	—
Volts rating	250V	250V	250V	—	—
Can length	104mm/4.094in	104mm/4.094in	104mm/4.094in	—	—
Diameter	38mm/1.5in	38mm/1.5in	38mm/1.5in	—	—
Terminals	Pin	Pin	Pin	—	—
Fused or unfused	Unfused	Unfused	Unfused	—	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	—

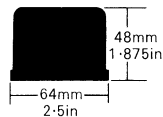
STARTER SWITCH

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

Catalogue no.	—	—	QS/80	—	—
Weight	—	—	1kg/2.2lb	—	—
Filling	—	—	Polyester resin	—	—
Illustrated type	—	—	O1	—	—
Can colour	—	—	White	—	—
Terminals	—	—	Screw	—	—

Cross section



FUSE

1 tube – rating	3A	3A	3A	3A	1.25A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1342
2 tube – rating	3A	3A	3A	3A	1.25A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299	AME T1342
3 tube – rating	3A	3A	3A	3A	2 × 1.25A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299	2 × AME T1342
4 tube – rating	5A	5A	5A	5A	2 × 1.25A
Catalogue no.	AME T1268	AME T1268	AME T1268	AME T1268	2 × AME T1342

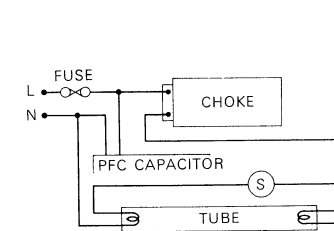
Other choke or ballast voltage ratings

200/210V 50Hz	AME 69249.1	CI/80	CI/80	Not available	Not available
220/230V 50Hz	AME 69249.2 (220V)	CI/80	CI/80	Not available	Not available
240/250V 50Hz	AME 69229.5 (250V) †	CI/80	CI/80	Not available	Not available

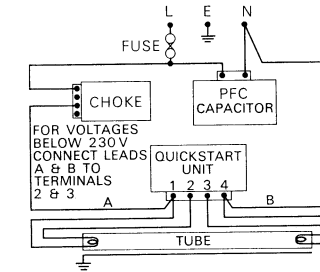
†Order starter switch separately
†This unit has pin terminals

CIRCUIT DIAGRAMS

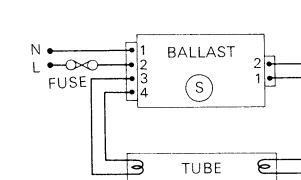
1 Standard starter switch circuit with optional PFC capacitor



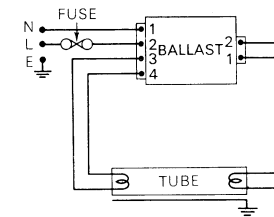
8 Tapped quickstart transformer circuit with optional PFC capacitor



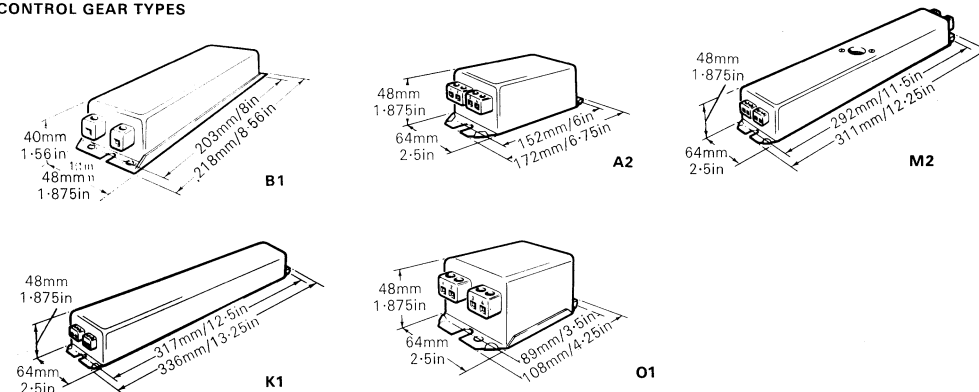
13 Starter switch circuit for HPF ballast



16 HPF ballast (SRS circuit)



CONTROL GEAR TYPES



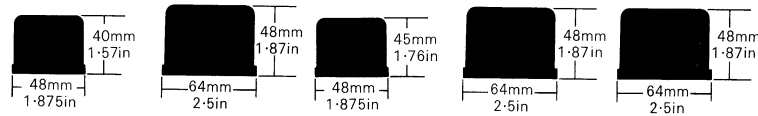
1500mm/5ft 65W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 5ft 65W	1 × 5ft 65W	1 × 5ft 65W	1 × 5ft 65W	1 × 5ft 65W
Circuit	Switchstart	Semi-resonant start	Semi-resonant start	Switchstart	Semi-resonant start
Type of control gear	LPF choke	LPF ballast	LPF ballast	HPF ballast	HPF ballast
Circuit diagram	1	7	7	13	16

CHOKE OR BALLAST

Catalogue no.	G.CU/65	G.BI/65	G.BU/65	G.CBS 65	G.CBR 65
Weight	1.2kg/2.75lb	1.9kg/4.25lb	1.72kg/3.75lb	1.8kg/4lb	2.95kg/6.5lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B3	A2	B6	M3	K2
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw
Cross section					



CAPACITOR

Catalogue no.	AME C2245	AME C2220	AME C2220	Included in ballast	Included in ballast
Capacitance μ F	5 ± 10%	8.4 ± 5%	8.4 ± 5%	—	—
Volts rating	250V	250V	250V	—	—
Can length	104mm/4.10in	104mm/4.10in	104mm/4.10in	—	—
Diameter	38mm/1.5in	38mm/1.5in	38mm/1.5in	—	—
Terminals	Pin	Pin	Pin	—	—
Fused or unfused	Fused	Unfused	Unfused	—	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	—

STARTER SWITCH

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

1 tube – rating	3A	1.25A	1.25A	3A	1.25A
Catalogue no.	AME T1299	AME T1342	AME T1342	AME T1299	AME T1342
2 tube – rating	3A	1.25A	1.25A	3A	1.25A
Catalogue no.	AME T1299	AME T1342	AME T1342	AME T1299	AME T1342
3 tube – rating	3A	2 × 1.25A	2 × 1.25A	3A	2 × 1.25A
Catalogue no.	AME T1299	2 × AME T1342	2 × AME T1342	AME T1299	2 × AME T1342
4 tube – rating	3A	2 × 1.25A	2 × 1.25A	3A	2 × 1.25A
Catalogue no.	AME T1299	2 × AME T1342	2 × AME T1342	AME T1299	2 × AME T1342

Other choke or ballast voltage ratings

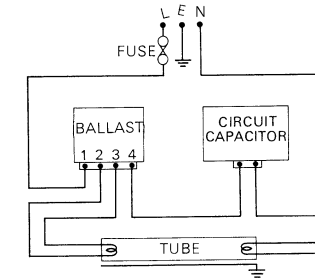
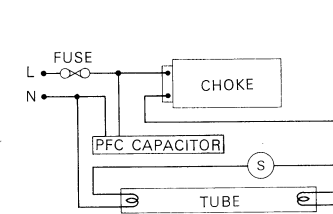
200/210V 50Hz	AME 69046.1†	AME 69163.1†	Not available	Not available	Not available
220V 50Hz	AME 69046.2†	G.BI/685	AME 69291.2	Not available	Not available
250V 50Hz	AME 69028.5†	AME 69163.5†	Not available	Not available	Not available

†Order starter switch separately
†This unit has pin terminals

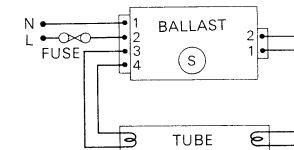
1500mm/5ft 65W Fluorescent tube control gear

CIRCUIT DIAGRAMS

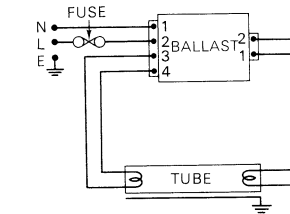
- 1 Standard starter switch circuit with optional PFC capacitor
- 7 Semi-resonant start circuit with essential circuit capacitor



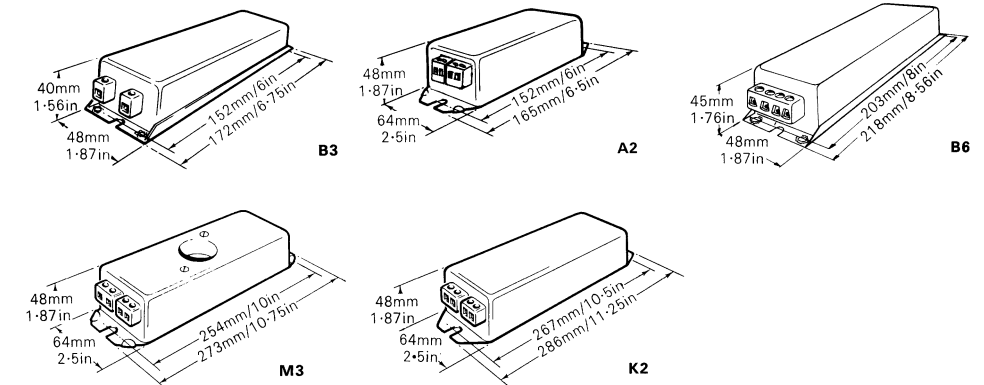
- 13 Starter switch circuit for HPF ballast



- 16 HPF ballast (SRS circuit)



CONTROL GEAR TYPES



1500mm/5ft 50W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 5ft 50W	1 × 5ft 50W
Circuit	Switchstart	Semi-resonant start
Type of control gear	LPF choke	LPF ballast
Circuit diagram	2	18

CHOKES OR BALLAST

Catalogue no.	G.CJ/50†	G.BJ 50†
Weight	0.8kg/1.875lb	1Kg/2.2lb
Filling	Varnish	Varnish
Illustrated type	E1	H4
Can colour	Natural varnish	White
Terminals	Screw	Screw
Cross section		



CAPACITOR

Catalogue no.	AME C2229	AME C2368
Capacitance μF	2.85 \pm 5%	5.7 \pm 5%
Volts rating	440V	250V
Can length	184mm/7.25in	76mm/3in
Diameter	32mm/1.25in	32mm/1.25in
Terminals	Pin	Pin
Fixing clip	AME Y5259‡	AME Y5259‡

STARTER SWITCH

Catalogue no.	155/501	—
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FUSE

1 tube – rating	3A	1.25A
Catalogue no.	AME T1299	AME T1342
2 tube – rating	3A	1.25A
Catalogue no.	AME T1299	AME T1342
3 tube – rating	3A	2 × 1.25A
Catalogue no.	AME T1299	AME T1342
4 tube – rating	3A	2 × 1.25A
Catalogue no.	AME T1299	AME T1342

Other choke or ballast voltage ratings

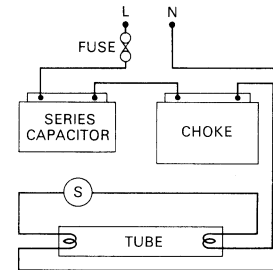
200/210V 50Hz	Not available	Not available
220V 50Hz	Not available	Not available
250V 50Hz	Not available	Not available

‡ For use on Arrowslim fittings only

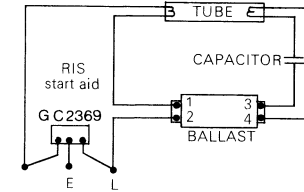
1500mm/5ft 50W Fluorescent tube control gear

CIRCUIT DIAGRAMS

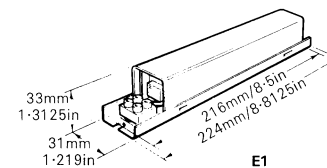
2 Leading power factor starter switch circuit with essential series capacitor



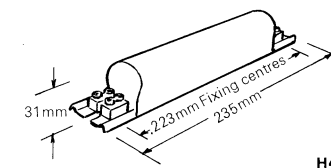
18 LPF ballast (SRS circuit)



CONTROL GEAR TYPES



E1



H4

1200mm/4ft 40W Fluorescent tube control gear

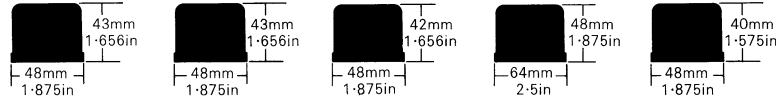
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 40W Circular or 1 × 4ft 40W	1 × 4ft 40W	1 × 4ft 40W	1 × 4ft 40W	1 × 4ft 40W
Circuit	Switchstart	Quickstart	Switchstart	Semi-resonant start	Semi-resonant start
Type of control gear	LPF choke	LPF choke	HPF ballast	HPF ballast	LPF ballast
Circuit diagram	1 (4ft) 216 (Circular)	8	13	16	7

CHOKES OR BALLAST

Catalogue no.	G.CU/40	G.CU/40	G.CBS 40	G.CBR 40	G.BU/40
Weight	0.9kg/2lb	0.9kg/2lb	1.1kg/2.5lb	1.8kg/4.5lb	1.3kg/2.85lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B5	B5	D1	H1	B7
Can colour	White	White	White	White	White
Terminals	Screw	Screw	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2224	AME C2224	Included in ballast	Included in ballast	AME C2273
Capacitance μF	3.5 ± 10%	3.5 ± 10%	—	—	5.5 ± 10%
Volts rating	250V	250V	—	—	250V
Can length	77mm/3.03125in	77mm/3.03125in	—	—	104mm/4.094in
Diameter	38mm/1.5in	38mm/1.5in	—	—	38mm/1.5in
Terminals	Pin	Pin	—	—	Pin
Fused or unfused	Unfused	Unfused	—	—	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	—	AME Y5244 and AME Y5245

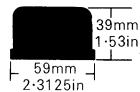
STARTER SWITCH

Catalogue no.	155/400	—	155/400*	—	—
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QUICKSTART UNIT

