
Actionpac LNS3 & Safeguard V3

User operating guide - System Engine

Issue 5. August 2010

***action*air**

Dampers Controls Fancoils

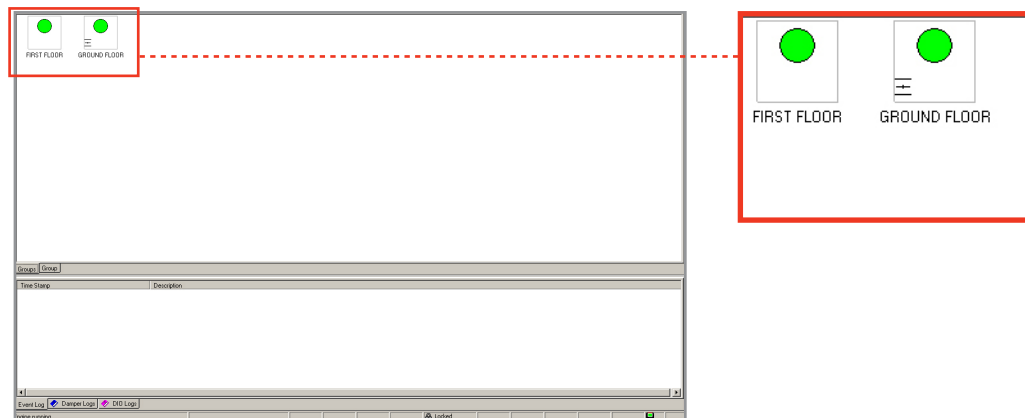
Ruskin Air Management Limited
www.ruskinuk.co.uk



Index

- 1 Damper status
Event log
 - 2 View a group
View a damper fault
Locking and unlocking
 - 3 Closed dampers
Output log
 - 4 Loss of network/power
Environmental input
 - 5 Input programming
Fire alarm input
 - 6 Firefighter override
Damper failure
 - 7 Auxiliary 1 input
Damper details
 - 8 The groups pane
The group pane
 - 9 Damper control
 - 10 BMS (Monitoring of dampers and if required IO)
Damper types
-
-

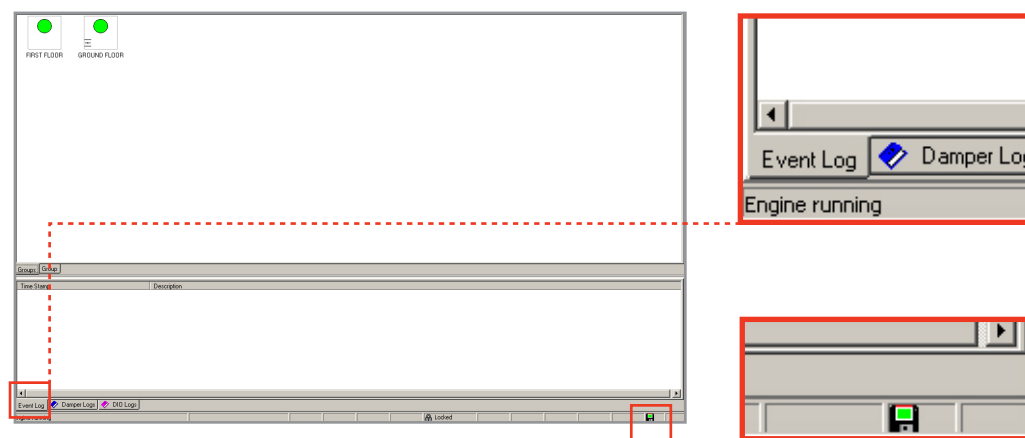
System Engine



Damper status

In this example you can see that we have two groups of dampers, one ground floor and one first floor.

The ground floor icon indicates that all dampers are open and healthy and the first floor icon has no open or closed indication but indicates that dampers are healthy. This is because on the first floor there is a mixture of dampers, some are failsafe open and some are failsafe closed. In the event of a fault the group's icon will turn red.



Event log

The 50 most recent events are logged in the Event Log and system logging active is indicated by disc.

After 51 or more events they are logged to history for preventative maintenance purposes.

