

## Flori-67/4P Plug-in 110V Lighting System

Flori-67/4P is a brand new, 4 pin, 110V, plug-in, site wiring system enabling Standard and Emergency Fittings to be wired on the same circuit AND switched off at the end of each shift without damaging the batteries or tubes within the Emergency Fittings. By switching OFF all lights, sites can substantially reduce CO<sub>2</sub> emissions and electricity consumption.

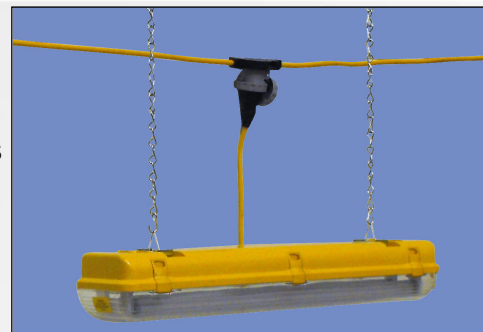
Flori-67/4P comprises 100 metre lengths of 1.5mm<sup>2</sup> or 2.5mm<sup>2</sup>, 4 core, Yellow, PVC Arctic Grade cable with a moulded-on Flori-67/4P outlet every 5 metres, 7 metres or 10 metres. Fluorescent fittings are stocked in two sizes: 5' single and 2' twin and both sizes are available in Standard and 3 hour maintained Emergency formats. Fittings are pre-wired with a 2 metre input lead complete with a 4 pin adaptor, which plugs into the outlets moulded to the Flori-67/4P supply cable. Fittings are supplied complete with tubes and hooks and are therefore ready to install.

Flori-67/4P can be part of a fully automatic lighting control system using site transformers with integral time clocks (S210078). Alternatively, it can be manually controlled and plug into standard 16A sockets on site transformers, using an in-line switch assembly (S060727). Both systems are described in detail over leaf.

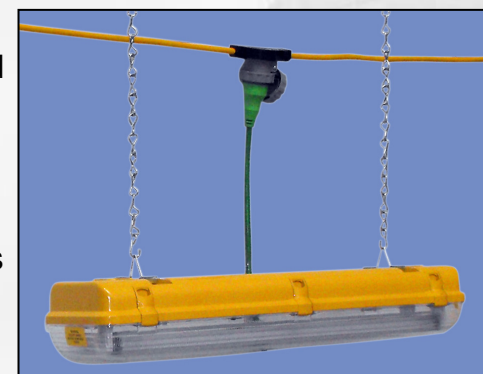
Emergency fittings are available in two formats. Those with a Green Adaptor and a Green input lead utilise a 4 core cable which enables the tube to be SWITCHED OFF at the end of a shift but for an unswitched supply to be provided for the emergency pack. Those with a Red Adaptor and a Yellow input lead utilise a 3 core cable with the tube and emergency pack permanently supplied i.e. the tube remains ON at the end of the shift.

All Standard fittings incorporate a Black Adaptor and Yellow input lead utilising a 3 core cable i.e. all tubes can be SWITCHED OFF at the end of a shift. See page 3 for the different connection configurations of 3 core cable to Black and Red 4 pin Adaptors.

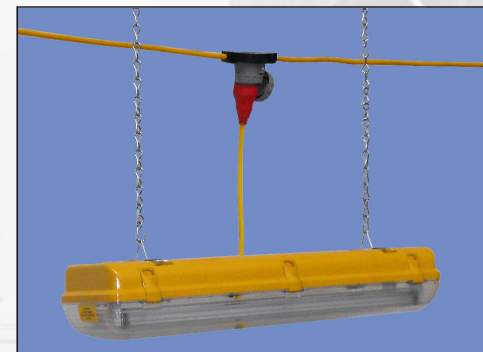
Flori-67/4P has been Type Tested in accordance with BS EN 60309-1 and has been assigned an ingress protection rating of IP67. The connectors are rated at 6 amps. A patent has been applied for: patent application number 0705986.8.