Catalogue no.	—	QS/40	—	—	—
Weight	—	0.9kg/2lb	—	—	—
Filling	—	Polyester resin	—	—	—
Illustrated type	—	O3	—	—	—
Can colour	—	White	—	—	—
Terminals	—	Screw	—	—	—

Cross section



FUSE

1 tube — rating	3A	3A	3A	0.65A	0.65A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1332	AME T1332
2 tube — rating	3A	3A	3A	0.65A	0.65A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1332	AME T1332
3 tube — rating	3A	3A	3A	2 × 0.65A	2 × 0.65A
Catalogue no.	AME T1299	AME T1299	AME T1299	2 × AME T1332	2 × AME T1332
4 tube — rating	3A	3A	3A	2 × 0.65A	2 × 0.65A
Catalogue no.	AME T1299	AME T1299	AME T1299	2 × AME T1332	2 × AME T1332

Other choke or ballast voltage ratings

200/210V 50Hz	AME 69057.1 †	AME 69057.1 †	Not available	Not available	Not available
220V 50Hz	AME 62999.2	AME 62999.2	Not available	Not available	AME 69004.2 ‡
250V 50Hz	AME 69286.5 †	AME 69286.5 †	Not available	Not available	Not available

*Order starter switch separately

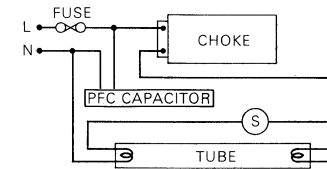
†This unit has pin terminals

‡This unit must be used with capacitor AME C2298 (4 μF ±5% 380V)

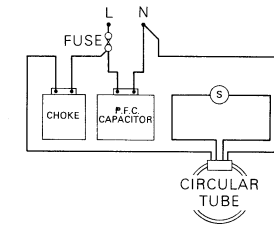
1200mm/4ft 40W Fluorescent tube control gear

CIRCUIT DIAGRAMS

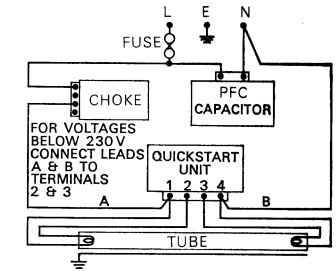
1 Standard starter switch circuit with optional PFC capacitor



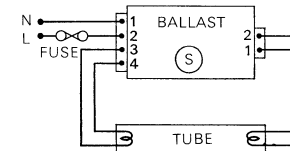
216 Starter switch circuit for circular tube with optional PFC capacitor



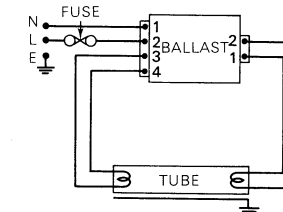
8 Tapped quickstart transformer circuit with optional PFC capacitor



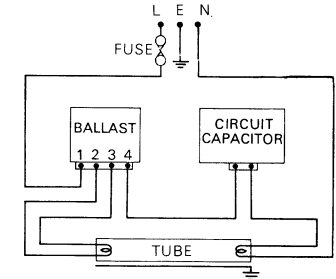
13 Starter switch circuit for HPF ballast



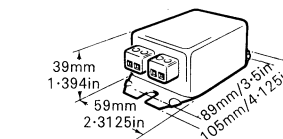
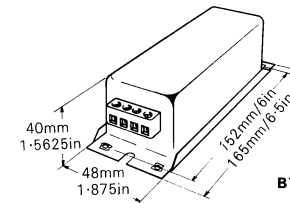
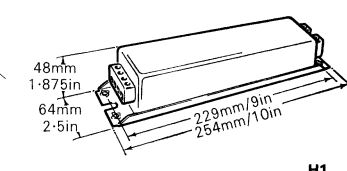
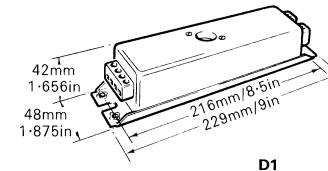
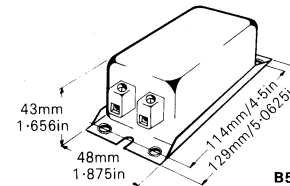
16 Semi-resonant circuit for HPF ballast



7 Semi-resonant start circuit with essential circuit capacitor



CONTROL GEAR TYPES



32W Circular and 900mm/3ft 30W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 32W Circular or 1 × 3ft 30W	1 × 3ft 30W	1 × 3ft 30W	1 × 3ft 30W
Circuit	1in and 1.5in dia. Switchstart	1in and 1.5in dia. Switchstart	1in and 1.5in dia. Quickstart	1in and 1.5in dia. Switchstart
Type of control gear	LPF choke	LPF choke	HPF ballast	HPF ballast
Circuit diagram	1 (3ft) 216 (Circular)	1	16	13

CHOKES OR BALLASTS

Catalogue no.	G.CU/30	G.CJ/30†	G.CBQ 30	G.CBS 30
Weight	0.9kg/2lb	0.8kg/1.875lb	1.6kg/3.5lb	1.1kg/2.5lb
Filling	Polyester resin	Varnish	Polyester resin	Polyester resin
Illustrated type	B5	E2	H1	D1
Can colour	White	Natural varnish	White	White
Terminals	Screw	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2224	AME C2227	Included in ballast	Included in ballast
Capacitance μ F	35 ± 10%	3 ± 10%	—	—
Volts rating	250V	250V	—	—
Can length	77mm/3.03125in	107mm/4.1875in	—	—
Diameter	38mm/1.5in	32mm/1.25in	—	—
Terminals	Pin	Pin	—	—
Fused or unfused	Unfused	Fused	—	—
Fixing clips	AME Y5244 and AME Y5254	AME Y5259*	—	—

STARTER SWITCH

Catalogue no.	155/400	145/400	—	155/400
FUSE				
1 tube - rating	3A	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299
2 tube - rating	3A	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299
3 tube - rating	3A	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299
4 tube - rating	3A	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings

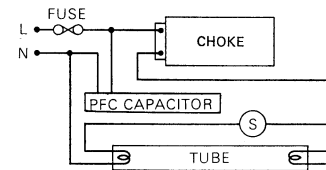
Voltage	200/210V 50Hz	220V 50Hz	250V 50Hz	Not available	Not available
200/210V 50Hz	Not available	Not available	Not available	Not available	Not available
220V 50Hz	AME 62990.2	AME 66051.2	Not available	Not available	Not available
250V 50Hz	Not available	Not available	Not available	Not available	Not available

* For use in Arrowslim fitting only

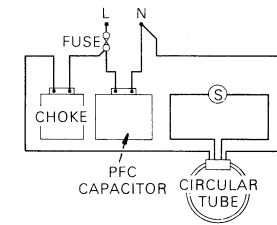
32W Circular and 900mm/3ft 30W Fluorescent tube control gear

CIRCUIT DIAGRAMS

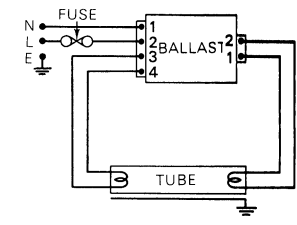
1 Standard starter switch circuit with optional PFC capacitor



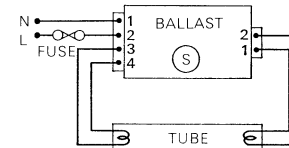
216 Starter switch circuit for circular tube with optional PFC capacitor



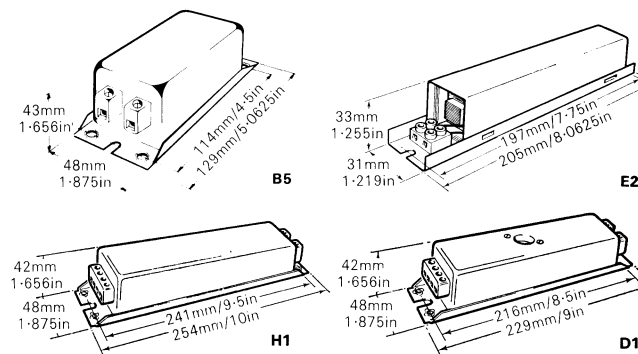
16 Quickstart circuit for HPF ballast



13 Starter switch circuit for HPF ballast



CONTROL GEAR TYPES



600mm/ 2ft 40W Fluorescent tube control gear

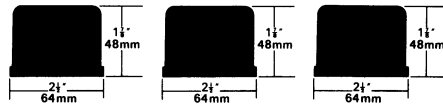
SWITCHSTART CONTROL GEAR FOR 240V 50Hz SUPPLY

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

CHOKE OR BALLAST

Catalogue no.	G.CI/240	G.CI/2240	G.CBS 685
Weight	1.9kg/4.25lb	1.9kg/4.25lb	2.1kg/4.75lb
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	A2	A2	M2
Can colour	White	White	White
Terminals	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2222	AME C2222	Included in ballast
Capacitance μ F	8 ± 10%	8 ± 10%	—
Working volts	250V	250V	—
Can length	104mm/4.09in	104mm/4.09in	—
Diameter	38mm/1.5in	38mm/1.5in	—
Terminals	Pin	Pin	—
Fused or unfused	Unfused	Unfused	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—

STARTER SWITCH

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

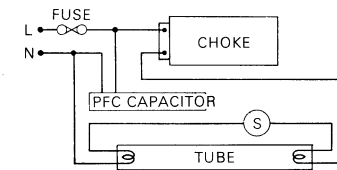
1 tube – rating	3A	—	—
Catalogue no.	AME T1299	—	—
2 tube – rating	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299
3 tube – rating	3A	—	—
Catalogue no.	AME T1299	—	—
4 tube – rating	3A	3A	3A
Catalogue no.	AME T1299	AME T1299	AME T1299

Other choke or ballast voltage ratings

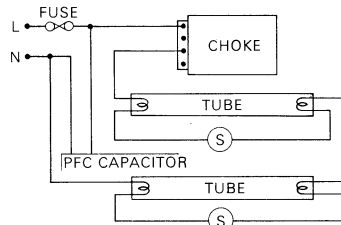
200/210V 50Hz	CI/240	CI/2240	Not available
220/230V 50Hz	CI/240	CI/2240	Not available
240/250V 50Hz	CI/240	CI/2240	Not available

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

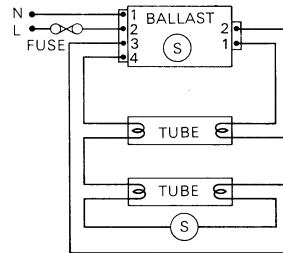
CIRCUIT DIAGRAMS



1 Standard starter switch circuit with optional PFC capacitor

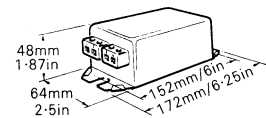


10 Starter switch circuit for series pair tube operation with optional PFC capacitor

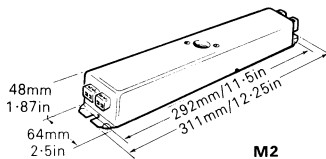


15 Twin tube starter switch circuit for HPF ballast

CONTROL GEAR TYPES



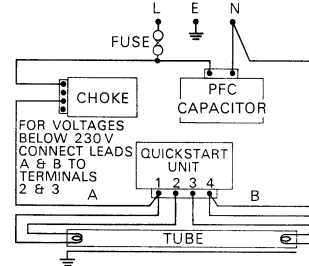
A2



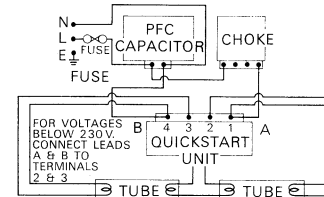
M2

600mm/2ft 40W Fluorescent tube control gear

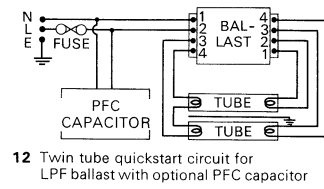
CIRCUIT DIAGRAMS



8 Tapped quickstart transformer circuit with optional PFC capacitor

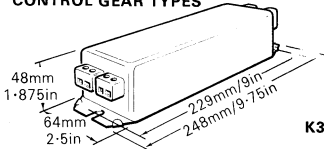


11 Twin tube quickstart circuit with optional PFC capacitor

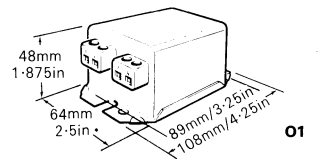


12 Twin tube quickstart circuit for LPF ballast with optional PFC capacitor

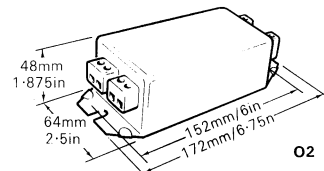
CONTROL GEAR TYPES



K3



O1



O2

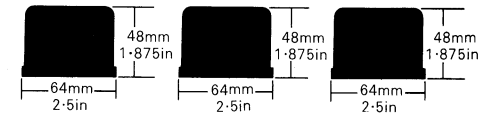
QUICKSTART CONTROL GEAR FOR 240V 50Hz SUPPLY

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

CHOKE OR BALLAST

Catalogue no.	G.CI/240	G.CI/2240	G.CBO 2240
Weight	1.9kg/4.25lb	1.9kg/4.25lb	2.7kg/6lb
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	A2	A2	K3
Can colour	White	White	White
Terminals	Screw	Screw	Screw

Cross section



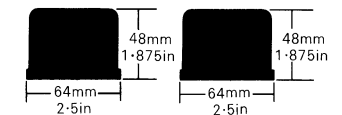
CAPACITOR

Catalogue no.	AME C2222	AME C2222	AME C2222
Capacitance μ F	8 ± 10%	8 ± 10%	8 ± 10%
Working volts	250V	250V	250V
Can length	104mm/4in	104mm/4in	104mm/4in
Diameter	38mm/1.5in	38mm/1.5in	38mm/1.5in
Terminals	Pin	Pin	Pin
Fused or unfused	Unfused	Unfused	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245

