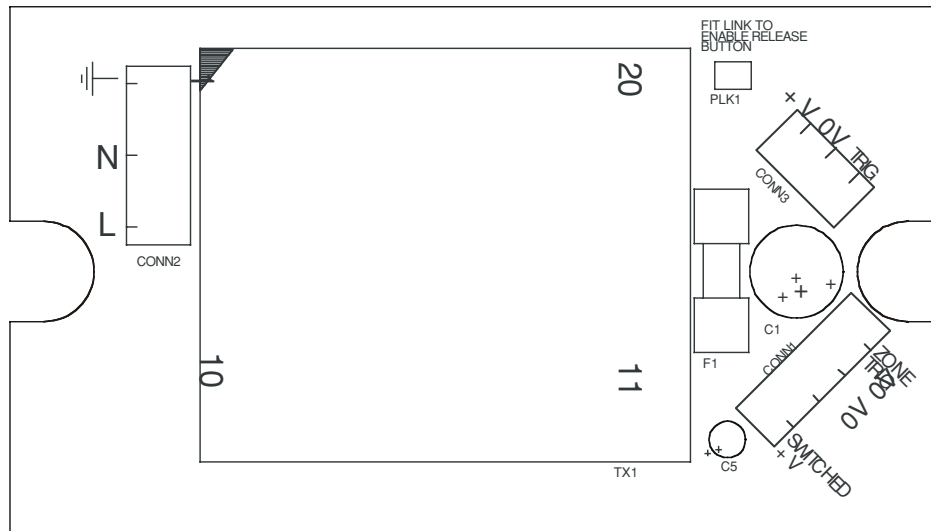


BF375PE Door Retaining Controller

This power supply unit is capable of supplying door retaining magnets at a nominal 24Volts with a maximum output load of 250mA. When used with smoke/heat detectors an automatic door release system can be built.

Figure 1. Diagram of Door Controller PSU



DESCRIPTION OF UNIT

FRONT INDICATORS

Green Supply O.K. Indicator. Lit when the unit is supplied from the mains.

Red Output Indicator. Lit when the door retainers are released.

CONNECTIONS.

Conn 2. - Mains supply terminal — Earth not required, supplied as a safe termination point only.

+V. Un-switched 24V output. This output is not suitable for charging batteries.

Switched +V. - Normally at 24V, could be used for direct connection to door retainers. This output voltage falls to a point where the door retainers release when the appropriate trigger level is applied. This output is not suitable for charging batteries.

0V. - Both these terminals are common 0V.

Zone Trig. - This input can be used for the connection of smoke detectors and manual release buttons to control the door retainers.

The zone trig wiring is fault monitored, if a short circuit or open circuit occurs, the unit will failsafe by releasing the doors. This wiring must be terminated by an End OF Line 6k8 resistor (supplied).

Trig. - This input can be used by remote equipment to release or reset the door release controllers. The input will allow an input voltage range between 0V to 28V. The reset/release occurs between 12V to 28V. Activation of this input will also reset any smoke detectors.

Front Release Button. - When this button is pressed, the door retainers will release. This button will also reset any triggered detectors. This button can be disabled by removing the jumper link (PLK1) on the back of the unit — see figure 1.

PROTECTION

A short circuit on the +V or the Switched +V outputs in will cause fuse F1 to rupture. When replacing this fuse, use a 400mA T fuse, 20 x 5mm to IEC (EN60127 part 2).

If a serious electrical fault occurs, a thermal fuse mounted in the transformer will rupture. This is non-replaceable by service personnel. The unit will have to be returned to the manufacturer for repair.

INSTALLATION

Location

The control equipment must be sited internally and not placed in a damp or very dusty atmosphere. If the reset button on the control equipment is to be used as the system reset switch, then place the control equipment within reach, otherwise the control equipment can be placed out of reach. The location area should be such, so that ambient light levels allow the status of the indicator lights to be seen.

First Fix: Back Boxes

The power supply must be fitted to a back box that is securely fixed to a wall. The back box, in conjunction with the front plate, comprises a fire compartment and therefore must be made of flame retardant material.

Any apertures must be sealed off so as not to compromise the integrity of the fire compartment. i.e. any knockouts removed must be sealed with a flame retardant gland.

Any dust created during the fixing process must be kept out of electrical and electronic systems, **and care must be taken not to damage any wiring or components.**

First Fix: Mains Wiring

This power supply is a piece of class 1 equipment and, as such, any metal parts used during installation (i.e. metal back box **MUST** be earthed). All mains wiring should be provided in accordance with the current edition of the IEE Wiring Regs, 16th Ed. (BS 7671 1993) or in accordance with the relevant national wiring rules.

The control equipment is designed to be connected to fixed wiring. This fixed wiring must have a safety isolating device fitted. This must be double pole and must have an air gap greater than 3mm when isolated. Alternatively, a double pole switched fuse spur, fused at 3A may be fitted. The supply conductors must be suitably fused at the distribution board and must be of suitable rating. All mains wiring and extra low voltage wiring must be kept separate from each other (segregated).

If a metal back box is used, this must be earthed. The earth conductor can therefore be terminated directly to the back box.

