

Solid-State Switching Devices

Solid-State Relays

SIRIUS SC semiconductor contactors single phase selection

Selection and ordering data

Selecting solid-state contactors

The semiconductor contactors are selected on the basis of details of the power system, the load and the ambient conditions. As the semiconductor contactors are already equipped with an optimally matched heat sink, the selection process is considerably simpler than that for semiconductor relays.

The following procedure is recommended:

- Determine the rated current of the load and the mains voltage
- Select a semiconductor contactor with the same or higher rated current than the load
- Check the correct contactor size with the aid of the rated current diagram, taking account of the design conditions



3RF23 10-1AA02 3RF23 30-1AA02 3RF23 40-1AA02 3RF23 50-3AA02 3RF23 70-3AA02 3RF23 90-3AA02

Type current ¹⁾	Maximum achievable power for I_{max} and $U_e =$			Screw connection	Spring-loaded connection	Ring cable connection	Std. Pack Qty	Weight per pack approx.
I_{max}	115 V	230 V	400 V	Order No.	Order No.	Order No.		kg
A	kW	kW	kW					
Zero-point switching, rated operational voltage $U_e = 24$ V to 230 V								
10.5	1.2	2.4	-	3RF23 10-1AA□2	3RF23 10-2AA□2	3RF23 10-3AA□2	1 unit	0.136
20	2.3	4.6	-	3RF23 20-1AA□2	3RF23 20-2AA□2	3RF23 20-3AA□2	1 unit	0.204
30	3.5	6.9	-	3RF23 30-1AA□2	-	3RF23 30-3AA□2	1 unit	0.354
40	4.6	9.2	-	3RF23 40-1AA□2	-	3RF23 40-3AA□2	1 unit	0.496
50	6	12	-	3RF23 50-1AA□2	-	3RF23 50-3AA□2	1 unit	0.496
70	8	16	-	-	-	3RF23 70-3AA□2	1 unit	0.944
88	10	20	-	-	-	3RF23 90-3AA□2	1 unit	2.600
Zero-point switching, rated operational voltage $U_e = 24$ V to 230 V, control 24 V DC acc. to EN 61131-2³⁾								
50	-	-	-	3RF20 50-4AA02	-	-	1 unit	0.085
Zero-point switching, rated operational voltage $U_e = 24$ V to 230 V, control 24 V DC low power								
20	-	-	-	3RF23 20-1AA02-0KN0	-	-	1 unit	0.240
Zero-point switching, rated operational voltage $U_e = 48$ V to 460 V								
10.5	-	2.4	4.2	3RF23 10-1AA□4	3RF23 10-2AA□4	3RF23 10-3AA□4	1 unit	0.136
20	-	4.6	8	3RF23 20-1AA□4	3RF23 20-2AA□4	3RF23 20-3AA□4	1 unit	0.204
30	-	6.9	12	3RF23 30-1AA□4	-	3RF23 30-3AA□4	1 unit	0.354
40	-	9.2	16	3RF23 40-1AA□4	-	3RF23 40-3AA□4	1 unit	0.496
50	-	12	20	3RF23 50-1AA□4	-	3RF23 50-3AA□4	1 unit	0.496
70	-	16	28	-	-	3RF23 70-3AA□4	1 unit	0.944
88	-	20	35	-	-	3RF23 90-3AA□4	1 unit	2.600
Zero-point switching, rated operational voltage $U_e = 24$ V to 230 V, control 24 V AC/DC								
10.5	-	-	-	3RF23 10-1AA12	-	-	1 unit	0.165
Zero-point switching, rated operational voltage $U_e = 48$ V to 460 V, control 24 V DC low power								
50	-	-	-	3RF23 10-1AA04-0KN0	-	-	1 unit	0.165
Zero-point switching, rated operational voltage $U_e = 48$ V to 460 V, control 24 V AC/DC								
10.5	-	-	-	3RF23 10-1AA14	-	-	1 unit	0.165
20	-	-	-	3RF23 20-1AA14	-	-	1 unit	0.240
30	-	-	-	3RF23 30-1AA14	-	-	1 unit	0.400
40	-	-	-	3RF23 40-1AA14	-	-	1 unit	0.550
50	-	-	-	3RF23 50-1AA14	-	-	1 unit	0.550
Zero-point switching, rated operational voltage $U_e = 48$ V to 600 V, control DC 4 ... 30 V								
10.5	-	2.4	4.2	3RF23 10-1AA45	-	-	1 unit	0.135
20	-	4.6	8	3RF23 20-1AA45	-	-	1 unit	0.204
30	-	6.9	12	3RF23 30-1AA45	-	-	1 unit	0.354
40	-	9.2	16	3RF23 40-1AA45	-	3RF23 40-3AA45	1 unit	0.496
50	-	12	20	3RF23 50-1AA45	-	-	1 unit	0.496
70	-	16	26	-	-	3RF23 70-3AA45	1 unit	0.944
90	-	20	35	-	-	3RF23 90-3AA45	1 unit	2.600
Zero-point switching, rated operational voltage $U_e = 48$ V to 460 V, control 4 V ... 30 V DC								
10.5	-	-	-	3RF23 10-1AA44	-	-	1 unit	0.165
20	-	-	-	3RF23 20-1AA44	-	3RF23 20-3AA44	1 unit	0.240
30	-	-	-	3RF23 30-1AA44	-	3RF23 30-3AA44	1 unit	0.400
50	-	-	-	3RF23 50-1AA44	-	3RF23 50-3AA44	1 unit	0.400
Zero-point switching, rated operational voltage $U_e = 48$ V to 600 V, blocking voltage 1600 V								
10.5	-	-	4.2	3RF23 10-1AA□6	3RF23 10-2AA□6	3RF23 10-3AA□6	1 unit	0.136
20	-	-	8	3RF23 20-1AA□6	3RF23 20-2AA□6	3RF23 20-3AA□6	1 unit	0.204
30	-	-	12	3RF23 30-1AA□6	-	3RF23 30-3AA□6	1 unit	0.354
40	-	-	16	3RF23 40-1AA□6	-	3RF23 40-3AA□6	1 unit	0.496
50	-	-	20	3RF23 50-1AA□6	-	3RF23 50-3AA□6	1 unit	0.496
70	-	-	28	-	-	3RF23 70-3AA□6	1 unit	0.944
88	-	-	35	-	-	3RF23 90-3AA□6	1 unit	2.600

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.

1) The type current provides information about the performance of the semiconductor contactor. The actual permitted operational current I_e can be smaller depending on the connection method and start-up conditions. Derating acc. to curves from page 7/45, 7/46, 7/47.