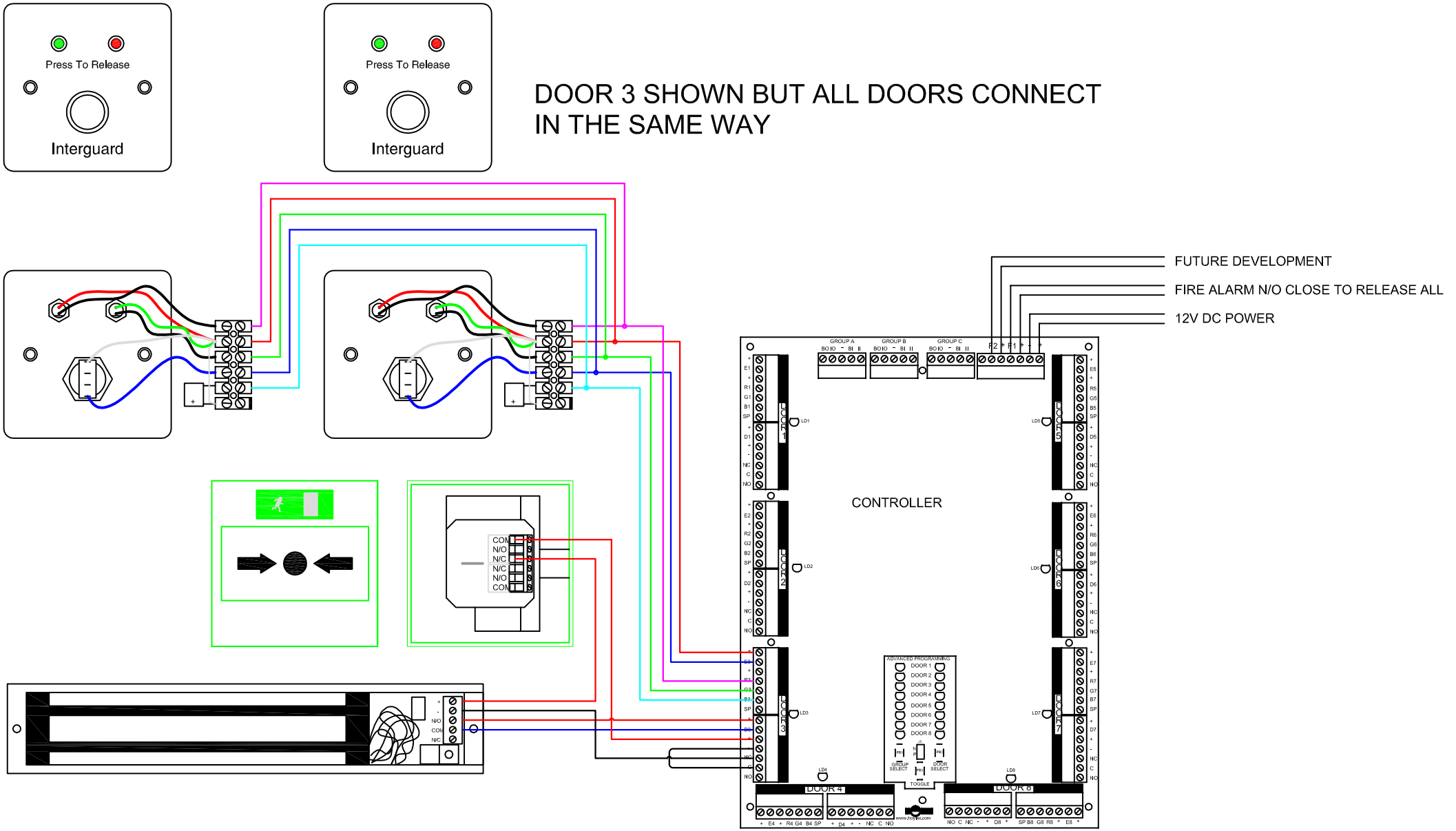

			Dimmensions in mm	Hoyles Electronic Developments Ltd	DRAWN BY	K.OLDFIELD
			MATERIAL	Copyright & Confidential	APPROVED	
			FINISH	IGPX8 ENGINEER CONNECTIONS	DWG No 60187	SHT 1 OF 1
1	04.12.19	ORIG ISSUE				

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IGPX8 installation instructions. (REF 60187)

Specification
The unit requires 12v dc power, normally from the internal 12v 5A power supply.
The 8 x D inputs are for 8 normally closed contacts (closed when the door is closed).

Interlocking Principals
Interlocking in its simplest form is for 2 doors and in theory only one door can be open at once. The IGPX8 achieves this by keeping all doors closed and locked and release the relevant door on request only if available to be released i.e. all other interlocked doors are locked.

System configuration.
The programming principals allow each door to be defined as interlocked or not, with each of the other doors.

Operational indications - Red/Green indicators are provided at each door. Normally there are no indications.
When a door is legitimately used, it will indicate a steady green. The other doors interlocked with the door indicating a steady red.
If the interlock is breached, all interlocked doors indicators will flash red and the door that caused the breach will alternate with green.
If the doors are all released via the fire inputs, all door indicators will flash green.

