



PRODUCT
INFORMATION
SHEET

Memco Interceptor

DOOR SAFETY SYSTEM

- Suitable for centre-opening or side-opening doors
- Provides a proximity protection field as well as passenger protection field
- NPN and PNP output versions available
- Small size with a 12mm profile
- Easy to install
- Power supply optional

The Interceptor is a passive infra-red detector which offers a low-cost alternative to a microprocessor controlled active infra-red system and provides more coverage than a number of photo-cells. It is sensitive enough to detect a person's hand or foot and has an effective range of up to 4m typically. It runs from a regulated DC supply and may be connected directly to many types of lift controller.

Suitable for automatic door installations only, the Interceptor is packaged in a black plastic moulded box that is only 12mm wide. It has been specifically designed to be positioned in the top corner of the lift car door, flush with the leading edge and is fixed to the door with three self-tapping screws. If it is not possible to mount the Interceptor directly onto the door, an optional fixing plate is available as shown in Fig 1. Since the Interceptor responds to thermal changes, the Interceptors field of view should remain at a relatively stable temperature; in most installations this is automatically provided by the slampost, the lift car sill or the air in the running clearance.

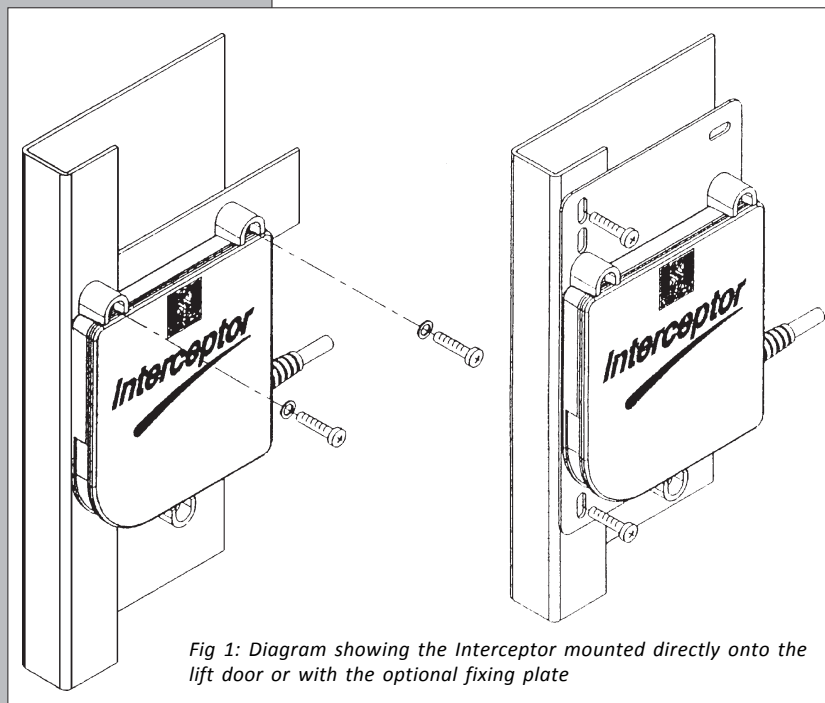


Fig 1: Diagram showing the Interceptor mounted directly onto the lift door or with the optional fixing plate

For installations that do not have a suitable DC regulated supply available or do not have the appropriate inputs for an NPN or PNP transistor switch, a Model 280 000 Power Supply box is available as an option. The Model 280 Power Supply can be supplied with 115/230V AC and has a relay and switchable buzzer built in. Note that only the NPN (N/O) version is compatible with Model 280.

The Interceptor is a passive infra-red detector that is sensitive to changing thermal images in its field of view. These images usually result from a passenger entering the lift car and so passing through the Interceptors field of view. The Interceptor also responds to negative thermal changes.

The electronic circuitry is purely analogue and is primarily based on two PIR sensors as shown in Fig 2. The first PIR sensor detects any thermal changes along the leading edge of the door only and behaves as a proximity detection device. It uses a mirror and a special lens to focus the thermal images onto its surface; a second PIR sensor, with a different shaped lens, senses changes in the passenger detection field. Significant changes in either thermal image will cause a trigger.

The sensitivity of the proximity detector is fixed, leaving only one adjustment to alter the passenger detection range. This is adjusted in circumstances where the detection range is considered too far and the Interceptor's field of view extends past the lift car and into the lift shaft. An external trigger LED is visible from outside to aid the setting-up process. There are two Interceptor versions available i.e. an NPN and a PNP. Both versions are available with either Normally Open (N/O) or Normally Closed (N/C) transistor outputs.

