

Solid-state contactors
General use

■ **Description**

Solid-state contactors (SSC) are required in cases where contacts must have long life because contacts are frequently made and broken, and where contactor noise must be eliminated. Single-and 3-pole solid-state contactors incorporate thyristors as making and breaking elements in the main circuit.

■ **Features**

● **Operation indicator provided**

An operation indicator LED (red) is provided as a standard feature for all models, so you can easily check whether a control voltage is applied to the SSC.

● **Long service life, optimum for highly frequent switching**

The solid-state contactor utilizes high-performance semiconductor switch elements to include the functions and features of conventional magnetic contactors. The SSC, featuring long life, low-noise, and high-speed response, is suitable for highly frequent switching of various types of loads, such as motors and heaters.

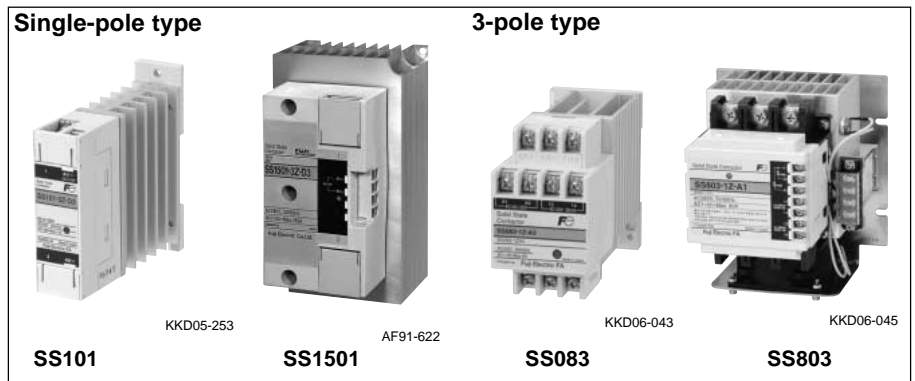
■ **Specifications**

Single-pole types

● **Main circuit 240V AC, SS101 to SS501**
AC control voltage

Type	SS101-5Z-A3 SS101-5Z-A4	SS201-5Z-A3 SS201-5Z-A4	SS301-5Z-A3 SS301-5Z-A4	SS401-5Z-A3 SS401-5Z-A4	SS501-5Z-A3 SS501-5Z-A4	
Ordering code	SS101-5ZA3 SS101-5ZA4	SS201-5ZA3 SS201-5ZA4	SS301-5ZA3 SS301-5ZA4	SS401-5ZA3 SS401-5ZA4	SS501-5ZA3 SS501-5ZA4	
Main circuit	Rated voltage					
	100 — 240V AC 50/60Hz					
	Rated thermal current (A)*	10	20	30	40	50
	Max. heater capacity (kW) Single phase 200V AC	2	4	6	8	10
Control circuit	Number of elements					
	Single-pole, 1-element					
	Isolation method					
	Photocoupler					
	Control voltage Vn					
A3: 100 — 120V AC, A4: 200 — 240V AC						
Pick-up voltage						
85% Vn or less						
Drop-out voltage						
35% Vn and over						
Operating time (at 100% Vn)						
30ms or less						
Release time (at 100% Vn)						
30ms or less						
Auxiliary circuit	—					

Note: * The values are the maximum ratings of type with cooling fin that apply at an ambient temperature not exceeding 40°C.



● **Built-in surge suppressor**

Varistors and C-R circuits are included so that surge voltage due to SSC switching and lightning can be suppressed to protect the control and main circuits.

● **AC and DC operation**

The AC and DC operated type SSCs are available, either of which can be selected as required.

● **SSC with zero-cross switching function**

The SSC is also available with a zero-cross switching function to enable load current switching at the point where the line voltage is near zero to suppress excessive inrush current in the load circuit.

● **Built-in auxiliary contact**

An auxiliary contact module using semiconductor switches or relay contacts is included. Therefore an auxiliary output signal can easily be obtained without using a separate auxiliary devices.

■ **Standards**





■ Specifications

Single-pole types

● Main circuit 240V AC, SS701 to SS2001

AC control voltage

Type	SS701-1Z-A3 SS701-1Z-A4	SS1001-1Z-A3 SS1001-1Z-A4	SS1501-1Z-A3 SS1501-1Z-A4	SS2001-1Z-A3 SS2001-1Z-A4	
Ordering code	SS701-1ZA3 SS701-1ZA4	SS1A1-1ZA3 SS1A1-1ZA4	SS1F1-1ZA3 SS1F1-1ZA4	SS2A1-1ZA3 SS2A1-1ZA4	
Main circuit	Rated voltage				
	100 — 240V AC 50/60Hz				
	Rated thermal current (A)*		100	150	200
	Max. heater capacity (kW) Single phase 200V AC		20	30	40
Number of elements		Single-pole, 1-element			
Control circuit	Isolation method				
	Photocoupler				
	Control voltage Vn				
	A3: 100 — 120V AC, A4: 200 — 240V AC				
	Pick-up voltage Drop-out voltage				
85% Vn or less 35% Vn and over					
Operating time (at 100% Vn) Release time (at 100% Vn)					
30ms or less 30ms or less					
Auxiliary circuit	Output				
	Thyristor 1NO Rated current and voltage				
A3: 50mA, 120V AC A4: 50mA, 240V AC					

Note: * The values are the maximum ratings of type with cooling fin that apply at an ambient temperature not exceeding 40°C.

● Main circuit 240V AC, SS101 to SS2001

DC control voltage

Type	SS101-3Z-D3	SS201-3Z-D3	SS301-3Z-D3	SS401-3Z-D3	SS501-3Z-D3	
Ordering code	SS101-3ZD3	SS201-3ZD3	SS301-3ZD3	SS401-3ZD3	SS501-3ZD3	
Main circuit	Rated voltage					
	100 — 240V AC 50/60Hz					
	Rated thermal current (A)*		20	30	40	50
	Max. heater capacity (kW) Single phase 200V AC		4	6	8	10
Number of elements		Single-pole, 1-element				
Control circuit	Isolation method					
	Photocoupler					
	Control voltage Vn					
	5 — 24V DC					
	Pick-up voltage Drop-out voltage					
3.5V or less 1V and over						
Operating time (at 100% Vn) Release time (at 100% Vn)						
15ms or less 15ms or less						
Auxiliary circuit	—					

Type	SS701-3Z-D3	SS1001-3Z-D3	SS1501-3Z-D3	SS2001-3Z-D3	
Ordering code	SS701-3ZD3	SS1A1-3ZD3	SS1F1-3ZD3	SS2A1-3ZD3	
Main circuit	Rated voltage				
	100 — 240V AC 50/60Hz				
	Rated thermal current (A)*		100	150	200
	Max. heater capacity (kW) Single phase 200V AC		20	30	40
Number of elements		Single-pole, 1-element			
Control circuit	Isolation method				
	Photocoupler				
	Control voltage Vn				
	5 — 24V DC				
	Pick-up voltage Drop-out voltage				
3.5V or less 1V and over					
Operating time (at 100% Vn) Release time (at 100% Vn)					
15ms or less 15ms or less					
Auxiliary circuit	—				

Note: * The values are the maximum ratings of type with cooling fin that apply at an ambient temperature not exceeding 40°C.

■ Specifications

Single-pole types

● Main circuit 480V AC, SS701H to SS2001H

AC control voltage

Type	SS701H-1Z-A3 SS701H-1Z-A4	SS1001H-1Z-A3 SS1001H-1Z-A4	SS1501H-1Z-A3 SS1501H-1Z-A4	SS2001H-1Z-A3 SS2001H-1Z-A4
Ordering code	SS701H-1ZA3 SS701H-1ZA4	SS1A1H-1ZA3 SS1A1H-1ZA4	SS1F1H-1ZA3 SS1F1H-1ZA4	SS2A1H-1ZA3 SS2A1H-1ZA4
Main circuit	Rated voltage			
	200 - 480V AC 50/60Hz			
	Rated thermal current (A)*	70	100	150
	Max. heater capacity (kW) Single phase 400V AC	28	40	60
Number of elements	Single-pole, 1-element			
Control circuit	Isolation method			
	Photocoupler			
	Control voltage Vn			
	A3: 100 – 120V AC, A4: 200 – 240V AC			
Pick-up voltage	85% Vn or less			
	Drop-out voltage	35% Vn and over		
Operating time (at 100% Vn)		30ms or less		
Release time (at 100% Vn)	30ms or less			
Auxiliary circuit	Output			
	Thyristor 1NO			
Rated current and voltage		A3: 50mA, 120V AC A4: 50mA, 240V AC		

DC control voltage

Type	SS701H-3Z-D3	SS1001H-3Z-D3	SS1501H-3Z-D3	SS2001H-3Z-D3
Ordering code	SS701H-3ZD3	SS1A1H-3ZD3	SS1F1H-3ZD3	SS2A1H-3ZD3
Main circuit	Rated voltage			
	200 - 480V AC 50/60Hz			
	Rated thermal current (A)*	70	100	150
	Max. heater capacity (kW) Single phase 400V AC	28	40	60
Number of elements	Single-pole, 1-element			
Control circuit	Isolation method			
	Photocoupler			
	Control voltage Vn			
	5 — 24V DC			
Pick-up voltage	3.5V or less			
	Drop-out voltage	1V and over		
Operating time (at 100% Vn)		15ms or less		
Release time (at 100% Vn)	15ms or less			
Auxiliary circuit	-			

Note: * The values are the maximum ratings of type with cooling fin that apply at an ambient temperature not exceeding 40°C.

