



Sensors



Switches



Controls

Application notes



Application Note : July 2020

Market involved : Plastics and rubber

Product : NRG-C-PN, RGS1A60CM50KEN

Customer : OEMs, Panel builders

Subject : PET blow-moulding of plastic bottles

CUSTOMER ISSUE :

The OEMs need to offer a machine upgrade to its customers which incorporates monitoring and diagnostic features on top of switching.

The loads are infrared heaters and a 1% accuracy to control the heaters is desired.

The PLC used in the machine is a Beckhoff PLC and therefore the only available communication protocol is EtherCAT.

OUR SOLUTION :

The RGS1A60CM50KEN offers an all-in-one solution which can fit in the same panel space as a basic solid state relay.

Therefore, the same heatsink used for the basic solid state relay could be used for the NRG solution. The NRG-C-PN is required to facilitate the communication with the main controller.

Using a PROFINET to EtherCAT gateway, the OEM can easily configure our NRG PROFINET controller to the Beckhoff PLC.

To control the IR heaters, the customer uses the Advanced Full Cycle switching mode, which minimises flickering and also EMC emissions.

With a 1% control resolution, the heaters can be controlled with the required accuracy.

BENEFITS :

- **Panel space savings:** the OEM can offer a monitoring and diagnostic solution retrofitted in the available panel space
- **Better quality end-product:** with the analysis of the data acquired from the NRG solid state relays, system parameters can be tuned to achieve better results
- **Low machine downtimes:** with fast diagnostics via the communication network, faults can be identified and rectified in a timely manner