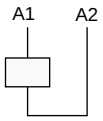
■ Performance data

Frame size	Making capacity I/Ie	Breaking capacity I/Ie	Operating cycles per hour	Voltage	Durability (operations) Electrical *	Mechanical
03, 0, 05	12	10	1,800	200/240V AC 380/440V AC	2 million	10 million
4-0	12	10	1,800	200/240V AC 380/440V AC	1.5 million	10 million
4-1, 5-1	12	10	1,800	200/240V AC 380/440V AC	2 million	10 million
N1 to N3	12	10	1,200	200/240V AC 380/440V AC	2 million	10 million (N1, N2) 5 million (N2S, N3)
N4 to N11	12	10	1,200	200/240V AC 380/440V AC	1 million	5 million
N12, N14	12	10	1,200	200/240V AC 380/440V AC	500,000	5 million
N16	12	10	1,200	200/240V AC 380/440V AC	250,000	2.5 million

Ie: Rated operational currnet. I: Making or breaking current * For delails, refer to page 01/21

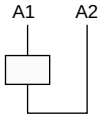
■ Coil voltage

● Frame size 03 to N5A

Frame size	Coil operating voltage and frequency (AC)	Order voltage	Coil voltage code	Identificaiton by coil color	Wiring
03	24V 50Hz/24–26V 60Hz	AC24V	**E**	White	
0	48V 50Hz/48–52V 60Hz	AC48V	**F**	White	
05	100V 50Hz/100–110V 60Hz	AC100V	**1**	Green (Standard voltage)	
4-0	100–110V 50Hz/110–120V 60Hz	AC110V	**H**	White	
4-1	110–120V 50Hz/120–130V 60Hz	AC120V	**K**	White	
5-1	200V 50Hz/200–220V 60Hz	AC200V	**2**	Yellow (Standard voltage)	
N1	200–220V 50Hz/220–240V 60Hz	AC220V	**M**	White	
N2	220–240V 50Hz/240–260V 60Hz	AC240V	**P**	White	
N2S	346–380V 50Hz/380–420V 60Hz	AC380V	**S**	White	
N3	380–400V 50Hz/400–440V 60Hz	AC400V	**4**	Purple (Standard voltage)	
N4	415–440V 50Hz/440–480V 60Hz	AC440V	**T**	White	
N5A	480–500V 50Hz/500–550V 60Hz	AC500V	**5**	White	

Notes: • Other voltages are available in 24 to 600V ranges on request.
• For frame size N1/SE to N4/SE, 24V to 250V AC (24V to 240V DC) is available.
• Use the coil voltage code, not specifying your actual voltage when ordering. Contactors with coil voltage range which corresponds to the voltage code you specified will be shipped from factory.
The above coil operating voltage and frequency (not voltage code) are shown on the products.

● Frame size N5 to N16

Frame size	Coil operating voltage and frequency AC	Coil operating voltage and frequency DC	Order voltage	Coil voltage code	Identificaiton by coil color	Wiring
N5	24–25V 50/60Hz	24V	AC24V *3	**E**	White	
N6	48–50V 50/60Hz	48V	AC48V *3	**F**	White	
N7	100–127V 50/60Hz	100–120V *1	AC100V	**1**	Green (Standard voltage)	
N8						
N10	200–250V 50/60Hz	200–240V *2	AC200V	**2**	Yellow (Standard voltage)	
N11	265–347V 50/60Hz	–	AC300V	**3**	White	
N12	380–450V 50/60Hz	–	AC400V	**4**	Purple (Standard voltage)	
N14	460–575V 50/60Hz	–	AC500V	**5**	White	
N16						

Notes: • The coils are AC/DC common use (rated voltage 200V or less)
• Standard rated voltages are 100V, 200V and 400V.
Other voltages are available in 24V to 575V AC (24V to 240V DC) in frame size N5 to N12, also available in 100V to 575V AC (100V to 240V DC) in frame size N14 to N16.
• Use the coil voltage code, not specifying your actual voltage when ordering. Contactors with coil voltage range which corresponds to the voltage code you specified will be shipped from factory.
The above coil operating voltage and frequency (not voltage code) are shown on the products.
*1 The coil voltage from a DC power supply with single phase full-wave rectification will be 100 to 110 V.
*2 The coil voltage from a DC power supply with single phase full-wave rectification will be 200 to 220 V.
*3 The coil voltage 24V and 48V are not available in frame size N14 to N16.

