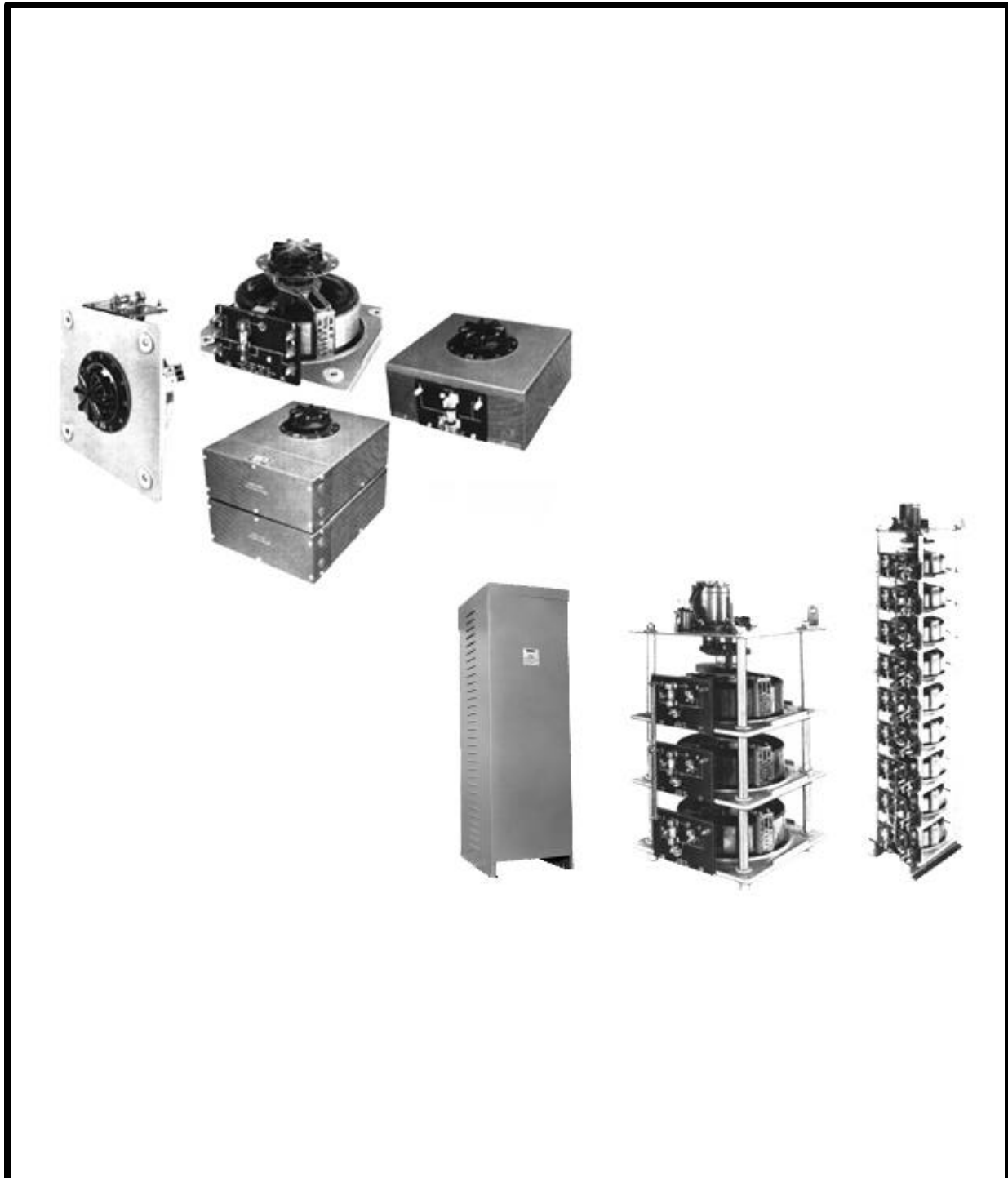


**Variable Transformers**  
**Series 5000 • 28.0 to 252.0 Amperes**



## 5000 Series

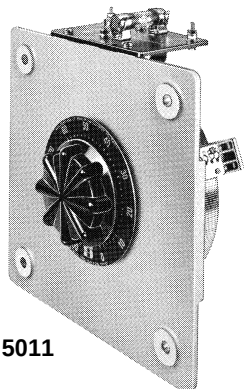
The 5011/5021 Series Variable transformers are designed to control large KVA requirements. The 5011 operates on 120 volts and is rated for constant current of 50 amperes. The 5021 operates on 240 volts and constant current of 28 amperes. The 5011 Series units have coil tapping arrangements allowing output voltage from 0-117% of line voltage, while the 5021 Series allows output voltage from 0 to line voltage or 17% above line voltage. They can be operated at frequencies between 50 and 400 Hertz with a rating at higher than rated frequency.

Adjustable shaft design on manually operated models permits back-of-panel or bench mounting. Terminals are 1/4" screw type. For single and two ganged units, case styles are available in either "C" style, which encloses only the coil, or the "CT" style,

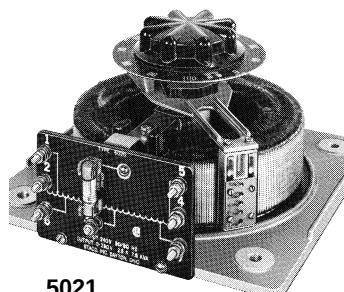
which provides protective housing for both the coil and terminal board. Knockouts are provided in the terminal board housing to accommodate conduit or cable connections. For three ganged and above, we offer our Nema 1, dripproof, fully front accessible "E" enclosure.

Motor-driven models are available from single thru 27 ganged assemblies; cased or uncased (identified with the prefix "M" in the part number). The synchronous motor is designed for operation on 120 volt, 50/60 Hertz, single phase lines and draws approximately 0.3 amperes. To meet a wide range of application requirements, standard motor speeds of 5, 15, 30 and 60 seconds are available depending upon the size of the variable transformer.

