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TR2 / TR4 24vdc Door Retainer Power Supplies

OVERVIEW

The TR range of power supplies are designed specifically for use with electromagnet door open retainers such as used on fire doors. A 24vdc output is provided for direct connection to the door retainer electromagnet.

A versatile remote control input permits flexible connection to various remote control sources to switch **off** the output in the event of a fire alarm or other command, with the following options:

- A. Removal of an External 24V dc supply – BS7273 Compliant
 - B. Normally Open going Closed volt-free contact
 - C. Normally Closed going Open volt free contact
- } e.g. Fire Panel, Push Switch or Door Control Relay

Fully failsafe operation to the requirements of BS7273 Category A is provided with option 'A' i.e. failsafe (output off) under the following conditions: Open or short circuit faults in wiring between fire control system and release mechanism, faults in power supply.

LED status indicators provide quick diagnostics showing the presence of a mains input, and an output fuse failure.

Note this power supply should NOT be used for charging standby batteries.

SPECIFICATION

Input	TR2	TR4
Voltage	230Vac, 50Hz nominal	
Current	290mA maximum	500mA maximum
Mains input fuse	T2.0A 20mm, 250Vac HBC	T2.0A 20mm, 250Vac HBC
Output		
Voltage	22- 30vdc dependent on load	
Load Current	2A maximum	4A maximum
Load output fuse	F2A 20mm, 250Vac glass	F4A 20mm, 250Vac glass
Mechanical		
Case material	1.2mm steel, white powder coated	
Size	230 x 200 x 80mm	
Weight	3.0Kg	3.5Kg

Environmental

Temperature - operating -10 to +40 °C 95% RH non-condensing
Temperature - storage -20 to +80 °C

CONNECTIONS

- | | |
|-----------------|---|
| + OUTPUT - | Switched 24Vdc output to door retainers/magnets |
| + CONTROL I/P - | Configurable Control Input – See options A, B & C |

INDICATORS

- | | |
|------------|-------------------|
| Green LED | Mains Present |
| Yellow LED | Output fuse blown |

INSTALLATION

This unit is only suitable for installation as permanently connected equipment and must be used with **DC appliances only**. The PSU is NOT SUITABLE for external installation. The PSU should be installed according to all relevant safety regulations applicable to the application.

This unit must be fed from a mains power source having a separate (approved) disconnect device and fitted with a fuse or other over-current protection device rated at 3A maximum. Ensure that the disconnect device used has appropriate earth fault protection to the applicable standard.

- 1) Fix to wall or other support structure in correct orientation i.e. with hinge on left hand side, using screws of sufficient size and length through the mounting holes.
- 2) Knock-outs are provided in the case for mating with external trunking or conduit.
- 3) Mains input cable must be to the applicable standard with a 3A or greater current capacity, i.e. 0.5mm² nominal conductor area, having a minimum operating voltage of 300/500 Vac.
- 4) The low voltage output cable must be sized to carry the rated load current to the devices connected to the PSU.
- 5) Mains input and low voltage output cables should be routed to use different entry / exit case holes. Bushes should be used to protect cable sheaths from chamfer. Ensure that these bushings are correctly sized (i.e. close fitting with respect to cable sizing). Note that the bushes should meet a minimum flammability specification of UL94 HB.
- 6) The Mains input cable should be securely fastened in position using a cable tie through the saddle provided.

COMMISSIONING

- 1) With no other connections made to the PSU, connect the mains input wires to the terminal block, **ensuring that the mains isolator (disconnect device) is open**. Fasten wiring in place with cable tie to saddle. **Note: Equipment must be earthed.**
- 2) Apply mains input. Ensure that the green Mains LED illuminates and that 24Vdc nominal is present at the OUTPUT connections.
- 3) Remove mains power. Make connections to door retainer and control inputs according to the option selected below.
- 4) Re-apply mains power. Activate control input and verify that power is *removed* from door release electro-magnet.
- 5) Close cover and secure using fastening screws provided

OPERATING INSTRUCTIONS

This unit is intended for use by Service Personnel only. There are NO USER SERVICEABLE parts inside.

