

CA-A470-A
Instructions

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## Introduction

Connected to the CT-V900 controller's expansion bus, the 2-Door Expansion Module (CA-A470-A) supports two readers, two BCD keypads, four zone inputs, 6 outputs and two locking devices

Specifications

## CA-A470-A Specifications.

Readers: connect 2 per module
Keypads: connect 2 per module
Inputs: 4 standard without ATZ, 1 tamper
Outputs:
Lock Outputs: 2 lock outputs (Form C relays) each: 15A @ 16VDC (resistive)
AC Power: 16VAC, 40VA max.
Frequency: $\quad 50 \mathrm{~Hz} / 60 \mathrm{~Hz}$
Aux. Current: 500mA (max.)
Battery: $\quad 12 \mathrm{VDC}, 7 \mathrm{Ah}$
low battery $=10.2 \mathrm{VDC}$
low battery restore $=12.2 \mathrm{VDC}$ low battery cut-off $=8.5 \mathrm{VDC}$
Communication: expansion bus (E-Bus), RS-485, Plug and Play, 3 modules per CT-V900
Operating temp.: $5^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}\left(41^{\circ} \mathrm{F}\right.$ to $\left.133^{\circ} \mathrm{F}\right)$
DIP Switches
In order for new DIP switch settings to take effect, the 2-Door Expansion Module's power must be disconnected and then reconnected.

## Assign Address (1 and 2)

DIP switches 1 and 2 determine the 2-Door Expansion Module's address in the network, regardless of the order that they are connected to the controller. Centaur recognizes the doors according to the DIP switch settings as shown in Figure 1.


Figure 1: Setting the network address CT-V900


Lock State during Communication Failure DIP switches 3 and 4 determine the state of Lock \#1 and Lock \#2 ONLY during a communication failure between the 2-Door Expansion Module and the controller (CT-V900A). Normally, the lock outputs follow the Lock Control for the CT-V900-A. Therefore, the DIP switches should have the same setting as the Lock Control for the corresponding doors in Centaur.

## Lock \#1 = DIP switch 3

Lock \#2 $=$ DIP switch 4
OFF = De-energized:
During a communication failure, the normal state of the lock output is De-energized. When Lock \#1 or Lock \#2 is activated, power is applied to the corresponding lock output to unlock the door. Activation depends on the setting of the DIP switches 5 \& 6 (Access during Communication Failure).

## ON = Energized:

During a communication failure, the normal state of the lock output is Energized. When Lock \#1 or Lock \#2 is activated, power is removed from the corresponding lock output to unlock the door.
Activation depends on the setting of the DIP switches $5 \& 6$ (Access during Communication Failure).
De-energized: no power in normal state; requires power to activate.
Energized: power in normal state; remove power to activate

Access during Communication Failure (5 and 6) DIP switches 5 and 6 determine the access to
 failure

| Switch | Setting | During a Communication Failure: |
| :---: | :---: | :---: |
| $\operatorname{con}_{a}^{0} \square^{\circ}$ | $\begin{aligned} & 5=\text { off }(0) \\ & 6=\text { off }(0) \end{aligned}$ | "No Card" <br> Access is denied to all cards and doors are locked until communication is restored. |
| $\operatorname{con}_{a} \underline{D}^{2}$ | $\begin{aligned} & 5=\text { on }(1) \\ & 6=\text { off }(0) \end{aligned}$ | " 2 Cards" <br> Access is granted only when 2 cards of a valid format are presented to the reader. |
| $\operatorname{con}^{\circ}$ | $\begin{aligned} & 5=\text { off }(0) \\ & 6=\text { on }(1) \end{aligned}$ | "All Cards" <br> Access is granted when any card with a valid format is presented to the reader. |
| $\operatorname{cn}_{\infty}^{\circ} n^{\circ}$ | $\begin{aligned} & 5=\text { on }(1) \\ & 6=\text { on }(1) \end{aligned}$ | "Unlock Door" Doors are unlocked until communication is restored. |

Activate Output on Communication Failure (7) DIP switch 7 determines if OUT5 and OUT6 will pulse during a communication failure. When DIP switch 7 placed in the on position the outputs on the device(s) connected to the OUT5 and OUT6 the device(s) the reader can pulse to advise users that the reader can pulse to advise users

## DIP Switch (8) <br> For future use.

EOL J umper
Place the EOL jumper ON if the 2-Door Expansion Module is at the beginning (Start Point) or at the end (End Point) of the E-bus Network (see Figure 2). Otherwise, place the EOL jumper OFF.