| PART NUMBER                      |                                     | WIRING                    | INPUT |       | OUTPUT |                |         | SHAFT ROTATION FOR VOLTAGE INCREASE | TERMINAL CONNECTIONS<br>For Increasing Voltage<br>As Viewed from Rotor End |        | SCHE-MATIC<br>(Pg 8 & 9) | NET WEIGHT<br>IN LBS.<br>(MAX) |              |
|----------------------------------|-------------------------------------|---------------------------|-------|-------|--------|----------------|---------|-------------------------------------|----------------------------------------------------------------------------|--------|--------------------------|--------------------------------|--------------|
| MANUALLY OPERATED                | MOTOR DRIVEN                        |                           | VOLTS | HERTZ | VOLTS  | MAX AMPS       | MAX KVA |                                     | INPUT                                                                      | OUTPUT |                          | MAN-UAL                        | MOTOR DRIVEN |
| 5011<br>5011C<br>5011CT          | M5011<br>M5011C<br>M5011CT          | Single Phase              | 120   | 50/60 | 0-140  | 50             | 7.0     | CW                                  | 1-2                                                                        | 1-3    | 18                       | 57                             | 78           |
| 5021<br>5021C<br>5021CT          | M5021<br>M5021C<br>M5021CT          | Single Phase              | 240   | 50/60 | 0-240  | 28             | 6.7     | CW                                  | 2-4                                                                        | 2-3    | 19                       | 57                             | 78           |
|                                  |                                     |                           |       |       | 0-280  | 28             | 7.8     | CCW                                 | 4-2                                                                        | 4-3    |                          |                                |              |
|                                  |                                     |                           | 120   | 50/60 | 0-280  | 28*-12<br>V.D. | 3.4±    | CW                                  | 2-5                                                                        | 2-3    |                          |                                |              |
|                                  |                                     |                           |       |       |        |                |         | CCW                                 | 4-1                                                                        | 4-3    |                          |                                |              |
|                                  |                                     |                           |       |       |        |                |         | CW                                  | 2-6                                                                        | 2-3    |                          |                                |              |
|                                  |                                     |                           |       |       |        |                |         | CCW                                 | 4-7                                                                        | 4-3    |                          |                                |              |
| 5011-2D<br>5011C-2D<br>5011CT-2D | M5011-2D<br>M5011C-2D<br>M5011CT-2D | Three Phase<br>Open Delta | 120   | 50/60 | 0-140  | 50             | 12.1    | CW                                  | 2-1-2                                                                      | 3-1-3  | 20 & 5                   | 134                            | 155          |
| 5011-2P<br>5011C-2P<br>5011CT-2P | M5011-2P<br>M5011C-2P<br>M5011CT-2P | Single Phase<br>Parallel  | 120   | 50/60 | 0-140  | 100            | 14.0    | CW                                  | 1-2                                                                        | 1-B    | 21                       | 136                            | 157          |
| 5011-2S<br>5011C-2S<br>5011CT-2S | M5011-2S<br>M5011C-2S<br>M5011CT-2S | Single Phase<br>Series    | 240   | 50/60 | 0-280  | 50             | 14.0    | CW                                  | 2-2                                                                        | 3-3    | 20 & 4                   | 134                            | 155          |
| 5021-2D<br>5021C-2D<br>5021CT-2D | M5021-2D<br>M5021C-2D<br>M5021CT-2D | Three Phase<br>Open Delta | 240   | 50/60 | 0-240  | 28             | 11.6    | CW                                  | 4-1-4                                                                      | 3-1-3  | 20 & 5                   | 134                            | 155          |
|                                  |                                     |                           |       |       | 0-280  | 28             | 13.6    | CW                                  | 2-1-2                                                                      | 3-1-3  |                          |                                |              |
|                                  |                                     |                           | 120   | 50/60 | 0-280  | 28*-12<br>V.D. | 5.8±    | CW                                  | 5-1-5                                                                      | 3-1-3  |                          |                                |              |
|                                  |                                     |                           |       |       |        |                |         |                                     |                                                                            |        |                          |                                |              |
| 5021-2P<br>5021C-2P<br>5021CT-2P | M5021-2P<br>M5021C-2P<br>M5021CT-2P | Single Phase<br>Parallel  | 240   | 50/60 | 0-240  | 56             | 13.4    | CW                                  | 1-4                                                                        | 1-B    | 21                       | 136                            | 157          |
|                                  |                                     |                           |       |       | 0-280  | 56             | 15.7    | CW                                  | 1-2                                                                        | 1-B    |                          |                                |              |
|                                  |                                     |                           | 120   | 50/60 | 0-280  | 56*-24<br>V.D. | 6.8±    | CW                                  | 1-5                                                                        | 1-B    |                          |                                |              |
|                                  |                                     |                           |       |       |        |                |         |                                     |                                                                            |        |                          |                                |              |
| 5021-2S<br>5021C-2S<br>5021CT-2S | M5021-2S<br>M5021C-2S<br>M5021CT-2S | Single Phase<br>Series    | 480   | 50/60 | 0-480  | 28             | 13.5    | CW                                  | 4-4                                                                        | 3-3    | 20 & 4                   | 134                            | 155          |
|                                  |                                     |                           |       |       | 0-560  | 28             | 15.7    | CW                                  | 2-2                                                                        | 3-3    |                          |                                |              |
|                                  |                                     |                           | 240   | 50/60 | 0-560  | 28*-12<br>V.D. | 6.8±    | CW                                  | 5-5                                                                        | 3-3    |                          |                                |              |
|                                  |                                     |                           |       |       |        |                |         |                                     |                                                                            |        |                          |                                |              |
| 5011-3P<br>5011E-3P              | M5011-3P<br>M5011E-3P               | Single Phase<br>Parallel  | 120   | 50/60 | 0-140  | 150            | 21.0    | CW                                  | 1-2                                                                        | 1-D    | 22                       | 216                            | 237          |
| 5011-3Y<br>5011E-3Y              | M5011-3Y<br>M5011E-3Y               | Three Phase<br>Wye        | 240   | 60    | 0-280  | 50             | 24.2    | CW                                  | 2-2-2                                                                      | 3-3-3  | 20 & 6                   | 212                            | 233          |