System Engine

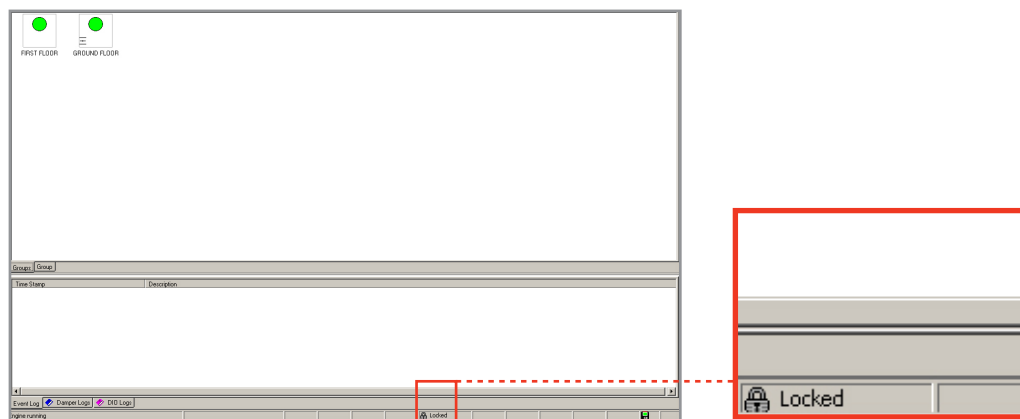


View a group

To view a particular group, either double click on the group within the groups pane or select tab "Group" and then select the group that you want to view from the drop down menu at top of pane.

View a damper fault

Select Damper Logs to view damper fault.

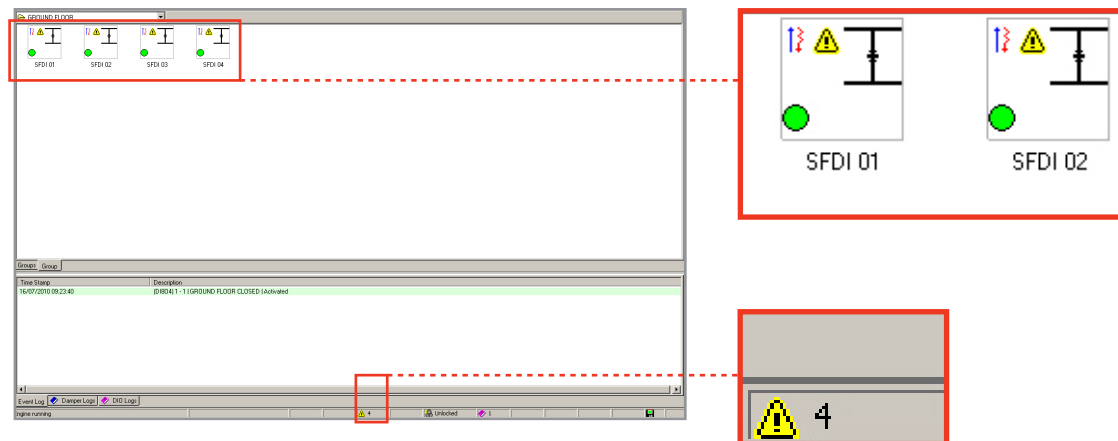


Locking and unlocking

To unlock the system use Ctrl + F10. The user can then operate a damper, a group or all groups. If the user changes the state of some or all of the dampers and locks the system (Ctrl + F10 again), then the dampers will remain in that state until future inputs are introduced.

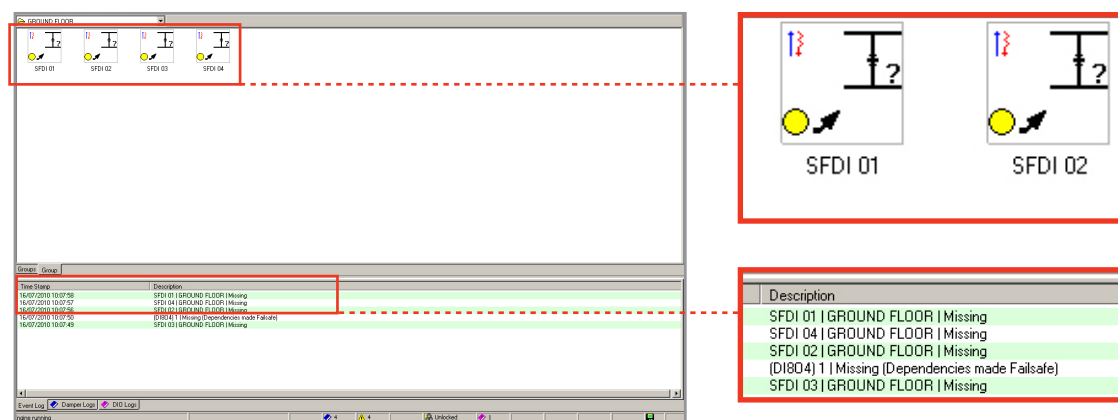
PLEASE NOTE: If a user is to be given access to the system they must be a competent person who understands and takes responsibility for their actions. When they have finished, they must remember to lock the system (Ctrl + F10)

