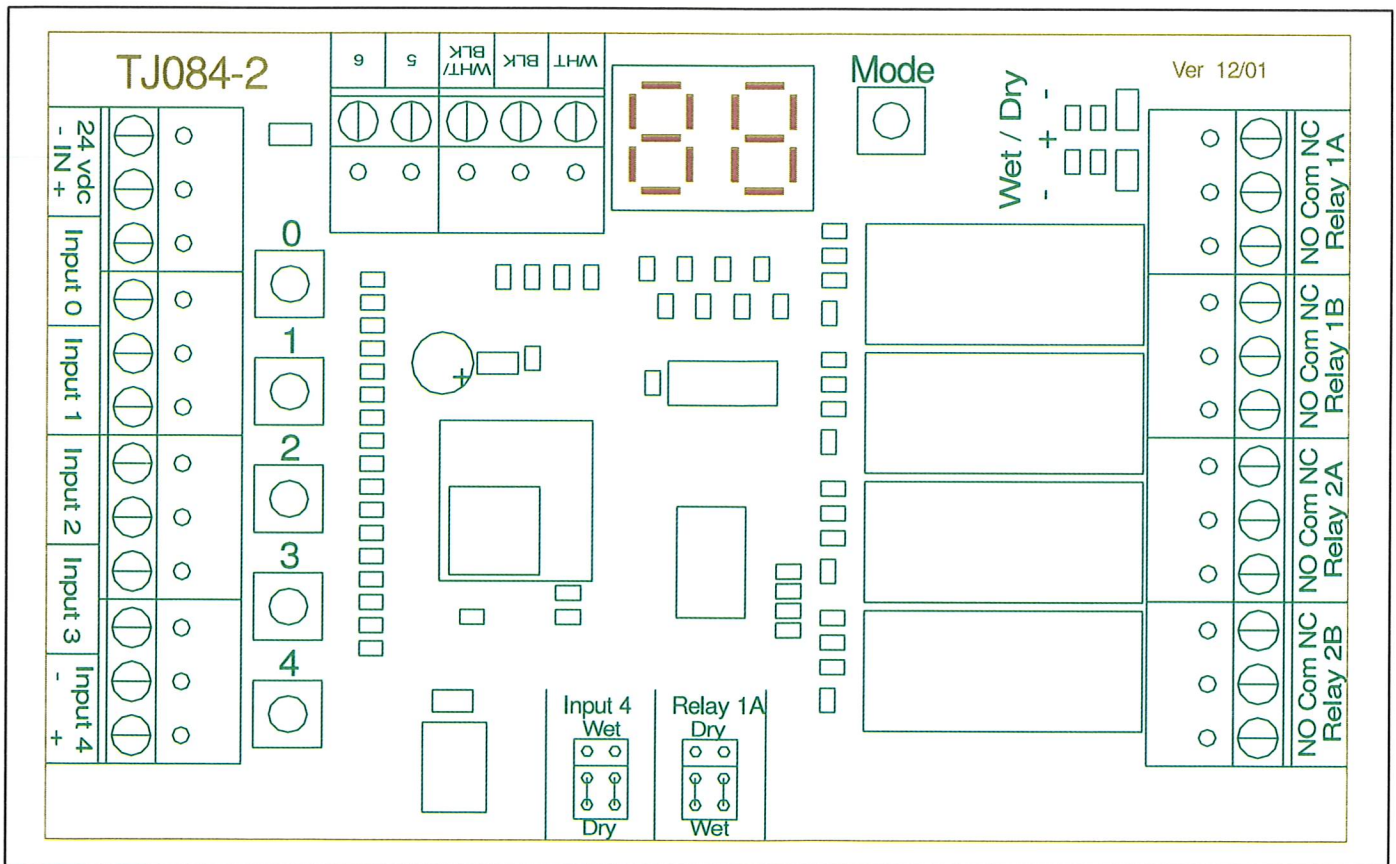


TJ084-2

Programmable relay



- The TJ084 is a 24VDC powered programmable 4 relay circuit board. It may be used for electric lock interfacing, ratchet function, sequenced operation and simple interlocks. Relay 1A can provide a "wet" voltage output to power an electric strike or magnetic lock. The wet output is selectable by a jumper strap and will supply 24VDC voltage. A card reader input is available that will accept a "wet" or dry input from a card reader. The card reader input can be either NO or NC and is selectable through a parameter in programming mode. Programming is accomplished with the mode button as well as the 5 test buttons. To enter program mode push the mode button for two seconds, a dot will flash on the display when the button can be released. When the TJ084-2 is in program mode the display will flash. Button 0 and 1 will scroll through the available functions of the board. Button 2 sets the function and enters the parameter mode for the selected function. Once in parameter mode buttons 0 and 1 will scroll through available parameters. To change a parameter value press button 2, this will show the current value. Buttons 3 and 4 will increase or decrease the value of the selected parameter.