QUICKSTART UNIT

Catalogue no.	G.QS/80	G.QS/2240	Included in ballast
Weight	1kg/2.25lb	1.4kg/3.1lb	—
Filling	Polyester resin	Polyester resin	—
Illustrated type	O1	O2	—
Can colour	White	White	—
Terminals	Screw	Screw	—

Cross section



FUSE

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

Other choke or ballast voltage ratings

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

Twin 600mm/2ft 20W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2×2ft 20W	2×2ft 20W	2×2ft 20W	2×2ft 20W
Circuit	Switchstart	Quickstart	Switchstart	Quickstart
Type of control gear	LPF choke	LPF choke	LPF 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/2220
Weight	0.9kg/2lb	0.9kg/2lb	1.1kg/2.5lb	1.2kg/2.75lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B5	B5	D1	H2
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw

Cross section



CAPACITOR

Catalogue no.	AME C2224	AME C2224	Included in ballast	AME C2224
Capacitance μF	3.5±10%	3.5±10%	—	3.5±10%
Volts rating	250V	250V	—	250V
Can length	77mm/3in	77mm/3in	—	77mm/3in
Diameter	38mm/1.5in	38mm/1.5in	—	38mm/1.5in
Terminals	Pin	Pin	—	Pin
Fused or unfused	Unfused	Unfused	—	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—	AME Y5244 and AME Y5245

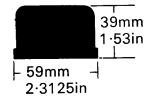
STARTER SWITCH

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

Catalogue no.	—	QS/220	—	Included in ballast
Weight	—	0.9kg/2lb	—	—
Filling	—	Polyester resin	—	—
Illustrated type	—	O4	—	—
Can colour	—	White	—	—
Terminals	—	Screw	—	—

Cross section



FUSE

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

Other choke or ballast voltage ratings

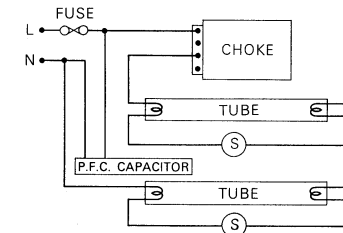
200/210V 50Hz	AME 69057.1†	AME 69057.1†	Not available	Not available
220V 50Hz	AME 62999.2	AME 62999.2	Not available	Not available
250V 50Hz	AME 69286.5	AME 69286.5	Not available	Not available

†Order starter switches separately; one starter switch socket will also be required
†This unit has pin terminals

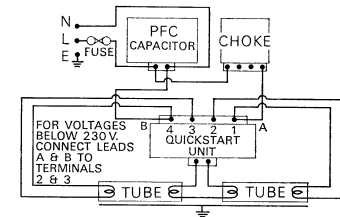
Twin 600mm/2ft 20W Fluorescent tube control gear

CIRCUIT DIAGRAMS

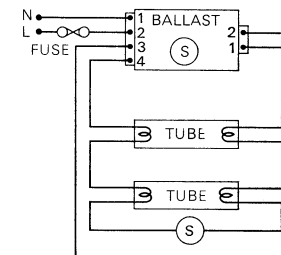
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



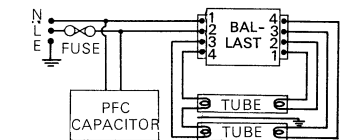
11 Twin tube quickstart circuit with optional PFC capacitor



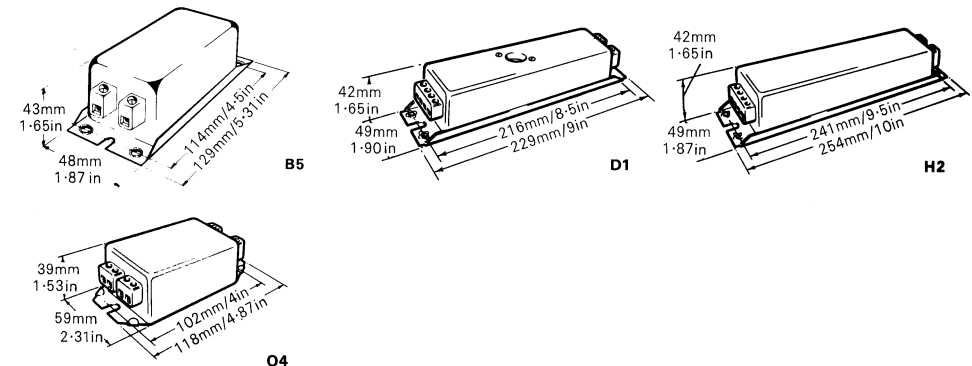
15 Twin tube starter switch circuit for HPF ballast



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



CONTROL GEAR TYPES



Twin 450mm/18in 15W Fluorescent tube control gear

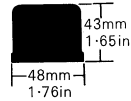
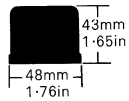
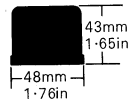
CONTROL GEAR FOR 240V 50Hz SUPPLY

Tubes	2× 18in 15W 1in and 1.5in dia.	2× 18in 15W 1in and 1.5in dia.	2× 18in 15W 1in and 1.5in dia.
Circuit	Switchstart	Quickstart	Switchstart
Type of control gear	LPF choke	LPF choke	HPF ballast
Circuit diagram	10	11	15

CHOKES OR BALLASTS

Catalogue no.	G.CU/30	G.CU/30	G.CBS 30
Weight	0.9kg/2lb	0.9kg/2lb	1.1kg/2.5lb
Filling	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B5	B5	D1
Can colour	White	White	White
Terminals	Screw	Screw	Screw

Cross section



CAPACITORS

Catalogue no.	AME C2224	AME C2224	—
Capacitance μ F	3.5 \pm 10%	3.5 \pm 10%	—
Volts rating	250V	250V	—
Can length	77mm/3in	77mm/3in	—
Diameter	38mm/1.5in	38mm/1.5in	—
Terminals	Pin	Pin	—
Fused or unfused	Unfused	Unfused	—
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	—

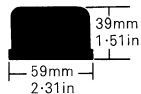
STARTER SWITCH

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

Catalogue no.	—	G.QS/220	—
Weight	—	0.9kg/2lb	—
Filling	—	Polyester resin	—
Illustrated type	—	O4	—
Can colour	—	White	—
Terminals	—	Screw	—

Cross section



FUSE

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

Other choke or ballast voltage ratings

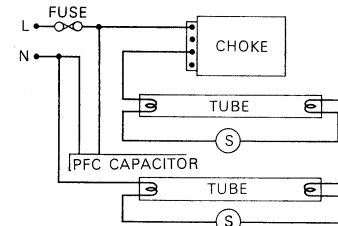
200/210V 50Hz	Not available	Not available	Not available
220V 50Hz	AME 62990-2	AME 62990-2	Not available
250V 50Hz	Not available	Not available	Not available

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

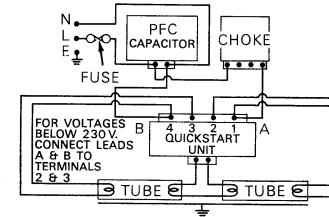
Twin 450mm / 18in 15W Fluorescent tube control gear

CIRCUIT DIAGRAMS

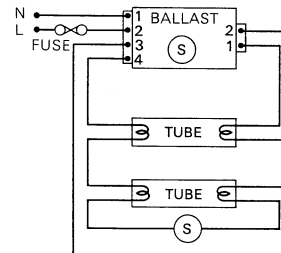
10 Starter switch circuit for series pair tube operation with optional PFC capacitor



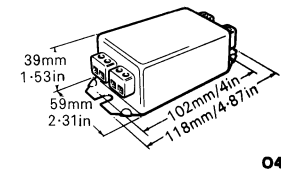
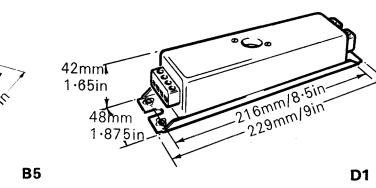
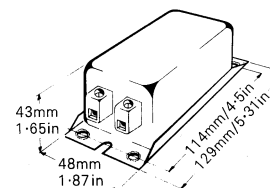
11 Twin tube quickstart circuit with optional PFC capacitor



15 Twin tube starter switch circuit for HPF ballast



CONTROL GEAR TYPES



Single 22W Circular, 600mm/2ft 20W and 450mm/18in 15W Fluorescent tube control gear

Single 22W Circular, 600mm/2ft 20W and 450mm/18in 15W Fluorescent tube control gear

CONTROL GEAR FOR 240V 50Hz SUPPLY

Tube	1 × 2ft 20W or 1 × 18in 15W	1 × 22W Circular or 1 × 2ft 20W or 1 × 18in 15W	1 × 2ft 20W or 1 × 18in 15W	1 × 22W Circular or 1 × 2ft 20W or 1 × 18in 15W
Circuit	(1in or 1.5in dia.) Quickstart	(1in or 1.5in dia.) Switchstart	(1in or 1.5in dia.) Quickstart	(1in or 1.5in dia.) Quickstart
Type of control gear	LPF choke	LPF choke	LPF ballast	LPF ballast
Circuit diagram	8	1 (15/20W) 216 (22W)	219	17

CHOKE OR BALLAST

Catalogue no.	G.CU/20	G.CU/20	G.CBQ 20	G.CBS 20
Weight	0.9kg/2lb	0.9kg/2lb	1.13kg/2.5lb	1.02kg/2.25lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	B5	B5	H3	D1
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
Cross section				

CAPACITOR

Catalogue no.	AME C2224	AME C2224	AME C2224	AME C2224
Capacitance μF	3.5 ± 10%	3.5 ± 10%	3.5 ± 10%	3.5 ± 10%
Working volts	250V	250V	250V	250V
Can length	77mm/3.03in	77mm/3.03in	77mm/3.03in	77mm/3.03in
Diameter	38mm/1.5in	38mm/1.5in	38mm/1.5in	38mm/1.5in
Terminals	Pin	Pin	Pin	Pin
Fused or unfused	Unfused	Unfused	Unfused	Unfused
Fixing clips	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245	AME Y5244 and AME Y5245

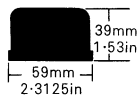
STARTER SWITCH

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

Catalogue no.	QS/40	—	Included in ballast	—
Weight	0.9kg/2lb	—	—	—
Filling	Polyester resin	—	—	—
Illustrated type	O3	—	—	—
Can colour	White	—	—	—
Terminals	Screw	—	—	—

Cross section



FUSE

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

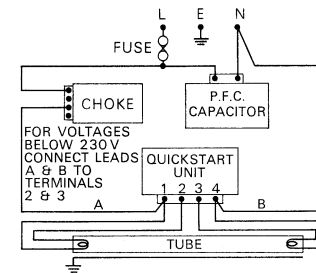
Other choke or ballast voltage ratings

200/210V 50Hz	AME 69058.1†	AME 69058.1†	Not available	Not available
220V 50Hz	AME 62993.2	Not available	Not available	Not available
250V 50Hz	AME 69058.5†	AME 69058.5†	Not available	Not available

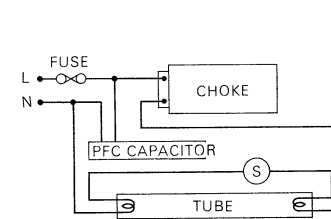
†Order starter switches separately
†This unit has pin terminals

CIRCUIT DIAGRAMS

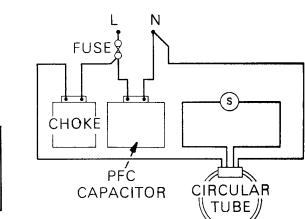
8 Tapped quickstart transformer circuit with optional PFC capacitor



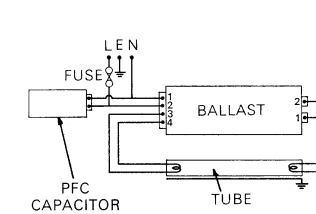
1 Standard starter switch circuit with optional PFC capacitor



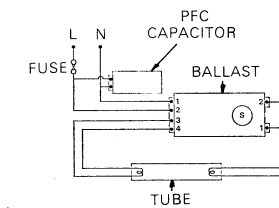
216 Starter switch circuit for circular tube with optional PFC capacitor



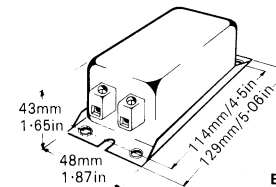
219 Quickstart circuit for LPF ballast with optional PFC capacitor



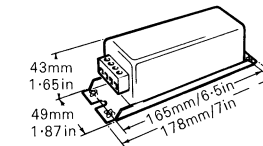
17 Starter switch circuit for LPF ballast with optional PFC capacitor



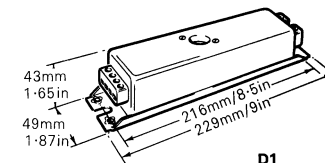
CONTROL GEAR TYPES



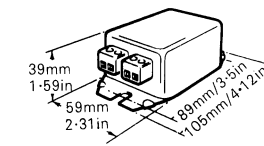
B5



H3



D1



O3

525mm/21in 13W, 300mm/12in 8W, 225mm/9in 6W and 150mm/6in 4W control gear

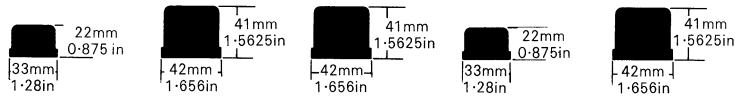
CONTROL GEAR FOR 230/250V 50Hz SUPPLY

Tube(s)	1×21in 13W	2×12in 8W	2×6in 4W	1×12in 8W	1×4/6/8/13W
Circuit	Switchstart	Switchstart	Switchstart	Switchstart	Switchstart
Type of control gear	LPF choke	LPF choke	LPF choke	LPF choke	LPF choke
Circuit diagram	1	10	10	1	1

