

# OptiFuse FR

## Fast-response fuses for 40 to 4000 A



OptiFuse FR series fuses are designed to protect semiconductor thyristor electric drives, rectifiers for electrolysis and other types of converter devices, while fuses can also be used on electric motive power. Industries of application:

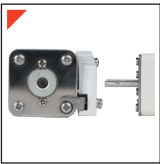
- railways;
- underground railway;
- metallurgy;
- energy.

### Designation

OptiFuse FR S33 600V - 1800A - D08

|   |                             |                                                                                                                                                                                                                                               |
|---|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Series                      | OptiFuse FR                                                                                                                                                                                                                                   |
| 2 | Dimensions                  | S30, S31, S32, S33, S44, S70, S71, S72, S73, S84                                                                                                                                                                                              |
| 3 | Rated voltage Un, V         | 450, 500, 550, 600, 690, 750, 800, 850, 900, 950, 1000, 1100, 1250                                                                                                                                                                            |
| 4 | Rated current In, A         | 40, 50, 63, 80, 100, 125, 200, 250, 280, 315, 350, 400, 450, 500, 550, 630, 700, 800, 900, 1000, 1100, 1250, 1400, 1500, 1600, 1700, 1800, 2000, 2200, 2500, 2700, 3000, 3500, 4000                                                           |
| 5 | Connection type designation | TF — countersunk contact caps; D08, D11 — contact knives.<br>D08 — the fuse length, taking into account the length of the contact knives, is 104 mm<br>D11 — the fuse length, taking into account the length of the contact knives, is 134 mm |

### Series advantages



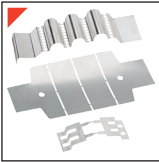
Contact designs: knife contacts and countersunk contact caps



Additional contacts for alarm operation



Anti-corrosive coating of contacts



For quick operation, the working areas of fuse elements are made of silver

► Items

| OptiFuse FR S30, S31, S32, S33. TF connection type                                 |            |                         |                  |                 |                        |                     |                               |        |
|------------------------------------------------------------------------------------|------------|-------------------------|------------------|-----------------|------------------------|---------------------|-------------------------------|--------|
| Appearance                                                                         | Dimensions | Rated voltage AC, Un, V | Rated current, A | I²t (A² · c)    |                        | Dissipated power, W | Product name                  | Code   |
|                                                                                    |            |                         |                  | Melting time, s | Circuit break at Un, A |                     |                               |        |
|    | S30        | 690/700                 | 40               | 40              | 270                    | 9                   | OptiFuse FR-S30-690V-40A-TF   | 345685 |
|                                                                                    | S30        | 690/700                 | 50               | 77              | 515                    | 11                  | OptiFuse FR-S30-690V-50A-TF   | 345686 |
|                                                                                    | S30        | 690/700                 | 63               | 115             | 770                    | 14                  | OptiFuse FR-S30-690V-63A-TF   | 345687 |
|                                                                                    | S30        | 690/700                 | 80               | 185             | 1250                   | 18                  | OptiFuse FR-S30-690V-80A-TF   | 345688 |
|                                                                                    | S30        | 690/700                 | 100              | 360             | 2450                   | 21                  | OptiFuse FR-S30-690V-100A-TF  | 345689 |
|                                                                                    | S30        | 690/700                 | 125              | 550             | 3700                   | 26                  | OptiFuse FR-S30-690V-125A-TF  | 345690 |
|                                                                                    | S30        | 690/700                 | 160              | 1100            | 7500                   | 30                  | OptiFuse FR-S30-690V-160A-TF  | 345691 |
|                                                                                    | S30        | 690/700                 | 200              | 2200            | 15000                  | 35                  | OptiFuse FR-S30-690V-200A-TF  | 345692 |
|                                                                                    | S30        | 690/700                 | 250              | 4200            | 28500                  | 40                  | OptiFuse FR-S30-690V-250A-TF  | 345693 |
|                                                                                    | S30        | 690/700                 | 315              | 7000            | 46500                  | 50                  | OptiFuse FR-S30-690V-315A-TF  | 345694 |
|                                                                                    | S30        | 690/700                 | 350              | 10000           | 68500                  | 55                  | OptiFuse FR-S30-690V-350A-TF  | 345695 |
|                                                                                    | S30        | 690/700                 | 400              | 15000           | 105000                 | 60                  | OptiFuse FR-S30-690V-400A-TF  | 345696 |
|                                                                                    | S30        | 690/700                 | 450              | 21000           | 140000                 | 65                  | OptiFuse FR-S30-690V-450A-TF  | 345697 |
|                                                                                    | S30        | 690/700                 | 500              | 27000           | 180000                 | 70                  | OptiFuse FR-S30-690V-500A-TF  | 345698 |
|                                                                                    | S30        | 690/700                 | 550              | 34000           | 230000                 | 75                  | OptiFuse FR-S30-690V-550A-TF  | 345699 |
|   | S30        | 690/700                 | 630              | 48500           | 325000                 | 80                  | OptiFuse FR-S30-690V-630A-TF  | 345700 |
|                                                                                    | S31        | 690/700                 | 160              | 900             | 5500                   | 35                  | OptiFuse FR-S31-690V-160A-TF  | 345733 |
|                                                                                    | S31        | 690/700                 | 200              | 1650            | 11500                  | 45                  | OptiFuse FR-S31-690V-200A-TF  | 345734 |
|                                                                                    | S31        | 690/700                 | 250              | 3100            | 21000                  | 55                  | OptiFuse FR-S31-690V-250A-TF  | 345735 |
|                                                                                    | S31        | 690/700                 | 315              | 6200            | 42000                  | 58                  | OptiFuse FR-S31-690V-315A-TF  | 345736 |
|                                                                                    | S31        | 690/700                 | 350              | 8500            | 59000                  | 60                  | OptiFuse FR-S31-690V-350A-TF  | 345737 |
|                                                                                    | S31        | 690/700                 | 400              | 13500           | 91500                  | 65                  | OptiFuse FR-S31-690V-400A-TF  | 345738 |
|                                                                                    | S31        | 690/700                 | 450              | 17000           | 120000                 | 70                  | OptiFuse FR-S31-690V-450A-TF  | 345739 |
|                                                                                    | S31        | 690/700                 | 500              | 25000           | 170000                 | 72                  | OptiFuse FR-S31-690V-500A-TF  | 345740 |
|                                                                                    | S31        | 690/700                 | 550              | 34000           | 230000                 | 75                  | OptiFuse FR-S31-690V-550A-TF  | 345741 |
|                                                                                    | S31        | 690/700                 | 630              | 52000           | 350000                 | 80                  | OptiFuse FR-S31-690V-630A-TF  | 345742 |
|                                                                                    | S31        | 690/700                 | 700              | 69500           | 465000                 | 85                  | OptiFuse FR-S31-690V-700A-TF  | 345743 |
|                                                                                    | S31        | 690/700                 | 800              | 105000          | 725000                 | 95                  | OptiFuse FR-S31-690V-800A-TF  | 345744 |
|                                                                                    | S31        | 550                     | 900              | 160000          | 800000                 | 99                  | OptiFuse FR-S31-550V-900A-TF  | 345745 |
|                                                                                    | S32        | 690/700                 | 315              | 6000            | 40000                  | 55                  | OptiFuse FR-S32-690V-315A-TF  | 345771 |
|  | S32        | 690/700                 | 350              | 8000            | 55000                  | 60                  | OptiFuse FR-S32-690V-350A-TF  | 345772 |
|                                                                                    | S32        | 690/700                 | 400              | 11000           | 74000                  | 65                  | OptiFuse FR-S32-690V-400A-TF  | 345773 |
|                                                                                    | S32        | 690/700                 | 450              | 15500           | 105000                 | 70                  | OptiFuse FR-S32-690V-450A-TF  | 345774 |
|                                                                                    | S32        | 690/700                 | 500              | 21500           | 145000                 | 75                  | OptiFuse FR-S32-690V-500A-TF  | 345775 |
|                                                                                    | S32        | 690/700                 | 550              | 28000           | 190000                 | 80                  | OptiFuse FR-S32-690V-550A-TF  | 345776 |
|                                                                                    | S32        | 690/700                 | 630              | 41000           | 275000                 | 90                  | OptiFuse FR-S32-690V-630A-TF  | 345777 |
|                                                                                    | S32        | 690/700                 | 700              | 60500           | 405000                 | 95                  | OptiFuse FR-S32-690V-700A-TF  | 345778 |
|                                                                                    | S32        | 690/700                 | 800              | 86000           | 575000                 | 105                 | OptiFuse FR-S32-690V-800A-TF  | 345779 |
|                                                                                    | S32        | 690/700                 | 900              | 125000          | 840000                 | 110                 | OptiFuse FR-S32-690V-900A-TF  | 345780 |
|                                                                                    | S32        | 690/700                 | 1000             | 180000          | 1250000                | 115                 | OptiFuse FR-S32-690V-1000A-TF | 345781 |
|                                                                                    | S32        | 600                     | 1100             | 245000          | 1600000                | 120                 | OptiFuse FR-S32-600V-1100A-TF | 345782 |
|                                                                                    | S32        | 550                     | 1250             | 365000          | 2400000                | 130                 | OptiFuse FR-S32-550V-1250A-TF | 345783 |
|                                                                                    | S32        | 500                     | 1400             | 400000          | 3500000                | 145                 | OptiFuse FR-S32-500V-1400A-TF | 345784 |
|                                                                                    | S32        | 500                     | 1600             | 620000          | 4300000                | 160                 | OptiFuse FR-S32-500V-1600A-TF | 345785 |
|                                                                                    | S32        | 450                     | 1800             | 900000          | 5700000                | 170                 | OptiFuse FR-S32-450V-1800A-TF | 345786 |
|  | S33        | 690/700                 | 450              | 13500           | 85000                  | 70                  | OptiFuse FR-S33-690V-450A-TF  | 345800 |
|                                                                                    | S33        | 690/700                 | 500              | 14000           | 95000                  | 95                  | OptiFuse FR-S33-690V-500A-TF  | 345801 |
|                                                                                    | S33        | 690/700                 | 550              | 19500           | 135000                 | 100                 | OptiFuse FR-S33-690V-550A-TF  | 345802 |
|                                                                                    | S33        | 690/700                 | 630              | 31000           | 210000                 | 105                 | OptiFuse FR-S33-690V-630A-TF  | 345803 |
|                                                                                    | S33        | 690/700                 | 700              | 44500           | 300000                 | 110                 | OptiFuse FR-S33-690V-700A-TF  | 345804 |
|                                                                                    | S33        | 690/700                 | 800              | 69500           | 465000                 | 115                 | OptiFuse FR-S33-690V-800A-TF  | 345805 |
|                                                                                    | S33        | 690/700                 | 900              | 100000          | 670000                 | 120                 | OptiFuse FR-S33-690V-900A-TF  | 345806 |
|                                                                                    | S33        | 690/700                 | 1000             | 140000          | 945000                 | 125                 | OptiFuse FR-S33-690V-1000A-TF | 345807 |
|                                                                                    | S33        | 690/700                 | 1100             | 190000          | 1300000                | 130                 | OptiFuse FR-S33-690V-1100A-TF | 345808 |
|                                                                                    | S33        | 690/700                 | 1250             | 290000          | 1950000                | 140                 | OptiFuse FR-S33-690V-1250A-TF | 345809 |
|                                                                                    | S33        | 690/700                 | 1400             | 370000          | 3100000                | 155                 | OptiFuse FR-S33-690V-1400A-TF | 345810 |
|                                                                                    | S33        | 600                     | 1500             | 450000          | 3600000                | 158                 | OptiFuse FR-S33-600V-1500A-TF | 345811 |
|                                                                                    | S33        | 600                     | 1600             | 580000          | 3900000                | 160                 | OptiFuse FR-S33-600V-1600A-TF | 345812 |
|                                                                                    | S33        | 600                     | 1800             | 880000          | 5250000                | 165                 | OptiFuse FR-S33-600V-1800A-TF | 345813 |
|                                                                                    | S33        | 550                     | 2000             | 1150000         | 6350000                | 175                 | OptiFuse FR-S33-550V-2000A-TF | 345814 |
|                                                                                    | S33        | 500                     | 2250             | 1250000         | 7500000                | 180                 | OptiFuse FR-S33-500V-2250A-TF | 345815 |
|                                                                                    | S33        | 450                     | 2500             | 1870000         | 9000000                | 190                 | OptiFuse FR-S33-450V-2500A-TF | 345816 |