System Engine



Closed dampers

The user has chosen to close all ground floor dampers which in this case were normally open. The damper icon indicates that they are now closed and the yellow warning triangle indicates that they are not in their normal position. The total number of dampers that are not normal is indicated in the taskbar.



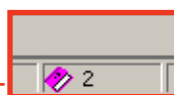
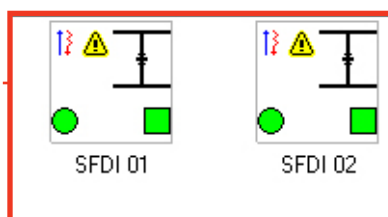
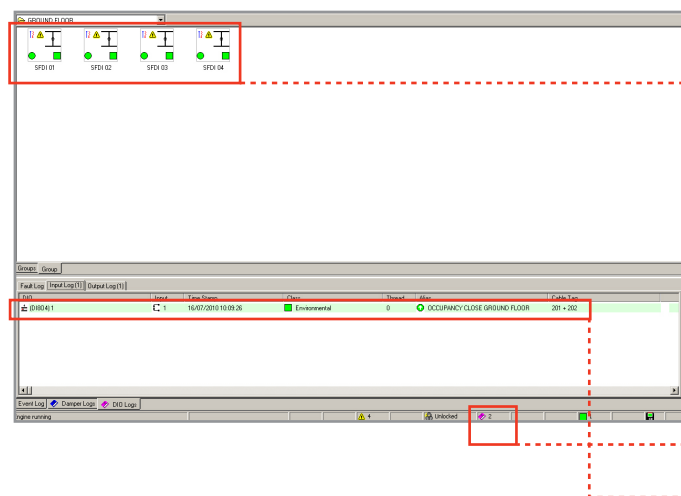
Loss of network / power

If wired radially and the network cable is cut or power to the dampers is lost then "Missing" will be indicated in the Event Log, the dampers will attempt to failsafe and their LED will change to yellow at the group screen. Alternatively, view Damper Logs.

If wired in a loop and the network cable is cut the dampers still communicate because the system now sees two radial network cables. If one newtwork cable breaks there will be no indication on the system.

(DI804) 1 Missing (Dependencies made Failsafe) means that DI804 (a DIO device) has failsafed all the dampers that are associated with it.

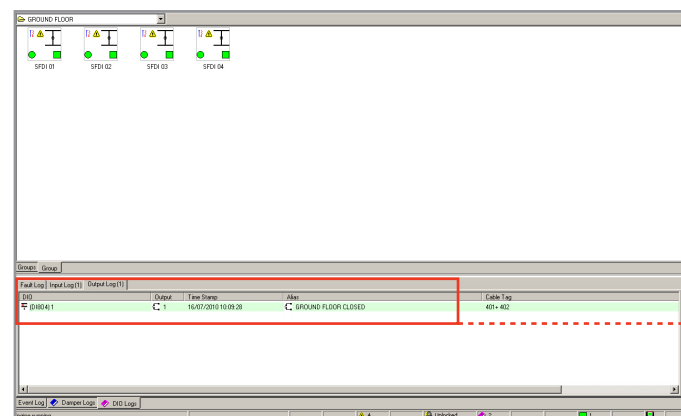
System Engine



Environmental input

The dampers are now under the influence of an environmental input as can be seen from the green square icon and this is typically used for occupancy. Two IO events are now active, 1 input and 1 output, which can be viewed in the DIO logs. In the input log it shows that input one environmental is active, its description (alias) and cable tags references. Thread is for subsystems where multiple systems can run on one server.