S060797 - 2' Twin Standard Fitting with Black Adaptor (switched tubes)



S060795 - 2' Twin Emergency Fitting with Green Adaptor (switched tubes)



S060796 - 2' Twin Emergency Fitting with Red Adaptor (unswitched tubes)



Site Transformers provide a 16A 110V 3P supply to an In-Line Switch Assembly, which provides a 4P "Switched" supply to Flori-67/4P, enabling fluorescent fittings to be switched OFF without damaging the batteries or tubes in Emergency Fittings

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Cert. No. 902091

HPDS31 - 12/11

## Luminaires

All luminaires are designed for 110V operation and provide an ingress protection of IP65. Luminaire bodies are of all insulated construction and covers are moulded from polycarbonate. Hooks are fitted as standard.

## Controlgear and Tubes

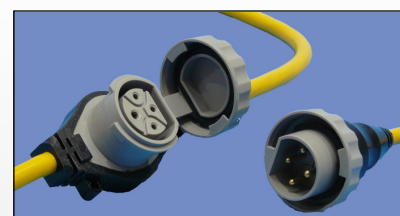
All fittings incorporate High Frequency, High Power Factor controlgear and triphosphor tubes. The combination of HF gear and triphosphor tubes results a light output of 90 lumens per watt which is approximately 15% more efficient than switch start fittings and halophosphate tubes. HF gear not only reduces energy consumption but it will also operate from a lower voltage, which can be a significant benefit on long cable runs, as found in tunnel installations, etc. (See Volts Drop calculator on our website).

## Emergency Modules

These are Maintained (the lamp operates normally when there is a 110V supply to the luminaire) and incorporate a battery pack that provides a 3 hour supply to the tube if the 110V supply fails. To prevent damage to the batteries and the tube, it is essential that a supply is maintained to the Emergency Module in normal operation (see adjacent diagrams).

## Energy Saving

The Blakley website has a calculator that shows the savings in CO<sub>2</sub> Emissions and Energy Costs if lights are turned off "out of hours". The Savings Calculator is located at: [www.blakley.co.uk](http://www.blakley.co.uk) click Products, click Blakley Calculator and select the Savings Calculator work sheet.



Flori-67/4P Outlet and Adaptor

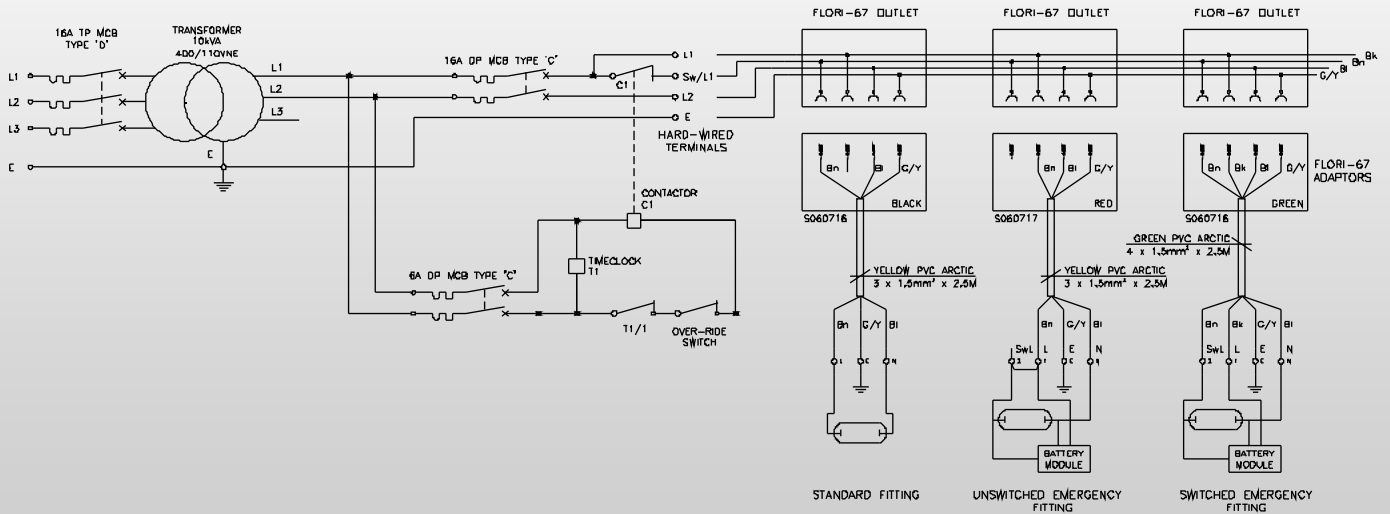


Site Lighting Transformer with time clock controlled, 4C, hard wired outgoing ways - S210078

