Additional Guidelines for Switching and Dimming Fluorescent 1-10v Luminaires.

When first switched on, a typical Philips HFR 1-10v ballast will draw an initial inrush of 14 Amps in 250 µ Secs. Therefore if two HFR ballasts are used in a circuit then the total inrush will be approximately 28A. For this very reason the installer must be aware of what he/she is installing so that suitable equipment can be installed that will handle the nature of the switching currents. It is not simply a case of retrofitting electrical equipment without understanding the basic electrical characteristics. Try to bear in mind, particularly with lighting equipment, some key issues such as: Compatibility, Earthing, Switching / Inrush Current and Nominal Current.

The Push/Push and Rotary potentiometers with integral switch used abundantly throughout the Lighting Control and Dimming market are rated at 6A and 4A (resistive) respectively. The manufacturers of these switches do not coat them with any material that gives them a high inrush capability and therefore precautions have to be taken when connecting them to circuits that have an inherent capacitive or inductive nature.

The precautions below are designed to handle the high inrush currents as best as possible.

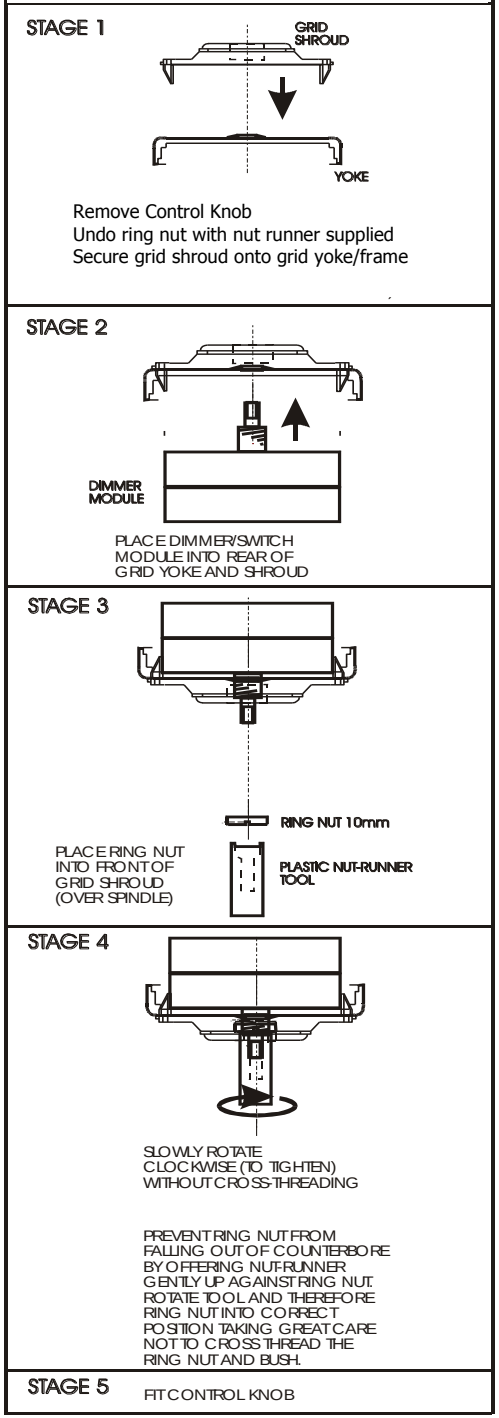
Every installation can vary but here are a few guidelines:

1. Insert a rocker switch that is suitable for switching fluorescent lighting loads and is rated and capable of handling the inrush currents.
2. Use the integral Push/Push switch to energise the solenoid/coil of a suitably rated (V AC rms eg AC3) contactor.
3. Install a suitably rated thermistor in series with the integral switch to provide a soft start, reducing the initial high inrush current.

According to IEE Wiring Regulations 1-10V cable must not be run in the same conduit or trunking as mains cable unless it is screened. Therefore when screened cable is used it must be continuous and connected to a confirmed earth at one end only.

NOTE:
As a guideline we would strongly suggest that the fluorescent circuits are left on at maximum level for 100 hours before the lamps are dimmed. This does not have to be done in one go; 8 or 10 hours a day is acceptable. If the voltage on any fluorescent lamp is reduced before 100 hours then the lamps may flicker and rapid deterioration and/or possible burn out will occur, invalidating any manufacturer's warranty!

