

DIC2 and DIC2BX.

Size. PCB size W115mm xL102mm X H25mm.

Box. For DIC4 which is two Dic2 in the same box 310 x310 x50mm (This is our standard white steel box but we can supply other box type on request.)

Inputs. The standard two door inter lock board has the following inputs/outputs.

Two n/open start input for doors one and two.

Two n/c input for each door which would be a normal closed door contact, but any other form of closed switch to indicate that the door is closed can be used.

Two n/open switch input for egress for both doors.

An option lock-down card input for remote isolation if required.

An input and output connection for interlock more cards together to make larger amounts of doors interlocked. (five cards would make ten doors interlocks) if more sequence required please contact our technical department for more information.

Outputs.

Either door open.

Door one open.

Door two open.

Lock relay one activated.

Lock relay two activated.

The above outputs can be either limit resisted for driving LED indicator or 12volt out put to drive a relay of small filament bulb.

There is Led indication for the above door and relay conditions for easy fault finding.

There is an 8 amp clean relay change-over contact to control the door locks for each door.

Operation.

The interlock can be either first door open then close before second door is opened or can be set as follow through so the second door unlocks as soon as the first door as relocked.

Egress is for returning from the second door to the first door. There is NO follow through when using egress return.

Timer.

The door release has a timer which is set via the 8way dip switch on the bottom right hand corner of the PCB. This can be set from 5 to 90 seconds, also the is a setting which only releases the door which the door release input is active,

The software is designed so when using MAG-locks the door closure is detected before the voltage is re-applied to the lock to stop the MAG-lock drawing the plate when using sliding doors.

Voltage.

The PCB is designed to work from 12volts to 27vt DC. The quiescent current for one PCB is 18ma and 66ma with the lock relay activated.

This doesn't include any external door open or relay activated drives connected to the outputs.

The board is software driven and can be changed if requested to do a different function if within the ability of the layout.

DOOR INTERLOCK CONTROLLER PCB VERSION D.I.C.2A

This pcb is designed to work as a two door interlock which can be expanded to multi-door interlocking. When any one function is activated all other functions are locked out . ALL FUNCTIONS MUST BE NORMAL BEFORE THE PCB WILL WORK.

DIMENSIONS. PCB.115mm length x 105mm width x 28mm height.

SUPPLY VOLTAGE.

The pcb will work from 12volts to 28volts dc.

CONNECTIONS.

All connections to the pcb are made via a screw terminal connector block with silver plated wire protectors. conductor acceptance 1.5mm.wire.

INTERLOCK FUNCTIONS.

The pcb has connections for two door interlocking.

There is a normal closed door contact connection, a normal open start switch connection and a 5amp clean relay change-over contacts to control the door lock for each door.

Each door has a separate timer function which can be programmed to different door release open times. When a door start input is activated, if the door contact is not opened within the timer cycle, the door release relay will de-energise and re-lock the door.

Each door timer release timer range is from 5 to 90 seconds in seven steps.

The time setting are selected by switches 1,2,3 for door 1 and 5,6,7 for door 2. 5,10,20,30,40,60,90 seconds and a Zero door released time, while the start switch is closed the relay is activated and will reset as soon as the start switch is re-opened.

The timer can be disabled. This is selected by switch 4 door 1 and switch 8 door 2. When disabled, the door will not re-lock until the door contact is opened and closed.

All the timer switches are on the bottom 8way switch block.

There is one exception, when the door is programmed as instant "release/re-lock", both doors are automatically programmed the same.

The doors can be programmed as individual doors with interlock or as first door open with second door follow through release.

Each door has a return Egress switch input which is automatic time release of 5 seconds, this time set is not adjustable.

When any function is activated all other functions are disabled. I.E. if an egress switch is active the other can not be activated, or if a door is open or badged, the other door can not be badged or its egress activated.

OUTPUTS.

Each door has a separate output as listed.

Door 1 open.

