



# APPLICATION Three-Phase Motors

Table 19 Three-Phase 75 °C Cable, 60 Hz (Service Entrance to Motor) Maximum Length in Feet

**75 °C**

| MOTOR RATING                              |     |      | 75 °C INSULATION - AWG COPPER WIRE SIZE |            |            |            |            |            |            |            |            |            |            |            |            | MCM COPPER WIRE SIZE |            |            |      |      |  |
|---|-----|------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------|------|--|
| VOLTS                                     | HP  | KW   | 14                                      | 12         | 10         | 8          | 6          | 4          | 3          | 2          | 1          | 0          | 00         | 000        | 0000       | 250                  | 300        | 350        | 400  | 500  |  |
| 200 V<br>60 Hz<br>Three-Phase<br>3 - Lead | 1/2 | 0.37 | 710                                     | 1140       | 1800       | 2840       | 4420       |            |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 3/4 | 0.55 | 510                                     | 810        | 1280       | 2030       | 3160       |            |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 1   | 0.75 | 430                                     | 690        | 1080       | 1710       | 2670       | 4140       | 5140       |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 1.5 | 1.1  | 310                                     | 500        | 790        | 1260       | 1960       | 3050       | 3780       |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 2   | 1.5  | 240                                     | 390        | 610        | 970        | 1520       | 2360       | 2940       | 3610       | 4430       | 5420       |            |            |            |                      |            |            |      |      |  |
|   | 3   | 2.2  | 180                                     | 290        | 470        | 740        | 1160       | 1810       | 2250       | 2760       | 3390       | 4130       |            |            |            |                      |            |            |      |      |  |
|   | 5   | 3.7  | <b>110</b>                              | 170        | 280        | 440        | 690        | 1080       | 1350       | 1660       | 2040       | 2490       | 3050       | 3670       | 4440       | 5030                 |            |            |      |      |  |
|   | 7.5 | 5.5  | 0                                       | 0          | 310        | 490        | 770        | 960        | 1180       | 1450       | 1770       | 2170       | 2600       | 3150       | 3560       |                      |            |            |      |      |  |
|   | 10  | 7.5  | 0                                       | 0          | <b>150</b> | 230        | 370        | 570        | 720        | 880        | 1090       | 1330       | 1640       | 1970       | 2390       | 2720                 | 3100       | 3480       | 3800 | 4420 |  |
|   | 15  | 11   | 0                                       | 0          | 0          | <b>160</b> | 250        | 390        | 490        | 600        | 740        | 910        | 1110       | 1340       | 1630       | 1850                 | 2100       | 2350       | 2570 | 2980 |  |
|   | 20  | 15   | 0                                       | 0          | 0          | 0          | <b>190</b> | 300        | 380        | 460        | 570        | 700        | 860        | 1050       | 1270       | 1440                 | 1650       | 1850       | 2020 | 2360 |  |
|   | 25  | 18.5 | 0                                       | 0          | 0          | 0          | 0          | <b>240</b> | 300        | 370        | 460        | 570        | 700        | 840        | 1030       | 1170                 | 1330       | 1500       | 1640 | 1900 |  |
| 30  | 22  | 0    | 0                                       | 0          | 0          | 0          | <b>200</b> | <b>250</b> | 310        | 380        | 470        | 580        | 700        | 850        | 970        | 1110                 | 1250       | 1360       | 1590 |      |  |