■ Coil characteristics

● Frame size 03 to N5A

Frame size	Power consumption Inrush (VA)	Sealed (VA)	Watt loss (W) 200V 50Hz	220V 60Hz	Pick-up voltage (V) 200V 50Hz	220V 60Hz	Drop-out voltage (V) 200V 50Hz	220V 60Hz	Operating time (ms) Coil ON→ Contact ON	Coil OFF→ Contact OFF
03	95	9	2.7	2.8	105–125	116–136	70–98	80–110	9–20	5–16
0	95	9	2.7	2.8	105–125	116–136	70–98	80–110	9–20	5–16
05	95	9	2.7	2.8	105–125	116–136	70–98	80–110	9–20	5–16
4–0	95	9	2.7	2.8	118–136	130–146	75–106	88–120	9–20	5–16
4–1	95	9	2.7	2.8	118–136	130–146	75–106	88–120	9–20	5–16
5–1	95	9	2.7	2.8	118–136	130–146	75–106	88–120	9–20	5–16
N1	135	12.7	3.6	3.8	110–130	120–140	75–105	85–115	10–17	6–17
N2	135	12.7	3.6	3.8	110–130	120–140	75–105	85–115	10–17	6–17
N2S	190	13.4	4.5	5	115–135	130–150	85–110	100–125	10–18	8–18
N3	190	13.4	4.5	5	115–135	130–150	85–110	100–125	10–18	8–18
N4	210	14.4	4.8	5.3	120–140	135–155	70–95	95–120	16–23	7–17
N5A	260	18.1	6.2	6.7	115–145	135–150	80–90	90–110	13–21	6–12

Note: Coil ratings 200V 50Hz, 200 to 220V 60Hz. Operating time is based on 200V 50Hz.

● Frame size N5 to N16, N1/SE to N4/SE (contactor only)

AC operating

Frame size	Power consumption Inrush (VA)	Sealed (VA)	Watt loss (W) 200V 50Hz	220V 60Hz	Pick-up voltage (V) 200V 50/60Hz	Drop-out voltage (V) 200V 50/60Hz	Operating time (ms) Coil ON→ Contact ON	Coil OFF→ Contact OFF
N5	95	4.6	3.2	3.6	140–150	60–100	39–45	27–33
N6	230	5.8	3.4	3.7	140–150	60–100	31–37	30–36
N7	230	5.8	3.4	3.7	140–150	60–100	31–37	30–36
N8	255	6.2	4.7	5.2	140–150	60–100	38–44	31–37
N10	255	6.2	4.7	5.2	140–150	60–100	38–44	31–37
N11	320	6.5	5.6	6	140–150	60–100	43–49	41–47
N12	320	6.5	5.6	6	140–150	60–100	43–49	41–47
N14	460	11	7.8	8.6	140–160	60–100	69–75	56–62
N16	460	11	7.8	8.6	140–160	60–100	69–75	56–62
N1/SE	130	4.2	2.8	3.2	140–150	60–100	21–27	18–24
N2/SE	130	4.2	2.8	3.2	140–150	60–100	21–27	18–24
N2S/SE	160	4.3	2.9	3.3	140–150	60–100	24–30	24–32
N3/SE	160	4.3	2.9	3.3	140–150	60–100	24–30	24–32
N4/SE	95	4.6	3.2	3.6	140–150	60–100	39–45	26–33

Note: Coil ratings 200 to 250V 50/60Hz, 200 to 220V DC. Operating time is based on 200V 50/60Hz.

