

The tables in this document list the load-pickup capabilities of Fault Fiter Electronic Power Fuses. In general, load-pickup capability refers to the amount of load Fault Fiter fuses can “pick up” after a momentary or extended outage. The values listed in the tables represent the minimum of the magnetizing-inrush, hot-load pickup, and cold-load pickup capabilities of each of the Fault Fiter fuse control modules. These three capabilities are defined as follows:

1. **Magnetizing-inrush capability.** An ability of Fault Fiter fuses to withstand the magnetizing-inrush currents associated with energizing all transformers on the circuit, up to the maximum rated transformer kVA values listed in the tables
2. **Hot-load pickup.** An ability of a Fault Fiter fuse to withstand the combined magnetizing- and load-inrush currents associated with re-energizing the circuit following a momentary loss of source voltage, which can occur when a source-side circuit breaker or recloser operates to clear a temporary upstream fault, and then automatically recloses (Fault Fiter fuses will withstand the magnetizing-inrush currents associated with energizing the transformers on the circuit, superimposed on the inrush currents associated with the startup of loads, such as motors and lighting equipment, up to the maximum rated transformer kVA values listed in the tables.)
3. **Cold-load pickup.** An ability of Fault Fiter fuses to withstand the combined magnetizing- and load-inrush currents associated with re-energizing the circuit following an extended outage (30 minutes or more) (This duty requires Fault Fiter fuses to withstand the magnetizing-inrush currents associated with energizing the transformers on the circuit, superimposed on the currents associated with picking up the loads, including the long-term overcurrents caused by the loss of load diversity in cycling loads resulting from the outage. Fault Fiter fuses can perform this duty up to the maximum rated transformer kVA values listed in the tables.)

The cold-load pickup phenomenon is typically associated with utility distribution transformer loading practices, where the transformers are often sized for the average peak load instead of the maximum expected peak load, thereby exposing the circuit to overcurrents of up to 30 minutes long following re-energization. In contrast, transformers applied in industrial, commercial, and institutional power systems (including those in high-rise apartment complexes) are usually sized to accommodate maximum peak-load conditions without being overloaded.

For this reason, the combined magnetizing- and load-inrush current associated with energizing the circuit following an extended outage is no more severe than the inrush current encountered under hot-load pickup conditions. As a consequence, cold-load pickup capability considerations impose no separate influence on the load-pickup capability of Fault Fiter fuses when applied on industrial, commercial, and institutional power systems. Accordingly, the load-pickup capability values listed in the tables for industrial-, commercial-, and institutional-type loads represent the minimum of the magnetizing-inrush and hot-load pickup capability of each of the Fault Fiter fuse control modules.

**Note:** To determine the load-pickup capability of Fault Fiter fuses based on system voltages other than those listed in the tables, multiply the values shown in the tables by the appropriate system-voltage ratio. For example, to convert to 13.8 kV, multiply the selected value in the column applicable to a 12.47-kV system by 1.11 ( $13.87 \div 12.47$ ).



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## Underground Subloop-Type Fault Fiter Fuses (TCC No. 422-7)

**Table 1. Residential-Type Loads**

| Control Module Catalog Number ↓               | Load-Pickup Capability, Maximum-Rated Transformer KVA Connected <sup>①</sup> |      |      |       |      |      |       |      |      |
|---|--|------|------|-------|------|------|-------|------|------|
|   | 4.16   |      |      | 12.47 |      |      | 24.9  |      |      |
| System Voltage, kV →                          |  |      |      |       |      |      |       |      |      |
| Available Fault Current kA, RMS Symmetrical → | 5  | 10   | 14   | 5     | 10   | 14   | 5     | 10   | 12.5 |
| 7020-C40P130S2T3                              | 1470   | 1310 | 1280 | 4410  | 3930 | 3850 | 8800  | 7850 | 7760 |
| 7020-C50P130S1T3                              | 1820   | 1410 | 1300 | 5450  | 4230 | 3910 | 10900 | 8450 | 8050 |

① If the maximum-rated transformer kVA connected in a given application is greater than the values listed above, refer to the nearest S&C Sales Office.