| OptiFuse FR S30, S31, S32, S33, D08 connection type                                 |            |                         |                  |                                       |                        |                     |                                |        |
|-------------------------------------------------------------------------------------|------------|-------------------------|------------------|---------------------------------------|------------------------|---------------------|--------------------------------|--------|
| Appearance                                                                          | Dimensions | Rated voltage AC, Un, V | Rated current, A | I <sup>2</sup> t (A <sup>2</sup> · c) |                        | Dissipated power, W | Product name                   | Code   |
|                                                                                     |            |                         |                  | Melting time, s                       | Circuit break at Un, A |                     |                                |        |
|    | S30        | 690/700                 | 40               | 40                                    | 270                    | 9                   | OptiFuse FR-S30-690V-40A-D08   | 345701 |
|                                                                                     | S30        | 690/700                 | 50               | 77                                    | 515                    | 11                  | OptiFuse FR-S30-690V-50A-D08   | 345702 |
|                                                                                     | S30        | 690/700                 | 63               | 115                                   | 770                    | 14                  | OptiFuse FR-S30-690V-63A-D08   | 345703 |
|                                                                                     | S30        | 690/700                 | 80               | 185                                   | 1250                   | 18                  | OptiFuse FR-S30-690V-80A-D08   | 345704 |
|                                                                                     | S30        | 690/700                 | 100              | 360                                   | 2450                   | 21                  | OptiFuse FR-S30-690V-100A-D08  | 345705 |
|                                                                                     | S30        | 690/700                 | 125              | 550                                   | 3700                   | 26                  | OptiFuse FR-S30-690V-125A-D08  | 345706 |
|                                                                                     | S30        | 690/700                 | 160              | 1100                                  | 7500                   | 30                  | OptiFuse FR-S30-690V-160A-D08  | 345707 |
|                                                                                     | S30        | 690/700                 | 200              | 2200                                  | 15000                  | 35                  | OptiFuse FR-S30-690V-200A-D08  | 345708 |
|                                                                                     | S30        | 690/700                 | 250              | 4200                                  | 28500                  | 40                  | OptiFuse FR-S30-690V-250A-D08  | 345709 |
|                                                                                     | S30        | 690/700                 | 315              | 7000                                  | 46500                  | 50                  | OptiFuse FR-S30-690V-315A-D08  | 345710 |
|                                                                                     | S30        | 690/700                 | 350              | 10000                                 | 68500                  | 55                  | OptiFuse FR-S30-690V-350A-D08  | 345711 |
|                                                                                     | S30        | 690/700                 | 400              | 15000                                 | 105000                 | 60                  | OptiFuse FR-S30-690V-400A-D08  | 345712 |
|                                                                                     | S30        | 690/700                 | 450              | 21000                                 | 140000                 | 65                  | OptiFuse FR-S30-690V-450A-D08  | 345713 |
|                                                                                     | S30        | 690/700                 | 500              | 27000                                 | 180000                 | 70                  | OptiFuse FR-S30-690V-500A-D08  | 345714 |
|                                                                                     | S30        | 690/700                 | 550              | 34000                                 | 230000                 | 75                  | OptiFuse FR-S30-690V-550A-D08  | 345715 |
|                                                                                     | S30        | 690/700                 | 630              | 48500                                 | 325000                 | 80                  | OptiFuse FR-S30-690V-630A-D08  | 345716 |
|   | S31        | 690/700                 | 160              | 900                                   | 5500                   | 35                  | OptiFuse FR-S31-690V-160A-D08  | 345746 |
|                                                                                     | S31        | 690/700                 | 200              | 1650                                  | 11500                  | 45                  | OptiFuse FR-S31-690V-200A-D08  | 345747 |
|                                                                                     | S31        | 690/700                 | 250              | 3100                                  | 21000                  | 55                  | OptiFuse FR-S31-690V-250A-D08  | 345748 |
|                                                                                     | S31        | 690/700                 | 315              | 6200                                  | 42000                  | 58                  | OptiFuse FR-S31-690V-315A-D08  | 345749 |
|                                                                                     | S31        | 690/700                 | 350              | 8500                                  | 59000                  | 60                  | OptiFuse FR-S31-690V-350A-D08  | 345750 |
|                                                                                     | S31        | 690/700                 | 400              | 13500                                 | 91500                  | 65                  | OptiFuse FR-S31-690V-400A-D08  | 345751 |
|                                                                                     | S31        | 690/700                 | 450              | 17000                                 | 120000                 | 70                  | OptiFuse FR-S31-690V-450A-D08  | 345752 |
|                                                                                     | S31        | 690/700                 | 500              | 25000                                 | 170000                 | 72                  | OptiFuse FR-S31-690V-500A-D08  | 345753 |
|                                                                                     | S31        | 690/700                 | 550              | 34000                                 | 230000                 | 75                  | OptiFuse FR-S31-690V-550A-D08  | 345754 |
|                                                                                     | S31        | 690/700                 | 630              | 52000                                 | 350000                 | 80                  | OptiFuse FR-S31-690V-630A-D08  | 345755 |
|                                                                                     | S31        | 690/700                 | 700              | 69500                                 | 465000                 | 85                  | OptiFuse FR-S31-690V-700A-D08  | 345756 |
|                                                                                     | S31        | 690/700                 | 800              | 105000                                | 725000                 | 95                  | OptiFuse FR-S31-690V-800A-D08  | 345757 |
|                                                                                     | S31        | 550                     | 900              | 160000                                | 800000                 | 99                  | OptiFuse FR-S31-550V-900A-D08  | 345758 |
|                                                                                     | S32        | 690/700                 | 315              | 6000                                  | 40000                  | 55                  | OptiFuse FR-S32-690V-315A-D08  | 347667 |
|  | S32        | 690/700                 | 350              | 8000                                  | 55000                  | 60                  | OptiFuse FR-S32-690V-350A-D08  | 347668 |
|                                                                                     | S32        | 690/700                 | 400              | 11000                                 | 74000                  | 65                  | OptiFuse FR-S32-690V-400A-D08  | 347669 |
|                                                                                     | S32        | 690/700                 | 450              | 15500                                 | 105000                 | 70                  | OptiFuse FR-S32-690V-450A-D08  | 347670 |
|                                                                                     | S32        | 690/700                 | 500              | 21500                                 | 145000                 | 75                  | OptiFuse FR-S32-690V-500A-D08  | 347671 |
|                                                                                     | S32        | 690/700                 | 550              | 28000                                 | 190000                 | 80                  | OptiFuse FR-S32-690V-550A-D08  | 347672 |
|                                                                                     | S32        | 690/700                 | 630              | 41000                                 | 275000                 | 90                  | OptiFuse FR-S32-690V-630A-D08  | 347673 |
|                                                                                     | S32        | 690/700                 | 700              | 60500                                 | 405000                 | 95                  | OptiFuse FR-S32-690V-700A-D08  | 347674 |
|                                                                                     | S32        | 690/700                 | 800              | 86000                                 | 575000                 | 105                 | OptiFuse FR-S32-690V-800A-D08  | 347675 |
|                                                                                     | S32        | 690/700                 | 900              | 125000                                | 840000                 | 110                 | OptiFuse FR-S32-690V-900A-D08  | 347676 |
|                                                                                     | S32        | 690/700                 | 1000             | 180000                                | 1250000                | 115                 | OptiFuse FR-S32-690V-1000A-D08 | 347677 |
|                                                                                     | S32        | 600                     | 1100             | 245000                                | 1600000                | 120                 | OptiFuse FR-S32-600V-1100A-D08 | 347678 |
|                                                                                     | S32        | 550                     | 1250             | 365000                                | 2400000                | 130                 | OptiFuse FR-S32-550V-1250A-D08 | 347679 |
|                                                                                     | S33        | 690/700                 | 450              | 13500                                 | 85000                  | 70                  | OptiFuse FR-S33-690V-450A-D08  | 345817 |
|  | S33        | 690/700                 | 500              | 14000                                 | 95000                  | 95                  | OptiFuse FR-S33-690V-500A-D08  | 345818 |
|                                                                                     | S33        | 690/700                 | 550              | 19500                                 | 135000                 | 100                 | OptiFuse FR-S33-690V-550A-D08  | 345819 |
|                                                                                     | S33        | 690/700                 | 630              | 31000                                 | 210000                 | 105                 | OptiFuse FR-S33-690V-630A-D08  | 345820 |
|                                                                                     | S33        | 690/700                 | 700              | 44500                                 | 300000                 | 110                 | OptiFuse FR-S33-690V-700A-D08  | 345821 |
|                                                                                     | S33        | 690/700                 | 800              | 69500                                 | 465000                 | 115                 | OptiFuse FR-S33-690V-800A-D08  | 345822 |
|                                                                                     | S33        | 690/700                 | 900              | 100000                                | 670000                 | 120                 | OptiFuse FR-S33-690V-900A-D08  | 345823 |
|                                                                                     | S33        | 690/700                 | 1000             | 140000                                | 945000                 | 125                 | OptiFuse FR-S33-690V-1000A-D08 | 345824 |
|                                                                                     | S33        | 690/700                 | 1100             | 190000                                | 1300000                | 130                 | OptiFuse FR-S33-690V-1100A-D08 | 345825 |
|                                                                                     | S33        | 690/700                 | 1250             | 290000                                | 1950000                | 140                 | OptiFuse FR-S33-690V-1250A-D08 | 345826 |
|                                                                                     | S33        | 690/700                 | 1400             | 370000                                | 3100000                | 155                 | OptiFuse FR-S33-690V-1400A-D08 | 345827 |
|                                                                                     | S33        | 600                     | 1500             | 450000                                | 3500000                | 158                 | OptiFuse FR-S33-600V-1500A-D08 | 345828 |
|                                                                                     | S33        | 600                     | 1600             | 580000                                | 3900000                | 160                 | OptiFuse FR-S33-600V-1600A-D08 | 345829 |
|                                                                                     | S33        | 600                     | 1800             | 880000                                | 5250000                | 165                 | OptiFuse FR-S33-600V-1800A-D08 | 345830 |
|                                                                                     | S33        | 550                     | 2000             | 1150000                               | 6350000                | 175                 | OptiFuse FR-S33-550V-2000A-D08 | 345831 |