The NPN version switches the output to 0V whereas the PNP version switches the output to the supply voltage. For (N/O) types the output is high impedance when untriggered and is switched to 0V (NPN) or to the positive DC supply (PNP) when triggered; for (N/C) types the output is switched to 0V (NPN) or to the positive DC supply (PNP) when untriggered and is high impedance when triggered. The version chosen depends entirely on the lift controller requirements. Note that the Interceptor cannot be reconfigured on site.

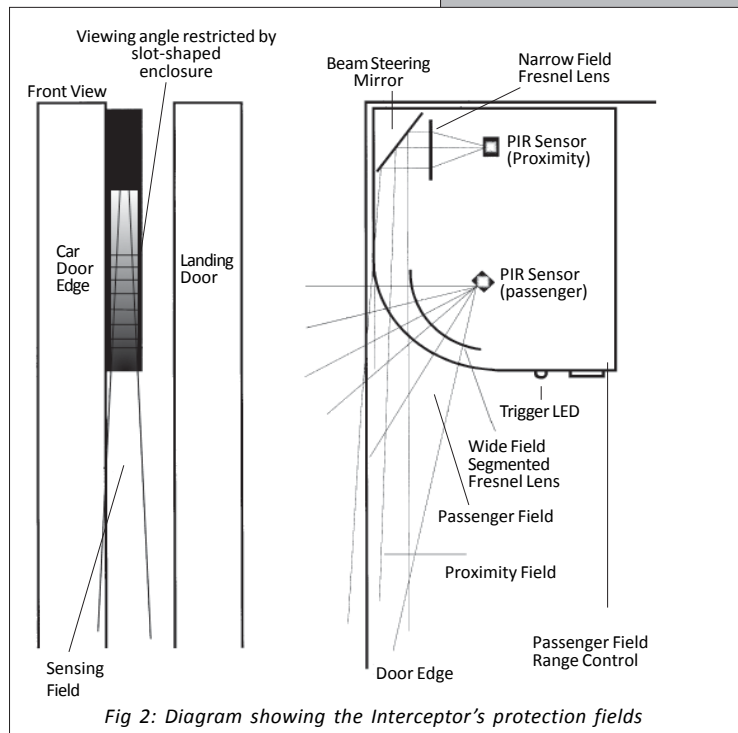


Fig 2: Diagram showing the Interceptor's protection fields

| SPECIFICATIONS | |
|--------------------------------|---|
| Size | 84 x 109 x 12mm |
| Weight | 240g including cable |
| Input Supply Voltage | 9 - 36V DC |
| Output | NPN or PNP type transistor switch 30V, 250mA max. |
| Fixing Kit | No 6 x 20mm S/T screws |
| Cable | 2.7m length terminated in boot lace ferrules |
| Adjustment controls | Passenger field range control |
| Indicators | Single 3mm LED. LED ON - no trigger, LED OFF - trigger |
| Range | 4m typically for passenger detection |
| Working Temperature Range | 0°C to 35°C |
| Trigger response time | less than 500mS |
| Storage Temperature | -20°C to +80°C for 24 hours at each temperature |
| High Temperature/High Humidity | BS2011:Part2.1Db:1981, Variant2 at +-55°C |
| EMC Compliance | Emissions to EN 50081 Part 1, Immunity to EN50082 Part1 |
| IP Rating | IP54 in accordance with BS EN 60529:1992 |
| Vibration | Random vibration 20 to 500Hz 0.002g ² /Hz 4 hrs per axis Sinusoidal vibration 30Hz 3.6g rms 30mins per axis |
| Free Fall Test | BS2011:Part2.1 Ed: 1992: Free Fall Procedure 1 |

| ORDERING INFORMATION | |
|----------------------|--|
| Part No | Description |
| 180 080 | Interceptor with 2.7m cable and NPN-N/C output |
| 180 090 | Interceptor with 2.7m cable and NPN-N/O output |
| 180 180 | Interceptor with 2.7m cable and PNP-N/C output |
| 180 190 | Interceptor with 2.7m cable and PNP-N/O output |
| 280 000 | 115/230V AC power supply relay box for use with any of the above |
| 011 177 | Fixing Plate (optional) |

This product is designed for use in elevators with powered automatic doors where the closing force is 25N/mm or less as per EN81 requirements. It should be installed by qualified personnel only, therefore any use outside of this application is at the installer's own risk and should be assessed appropriately.

As a result of our policy of continual improvement, the information in this document is subject to change without notice and it is intended only as general guidance on product performance and suitability. This information shall not form part of any contract.

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