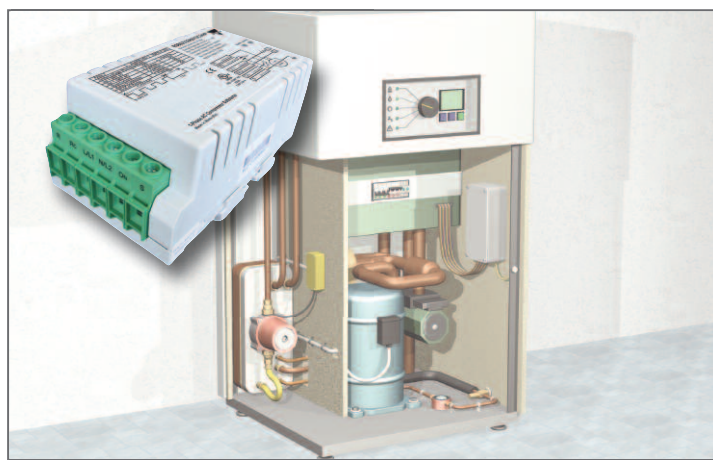


CG APPLICATIONS

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Application Note : June 2011

Market involved : HVAC

Product : RSBS HP

Customer : Heat Pump OEMs

Subject : RSBS for High Temperature Heat Pump Applications

CUSTOMER ISSUE :

The introduction of heat pumps for domestic water heating has brought into the market new generations of compressors with higher efficiencies at higher operating temperatures.

In such conditions, the compressors are heavily loaded thus needing larger currents during start-up.

Use of RSBS23..A2V.2C24 in such applications was, in some occasions resulting in the triggering of the Incomplete Ramp Alarm.

OUR SOLUTION:

RSBS HP has been designed with a hybrid algorithm which is optimised for high pressure starting.

RSBS HP, unless required, will still limit the starting current to 45Arms thus respecting the norms posed by the utility in certain countries.

During the compressor start-up, if the compressor remains in locked rotor condition (no rotation), the RSBS HP will switch from current limit mode to a voltage ramp start up to a maximum of 80Arms in order to start the compressor.

ACHIEVED BENEFITS:

Compressors starting on high pressures can still be soft-started avoiding triggering of ramp alarms. At the same time, whenever it is possible, the RSBS HP will still be limiting the current to 45Arms as required by certain norms.

The voltage ramp start will only be activated whenever the compressor requires >45Arms to start.