



Sensors



Switches



Controls

Application notes



Application Note : July 2021

Market involved : Plastics machinery

Product : NRGC-PN, RGC1P60CM42GEN

Customer : OEMs

Subject : Control of IR heaters in PET blow moulding machinery

CUSTOMER ISSUE :

The OEM would like to achieve precise control and monitoring via the communication interface.

With machines shipped to various countries with unstable mains supply, the OEM would like to ensure process repeatability in spite of the line voltage fluctuations.

The temperature control system in the machines is open loop therefore it cannot react to voltage variations.

The customer utilises Siemens PLCs and would also like to utilise the PROFINET communication for configuration, control and monitoring of the solid state relays.

OUR SOLUTION :

The RGC1P60CM42GEN together with the NRGC-PN can achieve switching, monitoring and diagnostics via the communication system.

Utilising the voltage compensation feature available on the RGx1P..N solid state relays, a stable power output is ensured by adapting the control level to compensate for voltage variations. This is particularly useful for open loop systems where temperature feedback is not available. In closed loop systems, with sensitive heating control, voltage compensation provides an immediate reaction to the voltage fluctuations eliminating the dependency on latent temperature changes due to the voltage variations. Additionally, the OEM can offer monitoring of system parameters and diagnostics via PROFINET to immediately track faults and process changes.

BENEFITS :

- Higher end product quality with a more stable heating control
- Reduction of scrap with immediate reaction to voltage fluctuations
- Low machine downtime with timely fault detection and rectification
- With a wide range of switching, monitoring and diagnostic features integrated in one solution, the NRG enables system streamlining with lower wiring costs and reduced potential points of failure