Fluorescent lighting components

Data Sheet

General

Fluorescent lighting provides the backbone of almost all lighting schemes installed in commercial and industrial premises.

This versatile, efficient and economic source has recently undergone major developments with the introduction of low wattage compact fluorescent lamps and the GE 2D lamp.

Both lamps allow fluorescent lighting to be used in compact fittings such as downlights, desk, inspection and display lighting.

The range of fluorescent lighting components provides replacements for previously installed items allowing fittings to be quickly repaired *in situ* without the cost of removal and total replacement or provides the customer with all the required ballasts (chokes), capacitors, lamp and starter holders necessary to make up custom built assemblies using T12 and T8 standard fluorescents, circular fluorescents and 2D lamps.

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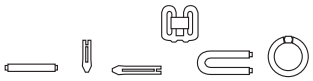
	Florescent lamp		Ballast					Capacitor	Application drawing no.
Wattage	 L 3 Ømm	Current A	Cos.ø	Line current A	Total length mm	Fixing centres mm	Weight kg	250V µF±10%	
4	15 x 16	0.170	0.37	0.07	78	70	0.26	4.0	1 or 2
6	225 x 16	0.160	0.37	0.07	78	70	0.26	4.0	
8	300 x 16	0.165	0.40	0.08	78	70	0.26	4.0	
2 x 4	150 x 16	0.165	0.40	0.08	78	70	0.26	4.0	
5	G23	0.182	0.34	0.10	78	70	0.26	4.0	3 or 4
7	G23	0.180	0.34	0.10	78	70	0.26	4.0	
9	G23	0.170	0.39	0.10	78	70	0.26	4.0	
11	G23	0.155	0.49	0.10	78	70	0.26	4.0	
2 x 5	G23	0.170	0.52	0.10	78	70	0.26	4.0	
10	G24D	0.190	0.43	0.11	78	70	0.26	4.0	1,2 or 3
13	G24D	0.175	0.52	0.11	78	70	0.26	4.0	
13	525 X 16	0.165	0.51	0.10	78	70	0.26	4.0	
2 x 8	300 X 16	0.160	0.51	0.10	78	70	0.26	4.0	
2 x 6	600 3 26	0.160	0.51	0.10	78	70	0.26	4.0	
2 x 7	G23	0.160	0.51	0.10	78	70	0.26	4.0	1,4 or 5
2 x 9	G23	0.160	0.51	0.10	78	70	0.26	4.0	
16	720 X 26	0.200	0.52	0.115	78	70	0.26	4.0	
16	2D	0.200	0.52	0.115	78	70	0.26	4.0	

	Florescent lamp			Ballast				Capacitor	Application drawing no.
Wattage	 L 3 Ømm L 3 ØmmY 3 Ømm	Current A	Cos.ø	Line current A	Total length mm	Fixing centres mm	Weight kg	250V µF±10%	
18	2G11	0.365	0.33	0.160	152	140	5.7	4.0	1,3 or 5
24	2G11	0.340	0.42	0.170	152	140	0.57	4.0	
26	G24D	0.310	0.48	0.180	152	140	0.57	4.0	
28	2D	0.320	0.49	0.190	152	140	0.57	4.0	
18	600 3 26		0.370	0.37	0.160	152	140	0.57	4.0
20	600 3 38 310x38	0.370	0.37	0.160	152	140	0.57	4.0	
22	210 3 29	0.400	0.35	0.160	152	150	0.57	4.0	
30	900 3 38	0.390	0.45	0.210	152	140	0.57	4.0	1 or 2
30	463 3 26	0.360	0.45	0.210	152	140	0.57	4.0	
2 3 15	450 3 26	0.340	0.45	0.340	152	140	0.57	4.0	
36	2G11	0.425	0.47	0.250	152	140	0.57	4.0	1,2,3 or 4
2 3 18	2G11	0.365	0.55	0.250	152	140	0.57	4.0	
36	1200 3 26 525 3 26	0.430	0.52	0.270	152	140	0.57	4.0	
2 3 18	600 3 26	0.380	0.52	0.270	152	140	0.57	4.0	
40	1200 3 38 610 3 38 410 3 38		0.420	0.52	0.270	152	140	0.57	4.0
2 3 20	600 3 38	0.380	0.52	0.270	152	140	0.57	4.0	
40	1050 3 26 410 3 32	0.420	0.52	0.270	152	140	0.57	4.0	
58	1500 3 26	0.670	0.50	0.360	192	180	1.12	6.0	1 or 6
65	1500 3 38 765x38 410 3 32	0.670	0.50	0.360	192	180	1.12	6.0	
70	1800 3 26	0.700	0.55	0.380	192	180	1.12	6.0 or 5.0 (440V)	1,6,7,8 or 9
75	1800 3 38	0.720	0.55	0.440	192	180	1.12	6.0 or 5.0 (440V)	

