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## TECHNICAL BULLETIN

### **Wiring Smoke & Heat Alarms – Alternative Energy Sources**

Our recommendations for wiring smoke, heat and carbon monoxide alarm systems are that the supply should be taken from a separately electrically protected lighting circuit, which is in line with BS 5839: Pt.6: 2004.

It is important to note that mains power supply for the Smoke/Heat system must be a Pure or True Sine Wave 230VAC supply for the system to operate correctly and safely. We therefore recommend that mains powered smoke, heat and carbon monoxide alarms are only connected to nominal 230 VAC supplies with less than 5% THD (Total Harmonic Distortion).

There has been an increase in the use of Alternative Energy Sources being derived from Solar Panels, Wind Turbines and battery powered Uninterruptible Power Supplies and many of these use inverters to supply 230VAC in a 'Modified Sine Wave' or 'Quasi Sine Wave' form. It is important to note that this form of power supply can cause overheating of the components inside the alarm (or base in the case of RadioLINK units). As a result, irreparable damage to the alarm device can occur.

Consequently, we do not recommend that our mains powered Smoke, Heat, Multi-Sensor, CO Alarms or RadioLINK devices are connected to a 230VAC supply derived from any of the above sources producing a 'Modified Sine Wave' or 'Quasi Sine Wave' form.

If using an Alternative Energy Source as part of the 230VAC supply to the alarms, it must be ensured that a 'Pure Sine Wave' inverter is used that would give a True Sine Wave 230VAC output. If there is doubt over the form of Sine Wave produced by the inverter or UPS installed in a property, you should contact the supplier to verify it.

A warning flyer is included in any of our products where the connection to this form of power supply may cause a problem.