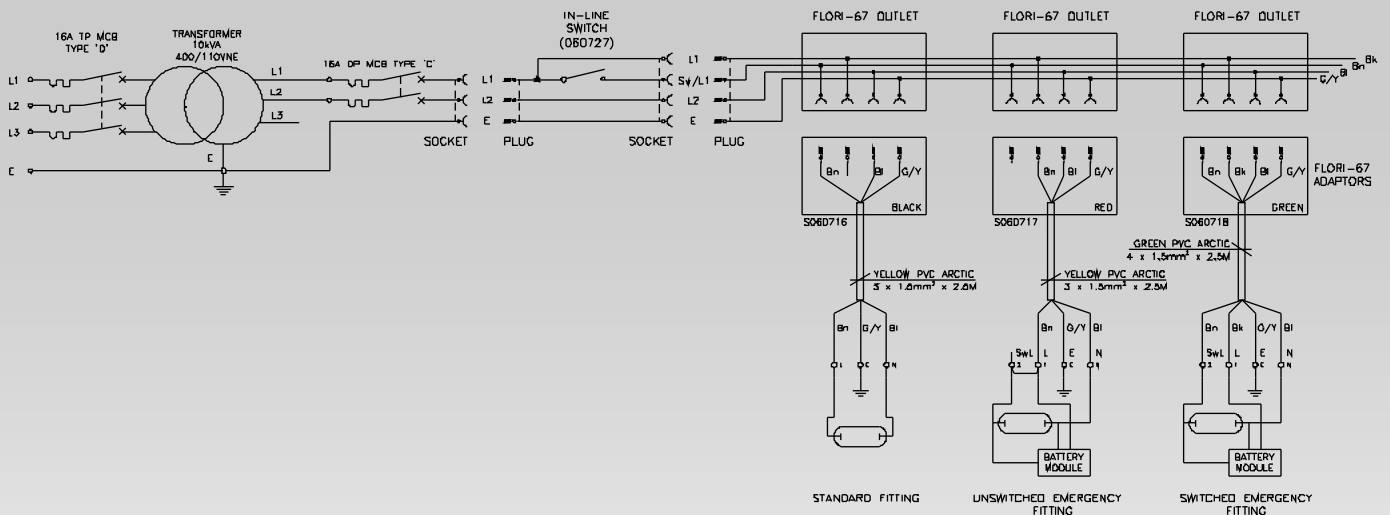
Part No.	Type Number	Description
S060716H	FLORI-67/4P/158/HF/HPF/3C	Standard 5' fitting with Black Adaptor
S060717H	FLORI-67/4P/158/HF/HPF/EMER/3C	Emergency 5' fitting with Red Adaptor (unswitched tube supply)
S060718H	FLORI-67/4P/158/HF/HPF/EMER/4C	Emergency 5' fitting with Green Adaptor (switched tube supply)
S060797	FLORI-67/4P/218/HF/HPF/3C	Standard 2' twin fitting with Black Adaptor
S060796	FLORI-67/4P/218/HF/HPF/EMER/3C	Emergency 2' twin fitting with Red Adaptor (unswitched tube supply)
S060795	FLORI-67/4P/218/HF/HPF/EMER/4C	Emergency 2' twin fitting with Green Adaptor (switched tube supply)
S060713	FLORI-67/4P/5/1.5/100M	100M 1.5mm <sup>2</sup> 4C cable with a Flori-67/4P outlet every 5M
S060714	FLORI-67/4P/7/1.5/100M	100M 1.5mm <sup>2</sup> 4C cable with a Flori-67/4P outlet every 7M
S060715	FLORI-67/4P/10/1.5/100M	100M 1.5mm <sup>2</sup> 4C cable with a Flori-67/4P outlet every 10M
S060707	FLORI-67/4P/5/2.5/100M	100M 2.5mm <sup>2</sup> 4C cable with a Flori-67/4P outlet every 5M
S060708	FLORI-67/4P/7/2.5/100M	100M 2.5mm <sup>2</sup> 4C cable with a Flori-67/4P outlet every 7M
S060709	FLORI-67/4P/10/2.5/100M	100M 2.5mm <sup>2</sup> 4C cable with a Flori-67/4P outlet every 10M
S060728	FLORI-67/4P/5/1.5/100M/16A	As S060713 but fitted with a 16A, 110V, 3P+E plug
S060729	FLORI-67/4P/7/1.5/100M/16A	As S060714 but fitted with a 16A, 110V, 3P+E plug
S060730	FLORI-67/4P/10/1.5/100M/16A	As S060715 but fitted with a 16A, 110V, 3P+E plug
S060731	FLORI-67/4P/5/2.5/100M/16A	As S060707 but fitted with a 16A, 110V, 3P+E plug
S060732	FLORI-67/4P/7/2.5/100M/16A	As S060708 but fitted with a 16A, 110V, 3P+E plug
S060733	FLORI-67/4P/10/2.5/100M/16A	As S060709 but fitted with a 16A, 110V, 3P+E plug
S060727	FLORI-67/4P/ILSA	In-Line Switch Assembly c/w a 16A 3P plug and a 16A 4P coupler
S060710	FLORI-67/4P/3C/BLACK	Black Adaptor c/w 2.5M 1.5mm <sup>2</sup> 3C Yellow cable
S060711	FLORI-67/4P/3C/RED	Red Adaptor c/w 2.5M 1.5mm <sup>2</sup> 3C Yellow cable
S060712	FLORI-67/4P/4C/GREEN	Green Adaptor c/w 2.5M 1.5mm <sup>2</sup> 4C Green cable
S060155	Jack Chain	Supplied in 10 metre lengths