- **Function of on/off/hold open switch**

- When the 3 position switch is in the center position or off all of the inputs for the TJ084 will be off except for the card reader input. If the card reader input is triggered relay 1A will trigger, however the exterior input will not turn on. Also the two terminal output to the door control toggle input will be open when the 3 position switch is off. This will turn off the door control.
- When the three position switch is in the hold open position the TJ084 will act like the exterior input is triggered. Relay 1A will trigger as well as relay 2A. The control toggle input will be closed.
- When the three position switch is in the auto position the TJ084 will function normally and accept any input. The control toggle input will be closed.

- **Parameters of the on/off/hold open switch**

- SW This parameter will determine if a 3 position switch will be used
If the parameter is off the board will function without the switch in place, all inputs will operate based on what function the board is set to.
If the parameter is on the board will need the three position switch in place to operate. Without the switch the board will remain off, all inputs will be ignored.
ON - need a 3 position switch with diodes to operate (DEFAULT VALUE)
OF - no 3 position switch needed
- HO This parameter will determine when the Hold Open portion of the three position switch will operate. The parameter will only operate if SW (SW) is set to ON. If the HO parameter is on the hold open function of the switch will always operate. If HO is off hold open would only operate when the card reader input is triggered. In order for the door to hold open both the card reader input would need to be triggered as well as the three position switch placed in hold open.
ON - Hold open will always function
OF - Hold open will only operate if card reader is triggered as well as switch
Default value - ON

- **Selecting functions and parameters**

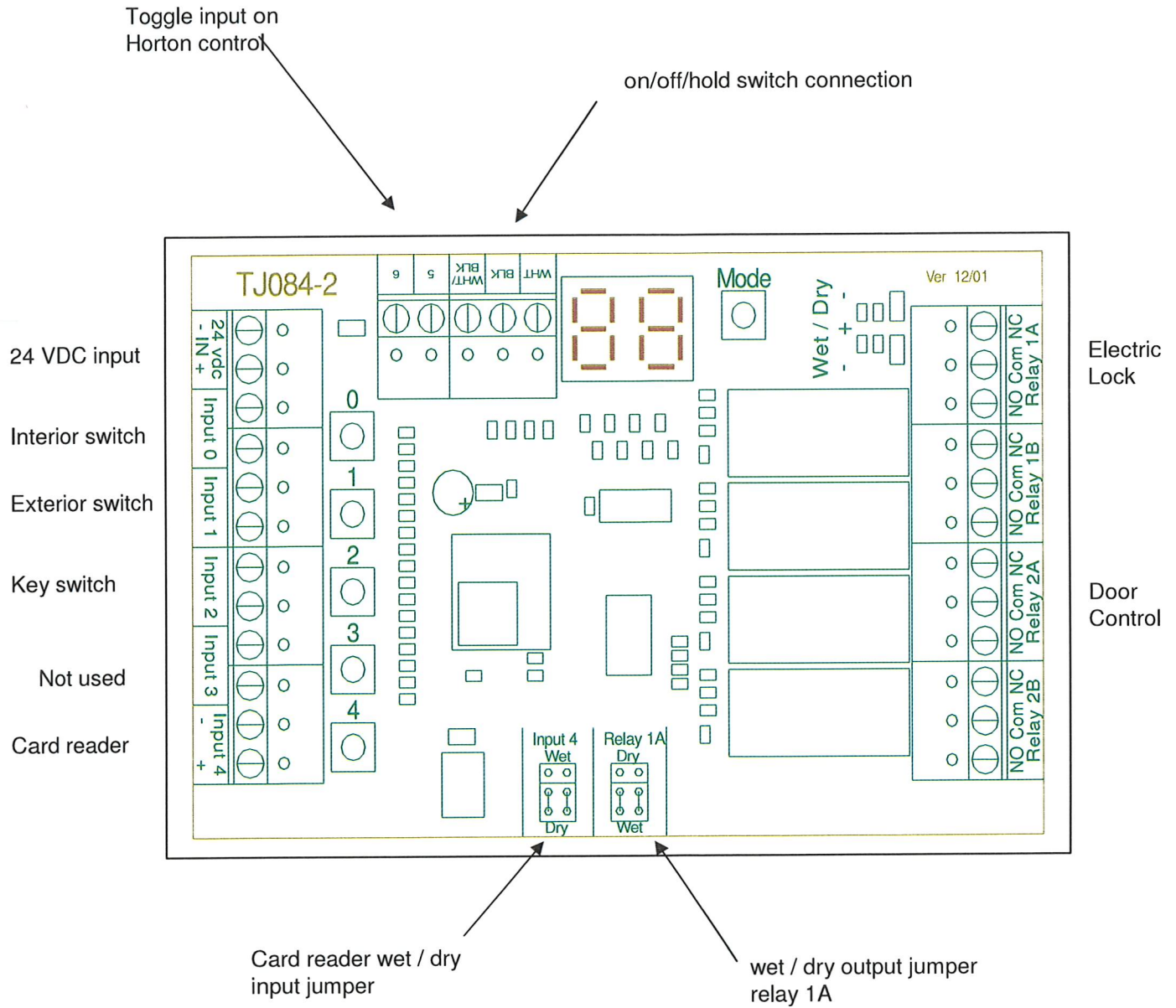
To access programming mode hold MODE button for two seconds, a dot will flash on the display to indicate two seconds has passed. Release mode button and the display will flash when in program mode.