3-pole unit type

● Main circuit 240V AC, SS03 to SS120

Type *1	SS □■-1(Z)-A3, A4, D5					SS □■-1(Z)-A1, D2					
Ordering code *1	SS □■-1M(Z)A3, A4, D5					SS □■-1M(Z)A1, D2					
Main circuit	Rated voltage										
	100 - 240V AC 50/60Hz										
	Rated thermal current (A)	3		8		20	30	40	50	80	120
	Max. heater capacity (kW)	1.0		2.5		6.9	10.3	13.8	17.3	27.7	41.5
	Max. motor capacity (kW) *2	0.2		0.4		0.75	1.5	2.2	3.7	7.5	7.5
	Motor full load current (A) 3-phase 200V AC	1.8		3.2		4.8	8	11.1	17.4	34	34
Number of elements	3-pole, 2 or 3-element *3										
Control circuit	Isolation method										
	Photocoupler										
	Control voltage (Vn)					A1: 100–120/200–240V AC 50/60Hz D2: 12/24V DC					
	A3: 100–120V AC 50/60Hz A4: 200–240V AC 50/60Hz D5: 12–24V DC										
Pick-up voltage	85% Vn or less					8V or less(D5)					
	Drop-out voltage	30% Vn and over					1V and over(D5)				
Operating time (at 100% Vn)		30ms or less									
Release time (at 100% Vn)	30ms or less										
Auxiliary circuit	Output		AC operated							Thyristor 2NO	
			DC operated							Transistor 2NO	
	Rated current and voltage		AC operated					0.2A, 240V AC			
		DC operated					0.2A, 24V DC				

Note: *1, *2, *3 see page 01/104.



■ Specifications

3-pole unit types

● Main circuit 240V AC, SS03 to SS120

Type ^{*1}	SS□■-3(Z)-D5, D6		SS□■-3(Z)-D3							
Ordering code ^{*1}	SS□■-3M(Z)D5, D6		SS□■-3M(Z)D3							
Main circuit	Rated voltage	100 - 240V AC 50/60Hz								
	Rated thermal current (A)	3	8	20	30	40	50	80	120	
	Max. heater capacity (kW)	1.0	2.5	6.9	10.3	13.8	17.3	27.7	41.5	
	Max. motor capacity (kW) ^{*2}	0.2	0.4	1.5	2.2	3.7	5.5	7.5	7.5	
	Motor full load current (A)	1.8	3.2	8	11.1	17.4	26	34	34	
	3-phase 200V AC									
	Number of elements	3-pole, 2 or 3-element ^{*3}								
Control circuit	Isolation method	Photocoupler								
	Control voltage (Vn)	D5: 12–24V DC D6: 5V DC			D3: 5–24V DC					
	Pick-up voltage	D5: 8V or less D6: 4V or less			D3: 3.5V or less					
	Drop-out voltage	D5, D6: 1V and over			D3: 1.5V and over					
	Operating time (at 100% Vn) Release time (at 100% Vn)	5ms or less (SS□-3Z: 15ms or less) 15ms or less								
Auxiliary circuit	AC operated type	—								
	DC operated type	—								

Notes: ^{*1} Replace the □ mark by rated thermal current code (03 to 200), and the ■ mark by the number of elements (2 or 3). See page 01/123,124.

^{*2} Maximum ratings when SSC is used with cooling fin (SX1-□) at temperature of 40°C or less.

Motor starting current: 6 times full-load current, Motor starting time: 0.25s or less.

^{*3} 2-element types are supplied in 3-pole with current carrying parts omitted from center pole.

● Main circuit 480V AC, SS30H to SS120H

Type ^{*1}	SS□■H-1(Z)-A1, D2				SS□■H-3(Z)-D3				
Ordering code ^{*1}	SS□■H-1M(Z)A1, D2				SS□■H-3M(Z)D3				
Main circuit	Rated voltage	200 - 480V AC 50/60Hz							
	Rated thermal current (A)	30	50	80	120	30	50	80	120
	Max. heater capacity (kW)	20.7	34.6	55.4	83.0	20.7	34.6	55.4	83.0
	Max. motor capacity (kW) ^{*2}	7.5	11	22	22	7.5	11	22	22
	Motor full load current (A)	17	24	48	48	17	24	48	48
	3-phase 400V AC								
	Number of elements	3-pole, 2 or 3-element ^{*3}				3-pole, 2 or 3-element ^{*3}			
Control circuit	Isolation method	Photocoupler				Photocoupler			
	Control voltage (Vn)	A1: 100–120/200–240V AC 50/60Hz D2: 12/24V DC				5–24V DC			
	Pick-up voltage	85% Vn or less				3.5V or less			
	Drop-out voltage	30% Vn and over				1.5V and over			
	Operating time (at 100% Vn) Release time (at 100% Vn)	30ms or less 30ms or less				5ms or less (SS□H-3Z: 15ms or less) 15ms or less			
Auxiliary circuit	Output	AC operated	Thyristor 2NO			—			
	DC operated	DC operated	Transistor 2NO			—			
	Rated current and voltage	AC operated	0.2A, 240V AC			—			
		DC operated	0.2A, 24V DC			—			

Notes: ^{*1} Replace the □ mark by rated thermal current code (03 to 200), and the ■ mark by the number of elements (2 or 3). See page 01/123,124.

^{*2} Maximum ratings when SSC is used with cooling fin (SX1-□) at temperature of 40°C or less.

Motor starting current: 6 times full-load current, Motor starting time: 0.25s or less.

^{*3} 2-element types are supplied in 3-pole with current carrying parts omitted from center pole.



■ **Specifications**

3-pole independent type

● **Main circuit 240V AC, SS03-4 to SS120-4**

Type *1	SS□■-4(Z)-A3		SS□■-4(Z)-A4		SS□■-4(Z)-D3		SS□■-4(Z)-D5		SS□■-4(Z)-D6		
Ordering code *1	SS□■-4M(Z)A3		SS□■-4M(Z)A4		SS□■-4M(Z)D3		SS□■-4M(Z)D5		SS□■-4M(Z)D6		
Main circuit	Rated voltage	100 - 240V AC 50/60Hz						100 - 240V AC 50/60Hz			
	Rated thermal current (A)	20	30	40	50	80	120	3	8	3	8
	Max. heater capacity (kW) Single phase 200V AC	4	6	8	10	16	24	0.6	1.6	0.6	1.6
	Number of elements	3-pole, 2 or 3-element *3									
Control circuit	Isolation method	Photocoupler									
	Control voltage (Vn)	100-120V AC		200-240V AC		5-24V DC		12-24V DC		5V DC	
	Pick-up voltage	85% Vn or less				3.5V or less		8V or less		4V or less	
	Drop-out voltage	30%Vn and over				1.5V and over		1V and over		1V and over	
Operating time (at 100% Vn)	30ms or less				5ms or less (D3: SS□■-4Z: 15ms or less)						
	Release time (at 100% Vn)				30ms or less		15ms or less				
Auxiliary circuit	—										

● **Main circuit 480V AC, SS30H-4 to SS120H-4**

Type *1	SS□■H-4(Z)-A3		SS□■H-4(Z)-A4		SS□■H-4(Z)-D3		
Ordering code *1	SS□■H-4M(Z)A3		SS□■H-4M(Z)A4		SS□■H-4M(Z)D3		
Main circuit	Rated voltage	200 - 480V AC 50/60Hz					
	Rated thermal current (A)	30	50	80	120		
	Max. heater capacity (kW) Single phase 400V AC	12	20	32	48		
	Number of elements	3-pole, 2 or 3-element *3					
Control circuit	Isolation method	Photocoupler					
	Control voltage (Vn)	100-120V AC		200-240V AC		5-24V DC	
	Pick-up voltage	85% Vn or less				3.5V or less	
	Drop-out voltage	30% Vn and over				1.5V and over	
Operating time (at 100% Vn)	30ms or less				5ms or less (SS□■H-4Z: 15ms or less)		
	Release time (at 100% Vn)				30ms or less		15ms or less
Auxiliary circuit	—						

Notes: *1 Replace the □ mark by rated thermal current code (03 to 200) and the ■ mark by the number of elements (2 or 3). See page 01/123, 124.