| OptiFuse FR S30, S31, S32, S33, D11 connection type                                 |            |                         |                  |                                       |                        |                     |                                |        |
|-------------------------------------------------------------------------------------|------------|-------------------------|------------------|---------------------------------------|------------------------|---------------------|--------------------------------|--------|
| Appearance                                                                          | Dimensions | Rated voltage AC, Un, V | Rated current, A | I <sup>2</sup> t (A <sup>2</sup> · s) |                        | Dissipated power, W | Product name                   | Code   |
|                                                                                     |            |                         |                  | Melting time, s                       | Circuit break at Un, A |                     |                                |        |
|    | S30        | 690/700                 | 40               | 40                                    | 270                    | 9                   | OptiFuse FR-S30-690V-40A-D11   | 345717 |
|                                                                                     | S30        | 690/700                 | 50               | 77                                    | 515                    | 11                  | OptiFuse FR-S30-690V-50A-D11   | 345718 |
|                                                                                     | S30        | 690/700                 | 63               | 115                                   | 770                    | 14                  | OptiFuse FR-S30-690V-63A-D11   | 345719 |
|                                                                                     | S30        | 690/700                 | 80               | 185                                   | 1250                   | 18                  | OptiFuse FR-S30-690V-80A-D11   | 345720 |
|                                                                                     | S30        | 690/700                 | 100              | 360                                   | 2450                   | 21                  | OptiFuse FR-S30-690V-100A-D11  | 345721 |
|                                                                                     | S30        | 690/700                 | 125              | 550                                   | 3700                   | 26                  | OptiFuse FR-S30-690V-125A-D11  | 345722 |
|                                                                                     | S30        | 690/700                 | 160              | 1100                                  | 7500                   | 30                  | OptiFuse FR-S30-690V-160A-D11  | 345723 |
|                                                                                     | S30        | 690/700                 | 200              | 2200                                  | 15000                  | 35                  | OptiFuse FR-S30-690V-200A-D11  | 345724 |
|                                                                                     | S30        | 690/700                 | 250              | 4200                                  | 28500                  | 40                  | OptiFuse FR-S30-690V-250A-D11  | 345725 |
|                                                                                     | S30        | 690/700                 | 315              | 7000                                  | 46500                  | 50                  | OptiFuse FR-S30-690V-315A-D11  | 345726 |
|                                                                                     | S30        | 690/700                 | 350              | 10000                                 | 68500                  | 55                  | OptiFuse FR-S30-690V-350A-D11  | 345727 |
|                                                                                     | S30        | 690/700                 | 400              | 15000                                 | 105000                 | 60                  | OptiFuse FR-S30-690V-400A-D11  | 345728 |
|                                                                                     | S30        | 690/700                 | 450              | 21000                                 | 140000                 | 65                  | OptiFuse FR-S30-690V-450A-D11  | 345729 |
|                                                                                     | S30        | 690/700                 | 500              | 27000                                 | 180000                 | 70                  | OptiFuse FR-S30-690V-500A-D11  | 345730 |
|                                                                                     | S30        | 690/700                 | 550              | 34000                                 | 230000                 | 75                  | OptiFuse FR-S30-690V-550A-D11  | 345731 |
|   | S31        | 690/700                 | 200              | 1650                                  | 11500                  | 45                  | OptiFuse FR-S31-690V-200A-D11  | 345759 |
|                                                                                     | S31        | 690/700                 | 250              | 3100                                  | 21000                  | 55                  | OptiFuse FR-S31-690V-250A-D11  | 345760 |
|                                                                                     | S31        | 690/700                 | 315              | 6200                                  | 42000                  | 58                  | OptiFuse FR-S31-690V-315A-D11  | 345761 |
|                                                                                     | S31        | 690/700                 | 350              | 8500                                  | 59000                  | 60                  | OptiFuse FR-S31-690V-350A-D11  | 345762 |
|                                                                                     | S31        | 690/700                 | 400              | 13500                                 | 91500                  | 65                  | OptiFuse FR-S31-690V-400A-D11  | 345763 |
|                                                                                     | S31        | 690/700                 | 450              | 17000                                 | 120000                 | 70                  | OptiFuse FR-S31-690V-450A-D11  | 345764 |
|                                                                                     | S31        | 690/700                 | 500              | 25000                                 | 170000                 | 72                  | OptiFuse FR-S31-690V-500A-D11  | 345765 |
|                                                                                     | S31        | 690/700                 | 550              | 34000                                 | 230000                 | 75                  | OptiFuse FR-S31-690V-550A-D11  | 345766 |
|                                                                                     | S31        | 690/700                 | 630              | 52000                                 | 350000                 | 80                  | OptiFuse FR-S31-690V-630A-D11  | 345767 |
|                                                                                     | S31        | 690/700                 | 700              | 69500                                 | 465000                 | 85                  | OptiFuse FR-S31-690V-700A-D11  | 345768 |
|                                                                                     | S31        | 690/700                 | 800              | 105000                                | 725000                 | 95                  | OptiFuse FR-S31-690V-800A-D11  | 345769 |
|                                                                                     | S31        | 550                     | 900              | 160000                                | 800000                 | 99                  | OptiFuse FR-S31-550V-900A-D11  | 345770 |
|  | S32        | 690/700                 | 315              | 6000                                  | 40000                  | 55                  | OptiFuse FR-S32-690V-315A-D11  | 345787 |
|                                                                                     | S32        | 690/700                 | 350              | 8000                                  | 55000                  | 60                  | OptiFuse FR-S32-690V-350A-D11  | 345788 |
|                                                                                     | S32        | 690/700                 | 400              | 11000                                 | 74000                  | 65                  | OptiFuse FR-S32-690V-400A-D11  | 345789 |
|                                                                                     | S32        | 690/700                 | 450              | 15500                                 | 105000                 | 70                  | OptiFuse FR-S32-690V-450A-D11  | 345790 |
|                                                                                     | S32        | 690/700                 | 500              | 21500                                 | 145000                 | 75                  | OptiFuse FR-S32-690V-500A-D11  | 345791 |
|                                                                                     | S32        | 690/700                 | 550              | 28000                                 | 190000                 | 80                  | OptiFuse FR-S32-690V-550A-D11  | 345792 |
|                                                                                     | S32        | 690/700                 | 630              | 41000                                 | 275000                 | 90                  | OptiFuse FR-S32-690V-630A-D11  | 345793 |
|                                                                                     | S32        | 690/700                 | 700              | 60500                                 | 405000                 | 95                  | OptiFuse FR-S32-690V-700A-D11  | 345794 |
|                                                                                     | S32        | 690/700                 | 800              | 86000                                 | 575000                 | 105                 | OptiFuse FR-S32-690V-800A-D11  | 345795 |
|                                                                                     | S32        | 690/700                 | 900              | 125000                                | 840000                 | 110                 | OptiFuse FR-S32-690V-900A-D11  | 345796 |
|                                                                                     | S32        | 690/700                 | 1000             | 180000                                | 1250000                | 115                 | OptiFuse FR-S32-690V-1000A-D11 | 345797 |
|                                                                                     | S32        | 600                     | 1100             | 245000                                | 1600000                | 120                 | OptiFuse FR-S32-600V-1100A-D11 | 345798 |
|                                                                                     | S32        | 550                     | 1250             | 365000                                | 2400000                | 130                 | OptiFuse FR-S32-550V-1250A-D11 | 345799 |
|  | S33        | 690/700                 | 450              | 13500                                 | 85000                  | 70                  | OptiFuse FR-S33-690V-450A-D11  | 345832 |
|                                                                                     | S33        | 690/700                 | 500              | 14000                                 | 95000                  | 95                  | OptiFuse FR-S33-690V-500A-D11  | 345833 |
|                                                                                     | S33        | 690/700                 | 550              | 19500                                 | 135000                 | 100                 | OptiFuse FR-S33-690V-550A-D11  | 345834 |
|                                                                                     | S33        | 690/700                 | 630              | 31000                                 | 210000                 | 105                 | OptiFuse FR-S33-690V-630A-D11  | 345835 |
|                                                                                     | S33        | 690/700                 | 700              | 44500                                 | 300000                 | 110                 | OptiFuse FR-S33-690V-700A-D11  | 345836 |
|                                                                                     | S33        | 690/700                 | 800              | 69500                                 | 465000                 | 115                 | OptiFuse FR-S33-690V-800A-D11  | 345837 |
|                                                                                     | S33        | 690/700                 | 900              | 100000                                | 670000                 | 120                 | OptiFuse FR-S33-690V-900A-D11  | 345838 |
|                                                                                     | S33        | 690/700                 | 1000             | 140000                                | 945000                 | 125                 | OptiFuse FR-S33-690V-1000A-D11 | 345839 |
|                                                                                     | S33        | 690/700                 | 1100             | 190000                                | 1300000                | 130                 | OptiFuse FR-S33-690V-1100A-D11 | 345840 |
|                                                                                     | S33        | 690/700                 | 1250             | 290000                                | 1950000                | 140                 | OptiFuse FR-S33-690V-1250A-D11 | 345841 |
|                                                                                     | S33        | 690/700                 | 1400             | 370000                                | 3100000                | 155                 | OptiFuse FR-S33-690V-1400A-D11 | 345842 |
|                                                                                     | S33        | 600                     | 1500             | 450000                                | 3500000                | 158                 | OptiFuse FR-S33-600V-1500A-D11 | 345843 |
|                                                                                     | S33        | 600                     | 1600             | 580000                                | 3900000                | 160                 | OptiFuse FR-S33-600V-1600A-D11 | 345844 |
|                                                                                     | S33        | 600                     | 1800             | 880000                                | 5250000                | 165                 | OptiFuse FR-S33-600V-1800A-D11 | 345845 |
|                                                                                     | S33        | 550                     | 2000             | 1150000                               | 6350000                | 175                 | OptiFuse FR-S33-550V-2000A-D11 | 345846 |