DIO	Input	Time Stamp	Class	Thread	Alias	Cable Tag
(DI804) 1	1	16/07/2010 10:09:26	Environmental	0	OCCUPANCY CLOSE GROUND FLOOR	201 + 202

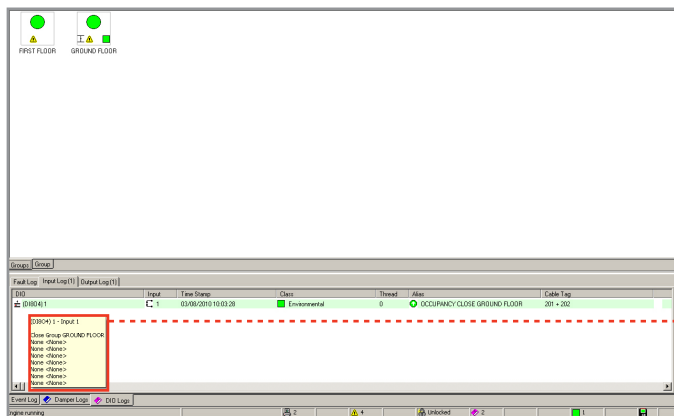


Output log

From the output log you can see that one output one is active, its description (alias) and cable tag references.

DIO	Output	Time Stamp	Alias	Cable Tag
(DI804) 1	1	16/07/2010 10:09:28	GROUND FLOOR CLOSED	401+ 402

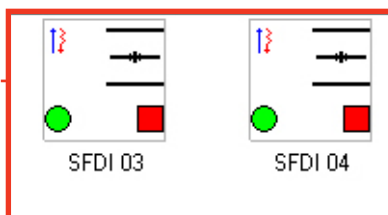
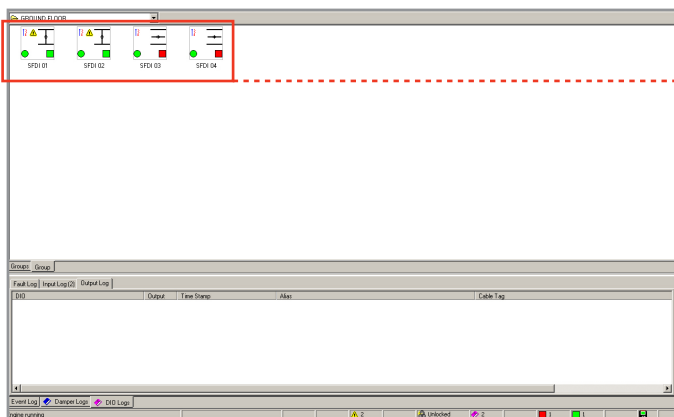
System Engine



(DI804) 1 - Input 1
Close Group GROUND FLOOR
None <None>
None <None>
None <None>
None <None>
None <None>
None <None>
None <None>
None <None>

Input programming

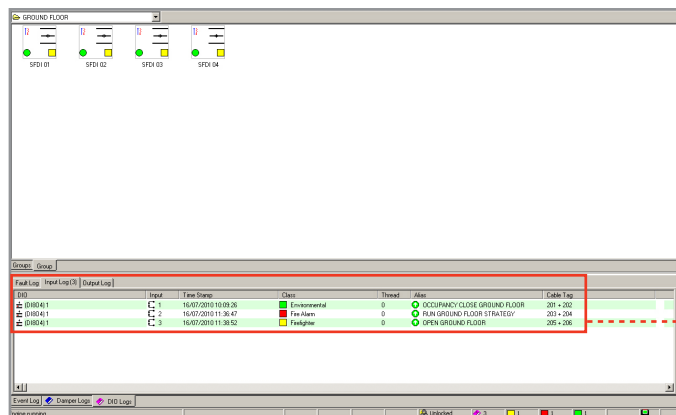
Select an input to view how it is programmed. Alternatively, if in the output log select an output to view how it is programmed



Fire alarm input

A fire alarm input has now been introduced into the system which can be viewed in the taskbar and from red square icons on the dampers. In this case two dampers have been opened as per the cause & effect (building strategy).

