IEC IB1 Door Interlock Instructions

T 01202 676262
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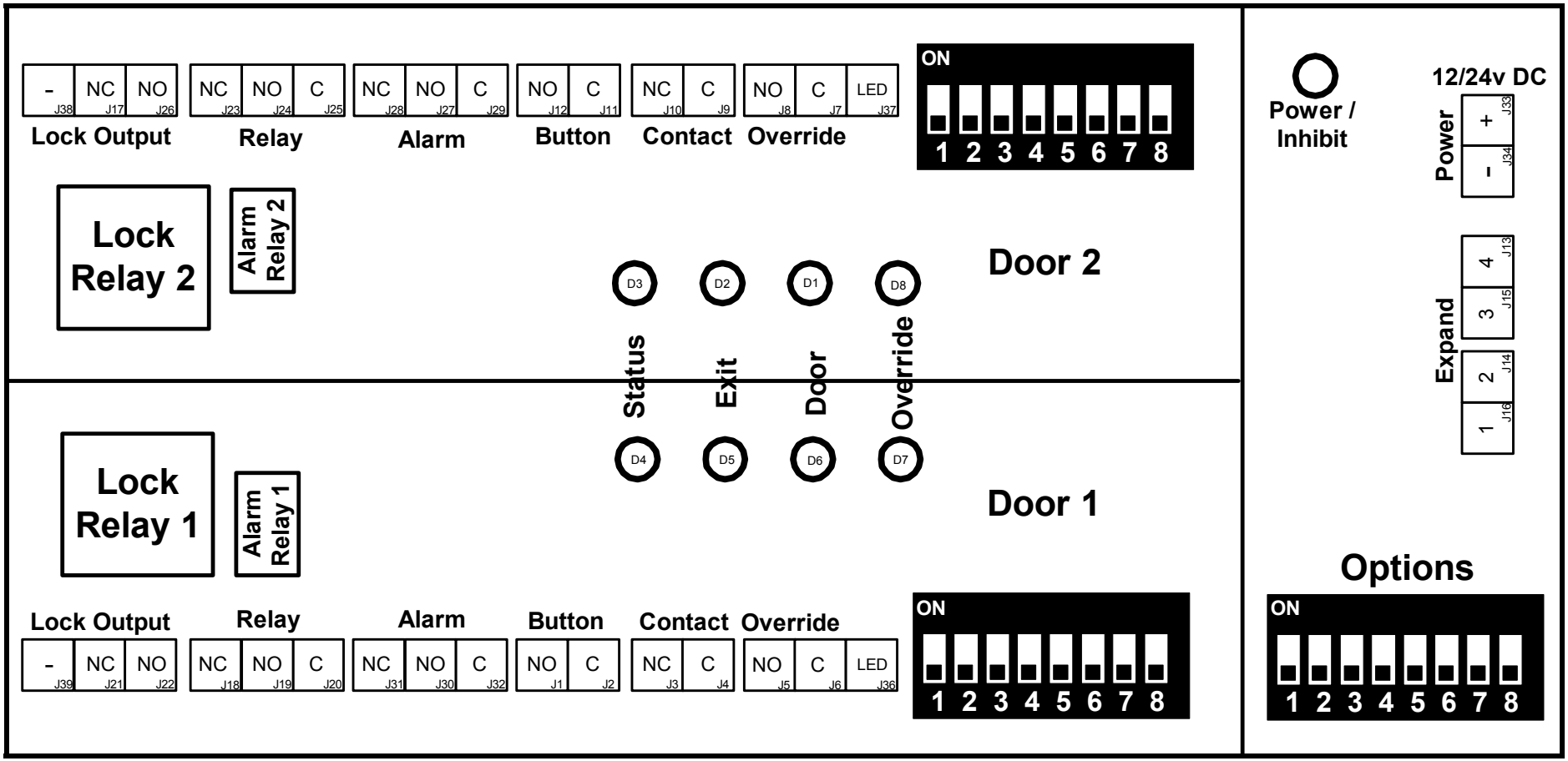
First Choice Solutions



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Technical Specification

- 2 Door True Interlock Controller
- Dual Voltage 12/24v DC
- 5 Amp Double Pole Relay (1 Pole Powered Output, 1 Pole Volt Free), NO, NC, C
- Firmware control of all logical function.
- True interlock via processor, impossible for 2 doors to open together.
- 9 on board Engineer LED's
- Pluggable terminal blocks, for ease of installation
- Dual Alarm output – 1 Amp, Door Forced & Door Left Open
- 0-62 Seconds adjustable Door Open time.
- Remaining lock open time cancelled once door has opened and closed – Electro-Magnetic monitoring is not suitable for this feature, remaining lock open time will time out.
- 0-60 Seconds adjustable alarm delay
- Individual Door Override inputs, for each door.
- Door status LED output
- All settings adjusted with accurate dip switches
- Fully expandable to infinite numbers of doors, no additional control unit required, simply keep adding 2 door boards.
- Inhibit selection allowing doors to be unaffected by actions from other boards.