Typical Application

Figure 1 Standard lagging high power factor circuit

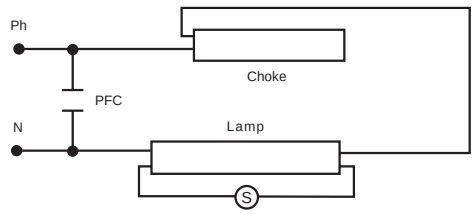


Figure 2 Lagging high power factor series pair circuit (omit PFC for lagging low power factor circuit)

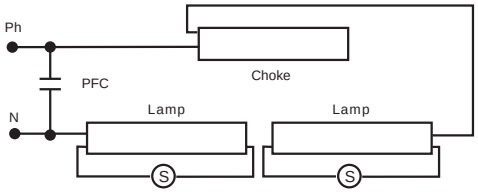


Figure 3 Single compact fluorescent

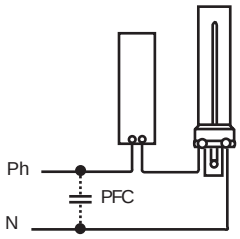


Figure 4 Twin application using compact fluorescent

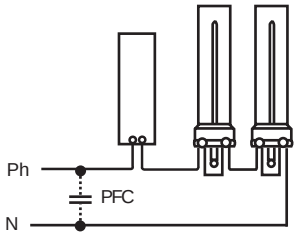


Figure 5 Lagging high power factor circuit for 2D 16W lamp

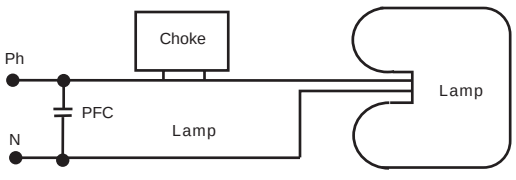


Figure 6 Lagging high power factor circuit using parallel half chokes

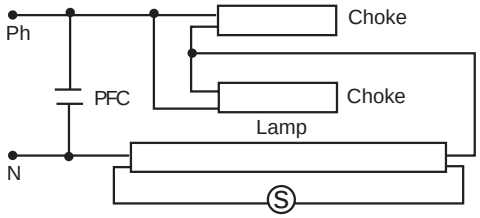


Figure 7 Standard leading power factor circuit (use 440V rated capacitors)