OptiFuse FR S70, S71, S72, S73. TF connection type

| Appearance                                                                          | Dimensions | Rated voltage AC, Un, V | Rated current, A | I <sup>2</sup> t (A <sup>2</sup> · c) |                        | Dissipated power, W | Product name                   | Code   |
|-------------------------------------------------------------------------------------|------------|-------------------------|------------------|---------------------------------------|------------------------|---------------------|--------------------------------|--------|
|                                                                                     |            |                         |                  | Melting time, s                       | Circuit break at Un, A |                     |                                |        |
|    | S70        | 1250                    | 50               | 130                                   | 820                    | 20                  | OptiFuse FR-S70-1250V-50A-TF   | 345847 |
|                                                                                     | S70        | 1250                    | 63               | 210                                   | 310                    | 25                  | OptiFuse FR-S70-1250V-63A-TF   | 345848 |
|                                                                                     | S70        | 1250                    | 80               | 450                                   | 2750                   | 30                  | OptiFuse FR-S70-1250V-80A-TF   | 345849 |
|                                                                                     | S70        | 1250                    | 100              | 860                                   | 5100                   | 35                  | OptiFuse FR-S70-1250V-100A-TF  | 345850 |
|                                                                                     | S70        | 1250                    | 125              | 1430                                  | 8560                   | 40                  | OptiFuse FR-S70-1250V-125A-TF  | 345851 |
|                                                                                     | S70        | 1250                    | 160              | 2820                                  | 17450                  | 45                  | OptiFuse FR-S70-1250V-160A-TF  | 345852 |
|                                                                                     | S70        | 1250                    | 200              | 4930                                  | 29400                  | 48                  | OptiFuse FR-S70-1250V-200A-TF  | 345853 |
|                                                                                     | S70        | 1250                    | 250              | 9510                                  | 56800                  | 50                  | OptiFuse FR-S70-1250V-250A-TF  | 345854 |
|                                                                                     | S70        | 1250                    | 280              | 14000                                 | 75000                  | 55                  | OptiFuse FR-S70-1250V-280A-TF  | 345855 |
|                                                                                     | S70        | 1250                    | 315              | 21440                                 | 130000                 | 60                  | OptiFuse FR-S70-1250V-315A-TF  | 345856 |
|                                                                                     | S70        | 1250                    | 350              | 28900                                 | 174500                 | 65                  | OptiFuse FR-S70-1250V-350A-TF  | 345857 |
|                                                                                     | S70        | 1250                    | 400              | 42000                                 | 249600                 | 70                  | OptiFuse FR-S70-1250V-400A-TF  | 345858 |
|                                                                                     | S70        | 1100                    | 450              | 45000                                 | 264500                 | 80                  | OptiFuse FR-S70-1100V-450A-TF  | 345859 |
|   | S71        | 1000                    | 500              | 60000                                 | 330000                 | 85                  | OptiFuse FR-S70-1000V-500A-TF  | 345860 |
|                                                                                     | S71        | 1250                    | 160              | 2200                                  | 13600                  | 40                  | OptiFuse FR-S71-1250V-160A-TF  | 345861 |
|                                                                                     | S71        | 1250                    | 200              | 4150                                  | 24000                  | 45                  | OptiFuse FR-S71-1250V-200A-TF  | 345862 |
|                                                                                     | S71        | 1250                    | 250              | 7750                                  | 46000                  | 52                  | OptiFuse FR-S71-1250V-250A-TF  | 345863 |
|                                                                                     | S71        | 1250                    | 280              | 11000                                 | 67000                  | 56                  | OptiFuse FR-S71-1250V-280A-TF  | 345864 |
|                                                                                     | S71        | 1250                    | 315              | 16500                                 | 98400                  | 60                  | OptiFuse FR-S71-1250V-315A-TF  | 345865 |
|                                                                                     | S71        | 1250                    | 350              | 21500                                 | 132000                 | 65                  | OptiFuse FR-S71-1250V-350A-TF  | 345866 |
|                                                                                     | S71        | 1250                    | 400              | 31000                                 | 185000                 | 70                  | OptiFuse FR-S71-1250V-400A-TF  | 345867 |
|                                                                                     | S71        | 1250                    | 450              | 44500                                 | 265000                 | 80                  | OptiFuse FR-S71-1250V-450A-TF  | 345868 |
|                                                                                     | S71        | 1250                    | 500              | 63000                                 | 375000                 | 85                  | OptiFuse FR-S71-1250V-500A-TF  | 345869 |
|                                                                                     | S71        | 1250                    | 550              | 84500                                 | 500000                 | 90                  | OptiFuse FR-S71-1250V-550A-TF  | 345870 |
|                                                                                     | S71        | 1250                    | 630              | 126000                                | 755000                 | 98                  | OptiFuse FR-S71-1250V-630A-TF  | 345871 |
|                                                                                     | S71        | 1000                    | 700              | 140000                                | 800000                 | 115                 | OptiFuse FR-S71-1000V-700A-TF  | 345872 |
|  | S71        | 900                     | 800              | 210000                                | 1300000                | 125                 | OptiFuse FR-S71-900V-800A-TF   | 345873 |
|                                                                                     | S71        | 800                     | 900              | 260000                                | 1700000                | 145                 | OptiFuse FR-S71-800V-900A-TF   | 345874 |
|                                                                                     | S71        | 750                     | 1000             | 370000                                | 2100000                | 150                 | OptiFuse FR-S71-750V-1000A-TF  | 345875 |
|                                                                                     | S72        | 1250                    | 250              | 6750                                  | 40000                  | 65                  | OptiFuse FR-S72-1250V-250A-TF  | 345887 |
|                                                                                     | S72        | 1250                    | 315              | 13500                                 | 81500                  | 75                  | OptiFuse FR-S72-1250V-315A-TF  | 345888 |
|                                                                                     | S72        | 1250                    | 350              | 16500                                 | 99000                  | 80                  | OptiFuse FR-S72-1250V-350A-TF  | 345889 |
|                                                                                     | S72        | 1250                    | 400              | 26000                                 | 155000                 | 85                  | OptiFuse FR-S72-1250V-400A-TF  | 345890 |
|                                                                                     | S72        | 1250                    | 450              | 35500                                 | 210000                 | 90                  | OptiFuse FR-S72-1250V-450A-TF  | 345891 |
|                                                                                     | S72        | 1250                    | 500              | 49500                                 | 295000                 | 95                  | OptiFuse FR-S72-1250V-500A-TF  | 345892 |
|                                                                                     | S72        | 1250                    | 550              | 66000                                 | 390000                 | 100                 | OptiFuse FR-S72-1250V-550A-TF  | 345893 |
|                                                                                     | S72        | 1250                    | 630              | 93500                                 | 555000                 | 110                 | OptiFuse FR-S72-1250V-630A-TF  | 345894 |
|                                                                                     | S72        | 1100                    | 700              | 130000                                | 770000                 | 115                 | OptiFuse FR-S72-1100V-700A-TF  | 345895 |
|                                                                                     | S72        | 1100                    | 800              | 195000                                | 1200000                | 125                 | OptiFuse FR-S72-1100V-800A-TF  | 345896 |
|  | S72        | 1000                    | 900              | 250000                                | 1500000                | 145                 | OptiFuse FR-S72-1000V-900A-TF  | 345897 |
|                                                                                     | S72        | 850                     | 1000             | 340000                                | 2050000                | 150                 | OptiFuse FR-S72-850V-1000A-TF  | 345898 |
|                                                                                     | S73        | 1250                    | 315              | 9200                                  | 54500                  | 90                  | OptiFuse FR-S73-1250V-315A-TF  | 345912 |
|                                                                                     | S73        | 1250                    | 350              | 13000                                 | 77500                  | 95                  | OptiFuse FR-S73-1250V-350A-TF  | 345913 |
|                                                                                     | S73        | 1250                    | 400              | 19000                                 | 115000                 | 105                 | OptiFuse FR-S73-1250V-400A-TF  | 345914 |
|                                                                                     | S73        | 1250                    | 450              | 27000                                 | 160000                 | 107                 | OptiFuse FR-S73-1250V-450A-TF  | 345915 |
|                                                                                     | S73        | 1250                    | 500              | 37500                                 | 225000                 | 110                 | OptiFuse FR-S73-1250V-500A-TF  | 345916 |
|                                                                                     | S73        | 1250                    | 550              | 52000                                 | 310000                 | 115                 | OptiFuse FR-S73-1250V-550A-TF  | 345917 |
|                                                                                     | S73        | 1250                    | 630              | 82500                                 | 490000                 | 120                 | OptiFuse FR-S73-1250V-630A-TF  | 345918 |
|                                                                                     | S73        | 1250                    | 700              | 115000                                | 700000                 | 125                 | OptiFuse FR-S73-1250V-700A-TF  | 345919 |
|                                                                                     | S73        | 1250                    | 800              | 170000                                | 1050000                | 135                 | OptiFuse FR-S73-1250V-800A-TF  | 345920 |
|                                                                                     | S73        | 1250                    | 900              | 250000                                | 1500000                | 145                 | OptiFuse FR-S73-1250V-900A-TF  | 345921 |
|                                                                                     | S73        | 1000                    | 1000             | 340000                                | 2050000                | 150                 | OptiFuse FR-S73-1000V-1000A-TF | 345922 |
|                                                                                     | S73        | 950                     | 1100             | 460000                                | 2750000                | 155                 | OptiFuse FR-S73-950V-1100A-TF  | 345923 |
|                                                                                     | S73        | 950                     | 1250             | 575000                                | 3400000                | 175                 | OptiFuse FR-S73-950V-1250A-TF  | 345924 |
|                                                                                     | S73        | 850                     | 1400             | 795000                                | 4200000                | 185                 | OptiFuse FR-S73-850V-1400A-TF  | 345925 |