Door 2 open.

Door 1 release relay activated.

Door 2 release relay activated.

A common output to show either door open #

Each output is a - with a common + and each output has a switch for hard output or limit resistor output for direct connection to a LED.

this output is a hard - only No limit resistor switch.

Terminal 14 is a hard negative for the Egress switch controls and manual card lockout.

Terminal 15 on the bottom row, is a inhibit output for connecting a second card for a multi-door interlock system.

SWITCH FUNCTIONS.

Note. Switches UP is "On"

The top 6way switch block.

Switch 1, limit resistor for Door 2 open. Switch to "off" for limit resistor.

Switch 2, limit resistor for Door 1 open. Switch to "off" for limit resistor.

Switch 3, limit resistor for Door 1 relay activated. Switch to "off" for limit resistor.

Switch 4, limit resistor for Door 2 relay activated. Switch to "off" for limit resistor.

Switch 5, Door release relay follow through when switch is "On".

Switch 6, 1 or 2 door interlock select. 2 door when switch is "On", 1 door when "Off".

DO NOT HAVE SWITCHES 5 "ON" WITH SWITCH 6 "OFF" AS IT WILL PULL UP THE SECOND RELAY AND LATCH, AS YOU CAN NOT HAVE FOLLOW THROUGH WITH ONE DOOR INTERLOCK AT THE SAME TIME.

Follow through is for two door interlocking only. Follow through means the second door auto unlocks when the first door is re-closed.

INPUTS.

Terminals 1+ , 2- voltage supply connections for pcb.

Terminals 3 and 4 door 1 n/c door contact.

Terminals 5 and 6 door 1 n/o start switch.

Terminals 7 and 8 door 2 n/c door contact.

Terminals 9 and 10 door 2 n/o start switch.

The start switch can be a n/o push switch or a clean relay contact, from an access card reader or keypad.

Terminal 11 door 1 Egress switch.

Terminal 12 door 2 Egress switch.

These two switches are connected via a normal open switch with the negative from terminal 14.

Terminal 13 on the bottom row, is an input. When negative either from a second card interface card is connected, or a negative via a switch from terminal 14, the card will be disabled.

Relays.

Term 15,16,17 door 1 Clean change-over contacts.

Term 18,19,20 door 2 Clean change-over contacts.

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DIC2\VER1 993071.

ADDITION.

LOCKS WITH HALL EFFECT DEVICE.

If using locks with this device fitted. (an normal open contact which closes when the power is on the lock and the lock plate is in position, door secure.)

This clean contact can be used as the door contact in positions 3 and 4 and 9 and 10. The contacts can be wired in series with a door contact if required.

This will interlock the doors until the door is in a secure state.

The door time release must be set at zero (all time switches on) and the time release will be set by the card reader or keypad release time. set between 3 to 5 seconds if possible.

SOFTWARE CHANGE.

When used two or more DIC2 pcbs connected together as multi-door interlocking.

There has been a situation were it could be possible to activate two request to exit inputs at the same time when three or more doors are interlocked. Due to the two buttons are in a position were there could be pressed simultaneously.

Were this situation can happen we can supply a Master and Slave software change. This consists of One Master software chip and as many slave chips as required for the additional D.I.C pcbs fitted.

Please note. If using Hall Effect with all timer switches 1 to 8 "on" then follow through can not be used, so switch 5 on the function switch must be switched "off".

Door interlock software change for product DIC2.

Software change.

We have made a small change to the software as listed below.

Master 201/ver01

This is the older version and the reason for the change is as follows:-

When the system has unlocked the door and it has been opened, on closing the door, the lock relay de-energises straight away as soon as the door contact reed switch, detects the magnet.

This is sometimes a problem when a mechanical door closer with a mag-lock or strike bolt being used.

Due to the door might not be closed in its frame before the reed switch is detected, so the maglock will pull against the door closer motor or the strike bolt will not be lined up to the strike plate correctly..

