# Solid-State Switching Devices <br> Solid-State Relays 

45 mm semiconductor relays single phase selection

Fused design with semiconductor protection (similar to type of coordination " 2 ") ${ }^{1 \text { ) }}$

The semiconductor protection for the SIRIUS SC control gear can be used with different protective devices. This allows protection by means of LV HRC fuses of operational class gL/gG or supplementary protectors. The table on page 7/21 lists the maximum permissible fuses for each SIRIUS SC controlgear.

If a fuse is used with a higher rated current than specified, semiconductor protection is no longer guaranteed. However, smaller fuses with a lower rated current for the load can be used without problems.
For protective devices with operational class gL/gG and for SITOR full range fuses 3NE1, the minimum cross-sections for the conductor to be connected must be taken into account.

Selection and ordering data


3RF20 20-1AA02

| Type current | Maxi able curre 115 | um a ower t and 230 | iev- <br> type $\mathrm{J}_{\mathrm{e}}=$ 400 V | Screw connection ${ }^{2)}$ | Spring-loaded connection ${ }^{3)}$ | Ring cable connection | Std. <br> Pack <br> Qty | Weight per pack approx. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | kW | kW | kW | Order No. | Order No. | Order No. |  | kg |
| Zero-point switching, rated operational voltage $U_{e}=24 \mathrm{~V}$ to 230 V |  |  |  |  |  |  |  |  |
| 20 | 2.3 | 4.6 | - | 3RF20 20-1AA $\square 2$ | - | - | 1 unit | 0.085 |
| 30 | 3.5 | 6.9 | - | 3RF20 30-1AAD2 | - | - | 1 unit | 0.085 |
| 50 | 5.8 | 11.5 | - | 3RF20 50-1AA口2 | - | - | 1 unit | 0.085 |
| 70 | 8.1 | 16.1 | - | 3RF20 70-1AAD2 | - | - | 1 unit | 0.085 |
| 88 | 10.4 | 20.7 | - | 3RF20 90-1AA $\square 2$ | - | - | 1 unit | 0.085 |
| Zero-point switching, rated operational voltage $U_{e}=24 \mathrm{~V}$ to 230 V , control DC $4 . .30 \mathrm{~V}$ |  |  |  |  |  |  |  |  |
| 20 | - | - | - | - | 3RF21 20-2AA42 | - | 1 unit | 0.075 |
| Zero-point switching, rated operational voltage $U_{e}=48 \mathrm{~V}$ to 460 V |  |  |  |  |  |  |  |  |
| 20 | - | 4.6 | 8 | 3RF20 20-1AA 4 | - | - | 1 unit | 0.085 |
| 30 | - | 6.9 | 12 | 3RF20 30-1AA $\square 4$ | - | - | 1 unit | 0.085 |
| 50 | , | 11.5 | 20 | 3RF20 50-1AA $\square 4$ | - | - | 1 unit | 0.085 |
| 70 | - | 16.1 | 28 | 3RF20 70-1AA $\square 4$ | - | - | 1 unit | 0.085 |
| 88 | - | 20.7 | 36 | 3RF20 90-1AA $\square 4$ | - | - | 1 unit | 0.085 |
| Zero-point switching, rated operational voltage $U_{e}=24 \mathrm{~V}$ to 230 V , control DC $4 \ldots 30 \mathrm{~V}$ |  |  |  |  |  |  |  |  |
| 20 | - | - | - | 3RF20 20-1AA42 | 3RF21 20-2AA42 | - | 1 unit | 0.085 |
| 30 | - | - | - | 3RF20 30-1AA42 | - | - | 1 unit | 0.085 |
| Zero-point switching, rated operational voltage $U_{e}=48 \mathrm{~V}$ to 600 V , control DC $4 \ldots 30 \mathrm{~V}$ |  |  |  |  |  |  |  |  |
| 20 | - | 4.6 | 8 | 3RF20 20-1AA45 | - | - | 1 unit | 0.085 |
| 50 | - | 11.5 | 20 | 3RF20 50-1AA45 | - | - | 1 unit | 0.085 |
| 70 | - | 16.1 | 28 | 3RF20 70-1AA45 | - | - | 1 unit | 0.085 |
| 90 | - | 20.7 | 36 | 3RF20 90-1AA45 | - | - | 1 unit | 0.085 |
| Zero-point switching, rated operational voltage $U_{e}=48 \mathrm{~V}$ to 600 V , blocking voltage 1600 V |  |  |  |  |  |  |  |  |
| 30 | - | - | 12 | 3RF20 30-1AA $\square 6$ | - | - | 1 unit | 0.085 |
| 50 | - | - | 20 | 3RF20 50-1AA $\square 6$ | - | - | 1 unit | 0.085 |
| 70 | - | - | 28 | 3RF20 70-1AA $\square 6$ | - | - | 1 unit | 0.085 |
| 88 |  | - | 36 | 3RF20 90-1AA $\square 6$ | - | - | 1 unit | 0.085 |
| Zero-point switching, rated operational voltage $U_{e}=48 \mathrm{~V}$ to 460 V , control DC $4 \ldots 30 \mathrm{~V}$ switching |  |  |  |  |  |  |  |  |
| 50 | - | - | - | 3RF20 50-1BA44 | - | - | 1 unit | 0.085 |
| Instantaneous switching, rated operational voltage $U_{e}=48 \mathrm{~V}$ to 460 V , control 24 V DC acc. to EN 61131-2 |  |  |  |  |  |  |  |  |
| 30 | - | - | - | 3RF20 30-1BA04 | - | - | 1 unit | 0.085 |
| Order No. extension for rated control supply voltage $\boldsymbol{U}_{\mathbf{s}}$ |  |  |  |  |  |  |  |  |
| DC 24 V acc. to EN 61131-2 <br> AC $110 \mathrm{~V} . . .230 \mathrm{~V}$ |  |  |  | $\begin{aligned} & 0 \\ & 2 \end{aligned}$ | $\begin{aligned} & 0 \\ & 2 \end{aligned}$ | $\begin{aligned} & 0 \\ & 2 \end{aligned}$ |  |  |

AC 110 V... 230 V
Other rated control supply voltages on request.

1) The type current provides information about the performance of the semiconductor relay. The actual permitted operational current $l_{\mathrm{e}}$ can be smaller depending on the connection method and cooling conditions.
2) Please note that this version can only be used for a rated current of up to 50 A and a conductor cross section of $10 \mathrm{~mm}^{2}$
3) Screw terminals and spring terminals (control current side).

Note: For $\mathrm{mm}^{2}$ to AWG conversion chart see Industrial Controls catalog page 19/21.

