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| TECHNICAL NOTE #: | TN_VFD_BRK_001 |
| EFFECTIVE DATE: | 5/6/99 |
| SUPERSEDES DATE: | 12/24/98 |
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| NO. OF PAGES: | 2 |

SDBU and Resistor Sizing

This chart shows typical braking resistors sizes for the SDBU brake modules. Also noted are the absolute minimum resistance values that can be used with the SDBU units. Do not use a resistor with a lower ohmic value than that shown in the following chart or damage to the braking transistor could result. For application specific sizing, refer to TN_VFD_BRK042.

(SDBU PN: 909-0001=30A continuous,230V; 909-0002=80A continuous,230V; 909-0003=30A continuous, 460V; 909-0004=80A continuous,460V.)

| HORSE POWER | BRAKING MODULE 10% DUTY | STANDARD RESISTOR 10% DUTY | BRAKING TORQUE 10% DUTY | BRAKING MODULE 30% HOIST DUTY | STANDARD RESISTOR 30% HOIST DUTY | BRAKING TORQUE 30% HOIST DUTY | ABSOLUTE MINIMUM RESISTANCE (OHMS) |
|-------------------|-------------------------|----------------------------|-------------------------|-------------------------------|----------------------------------|-------------------------------|------------------------------------|
| 208 - 230V | | | | | | | |
| 1 | NOT REQUIRED | 135 OHM,150W | 150% | NOT REQUIRED | 150 OHM, 400W | 150% | 48 |
| 2 | | 60 OHM, 300W | 150% | | 90 OHM, 800W | 150% | 16 |
| 3 | | 40 OHM,500W | 150% | | 60 OHM, 1.2KW | 150% | 16 |
| 5 | | 25 OHM, 800W | 150% | | 36 OHM,1.6KW | 125% | 16 |
| 7.5 | | 15 OHM, 1.5KW | 150% | | 24 OHM,3KW | 150% | 9.6 |
| 10 | | 12 OHM,1.5KW | 150% | | 18 OHM,4KW | 150% | 9.6 |
| 15 | 909-0001 | 9 OHM, 2.5KW | 150% | 909-0001 | 12 OHM, 6KW | 150% | 9.0 |
| 20 | 909-0001 | 6 OHM,3KW | 150% | 909-0002 | 9 OHM, 7.5KW | 150% | 6 |
| 25 | 909-0001 | 5 OHM, 4KW | 150% | 909-0002 | 7 OHM, 9.5KW | 150% | 5 |
| 30 | 909-0001 | 5 OHM, 4KW | 140% | 909-0002 | 6 OHM, 11KW | 150% | 5 |
| 40 | 909-0002 | 3 OHM, 7KW | 135% | 909-0002 | 5 OHM, 15KW | 150% | 3 |
| 50 | 909-0002 | 3 OHM, 7KW | 135% | 909-0002 | 4 OHM, 15KW | 125% | 3 |
| 60 | 909-0002 | 2.5 OHM, 8KW | 150% | 909-0002 X2 | 6 OHM, 11KW X2 | 150% | 2.5 |
| 75 | 909-0002 X2 | 3.6 OHM, 5.5KW X2 | 140% | 909-0002 X2 | 4 OHM, 14KW X2 | 150% | 3.6 |
| 100 | 909-0002 X2 | 3 OHM,7KW X2 | 140% | 909-0002 X2 | 4 OHM, 15KW X2 | 150% | 3 |

| HORSE POWER | BRAKING MODULE 10% DUTY | STANDARD RESISTOR 10% DUTY | BRAKING TORQUE 10% DUTY | BRAKING MODULE 30% HOIST DUTY | STANDARD RESISTOR 30% HOIST DUTY | BRAKING TORQUE 30% HOIST DUTY | ABSOLUTE MINIMUM RESISTANCE (OHMS) |
|-------------|-------------------------|----------------------------|-------------------------|-------------------------------|----------------------------------|-------------------------------|------------------------------------|
| 460V | | | | | | | |
| 1 | NOT REQUIRED | 600 OHM,200W | 150% | NOT REQUIRED | 400 OHM,400W | 150% | 64 |
| 2 | | 300 OHM, 300W | 150% | | 500 OHM, 650W | 150% | 64 |
| 3 | | 200 OHM, 450W | 150% | | 250 OHM,1.5KW | 150% | 32 |
| 5 | | 110 OHM, 800W | 150% | | 150 OHM,1.5KW | 150% | 32 |
| 7.5 | | 80 OHM, 1.1KW | 150% | | 110 OHM, 3KW | 150% | 32 |
| 10 | | 60 OHM, 1.5KW | 150% | | 80 OHM, 4KW | 150% | 32 |
| 15 | | 40 OHM,2.5KW | 150% | | 55 OHM, 6KW | 150% | 20 |
| 20 | | 30 OHM, 3KW | 150% | | 40 OHM,8KW | 150% | 20 |
| 25 | | 22 OHM, 4KW | 150% | | 33 OHM, 9.5KW | 150% | 19.2 |
| 30 | | 909-0003 | 22 OHM, 4KW | | 140% | 909-0003 | 25 OHM, 12KW |
| 40 | 909-0003 | 16 OHM, 7KW | 150% | 909-0004 | 21 OHM, 15KW | 150% | 15.4 |
| 50 | 909-0003 | 14 OHM, 7KW | 135% | 909-0004 | 16 OHM, 19KW | 150% | 12.8 |
| 60 | 909-0003 | 10 OHM, 9KW | 150% | 909-0004 | 14 OHM, 22KW | 150% | 10 |
| 75 | 909-0003 | 9 OHM, 10KW | 140% | 909-0004 | 11 OHM, 28KW | 150% | 8.3 |
| 100 | 909-0004 | 7 OHM, 13KW | 135% | 909-0004 | 10 OHM, 30KW | 125% | 6.4 |
| 150 | 909-0004 | 5 OHM, 18KW | 125% | 909-0004 X2 | 11 OHM, 28KW X2 | 150% | 5 |
| 200 | 909-0004 X2 | 7 OHM, 13KW X2 | 135% | 909-0004 X2 | 10 OHM, 30KW X2 | 125% | 5.5 |
| 250 | 909-0004 X2 | 5 OHM, 18KW X2 | 150% | 909-0004 X3 | 10 OHM, 30KW X3 | 150% | 5 |
| 300 | 909-0004 X2 | 5 OHM, 18KW X2 | 125% | 909-0004 X3 | 9.5 OHM, 32KW X3 | 130% | 5 |
| 350 | 909-0004 X3 | 5.5 OHM, 16KW X3 | 145% | 909-0004 X3 | 9.5 OHM, 32KW X3 | 110% | 5 |
| 400 | 909-0004 X3 | 5 OHM, 18KW X3 | 140% | 909-0004 X4 | 9.5 OHM, 32KW X4 | 130% | 5 |
| 500 | 909-0004 X3 | 5 OHM, 18KW X3 | 110% | 909-0004 X4 | 9.5 OHM, 32KW X4 | 105% | 5 |