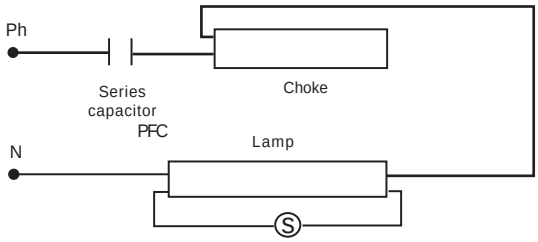


Figure 8 Standard lagging low power factor circuit

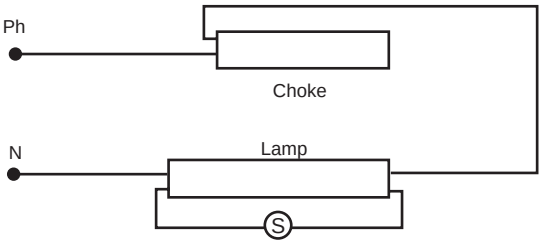


Figure 9 Lagging low power factor circuit using parallel half chokes

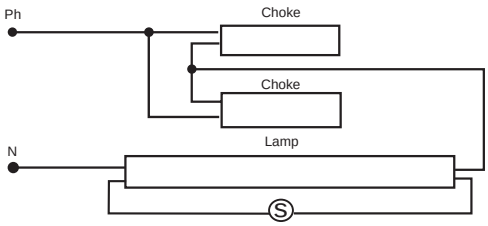
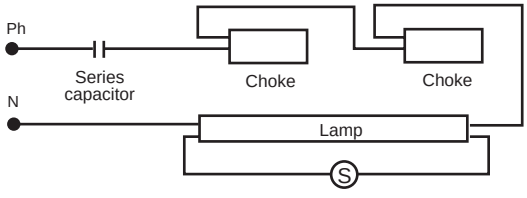


Figure 10 Leading power factor circuit using series connected half chokes



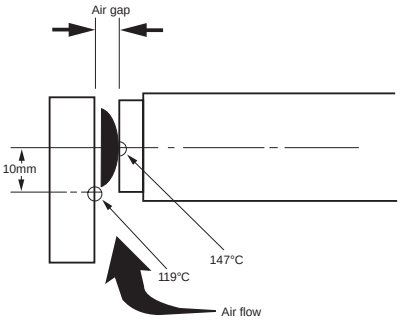
Air pass rotor system

Conventional lampholders are designed in such a way that the base of the fluorescent is in firm contact with the lampholder thus permitting a direct transfer of heat to the lampholder (Figure 12). Towards the end of the life of certain lamps, the heat transfer can be great enough to destroy the lampholder. The air pass rotor, which is manufactured from heat-resistant material, creates a 1mm air gap between the lampholder body and the lamp base. The gap produces a convection effect and thus dissipates the heat (Figure 13).

In the critical zone the temperature is reduced by more than 25°C.

Figure 12

Figure 13



Stripping and installation of cables to components

The various lighting components are provided with different wiring apertures allowing quick installation or disconnection.

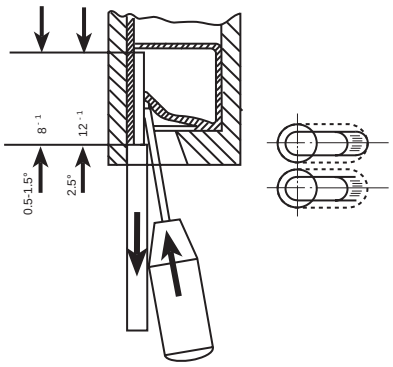
Stripping of cables

Refer to Figure 14. Cables with a diameter from 0.5mm² to 1.5mm² should have $8^{+1.00}$ mm of insulation removed. Cables of 2.5mm² require $12^{+1.00}$ mm of insulation to be removed.

Wiring in key opening or oval hole

Insert the pin or nail or similar implement behind the cable. This will open the terminal tab and the cable can be withdrawn, together with tool (Figure 14).

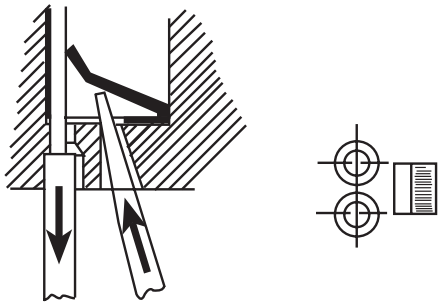
Figure 14



Wiring in round hole with disconnecting slot

The cable can be easily disconnected by simply inserting a screwdriver or similar implement into the disconnecting slot or hole and applying slight pressure to the contacts (Figure 15).

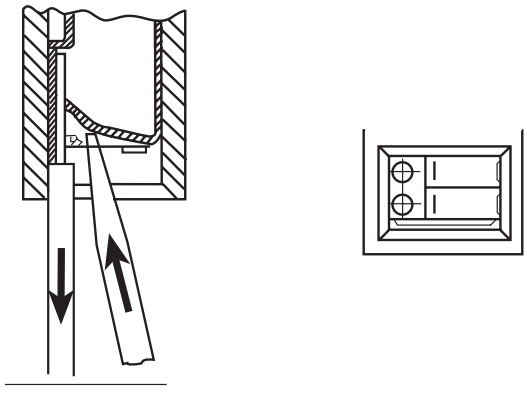
Figure 15



Non supported contacts

In the case of brass, bronze or copper contacts which are not supported by a steel spring care should be taken not to apply too much pressure when depressing the terminal leg as this could cause excessive elongation (Figure 16).

