CARLO GAVAZZI
Automation Components

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Application notes

Application Note: October 2022

Industry: Plastic and rubber

Product: RLC1A48D22, RLC1A48D30

Customer: OEMs

Subject: Control of barrel heaters in injection machines

CUSTOMER ISSUE :

Precise temperature control can only be achieved through the fast switching that is possible with solid state relays.

OEMs would like to reduce the footprint occupied in the electrical panel, and hence need solid state relays that occupy less panel space than the traditional hockey puck solution.

The machines are installed in an industrial environment, and it is expected that uncontrolled voltage transients and surges occur on the lines.

A reliable solution that prevents loss of productivity and machine downtime is essential.

OUR SOLUTION :

The RL series is part of Carlo Gavazzi's slimline offering for resistive loads and not so demanding applications.

The series consists of 1-pole AC switching solid state relays and is available either with or without an integrated heatsink.

The version with an integrated heatsink, the RLC, is optimized in terms of size as the heatsink is designed to be as slim as the solid state relay.

The version with ratings up to 22 AAC @ $T_{ambient}$ 40°C is provided in a product width of only 17.8 mm whilst the 30 AAC version is provided in a 22.5 mm wide assembly.

The RL output has integrated overvoltage protection for protection against uncontrolled transients.

BENEFITS :

- **Minimized machine downtime:** Integrated protection across the RL output prevents the solid state relay from breaking down due to uncontrolled voltage transients on the supply lines.
- **Reduced panel occupancy:** The RLC_D30 rated 21A @ 40°C with 0 mm spacing between units occupies only half the footprint of a 45 mm wide hockey puck solution.
- **Easy to wire:** The removable IP covers on the output terminals allow the connection of ring lugs. Faster installation is possible with the spring pluggable control terminal.