# Automatic and Manual Lighting Control Systems Using Stock Transformers and Flori-67/4P

## 1) LIGHTING TRANSFORMER WITH INTERNAL TIMECLOCK CONTROL (S210078) (HARD-WIRED ARRANGEMENT)



## 2) STANDARD TRANSFORMER WITH SOCKETS (S210230) PLUS IN-LINE SWITCH ASSEMBLY (S060727) (PLUG-IN ARRANGEMENT)



### NOTES:-

- 1) ONLY ONE OUTGOING CIRCUIT PER TRANSFORMER SHOWN FOR CLARITY.
- 2) STANDARD NON-EMERGENCY FITTINGS (S060716) ARE TURNED ON AND OFF BY EITHER THE TIME-CLOCK OR THE IN-LINE SWITCH.
- 3) NON-SWITCHED (3 WIRE) EMERGENCY FITTINGS (S060717) ARE NOT SWITCHED BY THE TIMECLOCK OR THE IN-LINE SWITCH, THUS REMAINING CONTINUOUSLY ON AND UNDER CHARGE.
- 4) SWITCHED (4 WIRE) EMERGENCY FITTINGS (S060718) ARE TURNED ON AND OFF EITHER BY THE TIMECLOCK OR BY THE IN-LINE SWITCH, HOWEVER THE CHARGING SUPPLY REMAINS CONNECTED TO THE FITTING AT ALL TIMES.
- 5) NOTE THAT IN-LINE SWITCH ASSEMBLY INCORPORATES A 16A 110V 2P+E PLUG AND A 16A 110V 3P+E COUPLER.
- 6) FLORI-67 STRINGS ARE AVAILABLE EITHER UNWIRED OR WITH A 16A 110V 3P+E PLUG.
- 7) NOTE THAT THE CONTACTORS ARE NORMALLY CLOSED, SHOULD THE PROTECTION MCB TRIP AND THE CONTROL CIRCUIT LOSE POWER, THE CONTACTOR WILL DE-ENERGISE AND TURN ON THE LIGHTING.

Use the Blakley Calculator @ [www.blakley.co.uk](http://www.blakley.co.uk) to calculate the CO<sub>2</sub> and £££s that can be saved simply by switching off lights.

# Flori-67/3P Plug-in 110V Lighting System

Flori-67/3P is a 3 core, 110 volt, plug-in lighting system developed by Blakley Electrics specifically for temporary installations. The system comprises of 100M strings of 1.5mm<sup>2</sup>, 2.5mm<sup>2</sup> or 4mm<sup>2</sup>, 3 core, PVC Arctic Grade cable with a unique, 3 pin, 6A, IP67 outlet moulded at 5M, 7M or 10M intervals. Once luminaires are fixed in position, electrical connection is simply achieved by plugging-in to the nearest Flori-67/3P outlet.

