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## HLS-PSU-TRx Range 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. Two versatile remote control inputs permit flexible connection to various remote control sources to switch **off** the output in the event of a fire alarm or other command:

- (a) closure of a normally open volt-free contact, for example a push switch or door controller output relay
- (b) application of an external 24vdc supply, for example from a sounder drive circuit

The output of the TR power supply is automatically removed when the mains supply is lost thus providing fail safe operation.

When acting as a slave to a door controller, the control contact input should be connected to the *normally closed* output of the controller that is actively held open when the controller is operating normally. This ensures that should the door controller fail, its normally closed output will de-energise the power supply output.

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	TR20	TR40
Voltage	230Vac, 50Hz nominal	
Current	290mA maximum	500mA maximum
Mains input fuse	T0.5A 20mm, 250Vac HBC	T1.0A 20mm, 250Vac HBC
<b>Output</b>		
Voltage	22- 30vdc dependent on load	
Load Current	2A maximum	4A maximum
Load output fuse	F2A 20mm, 250Vac glass	F4A 20mm, 250Vac glass
<b>Mechanical</b>		
Case material	1.2mm steel, white powder coated	
Size	230 x 200 x 80mm	
Weight	3.0Kg	3.5Kg

## Environmental

Temperature - operating  
Temperature - storage

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

## Connections

DOOR + and -  
Control Contact

Switched \_24v to door retainer magnet

Open circuit = PSU output ON

Short circuit = PSU output OFF

Short circuit = PSU output OFF

Ext Supply + and -

Apply +24vdc to switch OFF PSU output

## Indicators

Green LED  
Amber LED

Mains Present

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) PSU should be mounted no further than 10cm from the control and indicating equipment, close coupled by conduit.
- 3) Knock-outs are provided in the case for mating with external trunking or conduit.
- 4) Mains input cable must be to the applicable standard with a 3A or greater current capacity, i.e. 0.5mm<sup>2</sup> nominal conductor area, having a minimum operating voltage of 300/500 Vac.
- 5) The low voltage output cable must be sized to carry the rated load current to the devices connected to the PSU.
- 6) 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.
- 7) 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 DOOR 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 amber LED will illuminate.

## Maintenance

There is no regular maintenance required of the PSU.

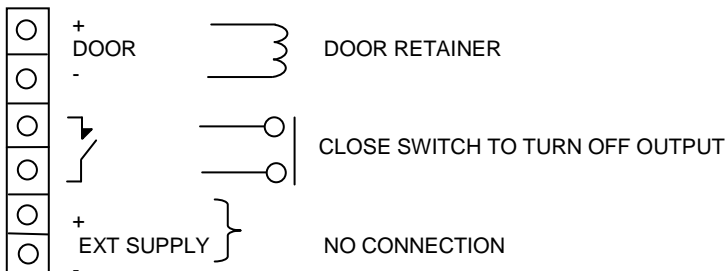
If the output of the PSU fails the cause of the failure should be investigated e.g. short circuit load. The fault should be rectified before restoring power to the PSU. The following fuses may need to be replaced. Ensure the correct fuse rating and type is used.

Load Output Fuse:	20mm, 250Vac glass	<b>TR20</b> F2.0A	<b>TR40</b> F4.0A
Internal Mains Fuse:	20mm, 250Vac HBC	T0.5A	T1.0A

## Connection

### Option A: Push Switch to Release Door Retainer

Connect an external contact to the control contact inputs.  
Switch closure will disconnect the PSU output.



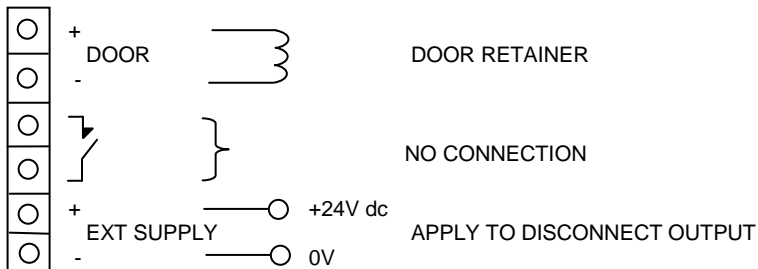
## Option B: Sounder Circuit Releases Door Retainer

Connect an external switched 24Vdc supply to the EXT SUPPLY terminals.

OBSERVE CORRECT POLARITY.

Application of 24V dc to these terminals will disconnect the PSU output.

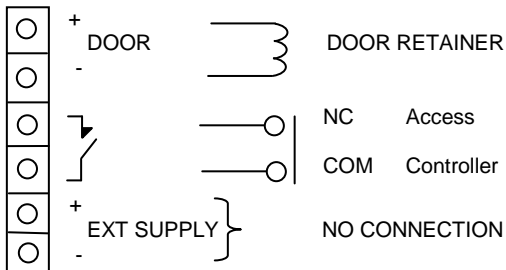
Note: the 0v connection of the external 24vdc supply is internally connected to the 0v output of the TR power supply. Correct polarity and common 0v references MUST be used between the TR power supply, the door magnet and the external control source.



## Option C: Slave for Door Controller

Connect the normally closed switch output of a door controller to the control contacts.

The PSU acts as a slave to the door controller.



*The packaging supplied with this product may be recycled.*

*Please dispose of packaging accordingly.*