**Table 2. Industrial-, Commercial-, and Institutional-Type Loads**

| Control Module Catalog Number ↓               | Load-Pickup Capability, Maximum-Rated Transformer KVA Connected <sup>①②</sup> |      |      |       |       |       |       |       |       |
|---|---|------|------|-------|-------|-------|-------|-------|-------|
|   | 4.16  |      |      | 12.47 |       |       | 24.9  |       |       |
| System Voltage, kV →                          |   |      |      |       |       |       |       |       |       |
| Available Fault Current kA, RMS Symmetrical → | 5   | 10   | 14   | 5     | 10    | 14    | 5     | 10    | 12.5  |
| 7020-C40P130S2T3                              | 4110  | 4110 | 3570 | 12300 | 12300 | 10700 | 24600 | 24600 | 22300 |
| 7020-C50P130S1T3                              | 5150  | 2900 | 2560 | 15400 | 8700  | 7650  | 30800 | 17400 | 15600 |

① The maximum continuous current through a Fault Fiter fuse should not exceed the 400-ampere or 500-ampere minimum-pickup currents applicable to these control modules.

② If the maximum-rated transformer kVA connected in a given application is greater than the values listed above, refer to the nearest S&C Sales Office.

Inverse-Curve Type Fault Fiter Fuses (TCC No. 410-7)

Table 3. Residential-Type Loads

| Control Module Catalog Number ↓                | Load-Pickup Capability, Maximum-Rated Transformer KVA Connected <sup>①②</sup> |      |      |       |       |       |       |       |       |
|--|---|------|------|-------|-------|-------|-------|-------|-------|
|  | 4.16  |      |      | 12.47 |       |       | 24.9  |       |       |
| System Voltage, kV →                           |   |      |      |       |       |       |       |       |       |
| Available Fault Current, kA, RMS Symmetrical → | 5   | 10   | 15   | 5     | 10    | 15    | 5     | 10    | 15    |
| 814040   | 1310  | 1170 | 1130 | 3930  | 3500  | 3390  | 7800  | 7000  | 6750  |
| 814050   | 1800  | 1570 | 1470 | 5400  | 4710  | 4410  | 10800 | 9400  | 8800  |
| 814060   | 2240  | 1900 | 1800 | 6700  | 5700  | 5400  | 13400 | 11400 | 10800 |
| 814070   | 2710  | 2250 | 2120 | 8100  | 6700  | 6350  | 16200 | 13500 | 12700 |
| 814080   | 3340  | 2700 | 2510 | 10000 | 8100  | 7500  | 20000 | 16100 | 15000 |
| 814100   | 4720  | 3570 | 3240 | 14100 | 10700 | 9700  | 28200 | 21300 | 19400 |
| 814125   | 5750  | 4760 | 4240 | 17300 | 14300 | 12700 | 34500 | 28500 | 25400 |
| 814150   | 5750  | 5750 | 5150 | 17300 | 17300 | 15400 | 34500 | 34500 | 30800 |

① The maximum continuous current through a Fault Fiter fuse should not exceed 600 amperes.

② If the maximum-rated transformer kVA connected in a given application is greater than the values listed above, refer to the nearest S&C Sales Office.

Table 4. Industrial-, Commercial-, and Institutional-Type Loads

| Control Module Catalog Number ↓               | Load-Pickup Capability, Maximum-Rated Transformer KVA Connected <sup>①②</sup> |      |      |      |       |       |       |       |       |       |       |       |
|---|---|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
|   | 4.16  |      |      |      | 12.47 |       |       |       | 24.9  |       |       |       |
| System Voltage, kV →                          |   |      |      |      |       |       |       |       |       |       |       |       |
| Available Fault Current kA, RMS Symmetrical → | 10  | 20   | 30   | 40   | 10    | 20    | 30    | 40    | 10    | 20    | 30    | 40    |
| 814040  | 4110  | 3940 | 3600 | 3460 | 12300 | 11800 | 10800 | 10400 | 24600 | 23600 | 21600 | 20700 |
| 814050  | 5150  | 5150 | 4950 | 4680 | 15400 | 15400 | 14800 | 14000 | 30800 | 30800 | 29600 | 28000 |
| 814060  | 5750  | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17200 | 34500 | 34500 | 34500 | 34300 |
| 814070  | 5750  | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 814080  | 5750  | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 814100  | 5750  | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 814125  | 5750  | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 814150  | 5750  | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |

① The maximum continuous current through a Fault Fiter fuse should not exceed the 400-ampere or 500-ampere minimum pickup currents applicable to control module catalog numbers 814040 or 814050 respectively or to 600 amperes for all other control modules.

② If the maximum-rated transformer kVA connected in a given application is greater than the values listed above, refer to the nearest S&C Sales Office.

Time-Delayed Compound-Curve Type Fault Fiter Fuses (TCC No. 421-7)

Table 5. Residential-Type Loads

| Control Module Catalog Number<br>↓ | Load-Pickup Capability, Maximum-Rated Transformer KVA Connected <sup>①</sup> |      |      |       |      |      |       |       |       |
|------------------------------------|--|------|------|-------|------|------|-------|-------|-------|
|                                    | 4.16   |      |      | 12.47 |      |      | 24.9  |       |       |
|                                    | System Voltage, kV<br>→  | 5    | 10   | 15    | 5    | 10   | 15    | 5     | 10    |
| 7010-C40S1T3D8                     | 790  | 720  | 700  | 2380  | 2160 | 2100 | 4740  | 4310  | 4180  |
| 7010-C40S1T6D8                     | 790  | 720  | 700  | 2380  | 2160 | 2100 | 4740  | 4310  | 4180  |
| 7010-C40S2T3D8                     | 930  | 870  | 850  | 2790  | 2160 | 2550 | 5550  | 5200  | 5100  |
| 7010-C40S2T6D8                     | 930  | 870  | 850  | 2790  | 2160 | 2550 | 5550  | 5200  | 5100  |
| 7010-C40S3T3D8                     | 1120   | 1030 | 1000 | 3370  | 3090 | 3000 | 6750  | 6150  | 6000  |
| 7010-C40S3T6D8                     | 1120   | 1030 | 1000 | 3370  | 3090 | 3000 | 6750  | 6150  | 6000  |
| 7010-C40S4T3D8                     | 1480   | 1370 | 1330 | 4430  | 4100 | 3970 | 8850  | 8200  | 7950  |
| 7010-C40S4T6D8                     | 1480   | 1370 | 1330 | 4430  | 4100 | 3970 | 8850  | 8200  | 7950  |
| 7010-C60S1T3D8                     | 1040   | 920  | 880  | 3110  | 2770 | 2640 | 6200  | 5500  | 5250  |
| 7010-C60S1T6D8                     | 1040   | 920  | 880  | 3110  | 2770 | 2640 | 6200  | 5500  | 5250  |
| 7010-C60S2T3D8                     | 1230   | 1120 | 1070 | 3670  | 3370 | 3200 | 7300  | 6750  | 6400  |