CHOKES OR BALLAST

Catalogue no.	G.CD/13	G.CPX/28	G.CPX/8	G.CD/8	G.CPX/8
Weight	0.6kg/1.25lb	0.6kg/1.25lb	0.6kg/1.25lb	0.6kg/1.25lb	0.6kg/1.25lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	F	G	G	F	G
Can colour	White	White	White	White	White
Terminals	Leads	Leads	Leads	Leads	Leads

Cross section



CAPACITOR

Catalogue no.	AME C2286	AME C2286	AME C2286	AME C2286	AME C2286
Capacitance μ F	2±10%	2±10%	2±10%	2±10%	2±10%
Working volts	250V	250V	250V	250V	250V
Can length	69mm/2.7in	69mm/2.7in	69mm/2.7in	69mm/2.7in	69mm/2.7in
Diameter	26mm/1in	26mm/1in	26mm/1in	26mm/1in	26mm/1in
Terminals	Solder tags	Solder tags	Solder tags	Solder tags	Solder tags
Fused or unfused	Fused	Fused	Fused	Fused	Fused
Fixing clip	AME Y5200	AME Y5200	AME Y5200	AME Y5200	AME Y5200

STARTER SWITCH

Catalogue no.	155/500	2×155/100†	2×155/100†	155/500	155/500
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FUSE

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

Other choke or ballast voltage ratings

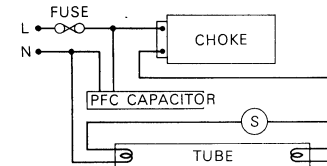
200/220V 50Hz	AME 69160.L	Not available	Not available	AME 69159.L	4/6/8W G.CPX/28 13W
220V 50Hz	—	—	—	—	Use G.CPX/8 above

†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°)

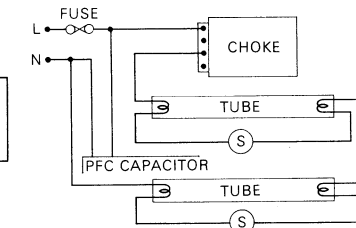
525mm/21in 13W, 300mm/12in 8W, 225mm/9in 6W and 150mm/6in 4W control gear

CIRCUIT DIAGRAMS

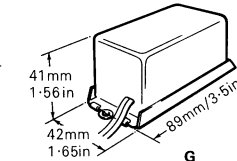
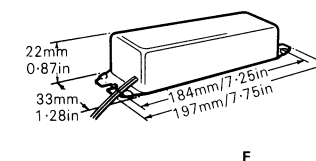
1 Standard starter switch circuit with optional PFC capacitor



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



CONTROL GEAR TYPES



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



CONTROL GEAR FOR 240V 50Hz SUPPLY

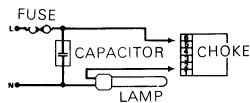
Lamp wattage	50W	80W	125W	250W
Circuit diagram	301	301	301	301
Ballast				
Catalogue no.	AME 53184.4†	AME.53162.4*	AME 53159.4*	AME 53198.4*†
Weight	1.2kg/2.75lb	1.8kg/4lb	2.72kg/6lb	2.54kg/5.6lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	K	DV	DT	DT
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
Capacitor				
Catalogue no.	AME C2203†	AME C2234	AME C2234	AME C2214
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
Fused or unfused	Fused	Unfused	Unfused	Unfused
Other ballast voltage ratings				
220V 50Hz Catalogue no.	AME 53188.2†	AME 53176.2†	AME 53142.†	AME 53198.2†
Illustrated type	K	R1	R2	DT
Can colour	White	White	White	Black
Weight	1.2kg/2.75lb	1.36kg/3lb	1.87kg/4.2lb	2.54kg/5.6lb
200/250V 50Hz Catalogue no.	Not available	AME 53162.T	AME 53159.T	AME 53158.T
Illustrated type	—	DV	DT	DS
Can colour	—	White	White	White
Weight	—	1.8kg/4lb	2.72kg/6lb	3.86kg/8.5lb
Voltage tappings	—	200/210; 220/230; 240/250V	200/210; 220/230; 240/250V	200; 210; 220; 230; 240; 250V

*Units marked with British Standard Kitemark to BS.4782

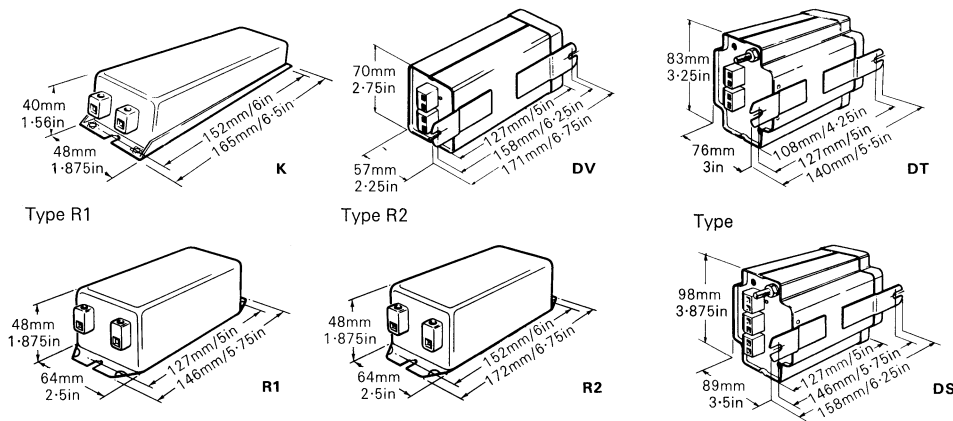
†The heat dissipation from these ballasts is extremely efficient and it is therefore necessary to ensure that cables in close proximity to the ballast surface are high temperature grade or suitably protected by high temperature sleeving
‡For use in fittings only

CIRCUIT DIAGRAM

301 Circuit for MBF and MBFR mercury discharge lamps



CONTROL GEAR TYPES



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



CONTROL GEAR FOR 240V 50Hz SUPPLY

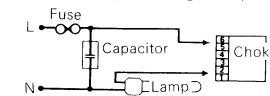
Lamp wattage	400W	700W	1000W	
Circuit diagram	301	306	306	
Ballast				
Catalogue no.	AME 53193.4*††	AME 53157.T +	AME 53198.4*††	2 x AME 53243.4*††
Weight	3.86kg/8.5lb	5.5kg/12lb	2.54kg/5.6lb	3.86kg/8.5lb (each)
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	DS	DU	DT	DS
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
Capacitor				
Catalogue no.	AME C2218	AME C2218 +	AME C2214†	2 x AME C2236 †
Capacitance μ F	20 \pm 10%	20 \pm 10%	13 \pm 10%	25 \pm 10% (each)
Working volts	250V	250V	250V	250V
Terminals	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused
Other ballast voltage ratings				
220V 50Hz Catalogue no.	AME 53193.2†	Not available	Not available	Not available
Illustrated type	DS	—	—	—
Can colour	White	—	—	—
Weight	3.86kg/8.5lb	—	—	—
200/250V 50Hz Catalogue no.	AME 53157.T	AME 53157.T —	AME 53158.T†	2 x AME 53164.T†
Illustrated type	DU	DU	DS	DU
Can colour	White	White	White	White
Weight	5.5kg/12lb	5.5kg/12lb	3.86kg/8.5lb	5.5kg/12lb (each)
Voltage tappings	200; 210; 220; 230; 240; 250V	210; 220; 230; 240; 250V	190; 200; 210; 220; 230; 240V	190; 200; 210; 220; 230; 240V

*Units marked with British Standard Kitemark to BS.4782

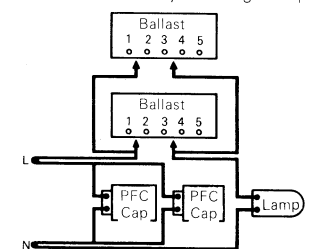
†The heat dissipation from these ballasts is extremely efficient and it is therefore necessary to ensure that cables in close proximity to the ballast surface are high temperature grade or suitably protected by high temperature sleeving
‡2 connected in parallel are used for one lamp.

CIRCUIT DIAGRAMS

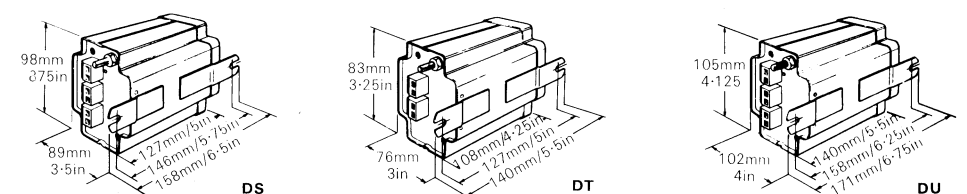
301 Circuit for MBF and MBFR mercury discharge lamps



306 Circuit for 700W and 1000W MBF and MBFR mercury discharge lamps



CONTROL GEAR TYPES



Circuit components for 400W and 1000W mercury iodide discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp wattage	400W	1000W
Circuit diagram (see below)	315	311

Ballast

Catalogue No.(s)	AME 53193.T	AME 53247.4
Weight	8.5lb 3.86kg	52.5lb 24kg
Filling	Polyester resin	Polyester resin
Illustrated type (see below)	Type DS	Type DP
Can colour	White	Black
Terminals	Screw	Flying leads

Ballast Fixing Bracket

Catalogue No.	—	AME M6181
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Capacitor

Catalogue No.(s)	AME C2218	4 × AME C2236*
Capacitance μF	20.0 \pm 10%	25 \pm 10% (each)
Working volts*	250V	250V
Terminals	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused

Ignitor

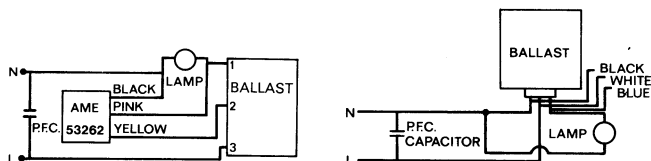
Catalogue No.	AME 53262	—
Weight	1.12lb 0.51kg	—
Illustrated type (see below)	Type DB	—
Can finish	White	—
Terminals	Leads	—

Other ballast voltage ratings available

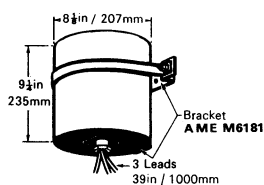
220V 50Hz	Not available	AME 53247.2
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*Connected in parallel

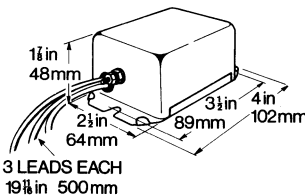
- 315** Circuit for 400W mercury iodide discharge lamp **311** Circuit for 1000W mercury iodide discharge lamp



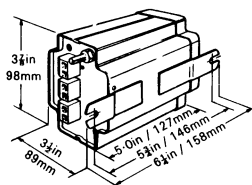
Type DP



Type DB



Type DS



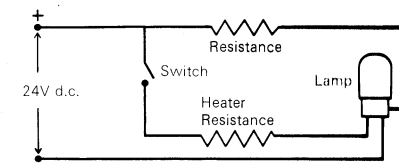
Circuit components for M1 and M2 miniature mercury discharge lamps

LAMP TYPE M1

CONTROL GEAR FOR 24V d.c. OPERATION

Rating	4.5W
Supply volts	24 d.c.
Series resistance †	24 ohms
Heater resistance †	30 ohms

† Supplied by installer



LAMP TYPE M2

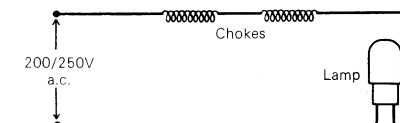
CONTROL GEAR FOR 200/250V 50Hz. a.c. OPERATION

CHOKES (two required)

Catalogue no.	GC1/80	AME 62825
Weight	1.9kg/4.25lb	0.57kg/1.25lb
Filling	Polyester resin	Polyester resin
Illustrated type	A2	G
Can colour	White	White
Terminals	Screw	Leads

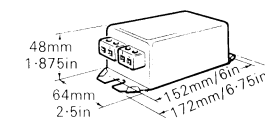
Alternatively, series resistors of values between 480 and 160 ohms may be used in place of the two series chokes to give operating currents in the range 0.5 to 1.5 amps.