Figure 16



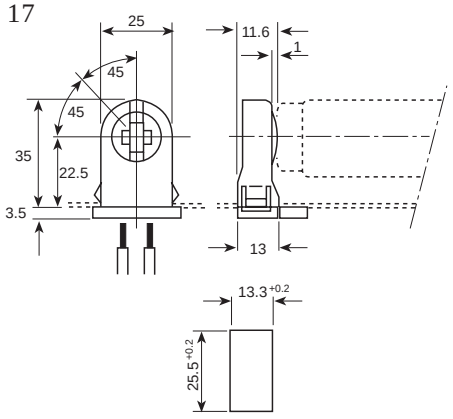
Lamp and starter holders chemical resistant properties

Chemical properties	
Weak acids	+
Strong acids	-
Weak alkalies	O
Strong alkalies	-
Alcohol	O*
Ketones	-
Esters	-
Ether	-
Hydrocarbon chloride	-
Benzol	+
Benzine	+
Fuel mixtures	O
Mineral oil	+
Animal and vegetable oils	+
Proved suitable for use in the tropics	+
UV-resistant	Treated with UV-resistant paint

Key:
+ = resistant
O = limited resistance
- = not resistant
* = except methyl alcohol

T8/T12 lampholders bottom wiring (**RS** stock no. 270-1569)

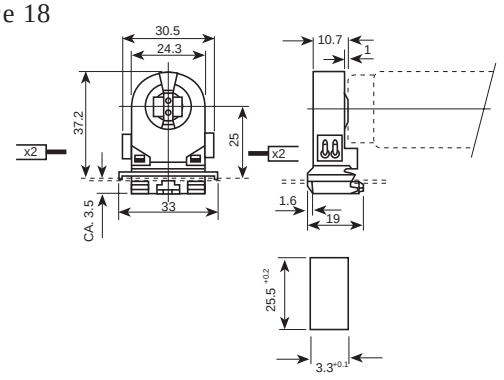
Figure 17



A snap fit fluorescent lamp holder suitable for use with T8 (1in dia.) or T12 (1½in dia.) tubes. The lampholder fits easily into the correct sized aperture with all wiring terminations via grab terminals under the holder. Maximum material thickness 0.6mm to 1.3mm.

Side wiring (**RS** stock no. 561-959)

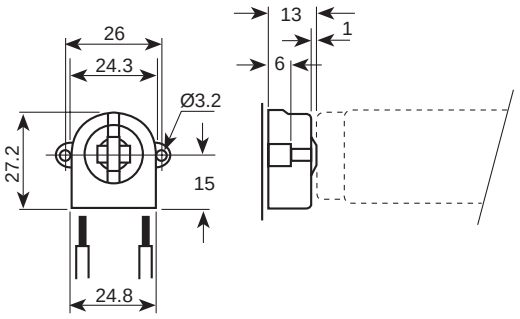
Figure 18



A snap fit fluorescent lamp holder suitable for use with T8(1in dia.) or T12(1½in dia.) tubes. The lampholder fits easily into the correct sized aperture and features a closed in mounting base giving dust protection to IP40. Wiring terminations are via wiring grab terminals. Maximum material thickness 0.6mm to 1mm.

Back mounted - screw fixing (**RS** stock no. 561-937)

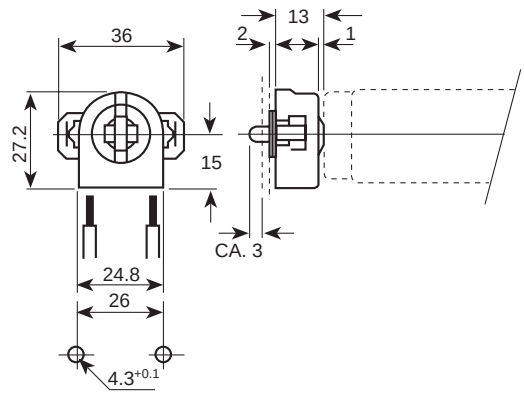
Figure 19



A back panel mounted screw fixing type of lampholder suitable for use with T8 (1in dia.) or T12 (1½in dia.) tubes, ideal for use where the tube is required to be located in an enclosure or where lampholder height may cause a problem. Wiring terminations are via grab terminals under the holder.

