



**Sensors**



**Switches**



**Controls**

## Application notes



**Application Note : May 2021**

**Market involved : Printing machines - Drying**

**Product : NRGC-PN, RGC1P60CM32KEN**

**Customer : OEMs**

**Subject : Control of NIR heaters for drying printing inks**

### CUSTOMER ISSUE :

The OEM would like to control, monitor and diagnose the system via the communication interface which would minimise wiring and offer advanced remote support.

To keep pace with the printing process, halogen short wave (NIR) heaters are used to dry the ink as quickly as possible and if the power of the NIR heaters is not controlled with a fine resolution and the high inrush current on start-up is not minimised there can be problems.

For this reason it is necessary to monitor, in real time, any alarms issued during the process.

The OEM utilises Siemens PLCs in machines which have the PROFINET protocol integrated.

### OUR SOLUTION :

The RGC1P60CM32KEN together with the NRGC-PN can achieve switching, monitoring and diagnostics via the communication system.

The Phase angle switching mode is utilised for precise resolution of power and to eliminate visual flickering of NIR heaters.

Soft start is also utilised to minimise the inrush current which is detrimental to the heater's lifetime.

Alarms sent via PROFINET diagnostic system are used to quickly identify any issues in the process.

The NRG system is easily integrated into the PROFINET PLC with the use of the GSD file.

### BENEFITS :

- Precise temperature control and reduced inrush current with phase angle and soft start switching
- Possibility of remote support down to the solid state relay level
- Low machine downtime: with versatile monitoring and diagnostics functions, faults can be resolved and addressed in a timely manner
- Time-labour savings with switching, monitoring and diagnostics available via the communication network