CIRCUIT DIAGRAM

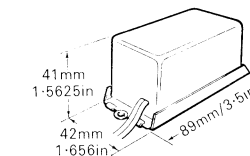


CONTROL GEAR TYPES

A2



G



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

CHOKE

Catalogue no.	AME 53159.T	AME 53235	4×AME 53235
Weight	2.72kg/6lb	10.43kg/23lb (each)	10.43kg/23lb (each)
Filling	Polyester resin	—	—
Illustrated type	DT	DC	DC
Can colour	White	—	—
Terminals	Screw	Screw	Screw

CAPACITOR

Catalogue no.	AME C2234	AME C2275	3×AME C2276
Capacitance μ F	8±10%	60±10%	80±10% (each)
Working volts	250V	250V	250V
Terminals	Flying leads	Screw	Screw
Illustrated type	CA	CA	CB

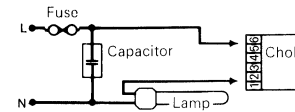
STARTING CAPACITOR

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

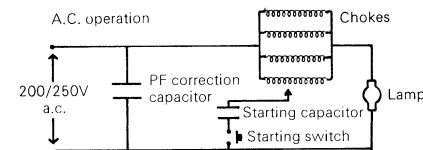
Circuit components for MB/D, MBL/D, MBW/U and ME/D mercury discharge lamps

CIRCUIT DIAGRAMS

301 Circuit for ME/D and MB/D mercury discharge lamps

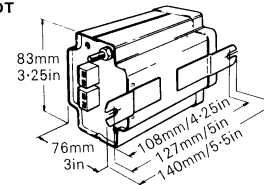


316 Circuit for 1000W ME/D lamp

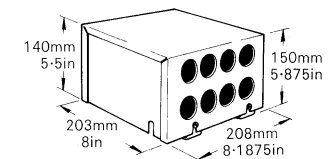


CONTROL GEAR TYPES

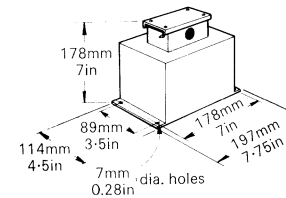
DT



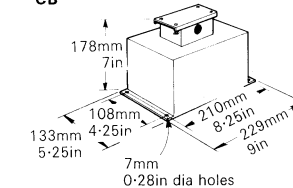
DC



CA



CB



Circuit components for CSI compact source and MBI/L linear metal halide discharge lamps

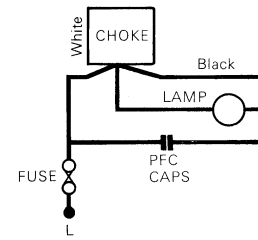
CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	750W MBI/L	1200W or 1600W MBI/L	400W CSI	1000W CSI
Circuit diagram	311	312	318	317
Ballast				
Catalogue no.	AME 53254.4	2 × AME 53254.4	AME 53196.4	AME 53255
Weight	23.2kg/51.5lb	23.2kg/51.5lb (each)	11.8kg/26lb	27.2kg/60lb
Filling	Polyester resin	Polyester resin	—	—
Illustrated type	DP	DP	DD	DE
Can colour	Black	Black	Light grey	Black/White
Terminals	Leads	Leads	Screw	Screw
Ballast Fixing Bracket				
Catalogue no.	AME M6181	2 × AME M6181	—	—
Capacitor				
Catalogue no.	4 × AME C2236	8 × AME C2236	—	8 × AME C2236
Capacitance μ F	25 ± 10% (each)	25 ± 10% (each)	—	25 ± 10% (each)
Working volts	250V	250V	—	250V
Terminals	Flying leads	Flying leads	—	Flying leads
Fused or unfused	Unfused	Unfused	—	Unfused
Other ballast voltage ratings				
220V 50Hz	AME 53254.2	2 × AME 53254.2	AME 53196.2	AME 53255

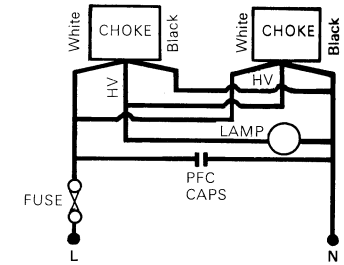
Circuit components for CSI compact source and MBI/L linear metal halide discharge lamps

CIRCUIT DIAGRAMS

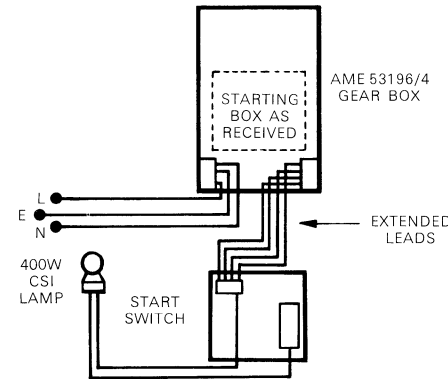
311 Circuit for 750W MBI/L lamp



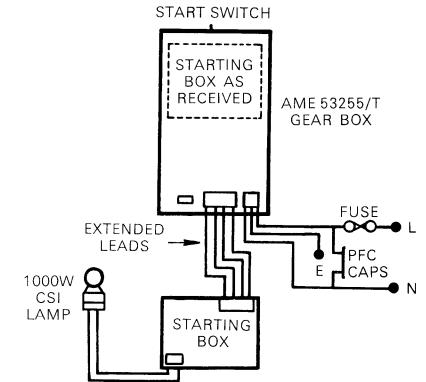
317 Circuit for 1000W CSI lamp



312 Circuit for 1200 or 1600W MBIL lamp

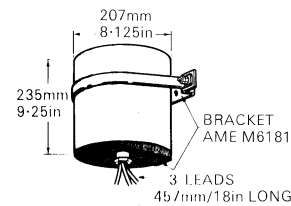


318 Circuit for 400W CSI lamp

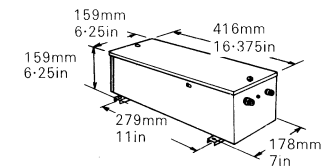


CONTROL GEAR TYPES

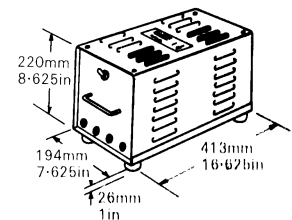
DP



DD



DE



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
Circuit diagram	320	320	320
Ballasts			
Catalogue no.	4 × AME 53235	6 × AME 53235	6 × AME 53235
Weight	10.4kg/23lb (each)	10.4kg/23lb (each)	10.4kg/23lb (each)
Illustrated type	DC	DC	DC
Terminals	Screw	Screw	Screw
Starter			
Catalogue no.	AME 53239	AME 53239	AME 53239
Weight	5.9kg/13lb	5.9kg/13lb	5.9kg/13lb
Illustrated type	DF	DF	DF
Capacitors			
Catalogue no.	2 × AME C2276 (160 μF) or 2 × AME C2275 + AME C2276 (200 μF)	3 × AME C2276 (240 μF) or 3 × AME C2276 + AME C2275 (300 μF)	3 × AME C2276 (240 μF) or 3 × AME C2276 + AME C2275 (300 μF)
Mains current	5A (160 μF)	8.5A (240 μF)	7.5A (240 μF)
Working volts	2A (200 μF) 250V	4.5A (300 μF) 250V	5A (300 μF) 250V
Terminals	Screw	Screw	Screw
Illustrated type	CA (AME C2275) CB (AME C2276)	CA (AME C2275) CB (AME C2276)	CA (AME C2275) CB (AME C2276)

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

Lamp	250W XE/D	500W XE/D	2000W XE/D 2 electrode	2000W XE/D 3 electrode
Circuit diagram	323	323	323	322
Starter				
Catalogue no.	AME 53239	AME 53239	AME 53233	AME 53234
Weight	5.9kg/13lb	5.9kg/13lb	12.7kg/28lb	4.1kg/9lb
Illustrated type	DF	DF	DG	DH
Rectifier ballast				
Catalogue no.	AME 53236	AME 53236	AME 53237	AME 53238
Weight	37kg/85lb	37kg/85lb	180kg/400lb	180kg/400lb
Illustrated type	DI	DI	DK	DK

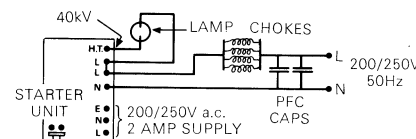
D.C. LAMPS ON 35/65V D.C. SUPPLY

Lamp	250W XE/D	500W XE/D	2000W XE/D 2 electrode	2000W XE/D 3 electrode
Circuit diagram	321	321	321	322
Starter				
Catalogue no.	AME 53239	AME 53239	AME 53233	AME 53234
Weight	5.9kg/13lb	5.9kg/13lb	12.7kg/28lb	4.1kg/9lb
Illustrated type	DF	DF	DG	DH
Series resistance				
Resistance value (ohms)	V—16.5 15	V—25 23	V—25 80	V—27 74
Current (amps)	15A	23A	80A	74A

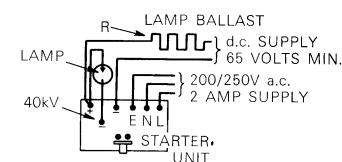
Circuit components for XB and XE/D compact source xenon discharge lamps

CIRCUIT DIAGRAMS

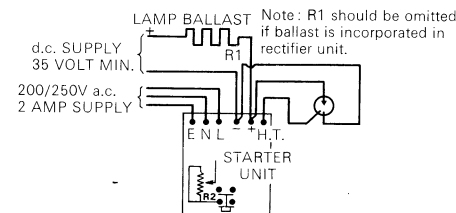
320 Circuit for a.c. lamps on 200/250V 50Hz supply



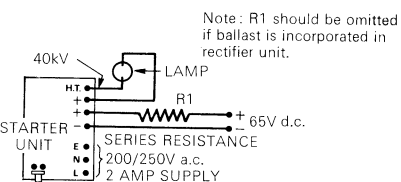
321 Circuit for 2000W 2-electrode lamp



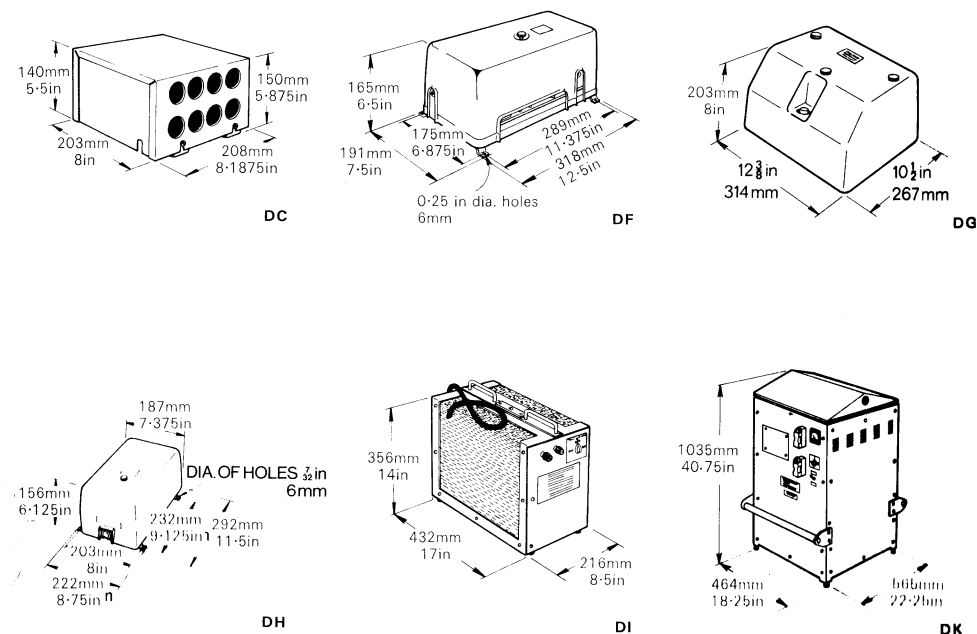
322 Circuit for 2000W 3-electrode lamp



323 Circuit for 250/500W d.c. lamps



CONTROL GEAR TYPES



Circuit components for SO, SOI, SOX and SLI sodium discharge lamps



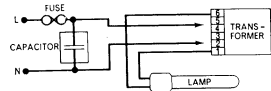
CONTROL GEAR FOR 240V 50Hz SUPPLY

Lamp	35, 55W SOX	140W SO/H, SOI/H or SLI/H or 90W SOX	135W SOX or 180W SOX	200W SLI/H
Circuit diagram	305	307	304	302
Ballast				
Catalogue no.	AME 53131.4†	AME 53232.4†	AME 53260.T†	AME 53261.T†
Weight	4.1kg/9lb	5.82kg/12.6lb	6.55kg/14.5lb	6.55kg/14.5lb
Filling	Polyester resin	Polyester resin	Polyester resin	Polyester resin
Illustrated type	DJ	DU	DY	DY
Can colour	White	White	White	White
Terminals	Screw	Screw	Screw	Screw
Capacitor				
Catalogue no.	AME C2216	AME C2218 (for 140W) AME C2236 (for 90W)	AME C2281	AME C2355
Capacitance μ F	15 \pm 10%	20 \pm 10% (for 140W) 25 \pm 10% (for 90W)	13 \pm 5%	35 \pm 10%
Working volts	250V	250V	440V	250V
Terminals	Flying leads	Flying leads	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused	Unfused	Unfused
Other ballast voltage ratings				
220V 50Hz	AME 53182.T	AME 53232.2	AME 53260.T	AME 53261.T
250V 50Hz	AME 53182.T	Not available	Not available	Not available

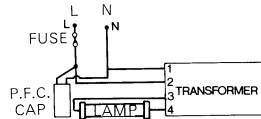
† Units marked with British Standard Kitemark to BS.4782

CIRCUIT DIAGRAMS

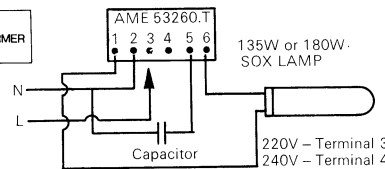
305 35W/55W/SOX



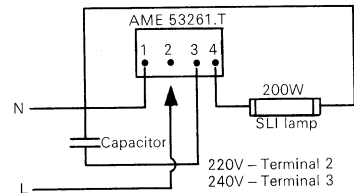
307 Circuit for 140W SO/H, SOI/H, or SLI/H and 90W SOX



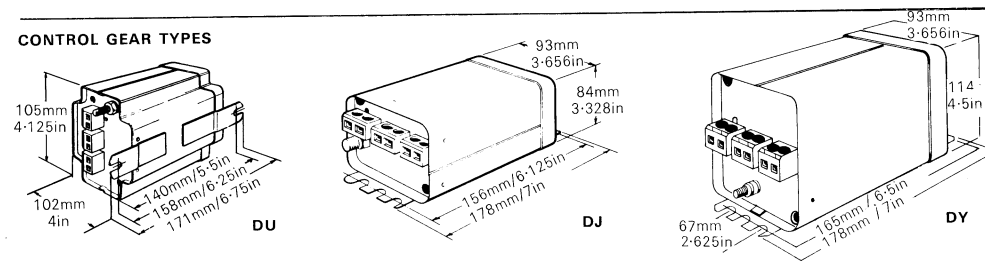
304 Circuit for 135W or 180W SOX sodium discharge lamp