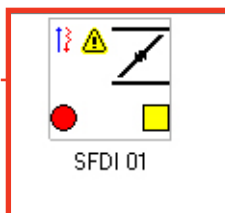
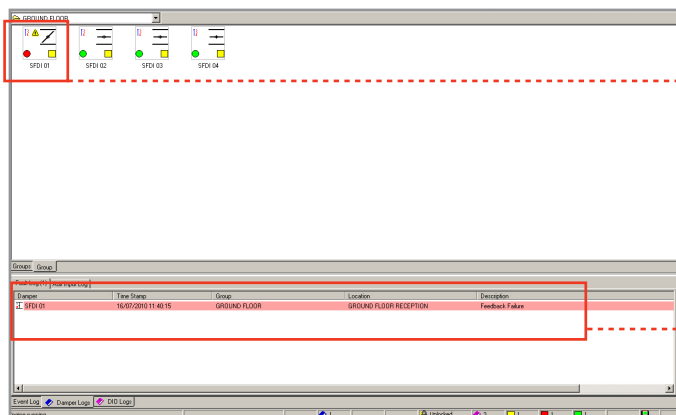
System Engine



Firefighter override

Now a fire fighter override has been introduced into the system and opened all ground floor dampers and from the input log all inputs can be viewed. N.B. Environmental inputs have the lowest priority and are locked out by fire alarm inputs which in turn are locked out by the highest priority, fire fighter inputs.

DIO	Input	Time Stamp	Class	Thread	Alias	Cable Tag
(DI804) 1	1	16/07/2010 10:09:26	Environmental	0	OCCUPANCY CLOSE GROUND FLOOR	201 + 202
(DI804) 1	2	16/07/2010 11:36:47	Fire Alarm	0	RUN GROUND FLOOR STRATEGY	203 + 204
(DI804) 1	3	16/07/2010 11:38:52	Firefighter	0	OPEN GROUND FLOOR	205 + 206

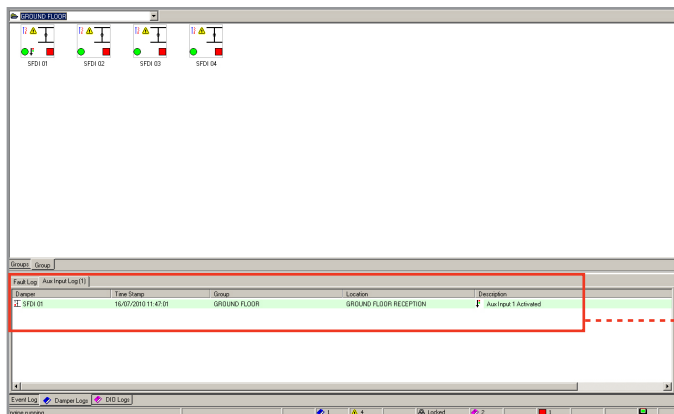


Damper failure

Should one of the dampers fail to reach one of its end positions it will attempt to failsafe and indicate a feed back failure in the Event Log and its LED will change to red.

Damper	Time Stamp	Group	Location	Description
SFDI 01	16/07/2010 11:40:15	GROUND FLOOR	GROUND FLOOR RECEPTION	Feedback Failure

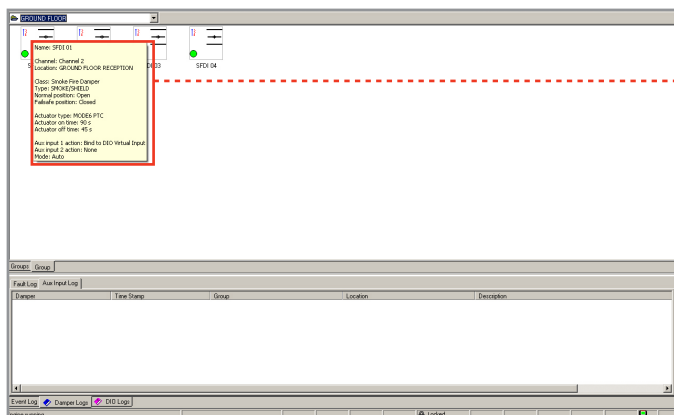
System Engine



Auxiliary 1 input

Auxiliary input 1 smoke detector for ground floor reception has been activated as can be seen on SFDI 01 and the building strategy was to close all dampers on the ground floor.