*2 Maximum ratings when SSC is used with cooling fin (SX1-□) at temperature of 40°C or less.

*3 2-element types are supplied in 3-pole with current carrying parts omitted from center pole.

Solid-state Contactors

SS series

General use



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● 3-pole AC operated

Type Main circuit 240V AC: Blank 480V AC: H 3-pole 2-element	3-pole 3-element	Control circuit							
		3-pole unit type: 1				3-pole independent type: 4			
		Zero-cross function							
		Provided: Z				Not provided: Blank			
		Control voltage: 100-120V AC/200-220V AC: A1 , 100-120V AC: A3 , 200-240V AC: A4							
		A1	A3	A4	A1	A3	A4	A3	A4
		With cooling fin: F				With cooling fin: F			
SS032	SS033		●	●		●	●		
SS082	SS083		●	●		●	●		
SS202	SS203	●			●			●	●
SS302	SS303	●			●			●	●
SS302H	SS303H	●			●			●	●
SS402	SS403	●			●			●	●
SS502	SS503	●			●			●	●
SS502H	SS503H	●			●			●	●
SS802	SS803	●			●			●	●
SS802H	SS803H	●			●			●	●
SS1202	SS1203	●			●			●	●
SS1202H	SS1203H	●			●			●	●

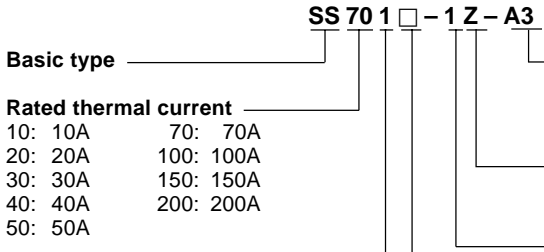
Note: ● Available

● 3-pole DC operated

Type Main circuit 240V AC: Blank 480V AC: H 3-pole 2-element	3-pole 3-element	Control circuit													
		3-pole unit type: 1				3-pole unit type: 3				3-pole independent type: 4					
		Zero-cross function													
		Z				Blank				Z				Blank	
		Control voltage: 12/24V DC: D2 , 5-24V DC: D3 , 12-24V DC: D5 , 5V DC: D6													
		D2	D5	D2	D5	D3	D5	D6	D3	D5	D6	D3	D5	D6	
		With cooling fin: F						With cooling fin: F							
SS032	SS033		●		●		●	●		●	●		●	●	
SS082	SS083		●		●		●	●		●	●		●	●	
SS202	SS203	●		●		●		●		●		●		●	
SS302	SS303	●		●		●		●		●		●		●	
SS302H	SS303H	●		●		●		●		●		●		●	
SS402	SS403	●		●		●		●		●		●		●	
SS502	SS503	●		●		●		●		●		●		●	
SS502H	SS503H	●		●		●		●		●		●		●	
SS802	SS803	●		●		●		●		●		●		●	
SS802H	SS803H	●		●		●		●		●		●		●	
SS1202	SS1203	●		●		●		●		●		●		●	
SS1202H	SS1203H	●		●		●		●		●		●		●	

Note: ● Available

■ Type number nomenclature
● Single-pole type



Basic type

Rated thermal current
10: 10A 70: 70A
20: 20A 100: 100A
30: 30A 150: 150A
40: 40A 200: 200A
50: 50A

No. of main circuit elements
1: Single pole 1-element

Rated voltage of main circuit
Blank: 100–240V AC
H: 200–480V AC

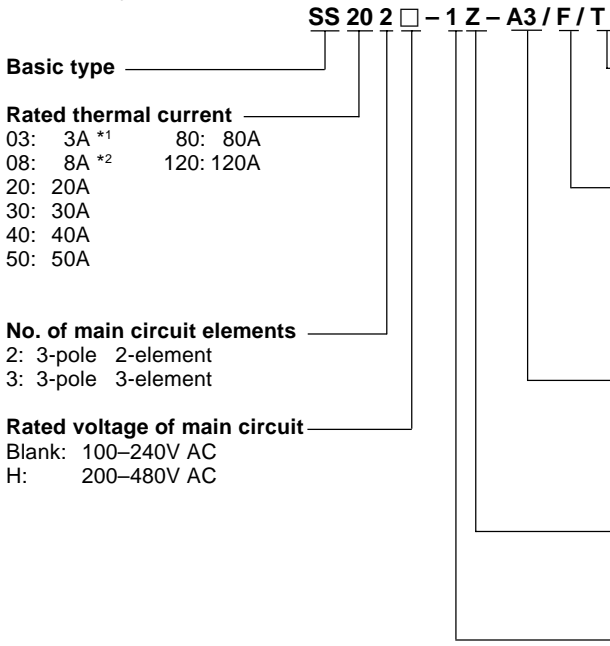
Control voltage
A3: 100–120V AC
A4: 200–240V AC
D3: 5–24V DC

Zero-cross function
Z: Provided

Control circuit

	Isolation method	Voltage detector	Auxiliary contact	Applicable contactor	
1	Photocoupler	Provided	Provided	SS701 to 2001	240V AC
				SS701H to 2001H	480V AC
3	Photocoupler	Not provided	Not provided	SS101 to 2001	240V AC
				SS701H to 2001H	480V AC
5	Photocoupler	Not provided	Not provided	SS101 to 501	240V AC

● 3-pole type



Basic type

Rated thermal current
03: 3A *1 80: 80A
08: 8A *2 120: 120A
20: 20A
30: 30A
40: 40A
50: 50A

No. of main circuit elements
2: 3-pole 2-element
3: 3-pole 3-element

Rated voltage of main circuit
Blank: 100–240V AC
H: 200–480V AC

Terminal cover
Blank: Not provided
T: Provided (only for SS202 to SS502, SS203 to SS503 of main circuit voltage 200V)

Shipping form
F: Contactor and cooling fin set
F-A3: Contactor and cooling fin set *3
F-A4: Contactor and cooling fin set *4
F-D5: Contactor and cooling fin set *5
Blank: Contactor only
(Cooling fin sold separaty)

Control voltage
A1: 100–120/200–220V AC D2: 12/24V DC
A3: 100–120V AC D3: 5–24V DC
A4: 200–240V AC D5: 12–24V DC
 D6: 5V DC

Zero-cross function
Blank: Not provided
Z: Provided

Control circuit

	Control method		Isolation method	Voltage detector	Auxiliary contact
	3-pole unit	3-pole independent			
1	○		Photocoupler	Provided	Provided
3	○		Photocoupler	Not provided	Not provided
4		○	Photocoupler	Not provided	Not provided

Notes: *1 Type SS03□ can carry the rated thermal current even if no cooling fin is fitted.
*2 Type SS08□ is shipped with a cooling fin fitted to the main body even if /F is not suffixed to the type number.
*3 Suffix code applicable only to type SS80□ and type SS120□. Fan rated operating voltage: 100–120V AC, 50/60Hz.
*4 Suffix code applicable only to type SS80□ and type SS120□. Fan rated operating voltage: 200–240V AC, 50/60Hz.
*5 Suffix code applicable only to type SS80□ and type SS120□. Fan rated operating voltage: 24V DC.