302 Circuit for 200W SLI/H sodium discharge lamp



CONTROL GEAR TYPES



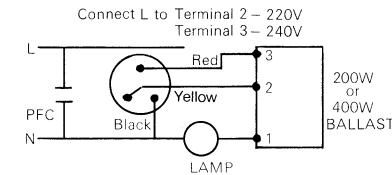
Circuit components for 250W and 400W SON high-pressure sodium discharge lamps

CONTROL GEAR FOR 240V 50Hz SUPPLY

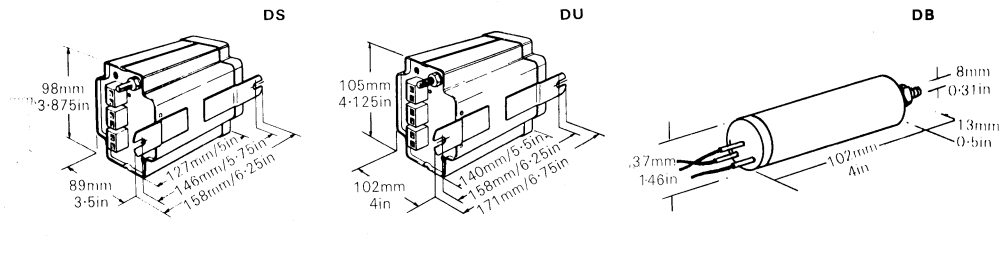
Lamp wattage	250W	400W
Circuit diagram	315	315
Ballast		
Catalogue no.	AME 53251.T	AME 53230.T
Weight	3.8kg/8.5lb	5.7kg/12.55lb
Filling	Polyester resin	Polyester resin
Illustrated type	DS	DU
Can colour	White	White
Terminals	Screw	Screw
Capacitor		
Catalogue no.	AME C2235	2 x AME C2218
Capacitance μ F	30 \pm 10%	20 \pm 10% (each)
Working volts	300V	250V
Terminals	Flying leads	Flying leads
Fused or unfused	Unfused	Unfused
Ignitor		
Catalogue no.	AME 53282	AME 53282
Weight	0.065kg/2.3oz	0.065kg/2.3oz
Illustrated type	DB	DB
Can finish	Aluminium	Aluminium
Terminals	Flying leads	Flying leads
Other ballast voltage ratings		
220V 50Hz	AME 53251.T	AME 53230.T

315 Circuit for 250W or 400W SON high-pressure sodium lamp

CIRCUIT DIAGRAM

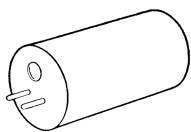


CONTROL GEAR TYPES

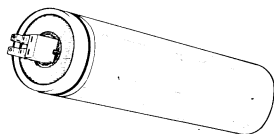


Capacitors for fluorescent tube circuits

STANDARD PFC AND SERIES CAPACITORS To BS. 4017



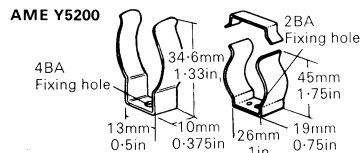
R with pin terminals



Q with push wire terminals

CAPACITOR SUPPORT CLIPS

AME Y5244 For 38mm/1.5in dia. capacitors
 AME Y5245 Clip for AME Y5244
 AME Y5200 For 25mm/1in dia. capacitors



AME Y5244

Catalogue no. Pin Terminals	Capacitance (μ F)	Fused or unfused	Rated voltage	Type	Dia. mm in	Length* mm in	Weight g oz	Use
AME C2220	8.4 \pm 5%	Unfused	250V	R	38 1.5	104 4.09	142 5	6ft 85W/5ft 65W SRS
AME C2222	8 \pm 10%	Unfused	250V	R	38 1.5	104 4.09	199 7	5ft 80W/2ft 40W SS/QS
AME C2274	10 \pm 10%	Fused	250V	R	38 1.5	104 4.09	199 7	Twin 5ft 65W SS
AME C2368	5.7 \pm 5%	Fused	250V	R	32 1.25	77 3.0	90 3.0	5ft 50W SRS Arrowslim fitting
AME C2228	7.8 \pm 5%	Unfused	440V	R	38 1.5	200 7.875	353 12.5	8ft 125W QS
AME C2344**	7.2 \pm 5%	Unfused	440V	Q	40 1.56	80 3.14	199 7	8ft 125W SS PP fitting
AME C2223	6 \pm 10%	Fused	250V	R	38 1.5	104 4.09	142 5	6ft 85W SS
AME C2273	5.5 \pm 10%	Unfused	250V	R	38 1.5	104 4.09	180 6.5	40W SRS
AME C2226	5 \pm 5%	Unfused	440V	R	38 1.5	156 6.125	227 8	8ft 85W QS
AME C2245	5 \pm 10%	Fused	250V	R	38 1.5	104 4.09	170 6	5ft 65W SS
AME C2224	3.5 \pm 10%	Unfused	250V	R	38 1.5	77 3.0312	113 4	20/30/40W SS/QS
AME C2225	3.5 \pm 10%	Fused	250V	R	38 1.5	77 3.0312	113 4	20/30/40W SS/QS
AME C2227	3 \pm 10%	Fused	250V	R	32 1.25	78 3.0625	99 3.5	3ft 30W Arrowslim fitting
AME C2229	2.85 \pm 5%	Unfused	440V	R	32 1.25	156 6.125	199 7	5ft 50W SS Arrowslim fitting
AME C2286†	2 \pm 10%	Fused	250V	R	26 1	69 2.687	56 2	13/8/6/4W SS

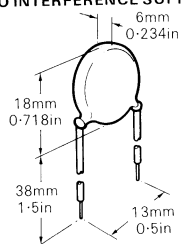
All 250V types are metallised polypropylene (dry) film construction **Metallised paper construction

*Length is can length only. Pin terminals project 9mm/0.344in on Type R capacitors

†Push wire terminals—these project 23mm/0.9in

‡Tag terminals project 13mm/0.5in on Type R capacitors

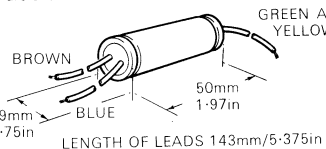
RADIO INTERFERENCE SUPPRESSION CAPACITORS



AME C2139

A ceramic base 0.005 μ F 800V a.c. capacitor to BS.4017 with high temperature PVC sleeved 38mm/1.5 leads.

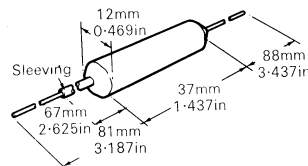
All starter switches and starting transformers shown in this catalogue incorporate a 0.005 μ F radio interference suppressor. For additional suppression the following capacitors are available:



AME C2051

A radio interference suppression filter network comprising two 0.005 μ F and one 0.1 μ F delta connected for additional suppression where the AME C2139 fails to suppress the interference.

ARTIFICIAL EARTH



AME C2050

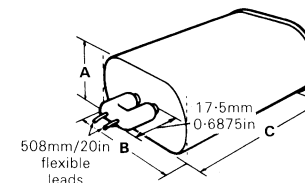
An artificial earth unit for connection between the tube earth strip, or a metal chassis in close proximity to the tube, and neutral when no earth is available.

Capacitors for mercury and sodium discharge lamp circuits

Catalogue no.	Capacitance μ F	Working voltage	Dimensions Depth A		Width B		Height C	
			mm	in	mm	in	mm	in
AME C2203†	6 \pm 10%	250	38	1.5	38	1.5	80	3.125
AME C2234	8 \pm 10%	250	35	1.375	54	2.125	70	2.75
AME C2214	13 \pm 10%	250	51	2	76	3	67	2.625
AME C2281	13 \pm 5%	440	51	2	76	3	105	4.125
AME C2216	15 \pm 10%	250	51	2	76	3	76	3
AME C2288	17.5 \pm 5%	350	51	2	76	3	137	5.375
AME C2232	18 \pm 10%	250	51	2	76	3	89	3.5
AME C2278	15 \pm 5%	350	51	2	76	3	121	4.75
AME C2280	16 \pm 10%	250	51	2	76	3	76	3
AME C2218	20 \pm 10%	250	51	2	76	3	92	3.625
AME C2236	25 \pm 10%	250	51	2	76	3	115	4.5
AME C2355	35 \pm 10%	250	63	2.5	89	3.5	108	4.25

†For use in fittings only. This unit has solder tag terminals

This range of capacitors is unfused and suitable for continuous operation in the temperature range -40°C to $+70^{\circ}\text{C}$. Fixing is by means of a removable saddle which clips vertically over the capacitor. The capacitor is packed complete with saddle.



CAPACITOR CLIPS

AME Y5292

For 54mm/2.125in \times 35mm/1.625in capacitors

AME Y5293

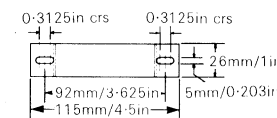
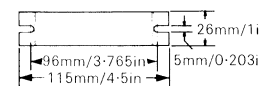
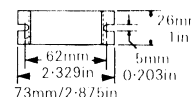
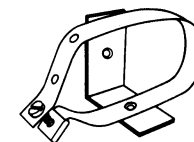
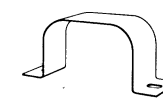
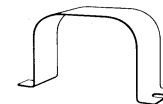
For 89mm/3.5in \times 64mm/2.5in capacitors

AME Y5279

For 76mm/3in \times 51mm/2in capacitors

AME Y5242

Universal fixing bracket for 89mm/3.5in \times 63mm/2.5in and 76mm/3in \times 51mm/2in capacitors



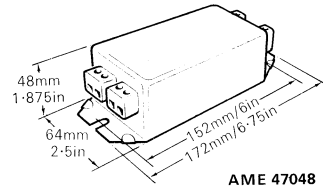
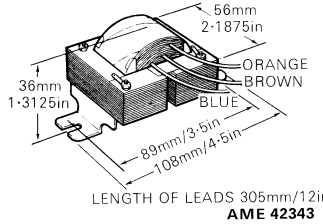
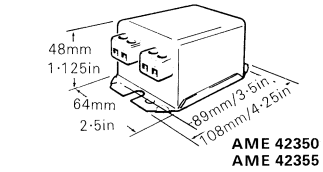
2BA fixing holes allow horizontal or vertical mounting

Voltage transformers and emergency lighting

SUPPLY VOLTAGE STEP-UP TRANSFORMERS

Used in conjunction with 240V circuits

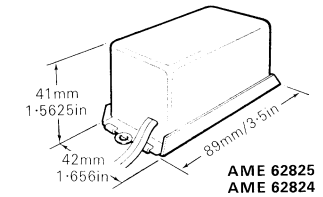
Catalogue no.	AME 42343	AME 42350	AME 42355	AME 47048
Voltage input	220V	220V	200/210V	110V
Max. tube length wattage and circuit	8ft 125W SS	8ft 125W SS 8ft 125W QS 8ft 85W QS 6ft 85W SRS	8ft 125W QS 8ft 85W QS 6ft 85W SRS	5ft 80W SS 5ft 65W SS/SRS 4ft 40W SS/QS
Weight	0.45kg/1lb	0.9kg/2lb	0.9kg/2lb	1.86kg/4.125lb
Insulation	Varnish	Polyester resin	Polyester resin	Polyester resin
Can colour	Natural	White	White	White
Terminals	Leads	Screw	Screw	Screw



CONVERSION CHOKES (50Hz supply)

Used in series with 200/210V choke on 240/250V supply

Catalogue no.	Tube	Weight kg lb	Insulation	Can colour	Terminals
AME 62825	5ft 80W	0.57 1.25	Polyester resin	White	Leads
AME 62824	4ft 40W	0.57 1.25	Polyester resin	White	Leads



EMERGENCY LIGHTING SYSTEM FOR USE WITH TRANSISTORISED FLUORESCENT FITTINGS

Automatic emergency lighting prevents hazards and panic should the mains supply fail. Transistorised miniature fittings with an efficiency three to four times greater than the corresponding tungsten lamps make the maximum use of standby batteries.

Catalogue no. AME R2463

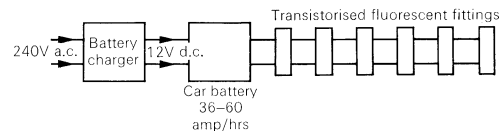
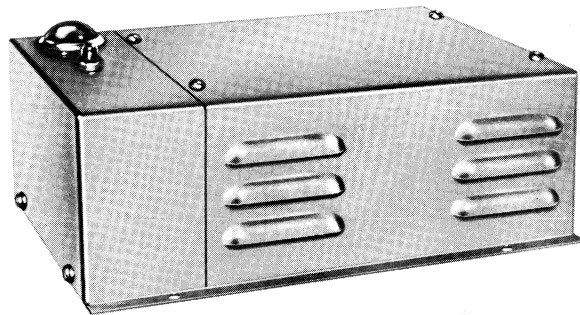
A fully automatic 12V battery charger complete with mains hold-off relay.

Suitable for use with

- 6 - 13W 525mm/21in Transistorised miniature fittings or
- 8 - 8W 300mm/12in Transistorised miniature fittings

Dimensions - Length 289mm/12.375in
Height 197mm/7.75in
Depth 124mm/4.875in

See Section 1 for details of miniature fluorescent fittings.



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.

