



Sensors



Switches



Controls

## Application notes



**Application Note: October 2022**

**Industry: Food and beverage**

**Product: RLC1A40D22**

**Customer: OEMs**

**Subject: Control of heaters in electrical ovens**

### CUSTOMER ISSUE :

Due to the longer lifetime provided by solid state relays, OEM wants to switch from mechanical contactors to a cost-effective solid state relay for the control of resistive heaters in baking ovens.

A number of solid state relays need to fit in a low-profile panel for temperature control of different zones in the oven. The ambient temperature inside the panel can reach 55°C.

Preference is given to a pre-assembled solution that keeps OEM from having to select and size the needed heatsink, source, and assemble the heatsink to the solid state relay.

### OUR SOLUTION :

The RL is the solid state relay series, to control resistive loads, that occupies very little panel space due to its slim footprint of 17.8 mm.

The heater load to which each solid state relay will be connected is rated 230 VAC, maximum 15 AAC. The control input is a DC signal.

The RLC1A40D22, rated maximum 440 VAC 18 AAC @ a surrounding temperature of 55°C is the most suited for this application. The spacing between each relay needs to be maintained at  $\geq 22.5$  mm (as the rating of the RLC1A40D22 @ 55°C and 22.5 mm between units is 15 AAC).

The RLC is equipped with integrated heatsink ready for mounting on DIN rail.

### BENEFITS :

- Less running costs and improved perception of OEM brand:**  
 Solid state relays perform much more switching cycles than mechanical contactors. Replacements are less frequent and perception of OEM brand will improve.
- Panel space optimisation:**  
 The slim footprint of the RL, even with consideration to space between units, provides space savings vs. the traditional hockey puck solutions.
- Fast installation:**  
 Time savings with a ready to use solution having an integrated heatsink.