DC operating

Frame size	Power consumption Inrush (W)	Sealed (W)	Time constant (ms) Sealed	Pick-up voltage (V) 200V DC	Drop-out voltage (V) 200V DC	Operating time (ms) Coil ON→ Contact ON	Coil OFF→ Contact OFF
N5	110	3	1	140–160	40–100	35–41	26–32
N6	275	4	1	140–160	40–100	28–34	27–33
N7	275	4	1	140–160	40–100	28–34	27–33
N8	300	4.5	1	140–160	40–100	33–39	31–37
N10	300	4.5	1	140–160	40–100	33–39	31–37
N11	410	4.6	1	140–160	40–100	38–44	41–47
N12	410	4.6	1	140–160	40–100	38–44	41–47
N14	500	8.8	1	140–160	40–100	64–70	52–57
N16	500	8.8	1	140–160	40–100	64–70	52–57

Note: Coil ratings 200 to 250V 50/60Hz, 200 to 220V DC. Operating time is based on 200V DC.

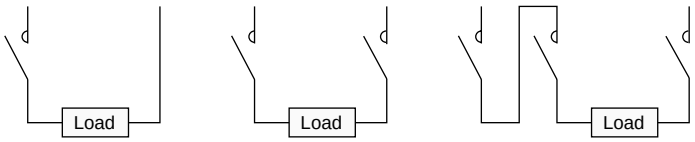
DC applications of magnetic contactors

■ Description

FUJI magnetic contactors in the SC series are normally used in AC circuit applications. However, they may also be used in DC circuits, and in this case their contacts must be connected in series as shown in the diagram.
When used in this manner they will be found to be more economical than using contactors exclusively designed for DC applications. Coils are available for both AC and DC.
If the following ratings are observed the equipment will have an electrical durability of approx. 500,000 operations.

■ Wiring connection

Contacts must be connected in series when the contactors are used in DC applications.



Series contact 1 Series contact 2 Series contact 3

■ Ratings

Type	No. of contacts connected in series	Rated operational current (A)							
		Class DC-1(JEM1038) (Resistive, L/R ≦ 1ms.)				Class DC2, 4,(JEM1038) (DC motor, L/R ≦ 15ms.)			
		24V	48V	110V	220V	24V	48V	110V	220V
SC-03	1	13	13	10	1.2	6	3	2	0.35
	2	13	13	10	6	12	6	4	1.2
	3	15	15	15	15	15	10	8	4
SC-0	1	13	13	10	1.2	6	3	2	0.35
	2	13	13	10	6	12	6	4	1.2
	3	15	15	15	15	15	10	8	4
SC-05	1	13	13	10	1.2	6	3	2	0.35
	2	13	13	10	6	12	6	4	1.2
	3	15	15	15	15	15	10	8	4
SC-4-0	1	16	13	10	1.5	8	6	2	0.35
	2	16	16	12	8	16	12	6	1.5
	3	18	18	18	15	18	18	12	6
SC-4-1	1	20	15	12	2	10	8	3	0.35
	2	20	20	15	10	20	15	8	2
	3	22	22	20	15	22	22	15	8
SC-5-1	1	20	15	12	2	10	8	3	0.35
	2	20	20	15	10	20	15	8	2
	3	22	22	20	15	22	22	15	8
SC-N1	1	25	25	15	2	15	8	3	0.35
	2	25	25	25	20	25	15	8	2
	3	35	35	30	25	35	25	20	8
SC-N2	1	30	30	20	2	20	15	4	0.35
	2	30	30	30	20	30	20	15	3
	3	45	45	40	35	35	30	30	8
SC-N2S	2	60	60	40	20	60	30	20	3.5
	3	60	60	60	40	60	60	60	13
SC-N3	2	80	80	50	20	80	40	20	4
	3	80	80	80	60	80	80	80	20
SC-N4	2	80	80	50	20	80	40	20	4
	3	80	80	80	60	80	80	80	20
SC-N5A	2	120	120	80	40	120	80	40	15
	3	120	120	120	120	120	120	120	80
SC-N6	2	120	120	80	40	120	80	40	15
	3	120	120	120	120	120	120	120	80
SC-N7	2	160	160	100	80	160	120	80	40
	3	160	160	160	160	160	160	160	160
SC-N8	2	200	200	160	160	200	160	120	60
	3	200	200	200	200	200	200	200	200
SC-N10	2	200	200	160	160	200	160	120	60
	3	200	200	200	200	200	200	200	200
SC-N11	2	300	300	200	200	300	200	160	80
	3	300	300	300	300	300	300	300	300
SC-N12	2	400	400	330	300	400	300	200	100
	3	400	400	400	400	400	400	400	400
SC-N14	2	600	500	420	300	–	–	–	–
	3	600	600	600	420	–	–	–	–