Solid-state Contactors
SS series
General use



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■ Ordering code system

S S 8 0 3 H — 1 Z A 1 F A 3
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

① Product category

Description	Code
Contactors	S

② Series category

Description	Code
Solid-state contactor	S

③④ Framesize

Frame size	Code	
	③	④
03	0	3
08	0	8
10	1	0
20	2	0
30	3	0
40	4	0
50	5	0
70	7	0
80	8	0
100	1	A
120	1	C
150	1	F
200	2	A

⑤ No. of main circuit elements

No. of elements	Code
Single pole, 1-element	1
3-pole, 2-element	2
3-pole, 3-element	3

■ Versions

Single-pole type

● Main circuit 240V AC

Control voltage	Voltage detector	Auxiliary contact	Zero-cross function	Rated thermal current				
				10A	20A	30A	40A	50A
100 – 120V AC	–	–	●	SS101-5Z-A3	SS201-5Z-A3	SS301-5Z-A3	SS401-5Z-A3	SS501-5Z-A3
200 – 240V AC	–	–	●	SS101-5Z-A4	SS201-5Z-A4	SS301-5Z-A4	SS401-5Z-A4	SS501-5Z-A4
5 – 24V DC	–	–	●	SS101-3Z-D3	SS201-3Z-D3	SS301-3Z-D3	SS401-3Z-D3	SS501-3Z-D3

Control voltage	Voltage detector	Auxiliary contact	Zero-cross function	Rated thermal current			
				70A	100A	150A	200A
100 – 120V AC	●	●	●	SS701-1Z-A3	SS1A1-1Z-A3	SS1F1-1Z-A3	SS2A1-1Z-A3
200 – 240V AC	●	●	●	SS701-1Z-A4	SS1A1-1Z-A4	SS1F1-1Z-A4	SS2A1-1Z-A4
5 – 24V DC	–	–	●	SS701-3Z-D3	SS1A1-3Z-D3	SS1F1-3Z-D3	SS2A1-3Z-D3

● Main circuit 480V AC

Control voltage	Voltage detector	Auxiliary contact	Zero-cross function	Rated thermal current			
				70A	100A	150A	200A
100 – 120V AC	●	●	●	SS701H-1Z-A3	SS1A1H-1Z-A3	SS1F1H-1Z-A3	SS2A1H-1Z-A3
200 – 240V AC	●	●	●	SS701H-1Z-A4	SS1A1H-1Z-A4	SS1F1H-1Z-A4	SS2A1H-1Z-A4
5 – 24V DC	–	–	●	SS701H-3Z-D3	SS1A1H-3Z-D3	SS1F1H-3Z-D3	SS2A1H-3Z-D3

Note: ● Provided – Not provided

⑥ Rated voltage of main circuit

Rated voltage	Code
100 - 240V AC	Blank
200 - 480V AC	H

⑦ Control circuit

● 3-pole type

Control method	Insolation method	Voltage detector	Auxiliary contact	Code
3-pole unit	Photocoupler	Provided	Provided	1
3-pole unit	Photocoupler	Not provided	Not provided	3
3-pole independent	Photocoupler	Not provided	Not provided	4

● Single-pole type

Control method	Insolation method	Voltage detector	Auxiliary contact	Code
Single-pole	Photocoupler	Provided	Provided	1
	Photocoupler	Not provided	Not provided	3
	Photocoupler	Not provided	Not provided	5

⑧ Zero-cross function

Zero-cross function	Code	
	Single-pole	3-pole
Not provided	Blank	M
Provided	Z	Z

⑪ Shipping form

Description	Code	
	Single-pole	3-pole
Cooling fin set	Blank	F
Contactors only	Not provided	Blank

⑫⑬ Cooling fan voltage

Cooling fin control voltage	Code	
	⑫	⑬
100-120V AC	A	3
200-240V AC	A	4
12-24V DC	D	5



■ Versions
3-pole type
● Main circuit 240V AC

Rated thermal current		3A	8A	20A	30A	40A	50A	80A	120A
AC control voltage *1	2-element	SS032-1M□	SS082-1M□	SS202-1M□F SS202-4M□F	SS302-1M□F SS302-4M□F	SS402-1M□F SS402-4M□F	SS502-1M□F SS502-4M□F	SS802-1M□F SS802-4M□F	SS1C2-1M□F SS1C2-4M□F
	(With zero-cross function)	SS032-1Z□	SS082-1Z□	SS202-1Z□F SS202-4Z□F	SS302-1Z□F SS302-4Z□F	SS402-1Z□F SS402-4Z□F	SS502-1Z□F SS502-4Z□F	SS802-1Z□F SS802-4Z□F	SS1C2-1Z□F SS1C2-4Z□F
	3-element	SS033-1M□	SS083-1M□	SS203-1M□F SS203-4M□F	SS303-1M□F SS303-4M□F	SS403-1M□F SS403-4M□F	SS503-1M□F SS503-4M□F	SS803-1M□F SS803-4M□F	SS1C3-1M□F SS1C3-4M□F
	(With zero-cross function)	SS033-1Z□	SS083-1Z□	SS203-1Z□F SS203-4Z□F	SS303-1Z□F SS303-4Z□F	SS403-1Z□F SS403-4Z□F	SS503-1Z□F SS503-4Z□F	SS803-1Z□F SS803-4Z□F	SS1C3-1Z□F SS1C3-4Z□F
DC control voltage *2	2-element	SS032-1M□ SS032-3M□ SS032-4M□	SS082-1M□ SS082-3M□ SS082-4M□	SS202-1M□F SS202-3M□F SS202-4M□F	SS302-1M□F SS302-3M□F SS302-4M□F	SS402-1M□F SS402-3M□F SS402-4M□F	SS502-1M□F SS502-3M□F SS502-4M□F	SS802-1M□F SS802-3M□F SS802-4M□F	SS1C2-1M□F SS1C2-3M□F SS1C2-4M□F
	(With zero-cross function)	SS032-1Z□ SS032-3Z□ SS032-4Z□	SS082-1Z□ SS082-3Z□ SS082-4Z□	SS202-1Z□F SS202-3Z□F SS202-4Z□F	SS302-1Z□F SS302-3Z□F SS302-4Z□F	SS402-1Z□F SS402-3Z□F SS402-4Z□F	SS502-1Z□F SS502-3Z□F SS502-4Z□F	SS802-1Z□F SS802-3Z□F SS802-4Z□F	SS1C2-1Z□F SS1C2-3Z□F SS1C2-4Z□F
	3-element	SS033-1M□ SS033-3M□ SS033-4M□	SS083-1M□ SS083-3M□ SS083-4M□	SS203-1M□F SS203-3M□F SS203-4M□F	SS303-1M□F SS303-3M□F SS303-4M□F	SS403-1M□F SS403-3M□F SS403-4M□F	SS503-1M□F SS503-3M□F SS503-4M□F	SS803-1M□F SS803-3M□F SS803-4M□F	SS1C3-1M□F SS1C3-3M□F SS1C3-4M□F
	(With zero-cross function)	SS033-1Z□ SS033-3Z□ SS033-4Z□	SS083-1Z□ SS083-3Z□ SS083-4Z□	SS203-1Z□F SS203-3Z□F SS203-4Z□F	SS303-1Z□F SS303-3Z□F SS303-4Z□F	SS403-1Z□F SS403-3Z□F SS403-4Z□F	SS503-1Z□F SS503-3Z□F SS503-4Z□F	SS803-1Z□F SS803-3Z□F SS803-4Z□F	SS1C3-1Z□F SS1C3-3Z□F SS1C3-4Z□F

Note: Enter the cooling fan voltage code in the ■ mark, see page 01/124.

● Main circuit 480V AC

Rated thermal current		30A	50A	80A	120A
AC control voltage *1	2-element	SS302H-1M□F SS302H-4M□F	SS502H-1M□F SS502H-4M□F	SS802H-1M□F SS802H-4M□F	SS1C2H-1M□F SS1C2H-4M□F
	(With zero-cross function)	SS302H-1Z□F SS302H-4Z□F	SS502H-1Z□F SS502H-4Z□F	SS802H-1Z□F SS802H-4Z□F	SS1C2H-1Z□F SS1C2H-4Z□F
	3-element	SS303H-1M□F SS303H-4M□F	SS503H-1M□F SS503H-4M□F	SS803H-1M□F SS803H-4M□F	SS1C3H-1M□F SS1C3H-4M□F
	(With zero-cross function)	SS303H-1Z□F SS303H-4Z□F	SS503H-1Z□F SS503H-4Z□F	SS803H-1Z□F SS803H-4Z□F	SS1C3H-1Z□F SS1C3H-4Z□F
DC control voltage *2	2-element	SS302H-1M□F SS302H-3M□F SS302H-4M□F	SS502H-1M□F SS502H-3M□F SS502H-4M□F	SS802H-1M□F SS802H-3M□F SS802H-4M□F	SS1C2H-1M□F SS1C2H-3M□F SS1C2H-4M□F
	(With zero-cross function)	SS302H-1Z□F SS302H-3Z□F SS302H-4Z□F	SS502H-1Z□F SS502H-3Z□F SS502H-4Z□F	SS802H-1Z□F SS802H-3Z□F SS802H-4Z□F	SS1C2H-1Z□F SS1C2H-3Z□F SS1C2H-4Z□F
	3-element	SS303H-1M□F SS303H-3M□F SS303H-4M□F	SS503H-1M□F SS503H-3M□F SS503H-4M□F	SS803H-1M□F SS803H-3M□F SS803H-4M□F	SS1C3H-1M□F SS1C3H-3M□F SS1C3H-4M□F
	(With zero-cross function)	SS303H-1Z□F SS303H-3Z□F SS303H-4Z□F	SS503H-1Z□F SS503H-3Z□F SS503H-4Z□F	SS803H-1Z□F SS803H-3Z□F SS803H-4Z□F	SS1C3H-1Z□F SS1C3H-3Z□F SS1C3H-4Z□F

Notes:

Control voltage (Refer to page 01/124, 125.)