There is not a problem with conventional door set-ups, but to help solve this problem, we have changed the software .

Master 201/ver02.

Latest software has been revised due to the above.

When the door contacts closes there is a 2 second delay before the lock relay de-energises, or in the case of follow through (switch 5) is on, before the lock relays change-over.

If the old version software is required, it is still available and must be ordered as Master 201/ver01 and the slave version Slave 201/ver01.

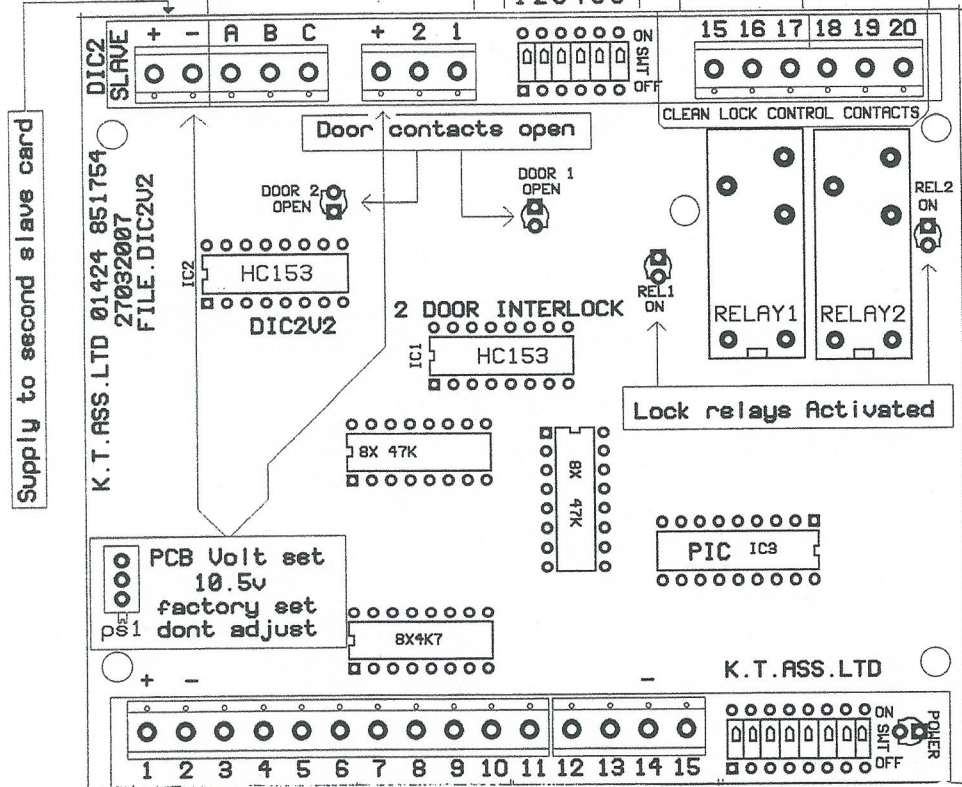
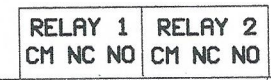
23/09/04

Software version change on the 11/02/14 was written to over come some delay problems when using MAG-locks which alleviate the need to fit 100uf/25v caps on older versions