Standard type non-reversing contactors and starters

Up to 315kW 440 Volts 3-phase
(440kW for contactor only)

■ Description

The starter consists of a magnetic contactor and a thermal overload relay and is designed for the full voltage starting of 3-phase induction motor.

■ Standards

- Meet the requirements of BS, NEMA, IEC, VDE and JIS.
  The SC series contactors have already been approved by NK, LR, BV for marine use, UL, CSA and TÜV. These contactors can be used universally because of their high efficiency and reliability and are completely safe. Their maximum rated voltage is 660V AC.

■ Features

SC-03 to SC-5-1

- Small frame contactors have such options as additional auxiliary blocks, operation counter unit with snap-on fittings, and coil surge suppressors. Modification can be made quickly and easily on site.
- Bifurcated type auxiliary contacts have a high degree of contact reliability. They can be used in low level circuit of 5V, 3mA.
- Type and rating are indicated on the front of contactor.

Contactors with single button auxiliary contacts (SC-03H to N12H)
See page 01/64

KK04-086

SC-5-1

KKD08-131

SW-N5A/3H

SC-N1 to SC-N16

- Adoption of improved contact material and arc-extinguishing grid permits further improvement in breaking efficiency.
- Type and rating are indicated on the front of contactor.
- Auxiliary contact arrangements are available up to 4NO+4NC.
- Can be mounted on 35mm rails to meet the requirements of IEC Standards. (SC-N1 to N3)
- Bifurcated type auxiliary contacts have a high degree of contact reliability. They can be used in low level circuit of 5V, 3mA.(SC-N1 to N12)

SUPER MAGNET(SC-N6 to SC-N16)

- The electronically-controlled SUPER MAGNET has an IC built into the coil circuit. Its operation is based on the "AC input, DC operated" concept.
- Operate on both AC and DC power supply. The operating voltage range has been greatly expanded.
- Coil burning and contact chattering due to voltage fluctuation have been eliminated.
- A built-in surge suppression device prevents surges from occurring on ON-OFF operations.

■ Thermal overload relays

- Superior protection
  The starter is fitted with a TR type thermal overload relay which features ambient temperature compensation, auto-manual resetting, and trip indicator.
- Alarm contacts are available in 1NO+1NC arrangements.
- Optional operation indicating lamp can be fitted on request.

■ **Thermal overload relays :**
See page 01/88.
■ **Auxiliary contact ratings :**
See page 01/20.
■ **Performance data :**
See page 01/22.
■ **Coil ratings :** *See page 01/22.*