| 230 V<br>60 Hz<br>Three-Phase<br>3 - Lead | 1/2 | 0.37 | 930                                     | 1490       | 2350       | 3700       | 5760       | 8910       |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 3/4 | 0.55 | 670                                     | 1080       | 1700       | 2580       | 4190       | 6490       | 8060       | 9860       |            |            |            |            |            |                      |            |            |      |      |  |
|   | 1   | 0.75 | 560                                     | 910        | 1430       | 2260       | 3520       | 5460       | 6780       | 8290       |            |            |            |            |            |                      |            |            |      |      |  |
|   | 1.5 | 1.1  | 420                                     | 670        | 1060       | 1670       | 2610       | 4050       | 5030       | 6160       | 7530       | 9170       |            |            |            |                      |            |            |      |      |  |
|   | 2   | 1.5  | 320                                     | 510        | 810        | 1280       | 2010       | 3130       | 3890       | 4770       | 5860       | 7170       | 8780       |            |            |                      |            |            |      |      |  |
|   | 3   | 2.2  | 240                                     | 390        | 620        | 990        | 1540       | 2400       | 2980       | 3660       | 4480       | 5470       | 6690       | 8020       | 9680       |                      |            |            |      |      |  |
|   | 5   | 3.7  | <b>140</b>                              | 230        | 370        | 590        | 920        | 1430       | 1790       | 2190       | 2690       | 3290       | 4030       | 4850       | 5870       | 6650                 | 7560       | 8460       | 9220 |      |  |
|   | 7.5 | 5.5  | 0                                       | <b>160</b> | 260        | 420        | 650        | 1020       | 1270       | 1560       | 1920       | 2340       | 2870       | 3440       | 4160       | 4710                 | 5340       | 5970       | 6500 | 7510 |  |
|   | 10  | 7.5  | 0                                       | 0          | <b>190</b> | 310        | 490        | 760        | 950        | 1170       | 1440       | 1760       | 2160       | 2610       | 3160       | 3590                 | 4100       | 4600       | 5020 | 5840 |  |
|   | 15  | 11   | 0                                       | 0          | 0          | <b>210</b> | 330        | 520        | 650        | 800        | 980        | 1200       | 1470       | 1780       | 2150       | 2440                 | 2780       | 3110       | 3400 | 3940 |  |
|   | 20  | 15   | 0                                       | 0          | 0          | <b>160</b> | <b>250</b> | 400        | 500        | 610        | 760        | 930        | 1140       | 1380       | 1680       | 1910                 | 2180       | 2450       | 2680 | 3120 |  |
|   | 25  | 18.5 | 0                                       | 0          | 0          | 0          | <b>200</b> | 320        | 400        | 500        | 610        | 750        | 920        | 1120       | 1360       | 1540                 | 1760       | 1980       | 2160 | 2520 |  |
| 30  | 22  | 0    | 0                                       | 0          | 0          | 0          | <b>260</b> | 330        | 410        | 510        | 620        | 760        | 930        | 1130       | 1280       | 1470                 | 1650       | 1800       | 2110 |      |  |
| 380 V<br>60 Hz<br>Three-Phase<br>3 - Lead | 1/2 | 0.37 | 2690                                    | 4290       | 6730       |            |            |            |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 3/4 | 0.55 | 2000                                    | 3190       | 5010       | 7860       |            |            |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 1   | 0.75 | 1620                                    | 2580       | 4060       | 6390       | 9980       |            |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 1.5 | 1.1  | 1230                                    | 1970       | 3100       | 4890       | 7630       |            |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 2   | 1.5  | 870                                     | 1390       | 2180       | 3450       | 5400       | 8380       |            |            |            |            |            |            |            |                      |            |            |      |      |  |