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Installation Notes

- Read instructions fully before making any connections.
- PCB should be mounted in a dry, dust free environment, eg. a power supply.
- Mount PCB on either the metal posts & bolts or the nylon stick-on feet provided.
- NEVER make any connections with the PCB powered on.
- Always make sure the underneath of the PCB is not in contact with any metal or conductive materials.
- Do not apply excessive pressure on the PCB.
- Do not allow any bare connections to come into contact with any part of the PCB, making sure all connections are secured fully inside terminal block and no short circuits are present.
- When powering the board off, allow a few seconds before switching back on.
- When removing pluggable terminal blocks, lift straight up and don't force them.
- The version number of these instructions at the bottom of this page relates to the label on the processor, the letter afterwards relates to the version of instructions for that processor.

If in any doubt please contact you supplier for help on the connections or configuration of this product.

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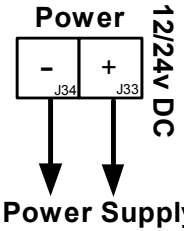
Power Supply - Input

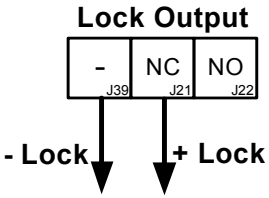
Terminals J33 & J34



Voltage 12 - 24v DC (+/- 15%)

Fail Unlocked Locking Device - Output

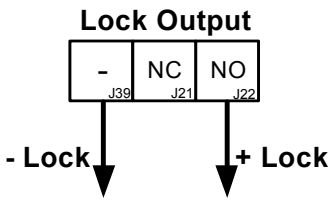
Door 1 - Terminals J39 & J21
Door 2 - Terminals J38 & J17



Output Voltage = Input Voltage at J33&34
Max Current Load = 5Amp

Fail Locked Locking Device - Output

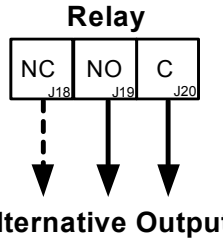
Door 1 - Terminals J39 & J22
Door 2 - Terminals J38 & J26



Output Voltage = Input Voltage at J33&34
Max Current Load = 5Amp

Volt Free Relay - Output

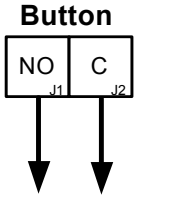
Door 1 - Terminals J18, J19 & J20
Door 2 - Terminals J23, J24 & J25



Max Voltage = 24v DC
Max Current = 5Amps

Exit Button - Input

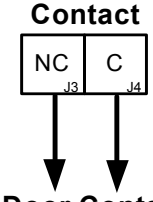
Door 1 - Terminals J1 & J2
Door 2 - Terminals J11 & J12



Volt Free, Normally Open (NO) connection going closed on actuation

Door Position Switch - Input

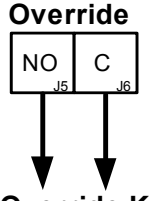
Door 1 - Terminals J3 & J4
Door 2 - Terminals J9 & J10



Volt Free, Normally Closed (NC) connection going open when door is opened

Door Override - Input

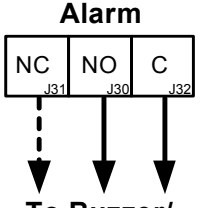
Door 1 - Terminals J5 & J6
Door 2 - Terminals J7 & J8



Volt Free, Normally Open (NO) connection going closed to override the door.

Door Forced / Door Left Open Alarm - Output

Door 1 - Terminals J30, 31 & J32
Door 2 - Terminals J27, 28 & J29



Max Voltage = 24v DC
Max Current = 1Amp

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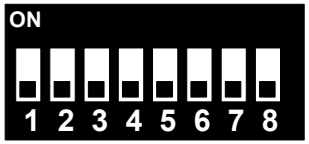
Dip Switch Selector



Door Unlock Time
1 = 2 Seconds
2 = 4 Seconds
3 = 8 Seconds
4 = 16 Seconds
5 = 32 Seconds
Eg. 6 Secs select 1 & 2
20 Secs select 2 & 4

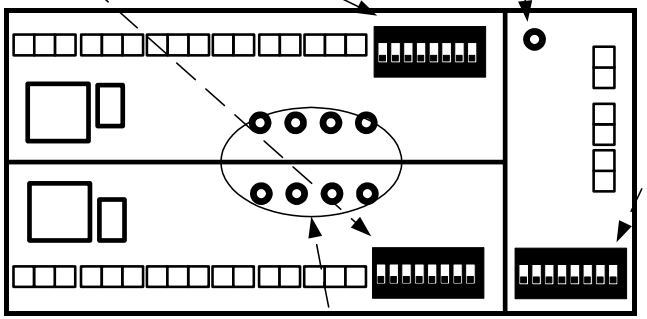
6 Off = Door Left Open
6 On = Door Forced