Back mounted - snap fit (**RS** stock no.561-943)

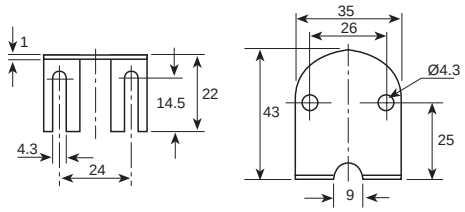
Figure 20



A back panel mounted snap fit type of lampholder suitable for use with T8 (1in dia.) or T12 (1½in dia.) tubes. The lampholder may be used in connection with the mounting bracket to provide up to 15mm tolerance to alignment or mounted direct to back plates giving 2mm tolerance via the integral leaf spring. Wiring termination is via grab terminals under the holder.

Mounting bracket (**RS** stock no. 561-915)

Figure 21



A plated mild steel bracket for use with back mounted lampholders allowing them to be fastened onto a flat s

T8 and T12 push on lampholders

Figure 22

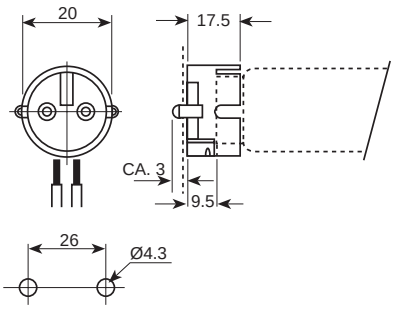
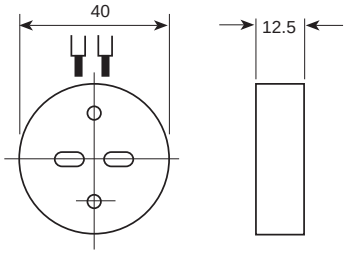


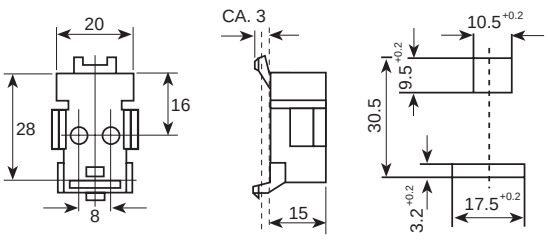
Figure 23



T8 and T12 push on fluorescent lampholders, designed to be used in applications where the tube requires support by spring clips or other methods. Wiring terminations are via grab terminals under the holder.

2D lampholder (**RS** stock no. 561-987)

Figure 24



A snap fit lampholder for use with GE 2D lamps. The lampholder features two alternative methods of fixing and wiring.

1. With the lampholder semi recessed, wiring to the unit from within the luminaire
2. With the lampholder surface mounted on a plate wiring to the unit via side mounted grab terminals.

Compact fluorescent 'PL' lampholders

Figure 25 **Single format**

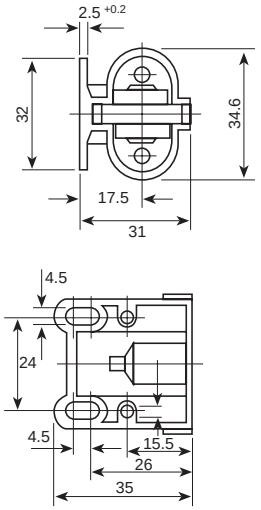
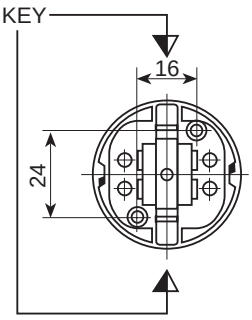


Figure 26 **Double format**



A range of compact fluorescent 'PL' lampholders for use with single and double format lamps.

