



Product

ERC100 Brake & CBCx Switch

Application

Material Handling Crane/Manipulator Arm

Highlights

- Spring-applied caliper disc brake featuring an over excitation coil
- Brake torques up to 180Nm
- Low power consumption compared to pneumatic activation
- Compact size fits small envelope
- Easily adapted to existing design
- Economical design
- Fast-acting CBCx AC rectifier provides a time programmable over-excitation voltage

A major material handling manipulator and crane OEM was looking for an “all-electric” brake solution for their multiple swivel arm product used worldwide on automotive and industrial assembly lines. The main purpose of the brake is to stop the crane’s cantilever arms from rotating freely causing potential damage and injury. The existing brake system was pneumatic, which required a compressor at the end user’s site. An electric braking solution was also desired as it is more economical when compared to the high energy consumption profile of pneumatic activation.

To meet the application requirements, Warner Electric engineers provided an ERC100 spring-applied caliper disc brake featuring an over-excitation coil that reduces the power in the open position to just 22W, and in the closed position to none. Warner Electric ER models can achieve brake torques up to 180Nm with brake disc diameters from 345mm to 440mm utilizing a single brake magnet.

The crane design required the brake to fit a small envelope with top and bottom side-up installation. A specially-designed support was incorporated to compensate the brake magnet’s weight and lift the friction face off the disc to avoid drag torque.

Warner also provided a CBCx power supply which allowed the customer to connect to 230V-400V without requiring a neutral wire. The CBCx is a fast-acting AC rectifier providing a time programmable over-excitation voltage as well as an integrated on/off switch. The activation is done by PNP signal input or by switch on the AC side.

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