Test button 0 and 1 will allow access to the different functions of the TJ084-2 such as 82 sequence, 83 latch, 84 ELI. Once the function is selected test button 2 will set the function and then allow access to the parameters of the function. Once test button two is pushed setting the function the display will now show the current parameters. Test button 0 and 1 will scroll thru the available parameters. Test button 2 will show the current value of the parameter. While holding button two to view the current value, test buttons 3 and 4 will increase or decrease the selected parameter.

To exit programming mode press the mode button for two seconds. All values are automatically saved, there is no data saving procedure necessary.

- **Electric lock interface function 84**

Wire connections for 84 function



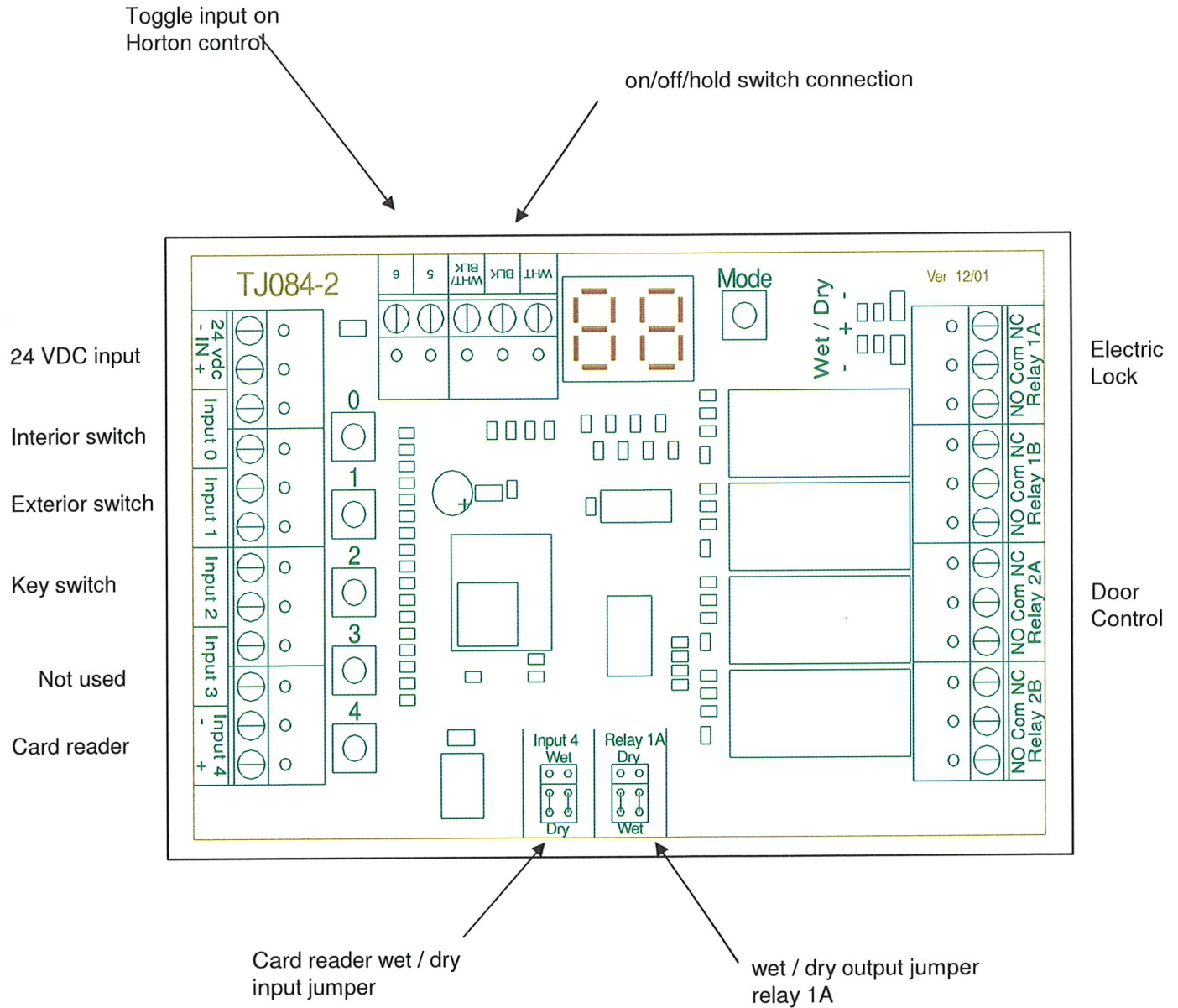
- **Ratchet or Latch function 83**

- Ratchet or latch is also known as push to open / push to close. That means when the door is triggered by an activation signal it will stay open until a second input is received to close the door. An override timer will be provided to close the door in an adjustable amount of time if a second signal is not received. If timer is set to infinity the door will never close. If power is removed from the TJ084 all relays will reset to an at rest state.

- **Parameters:**

- #1 force close timer adjustable from 1-99 minutes to infinity. FC _1 - 99 ____
- #2 function of relay two – on or off delay F2 ON OF
- #3 delay of relay #1 .2 sec – 30 sec D1 _2 - 30
- #4 delay of relay #2: if on delay – how long before it triggers after input. 1 sec – 30 sec D2 .1- 30 If relay #2 is off delay the time will not be adjustable or it will be determined by #1 parameter force closed time
- #5 card reader function – CF Op On
 - OP – card reader will trigger relay one followed by relay two
 - ON – card reader will trigger only relay one and turn on ext input
- #6 delay of card reader input being turned on .2- 30 sec D3 _2 - 30
- #7 card reader input NO or NC - CI NC NO
- The activation input will be able to be on the interior or exterior switch input. When the input is triggered relay one will activate followed by relay two. This function will be the same as the 84 function. However relay two will not release until a second input is received from an input switch. Relay one will release after the set delay of relay one expires.
- Upon activation a timer will start based on parameter #1 to close the door if an input is never received. When this timer expires a signal will be sent to close the door (release relay # 2).