|   | 3   | 2.2  | 680                                     | 1090       | 1710       | 2690       | 4200       | 6500       | 8020       | 9830       |            |            |            |            |            |                      |            |            |      |      |  |
|   | 5   | 3.7  | 400                                     | 640        | 1010       | 1590       | 2490       | 3870       | 4780       | 5870       | 7230       | 8830       |            |            |            |                      |            |            |      |      |  |
|   | 7.5 | 5.5  | 270                                     | 440        | 690        | 1090       | 1710       | 2640       | 3260       | 4000       | 4930       | 6010       | 7290       | 8780       |            |                      |            |            |      |      |  |
|   | 10  | 7.5  | <b>200</b>                              | 320        | 510        | 800        | 1250       | 1930       | 2380       | 2910       | 3570       | 4330       | 5230       | 6260       | 7390       | 8280                 | 9340       |            |      |      |  |
|   | 15  | 11   | 0                                       | 0          | 370        | 590        | 920        | 1430       | 1770       | 2170       | 2690       | 3290       | 4000       | 4840       | 5770       | 6520                 | 7430       | 8250       | 8990 |      |  |
|   | 20  | 15   | 0                                       | 0          | <b>280</b> | 440        | 700        | 1090       | 1350       | 1670       | 2060       | 2530       | 3090       | 3760       | 4500       | 5110                 | 2840       | 6510       | 7120 | 8190 |  |
|   | 25  | 18.5 | 0                                       | 0          | 0          | <b>360</b> | 570        | 880        | 1100       | 1350       | 1670       | 2050       | 2510       | 3040       | 3640       | 4130                 | 4720       | 5250       | 5740 | 6590 |  |
|   | 30  | 22   | 0                                       | 0          | 0          | <b>290</b> | 470        | 730        | 910        | 1120       | 1380       | 1700       | 2080       | 2520       | 3020       | 3430                 | 3920       | 4360       | 4770 | 5490 |  |
|   | 40  | 30   | 0                                       | 0          | 0          | 0          | 0          | <b>530</b> | 660        | 820        | 1010       | 1240       | 1520       | 1840       | 2200       | 2500                 | 2850       | 3170       | 3470 | 3990 |  |
|   | 50  | 37   | 0                                       | 0          | 0          | 0          | 0          | <b>440</b> | <b>540</b> | 660        | 820        | 1000       | 1220       | 1480       | 1770       | 2010                 | 2290       | 2550       | 2780 | 3190 |  |
|   | 60  | 45   | 0                                       | 0          | 0          | 0          | 0          | <b>370</b> | <b>460</b> | <b>560</b> | 690        | 850        | 1030       | 1250       | 1500       | 1700                 | 1940       | 2150       | 2350 | 2700 |  |
|   | 75  | 55   | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | <b>460</b> | <b>570</b> | 700        | 860        | 1050       | 1270       | 1440                 | 1660       | 1850       | 2030 | 2350 |  |
| 100                                       | 75  | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | <b>420</b> | <b>510</b> | <b>630</b> | 760        | 910        | 1030       | 1180                 | 1310       | 1430       | 1650 |      |  |
| 125                                       | 93  | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>510</b> | <b>620</b> | <b>740</b> | 840        | 950                  | 1060       | 1160       | 1330 |      |  |
| 150                                       | 110 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>520</b> | <b>620</b> | <b>700</b> | <b>790</b>           | 880        | 960        | 1090 |      |  |
| 175                                       | 130 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>560</b> | <b>650</b> | <b>750</b>           | <b>840</b> | 920        | 1070 |      |  |
| 200                                       | 150 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>550</b> | <b>630</b>           | <b>700</b> | <b>760</b> | 880  |      |  |

