Smartzone Bridge

INSTALLATION MANUAL

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Smartzone Bridge Installation and Operation

The Bridge is used to integrate a compatible IAS air conditioning (A/C) unit controller with the Smartzone zoning system.

The following IAS A/C unit controllers are compatible with this module:
CC-BB5-CLASSIC (Previous product code - C-BB5)
CC-BB5-WIZARD (Previous product code - C-WZD5)
Other IAS controllers may also be suitable. Please contact IAS product support for confirmation.

The A/C unit controller and Smartzone systems should be installed, commissioned and tested separately prior to connecting to the Bridge.

Once the two systems are proven to operate successfully, the Bridge socket A must be plugged into the A/C unit controller touchpad bus, and Bridge socket B into the Smartzone touchpad bus, as per the diagram on page 7.

All interconnecting cables should be shielded.

The Bridge will then link the A/C unit controller to the Smartzone system as detailed in the following pages.

On/Off Control

Default on/off control of both systems is governed by the following rules:

1. On/off signals from the A/C unit controller turn the Smartzone system on/off as well. These on/off signals may be generated from any compatible touchpad on/off button, or time clock module.

2. If any zone on the Smartzone system is turned on, the A/C unit controller automatically turns on.

3. If all zones on the Smartzone are turned off, the A/C unit controller automatically turns off.

4. After total power loss (a blackout), the A/C unit controller controls the on/off state of both systems.
   This means that conditioning will be restored via the A/C unit controller's normal method (e.g. During the power loss the A/C unit controller is scheduled to turn off by the timeclock program. Once power is restored, the Smartzone system tries to resume in the on state but is overridden by the scheduled off event of the A/C unit controller timeclock).

Special On/Off considerations:

The following DIP switches affect the default on/off control algorithm.

Bridge DIP switch # 5

- If Bridge DIP switch 5 is on, the Smartzone becomes the master on/off control. All on/off events from the A/C unit controller are ignored.

Bridge DIP switch # 8

- If Bridge DIP switch 8 is on, all Smartzone zones are automatically turned on at the next A/C unit controller ON event.
- If Bridge DIP switch 8 is off, all Smartzone zones resume in their previous on/off state at the next A/C unit controller ON event.
  If all zones were off, then the last zone to turn off will turn back on.

Automatic Mode Selection and Setpoint Adjustment

The automatic mode selection (heat/cool) and setpoint adjustment of the A/C unit controller is always overridden by the Smartzone system, via the Bridge, based on the following rules:

1. If the majority of zones require cooling, the Bridge will command the A/C unit controller to switch to cooling mode and set the A/C unit controller setpoint to 0.5 °C below the lowest zone setpoint.
2. If the majority of zones require heating, the Bridge will command the A/C unit controller to switch to heating mode and set the A/C unit controller setpoint to 0.5 °C above the highest zone setpoint.
3. If the number of zones requiring cooling is equal to the number requiring heating, the Bridge will command the A/C unit controller to switch to cooling mode and set the A/C unit controller setpoint to 0.5 °C below the lowest zone setpoint.

Bridge DIP switch # 2

- The factory default setpoint offset of 0.5 °C stated above can be increased to 1.5 °C by turning on DIPswitch 2 on the Bridge module.

Special Setback considerations (refer to A/C unit controller instructions):

- If the Setback feature is to be used on the A/C unit controller:
  the minimum setback setting should be no higher than 20 °C;
  the maximum setback setting should be no lower than 25 °C.

Fan Speed Control

When using the Bridge in conjunction with an A/C unit controller with three speed fan control, fan speed control may be handled by either the Smartzone or the A/C unit controller. (Refer to DIP switch 7 in Table 1)

The factory default is for the Smartzone to control the fan speed according to the following rules:

1. If the Spill/Bypass damper is open at all - Fan speed = LOW
2. If ALL dampers are fully open - Fan speed = HIGH
3. All other times - Fan speed = MEDIUM

Special Considerations for Wizard Controllers

Bridge DIP switch # 6

The 5 relay Wizard controller comes configured as a 1 Fan Speed, 2 Cool, 2 Heat controller by default. To configure the 5 relay Wizard as a 3 Fan Speed, 1 Cool, 1 Heat controller, requires the presence of an additional touchpad with that relay configuration.

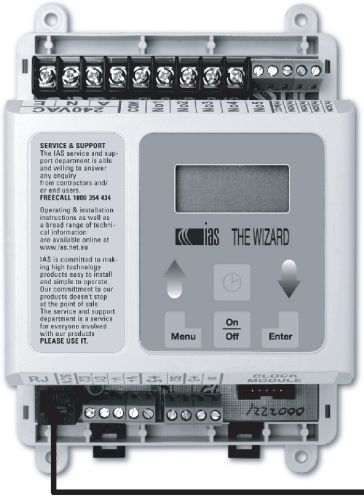
The Bridge module is capable of emulating a 311 touchpad by setting DIP switch 6 to the on position. DIP switch 1 & 4 may then be used to configure the compressor delay and heating type for the 5 relay Wizard controller as required.

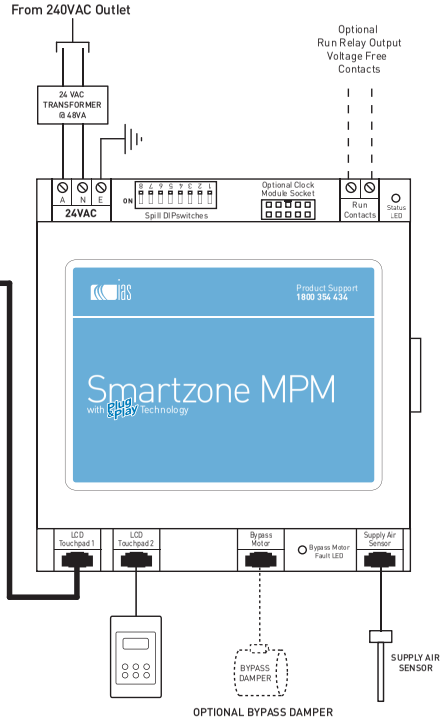
DIP SWITCH #	OFF [Factory Default]	ON
1 (only if #6 is on)	Standard delays	No delays
2	0.5 °C setpoint offset	1.5 °C setpoint offset
3	N/A	N/A
4 (only if #6 is on)	Reverse cycle heating	EDH / Cooling only
5	Standard on/off control	Smartzone is master on/off
6	No touchpad emulation	Emulate 311 touchpad for Wizard controller
7	Smartzone controls fan speed	A/C unit controller controls fan speed
8	Retain all zone on/off states at next on event	All zones turn on at next on event

Table 1

Typical Connection Diagram

The Wizard controller (pictured below) may be replaced by a BlackBox controller with touchpad





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