| OptiFuse FR S70, S71, S72, S73, D11 connection type                                 |            |                         |                  |                                       |                        |                     |                                 |        |
|-------------------------------------------------------------------------------------|------------|-------------------------|------------------|---------------------------------------|------------------------|---------------------|---------------------------------|--------|
| Appearance                                                                          | Dimensions | Rated voltage AC, Un, V | Rated current, A | I <sup>2</sup> t (A <sup>2</sup> · s) |                        | Dissipated power, W | Product name                    | Code   |
|                                                                                     |            |                         |                  | Melting time, s                       | Circuit break at Un, A |                     |                                 |        |
|    | S70        | 1250                    | 50               | 130                                   | 820                    | 20                  | OptiFuse FR-S70-1250V-50A-D11   | 347689 |
|                                                                                     | S70        | 1250                    | 63               | 210                                   | 310                    | 25                  | OptiFuse FR-S70-1250V-63A-D11   | 347690 |
|                                                                                     | S70        | 1250                    | 80               | 450                                   | 2750                   | 30                  | OptiFuse FR-S70-1250V-80A-D11   | 347691 |
|                                                                                     | S70        | 1250                    | 100              | 860                                   | 5100                   | 35                  | OptiFuse FR-S70-1250V-100A-D11  | 347692 |
|                                                                                     | S70        | 1250                    | 125              | 1430                                  | 8560                   | 40                  | OptiFuse FR-S70-1250V-125A-D11  | 347693 |
|                                                                                     | S70        | 1250                    | 160              | 2820                                  | 17450                  | 45                  | OptiFuse FR-S70-1250V-160A-D11  | 347694 |
|                                                                                     | S70        | 1250                    | 200              | 4930                                  | 29400                  | 48                  | OptiFuse FR-S70-1250V-200A-D11  | 347695 |
|                                                                                     | S70        | 1250                    | 250              | 9510                                  | 56800                  | 50                  | OptiFuse FR-S70-1250V-250A-D11  | 347696 |
|                                                                                     | S70        | 1250                    | 280              | 14000                                 | 75000                  | 55                  | OptiFuse FR-S70-1250V-280A-D11  | 347697 |
|                                                                                     | S70        | 1250                    | 315              | 21440                                 | 130000                 | 60                  | OptiFuse FR-S70-1250V-315A-D11  | 347698 |
|                                                                                     | S70        | 1250                    | 350              | 28900                                 | 174500                 | 65                  | OptiFuse FR-S70-1250V-350A-D11  | 347699 |
|    | S71        | 1250                    | 160              | 2200                                  | 13600                  | 40                  | OptiFuse FR-S71-1250V-160A-D11  | 345876 |
|                                                                                     | S71        | 1250                    | 200              | 4150                                  | 24000                  | 45                  | OptiFuse FR-S71-1250V-200A-D11  | 345877 |
|                                                                                     | S71        | 1250                    | 250              | 7750                                  | 46000                  | 52                  | OptiFuse FR-S71-1250V-250A-D11  | 345878 |
|                                                                                     | S71        | 1250                    | 280              | 11000                                 | 67000                  | 56                  | OptiFuse FR-S71-1250V-280A-D11  | 345879 |
|                                                                                     | S71        | 1250                    | 315              | 16500                                 | 98400                  | 60                  | OptiFuse FR-S71-1250V-315A-D11  | 345880 |
|                                                                                     | S71        | 1250                    | 350              | 21500                                 | 132000                 | 65                  | OptiFuse FR-S71-1250V-350A-D11  | 345881 |
|                                                                                     | S71        | 1250                    | 400              | 31000                                 | 185000                 | 70                  | OptiFuse FR-S71-1250V-400A-D11  | 345882 |
|                                                                                     | S71        | 1250                    | 450              | 44500                                 | 265000                 | 80                  | OptiFuse FR-S71-1250V-450A-D11  | 345883 |
|                                                                                     | S71        | 1250                    | 500              | 63000                                 | 375000                 | 85                  | OptiFuse FR-S71-1250V-500A-D11  | 345884 |
|                                                                                     | S71        | 1250                    | 550              | 84500                                 | 500000                 | 90                  | OptiFuse FR-S71-1250V-550A-D11  | 345885 |
|                                                                                     | S71        | 1100                    | 630              | 126000                                | 755000                 | 98                  | OptiFuse FR-S71-1100V-630A-D11  | 345886 |
|  | S72        | 1250                    | 250              | 6750                                  | 40000                  | 65                  | OptiFuse FR-S72-1250V-250A-D11  | 345899 |
|                                                                                     | S72        | 1250                    | 280              | 9000                                  | 65000                  | 70                  | OptiFuse FR-S72-1250V-280A-D11  | 345900 |
|                                                                                     | S72        | 1250                    | 315              | 13500                                 | 81500                  | 75                  | OptiFuse FR-S72-1250V-315A-D11  | 345901 |
|                                                                                     | S72        | 1250                    | 350              | 16500                                 | 99000                  | 80                  | OptiFuse FR-S72-1250V-350A-D11  | 345902 |
|                                                                                     | S72        | 1250                    | 400              | 26000                                 | 155000                 | 85                  | OptiFuse FR-S72-1250V-400A-D11  | 345903 |
|                                                                                     | S72        | 1250                    | 450              | 35500                                 | 210000                 | 90                  | OptiFuse FR-S72-1250V-450A-D11  | 345904 |
|                                                                                     | S72        | 1250                    | 500              | 49500                                 | 295000                 | 95                  | OptiFuse FR-S72-1250V-500A-D11  | 345905 |
|                                                                                     | S72        | 1250                    | 550              | 66000                                 | 390000                 | 100                 | OptiFuse FR-S72-1250V-550A-D11  | 345906 |
|                                                                                     | S72        | 1250                    | 630              | 93500                                 | 555000                 | 110                 | OptiFuse FR-S72-1250V-630A-D11  | 345907 |
|                                                                                     | S72        | 1250                    | 700              | 130000                                | 770000                 | 115                 | OptiFuse FR-S72-1250V-700A-D11  | 345908 |
|                                                                                     | S72        | 1250                    | 800              | 195000                                | 1200000                | 125                 | OptiFuse FR-S72-1250V-800A-D11  | 345909 |
|                                                                                     | S72        | 1100                    | 900              | 250000                                | 1500000                | 145                 | OptiFuse FR-S72-1100V-900A-D11  | 345910 |
|                                                                                     | S72        | 1100                    | 1000             | 340000                                | 2050000                | 150                 | OptiFuse FR-S72-1100V-1000A-D11 | 345911 |
|  | S73        | 1250                    | 315              | 9200                                  | 54500                  | 90                  | OptiFuse FR-S73-1250V-315A-D11  | 345926 |
|                                                                                     | S73        | 1250                    | 350              | 13000                                 | 77500                  | 95                  | OptiFuse FR-S73-1250V-350A-D11  | 345927 |
|                                                                                     | S73        | 1250                    | 400              | 19000                                 | 115000                 | 105                 | OptiFuse FR-S73-1250V-400A-D11  | 345928 |
|                                                                                     | S73        | 1250                    | 450              | 27000                                 | 160000                 | 107                 | OptiFuse FR-S73-1250V-450A-D11  | 345929 |
|                                                                                     | S73        | 1250                    | 500              | 37500                                 | 225000                 | 110                 | OptiFuse FR-S73-1250V-500A-D11  | 345930 |
|                                                                                     | S73        | 1250                    | 550              | 52000                                 | 310000                 | 115                 | OptiFuse FR-S73-1250V-550A-D11  | 345931 |
|                                                                                     | S73        | 1250                    | 630              | 82500                                 | 490000                 | 120                 | OptiFuse FR-S73-1250V-630A-D11  | 345932 |
|                                                                                     | S73        | 1250                    | 700              | 115000                                | 700000                 | 125                 | OptiFuse FR-S73-1250V-700A-D11  | 345933 |
|                                                                                     | S73        | 1250                    | 800              | 170000                                | 1050000                | 135                 | OptiFuse FR-S73-1250V-800A-D11  | 345934 |
|                                                                                     | S73        | 1250                    | 900              | 250000                                | 1500000                | 145                 | OptiFuse FR-S73-1250V-900A-D11  | 345935 |
|                                                                                     | S73        | 1250                    | 1000             | 340000                                | 2050000                | 150                 | OptiFuse FR-S73-1250V-1000A-D11 | 345936 |
|                                                                                     | S73        | 1250                    | 1100             | 460000                                | 2750000                | 155                 | OptiFuse FR-S73-1250V-1100A-D11 | 345937 |
|                                                                                     | S73        | 1100                    | 1250             | 575000                                | 3400000                | 175                 | OptiFuse FR-S73-1100V-1250A-D11 | 345938 |
|                                                                                     | S73        | 1100                    | 1400             | 795000                                | 4200000                | 185                 | OptiFuse FR-S73-1100V-1400A-D11 | 345939 |

OptiFuse FR S44. TF connection type

| Appearance                                                                        | Dimensions | Rated voltage AC, Un, V | Rated current, A | I <sup>2</sup> t (A <sup>2</sup> · s) |                        | Dissipated power, W | Product name                  | Code   |
|-----------------------------------------------------------------------------------|------------|-------------------------|------------------|---------------------------------------|------------------------|---------------------|-------------------------------|--------|
|                                                                                   |            |                         |                  | Melting time, s                       | Circuit break at Un, A |                     |                               |        |
|  | S44        | 690/700                 | 1000             | 76000                                 | 505000                 | 175                 | OptiFuse FR-S44-690V-1000A-TF | 347680 |
|                                                                                   | S44        | 690/700                 | 1250             | 145000                                | 965000                 | 195                 | OptiFuse FR-S44-690V-1250A-TF | 347681 |
|                                                                                   | S44        | 690/700                 | 1400             | 205000                                | 1400000                | 205                 | OptiFuse FR-S44-690V-1400A-TF | 347682 |
|                                                                                   | S44        | 690/700                 | 1600             | 305000                                | 2050000                | 220                 | OptiFuse FR-S44-690V-1600A-TF | 347683 |
|                                                                                   | S44        | 690/700                 | 2000             | 600000                                | 3950000                | 245                 | OptiFuse FR-S44-690V-2000A-TF | 347684 |
|                                                                                   | S44        | 690/700                 | 2500             | 1200000                               | 7800000                | 275                 | OptiFuse FR-S44-690V-2500A-TF | 347685 |
|                                                                                   | S44        | 690/700                 | 3000             | 2000000                               | 13500000               | 305                 | OptiFuse FR-S44-690V-3000A-TF | 347686 |
|                                                                                   | S44        | 690/700                 | 3500             | 3250000                               | 22000000               | 325                 | OptiFuse FR-S44-690V-3500A-TF | 347687 |
|                                                                                   | S44        | 600                     | 4000             | 4700000                               | 28000000               | 355                 | OptiFuse FR-S44-600V-4000A-TF | 347688 |

OptiFuse FR S84. TF connection type

|                                                                                   |     |      |      |         |          |     |                                |        |
|-----------------------------------------------------------------------------------|-----|------|------|---------|----------|-----|--------------------------------|--------|
|  | S84 | 1250 | 1000 | 180000  | 1100000  | 195 | OptiFuse FR-S84-1250V-1000A-TF | 347701 |
|                                                                                   | S84 | 1250 | 1100 | 250000  | 1500000  | 200 | OptiFuse FR-S84-1250V-1100A-TF | 347702 |
|                                                                                   | S84 | 1250 | 1500 | 600000  | 3600000  | 250 | OptiFuse FR-S84-1250V-1500A-TF | 347703 |
|                                                                                   | S84 | 1250 | 1700 | 850000  | 5000000  | 260 | OptiFuse FR-S84-1250V-1700A-TF | 347704 |
|                                                                                   | S84 | 1250 | 1800 | 1000000 | 5950000  | 265 | OptiFuse FR-S84-1250V-1800A-TF | 347705 |
|                                                                                   | S84 | 1250 | 2000 | 1450000 | 8600000  | 270 | OptiFuse FR-S84-1250V-2000A-TF | 347706 |
|                                                                                   | S84 | 1250 | 2200 | 2000000 | 12000000 | 280 | OptiFuse FR-S84-1250V-2200A-TF | 347707 |
|                                                                                   | S84 | 1250 | 2500 | 3000000 | 18000000 | 295 | OptiFuse FR-S84-1250V-2500A-TF | 347708 |

## ► Technical specification

| Parameter                                     | Value                                                        |
|-----------------------------------------------|--------------------------------------------------------------|
| Rated voltage Un (AC), V                      | 450 – 1250                                                   |
| Rated current In, A                           | 40 – 4000                                                    |
| Limiting switching capacity, kA               | 100                                                          |
| Fuse application category                     | aR                                                           |
| Connection type                               | TF — countersunk contact caps; D08, D11 — contact knives     |
| Standard compliance                           | TP TC 004/2011, GOST IEC 60269-1-2016, GOST IEC 60269-4-2016 |
| Group of operating conditions (GOST 30631-99) | M39, M25                                                     |
| IP rating                                     | IP00                                                         |
| Climatic version                              | UHL3                                                         |
| Operating temperature range, °C               | -40 to +90                                                   |