| 7010-C60S2T6D8                     | 1230   | 1120 | 1070 | 3670  | 3370 | 3200 | 7300  | 6750  | 6400  |
| 7010-C60S3T3D8                     | 1510   | 1330 | 1280 | 4510  | 3970 | 3850 | 9000  | 7950  | 7700  |
| 7010-C60S3T6D8                     | 1510   | 1330 | 1280 | 4510  | 3970 | 3850 | 9000  | 7950  | 7700  |
| 7010-C60S4T3D8                     | 1920   | 1690 | 1640 | 5750  | 5100 | 4900 | 11500 | 10100 | 9800  |
| 7010-C60S4T6D8                     | 1920   | 1690 | 1640 | 5750  | 5100 | 4900 | 11500 | 10100 | 9800  |
| 7010-C80S1T3D8                     | 1300   | 1120 | 1070 | 3910  | 3350 | 3200 | 7800  | 6700  | 6400  |
| 7010-C80S1T6D8                     | 1300   | 1120 | 1070 | 3910  | 3350 | 3200 | 7800  | 6700  | 6400  |
| 7010-C80S2T3D8                     | 1610   | 1410 | 1330 | 4840  | 4230 | 4000 | 9650  | 8450  | 8000  |
| 7010-C80S2T6D8                     | 1610   | 1410 | 1330 | 4840  | 4230 | 4000 | 9650  | 8450  | 8000  |
| 7010-C80S3T3D8                     | 2000   | 1670 | 1590 | 6000  | 5000 | 4750 | 12000 | 10000 | 9500  |
| 7010-C80S3T6D8                     | 2000   | 1670 | 1590 | 6000  | 5000 | 4750 | 12000 | 10000 | 9500  |
| 7010-C80S4T3D8                     | 2440   | 1980 | 1660 | 7300  | 5950 | 4950 | 14600 | 11900 | 9900  |
| 7010-C80S4T6D8                     | 2440   | 2050 | 1950 | 7300  | 6150 | 5850 | 14600 | 12300 | 11700 |
| 7010-C110S1T3D8                    | 1780   | 1350 | 1330 | 5350  | 4250 | 4000 | 10700 | 8500  | 8000  |
| 7010-C110S1T6D8                    | 1780   | 1350 | 1330 | 5350  | 4250 | 4000 | 10700 | 8500  | 8000  |
| 7010-C110S2T3D8                    | 2180   | 1750 | 1640 | 6550  | 5250 | 4900 | 13100 | 10500 | 9850  |
| 7010-C110S2T6D8                    | 2180   | 1750 | 1640 | 6550  | 5250 | 4900 | 13100 | 10500 | 9850  |
| 7010-C110S3T3D8                    | 2730   | 1980 | 1660 | 8200  | 5950 | 4950 | 16300 | 11900 | 9900  |
| 7010-C110S3T6D8                    | 2730   | 2150 | 2020 | 8200  | 6450 | 6050 | 16300 | 12900 | 12100 |
| 7010-C110S4T3D8                    | 3310   | 1980 | 1660 | 9950  | 5950 | 4950 | 16800 | 11900 | 9900  |
| 7010-C110S4T6D8                    | 3310   | 2610 | 2440 | 9950  | 7800 | 7300 | 19800 | 15600 | 14600 |