If a plastic back box is used and an earth conductor is supplied (it is always good practice to supply an earth conductor, in case of future modification) then the earth wire may be safely terminated to the \perp on Conn2 on the control equipment.

First Fix: Low Voltage Wiring

All low voltage wiring coming into the power supply must be carefully planned before starting the job. An example wiring configuration is shown below. Always segregate low voltage wiring from the mains wiring

CONNECTION DETAILS

Figure 2. Wiring Scheme To Connect To Detectors And Door Retainers

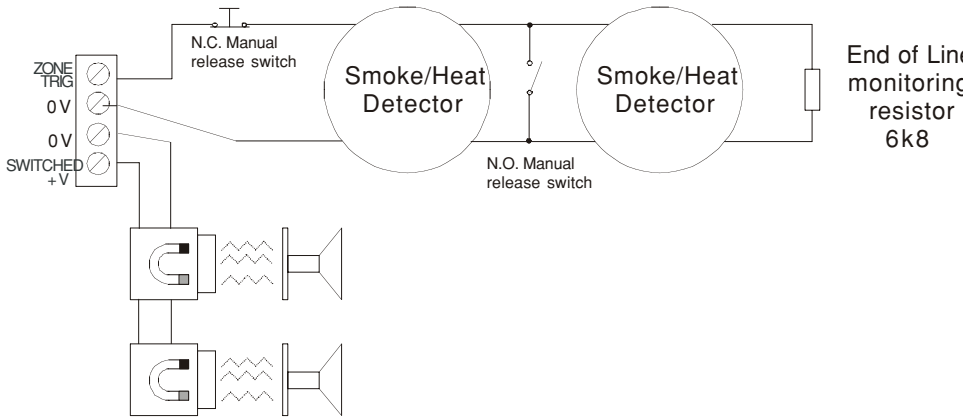
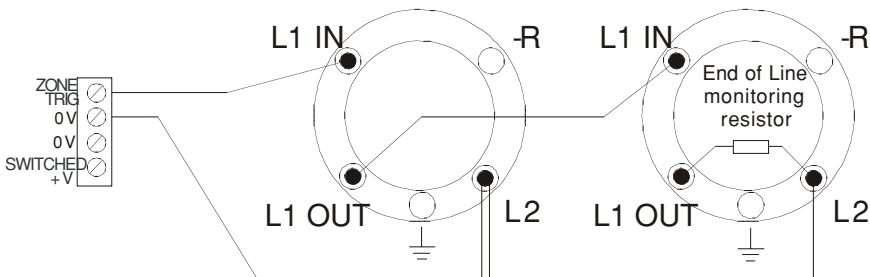


Figure 2 shows a system diagram to connect the detectors and the door retaining magnets to the door controller. A detector triggered into alarm will release the doors. The Zone Trig wiring is both short and open circuit monitored, which is failsafe in either condition by releasing the doors. Optional manual release buttons can be added to the system that when operated will also release the doors.

Figure 3. Typical Connections To A Detector Base



Connection details for an Apollo Series 60 mounting bas

In figure 3, the termination details for connecting to an Apollo Series 60 mounting base are shown (Apollo Series 60 Bases are supplied in the BF375PEK Door Retaining System Kit). If this wiring scheme is followed, the removal of the detector head will cause an open circuit fault to occur, which results in the door retaining controller going failsafe and releasing the doors. Note: Door retaining magnets and optional release switches not shown for clarity. Consult manufacturers instructions for details on connecting to other types of bases, but ensure that the wiring to detectors is such that the removal of the detector head breaks (makes go open circuit) the detector circuit.

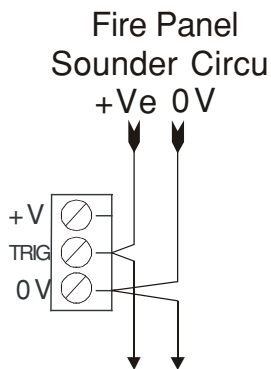
Note: If the smoke/heat detectors utilise a base that does not break the negative supply when the detector head is removed, it is possible to share the same 0V cable between the detectors and the door retainers.

RESETTING THE SYSTEM

A detector that is in an alarm condition can be reset by one of three methods.

- i. A manual release button (a normally closed or normally open switch) when pressed will reset the detectors —see figure 2.
- ii. The release button on door controller PSU will also remove power from the detectors causing them to reset.
- iii. A voltage signal of 12 to 28V applied to the Trig input will also cause power to be removed from the detectors, making them reset from any fire state. This signal will also release the doors.

Figure 4. Trig Input



This input (see figure 4) can if required be connected to other controlling equipment, typically a fire alarm panel sounder circuit. When the fire panel sounder circuit is activated it will cause the doors to be released and the detectors to be reset.

Any other control signal can be used if the control signal is +12 to +28V.

SPECIFICATIONS

Supply In : 230Va.c. – 10% @50/60 Hz

Max Current : 45 mA

Supply Out : 21-28V d.c. ; 250mA Maximum Load.

Physical Sizes: 147mm W x 87mm H x 39mm D

Protrusion depth into back box : 24mm

Weight: 480g.

This unit will fit onto a standard U.K. 25mm deep double gang back box.