Sentinel Kinetic Range BMS capabilities

These notes apply to all models in the Sentinel Kinetic Range.

Read this in conjunction with the Installation and Commissioning Document (part number 439817). Page numbers used below refer to this document. It can be downloaded from http://www.vent-axia.com/range/sentinel-kinetic.html

The Sentinel Kinetic Range of MVHR units can be controlled and monitored by a BMS system. It does not use any BMS networking software but is simply a node on any network used. It has an RJ11 socket.



A BMS system could carry out the following actions:

1) Switch the unit completely off or on. Typically when a signal is received from a fire alarm system because there is a need to stop the ventilation.

2) Apply a 0-10V signal to a proportional input to control the flow between normal speed and boost speed.

3) Connect across the terminals on a switch input to increase from normal speed to boost speed.

4) Apply a 240V signal to the LS input to switch from normal speed to boost speed.

These four actions are described in detail below.

1) Switch the unit completely off or on.

Connect the BMS system to BMS socket J5 on the control board using lead part number 439309 which is an RJ11 to RS232 adaptor.
Pin 1 - Yellow +5V
Pin 2 - Green Data out of Kinetic
Pin 3 - Red Data into Kinetic
Pin 4 - Black 0V

The data is at RS232 levels with settings: baud 9600, 8 data bits, 1 stop bit and no parity.

You will need to send the Kinetic a command string in ASCII Characters along Pin 3

Upon receipt of the command string "Sentinel Stop" the unit will stop.

Upon receipt of the command string "Sentinel Start" the unit will start.

The unit will acknowledge these inputs by repeating the received string and the unit's serial number.

The display (see section "Commissioning – BMS Screen") will show BMS FAN OFF when it has been stopped with this command.

On the Kinetic menu at 'BMS' (see section "Commissioning – BMS Screen") there is a readout of the number of bytes last received together with the first 16 bytes of the data input buffer.

The unit is tolerant of two or three unrelated bytes before or after the command string.

2) Apply a 0-10V signal to a proportional input.

See section "Electrical Installation" and "Commissioning – Proportional 1 Screen".

Use an output from the BMS to generate a proportional 0 to 10V signal. There are two proportional input connections and either can be used.

The proportional input has different scaling factors depending on the type of input. If Humidity is selected then the %RH is also the percentage of 10V. In other words, 60% represents 6V.

The logic is as follows:
Voltage below the "normal" setting: unit runs at normal speed.
Voltage between "normal" and "boost" settings: unit runs at a proportional speed between the two limits.
Voltage above the "boost" setting: unit runs at boost speed.

It is recommended that "normal" is set to 25% RH (2.5V) and "boost" is set to 90% RH (9.0V). These are the upper and lower limits and will give the greatest range of control.

3) Connect across the terminals on a switch input.

See section “Electrical Installation”.

Use an output from the BMS to switch across one of the pairs of switch terminals. There are five switch inputs and any of these can be used.

4) Apply a 240V signal to the LS input.

See section “Electrical Installation”.

Use an output from the BMS to switch a relay sending 240V live to the LS connection. The LS is pre-wired in the attached flying lead that contains the mains and earth cores.