Lengths in **BOLD** only meet the US National Electrical Code ampacity requirements for individual conductors in free air or water. Lengths NOT in bold meet NEC ampacity requirements for either individual conductors or jacketed cable. See page 11 for additional details.



# APPLICATION Three-Phase Motors

Table 20 Three-Phase 75 °C Cable (Continued)

75 °C

| MOTOR RATING                              |     |      | 75 °C INSULATION - AWG COPPER WIRE SIZE |            |            |            |            |            |            |            |            |            |             |             |            | MCM COPPER WIRE SIZE |      |      |      |      |  |
|---|-----|------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|----------------------|------|------|------|------|--|
| VOLTS                                     | HP  | KW   | 14                                      | 12         | 10         | 8          | 6          | 4          | 3          | 2          | 1          | 0          | 00          | 000         | 0000       | 250                  | 300  | 350  | 400  | 500  |  |
| 460 V<br>60 Hz<br>Three-Phase<br>3 - Lead | 1/2 | 0.37 | 3770                                    | 6020       | 9460       |            |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 3/4 | 0.55 | 2730                                    | 4350       | 6850       |            |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 1   | 0.75 | 2300                                    | 3670       | 5770       | 9070       |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 1.5 | 1.1  | 1700                                    | 2710       | 4270       | 6730       |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 2   | 1.5  | 1300                                    | 2070       | 3270       | 5150       | 8050       |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 3   | 2.2  | 1000                                    | 1600       | 2520       | 3970       | 6200       |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 5   | 3.7  | 590                                     | 950        | 1500       | 2360       | 3700       | 5750       |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 7.5 | 5.5  | 420                                     | 680        | 1070       | 1690       | 2640       | 4100       | 5100       | 6260       | 7680       |            |             |             |            |                      |      |      |      |      |  |
|   | 10  | 7.5  | 310                                     | 500        | 790        | 1250       | 1960       | 3050       | 3800       | 4680       | 5750       | 7050       |             |             |            |                      |      |      |      |      |  |
|   | 15  | 11   | 0                                       | <b>340</b> | 540        | 850        | 1340       | 2090       | 2600       | 3200       | 3930       | 4810       | 5900        | 7110        |            |                      |      |      |      |      |  |
|   | 20  | 15   | 0                                       | 0          | 410        | 650        | 1030       | 1610       | 2000       | 2470       | 3040       | 3730       | 4580        | 5530        |            |                      |      |      |      |      |  |
|   | 25  | 18.5 | 0                                       | 0          | <b>330</b> | 530        | 830        | 1300       | 1620       | 1990       | 2450       | 3010       | 3700        | 4470        | 5430       |                      |      |      |      |      |  |
|   | 30  | 22   | 0                                       | 0          | <b>270</b> | 430        | 680        | 1070       | 1330       | 1640       | 2030       | 2490       | 3060        | 3700        | 4500       | 5130                 | 5860 |      |      |      |  |
|   | 40  | 30   | 0                                       | 0          | 0          | <b>320</b> | <b>500</b> | 790        | 980        | 1210       | 1490       | 1830       | 2250        | 2710        | 3290       | 3730                 | 4250 |      |      |      |  |
|   | 50  | 37   | 0                                       | 0          | 0          | 0          | <b>410</b> | 640        | 800        | 980        | 1210       | 1480       | 1810        | 2190        | 2650       | 3010                 | 3420 | 3830 | 4180 | 4850 |  |
|   | 60  | 45   | 0                                       | 0          | 0          | 0          | 0          | <b>540</b> | <b>670</b> | 830        | 1020       | 1250       | 1540        | 1850        | 2240       | 2540                 | 2890 | 3240 | 3540 | 4100 |  |
|   | 75  | 55   | 0                                       | 0          | 0          | 0          | 0          | <b>440</b> | <b>550</b> | <b>680</b> | 840        | 1030       | 1260        | 1520        | 1850       | 2100                 | 2400 | 2700 | 2950 | 3440 |  |
|   | 100 | 75   | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | <b>500</b> | <b>620</b> | <b>760</b> | 940         | 1130        | 1380       | 1560                 | 1790 | 2010 | 2190 | 2550 |  |
|   | 125 | 93   | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>600</b> | <b>740</b>  | <b>890</b>  | 1000       | 1220                 | 1390 | 1560 | 1700 | 1960 |  |