New paper work for DIC2V2

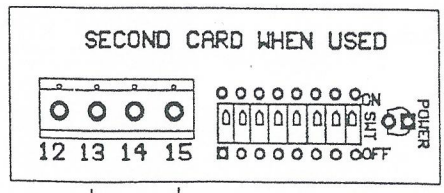
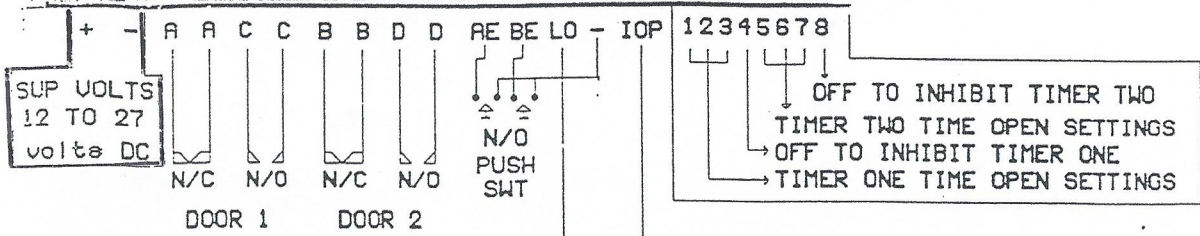
- A. - COMMON EITHER DOOR OPEN
- B. - DOOR TWO OPEN
- C. - DOOR ONE OPEN
- 1. - RELAY ONE ACTIVATED
- 2. - RELAY TWO ACTIVATED
- + POSS FOR ABOVE

1 TO 4 LIMIT RESISTORS WHEN OFF.
 5 RELAY FOLLOW THROUGH WHEN ON.
 6, 1 OR 2 INTERLOCK SELECT,
 2 ON, 1 OFF



DOOR TIMER SETTINGS			
SWT 1(5)	SWT 2(6)	SWT 3(7)	SECS
OFF	OFF	OFF	5
OFF	OFF	ON	10
OFF	ON	OFF	20
OFF	ON	ON	30
ON	OFF	OFF	40
ON	OFF	ON	60
ON	ON	OFF	90
ON	ON	ON	on/off

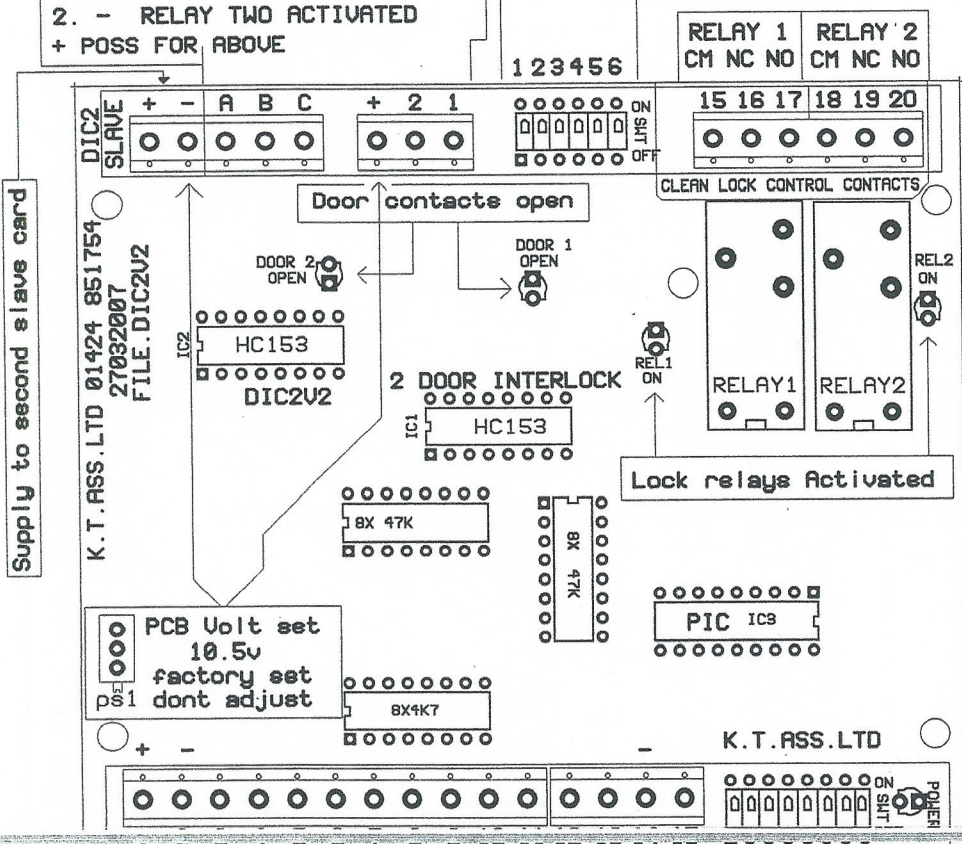
When this mode is used, both sets of timers switches must be the same.
 Instant on/off with NO time delay



