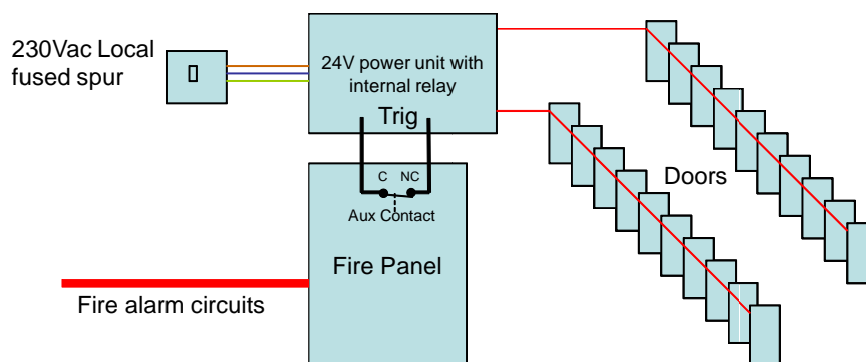


## Wiring Guidance Notes

### Circuit design

Devices should be connected in radial circuits forming zones as required. Ring connections are not recommended. For easy fault management we would recommend that circa 15 doors on any one radial circuit is a reasonable limit. As a low voltage safety circuit, an earth should not be connected.

## Circuit Schematic



Note: above diagram shows power unit triggered directly from panel .  
See below text for other options

Wiring should be completed in a cable suitable for the current and voltage, preferably coloured red to make it readily distinguishable from other circuits to fully meet the requirements of BS 5839. The cable size should be selected to ensure the nominal voltage does not drop below 21.5V. The Carefree units are designed to failsafe and therefore fire protected cable is not required. For cable sizes above 1.5mm, terminating into the wire loop junction box may become difficult and should be avoided. Note that in accordance with BS 7671 (IEE Wiring regulations) the extra low voltage cable routings must be separate to mains wiring.

### Power and interfacing

The Carefree units require a supply of 24VDC smoothed. The units fail to safe (doors close) when the power is removed.

Holdfire offer power supplies in two sizes, 16 door (PS2E) or 32 door (PS4E). Both have control inputs for interfacing to the fire system. In premises with an addressable fire system, the most usual arrangement would be to position the power unit in a cupboard or riser and arrange an Addressable Interface Unit on the fire system loop to be adjacent.

For non-addressable systems, the fire panel will have volt-free contacts that open on fire condition. These contacts are usually not rated to switch heavy loads and it is good practice to

use these only for controlling power units with internal relays or the coil of a separate fire relay.

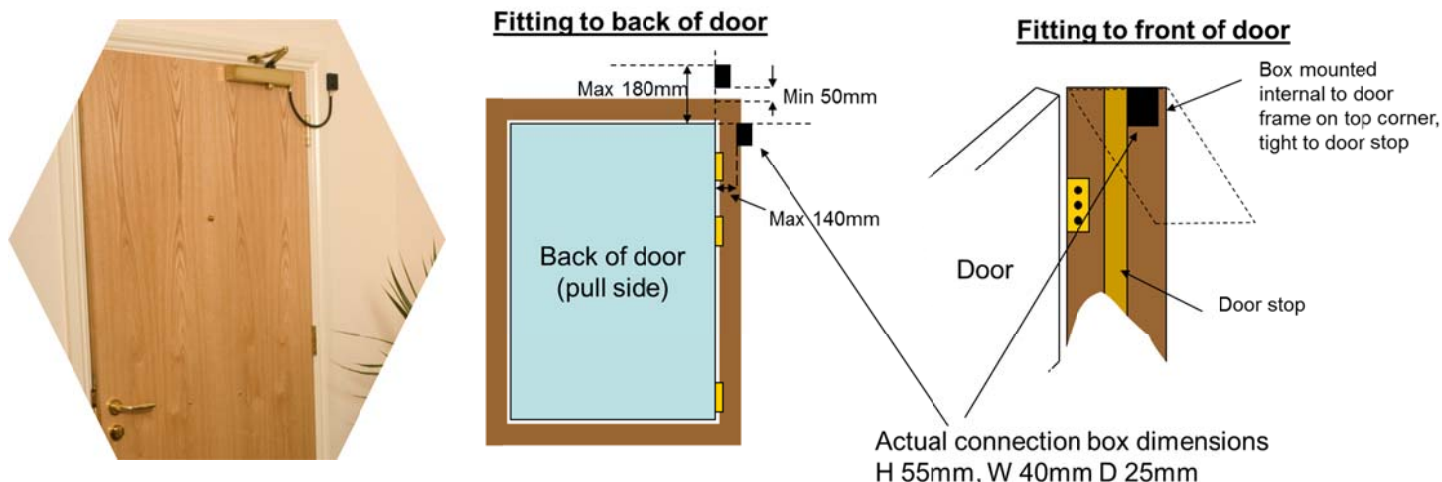
For retrofit installations, there will often be existing mains or 24V circuits in the building, usually for magnetic retainers on corridor doors. A connection into these circuits can be made and in the case of a mains circuit, connected as the mains feed to the Power Supply. For a 24V circuit, the 24V can be connected to the 24V control inputs on our power units.

Note that to meet the requirements of BS7273 Category A or B, the door system must not be driven by sounder circuits or sound activated.

### First Fix

When designing for a care facility the preference should always be ensure a non-institutional look and positioning the door closers behind to door largely hides them from view. The Carefree Range only requires 50mm clearance between the back of the door and any adjacent wall so for most buildings, positioning the unit behind the door should not be a problem.

The wiring to the door frame is best concealed inside the walls and brought directly into the back of the terminating box on our connection loops. The diagram below shows the box positions.



### 2nd Fix

In a typical building programme the doors are fitted and then removed for carpets etc. to be fitted. To avoid damage to the closing mechanism we recommend that these are fitted after the final floor coverings are laid. The connection loops simply plug into the closer mechanism.

### Contact

If this note does not answer all your questions, try the FAQ page on the website or give us a call on **0800 1116104**