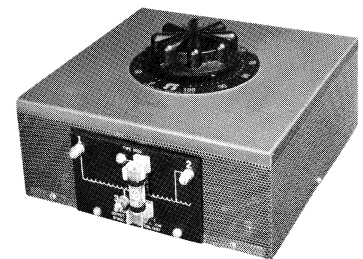
5011



5021

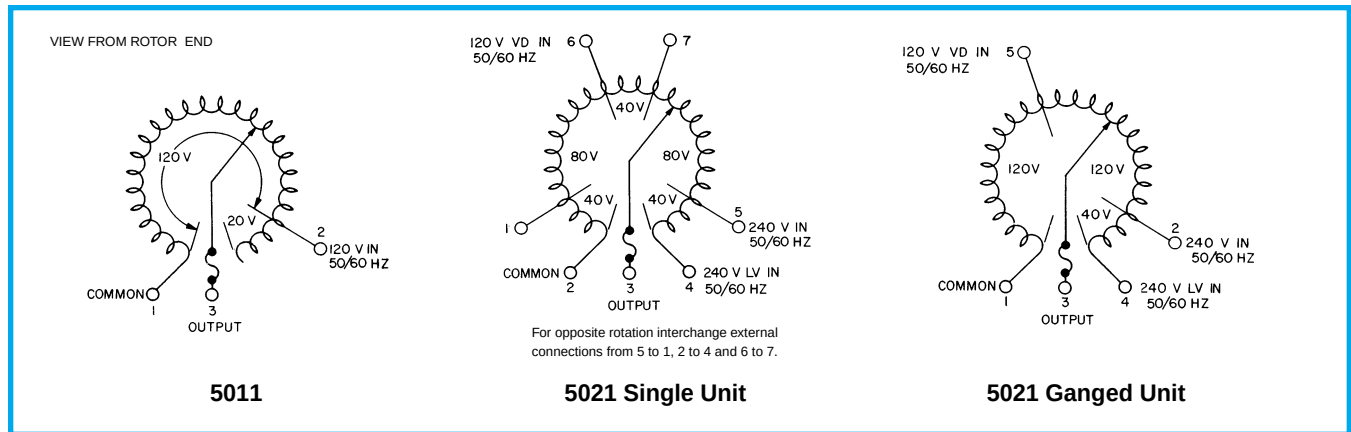


5021CT-2



5011C

# 5000 Series



| PART NUMBER           |                         | WIRING                                | INPUT |             | OUTPUT         |                |              | SHAFT ROTATION FOR VOLTAGE INCREASE | TERMINAL CONNECTIONS<br>For Increasing Voltage<br>As Viewed from Rotor End |                | SCHE-<br>MATIC<br>(Pg 8 & 9) | NET WEIGHT<br>IN LBS.<br>(MAX) |                 |
|-----------------------|-------------------------|---------------------------------------|-------|-------------|----------------|----------------|--------------|-------------------------------------|----------------------------------------------------------------------------|----------------|------------------------------|--------------------------------|-----------------|
| MANUALLY OPERATED     | MOTOR DRIVEN            |                                       | VOLTS | HERTZ       | VOLTS          | MAX AMPS       | MAX KVA      |                                     | INPUT                                                                      | OUTPUT         |                              | MAN-<br>UAL                    | MOTOR<br>DRIVEN |
| 5021-3P<br>5021E-3P   | M5021-3P<br>M5021E-3P   | Single<br>Phase<br>Parallel           | 240   | 50/60       | 0-240<br>0-280 | 84<br>84       | 20.2<br>23.5 | CW<br>CW                            | 1-4<br>1-2                                                                 | 1-D<br>1-D     | 22                           | 216                            | 237             |
|                       |                         |                                       | 120   | 50/60       | 0-280          | 84*36<br>V.D.  | 10.2†        | CW                                  | 1-5                                                                        | 1-D            |                              |                                |                 |
| 5021-3Y<br>5021E-3Y   | M5021-3Y<br>M5021E-3Y   | Three<br>Phase<br>Wye                 | 480   | 50/60<br>60 | 0-480<br>0-560 | 28<br>28       | 23.3<br>27.2 | CW<br>CW                            | 4-4-4<br>2-2-2                                                             | 3-3-3<br>3-3-3 | 20 & 6                       | 212                            | 233             |
|                       |                         |                                       | 240   | 60          | 0-560          | 28*12<br>V.D.  | 11.8†        | CW                                  | 5-5-5                                                                      | 3-3-3          |                              |                                |                 |
| 5011-4D<br>5011E-4D   | M5011-4D<br>M5011E-4D   | Three<br>Phase<br>Open Delta          | 120   | 50/60       | 0-140          | 100            | 24.2         | CW                                  | 2-1-2                                                                      | B-1-B          | 21 & 5                       | 314                            | 335             |
| 5011-4P<br>5011E-4P   | M5011-4P<br>M5011E-4P   | Single<br>Phase<br>Parallel           | 120   | 50/60       | 0-140          | 200            | 28.0         | CW                                  | 1-2                                                                        | 1-D            | 22                           | 316                            | 337             |
| 5011-4PS<br>5011E-4PS | M5011-4PS<br>M5011E-4PS | Single<br>Phase<br>Series<br>Parallel | 240   | 50/60       | 0-280          | 100            | 28.0         | CW                                  | 2-2                                                                        | B-B            | 21 & 4                       | 314                            | 335             |
| 5021-4D<br>5021E-4D   | M5021-4D<br>M5021E-4D   | Three<br>Phase<br>Open Delta          | 240   | 50/60       | 0-240<br>0-280 | 56<br>56       | 23.3<br>27.2 | CW<br>CW                            | 4-1-4<br>2-1-2                                                             | B-1-B<br>B-1-B | 21 & 5                       | 314                            | 335             |
|                       |                         |                                       | 120   | 50/60       | 0-280          | 56*24<br>V.D.  | 11.8†        | CW                                  | 5-1-5                                                                      | B-1-B          |                              |                                |                 |
| 5021-4P<br>5021E-4P   | M5021-4P<br>M5021E-4P   | Single<br>Phase<br>Parallel           | 240   | 50/60       | 0-240<br>0-280 | 112<br>112     | 26.9<br>31.4 | CW<br>CW                            | 1-4<br>1-2                                                                 | 1-D<br>1-D     | 22                           | 316                            | 337             |
|                       |                         |                                       | 120   | 50/60       | 0-280          | 112*48<br>V.D. | 13.5†        | CW                                  | 1-5                                                                        | 1-D            |                              |                                |                 |
| 5021-4PS<br>5021E-4PS | M5021-4PS<br>M5021E-4PS | Single<br>Phase<br>Series             | 480   | 50/60       | 0-480<br>0-560 | 56<br>56       | 26.9<br>31.4 | CW<br>CW                            | 4-4<br>2-2                                                                 | B-B<br>B-B     | 21 & 4                       | 314                            | 335             |
|                       |                         |                                       | 240   | 50/60       | 0-560          | 56*24<br>V.D.  | 13.5†        | CW                                  | 5-5                                                                        | B-B            |                              |                                |                 |
| 5011-5P<br>5011E-5P   | M5011-5P<br>M5011E-5P   | Single<br>Phase<br>Parallel           | 120   | 50/60       | 0-140          | 250            | 35.0         | CW                                  | 1-2                                                                        | 1-D            | 22                           | 400                            | 420             |
| 5011-6D<br>5011E-6D   | M5011-6D<br>M5011E-6D   | Three<br>Phase<br>Open Delta          | 120   | 50/60       | 0-140          | 150            | 36.4         | CW                                  | 2-1-2                                                                      | D-1-D          | 22 & 5                       | 481                            | 502             |
| 5011-6P<br>5011E-6P   | M5011-6P<br>M5011E-6P   | Single<br>Phase<br>Parallel           | 120   | 50/60       | 0-140          | 300            | 42.0         | CW                                  | 1-2                                                                        | 1-D            | 22                           | 483                            | 504             |
| 5011-6PS<br>5011E-6PS | M5011-6PS<br>M5011E-6PS | Single<br>Phase<br>Series<br>Parallel | 240   | 50/60       | 0-280          | 150            | 42.0         | CW                                  | 2-2                                                                        | D-D            | 22 & 4                       | 481                            | 502             |
| 5011-6Y<br>5011E-6Y   | M5011-6Y<br>M5011E-6Y   | Three<br>Phase<br>Wye                 | 240   | 60          | 0-280          | 100            | 48.5         | CW                                  | 2-2-2                                                                      | B-B-B          | 21 & 6                       | 479                            | 500             |

