

CG APPLICATIONS

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Market involved : Automotive

Product : RR2A40D150

Customer : Nimak
(panel builder for AUDI body shop)

Subject : Control of welding jaw

CUSTOMER ISSUE :

Welding jaws used to join car body parts require a number of position adjustments before the welding starts.

At the far end of a robotic arm, a small AC motor (typically <math>< 1/2\text{kW}</math>) is jogged between forward and reverse, while the jaw positions itself, until the point when the welding tips are clamped against the metal body parts.

Fast reversing cycles in a short period of time are needed to achieve the right positioning of the jaw.

Power cables in such a system usually conduct harmonics and transients due to the use of inverters and also the welding process itself.

Space around the welding robot is very limited.

OUR SOLUTION:

The RR2A is an electronic motor reversing relay with no moving parts at all.

This relay has 2 low voltage (DC) control inputs and motor direction depends on which one of them is energized.

A built-in interlock circuit ensures that only 1 of the inputs is active at any time.

The use of power semiconductors ensures millions of trouble-free operations.

Over-voltage protection is integrated by means of adequately sized varistors across each semiconductor.

ACHIEVED BENEFITS:

- Longer operational lifetime.
- Faster forward-reverse cycling possible due to 100% solid state construction.
- Protection against voltage transients
- Interlock function ensures protection against erroneous switching at the control side.
- No heatsink is needed to operate RR2A with the load current in the application and thus the product can be mounted directly on a chassis.