Damper	Time Stamp	Group	Location	Description
SFDI 01	16/07/2010 11:47:01	GROUND FLOOR	GROUND FLOOR RECEPTION	Aux Input 1 Activated



Name: SFDI 01
 Channel: Channel 2
 Location: GROUND FLOOR RECEPTION

Class: Smoke Fire Damper
 Type: SMOKE/SHIELD
 Normal position: Open
 Failsafe position: Closed

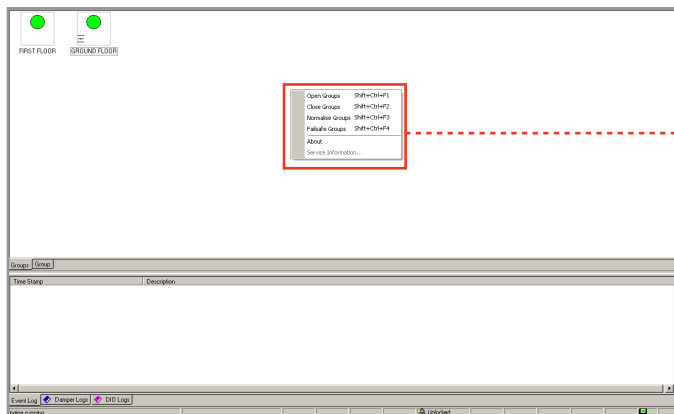
Actuator type: MODE6 PTC
 Actuator on time: 90 s
 Actuator off time: 45 s

Aux input 1 action: Bind to DIO Virtual Input
 Aux input 2 action: None
 Mode: Auto

Damper details

Select a damper to view its details

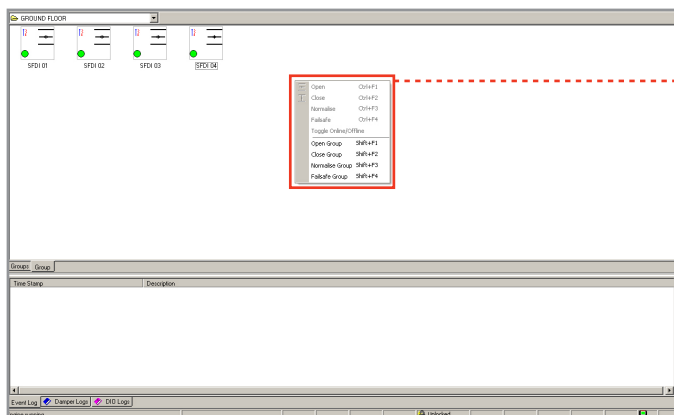
System Engine



Open Groups	Shift+Ctrl+F1
Close Groups	Shift+Ctrl+F2
Normalise Groups	Shift+Ctrl+F3
Failsafe Groups	Shift+Ctrl+F4
About	
Service Information...	

The groups pane

Right click on Groups pane to open, close, normalise or failsafe all groups. Alternatively use Shift + Ctrl + F keys as shown. "About" indicates current software revision.

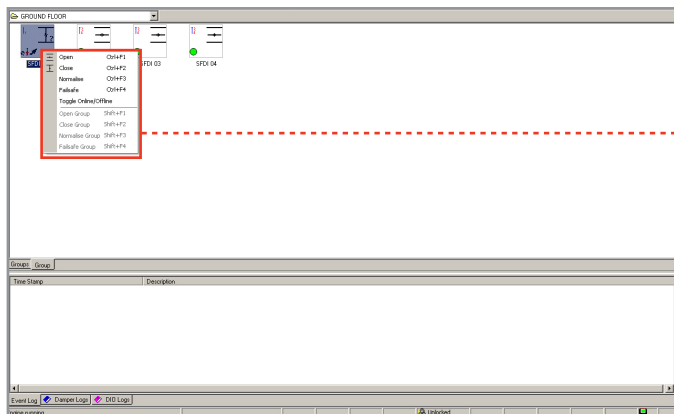


Open	Ctrl+F1
Close	Ctrl+F2
Normalise	Ctrl+F3
Failsafe	Ctrl+F4
Toggle Online/Offline	
Open Group	Shift+F1
Close Group	Shift+F2
Normalise Group	Shift+F3
Failsafe Group	Shift+F4

The group pane

Right click on Group pane to open, close, normalise or failsafe a Group. Alternatively use Shift + Ctrl + F keys as shown.