# 5000 Series

| PART NUMBER           |                           | WIRING                                | INPUT |             | OUTPUT         |                  |              | SHAFT<br>ROTATION<br>FOR<br>VOLTAGE<br>INCREASE | TERMINAL CONNECTIONS<br>For Increasing Voltage<br>As Viewed from Rotor End |                | SCHE-<br>MATIC<br>(Pg 8 & 9) | NET WEIGHT<br>IN LBS.<br>(MAX) |                 |
|-----------------------|---------------------------|---------------------------------------|-------|-------------|----------------|------------------|--------------|-------------------------------------------------|----------------------------------------------------------------------------|----------------|------------------------------|--------------------------------|-----------------|
| MANUALLY<br>OPERATED  | MOTOR<br>DRIVEN           |                                       | VOLTS | HERTZ       | VOLTS          | MAX<br>AMPS      | MAX<br>KVA   |                                                 | INPUT                                                                      | OUTPUT         |                              | MAN-<br>UAL                    | MOTOR<br>DRIVEN |
| 5021-6D<br>5021E-6D   | M5021-6D<br>M5021E-6D     | Three<br>Phase<br>Open Delta          | 240   | 50/60       | 0-240<br>0-280 | 84<br>84         | 34.9<br>40.7 | CW<br>CW                                        | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                       | 481                            | 502             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 84*-36<br>V.D.   | 17.6†        | CW                                              | 5-1-5                                                                      | D-1-D          |                              |                                |                 |
| 5021-6P<br>5021E-6P   | M5021-6P<br>M5021E-6P     | Single<br>Phase<br>Parallel           | 240   | 50/60       | 0-240<br>0-280 | 168<br>168       | 40.3<br>47.0 | CW<br>CW                                        | 1-4<br>1-2                                                                 | 1-D<br>1-D     | 22                           | 483                            | 504             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 168*-72<br>V.D.  | 20.4†        | CW                                              | 1-5                                                                        | 1-D            |                              |                                |                 |
| 5021-6PS<br>5021E-6PS | M5021-6PS<br>M5021E-6PS   | Single<br>Phase<br>Series<br>Parallel | 480   | 50/60       | 0-480<br>0-560 | 84<br>84         | 40.3<br>47.0 | CW<br>CW                                        | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                       | 481                            | 502             |
|                       |                           |                                       | 240   | 50/60       | 0-560          | 84*-36<br>V.D.   | 20.4†        | CW                                              | 5-5                                                                        | D-D            |                              |                                |                 |
| 5021-6Y<br>5021E-6Y   | M5021-6Y<br>M5021E-6Y     | Three<br>Phase<br>Wye                 | 480   | 50/60<br>60 | 0-480<br>0-560 | 56<br>56         | 46.6<br>54.3 | CW<br>CW                                        | 4-4-4<br>2-2-2                                                             | B-B-B<br>B-B-B | 21 & 6                       | 479                            | 500             |
|                       |                           |                                       | 240   | 60          | 0-560          | 56*-24<br>V.D.   | 23.5†        | CW                                              | 5-5-5                                                                      | B-B-B          |                              |                                |                 |
| 5011-7P<br>5011E-7P   | M5011-7P<br>M5011E-7P     | Single<br>Phase<br>Parallel           | 120   | 50/60       | 0-140          | 350              | 49.0         | CW                                              | 1-2                                                                        | 1-D            | 22                           | 563                            | 584             |
| 5021-7P<br>5021E-7P   | M5021-7P<br>M5021E-7P     | Single<br>Phase<br>Parallel           | 240   | 50/60       | 0-240<br>0-280 | 196<br>196       | 47.0<br>54.9 | CW<br>CW                                        | 1-4<br>1-2                                                                 | 1-D<br>1-D     | 22                           | 563                            | 584             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 196*-84<br>V.D.  | 23.5†        | CW                                              | 1-5                                                                        | 1-D            |                              |                                |                 |
| 5011-8D<br>5011E-8D   | M5011-8D<br>M5011E-8D     | Three<br>Phase<br>Open Delta          | 120   | 50/60       | 0-140          | 200              | 48.4         | CW                                              | 2-1-2                                                                      | D-1-D          | 22 & 5                       | 640                            | 661             |
| 5011-8P<br>5011E-8P   | M5011-8P<br>M5011E-8P     | Single<br>Phase<br>Parallel           | 120   | 50/60       | 0-140          | 400              | 56.0         | CW                                              | 1-2                                                                        | 1-D            | 22                           | 642                            | 663             |
| 5011-8PS<br>5011E-8PS | M5011-8PS<br>M5011E-8PS   | Single<br>Phase<br>Series<br>Parallel | 240   | 50/60       | 0-280          | 200              | 56.0         | CW                                              | 2-2                                                                        | D-D            | 22 & 4                       | 640                            | 661             |
| 5021-8D<br>5021E-8D   | M5021-8D<br>M5021E-8D     | Three<br>Phase<br>Open Delta          | 240   | 50/60       | 0-240<br>0-280 | 112<br>112       | 46.6<br>54.3 | CW<br>CW                                        | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                       | 640                            | 661             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 112*-48<br>V.D.  | 23.3†        | CW                                              | 5-1-5                                                                      | D-1-D          |                              |                                |                 |
| 5021-8P<br>5021E-8P   | M5021-8P<br>M5021E-8P     | Single<br>Phase<br>Parallel           | 240   | 50/60       | 0-240<br>0-280 | 224<br>224       | 53.8<br>62.7 | CW<br>CW                                        | 1-4<br>1-2                                                                 | 1-D<br>1-D     | 22                           | 642                            | 663             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 224*-96<br>V.D.  | 26.9†        | CW                                              | 1-5                                                                        | 1-D            |                              |                                |                 |
| 5021-8PS<br>5021E-8PS | M5021-8PS<br>M5021E-8PS   | Single<br>Phase<br>Series<br>Parallel | 480   | 50/60       | 0-480<br>0-560 | 112<br>112       | 53.8<br>62.7 | CW<br>CW                                        | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                       | 640                            | 742             |
|                       |                           |                                       | 240   | 50/60       | 0-560          | 112*-48<br>V.D.  | 26.9†        | CW                                              | 5-5                                                                        | D-D            |                              |                                |                 |
| 5011-9P<br>5011E-9P   | M5011-9P<br>M5011E-9P     | Single<br>Phase<br>Parallel           | 120   | 50/60       | 0-140          | 450              | 63.0         | CW                                              | 1-2                                                                        | 1-D            | 22                           | 721                            | 742             |
| 5011-9Y<br>5011E-9Y   | M5011-9Y<br>M5011E-9Y     | Three<br>Phase<br>Wye                 | 240   | 60          | 0-280          | 150              | 72.5         | CW                                              | 2-2-2                                                                      | D-D-D          | 22 & 6                       | 717                            | 738             |
| 5021-9P<br>5021E-9P   | M5021-9P<br>M5021E-9P     | Single<br>Phase<br>Parallel           | 240   | 50/60       | 0-240<br>0-280 | 252<br>252       | 60.5<br>70.6 | CW<br>CW                                        | 1-4<br>1-2                                                                 | 1-D<br>1-D     | 22                           | 721                            | 742             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 252*-108<br>V.D. | 30.2†        | CW                                              | 1-5                                                                        | 1-D            |                              |                                |                 |
| 5021-9Y<br>5021E-9Y   | M5021-9Y<br>M5021E-9Y     | Three<br>Phase<br>Wye                 | 480   | 50/60<br>60 | 0-480<br>0-560 | 84<br>84         | 69.8<br>81.5 | CW<br>CW                                        | 4-4-4<br>2-2-2                                                             | D-D-D<br>D-D-D | 22 & 6                       | 717                            | 738             |
|                       |                           |                                       | 240   | 60          | 0-560          | 84*-36<br>V.D.   | 35.0†        | CW                                              | 5-5-5                                                                      | D-D-D          |                              |                                |                 |
| —                     | M5011-10D<br>M5011E-10D   | Three<br>Phase<br>Open Delta          | 120   | 50/60       | 0-140          | 250              | 60.6         | CW                                              | 2-1-2                                                                      | D-1-D          | 22 & 5                       |                                | 812             |
| —                     | M5011-10PS<br>M5011E-10PS | Single<br>Phase<br>Series<br>Parallel | 240   | 50/60       | 0-280          | 250              | 70.0         | CW                                              | 2-2                                                                        | D-D            | 22 & 4                       |                                | 812             |
| —                     | M5021-10D<br>M5021E-10D   | Three<br>Phase<br>Open Delta          | 240   | 50/60       | 0-240<br>0-280 | 140<br>140       | 58.2<br>67.9 | CW<br>CW                                        | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                       |                                | 812             |
|                       |                           |                                       | 120   | 50/60       | 0-280          | 140*-60<br>V.D.  | 29.1†        | CW                                              | 5-1-5                                                                      | D-1-D          |                              |                                |                 |

