

CG APPLICATIONS

CARLO GAVAZZI



Application Note :	18 December 2006
Market involved :	Packaging/Food&Bev.
Product :	RJCSR1A60D50EPPO
Customer :	Bellaplast (Switzerland)
Subject :	Current Monitoring in Thermoformers

CUSTOMER ISSUE :

The customer is a packaging company supplying products like food containers and plastic cups into the Food & Beverage industry. Contracts with major food companies involve high quality standards and usually entail high volume production. The repercussions of inconsistent production can therefore be significant.

The customer is seeking to upgrade its thermoforming equipment to guarantee a more consistent heating process.

Each controlled heating zone includes a group of 7 heaters. Since the smallest heater is 300W at 220V, a drop in current of around 1A must be detected and a decision taken if production must be stopped.

OUR SOLUTION:

The RJCSR1A60D50EPPO was designed to switch and monitor a wider range of load currents.

This device has a compact, microprocessor based circuitry. It employs an intelligent technique that enables it to switch the monitoring range automatically.

In this application the RJCSR is able to detect a load loss of 0.5A in a maximum span up to 50A. The customer can select an alternative device with a span of 30A that can detect load loss down to 0.3A.

Both over- and under-Current Monitoring is possible with the tolerance around the set point being 13%.

An alarm output signals over- and under current as well as over-temperature and thyristor malfunction.

An internal protection circuit disables the device in the event of over-heating.

ACHIEVED BENEFITS:

- OEMs and panel builders are able to utilize one specific type of device for all their requirements.
- Provides a (very low) current sensing solid state contactor which monitors low current down to 0.3A.
- The RJCSR is able to span a range wider than most competitor products available today.
- No need to attach an external current transformer module means:
 1. Shorter installation time
 2. Issues with the integrity of the mechanical connection between SSR and module are eliminated.
- The device can controlled remotely by a PLC
- The over-temperature protection prevents relay failure