System Engine



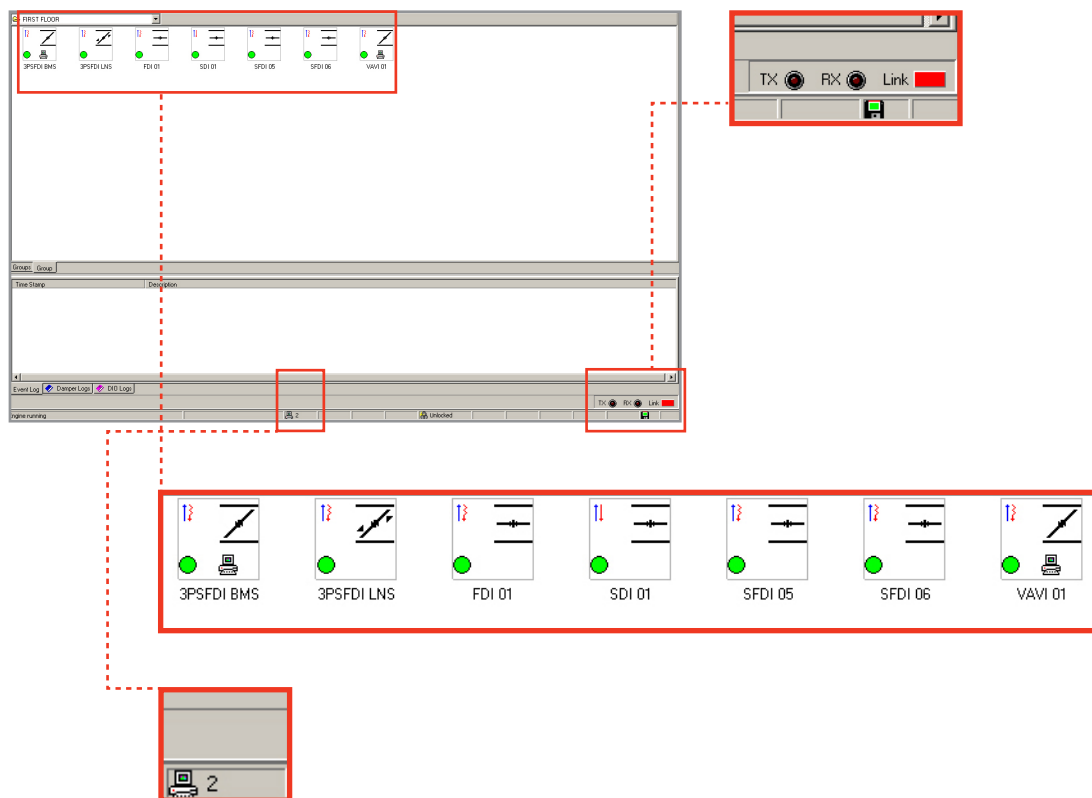
Open	Ctrl+F1
Close	Ctrl+F2
Normalise	Ctrl+F3
Failsafe	Ctrl+F4
Toggle Online/Offline	
Open Group	Shift+F1
Close Group	Shift+F2
Normalise Group	Shift+F3
Failsafe Group	Shift+F4

Damper control

Right click on a damper to open, close, normalise or failsafe. Alternatively use Shift + Ctrl + F keys as shown. If you need to undertake maintenance on a particular damper or dampers select the damper(s) and select toggle online/offline. To revert back just select the same command.

N.B. If the user chooses to toggle a damper offline then it will be ignored by the system until has been toggled back online.

System Engine



BMS (Monitoring of dampers and if required IO)

In the bottom right hand corner of the screen we can see that the BMS has been activated but is currently not communicating, link is red. When the BMS is communicating the link will show green and the transmit and receive will pulse green as appropriate.

Damper types

On the 1st floor a mixture of various dampers can be seen and at the bottom of the screen we can see that 2 dampers are under the control of other systems ie. BMS

Smoke Fire Damper Interface (SFDI) - Energises actuator to drive and failsafes via spring-return.

3 Position Damper Interface (3-PSFDI) - Actuator can be set to a balanced position or driven open/closed and failsafes via spring-return. Shown as 3-PSFDI LNS. Alternatively, actuator can be modulated via 2 – 10V signal from BMS and only instructed to failsafe by the system in the event of an input. Shown as 3-PSFDI BMS.

Smoke Damper Interface (SDI) - Energises actuator to drive open/close damper.

Fire Damper Interface (FDI) - Monitors damper position and provides facility for energising an electromagnet. Damper failsafes closed via spring mechanism and must be manually reset.

VAVI - Provides a 24V supply to actuator for control by others. Monitored for open/close position by the system and instructed to failsafe by the system in the event of a programmed input.

Ruskin Air Management Limited

South Street, Whitstable, Kent
CT5 3DU England.
Tel: 01227 276100
Fax: 01227 264262
Email: sales@actionair.co.uk
Website: www.actionair.co.uk