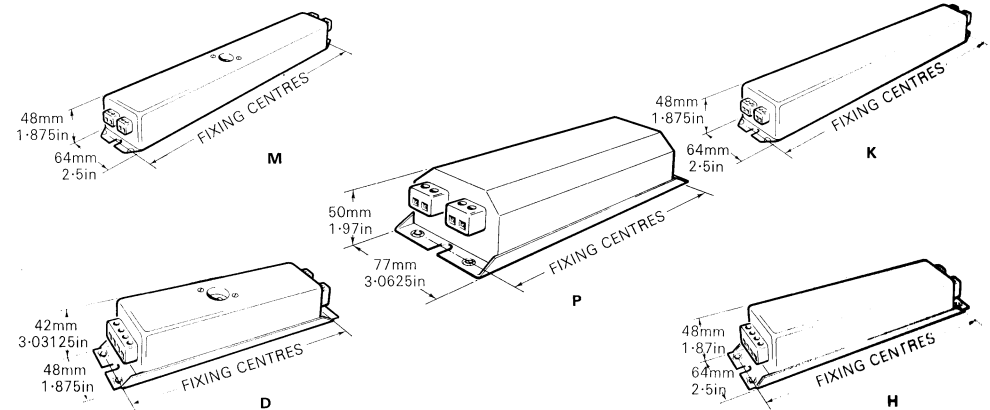
These units are ideal for mounting within interior signs, or within suitably designed exterior signs, and are also used for some showcase lighting and in certain architectural features such as alcoves, pelmets, etc.

All ballasts have screw terminal connections.

When required, starter switches must be ordered separately.

Catalogue no.	Use	Can colour	Illustrated type	Fixing centres mm in	Weight kg lb
G.CBS 125	8ft 125W HPF SS	White	M	317 12.5	2.6 5.75
G.CBQ 125	8ft 125W HPF QS	White	P	408 16	4.5 10.25
G.CBS 685	6ft 85W, 5ft 80W, 2x 2ft 40W* HPF SS	White	M	292 11.5	2.4 5.25
G.CBR 80	5ft 80W HPF SRS	White	K	317 12.5	3 6.75
G.CBS 65	5ft 65W HPF SS	White	M	254 10	1.8 4
G.CBR 65	5ft 65W HPF SRS	White	K	267 10.5	2.2 4.75
G.CBS 40	4ft 40W, 2x 2ft 20W* HPF SS	White	D	216 8.5	1.1 2.5
G.CBR 40	4ft 40W HPF RS	White	H	229 9	1.8 4.5
G.CBS 30	3ft 30W, 2x 18in 15W* HPF SS	White	D	216 8.5	1.1 2.5
G.CBQ 30	3ft 30W HPF QS	White	H	241 9.5	1.6 3.25
G.CBQ 2240	2x 2ft 40W LPF QS†	White	K	229 9	2.7 6
G.CBQ 2220	2x 2ft 20W LPF QS†	White	H	190 7.5	1.4 3
G.CBS 20	2ft 20W, 18in 15W LPF SS†	White	D	216 8.5	1 2.2
G.CBQ 20	2ft 20W, 18in 15W LPF QS†	White	H	165 6.5	1.3 2.75

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 sheet steel finished stove enamel acrylic grey to BS.2660 9-094. A weatherproof seal is effected between lid and box by means of a closed cell neoprene sponge gasket. Two 20mm/0.78in 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.

AME M6174

1000W HPMV or 400W MBI

Internal dimensions

Length 425mm/16.75in

Width 244mm/9.625in

Height 130mm/5.125in

External dimensions

Length 437mm/17.25in

Width 247mm/9.75in

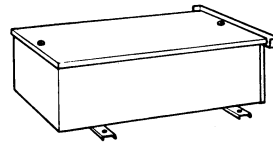
Height 155mm/6.125in

Fixing centres

279 × 279 × 7.92mm diameter/
11 × 11 × 0.31in

Weight

5.84kg/12.875lb



AME M6172

80-400W HPMV or 35-200W SLI/H or SOX

Internal dimensions

Length 406mm/16in

Width 144mm/5.68in

Height 130mm/5.125in

External dimensions

Length 420mm/16.563in

Width 168mm/6.625in

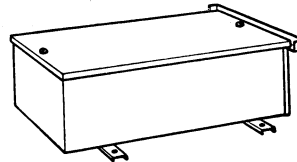
Height 163mm/6.438in

Fixing centres

279 × 178 × 7.92mm diameter/
11 × 7 × 0.31in

Weight

3.74kg/8.25lb



AME 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/15.25in

Width 127mm/5in

Height 121mm/4.75in

External dimensions

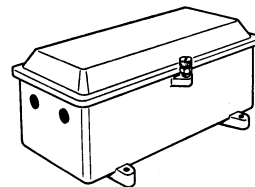
Length 425mm/16.75in

Width 203mm/8in

Height 152mm/6in

Weight

Weight 3.63kg/8lb



Control gear boxes

REMOTE BOXES FOR INTERIOR USE

These boxes are made of sheet steel finished stove enamel acrylic grey to BS.2660 9-094. Two 19mm/3/8ins 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 Gear box complete with 1000W MBF control gear

RB G700 Gear box complete with 700W MBF control gear

External dimensions

Length 425mm/17.06in

Width 247mm/9.75in

Height 149mm/5.875in

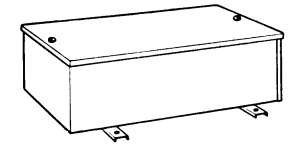
Weights

RB G1000 17.92kg/32.5lb

RB G700 13.95kg/30.75lb

Fixing centres

279 × 279 × 7.92mm diameter/11 × 11 × 0.31in



RB G400 Gear box complete with 400W MBF control gear

RB IG400 Gear box complete with 400W MBI control gear

RB SG400 Gear box complete with 400W SON control gear

RB SG250 Gear box complete with 250W SON control gear

RB G250 Gear box complete with 250W MBF control gear

External dimensions

Length 416mm/16.375in

Width 157mm/6.18in

Height 149mm/5.875in

Weights

RB G400 8.05kg/17.6875lb

RB IG400 8.59kg/18.9375lb

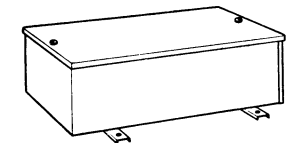
RB SG400 8.17kg/18lb

RB G250 6.35kg/14.0625lb

RB SG250 6.8kg/15lb

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 Gear box complete with 125W MBF control gear

RB G80 Gear box complete with 80W MBF control gear

External dimensions

Length 337mm/13.25in

Width 92mm/3.625in

Height 83mm/3.25in

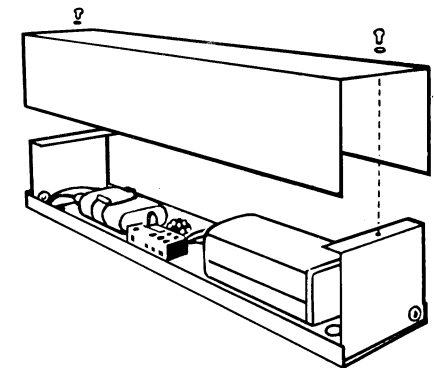
Fixing centres

292 × 51mm/11.5 × 2in

Weights

RB G125 3.63kg/8lb

RB G80 3.18kg/7lb

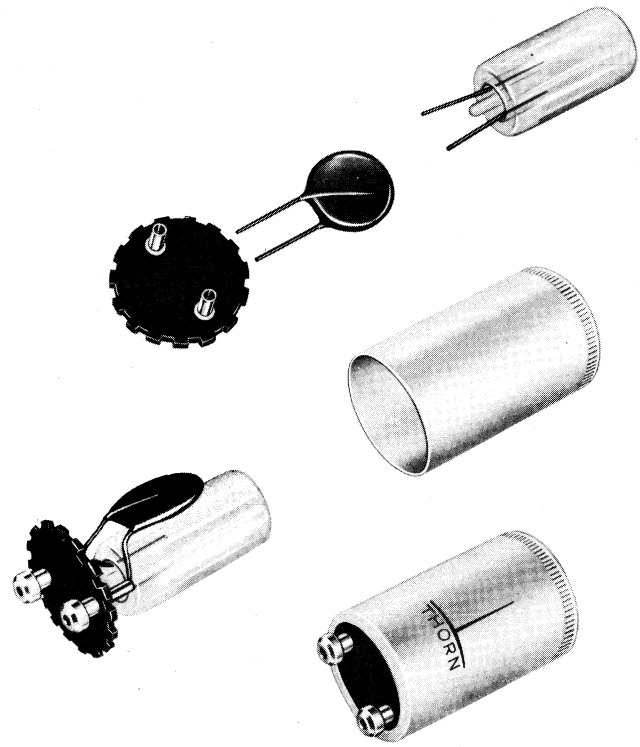


Starter switches

This range of starter switches in plastic canisters incorporates constructional features resulting in switches of high quality, reliability and appearance.

CONSTRUCTIONAL FEATURES

- A** A high temperature grade of matt white plastic is used for the canister with brand detail in distinctive black 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.
- B** A ceramic disc type radio interference suppression capacitor is fitted internally to each canister. This type of RIS capacitor is far superior to the 'waxed paper and foil' type, since short circuit faults have been eliminated as a possible cause of failure.
- C** The various stages in the production of standard Glowswitch starter switches are summarised in the illustration. Individual components are welded together to form the bimetal contact assembly. After the completed glow-bottle is sealed off the lead wires of the bottle and ceramic disc suppressor are clamped inside the terminals. The plastic canister is then shrunk on to the insulated base disc. The serrated edge of the base disc combines with the plastic canister to give a strongly bonded seal.



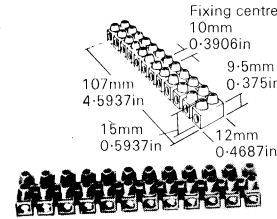
RANGE		
2 pin ; small can ; a.c. glow switch		
Catalogue no.	Application	Operating voltage
155/800	8ft 125W leading circuit or 6ft 85W	230/250V
155/501	5ft 50W leading circuit	240V
155/500	4W, 6W, 8W, 13W, 30W, 32W, 4ft 40W, 65W or 80W	200/250V
155/400	4W, 6W, 8W, 30W, 32W or 4ft 40W	200/250V
155/200	Single 15W, 20W, 22W or 2ft 40W Series pair 15W, 20W or 2ft 40W (two 155/200)	105/250V 200/250V
155/100	Single 4W, 6W or 8W Series pair 4W, 6W or 8W (two 155/100) †	110/130V 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

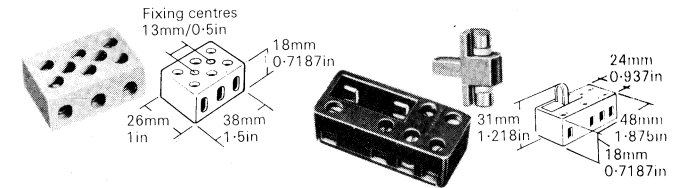
AME T1281

A 5A 250V terminal block of brown PVC available in 12-way strips. Terminals can be cut off as required or supplied in cut form. Suffix after Catalogue no. indicates number of through connections, e.g. AME T1281/2 is a 2-way terminal block. AME T1281/3 is a 3-way terminal block.



AME T1306

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.

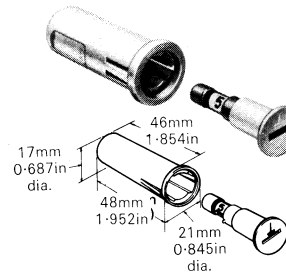


AME T1265

A mains circuit terminal block incorporating a fuse in the line circuit. Black phenolic moulded body with clear alkathene fuse carrier and pinch screw terminals. Earth and neutral connections are of the through barrel type and two lines 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 3/16in 6BA screw must be used which is not provided. Either method of fixing provides earth connection to chassis. Fuses to be ordered separately.

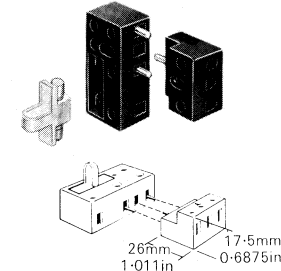
AME T1334

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.



AME A5079

Combined fused terminal block with mains plug. Comprises fused block similar to AME 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. AME A5037—replacement mains plug.



FUSES

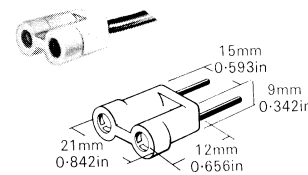
AME T1268, T1299, T1332, T1342

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

Catalogue no.	Rating	Colour
AME T1342	1.25A	Orange
AME T1332	0.65A	Red
AME T1299	3A	Blue
AME T1268	5A	Black

AME M6064/12/Loop

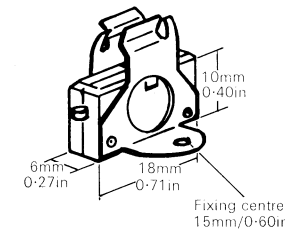
White PVC moulding enclosing starter switch contacts crimped to 305mm/12in loop 16/0.2mm white PVC cable which can be cut at a point to suit wiring layout. This holder does not support the starter switch and the Y5274 black oil dipped spring steel clip can be supplied. The clip latches into a square hole (5.6mm/0.22in. min. to 5.8mm/0.23in. max.) in the fittings chassis.



AME L1123/A

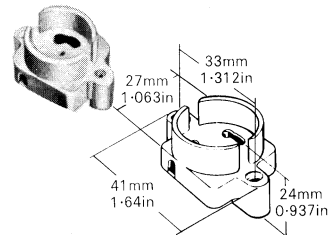
Miniature Lampholder suitable for use with low volt Tungsten Halogen lamps

M29	6V	10W
M30	6V	20W
M34	6V	20W
M35	12V	20W



AME 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. Y5267) are held by the holder fixing screws and pass through gaps in the holder skirt. When mounted on 22mm/ 7/8in distance pieces behind fitting chassis the starter switch projects enough for easy removal.

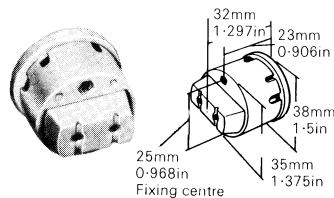


Lampholders for fluorescent tubes

For T12 (38mm/1½ in diameter) bi-pin fluorescent tubes

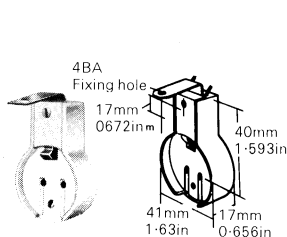
AME B1502

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. Y5420) is available as an optional extra. This holder is not suitable for use with 2400mm/8ft tubes which have large tolerances in length.