① If the maximum-rated transformer kVA connected in a given application is greater than the values listed above, refer to the nearest S&C Sales Office.

Time-Delayed Compound-Curve Type Fault Fiter Fuses (TCC No. 421-7)—continued

Table 6. Industrial-, Commercial-, and Institutional-Type Loads

| Control Module Catalog Number ↓               | Load-Pickup Capability, Maximum-Rated Transformer KVA Connected ①② |      |      |      |       |       |       |       |       |       |       |       |
|---|--|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
|   | 4.16   |      |      |      | 12.47 |       |       |       | 24.9  |       |       |       |
| System Voltage, kV →                          |  |      |      |      |       |       |       |       |       |       |       |       |
| Available Fault Current kA, RMS Symmetrical → | 10   | 20   | 30   | 40   | 10    | 20    | 30    | 40    | 10    | 20    | 30    | 40    |
| 7010-C40S1T3D8                                | 2920   | 2490 | 2380 | 2310 | 8750  | 7450  | 7150  | 6900  | 17500 | 14900 | 14200 | 13800 |
| 7010-C40S1T6D8                                | 2920   | 2490 | 2380 | 2310 | 8750  | 7450  | 7150  | 6900  | 17500 | 14900 | 14200 | 13800 |
| 7010-C40S2T3D8                                | 4110   | 3630 | 3150 | 2930 | 12300 | 10900 | 9450  | 8800  | 24600 | 21700 | 18800 | 17600 |
| 7010-C40S2T6D8                                | 4110   | 4110 | 3880 | 3760 | 12300 | 12300 | 11600 | 11300 | 24600 | 24600 | 23200 | 22500 |
| 7010-C40S3T3D8                                | 4110   | 3630 | 3150 | 2930 | 12300 | 10900 | 9450  | 8800  | 24600 | 21700 | 18800 | 17600 |
| 7010-C40S3T6D8                                | 4110   | 4110 | 4110 | 4110 | 12300 | 12300 | 12300 | 12300 | 24600 | 24600 | 24600 | 24600 |
| 7010-C40S4T3D8                                | 4110   | 3630 | 3150 | 2930 | 12300 | 10900 | 9450  | 8800  | 24600 | 21700 | 18800 | 17600 |
| 7010-C40S4T6D8                                | 4110   | 4110 | 4110 | 4110 | 12300 | 12300 | 12300 | 12300 | 24600 | 24600 | 24600 | 24600 |
| 7010-C60S1T3D8                                | 2920   | 2490 | 2380 | 2310 | 8750  | 7450  | 7150  | 6900  | 17500 | 14900 | 14200 | 13800 |
| 7010-C60S1T6D8                                | 2920   | 2490 | 2380 | 2310 | 8750  | 7450  | 7150  | 6900  | 17500 | 14900 | 14200 | 13800 |
| 7010-C60S2T3D8                                | 5000   | 3630 | 3150 | 2930 | 15100 | 10900 | 9450  | 8800  | 30100 | 21700 | 18800 | 17600 |
| 7010-C60S2T6D8                                | 5000   | 4150 | 3890 | 3760 | 15100 | 12400 | 11700 | 11300 | 30100 | 24800 | 23300 | 22500 |
| 7010-C60S3T3D8                                | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C60S3T6D8                                | 5750   | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 7010-C60S4T3D8                                | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C60S4T6D8                                | 5750   | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 7010-C80S1T3D8                                | 3110   | 2590 | 2450 | 2360 | 9350  | 7800  | 7350  | 7100  | 18600 | 15500 | 14700 | 14100 |
| 7010-C80S1T6D8                                | 3110   | 2590 | 2450 | 2360 | 9350  | 7800  | 7350  | 7100  | 18600 | 15500 | 14700 | 14100 |
| 7010-C80S2T3D8                                | 5500   | 3630 | 3150 | 2930 | 16400 | 10900 | 9450  | 8800  | 32800 | 21700 | 18800 | 17600 |
| 7010-C80S2T6D8                                | 5500   | 4320 | 4000 | 3730 | 16400 | 13000 | 12000 | 11200 | 32800 | 25900 | 23900 | 22300 |
| 7010-C80S3T3D8                                | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C80S3T6D8                                | 5750   | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 7010-C80S4T3D8                                | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C80S4T6D8                                | 5750   | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 7010-C110S1T3D8                               | 3680   | 2880 | 2670 | 2570 | 11000 | 8650  | 8000  | 7700  | 22000 | 17300 | 16000 | 15400 |
| 7010-C110S1T6D8                               | 3680   | 2880 | 2670 | 2570 | 11000 | 8650  | 8000  | 7700  | 22000 | 17300 | 16000 | 15400 |
| 7010-C110S2T3D8                               | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C110S2T6D8                               | 5750   | 4610 | 4220 | 3960 | 17300 | 13800 | 12600 | 11900 | 34500 | 27600 | 25200 | 23700 |
| 7010-C110S3T3D8                               | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C110S3T6D8                               | 5750   | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |
| 7010-C110S4T3D8                               | 5750   | 3630 | 3150 | 2930 | 17300 | 10900 | 9450  | 8800  | 34500 | 21700 | 18800 | 17600 |
| 7010-C110S4T6D8                               | 5750   | 5750 | 5750 | 5750 | 17300 | 17300 | 17300 | 17300 | 34500 | 34500 | 34500 | 34500 |

① The maximum continuous current through a Fault Fiter fuse should not exceed the 400-ampere minimum-pickup current applicable to control modules with “-C40” in the catalog number or to 600 amperes for all other control modules.

② If the maximum-rated transformer kVA connected in a given application is greater than the values listed above, refer to the nearest S&C Sales Office.