*1 Replace the □ mark in the order number by the control voltage codes shown below.

A1	100–120/200–240V AC
A3	100–120V AC
A4	200–240V AC

*2 Replace the □ mark in the order number by the control voltage codes shown below.

D2	12/24V DC
D3	5–24V DC
D5	12–24V DC
D6	5V DC

Note: Enter the cooling fan voltage code in the ■ mark, see page 01/124.

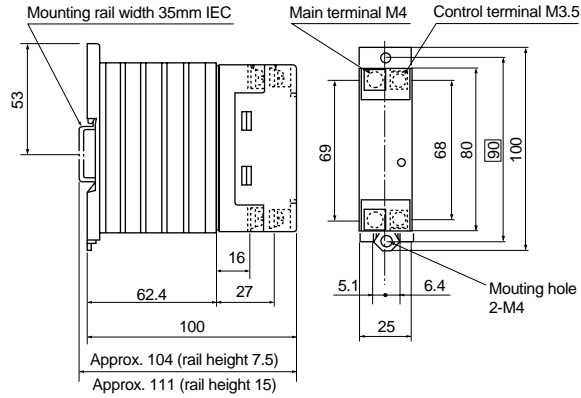
Solid-state Contactors
SS series
 General use



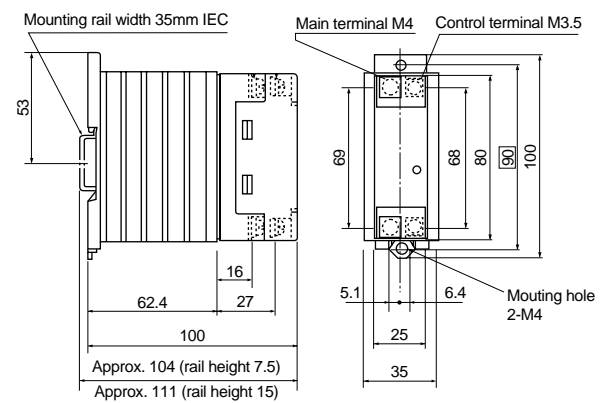
MSA CONTROL - (11) 3961-1171 - comercial@msacontrol.com.br

■ Dimensions, mm
 Single-pole type

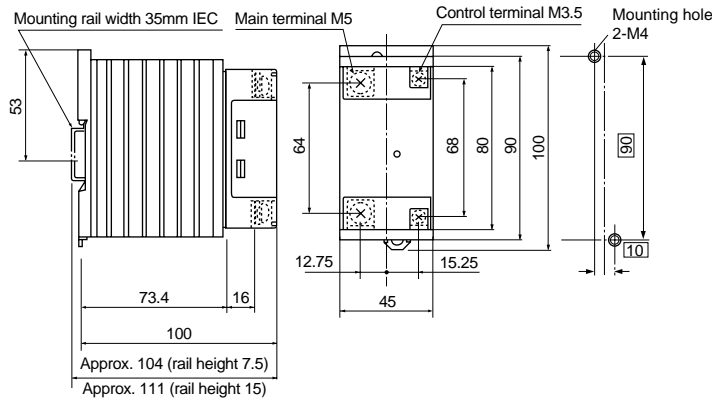
● SS101



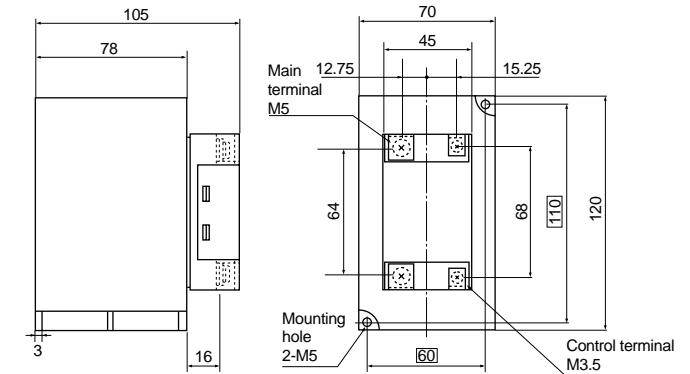
● SS201



● SS301, 401

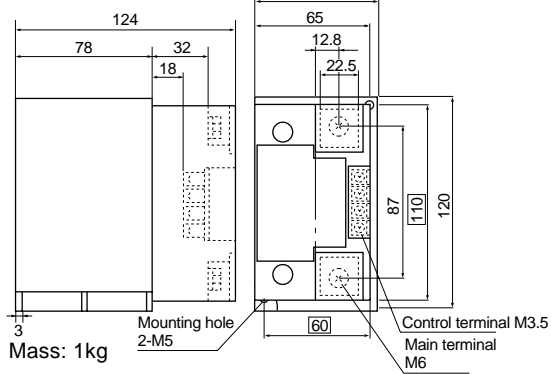


● SS501



Mass:
 SS101: 0.22kg SS401: 0.36kg
 SS201: 0.24kg SS501: 0.66kg
 SS301: 0.36kg

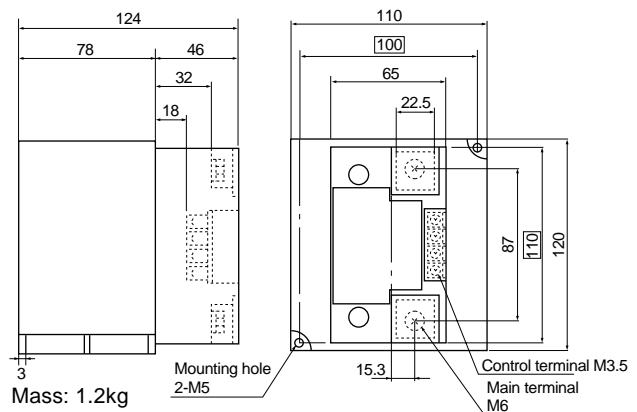
● SS701



Mass: 1kg

□ Mounting hole dimensions

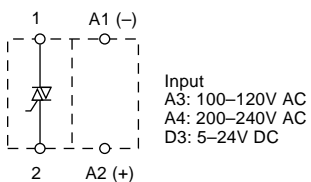
● SS1001



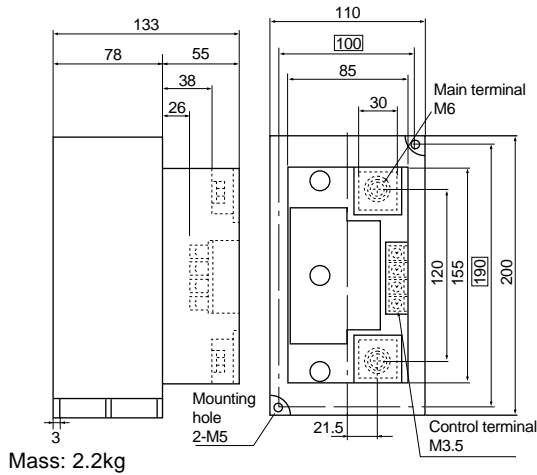
Mass: 1.2kg

■ Wiring diagram

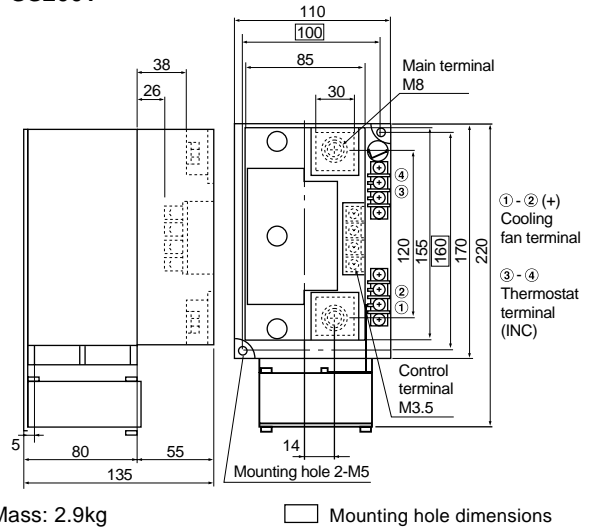
● SS101 to SS501



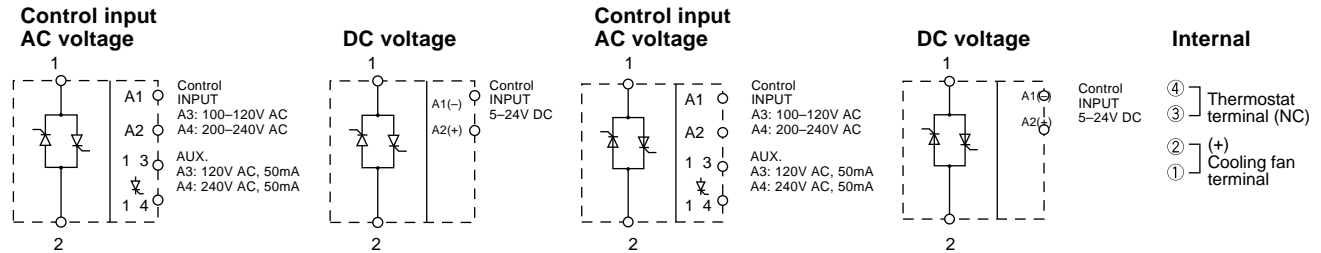
■ Dimensions, mm
 Single-pole type
 ● SS1501