The single format unit will accept lamps from 5 to 11 Watt and features 4.5mm O.D. clearance holes for panel mounting via M4 screws and 2.2mm O.D. holes for use with self tapping screws. Suitable for horizontal or vertical mounting.

The double format unit will accept lamps from 10 to 13 Watt and features 3mm O.D. clearance holes for panel mounting and 2.2mm O.D. holes for self tapping screws. Suitable for vertical or horizontal mounting via a bracket.

Both units feature rear mounted grab terminals.

Snap fit (**RS** stock no. 562-025)

Figure 27

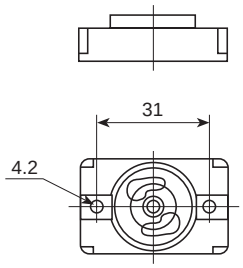
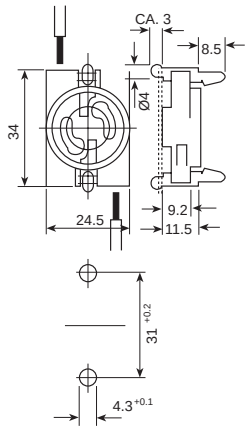


Figure 28



A range of snap fit and free standing screw fit starter holders.

The screw fit version has 4.2mm O.D. holes for fixing to luminaire back plates or chassis and heat resistant fibre material on the rear.

The snap fit unit may be base or front mounted via the two location lugs top and bottom.

Both starter holders have side mounted grab terminals.

Foot screw and cradle support (**RS** stock nos. 170-979 and 170-985)

Figure 28

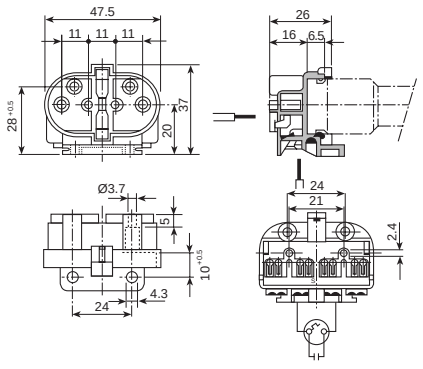
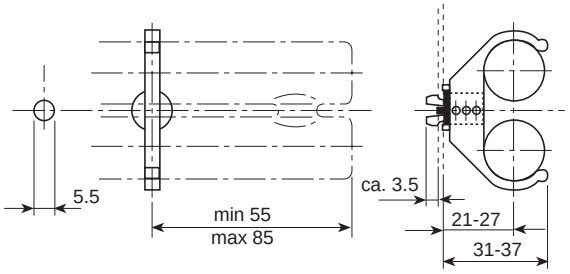


Figure 30

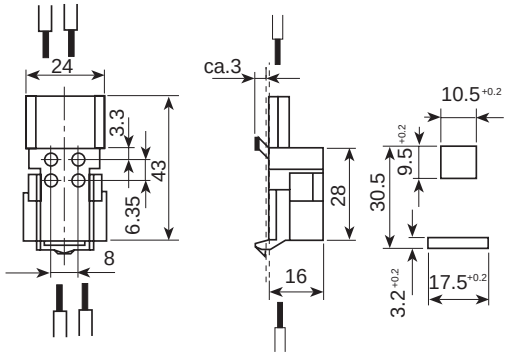


A lampholder suitable for PL-L style lamps with a 2G-11 base. Twin push-wire terminals enable this product to be mounted either vertically or horizontally. This product has VDE approval.

A two-piece adjustable height cradle support is also available. The snap-in pin has a diameter of 5.5mm and the unit is manufactured from UV resistant poly-carbonate.

Push-in fixing (**RS** stock no. 170-991)

Figure 31



This polycarbonate lampholder is designed for use with 16W 2D and other GR10q baselamps. The holders are specifically designed for wiring within the luminaire.

Lamps and starters

A range of standard T8 and T12 fluorescent lamps, compact fluorescent 'PL' lamps and electronic fluorescent lamp starters is available. Refer to the lamps and lighting section of the current **RS** Catalogue.

1502324869

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