Assembly Sequence For Fitting Deta Grid Shroud



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1-10v Control Module
Cat. N^{o}. G3604

DETA OUT 1-10v controls are designed to control single or groups of high frequency 1-10v electronic ballasts. A maximum number of 60 ballasts can be controlled from one unit without an amplifier.

The 1-10v control can be used with the following ballasts:

Philips
Osram
Universal UTD range
Magnetek DBT range
Tridonic PC-A (if fitted with DSI-AD)
Huco
Atlas
Helvar
Vossloh Schwabe

It is recommended that the OUT controls are used with any of the 1-10v ballasts mentioned above, however if it is not clear which type of control is required please contact the technical helpline.

WARNING:
FIRST SWITCH OFF THE SUPPLY AT THE MAINS BEFORE COMMENCING INSTALLATION

INSTALLATION INSTRUCTIONS

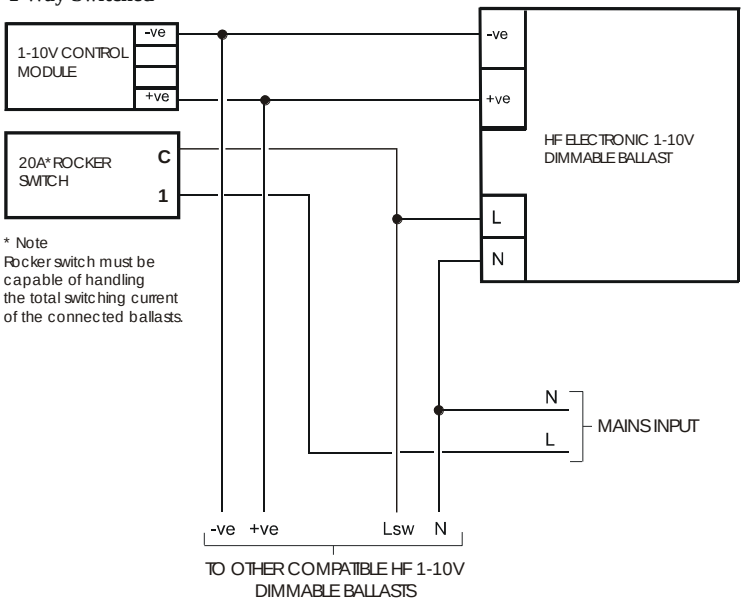
1. Switch off at mains and remove existing switch.
2. Connect the wires to the rotary control + and - terminals in accordance with the relevant diagram shown overleaf.
3. The control is wired across the + and - terminals on the electronic ballast. (Ensure correct polarity is maintained throughout). **The + and - terminals must not be wired onto the 240 volt mains supply as they are only capable of handling 1-10 volts D.C.**
4. The luminaires must be turned on and off by using a separate suitably rated rocker switch or contactor wired into the live feed to the ballasts. The 1-10v control must not be used to switch the ballasts directly. For two-way operation separate rocker switches are required.
5. For Grid-mounted controls refer to assembly Instructions overleaf.
6. Insert the dimmer into the wall box, fit the fixing screws and tighten gently. **DO NOT OVER TIGHTEN**, as this may distort or damage the front plate.
7. Switch on the mains supply and the dimmer is now ready for use.