● SS2001

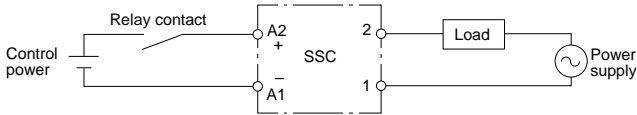


■ Wiring diagrams
 ● SS701 to SS1501
 SS701H to SS1501H

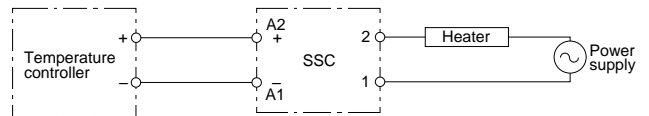


Single pole type solid-state contactor
 Application example

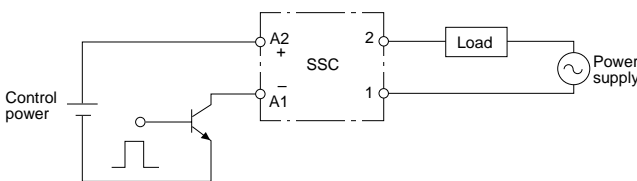
- Drive system
- Driven by relay contact



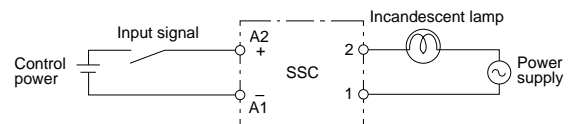
- Connection to load
- Heater control



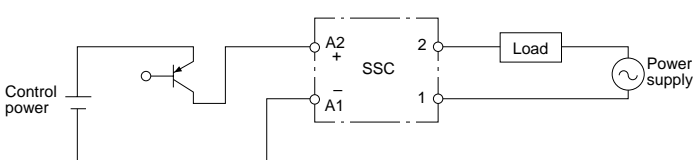
- Driven by NPN transistor



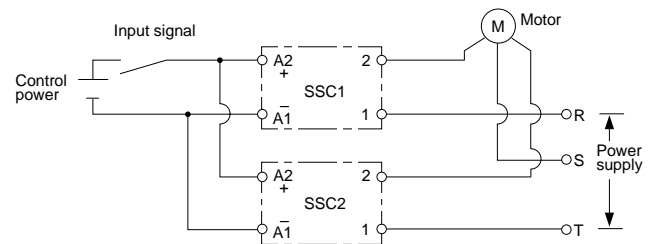
- Incandescent lamp



- Driven by PNP transistor



- 3-phase motor

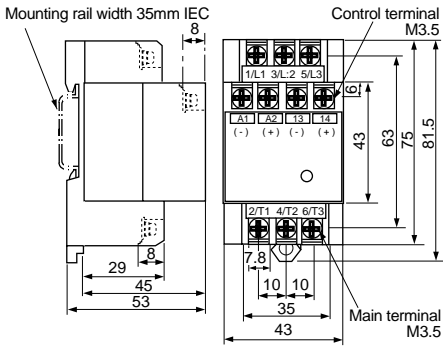


Solid-state Contactors
SS series
 General use



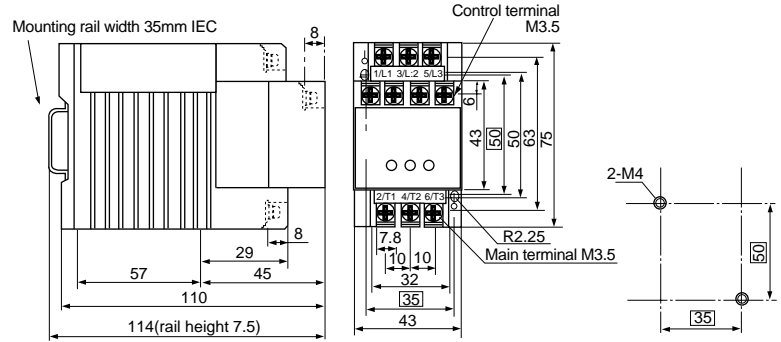
MSA CONTROL - (11) 3961-1171 - comercial@msacontrol.com.br

■ **Dimensions, mm**
3-pole unit type
 ● **SS03** (Rail mounting only)