Door Left Open/Forced Time Delay
7 = 15 Seconds
8 = 30 Seconds
Eg. for 45 Secs Select 7&8
The use of a time delay for door forced is not recommended

NB. Each Door is controlled independently

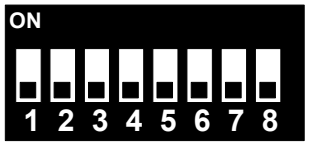
Cancellation of remaining lock open time
When the door position contact monitors the door has opened and closed, the remaining lock open time will be cancelled. The use of the monitoring on Electro-Magnetic locks will not respond to this feature, the remaining time will time out.

Power Led
Constant Red = Power Applied to PCB
Flashing Red = Board interlocked through expansion input.



Status LED's
Lower LED's = Door 1, Upper LED's = Door 2
Status = Door Output/Relay Activated
Exit = Exit Button Pressed
Door = Door Open
Override = Override input Active

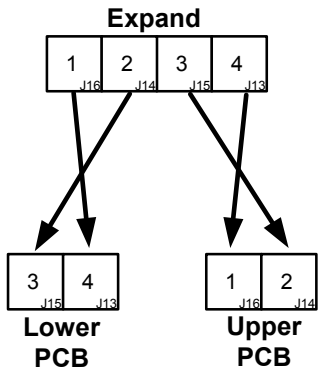
Dip Switch Selector



Expansion to additional Interlocks
1 - Door 1 ignores inhibit from next lower PCB
2 - Door 1 ignores inhibit from next upper PCB
3 - Door 2 Ignores Inhibit from next lower PCB
4 - Door 2 Ignores Inhibit from next upper PCB

Warning: The IB1 works on a hierarchy system, so a lower board may lock an upper board door on occasions. Please contact IEC for more details and help with configuration.

Expand - Additional PCB's



IB1 interlock PCB's can be expanded infinitely without additional hardware. Simply connect as shown above.
NB. This configuration is for controllers connected to the same 12/24v DC Power Supply. If any boards are on separate power supplies, the Negative (-) power supply input (J34) must be linked on each board

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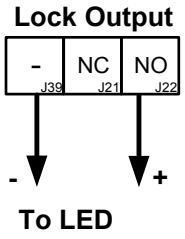
LED Indicator Options

L1 Lock Status Indicator Door Unlocked

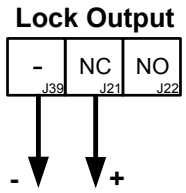
Door 1 - Terminals J39 & J21
Door 2 - Terminals J38 & J17



This connection will illuminate the LED when the lock status is unlocked
NB. This is not monitoring door position

L2 Lock Status Indicator Door Locked

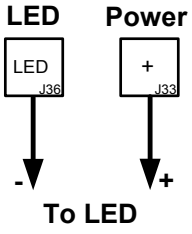
Door 1 - Terminals J39 & J21
Door 2 - Terminals J38 & J17



This connection will illuminate the LED when the lock status is locked
NB. This is not monitoring door position

L3 LED Output

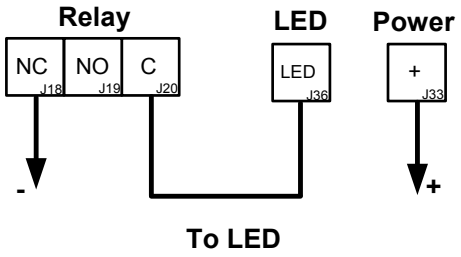
Door 1 - Terminal J36 & Power (+) J33
Door 2 - Terminal J37 & Power (+) J33



This connection will illuminate an LED when the lock is unlocked and will flash the same output when the door is inhibited from opening by another door. If switch 5 is on on the options dip switches (corner of PCB) then this output will only flash when it is inhibited.

L4 LED Output

Door 1 - Terminal J36 & Power (+) J33
Door 2 - Terminal J37 & Power (+) J33



This set up allows you to work with LED option 3 making an LED flash but preventing it from operating when the lock status is unlocked.

Notes on LED Options

The primary function of LED indicators on an Interlock system is to inform users of interlock status

Using 1 LED. This can be on constant when the lock status is unlocked. It will also flash when the door is inhibited by another. - *Refer to diagram 3 above*

Using 2 LED's at the door. 1 LED can be lock status unlocked, and the other can be door inhibited by another - *refer to diagrams 1 & 3 making sure Options Dip Switch 5 is on*. Diagram 4 alllows the LED to flash when inhibited.

More options are available, if you need any help please contact IEC for more information