How to create a man-trap using Local I/O and relay outputs

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Procedure Steps

A *man-trap* configuration has a controlled area between an outside door and an inside door. Two readers control the outside door, and two readers control the inside door.

The end result of the performing the following steps is that, when access is granted to the outside door, the inside door is locked and cannot be opened. After the outside door is closed, access can be granted to the inside door, at which point the outside door is locked and cannot be opened. After the inside door is closed, the outside door is available to be opened again.

Assumptions:
- There are two (2) LNL-1320 access panels and four (4) readers available to be configured.
- The readers on each LNL-1320 panel are set to a Paired Master/Paired Slave configuration.
- The strike output time is 1 second longer than the pulse time for the Aux Output #1 of each master reader.

In System Administration, complete the following steps:

1) On the Timezones form (in the Holidays / Timezones folder):
- Create 2 blank timezones named **ManTrap Door 1 Unlocked/Open** and **ManTrap Door 2 Unlocked/Open**.
- Do not specify a time interval for either of the blank timezones.

2) On the Timezone/Reader Modes form:
- Add each reader with the timezone for the other door (i.e. the ManTrap Door 1 IN and OUT reader is added with the timezone for door 2).
- Set the (Start) **Reader Mode** to "Locked" and (End) **Reader Mode** to "Card Only" or "Card and Pin."
- Door 1 In and Door 1 Out should be assigned to timezone **ManTrap Door 2 Unlocked/Open**.
- Door 2 In and Door 2 Out should be assigned to timezone **ManTrap Door 1 Unlocked/Open**.

3) Name the aux input on the door 1 IN reader (which is the master reader) **Mantrap Door 1 DC/Strike Active** and set it to **Normally Closed** (Supervision is optional). Aux input #1 will have the door contact wired in a series through the N/C strike relay for Door 1. This allows the input to go active on a valid card read and disable the door 2 readers before the first door opens. Aux input #2 will have an optional keyswitch wired into it and is set to normally open or closed, depending on the keyswitch.

4) Repeat step 3 for the door 2 IN reader.

5) Name the Aux Output #1 for the door 1 IN reader (master reader) **ManTrap Door 1 Lock Output**.

Name the Aux Output #1 for the door 2 IN reader **ManTrap Door 2 Lock Output**.

6) Create a local I/O function named **ManTrap Door #1 Control**. Function #1 will activate **ManTrap Door 1 Lock Output** for the door strike/maglock. Function 2 will be to activate timezone **Mantrap Door 1 Unlocked/Open**. This timezone will be applied to the readers on door 2 in Timezone/Reader Modes that were set up in step 2.

7) Repeat step 6 for door 2.

8) For the local I/O for door 1, a device/function link will link to the aux input the **ManTrap Door #1 Control** output is wired into. Set the actions for this to the following values:
Alarm: Set TRUE
Secure: Set FALSE

9) Repeat step 8 for door 2.

When these steps are completed, the system will be set up so that the door contact or strike relay for door 1 is connected to an aux input. When door 1 is granted access, and then opened, the Local I/O fires the aux output, and the **Mantrap Door 1 Unlocked/Open** timezone is activated.

When the **Mantrap Door 1 Unlocked/Open** timezone is active, the door 2 IN and door 2 OUT readers will be in Locked mode. After the door contacts from door 1 are closed, the local I/O fires the opposite way, and the readers for door 2 go back to the Card Only or Card and Pin mode.

Set up door 2 the same way. When Door 2 is opened, the other Local I/O will control the **Mantrap Door 2 Unlocked/Open** timezone, which will control the access to the readers on door 1.

Applies To

OnGuard (All versions)

Additional Information

It is possible to set up a keyswitch override. To do this, complete the following steps:

1) Create a new local I/O. The function list will contain all four (4) readers with Argument 1 set to "Reader Unlock/Set Mode" and Argument 2 set to "Card Only."

2) Create a device function link that links to the keyswitch input. Set **Alarm** state as "PULSE." All others should be set to "Do Nothing."

This will pulse open all doors when the keyswitch is activated, then restore the doors to their previous state after the standard strike time.