Breach
If a door is forced or left open too long then a breach will indicate for the breached door. Each door has its own breach indication that drives the buzzer in each door plate.

Fire Alarm operations
F1 fire alarm all doors release.
F2 fire alarm disables the interlocking. Doors remain locked, but every request to release (RTR) is accepted.

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Programming the interlock door relationships

With power applied to the unit, move the jumper J3 in the advanced programming section of the board, to position P. The indicator green led for door 1 should illuminate steadily and the red leds indicate which doors are interlocked with door 1. Interlocked doors will either be illuminated steady red if interlocked or extinguished if not interlocked, except the door that is being setup. This will be flashing red, either more on than off if interlocked or more off than on if not interlocked.

Use pushbutton Group Select to select the subject door (the green leds).

Use pushbutton Door Select to select the doors that will be interlocked with the subject door (the red leds).

Use pushbutton Toggle to toggle the door (set by Door Select) from interlocked to not interlocked and vice versa.

When all 8 doors, (selected by the group Select button), have been setup, pressing the group select again will illuminate doors 1 and 2 green leds. This allows a group of doors to be interlocked with another IGPX8, therefore increasing the capacity of the total number of interlocked doors via the group A interconnections. Pressing again, illuminates doors 4 and 5 leds, this allows group B to be set up similarly to group A. Then pressing again illuminates Doors 7 and 8 green leds allowing Group C to be setup. Pressing again goes back to door 1 green led and allows you to check what has been setup.

When all doors have been setup as required, move the jumper back to position N and the settings will be stored ready for use. If power is lost the settings will be safely stored in NVM and returned when power is re-applied.

The setup is very important. If door 2 is interlocked with door 1, then door 1 **must** also be set to interlocked with door 2. If not, opening door 1 will lock door 2 and prevent the two doors from being opened at the same time, however, opening door 2 will not lock door 1 so the two can be opened together (providing that door 2 is opened first).

Programming the door lockdown times

Each door can have its own lockdown time. This lockdown time locks every door associated with that door for the time period set, after the door has been used. The options available are :- 0 sec (default), 5 sec, 10 sec, 15 sec, 20 sec, 30 sec, 40 sec, 60 sec, 90 sec, 2 min, 3 min, 5 min, 7 min, 10min, 15 min, 20 min.

To program the door lockdown, hold down the group select button. Whilst holding the button down, move the jumper J3 in the advanced programming section to position P. The green door 1 led should be flashing. Release the group select pushbutton. A flashing green led indicates the door that the lockdown time applies to. The times will be indicated as a binary display on door 1, 2, 3 and 4 red leds. These will illuminate steadily.

No leds, 0 sec, door 1, 5 sec, door 2, 10 sec, doors 1 and 2, 15 sec, door 3, 20 sec, doors 1 and 3, 30 sec, doors 2 and 3, 40 sec, doors 1, 2 and 3, 50 sec.

Door 4, 60 sec, doors 1 and 4, 70 sec, doors 2 and 4, 80 sec, doors 1, 2 and 4, 90 sec, doors 3 and 4, 105 sec, doors 1, 3 and 4, 2 min, doors 2,3 and 4 2 min 30 sec, doors 1, 2, 3 and 4, 3 mins

To Change the time, press the Toggle button. Each press advances the count from 0000 to 1111 and then back to 0000.

To change the door in question, press the Group select button.

When all doors have been setup as required, move the jumper back to position N and the settings will be stored ready for use. If power is lost the settings will be safely stored in NVM and returned when power is re-applied.

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Programming the DWELL and DOTL times

The DWELL time is the time that the lock power remains switched after a Request To Release (RTR) has been seen. The DOTL is the Door Open Too Long timer. With interlocked doors it is a typical requirement that the doors are closed in a timely manner so as not to keep other doors locked. The options available for DWELL are 2 seconds, 5 seconds (Default), 9 seconds and 12 seconds. The options for DOTL are 1 minute (Default), 5 minutes, 10 minutes and disabled.

To enter the program DWELL, hold down the Door Select pushbutton. Whilst holding the button down, move the jumper J3 in the advanced programming section to position P. The green door 1, 2, 3 and 4 leds should be flashing. Release the Door Select pushbutton. A flashing green leds 1 - 4 indicates the DWELL time is being programmed. The times will be indicated on the red leds. These will illuminate steadily. Door 1 = 2 seconds, Door 2 = 5 seconds, Door 3 = 9 seconds and Door 4 = 12 seconds. Use the Door Select button to switch between these.

When the DWELL time has been set, press the Group Select button. The green door 5, 6, 7 and 8 leds should be flashing. These indicates the DOTL time is being programmed. The times will be indicated on the red leds. These will illuminate steadily. Door 1 = 1 minute, Door 2 = 5 minutes, Door 3 = 10 minutes and Door 4 = disabled. Use the Door Select button to switch between these.

You can then toggle between DOTL and DWELL programming with the Group Select button.

When you have finished programming move jumper J3 back to position N for operation mode.