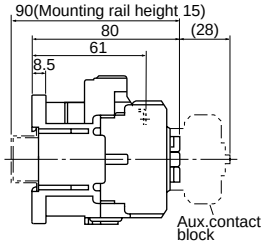
■ Types and ratings

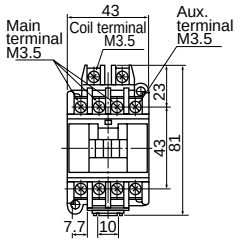
Max. motor capacity (kW) 200V 240V	380V 440V	Rated operation current (A) 200V 240V	380V 440V	Rated thermal current (A)	Auxiliary contact NO	NC	Contactor Open Type	Ordering code	Starter (3-element) Open Type	Ordering code	Enclosed Type	Ordering code
2.5	4	11	9	20	1	–*1	**SC-03**	SC11AA-■10	**SW-03/3H**	SC11AAN-■10T□D	**SW-03C/3H**	SC11CAN-■10T□D
3.5	5.5	13	12	20	1	–*1	**SC-0**	SC13AA-■10	**SW-0/3H**	SC13AAN-■10T□D	**SW-0C/3H**	SC13CAN-■10T□D
3.5	5.5	13	12	20	1	1*2	**SC-05**	SC14AA-■11	**SW-05/3H**	SC14AAN-■11T□D	**SW-05C/3H**	SC14CAN-■11T□D
4.5	7.5	18	16	25	1	–*1	**SC-4-0**	SC18AA-■10	**SW-4-0/3H**	SC18AAN-■10T□D	**SW-4-0C/3H**	SC18CAN-■10T□D
5.5	11	22	22	32	1	–*1	**SC-4-1**	SC19AA-■10	**SW-4-1/3H**	SC19AAN-■10T□D	**SW-4-1C/3H**	SC19CAN-■10T□D
5.5	11	22	22	32	1	1*3	**SC-5-1**	SC20AA-■11	**SW-5-1/3H**	SC20AAN-■11T□D	**SW-5-1C/3H**	SC20CAN-■11T□D
7.5	15	32	32	50	2	2	**SC-N1**	SC25BAA-■22	**SW-N1/3H**	SC25BAAN-■22T□D	**SW-N1C/3H**	SC25BCAN-■22T□D
11	18.5	40	40	60	2	2	**SC-N2**	SC35BAA-■22	**SW-N2/3H**	SC35BAAN-■22T□D	**SW-N2C/3H**	SC35BCAN-■22T□D
15	22	50	50	80	2	2	**SC-N2S**	SC50BAA-■22	**SW-N2S/3H**	SC50BAAN-■22T□D	**SW-N2SC/3H**	SC50BCAN-■22T□D
18.5	30	65	65	100	2	2	**SC-N3**	SC65BAA-■22	**SW-N3/3H**	SC65BAAN-■22T□D	**SW-N3C/3H**	SC65BCAN-■22T□D
22	40	80	80	135	2	2	**SC-N4**	SC80BAA-■22	**SW-N4/3H**	SC80BAAN-■22T□D	**SW-N4C/3H**	SC80BCAN-■22T□D
30	55	105	105	150	2	2	**SC-N5A**	SC93CAA-■22	**SW-N5A/3H**	SC93CAAN-■22T□D	**SW-N5AC/3H**	SC93CCAN-■22T□D
37	60	125	125	150	2	2	**SC-N6**	SC1CBAA-■22	**SW-N6/3H**	SC1CBAAN-■22T□D	**SW-N6C/3H**	SC1CBCAN-■22T□D
45	75	150	150	200	2	2	**SC-N7**	SC1FBAA-■22	**SW-N7/3H**	SC1FBAAN-■22T□D	**SW-N7C/3H**	SC1FBCAN-■22T□D
55	90	180	180	260	2	2	**SC-N8**	SC1JBAA-■22	**SW-N8/3H**	SC1JBAAN-■22T□D	**SW-N8C/3H**	SC1JBCAN-■22T□D
65	110	220	220	260	2	2	**SC-N10**	SC2CBAA-■22	**SW-N10/3H**	SC2CBAAN-■22T□D	**SW-N10C/3H**	SC2CBCAN-■22T□D
90	160	300	300	350	2	2	**SC-N11**	SC3ABAA-■22	**SW-N11/3H**	SC3ABAAN-■22T□D	**SW-N11C/3H**	SC3ABCAN-■22T□D
120	220	400	400	450	2	2	**SC-N12**	SC4ABAA-■22	**SW-N12/3H**	SC4ABAAN-■22T□D	**SW-N12C/3H**	SC4ABCAN-■22T□D
180	315	600	600	660	2	2	**SC-N14**	SC6ABAA-■22	**SW-N14/3H**	SC6ABAAN-■22T□D	**SW-N14C/3H**	SC6ABCAN-■22T□D
220	440	800	800	800	2	2	**SC-N16**	SC8ABAA-■22				

Notes : 1. ■ : Coil voltage code, □ : Thermal overload relay ampere setting range code, see page 01/19.
2. *1 Auxiliary contact 1NC is available. *2 Auxiliary contact 2NC or 2NC is available.
*3 Auxiliary contact 2NO, 2NC, or 2NO+2NC is available. For enclosed type, 2NO+2NC is not available.
3. Auxiliary contact 4NO+4NC is available on request for frame size N1 and above.
4. Contactor with enclosure is also available.