New paper work for DIC2V2

- A. - COMMON EITHER DOOR OPEN
- B. - DOOR TWO OPEN
- C. - DOOR ONE OPEN
- 1. - RELAY ONE ACTIVATED
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1 TO 4 LIMIT RESISTORS WHEN OFF.
 5 RELAY FOLLOW THROUGH WHEN ON.
 6, 1 OR 2 INTERLOCK SELECT,
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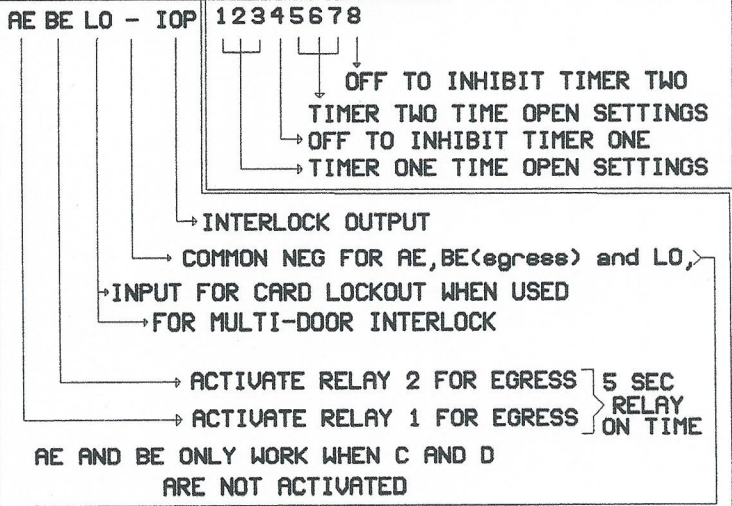
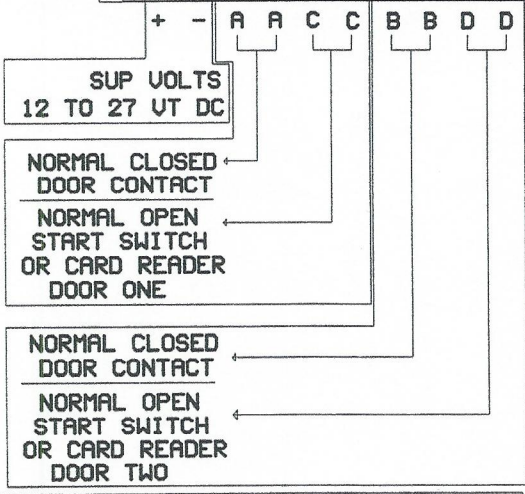


DOOR TIMER SETTINGS			
SWT 1(5)	SWT 2(6)	SWT 3(7)	SECS
OFF	OFF	OFF	5
OFF	OFF	ON	10
OFF	ON	OFF	20
OFF	ON	ON	30
ON	OFF	OFF	40
ON	OFF	ON	60
ON	ON	OFF	90

ON ON ON on/off

When this mode is used, both sets of timers switches must be the same.

Instant on/off with NO time delay



IF USING A MAGNETIC LOCK WITH A HALL EFFECT NORMAL OPEN CONTACT, (CLOSING WHEN THE LOCK IS SECURE.) THIS LOCK CONTACT CAN BE USED AS THE DOOR CONTACT OR WIRED IN SERIES WITH A DOOR CONTACT. THIS WILL MAKE THE DOORS INTERLOCK UNTIL THE LOCK IS SECURE. THE TIME RELEASE SETTING MUST BE SET AS INSTANT, (ALL SWITCHES ON) AND SET CARD READER RELEASE TIME FOR APPROX 5 SECS IF POSSIBLE.