## ► Accessories

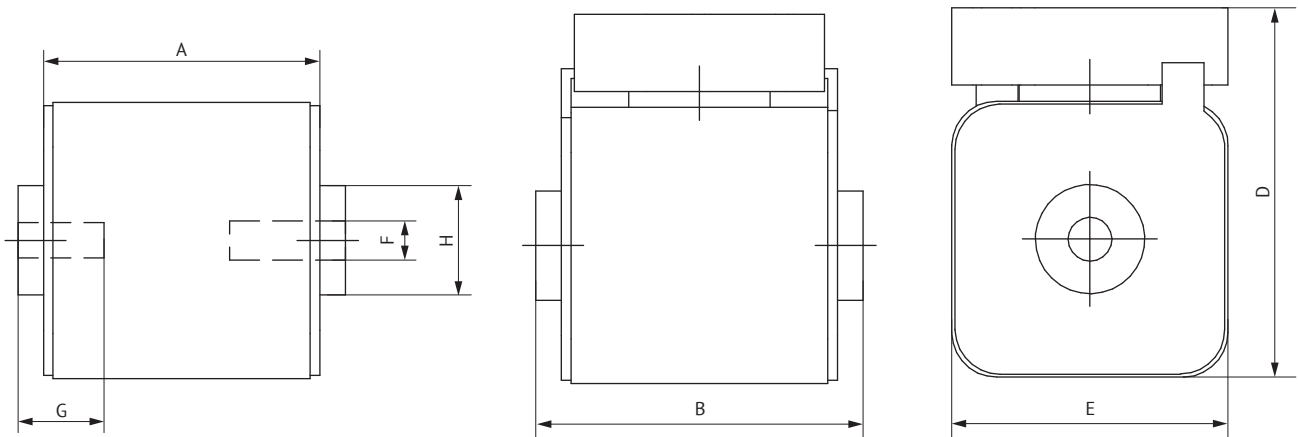
OptiFuse FR free contacts

| Appearance                                                                          | Rated voltage AC, Un, V | Rated current, A | Product name      | Code   |
|-------------------------------------------------------------------------------------|-------------------------|------------------|-------------------|--------|
|  | 250                     | 5                | OptiFuse FR-FRX26 | 357515 |
|  | 250                     | 5                | OptiFuse FR-FRX6  | 357516 |

| Fuse series                                                                                                                        | Auxiliary contact name |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| OptiFuse FR-S30<br>OptiFuse FR-S31<br>OptiFuse FR-S32<br>OptiFuse FR-S33<br>OptiFuse FR-S44                                        | FRX6 250V              |
| OptiFuse FR-S70<br>OptiFuse FR-S71<br>OptiFuse FR-S72<br>OptiFuse FR-S73<br>OptiFuse FR-S84<br>OptiFuse FR-S94<br>OptiFuse FR-S273 | FRX26 250V / FRX6 250V |

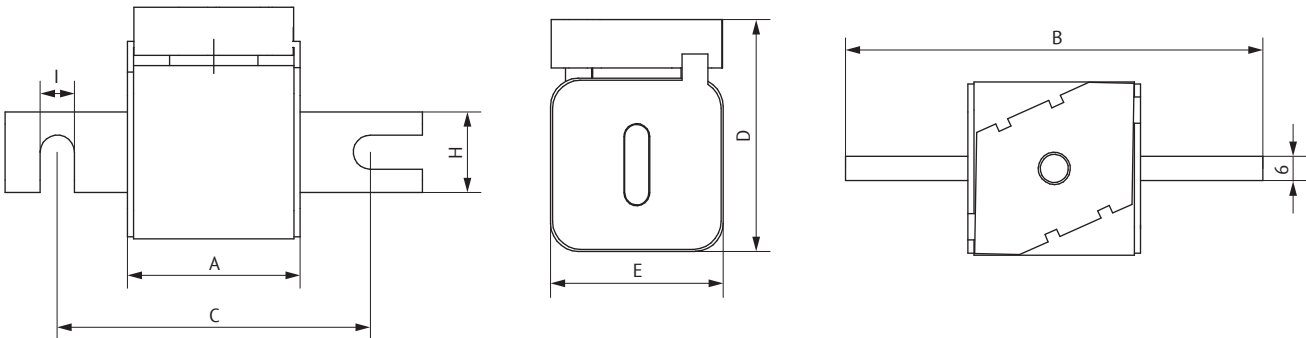
► Overall dimensions (mm)

OptiFuse FR S30, S31, S32, S33. TF connection type



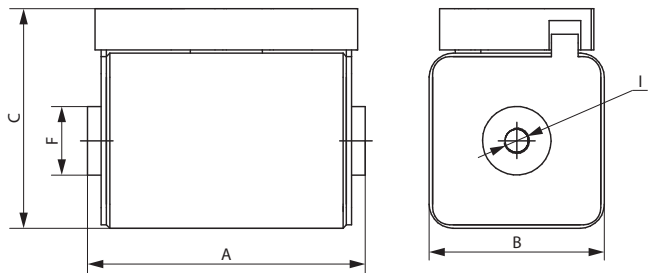
| Dimensions | Size    |    |         |    |     |    |    |
|------------|---------|----|---------|----|-----|----|----|
|            | A (Max) | B  | D       | E  | F   | G  | H  |
| S30        | 50      | 51 | 43 (59) | 43 | M8  | 5  | 17 |
| S31        | 50      | 51 | 50 (69) | 50 | M8  | 8  | 20 |
|            | 50      | 51 | 50 (69) | 50 | M8  | 8  | 20 |
| S32        | 50      | 51 | 60 (77) | 60 | M10 | 10 | 24 |
|            | 50      | 65 | 60 (77) | 60 | M10 | 10 | 24 |
| S33        | 50      | 51 | 75 (92) | 75 | M12 | 12 | 40 |
|            | 50      | 65 | 75 (92) | 75 | M12 | 12 | 40 |
|            | 50      | 65 | 75 (92) | 75 | M12 | 12 | 40 |
|            | 50      | 65 | 75 (92) | 75 | M12 | 12 | 40 |
|            | 50      | 65 | 75 (92) | 75 | M12 | 12 | 40 |

OptiFuse FR S30, S31, S32, S33. D08 and D11 connection type



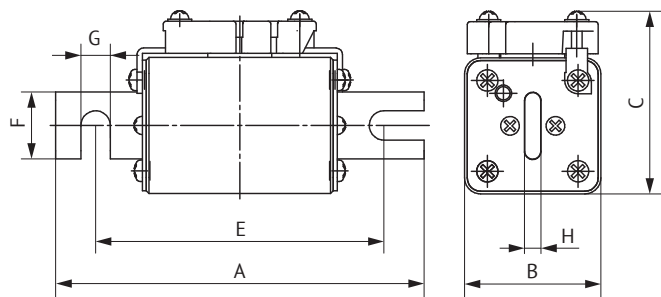
| Dimension       | Size    |         |        |    |    |    |    |
|-----------------|---------|---------|--------|----|----|----|----|
|                 | A (Max) | B       | C      | D  | E  | H  | I  |
| S30-D08/S30-D11 | 50      | 104/134 | 78/104 | 59 | 43 | 20 | 8  |
| S31-D08/S31-D11 | 50      | 108/138 | 78/108 | 69 | 51 | 25 | 11 |
| S32-D08/S32-D11 | 50      | 108/138 | 78/108 | 77 | 60 | 25 | 11 |
| S33-D08/S33-D11 | 50      | 108/138 | 78/108 | 92 | 75 | 30 | 11 |

OptiFuse FR S70, S71, S72, S73. TF connection type



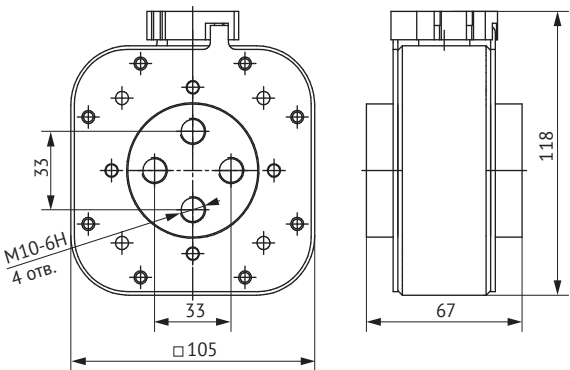
| Dimension | Size                         |      |      |      |        |
|-----------|------------------------------|------|------|------|--------|
|           | A                            | B    | C    | F    | I      |
| S70       | 81±2                         | 43±2 | 61±3 | 17±1 | M8x10  |
| S71       | 81±2                         | 51±2 | 67±3 | 20±1 | M8x10  |
| S72       | 81±2                         | 60±2 | 76±3 | 24±1 | M10x12 |
| S73       | 81±2/91±2<br>(1250A - 1600A) | 75±2 | 92±3 | 40±1 | M12x10 |

OptiFuse FR S70, S71, S72, S73. D11 connection type

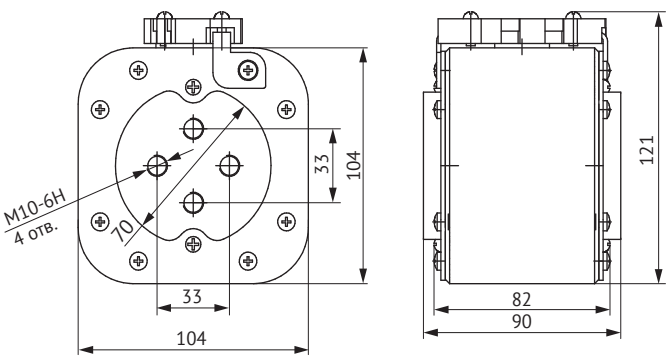


| Dimension | Size  |      |      |         |      |    |   |
|-----------|-------|------|------|---------|------|----|---|
|           | A     | B    | C    | E       | F    | C  | H |
| S70       | 134±2 | 43±2 | 61±3 | 108±2,5 | 17±1 | 8  | 6 |
| S71       | 138±2 | 51±2 | 67±3 | 108±2,5 | 20±1 | 11 | 6 |
| S72       | 138±2 | 60±2 | 76±3 | 108±2,5 | 24±1 | 11 | 6 |
| S73       | 166±2 | 75±2 | 92±3 | 108±2,5 | 40±1 | 11 | 6 |

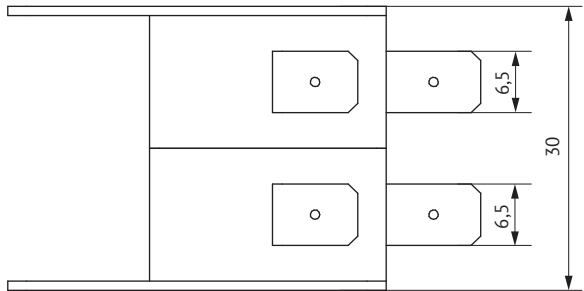
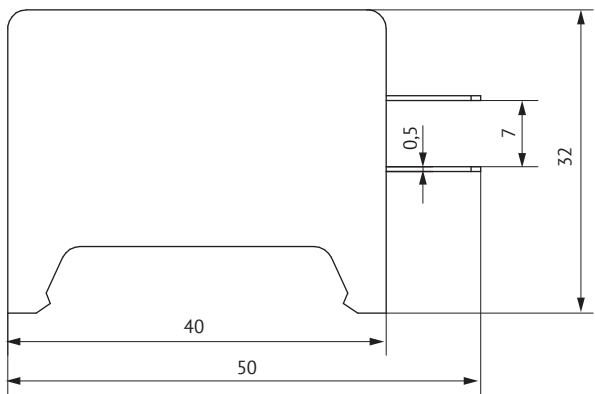
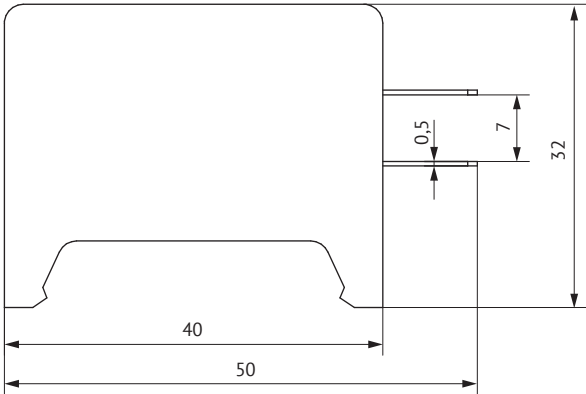
OptiFuse FR-S44