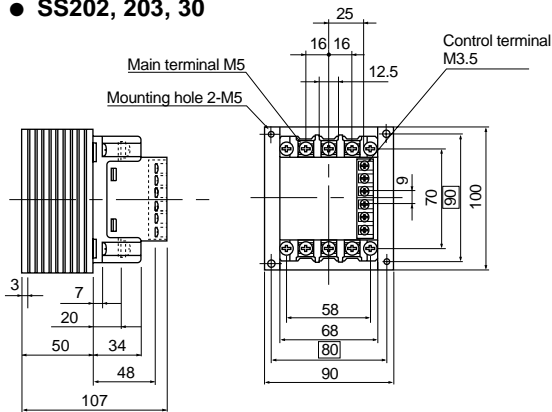
Mass: Approx. 0.18kg

● **SS08**



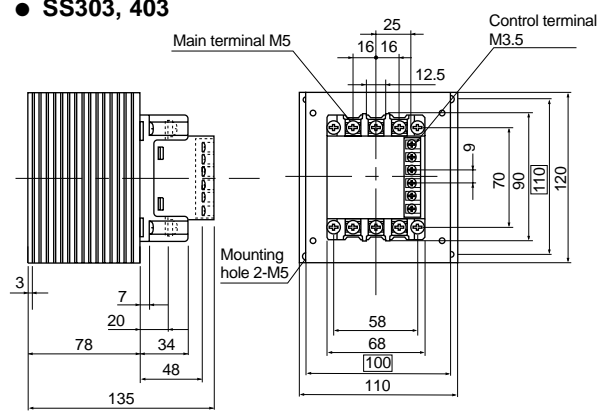
Mass: Approx. 0.3kg

● **SS202, 203, 30**



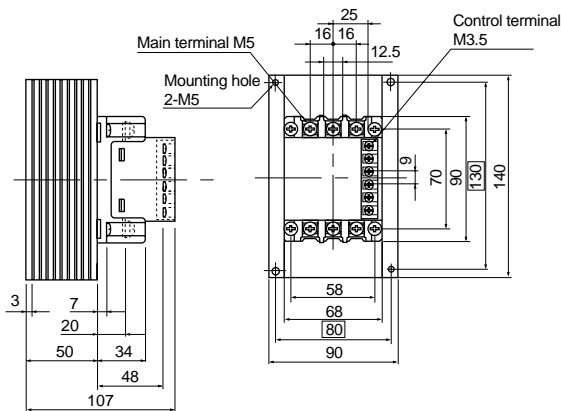
Mass: Approx. 0.77kg

● **SS303, 403**



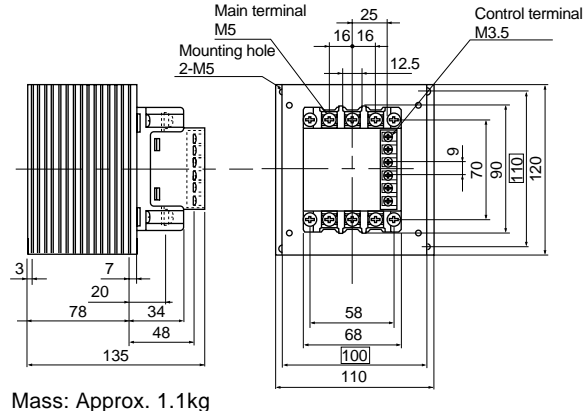
Mass: Approx. 1.1kg

● **SS402**



Mass: Approx. 0.99kg

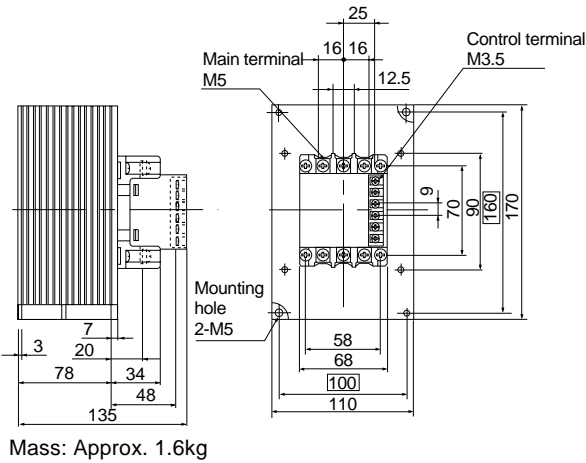
● **SS502**



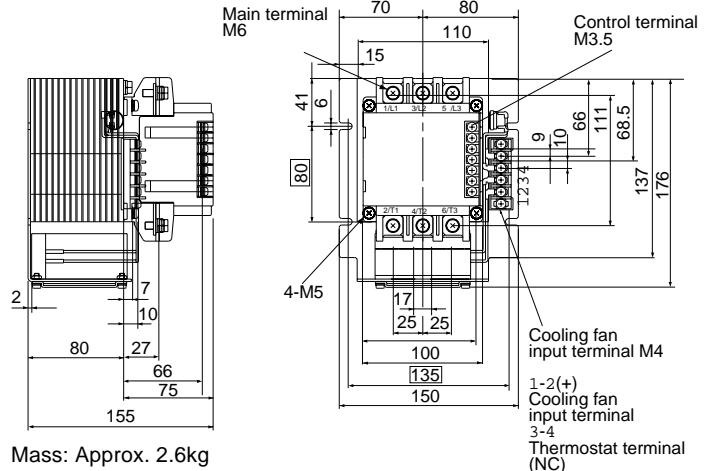
Mass: Approx. 1.1kg

□ Mounting hole dimensions

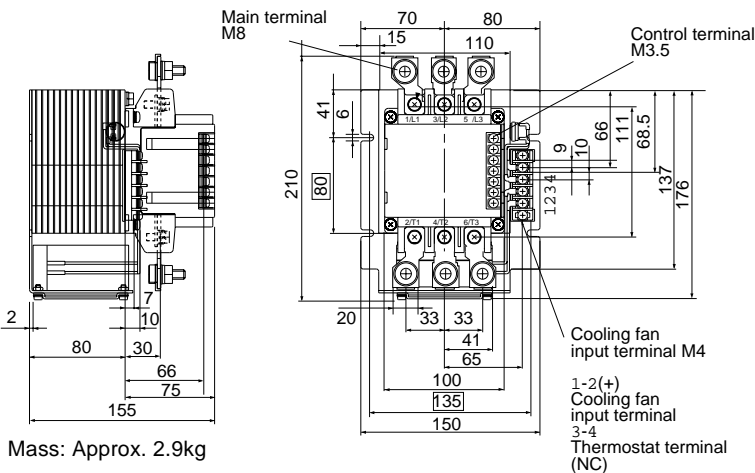
■ Dimensions, mm
 ● SS503



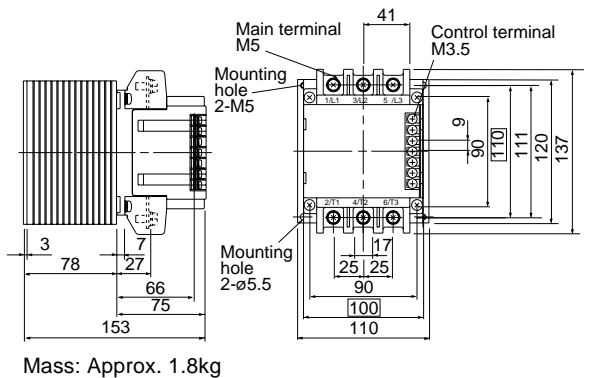
● SS802, 803, 802H, 803H



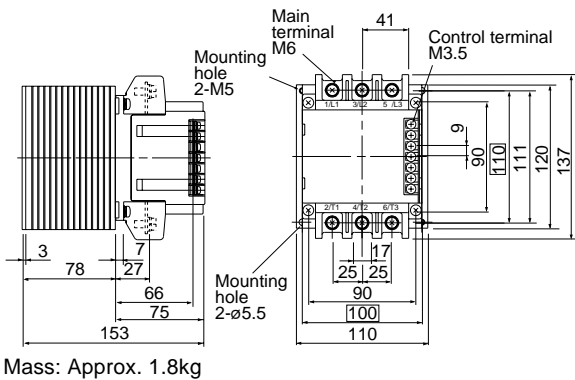
● SS1202, 1203, 1202H, 1203H



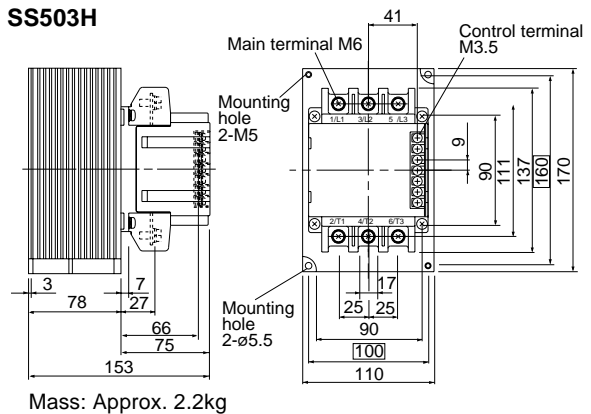
● SS302H, 303H



● SS502H



● SS503H



□ Mounting hole dimensions

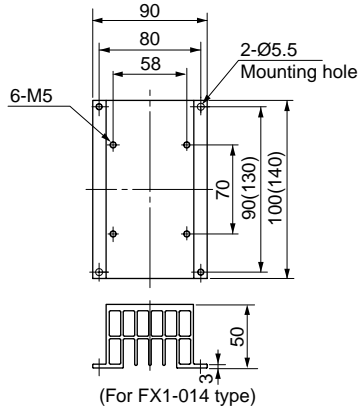
Solid-state Contactors
SS series
 General use



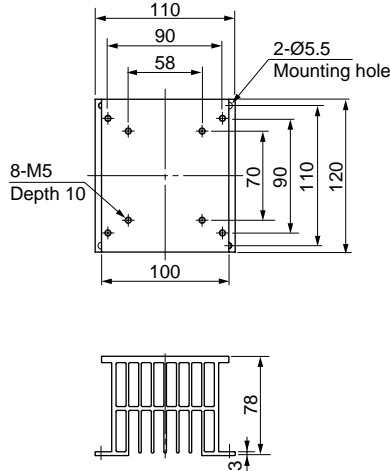
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■ Dimensions, mm/Cooling fins