The IGPX8 has a TEST / SETUP mode

When creating an advanced interlock, it is difficult to start, as not all doors just close and lock when first powered. The problem then can be to physically get to a door, as the access may be via an interlocked door. Then there are all the potential faults at doors like emergency releases being pressed by other contactors working on the site, or locks that require setting up. This test mode helps to relieve some of these problems.

To enter the test / setup mode, hold down the toggle pushbutton. Whilst holding the button down, move the jumper J3 in the advanced programming section to position P. Release the toggle button.

Each door should have its green led illuminated, either steadily or flashing. If the lock monitor or door status monitor is open, the indication will be steady. If the lock or door status monitor is closed, the indication will be flashing. The buzzer should be silent. If you are using fail safe locks, that is powered to lock and remove power to release, when the doorplates indicate green, the lock should be locked. If you are using failsafe locks, ie power applied to release the lock, then the lock will be unlocked. Pressing the pushbutton at the door should commutate the lock relay, ie. Press to switch the lock relay and press again to clear the lock relay. This allows you to lock and unlock a door from the door without other doors interlocking. When you press the button to switch the lock, the buzzer will bleep and the indications will change from green to red. If you press the button again, the relay will clear, without sounding the buzzer and the led indications will be green. The lock can be locked and unlocked repeatedly while lock alignment is carried out. Doors can be left locked or unlocked.

If a door should be locked in theory, but it isn't :-

1. Check that the emergency release isn't pressed.
2. Check the wiring is correct to the emergency release and the power is being switched by the relay.
3. Check that the lock is correctly aligned.
4. Check that the armature is not tight to the door and can pivot as it is deigned to do.

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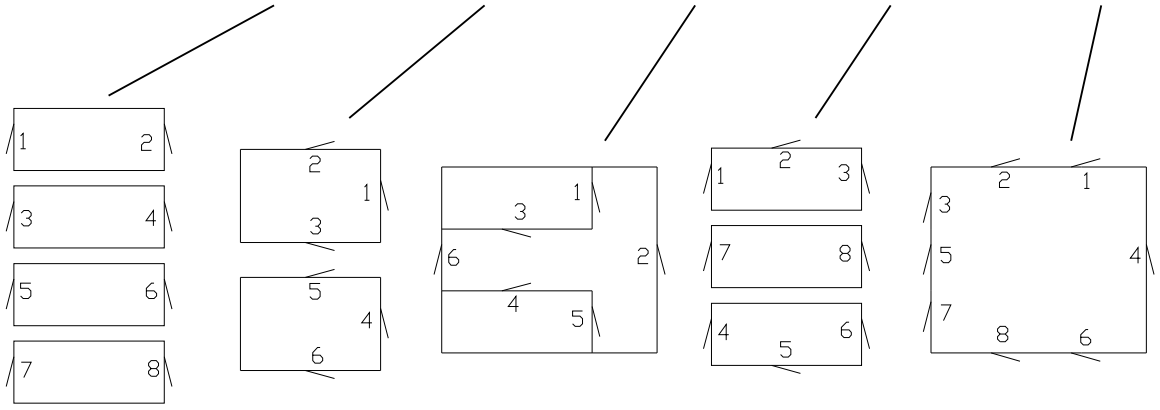
Examples

Interlock Door	4 separate 2 door interlocks	2 groups of 3 doors	2 x 3 and 1 x 2 door interlocks with door 2 common to all	2 x 3 and 1 x 2 door interlocks no common doors	7 x 2 door interlocks with door 4 common
1	1 and 2	1, 2 and 3	1,2 and 3	1,2 and 3	1 and 4
2	2 and 1	2, 1 and 3	2,1,3,4,5 and 6	2,3 and 1	2 and 4
3	3 and 4	3, 1 and 2	3,1 and 2	3,1 and 2	3 and 4
4	4 and 3	4, 5 and 6	4,2 and 5	4,5 and 6	4,1,2,3,5,6,7 and 8
5	5 and 6	5, 4 and 6	5,2 and 4	5,4 and 6	5 and 4
6	6 and 5	6, 4 and 5	6 and 2	6,4 and 5	6 and 4
7	7 and 8	Blank	Blank	7 and 8	7 and 4
8	8 and 7	Blank	Blank	7 and 8	8 and 4



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Typical table for interlocking relationships

	Door 1	Door 2	Door 3	Door 4	Door 5	Door 6	Door 7	Door 8
Door 1	X	Locked	Available					
Door 2	Locked	X	Locked					
Door 3	Available	Locked	X					
Door 4				X				
Door 5					X			
Door 6						X		
Door 7							X	
Door 8								X

The labels are for doors in use, so reading from the side labels, door 1 is interlocked with door 2, but not with door 3. Door 2 is interlocked with door 1 and door 3 and door 3 is interlocked with door 2 but not with door 1.

If you then change your view to along the top and you will see the same relationships down the columns.

The X's show that a door cannot be interlocked with itself!

Unused doors are filled in as available when completed.

During the programming, the select a door from either down the side or across the top and then select the red locked cells.

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