# 5000 Series

| PART NUMBER       |                           | WIRING                       | INPUT |             | OUTPUT         |                 |                | SHAFT ROTATION FOR VOLTAGE INCREASE | TERMINAL CONNECTIONS<br>For Increasing Voltage<br>As Viewed from Rotor End |                | SCHE-MATIC<br>(Pg 8 & 9) | NET WEIGHT<br>IN LBS.<br>(MAX) |              |
|-------------------|---------------------------|------------------------------|-------|-------------|----------------|-----------------|----------------|-------------------------------------|----------------------------------------------------------------------------|----------------|--------------------------|--------------------------------|--------------|
| MANUALLY OPERATED | MOTOR DRIVEN              |                              | VOLTS | HERTZ       | VOLTS          | MAX AMPS        | MAX KVA        |                                     | INPUT                                                                      | OUTPUT         |                          | MAN-UAL                        | MOTOR DRIVEN |
| —                 | M5021-10PS<br>M5021E-10PS | Single Phase Series Parallel | 480   | 50/60       | 0-480<br>0-560 | 140<br>140      | 67.2<br>78.4   | CW<br>CW                            | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                   | —                              | 812          |
|                   |                           |                              | 240   | 50/60       | 0-560          | 140*60<br>V.D.  | 33.6‡          | CW                                  | 5-5                                                                        | D-D            |                          |                                |              |
| —                 | M5011-12D<br>M5011E-12D   | Three Phase Open Delta       | 120   | 50/60       | 0-140          | 300             | 72.7           | CW                                  | 2-1-2                                                                      | D-1-D          | 22 & 5                   | —                              | 940          |
| —                 | M5011-12PS<br>M5011E-12PS | Single Phase Series Parallel | 240   | 50/60       | 0-280          | 300             | 84.0           | CW                                  | 2-2                                                                        | D-D            | 22 & 4                   | —                              | 940          |
| —                 | M5021-12D<br>M5021E-12D   | Three Phase Open Delta       | 240   | 50/60       | 0-240<br>0-280 | 168<br>168      | 69.8<br>81.5   | CW<br>CW                            | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                   | —                              | 940          |
|                   |                           |                              | 120   | 50/60       | 0-280          | 168*72<br>V.D.  | 34.9‡          | CW                                  | 5-1-5                                                                      | D-1-D          |                          |                                |              |
| —                 | M5021-12PS<br>M5021E-12PS | Single Phase Series Parallel | 480   | 50/60       | 0-480<br>0-560 | 168<br>168      | 80.6<br>94.1   | CW<br>CW                            | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                   | —                              | 940          |
|                   |                           |                              | 240   | 50/60       | 0-560          | 168*72<br>V.D.  | 40.3‡          | CW                                  | 5-5                                                                        | D-D            |                          |                                |              |
| —                 | M5011-14D<br>M5011E-14D   | Three Phase Open Delta       | 120   | 50/60       | 0-140          | 350             | 84.9           | CW                                  | 2-1-2                                                                      | D-1-D          | 22 & 5                   | —                              | 1097         |
| —                 | M5011-14PS<br>M5011E-14PS | Single Phase Series Parallel | 240   | 50/60       | 0-280          | 350             | 98.0           | CW                                  | 2-2                                                                        | D-D            | 22 & 4                   | —                              | 1097         |
| —                 | M5021-14D<br>M5021E-14D   | Three Phase Open Delta       | 240   | 50/60       | 0-240<br>0-280 | 196<br>196      | 81.5<br>95.1   | CW<br>CW                            | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                   | —                              | 1097         |
|                   |                           |                              | 120   | 50/60       | 0-280          | 196*84<br>V.D.  | 40.8‡          | CW                                  | 5-1-5                                                                      | D-1-D          |                          |                                |              |
| —                 | M5021-14PS<br>M5021E-14PS | Single Phase Series Parallel | 480   | 50/60       | 0-480<br>0-560 | 196<br>196      | 94.1<br>109.8  | CW<br>CW                            | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                   | —                              | 1097         |
|                   |                           |                              | 240   | 50/60       | 0-560          | 196*84<br>V.D.  | 47.1‡          | CW                                  | 5-5                                                                        | D-D            |                          |                                |              |
| —                 | M5011-16D<br>M5011E-16D   | Three Phase Open Delta       | 120   | 50/60       | 0-140          | 400             | 96.7           | CW                                  | 2-1-2                                                                      | D-1-D          | 22 & 5                   | —                              | 1254         |
| —                 | M5011-16PS<br>M5011E-16PS | Single Phase Series Parallel | 240   | 50/60       | 0-280          | 400             | 112.0          | CW                                  | 2-2                                                                        | D-D            | 22 & 4                   | —                              | 1254         |
| —                 | M5021-16D<br>M5021E-16D   | Three Phase Open Delta       | 240   | 50/60       | 0-240<br>0-280 | 224<br>224      | 93.1<br>108.6  | CW<br>CW                            | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                   | —                              | 1254         |
|                   |                           |                              | 120   | 50/60       | 0-280          | 224*96<br>V.D.  | 46.6‡          | CW                                  | 5-1-5                                                                      | D-1-D          |                          |                                |              |
| —                 | M5021-16PS<br>M5021E-16PS | Single Phase Series Parallel | 480   | 50/60       | 0-480<br>0-560 | 224<br>224      | 107.5<br>125.5 | CW<br>CW                            | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                   | —                              | 1254         |
|                   |                           |                              | 240   | 50/60       | 0-560          | 224*96<br>V.D.  | 53.8‡          | CW                                  | 5-5                                                                        | D-D            |                          |                                |              |
| —                 | M5011-18D<br>M5011E-18D   | Three Phase Open Delta       | 120   | 50/60       | 0-140          | 450             | 109.0          | CW                                  | 2-1-2                                                                      | D-1-D          | 22 & 5                   | —                              | 1417         |
| —                 | M5011-18PS<br>M5011E-18PS | Single Phase Series Parallel | 240   | 50/60       | 0-280          | 450             | 126.0          | CW                                  | 2-2                                                                        | D-D            | 22 & 4                   | —                              | 1417         |
| —                 | M5021-18D<br>M5021E-18D   | Three Phase Open Delta       | 240   | 50/60       | 0-240<br>0-280 | 252<br>252      | 104.5<br>122.2 | CW<br>CW                            | 4-1-4<br>2-1-2                                                             | D-1-D<br>D-1-D | 22 & 5                   | —                              | 1417         |
|                   |                           |                              | 120   | 50/60       | 0-280          | 252*108<br>V.D. | 52.5‡          | CW                                  | 5-1-5                                                                      | D-1-D          |                          |                                |              |
