



AN1106 - Door interlock control - Safelink module

Why use an interlock?

The system requires the user to pass through two doors in series to enter the premises. If the doors are interlocked, both doors cannot be open at the same time.

This ensures that there is always at least one locked door between the inner and outer environments. This is known as an interlock (or airlock) system.

Description

The system follows the sequence:

1. Request to open a door - Card Read or Exit button.
2. Confirm that both doors are Closed.
3. If both are closed then operate the required lock.

It is important to monitor the actual position of the door and not just control when it is locked or unlocked.

You will require two Paxton control units to provide independent door open requests (In and Out) for the interlock control. The following section demonstrates a typical installation, using a Safelink two door interlock.

Safelink Modules (R10 - Fail Locked Release : R12 - Fail Open Release)

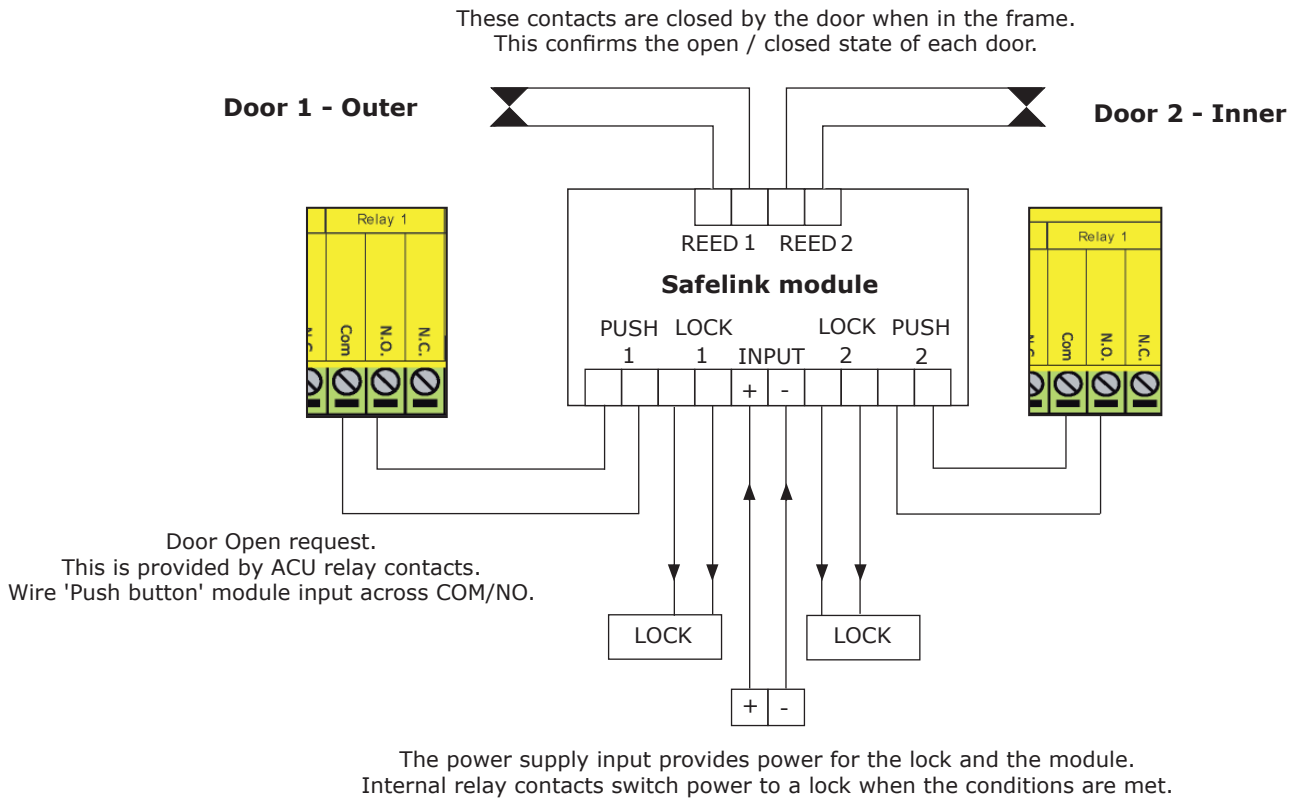
The Safelink module provides the power for the door locks.

The two door controller must be the correct one (R10 or R12) for a fail locked or fail open installation to ensure the correct default lock condition. The Paxton unit only provides a voltage free trigger (door open request) via its COM/NO relay contacts.

A common power supply for the two systems is permissible but there should NOT be any direct 0V connections between the ACU and interlock module. Any Exit buttons will be wired to the ACU as normal.

If door contact monitoring is required for the ACU, (e.g. Door Forced alarm) a second set of door contacts is required to maintain the 0V independence of the two systems.

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Operation

In its default state both doors are closed and locked.

A valid user swiping their card at Door 1 causes the Paxton ACU 1 to close its lock relay. This requests a Door 1 release from the module.

The trigger circuit is disabled for Door 2 and the Door 1 lock is then released.

This state is maintained until Door 1 is again closed, restoring the default state.

This would normally be followed by a user request to open Door 2 which in turn disables the trigger circuit on Door 1 and releases Door 2.

Closing Door 2 again return the system to its locked default state.

If required, the request to open the second door in the sequence can be via an exit button wired to the required ACU as for a normal door.

The ACU door open time should be left at 7 seconds.

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