- Interior input – works at all times – will trigger relay one and relay two in succession
 - The force closed timer will start when interior input is triggered.
- Exterior input – will only work if card reader input or key switch input is triggered – will then trigger relay one and relay two in succession. The force closed timer will start when exterior input is triggered. This input must still be able to close the door even after the card reader times out.
- Card reader input will be selectable in function by parameter #5
 - OP - card reader will trigger both relay one and relay two in succession.
 - CR - card reader will trigger relay one only and turn on exterior switch
- Time delay of card reader input will be controlled by parameter #6 – how long exterior input will be turned on.
- FC - Force close timer – default to 5 minutes
- F2 - Function of relay two - default to on delay
- D1 - Delay of relay one – default to .5 sec
- D2 - Delay of relay two - default to .1 sec (only if on delay)
- CF - Card reader function - default to OP open door
- D3 - Hold timer for card reader input – how long exterior input will work after card read default to 5 seconds
- CI - Card reader input – default to NO - normally open

Wire connections for 83 function



84 function					
Code	Parameter	default	display	Adjusts	Display meaning
51	SW	on	on	on/off	Horton on/off/hold switch being used
H0	HO	on	on	on/off	On - hold open will always function. Off - hold open will only operate after a card read
d1	D1	1 sec	1	.2-30 sec	Relay 1A & 1B time delay
d2	D2	0.5	.5	.1-30 sec	Relay 2A & 2B time delay
d3	D3	5 sec	5	.2-30 sec	Card reader input delay
CL	CL	NO	no	NO / NC	Card reader input NO or NC
F2	F2	ON	on	on / off	Relay 2A & 2B ON or OFF delay
CF	CF	ON	on	OP / ON	Card reader function ON will turn on ext switch and unlock door OP will perform as a standard input
83 function					
Code	Parameter	Default	display	Adjusts	Display meaning
51	SW	on	on	on/off	Horton on/off/hold switch being used
H0	HO	on	on	on/off	On - hold open will always function. Off - hold open will only operate after a card read
d1	D1	1 sec	1	.2-30 sec	Relay 1A & 1B time delay
d2	D2	0.5	.5	.1-30 sec	Relay 2A & 2B time delay
d3	D3	5 sec	5	.2-30 sec	Card reader input delay
CL	CL	NO	no	NO / NC	Card reader input NO or NC
F2	F2	ON	on	on / off	Relay 2A & 2B ON or OFF delay
FC	FC	5 min	.5	1-99 -- infinity	Force closed timer 1-99 minutes
CF	CF	ON	on	OP / ON	Card reader function ON will turn on ext switch and unlock door OP will perform as a standard input