



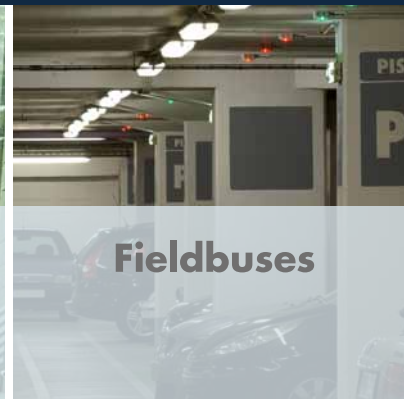
Sensors



Switches



Controls



Fieldbuses

Application notes



Application Note : August 2015

Market involved : HVAC

Product : RGC1P23V42ED

Customer : OEM

Subject : Air heaters, Roof top units

CUSTOMER ISSUE :

In several types of HVAC equipment, such as in localized air heaters, heating of airflow in ducting or in roof top units, electrical heaters are used.

In such systems, it is very common to have analog signals from the various sensing components within the system.

It is very expensive to convert these analog signals into a digital signal to switch a solid state relay for the control of the heaters.

A solution is needed where the available analog control signal can be used directly to switch the heater.

OUR SOLUTION :

The RGC1P is a solid state device that can be controlled with an analog signal, either voltage or current (0-10V or 4-20mA).

The RGC1P output autonomously regulates the heater power based on the analog input signal.

In order to minimise noise emission, the RGC1P can be operated in a full cycle switching mode. This is done by a simple selection from a knob located on the front interface.

An accessory is available to prevent tampering with the settings.

BENEFITS :

- **Cost & space savings;** no need for an analog to digital convertor which costs money and occupies further space
- Easier **compliance with required EMC standards;** the full cycle switching mode available on the RGC1P emits less noise than the phase angle switching mode
- **Reliability;** when the RGC1P is not protected by a semiconductor fuse, the max. 18,000A²s allows coordination with readily available Miniature Circuit Breakers