OptiFuse FR S84. TF connection type

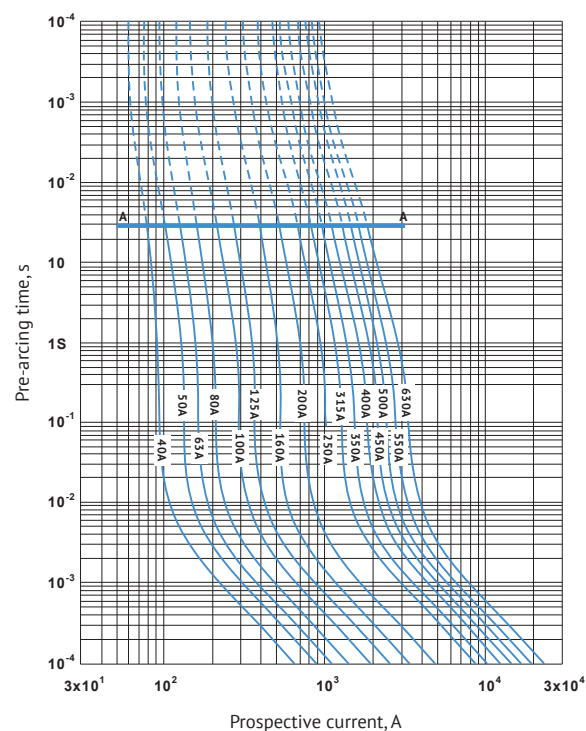


OptiFuse FR FRX6 and FRX26

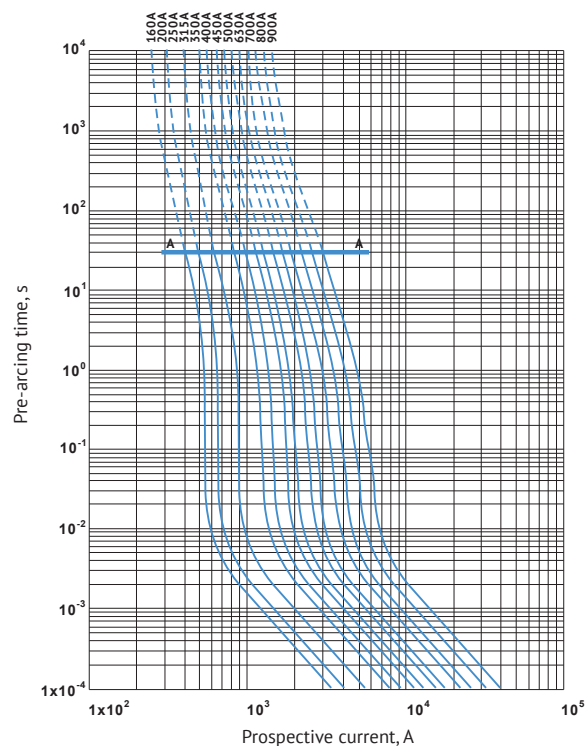


## ► Current and time characteristics

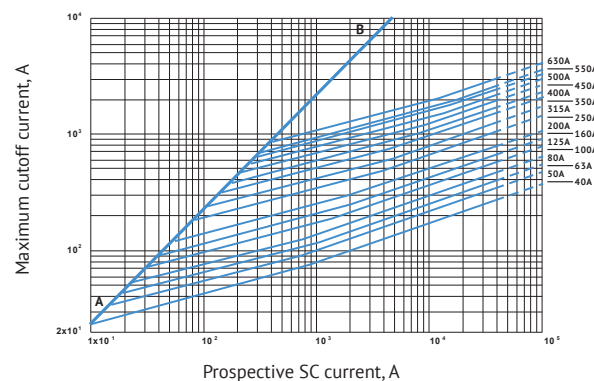
CTC of both full disconnection and fusing for  
S30 size



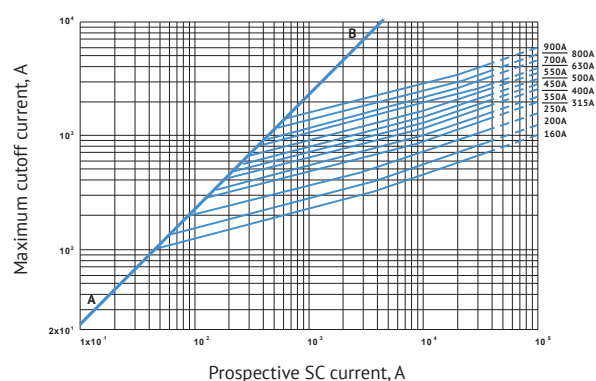
CTC of both full disconnection and fusing for  
S31 size



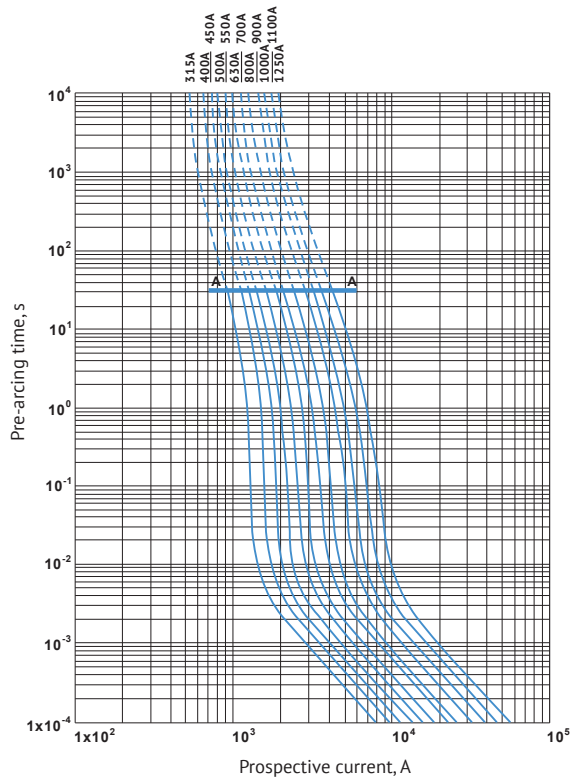
Cutoff current amplitudes versus prospective  
SC current for S30 size



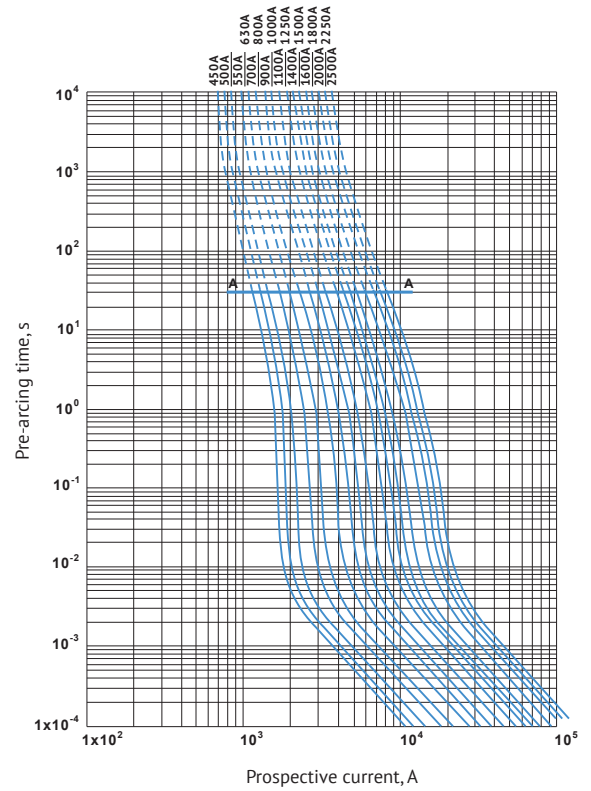
Cutoff current amplitudes versus prospective  
SC current for S31 size



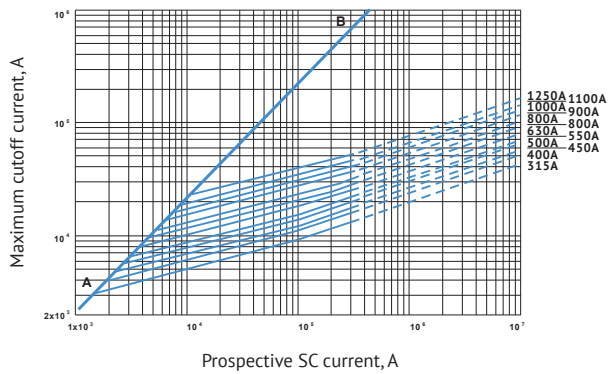
CTC of both full disconnection and fusing for  
S32 size



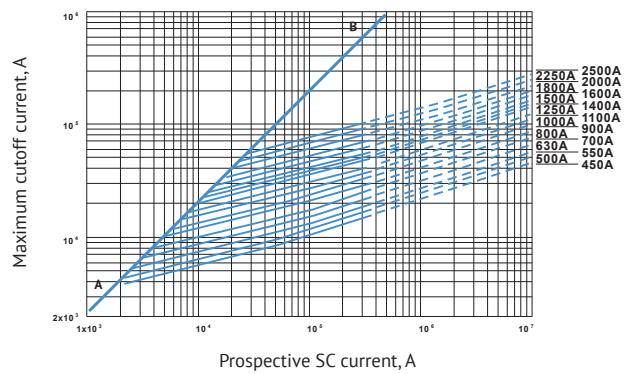
CTC of both full disconnection and fusing for  
S33 size



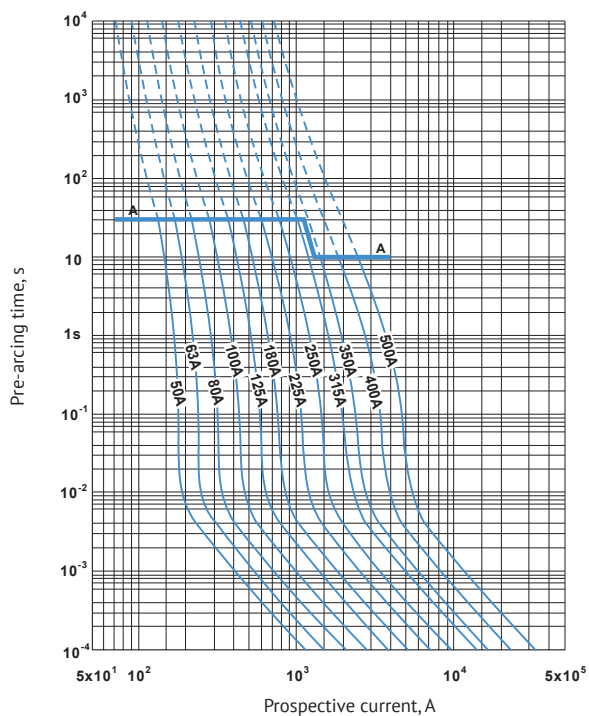
Cutoff current amplitudes versus prospective SC  
current for S32 size