|   | 150 | 110  | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>630</b>  | <b>760</b>  | <b>920</b> | 1050                 | 1190 | 1340 | 1460 | 1690 |  |
| 175                                       | 130 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>670</b>  | <b>810</b>  | <b>930</b> | 1060                 | 1190 | 1300 | 1510 |      |  |
| 200                                       | 150 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>590</b>  | <b>710</b>  | <b>810</b> | <b>920</b>           | 1030 | 1130 | 1310 |      |  |
| 575 V<br>60 Hz<br>Three-Phase<br>3 - Lead | 1/2 | 0.37 | 5900                                    | 9410       |            |            |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 3/4 | 0.55 | 4270                                    | 6810       |            |            |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 1   | 0.75 | 3630                                    | 5800       | 9120       |            |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 1.5 | 1.1  | 2620                                    | 4180       | 6580       |            |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 2   | 1.5  | 2030                                    | 3250       | 5110       | 8060       |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 3   | 2.2  | 1580                                    | 2530       | 3980       | 6270       |            |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 5   | 3.7  | 920                                     | 1480       | 2330       | 3680       | 5750       |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 7.5 | 5.5  | 660                                     | 1060       | 1680       | 2650       | 4150       |            |            |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 10  | 7.5  | 490                                     | 780        | 1240       | 1950       | 3060       | 4770       | 5940       |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 15  | 11   | <b>330</b>                              | 530        | 850        | 1340       | 2090       | 3260       | 4060       |            |            |            |             |             |            |                      |      |      |      |      |  |
|   | 20  | 15   | 0                                       | <b>410</b> | 650        | 1030       | 1610       | 2520       | 3140       | 3860       | 4760       | 5830       |             |             |            |                      |      |      |      |      |  |
|   | 25  | 18.5 | 0                                       | 0          | 520        | 830        | 1300       | 2030       | 2530       | 3110       | 3840       | 4710       |             |             |            |                      |      |      |      |      |  |
|   | 30  | 22   | 0                                       | 0          | <b>430</b> | 680        | 1070       | 1670       | 2080       | 2560       | 3160       | 3880       | 4770        | 5780        | 7030       | 8000                 |      |      |      |      |  |
|   | 40  | 30   | 0                                       | 0          | 0          | <b>500</b> | 790        | 1240       | 1540       | 1900       | 2330       | 2860       | 3510        | 4230        | 5140       | 5830                 |      |      |      |      |  |
|   | 50  | 37   | 0                                       | 0          | 0          | <b>410</b> | <b>640</b> | 1000       | 1250       | 1540       | 1890       | 2310       | 2840        | 3420        | 4140       | 4700                 | 5340 | 5990 | 6530 | 7580 |  |
|   | 60  | 45   | 0                                       | 0          | 0          | 0          | <b>540</b> | 850        | 1060       | 1300       | 1600       | 1960       | 2400        | 2890        | 3500       | 3970                 | 4520 | 5070 | 5530 | 6410 |  |
|   | 75  | 55   | 0                                       | 0          | 0          | 0          | 0          | <b>690</b> | 860        | 1060       | 1310       | 1600       | 1970        | 2380        | 2890       | 3290                 | 3750 | 5220 | 4610 | 5370 |  |
|   | 100 | 75   | 0                                       | 0          | 0          | 0          | 0          | 0          | <b>640</b> | <b>790</b> | 970        | 1190       | 1460        | 1770        | 2150       | 2440                 | 2790 | 3140 | 3430 | 3990 |  |
|   | 125 | 93   | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | <b>630</b> | <b>770</b> | <b>950</b> | 1160        | 1400        | 1690       | 1920                 | 2180 | 2440 | 2650 | 3070 |  |
|   | 150 | 110  | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>660</b> | <b>800</b> | <b>990</b>  | 1190        | 1440       | 1630                 | 1860 | 2080 | 2270 | 2640 |  |
| 175                                       | 130 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>700</b> | <b>870</b> | <b>1050</b> | 1270        | 1450       | 1650                 | 1860 | 2030 | 2360 |      |  |
| 200                                       | 150 | 0    | 0                                       | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | <b>760</b> | <b>920</b>  | <b>1110</b> | 1260       | 1440                 | 1620 | 1760 | 2050 |      |  |

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