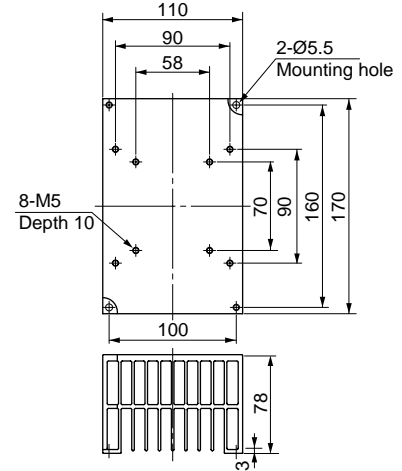
● SX1-D10, SX1-D14



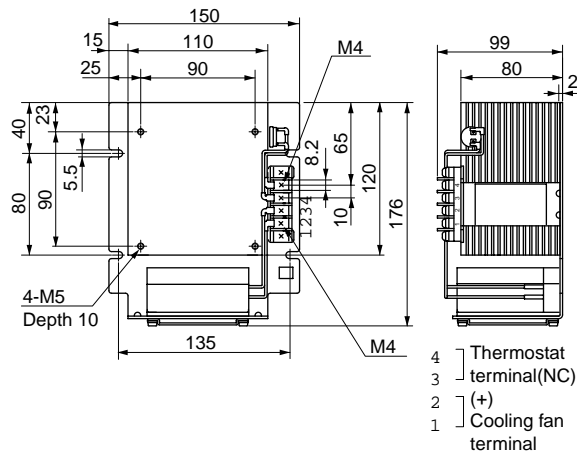
● SX1-E12



● SX1-E17



● SX1-C12

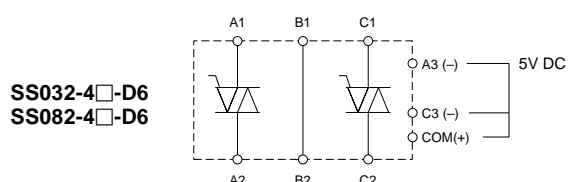
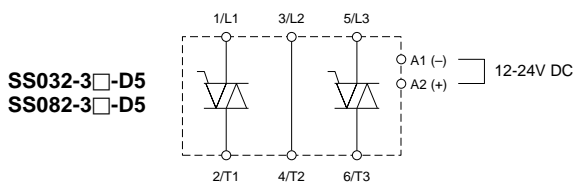
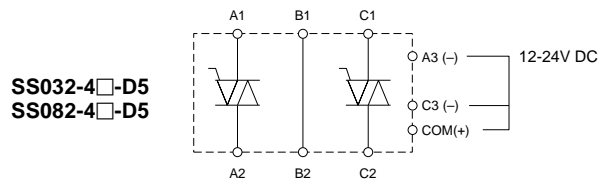
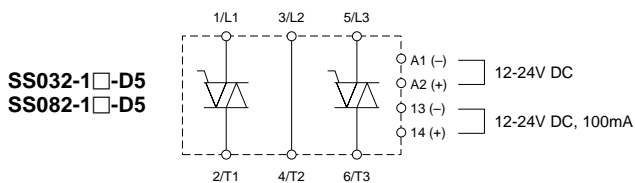
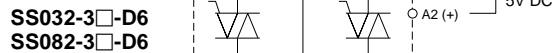
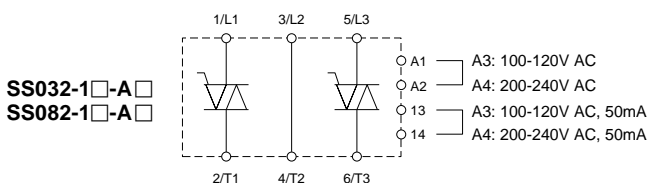


Type	Used with	Mass (kg)
SX1-D10	SS202, SS203, SS302	Approx. 0.36
SX1-D14	SS402	Approx. 0.53
SX1-E12	SS302H, SS303, SS303H SS403, SS502, SS502H	Approx. 0.82
SX1-E17	SS503, SS503H	Approx. 1.16
SX1-C12-A3	100-120V AC 50/60Hz	SS802, SS802H, SS803
SX1-C12-A4	200-240V AC 50/60Hz	SS803H, SS1202, SS1202H
SX1-C12-D5	24V DC	SS1203, SS1203H

■ Wiring diagrams

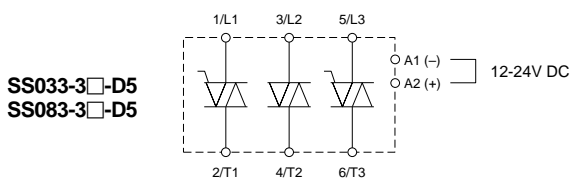
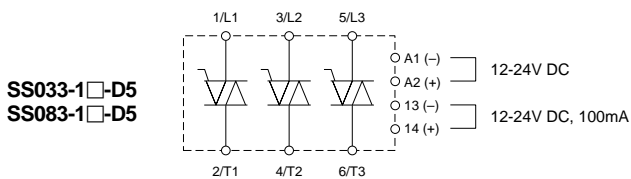
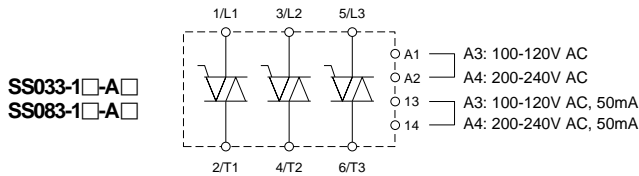
● SS03, SS08/2-element

A1, A2, A3, C3, COM: Control terminals
 13, 14: Aux.terminals

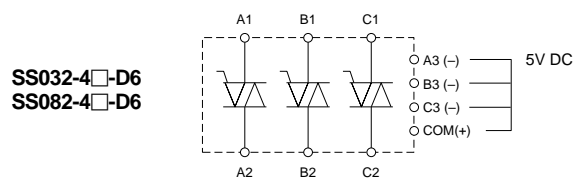
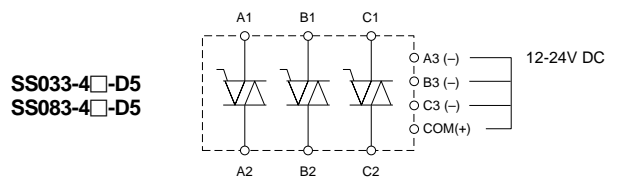
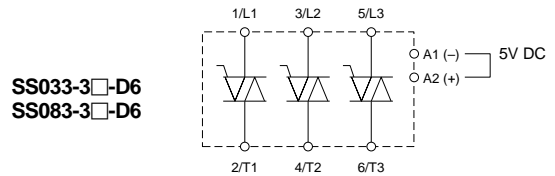


■ **Wiring diagrams**

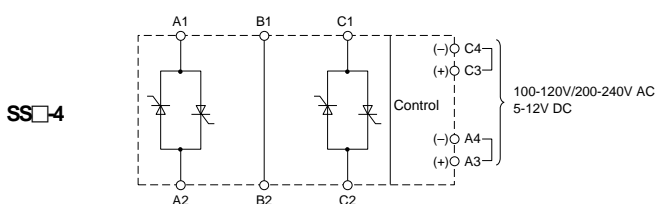
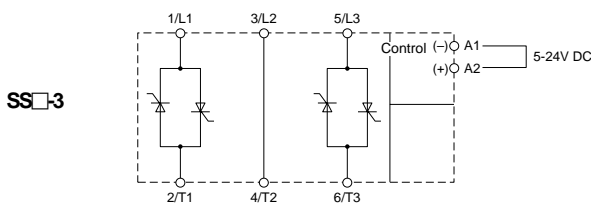
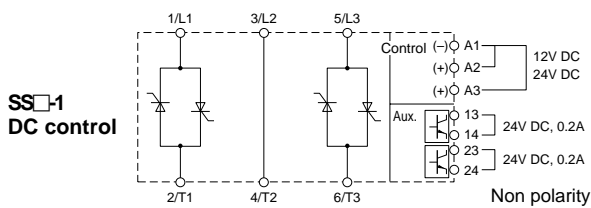
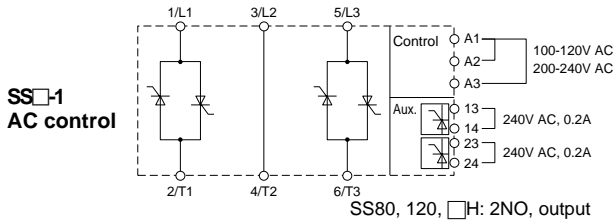
● **SS03, SS08/3-element**



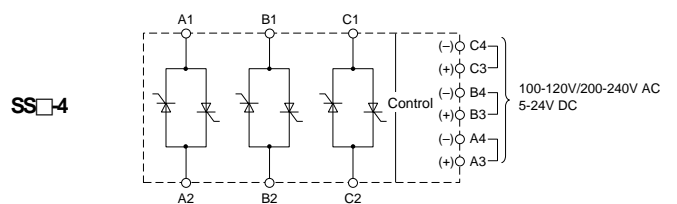
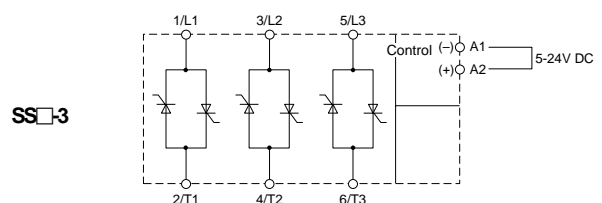
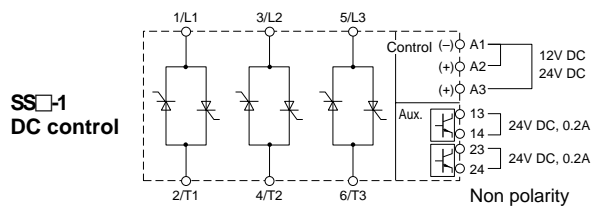
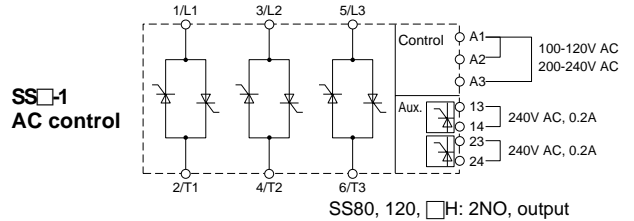
A1, A2, A3, B3, B4, C3, C4: Control terminals
13, 14, 23, 24: Aux.terminals



● **SS20, SS30, SS40, SS50, SS80, SS120**
2-element



3-element



■ **Precautions for use**

Be sure to read an Instruction Manual enclosed with the solid state relays before using in order to ensure proper operation.