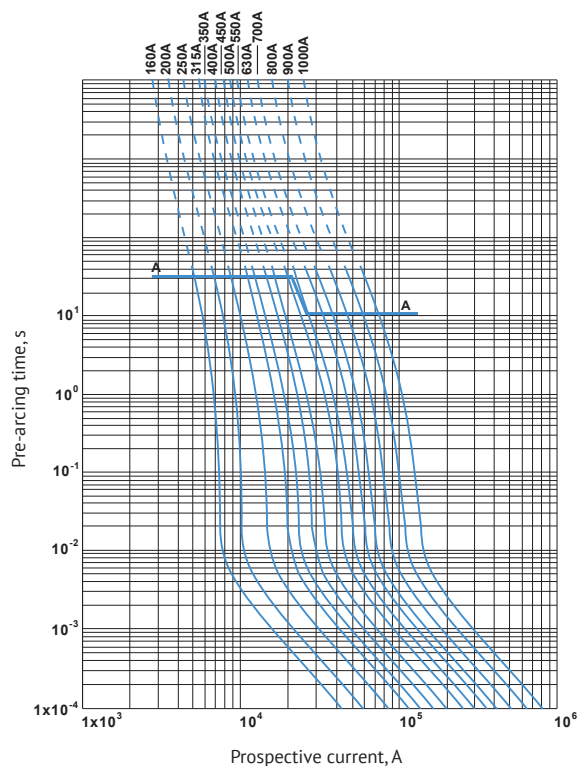
Cutoff current amplitudes versus prospective SC  
current for S33 size



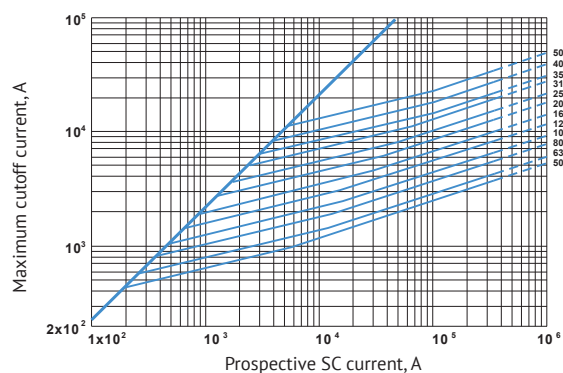
CTC of both full disconnection and fusing for S70 size



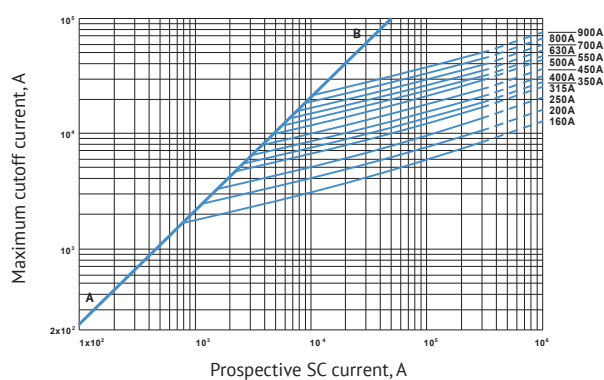
CTC of both full disconnection and fusing for S71 size



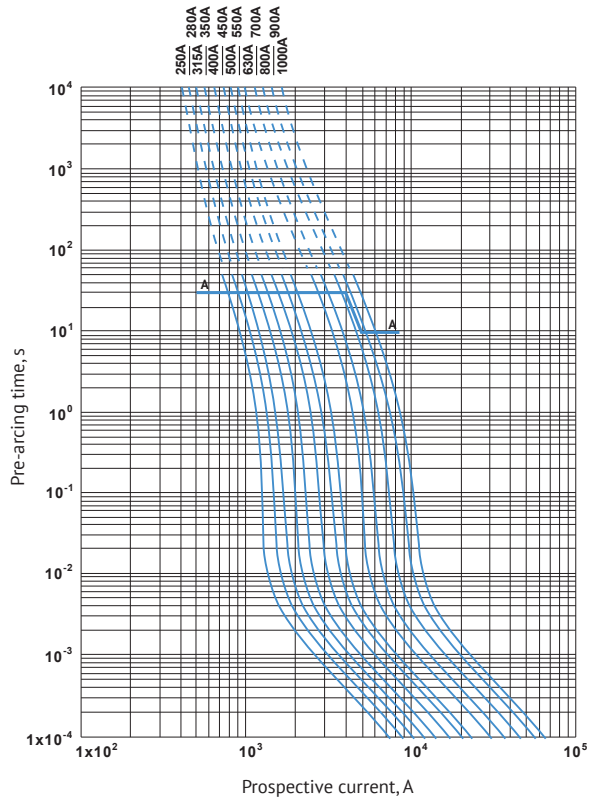
Cutoff current amplitudes versus prospective SC current for S70 size



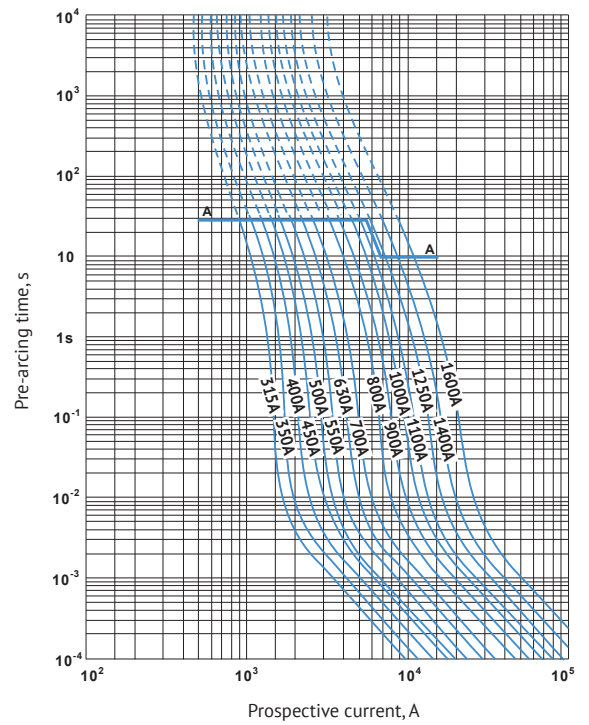
Cutoff current amplitudes versus prospective SC current for S71 size



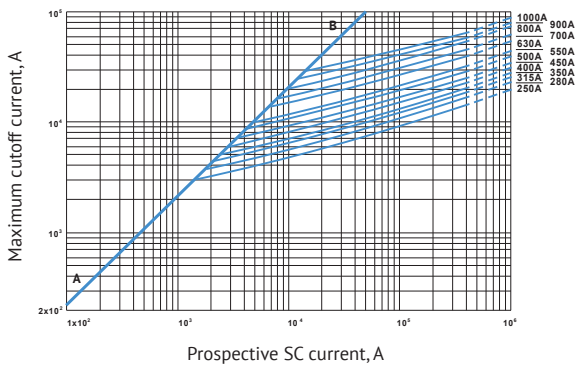
CTC of both full disconnection and fusing for  
S72 size



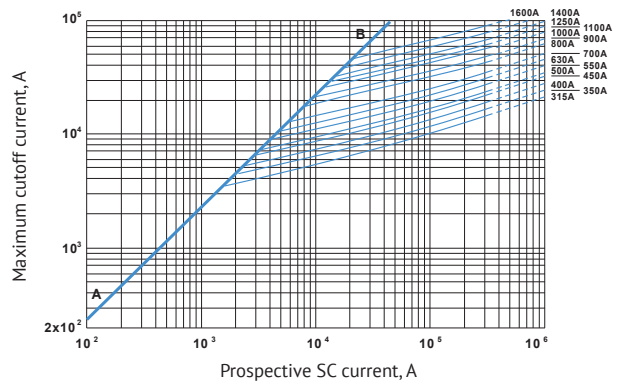
CTC of both full disconnection and fusing for  
S73 size



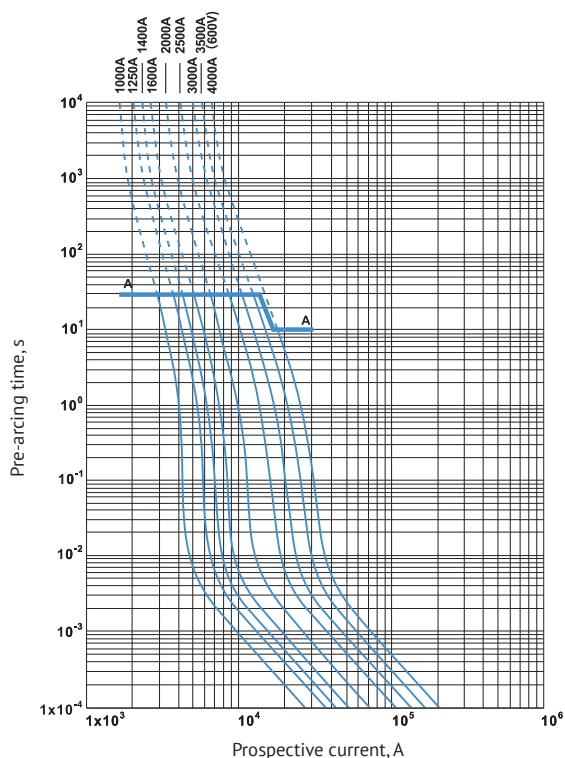
Cutoff current amplitudes versus prospective SC  
current for S72 size



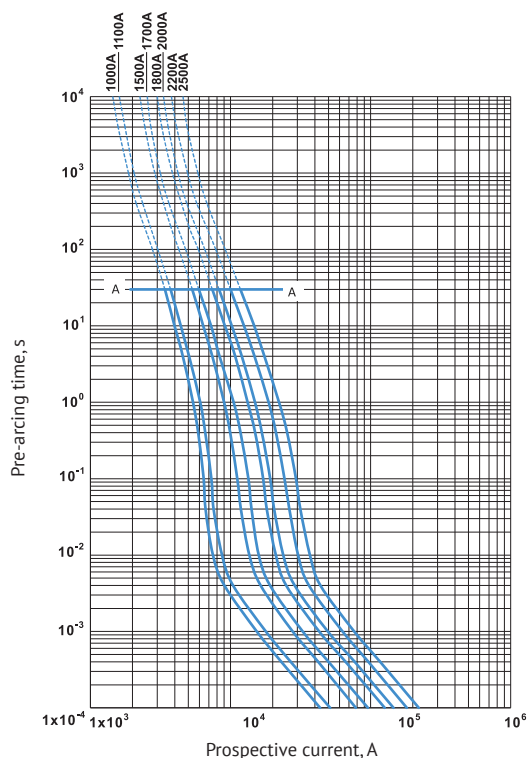
Cutoff current amplitudes versus prospective SC  
current for S73 size



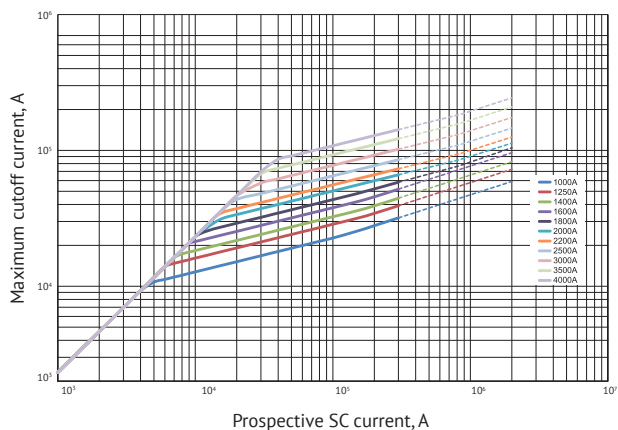
CTC of both full disconnection and fusing for S44 size



CTC of both full disconnection and fusing for S84 size



Cutoff current amplitudes versus prospective SC current for S44 size



Cutoff current amplitudes versus prospective SC current for S44 size