LOCKS WITH HALL EFFECT DEVICES

* THIS NEG CAN BE FEED INTO INPUT CARD LOCKOUT TERM 13 VIA A SWITCH OR CONTACTS, TO INHIBIT THE CARD WHEN USED, AS A 2 DOOR SETUP ONLY, TO PREVENT THIS CARD DOORS FROM ACTIVATING.

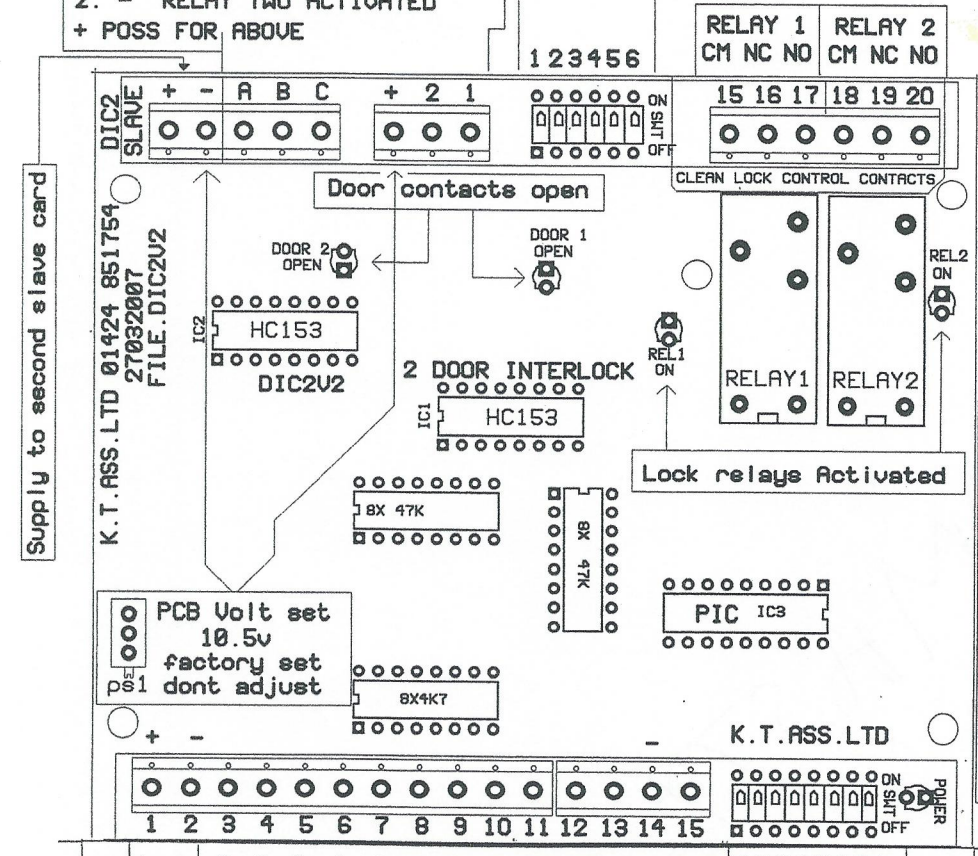
MUST NOT BE USED IF MULTI CARD MASTER/SLAVE SETUP

When any input is activated on the board all other functions are locked out.

