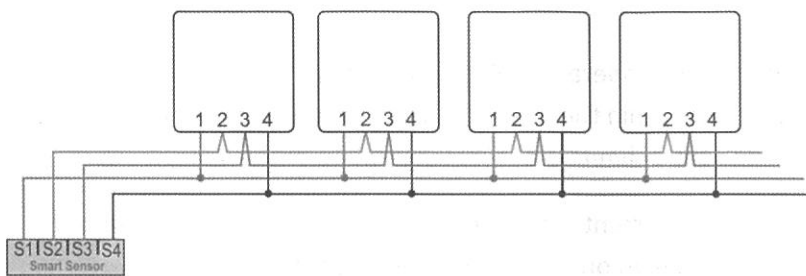


The "Smart Sensor" has been designed to work with the Smart Temp SMT-920 "Viking" HVAC controller, version 2.5 or older. It has been designed to provide the following functions:



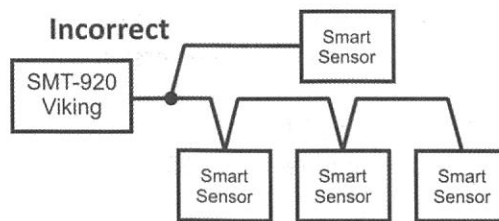
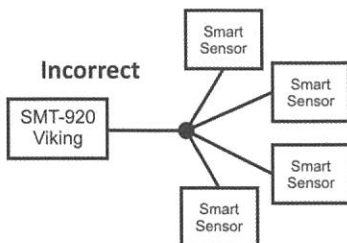
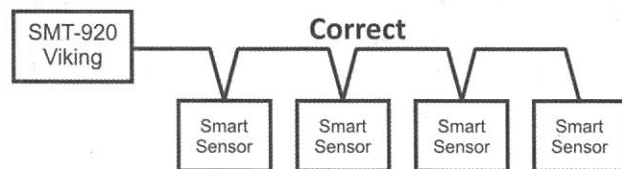
- Provide the Viking with humidity & temperature data for economy cycle function.
- Provide the user with an attractive control interface (Display version only).
- Ensure accurate room temperature readings when long sensor runs are anticipated.

## Wiring



The Smart Sensor wires into the Viking's 4 smart sensor terminals located under the slide off cover at the top of the Viking controller. These terminals are labelled "Smart Sensor S1, S2, S3 & S4."

All sensors are to be wired in series using screened cable and grounded in one location only, particularly when used on long cable runs or when cabling may be run where electrical noise may be present.



Star wiring or "T" branches will not be tolerated.

## Defining the "Smart Sensor Function"

Within each Smart Sensor is a 4 way switch block that defines the address of the sensor on the sensor network as well as defining the sensor function.

If ANY of the switches in the Smart Sensor are in the OFF position then the sensor values are used by the Viking as an inside temperature / humidity values. (If multiple sensors are used as inside sensors the Viking will use the average value of these sensors as the control temperature / humidity)

If ALL of the switches in the Smart Sensor are in the ON position then the Viking will use this sensor for outside air temperature and humidity measurement.

No two Smart Sensors connected to any one Viking should have the same DIP switch address or there is a risk of communication errors and erratic behaviour.

## **Empathy vs. RH Limiting Economy Control**

If only the outside Smart Sensor is installed, the Viking will permit you to set a HIGH outside RH limit. If the outside RH exceeds this threshold economy cycle functions will be suspended.

If both the inside and outside Smart Sensors are installed the Viking will automatically switch to “Empathy Mode” and calculate the suitability of outside air for economy cooling.

See setting economy control options in the Viking manual for setting these parameters.

## **Remote Temperature Monitoring.**

Inside the Smart Sensor there is a set of terminals marked “TT”. If you wire a standard 2 wire sensor to these terminals then the DRY BULB sensor within the Smart Sensor is disabled and the value measured by the remotely connected temperature sensor is used.

This external sensor is automatically detected by the Smart Sensor. No installer input is required.

## **User operation**

The temperature +/- buttons adjust the Viking set temperature. Each press of the + or - button adds 0.5° deg C to BOTH the heating AND cooling set points within the Viking. You can limit the range of user adjustment by setting the heating and cooling control limits in the installer menu of the Viking.

The Select button toggles the LCD display between current room temperature, set temperature current Inside RH and outside temperature and outside RH if an outside Smart Sensor is fitted.

The After Hours button starts (or cancels) the afterhours run timer.

The LCD will also provide other information such as whether there are any faults, and if outside air is being used for economy cooling etc.

## **Sensor Types**

There are two types of smart sensor hardware available; a version with a backlit LCD and a blind version. In essence both of these versions are identical except the blind version is not fitted with a LCD or buttons.

Display Version of the Smart Sensor part number is RS – SSD

Non display version of the Smart Sensor part number is RS - SS

For additional information it is recommended you consult the Viking installer manual

*For further information please contact Smart Temp or an authored Smart Temp Distributor.*

*Specifications are subject to change without notice.*

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