Flori-67/3P with a cable cross section of 1.5mm<sup>2</sup> and 2.5mm<sup>2</sup> is intended to be supplied from a source protected by an MCB rated at up to 16A.

Flori-67/3P with a cable cross section of 4mm<sup>2</sup> can be supplied from a source protected by an MCB rated up to 32A.

Please see data sheet HPDS34 for full details of circuit protection requirements for Flori-67/3P.

## Luminaires

Two types of 110V luminaire are available as standard:

(i) High Frequency High Power Factor Fluorescent fittings, IP65, supplied complete with triphosphor tubes and suspension hooks, available as 5' singles or 2' twins, with or without 3 hour maintained emergency battery packs;

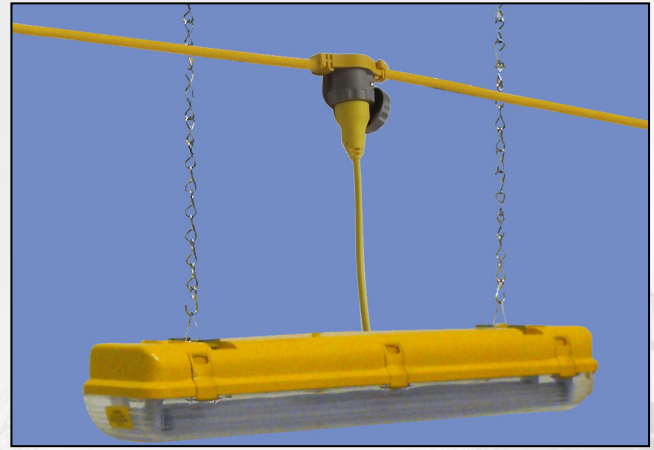
(ii) Metal Halide floodlights available in ratings of 150W and 400W, supplied complete with branded lamp and wall mounting bracket. A range of attachments is available to scaffold mount floodlights.

Fluorescent luminaires are supplied pre-wired with a 2M, 1.5mm<sup>2</sup>, 3 core, input lead and Metal Halide floodlights are supplied pre-wired with a 10M, 1.5mm<sup>2</sup>, 3 core input lead. The input leads incorporate a moulded-on, 6A, IP67, 3 pin, Flori-67/3P adaptor, which can be plugged-in to the nearest outlet of a 100M Flori-67/3P string.

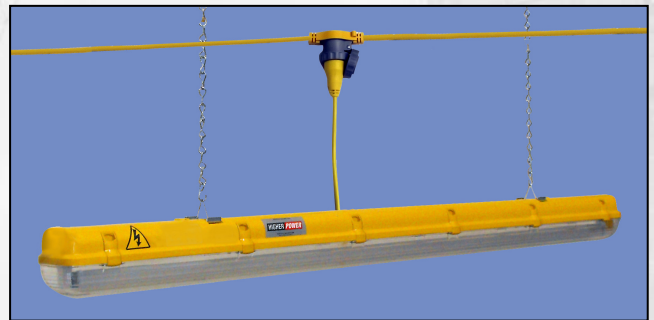
As Flori-67/3P utilises 3C cable only, circuits with emergency fittings should be permanently energised to avoid damaging tubes and battery packs through repetitive discharging. Where there is a requirement to switch off emergency fittings routinely, please refer to our Flori-67/4P system, which incorporates 4 core cable with 4 pin connectors, enabling an unswitched supply to be provided for the emergency module.

For tunnelling and other enclosed environments, Flori-67/3P strings and adaptor leads can be made from Low Smoke and Fume (LSF) cable.

Please see data sheet HPDS34 for full details of Flori-67/3P, including part numbers for strings and luminaires and recommended methods of circuit protection.



2' Twin Luminaire supplied via Flori-67/3P



5' Single Luminaire supplied via Flori-67/3P



150W and 400W MH Floodlights with Flori-67/3P Adaptor



Flori-67/3P Outlet and Flori-67/3P Adaptor

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  - **NORTH** Unit 55, Monckton Road Ind Estate, Wakefield WF2 7AL Tel: 0845 074 0086 Fax: 0845 074 0087
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