| —                 | M5021-18PS<br>M5021E-18PS | Single Phase Series Parallel | 480   | 50/60       | 0-480<br>0-560 | 252<br>252      | 121.0<br>141.0 | CW<br>CW                            | 4-4<br>2-2                                                                 | D-D<br>D-D     | 22 & 4                   | —                              | 1417         |
|                   |                           |                              | 240   | 50/60       | 0-560          | 252*108<br>V.D. | 60.5‡          | CW                                  | 5-5                                                                        | D-D            |                          |                                |              |
| —                 | M5011-12Y<br>M5011E-12Y   | Three Phase Wye              | 240   | 60          | 0-280          | 200             | 96.7           | CW                                  | 2-2-2                                                                      | D-D-D          | 22 & 6                   | —                              | 942          |
| —                 | M5021-12Y<br>M5021E-12Y   | Three Phase Wye              | 480   | 50/60<br>60 | 0-480<br>0-560 | 112<br>112      | 93.1<br>108.6  | CW<br>CW                            | 4-4-4<br>2-2-2                                                             | D-D-D<br>D-D-D | 22 & 6                   | —                              | 942          |
|                   |                           |                              | 240   | 60          | 0-560          | 112*48<br>V.D.  | 46.6‡          | CW                                  | 5-5-5                                                                      | D-D-D          |                          |                                |              |



# 5000 Series

| PART NUMBER       |                         | WIRING          | INPUT |       | OUTPUT |                  |         | SHAFT ROTATION FOR VOLTAGE INCREASE | TERMINAL CONNECTIONS<br>For Increasing Voltage<br>As Viewed from Rotor End |        | SCHE-MATIC<br>(Pg 8 & 9) | NET WEIGHT<br>IN LBS.<br>(MAX) |              |
|-------------------|-------------------------|-----------------|-------|-------|--------|------------------|---------|-------------------------------------|----------------------------------------------------------------------------|--------|--------------------------|--------------------------------|--------------|
| MANUALLY OPERATED | MOTOR DRIVEN            |                 | VOLTS | HERTZ | VOLTS  | MAX AMPS         | MAX KVA |                                     | INPUT                                                                      | OUTPUT |                          | MAN-UAL                        | MOTOR DRIVEN |
| —                 | M5011-15Y<br>M5011E-15Y | Three Phase Wye | 240   | 60    | 0-280  | 250              | 121.0   | CW                                  | 2-2-2                                                                      | D-D-D  | 22 & 6                   | —                              | 1179         |
| —                 | M5021-15Y<br>M5021E-15Y | Three Phase Wye | 480   | 50/60 | 0-480  | 140              | 116.5   | CW                                  | 4-4-4                                                                      | D-D-D  | 22 & 6                   | —                              | 1179         |
|                   |                         |                 |       | 60    | 0-560  | 140              | 136.0   | CW                                  | 2-2-2                                                                      | D-D-D  |                          |                                |              |
|                   |                         |                 | 240   | 60    | 0-560  | 140*-60<br>V.D.  | 58.2†   | CW                                  | 5-5-5                                                                      | D-D-D  |                          |                                |              |
| —                 | M5011-18Y<br>M5011E-18Y | Three Phase Wye | 240   | 60    | 0-280  | 300              | 145.5   | CW                                  | 2-2-2                                                                      | D-D-D  | 22 & 6                   | —                              | 1415         |
| —                 | M5021-18Y<br>M5021E-18Y | Three Phase Wye | 480   | 50/60 | 0-480  | 168              | 139.5   | CW                                  | 4-4-4                                                                      | D-D-D  | 22 & 6                   | —                              | 1415         |
|                   |                         |                 |       | 60    | 0-560  | 168              | 163.3   | CW                                  | 2-2-2                                                                      | D-D-D  |                          |                                |              |
|                   |                         |                 | 240   | 60    | 0-560  | 168*-72<br>V.D.  | 70.0†   | CW                                  | 5-5-5                                                                      | D-D-D  |                          |                                |              |
| —                 | M5011-21Y<br>M5011E-21Y | Three Phase Wye | 240   | 60    | 0-280  | 350              | 169.5   | CW                                  | 2-2-2                                                                      | D-D-D  | 22 & 6                   | —                              | 1654         |
| —                 | M5021-21Y<br>M5021E-21Y | Three Phase Wye | 480   | 50/60 | 0-480  | 196              | 163.0   | CW                                  | 4-4-4                                                                      | D-D-D  | 22 & 6                   | —                              | 1654         |
|                   |                         |                 |       | 60    | 0-560  | 196              | 189.5   | CW                                  | 2-2-2                                                                      | D-D-D  |                          |                                |              |
|                   |                         |                 | 240   | 60    | 0-560  | 196*-84<br>V.D.  | 82.0†   | CW                                  | 5-5-5                                                                      | D-D-D  |                          |                                |              |
| —                 | M5011-24Y<br>M5011E-24Y | Three Phase Wye | 240   | 60    | 0-280  | 400              | 193.7   | CW                                  | 2-2-2                                                                      | D-D-D  | 22 & 5                   | —                              | 1892         |
| —                 | M5021-24Y<br>M5021E-24Y | Three Phase Wye | 480   | 50/60 | 0-480  | 224              | 186.5   | CW                                  | 4-4-4                                                                      | D-D-D  | 22 & 6                   | —                              | 1892         |
|                   |                         |                 |       | 60    | 0-560  | 224              | 217.8   | CW                                  | 2-2-2                                                                      | D-D-D  |                          |                                |              |
|                   |                         |                 | 240   | 60    | 0-560  | 224*-96<br>V.D.  | 93.0†   | CW                                  | 5-5-5                                                                      | D-D-D  |                          |                                |              |
| —                 | M5011-27Y<br>M5011E-27Y | Three Phase Wye | 240   | 60    | 0-280  | 450              | 218.4   | CW                                  | 2-2-2                                                                      | D-D-D  | 22 & 6                   | —                              | 2131         |
| —                 | M5021-27Y<br>M5021E-27Y | Three Phase Wye | 480   | 50/60 | 0-480  | 252              | 209.5   | CW                                  | 4-4-4                                                                      | D-D-D  | 22 & 6                   | —                              | 2131         |
|                   |                         |                 |       | 60    | 0-560  | 252              | 244.0   | CW                                  | 2-2-2                                                                      | D-D-D  |                          |                                |              |
|                   |                         |                 | 240   | 60    | 0-560  | 252*-108<br>V.D. | 105.0†  | CW                                  | 5-5-5                                                                      | D-D-D  |                          |                                |              |