The green Mains LED will be illuminated whilst the mains supply is present. In the event of a failure, the yellow LED will illuminate.

MAINTENANCE

There is no regular maintenance required of the PSU.

If the output of the PSU fails the cause of the failure should be investigated e.g. short circuit load. The fault should be rectified before restoring power to the PSU. The following fuses may need to be replaced. Ensure the correct fuse rating and type is used.

Load Output Fuse:	20mm, 250Vac glass	TR2 F2.0A	TR4 F4.0A
Internal Mains Fuse:	20mm, 250Vac HBC	T2.0A	T2.0A

CONNECTION

Option A: Removal of 24V dc Supply to Switch Off output

Connect an external switched 24Vdc supply to CONTROL I/P terminals.

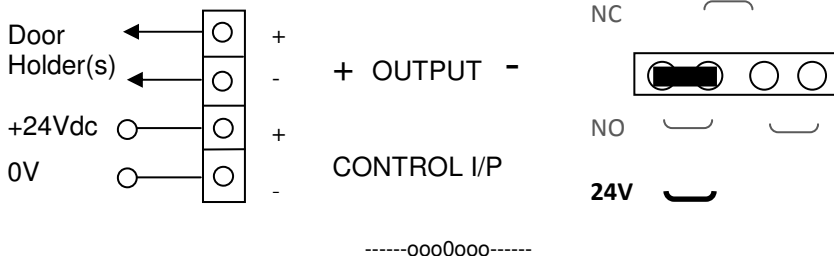
OBSERVE CORRECT POLARITY.

Removal of the 24Vdc to these terminals will switch off the PSU output.

Note: the 0v connection of the external 24Vdc supply is internally connected to the 0v output of the TR power supply. Correct polarity and common 0v references MUST be used between the TR power supply, the door magnet and the external control source.

Note: In this mode CONTROL I/P is polarity conscious

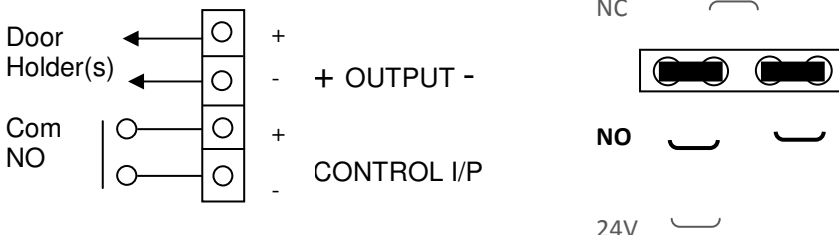
J1 - Jumper Settings for Removal of external 24Vdc Trigger Operation



Option B: Normally Open Contact going Closed to switch Off output (Default)

Note: In this mode CONTROL I/P is not polarity conscious

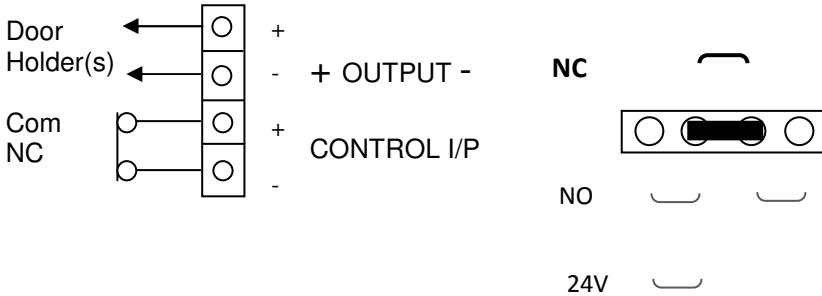
J1 - Jumper Settings for Normally Open Trigger operation



Option C: Normally Closed Contact going Open to switch Off output

Note: In this mode CONTROL I/P is not polarity conscious

J1 - Jumper Settings for Normally Closed Trigger operation



The packaging supplied with this product may be recycled. Please dispose of packaging accordingly.

Explanation of symbols: (Not all may apply)



Fault Indication



Shock Risk - isolate before attempting access



Mains Present



Certification Level



Protective Earth



Do not dispose of in unsorted waste

Specifications subject to change without notice