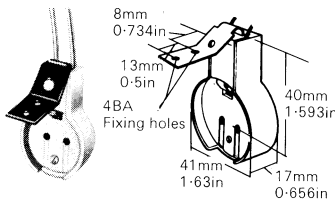
AME B1548/A3

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/12in loop which can be cut at any point to suit 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.



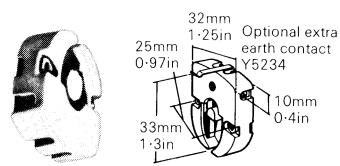
AME B1548/B

Lampholder as AME B1548/A3 but with bracket requiring 2-hole fixing. This holder is for mounting direct on to fitting chassis when the wall of a 38mm/1½ in diameter (T12) tube will be 10mm/¾ in from the chassis. Lampholder is vertical with a nominal length tube.



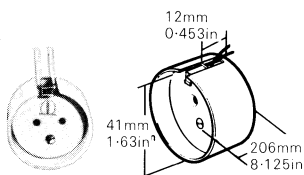
AME B1524

White urea moulding with paxolin backplate. Single-sided tube contacts with pinch screw terminal for incoming cables. Earth contact Y5234 is available as an optional extra. 6BA tubular tapped nuts are provided for fixing. This lampholder is not suitable for use with 2400mm/8ft tubes which have large tolerances in length.



AME 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/12in loop of high-temperature 16/0-2mm white PVC flexible cable. Earth lead connection is to lamp pin terminal.



FIXING DETAILS

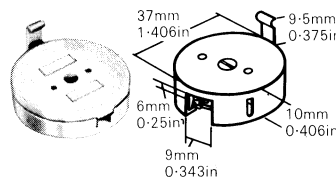
Dimensions below are distances between backs of lampholders. The dimensions are given for AME B1512 and AME B1573 are for lampholders when fitted to the fluorescent tube. The dimensions for AME B1524 are recommended distances between backs of lampholders when mounted on support brackets. Dimensions for AME B1548/A3 are recommended distances between fixing centres. Dimensions for AME B1548/B are recommended distances between furthest fixing holes. Dimensions for AME B1502 are recommended distances between backs of lampholders when mounted on support brackets.

Tube size mm ft/in	AME B1512		AME B1573		AME B1524		AME B1548/A3		AME B1548/B		AME B1502	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
2400 8ft	2395	94.312	2398	94.406	—	—	2327	91.609	2325	91.546	—	—
1800 6ft	1784	70.234	1786	70.328	1784	70.222	1715	67.531	1714	67.468	1827	71.920
1500 5ft	1521	59.867	1523	59.961	1520	59.855	1452	57.172	1451	57.109	1563	61.553
1200 4ft	1220	48.03	1222	48.125	1220	48.019	1152	45.344	1150	45.281	1263	49.718
900 3ft	915	36.03	916	36.125	915	36.019	847	33.344	845	33.281	958	37.718
600 2ft	610	24.03	613	24.125	610	24.019	542	21.344	540	21.281	653	25.718
450 18in	458	18.03	460	18.125	458	18.019	390	15.344	388	15.281	501	19.718

Lampholders for fluorescent tubes

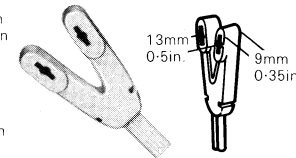
AME B1512

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.



AME B1529

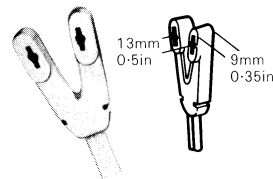
A high-temperature white PVC moulding with double-sided brass contacts crimped to 1220mm/48in flat twin 23/0-076in white high-temperature PVC flexible cable. The extra firm contact grips make this holder suitable for vertical tubes subjected to vibration. No earth clip is available.



For T8 (26mm/1in diameter) bi-pin fluorescent tubes

AME B1529

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



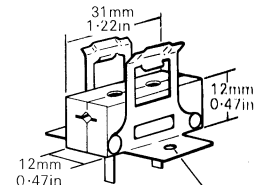
AME B1555/Z

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/12in 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.

AMEL1105

Lampholder for 240V 650W Tungsten Halogen lamp.

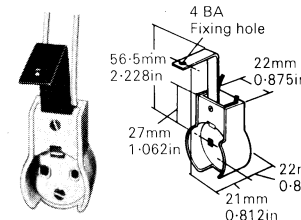


Fixing centres
23mm/0.90in

Fixing details

Dimensions below are recommended distances between fixing centres.

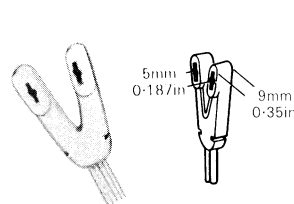
Tube size	mm	in
1500mm 5ft	1444.2	56.859
900mm 3ft	840	33.031
450mm 18in	381.8	15.031



For T5 (15mm/¾ in diameter) miniature bi-pin fluorescent tubes

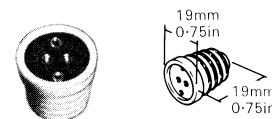
AME B1529

A high-temperature PVC moulding with double-sided brass contacts crimped to 1220mm/48in flat twin 28/0-15mm white high-temperature PVC flexible cable. No earth contact available.



AME 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.



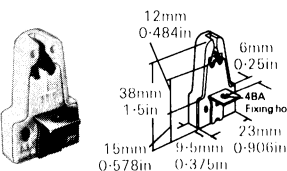
AME B1556/2

White urea mouldings with bright steel bracket. Single-sided lamp pin contacts with pinch screw cable entry terminals.

Fixing details

Dimensions below are recommended distances between fixing centres.

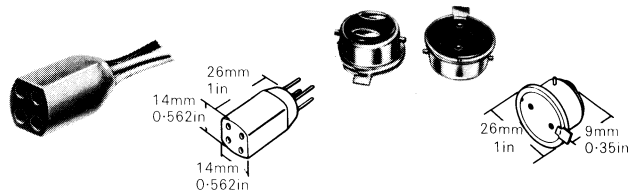
Tube size	mm	in
525mm 21in	504	19.844
300mm 12in	275	10.844
225mm 9in	199	7.844
150mm 6in	123	4.844



Fluorescent tube lampholders and support clips

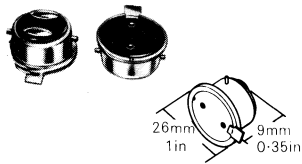
Lampholder for circular fluorescent tubes AME B1535

A single moulding high-temperature white PVC body with 305mm/12in 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.



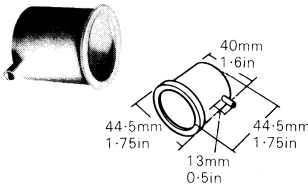
Bi-pin to BC adaptor AME B1515

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/1½in diameter) bi-pin fluorescent tubes AME M6028

White neoprene moulding suitable for use with AME B2512 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.



AME Y5204, Y5200, Y5201

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.



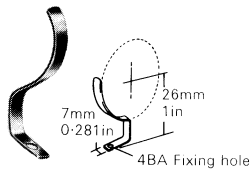
AME Y5257

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/5.875in radius
32W tube: 232mm/9.125in radius
40W tube: 333mm/13.125in radius



Catalogue no.	Tube dia. mm in	A mm in	B mm in	C mm in
AME Y5204	16 5/8	7.5 0.2968	10.3 0.4062	7.9 0.3125
AME Y5200	26 1	12.7 0.5	17.8 0.7031	9.5 0.375
AME Y5201	38 1½	16.7 0.6562	26.2 1.0312	9 0.355

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GENERAL CONDITIONS OF SALE

- 1 GENERAL. All orders are accepted and executed on the understanding that the Purchaser is bound by the following General Conditions of Sale. Where there is any inconsistency between these General Conditions of Sale and any Conditions which the Purchaser seeks to impose these General Conditions of Sale shall prevail.
- 2 VALIDITY OF QUOTATIONS. The Company reserves the right to refuse the Purchaser's acceptance of a quotation unless such quotation is stated to be open for a specific period and is not withdrawn in such period.
- 3 PRICES AND DISCOUNTS. The published prices of and the discount applicable to the Company's products are those ruling on the date of publication and are subject to alteration without notice.
- 4 PAYMENT. Unless otherwise agreed in writing, payment in full is due in respect of any goods delivered. 2½ per cent settlement discount will be allowed off accounts (excluding the amount of any tax on the supply or purchase of the goods) paid by the end of the month following that in which the invoice is dated. No other settlement terms will be granted.
- 5 NEW ACCOUNTS. Where a credit account is desired, a Bank and two trade references are required.
- 6 CARRIAGE. Unless otherwise specified by the Company, goods are delivered carriage free to any part of Great Britain and Northern Ireland. Special fittings and dimming equipment are offered ex-works carriage extra. When special delivery arrangements are requested, the difference between standard delivery and special rates will be charged.
- 7 PACKING. A charge is made when it is necessary to despatch goods in crates or cases but this amount will be credited in full on the return, within one month, of the crates or cases in good condition carriage paid. No charge is made for any other form of packing and no credit will be allowed for its return.
- 8 LOSS OR DAMAGE IN TRANSIT. Clear receipts should be given only if goods have been examined, as an unqualified signature may react to the disadvantage of the Purchaser if the consignment should become the subject of a claim. In the event of short delivery or damage in transit, it is essential that the Company's despatching depot and the Carriers be advised within three days of receipt of goods. Irrespective of condition of packing, goods and packing should be held for inspection by Carriers before return. After inspection, Carriers should accept goods or return to sending depot, carriage free.
The following details should be sent to the Company:—

Advice note number.	Condition of package.	Date Carrier advised.
Carrier's name.	Date consignment received.	Extent of damage or shortage.

In the event of non-delivery, Carriers and the Company's despatching depot should be advised within ten days of date of advice packing note. The Company will not be responsible for goods lost or damaged in transit unless the above conditions are observed.
- 9 LIABILITY FOR DELAY. Any times quoted for despatch, repair or replacement are to be treated as estimates only and the Company shall not be liable for failure to despatch, repair or replace within such time unless the Purchaser has suffered loss thereby and the amount payable in respect thereof shall have been agreed in writing as liquidated damages, in which case the Company's liability shall be limited to the amount so agreed to be paid. In all cases, whether a time for despatch, repair or replacement be quoted or not, the time for despatch, repair or replacement shall be extended by a reasonable period if delay in despatch, repair or replacement is caused by instructions or lack of instructions from the Purchaser or by industrial dispute or by any cause whatsoever beyond the Company's reasonable control.
- 10 DEFAULT. The Company shall have the right to discontinue delivery and also at its discretion to determine the contract in respect of any undelivered goods if the Purchaser defaults in payment.
- 11 DEFECTS AFTER DELIVERY. The Company will make good, by repair or at the Company's option, by the supply of replacement, defects which, under proper use, appear in the goods within a period of 12 calendar months after the goods have been delivered and arise solely from faulty design, materials or workmanship. Provided further that in respect of parts or components not of the Company's manufacture, the Company will give the Purchaser a guarantee equivalent to the guarantee (if any) which the Company may have received from the supplier of such parts or components a liability greater than that imposed on it by the aforesaid period of this clause. Save as aforesaid and as provided in Clauses 8 and 9, the Company shall not be under any liability in respect of defects in goods delivered or for any injury, damage or loss resulting from such defects or from any work done in connection therewith and its liability under this clause shall be in lieu of any warranty or condition implied by law as to the quality or fitness for any particular purpose of such goods.
- 12 SPECIAL ORDERS. All orders for lamps of non-standard voltages or for types not included in catalogues are considered to be "Special Types"—the production of which is undertaken on the understanding that the Purchaser will accept under or over delivery to the extent of 10 per cent at the price quoted per unit.
- 13 RETURN OF GOODS. In no circumstances may goods supplied against a firm order be returned without the customer having first applied for and obtained the written consent of the Company. A handling charge amounting to not more than 10 per cent of the invoice value of the returned goods may be deducted from any credit allowed where it is established that the reason for their return is not subject to the provision of Clause 8 or 11 hereof or through any error on the part of the Company.
- 14 DESCRIPTIVE MATTER AND ILLUSTRATIONS. All descriptive and forwarding specifications, drawings and particulars of weights and dimensions issued by the Company are approximate only, and are intended only to present a general idea of the goods to which they refer and shall not form part of a contract.
- 15 EXPORT. Goods purchased on the Home Market must not, without previous consent, be offered or sold for export and any enquiries or orders for export must be placed directly with the Export Department of the Company with indication of country of destination.
- 16 PATENTS. In the event of any claim being made or action being brought against the Purchaser in respect of infringement of British patents by the use or sale of goods supplied hereunder, the Purchaser is to notify the Company immediately and the Company shall be at liberty with Purchaser's assistance if required, but at the Company's expense, to conduct through the Company's own Lawyers and Experts all negotiations for the settlement of the same or any litigation that may arise therefrom; subject to such notifications and provided that no such goods, or any part thereof, shall be used for any purpose other than that for which the Company supply them, the Company will indemnify the Purchaser in respect of any such claims.
- 17 LEGAL CONSTRUCTION. These General Conditions of Sale shall be construed in accordance with the law of England and if any question, dispute or difference shall arise between the parties in respect of their interpretation or their rights or duties heretofore, the same shall be referred to a single arbitrator in London in case the parties can agree upon one. Otherwise it shall be referred to arbitration in London under the provision of the Arbitration Acts 1889 to 1950 or any statutory modification or re-enactment thereof which provisions shall also apply to the case of a reference to a single arbitrator.