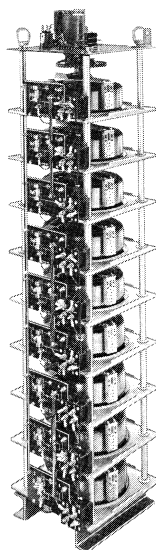
\* Maximum output current in output voltage range from 0 to 25 percent above line voltage. At higher output voltages, output current must be reduced according to rating curve, Figure B, page 6.

† Maximum KVA at maximum output and corresponding de-rated current. Maximum KVA at lower output voltages may be calculated from derating curve. Figure B, page 6.

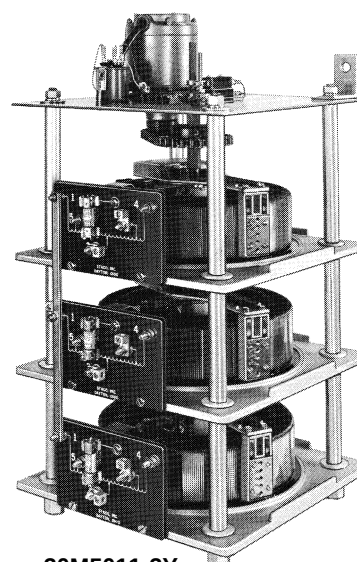
V. D. Voltage Doubler



**5000/6000 Series  
Enclosed Unit**

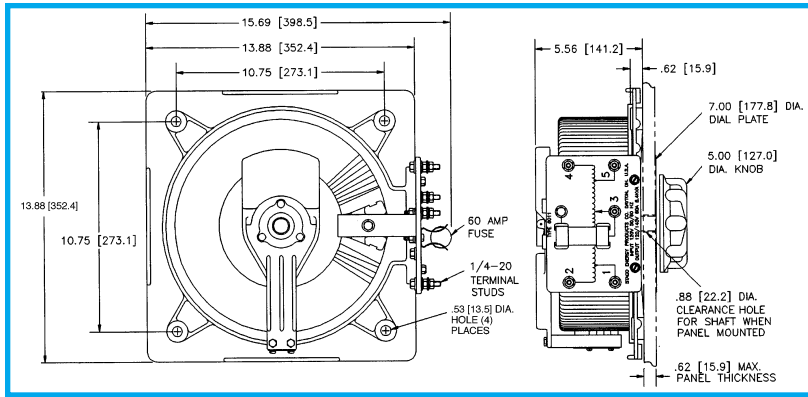


**30M6020-9Y**

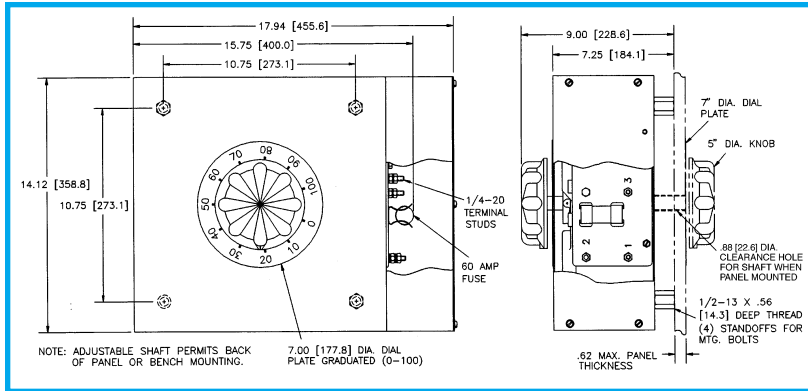


**30M5011-3Y**

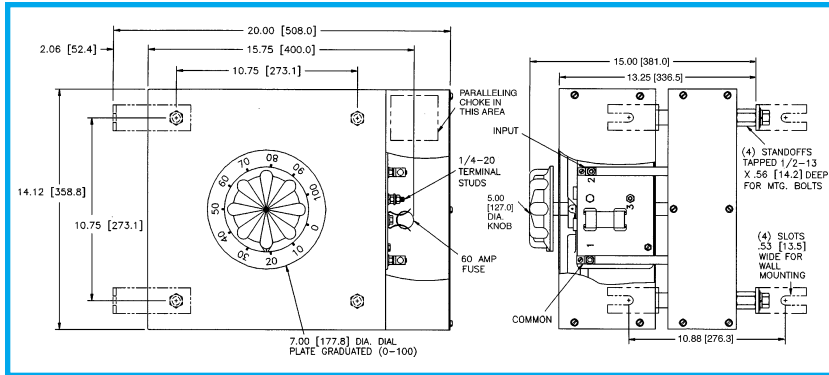
# 5000/6000 Series



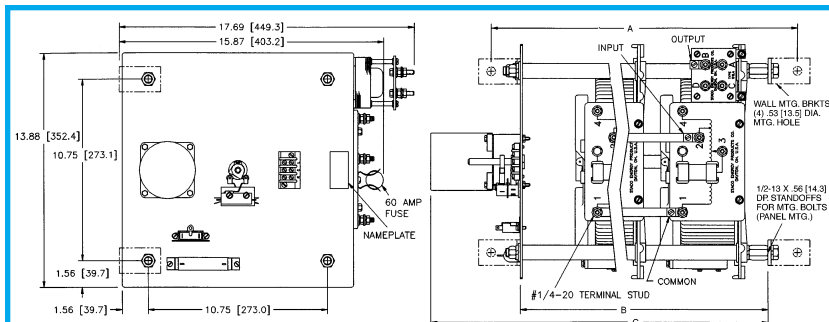
**Manual Single, Uncased**



**Manual Single, Cased**

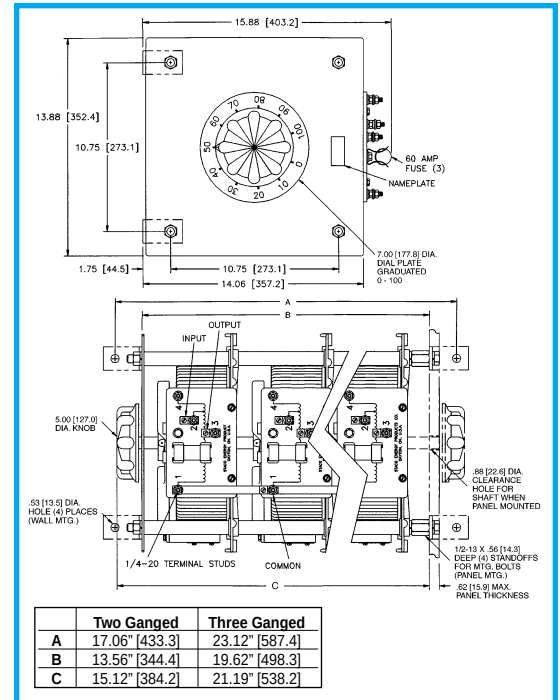


**Manual Two-Ganged, Cased**

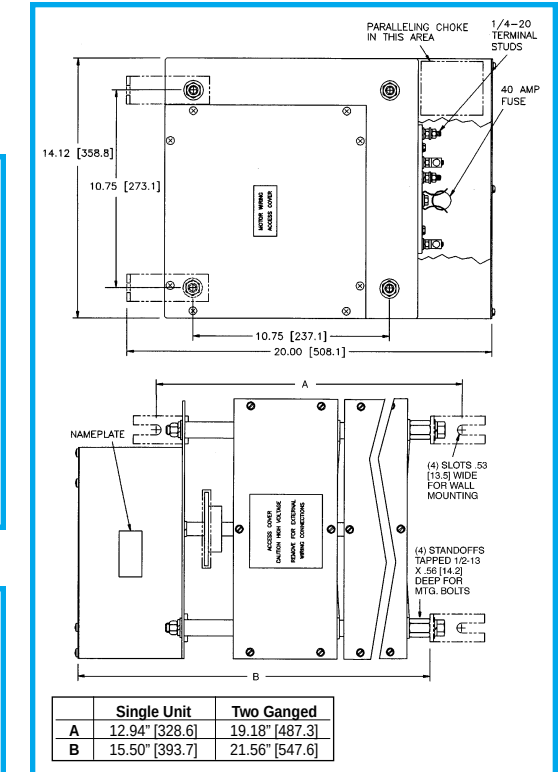


|                      | Single Unit    | Two Ganged     | Three Ganged   |
|----------------------|----------------|----------------|----------------|
| A                    | 13.25" [336.6] | 19.32" [490.7] | 25.38" [644.5] |
| B                    | 9.75" [247.7]  | 15.82" [401.8] | 21.88" [555.7] |
| C (5 sec.)           | 13.53" [343.7] | 19.62" [498.5] | 25.75" [654.0] |
| C (15, 30 & 60 sec.) | 15.12" [384.2] | 21.19" [538.2] | 27.25" [692.0] |

