

# Solid-State Switching Devices

## Solid-State Relays

45 mm semiconductor relays  
single phase selection

### Fused design with semiconductor protection (similar to type of coordination "2")<sup>1)</sup>

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 <sup>1)</sup>	Maximum achievable power for type current and $U_e =$			Screw connection <sup>2)</sup>	Spring-loaded connection <sup>3)</sup>	Ring cable connection	Std. Pack Qty	Weight per pack approx.
	115 V	230 V	400 V					
A	kW	kW	kW	Order No.	Order No.	Order No.		kg
<b>Zero-point switching, rated operational voltage <math>U_e = 24</math> V to 230 V</b>								
20	2.3	4.6	-	3RF20 20-1AA□2	-	-	1 unit	0.085
30	3.5	6.9	-	3RF20 30-1AA□2	-	-	1 unit	0.085
50	5.8	11.5	-	3RF20 50-1AA□2	-	-	1 unit	0.085
70	8.1	16.1	-	3RF20 70-1AA□2	-	-	1 unit	0.085
88	10.4	20.7	-	3RF20 90-1AA□2	-	-	1 unit	0.085
<b>Zero-point switching, rated operational voltage <math>U_e = 24</math> V to 230 V, control DC 4 ... 30 V</b>								
20	-	-	-	-	3RF21 20-2AA42	-	1 unit	0.075
<b>Zero-point switching, rated operational voltage <math>U_e = 48</math> V to 460 V</b>								
20	-	4.6	8	3RF20 20-1AA□4	-	-	1 unit	0.085
30	-	6.9	12	3RF20 30-1AA□4	-	-	1 unit	0.085
50	-	11.5	20	3RF20 50-1AA□4	-	-	1 unit	0.085
70	-	16.1	28	3RF20 70-1AA□4	-	-	1 unit	0.085
88	-	20.7	36	3RF20 90-1AA□4	-	-	1 unit	0.085
<b>Zero-point switching, rated operational voltage <math>U_e = 24</math> V to 230 V, control DC 4 ... 30 V</b>								
20	-	-	-	3RF20 20-1AA42	3RF21 20-2AA42	-	1 unit	0.085
30	-	-	-	3RF20 30-1AA42	-	-	1 unit	0.085
<b>Zero-point switching, rated operational voltage <math>U_e = 48</math> V to 600 V, control DC 4 ... 30 V</b>								
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
<b>Zero-point switching, rated operational voltage <math>U_e = 48</math> V to 600 V, blocking voltage 1600 V</b>								
30	-	-	12	3RF20 30-1AA□6	-	-	1 unit	0.085
50	-	-	20	3RF20 50-1AA□6	-	-	1 unit	0.085
70	-	-	28	3RF20 70-1AA□6	-	-	1 unit	0.085
88	-	-	36	3RF20 90-1AA□6	-	-	1 unit	0.085
<b>Zero-point switching, rated operational voltage <math>U_e = 48</math> V to 460 V, control DC 4 ... 30 V switching</b>								
50	-	-	-	3RF20 50-1BA44	-	-	1 unit	0.085
<b>Instantaneous switching, rated operational voltage <math>U_e = 48</math> V to 460 V, control 24 V DC acc. to EN 61131-2</b>								
30	-	-	-	3RF20 30-1BA04	-	-	1 unit	0.085

#### Order No. extension for rated control supply voltage $U_s$

DC 24 V acc. to EN 61131-2  
AC 110 V... 230 V

0  
2

0  
2

0  
2

Other rated control supply voltages on request.

- The type current provides information about the performance of the semiconductor relay. The actual permitted operational current  $I_e$  can be smaller depending on the connection method and cooling conditions.
- Please note that this version can only be used for a rated current of up to 50 A and a conductor cross section of 10mm<sup>2</sup>.
- Screw terminals and spring terminals (control current side).

**Note:** For mm<sup>2</sup> to AWG conversion chart see Industrial Controls catalog page 19/21.