

SECTION 10 - DYNAMIC BRAKES

The Delta S driver is equipped with special circuitry and software to sequence a dynamic braking relay connected across the motor windings. It is very important for proper operation that the dynamic braking relay contacts are open before the driver circuitry is turned on and that the driver is off before the dynamic braking relay contacts close. The driver in conjunction with external braking relays provides the proper sequencing to prevent driver damage.

If dynamic braking is not used, the BRAKE CONFIRM input must be satisfied. This can be handled by 1 of 2 methods. Method 1 is to Tie input BRAKE CONFIRM ON for the DS-1.5 through DS-17.5 driver sizes. For DS-35 and larger drivers, a jumper must be provided between B11 and B12. A B11 to B12 jumper is installed by the factory and must be removed if dynamic braking is to be used. Method 2 is to invert the BRAKE CONFIRM input in the Parameter HP-44 "Input Inversion". Refer to [Section 4.1.5](#) for details.

Parameter UP-16 should be set to the default value of 0 for dynamic braking or no brake connections.

If configuring the Brake Mode over SERCOS, parameter 34316 must be set to 1 for dynamic braking and 0 for no brake. Also, by setting the brake mode over SERCOS the drive will also properly handle the BRAKE CONFIRM input by inverting the input in HP-44 if Brake Mode 0 is selected.

Be sure to select a dynamic braking resistor with a sufficient peak power rating.

$$\text{Resistor Peak Power} = \frac{150 * V^2}{R}$$

Where V = maximum motor voltage when dynamic braking is applied.

General rule: $V = 300 * (\text{motor speed @ braking}) / (\text{motor maximum speed rating})$

[Figures 10.1 and 10.2](#) show the connections for dynamic braking.

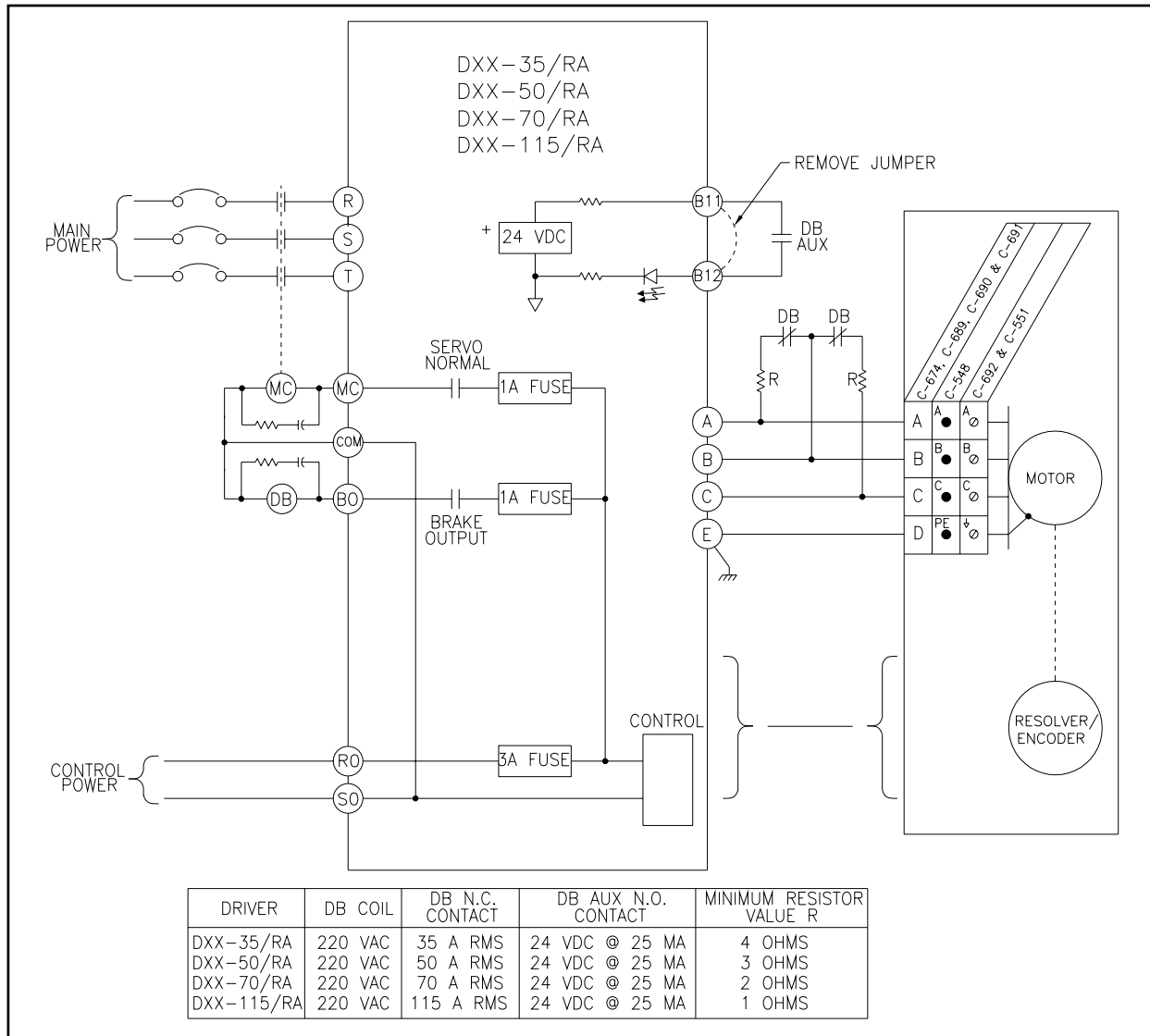


Figure 10.2 - Dynamic Brake Connection for the DS-35 Through DS-115 Drivers