**Motor Driven, Single, Two and Three-Ganged, Uncased**

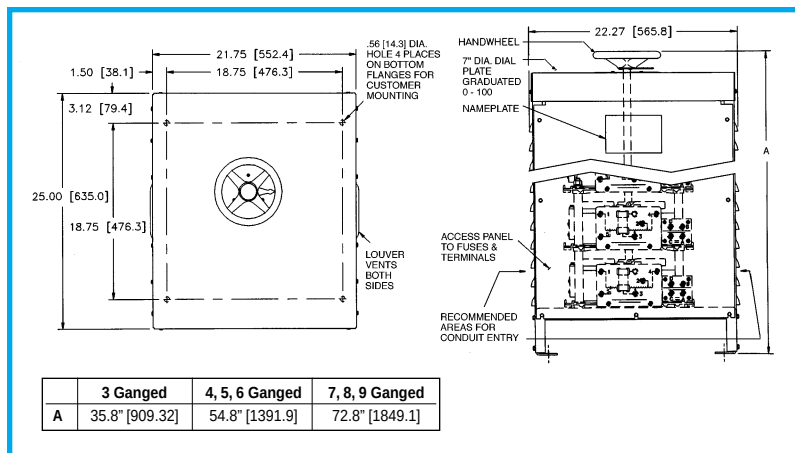


**Manual Two and Three-Ganged, Uncased**

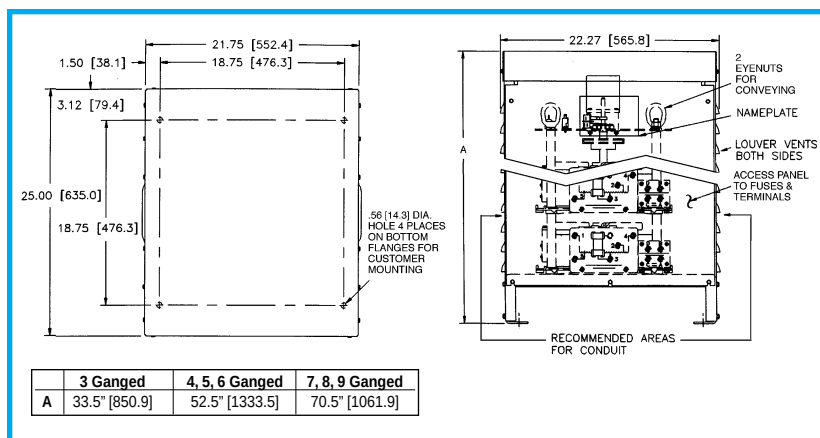


**Motor Driven, Single and Two-Ganged, Cased**

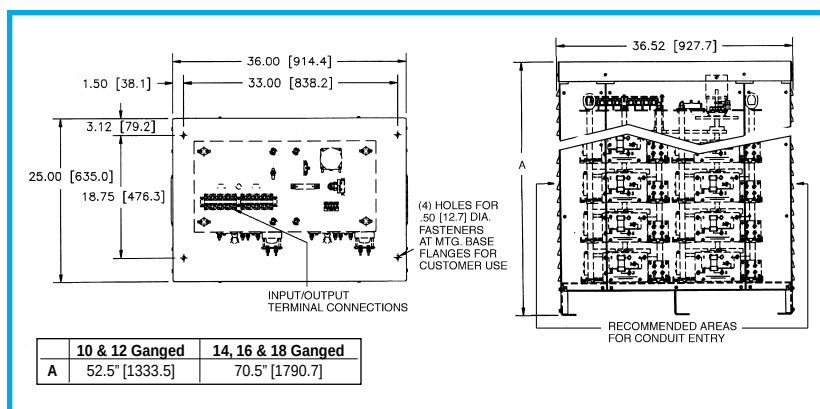
# 5000/6000 Series



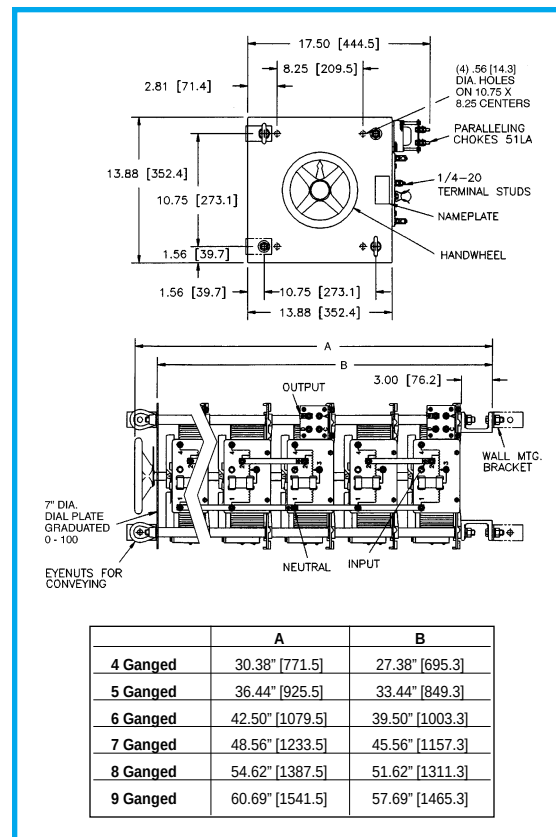
Manual Three to Nine-Ganged, Cased



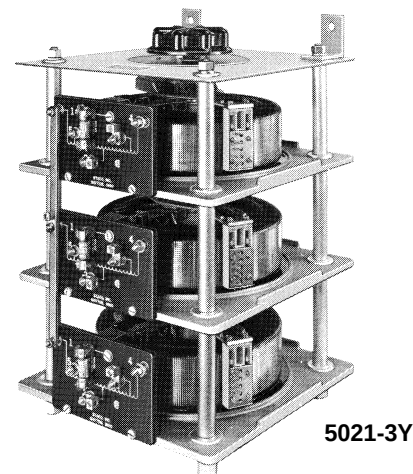
Motor-Driven Three to Nine-Ganged, Cased



Motor-Driven 10, 12, 14, 16 & 18-Ganged Open Delta and Parallel, Cased



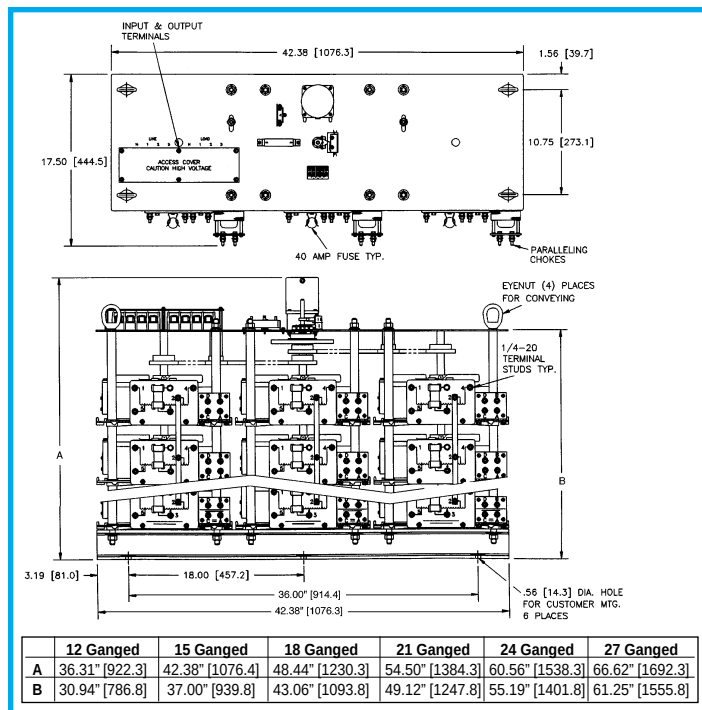
Manual Four to Nine-Ganged, Uncased



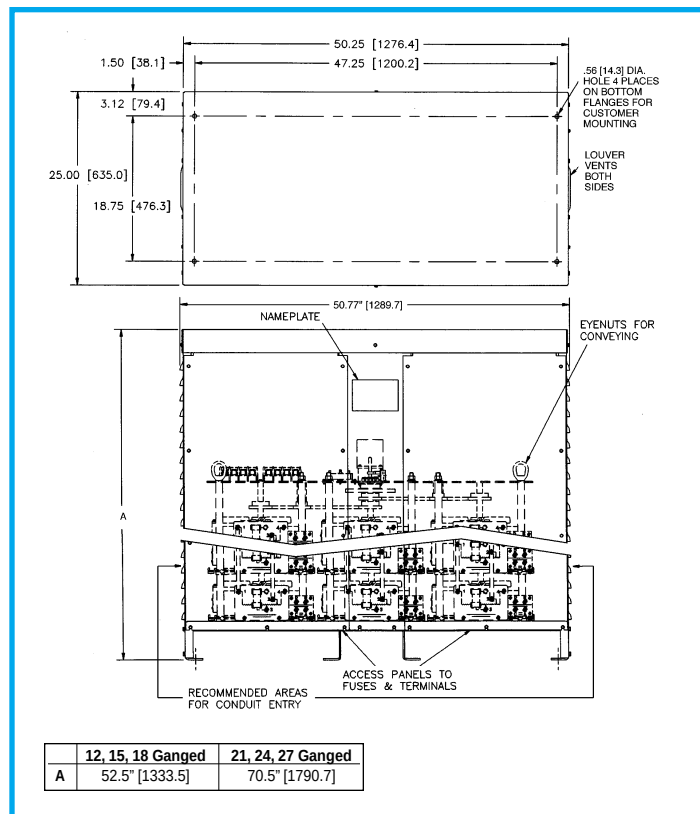
5021-3Y



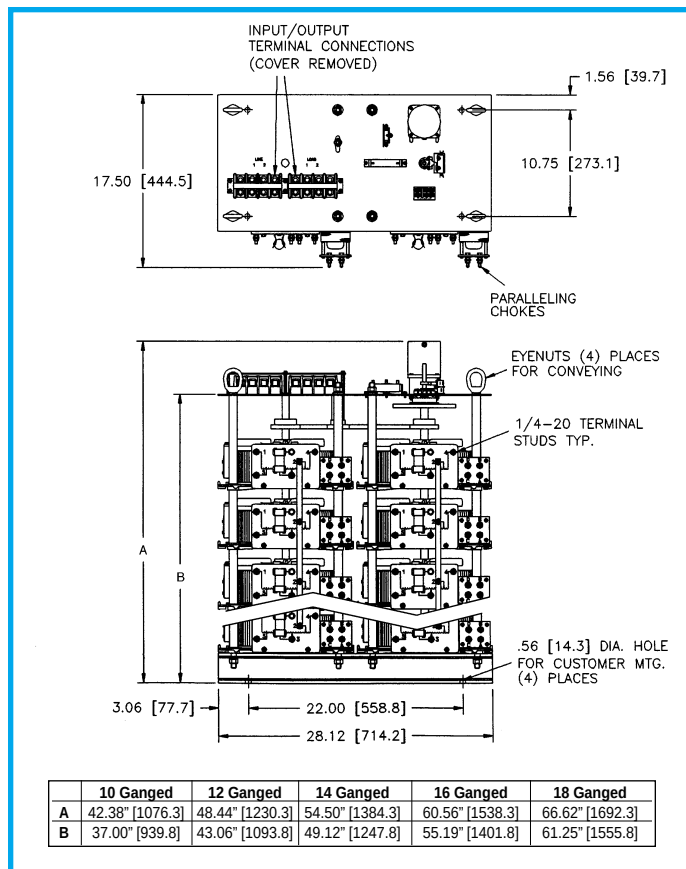
# 5000/6000 Series



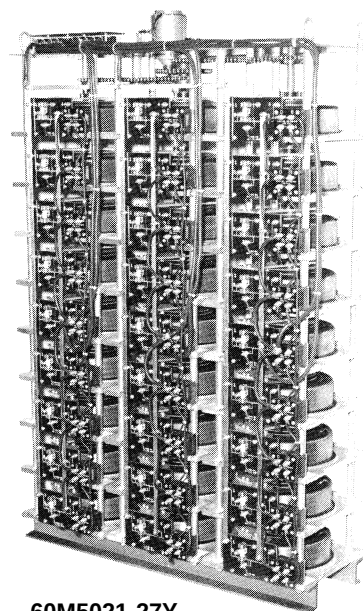
Motor-Driven 12, 15, 18, 21, 24 & 27-Ganged, Uncased



Motor-Driven 12, 15, 18, 21, 24 & 27-Ganged, Cased



Motor-Driven 10, 12, 14, 16 & 18-Ganged Open Delta & Parallel, Uncased



60M5021-27Y



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Электрон  
Связь**

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