New paper work for DIC2V2

- A. - COMMON EITHER DOOR OPEN
- B. - DOOR TWO OPEN
- C. - DOOR ONE OPEN
- 1. - RELAY ONE ACTIVATED
- 2. - RELAY TWO ACTIVATED
- + POSS FOR ABOVE

1 TO 4 LIMIT RESISTORS WHEN OFF.
 5 RELAY FOLLOW THROUGH WHEN ON.
 6, 1 OR 2 INTERLOCK SELECT,
 2 ON, 1 OFF



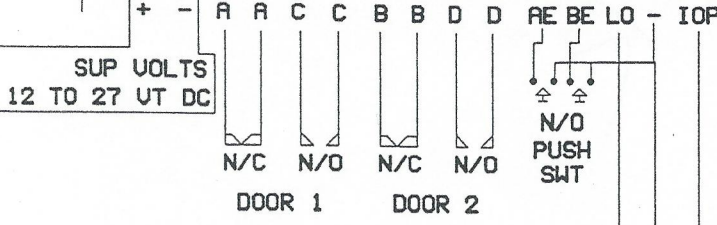
RELAY 1		RELAY 2	
CM	NC	CM	NC
NO	NO	NO	NO

SWT 1(5)	SWT 2(6)	SWT 3(7)	SECS
OFF	OFF	OFF	5
OFF	OFF	ON	10
OFF	ON	OFF	20
OFF	ON	ON	30
ON	OFF	OFF	40
ON	OFF	ON	60
ON	ON	OFF	90

ON ON ON on/off

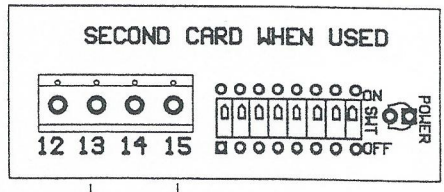
When this mode is used, both sets of timers switches must be the same.

Instant on/off with NO time delay



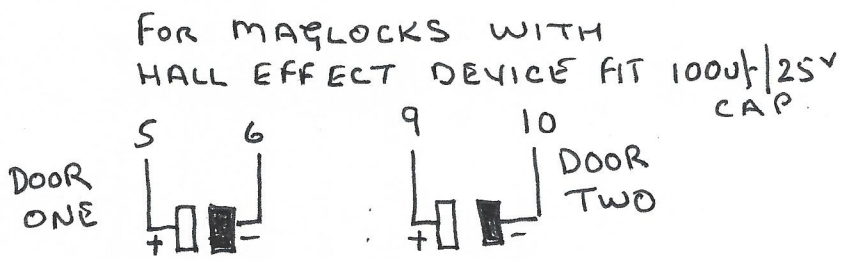
OFF TO INHIBIT TIMER TWO
 TIMER TWO TIME OPEN SETTINGS
 OFF TO INHIBIT TIMER ONE
 TIMER ONE TIME OPEN SETTINGS