## High/Low Bias J umpers

Place the A+ and B- jumpers on LOW only if the 2-Door Expansion Module is at the beginning (Start Point) of the E-bus Network. Otherwise, place the A+ and B- jumpers on HIGH (see Figure 2 and Figure 3).

Figure 3: Setting the A+ and B- jumpers Jumpers set to low Jumpers set to high


350mA/700mA Battery Charging J umper The $350 \mathrm{~mA} / 700 \mathrm{~mA}$ Jumper allows you to select the charging current for the backup battery of the 2-Doo Expansion Module. Charging the battery at 350 mA takes longer, but consumes less power. Charging the battery at 700 mA takes less time, but consumes more power.

Figure 4: Setting the $\mathbf{3 5 0 m A} / 700 \mathrm{~mA}$ jumper


Programming in Centaur
Using the Centaur Access Control Software, program the inputs, outputs, readers, and keypads connected to the 2 Door Expansion Module. The options are explained in the Centaur Access Control Software Reference Manual.

Centaur will identify the 2-Door Expansion Module by its address (see DIP Switches 1 to 4) and will recognize the devices as follows:

|  | Address 1 | Address 2 | Address 3 |
| :--- | :--- | :--- | :--- |
| Doors <br> Keypad/Reader 1 <br> Keypad/Reader 2 | Door 3 | Door 4 | Door 5 |
| Door 6 | Door 7 |  |  |
| Door 8 |  |  |  |
| Inputs |  |  |  |
| Z1 | Input 17 | Input 21 | Input 25 |
| Z2 | Input 18 | Input 22 | Input 26 |
| Z3 | Input 19 | Input 23 | Input 27 |
| Z4 | Input 20 | Input 24 | Input 28 |
| Outputs |  |  |  |
| OUT1 | Output 7 | Output 13 | Output 19 |
| OUT2 | Output 8 | Output 14 | Output 20 |
| OUT3 | Output 9 | Output 15 | Output 21 |
| OUT4 | Output 10 | Output 16 | Output 22 |
| OUT5 | Output 11 | Output 17 | Output 23 |
| OUT6 | Output 12 | Output 18 | Output 24 |

Doors cannot be defined as Door Type Elevator Door Properties window, General tab, Door Type: Elevator) and the module does not support Interlock Inputs (Door Properties window, Inputs and Outputs tab, Interlock Input)

Other modules in the system cannot activate the 2 Door Expansion Module's outputs.

The 2-Door Expansion Module does not support Zone Doubling (see Figure 6)

Green "AC" LED
ON = AC power
OFF = Power failure
Green "AUX" LED:
ON = Auxiliary power
OFF = Auxiliary power failure
Red "cOMM" LED:
ON = Communication failure
OFF = OK
Green "CHECK BATT" LED:
ON = Battery verification in
$\quad$ progress (every minute)
Red "BATT TRBL" LED:
ON = Battery low or disconnect

Green "LOCK\#1" and "LOCK \#2" LEDs: ON = Relay activated.

8. The reader LEDs can be used to verify the reader's connections and programming. If no flashing occurs when a card is presented to the reader, the reader may be installed incorrectly. A short flash indicates that the reader is correctly installed, but the card is the wrong type or that the reader was incorrectly programmed.

## Warranty

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Green "STATUS" LED:
Flash = Module OK Slow flash = Communication failure (see also "сомм" LED)
 Long flash = Receiving card read Short flash = Receiving card read, but the system does not recognize the card's format OFF = Not receiving card read

Red "TX" LED and green "RX" LED: ON = Communication OK (may flicker) OFF = Communication failure
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