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

A QUALITY PRODUCT, DESIGNED AND MANUFACTURED IN THE UNITED KINGDOM

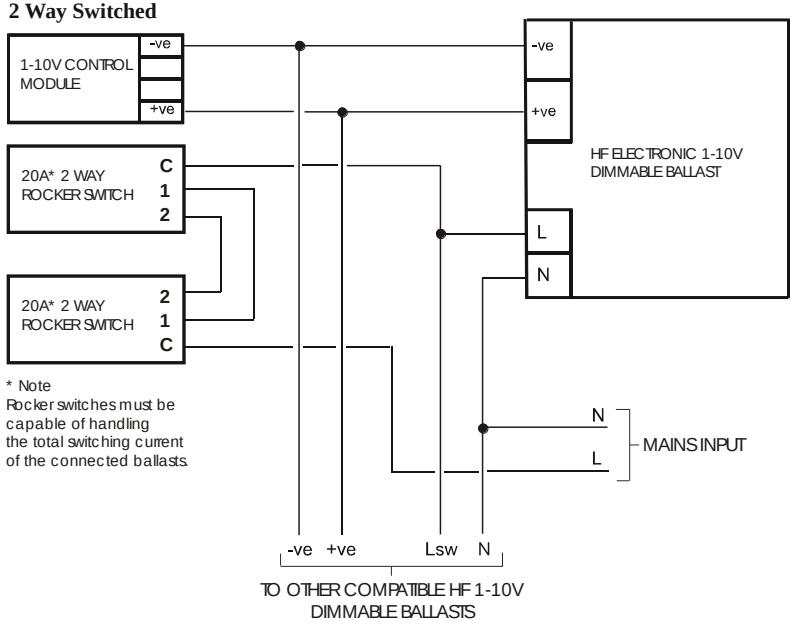
Wiring Diagram for High Frequency 1-10V Dimmable Ballasts

1 Way Switched

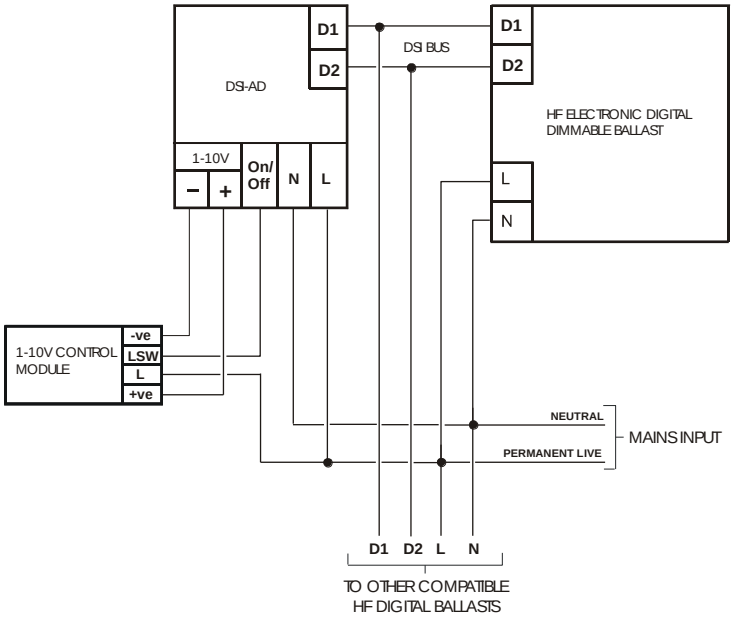


Wiring Diagram for High Frequency 1-10V Dimmable Ballasts

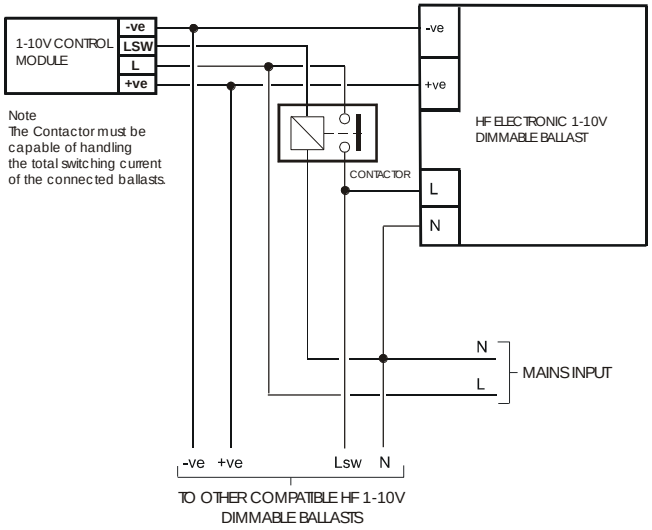
2 Way Switched



Wiring Diagram for Trodonic PCA Ballast with DSI-AD Interface



Wiring Diagram for High Frequency 1-10V Dimmable Ballasts Using Integral Switch and a Contactor



CABLES

It is advised that 1.0 mm² screened pair cable is used on the extra low voltage wiring.
The cable screen should be connected to Earth at the ballast. All wiring must be mains rated, and the installation must comply with IEE Wiring Regulations.