KEYSWITCH OPTION TO LOCKOUT CARD IF REQUIRED. KTR. KENTIM CLOCK CAN BE USED

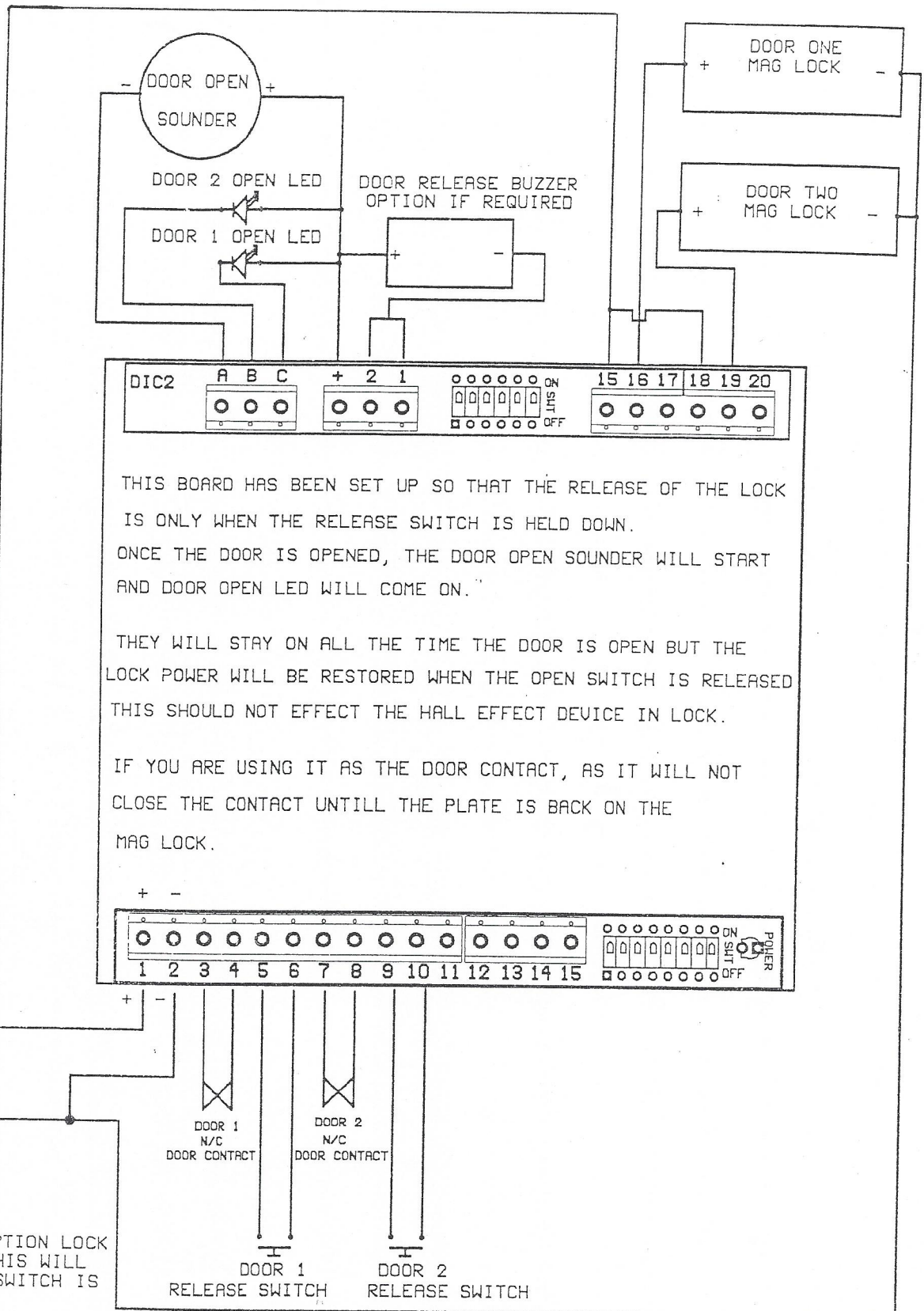


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LOCKS WITH HALL EFFECT DEVICES



SET ALL SWITCHES TO "ON" POSITION. ON OLD EXISTING INSTALLATIONS HALL EFFECT MODIFICATION.



THIS BOARD HAS BEEN SET UP SO THAT THE RELEASE OF THE LOCK IS ONLY WHEN THE RELEASE SWITCH IS HELD DOWN. ONCE THE DOOR IS OPENED, THE DOOR OPEN SOUNDER WILL START AND DOOR OPEN LED WILL COME ON.

THEY WILL STAY ON ALL THE TIME THE DOOR IS OPEN BUT THE LOCK POWER WILL BE RESTORED WHEN THE OPEN SWITCH IS RELEASED THIS SHOULD NOT EFFECT THE HALL EFFECT DEVICE IN LOCK.

IF YOU ARE USING IT AS THE DOOR CONTACT, AS IT WILL NOT CLOSE THE CONTACT UNTILL THE PLATE IS BACK ON THE MAG LOCK.

TO POWER SUPPLY OUTPUT

IF YOU ARE USING OPTION LOCK RELEASE SOUNDER, THIS WILL SOUNDER WHEN THIS SWITCH IS ACTIVATED.

Please note. If using Hall Effect with all timer switches 1 to 8 “on” then follow through can not be used, so switch 5 on the function switch must be switched “off”.