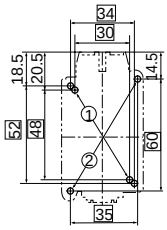
■ Dimensions, mm
Contactors/Open type

SC-03, SC-0



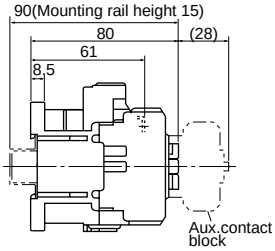


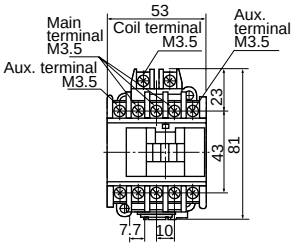
Panel drilling

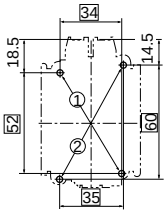


Mass: 0.32kg

SC-05

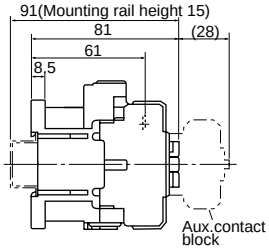


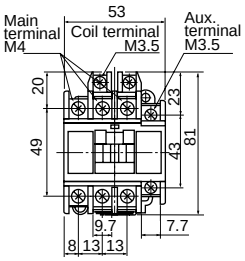


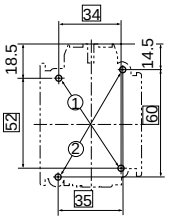


Mass: 0.34kg

SC-4-0, SC-4-1

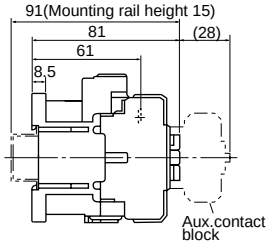


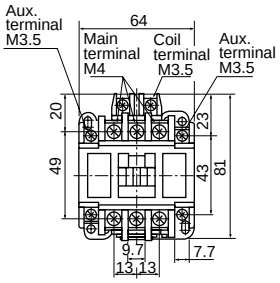


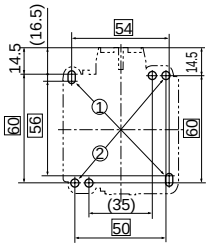


Mass: 0.36kg

SC-5-1

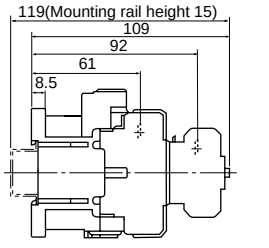


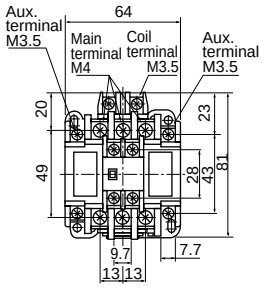


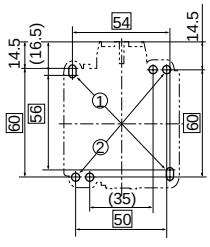


Mass: 0.38kg

SC-5-1





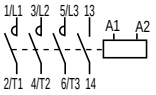


Mass: 0.4kg

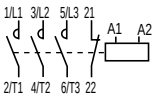
■ Wiring diagrams

Auxiliary contact

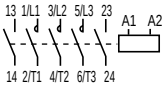
1NO



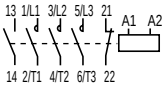
1NC



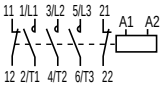
2NO



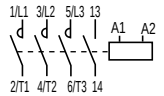
1NO+1NC



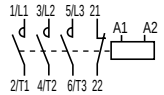
2NC



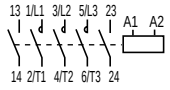
1NO



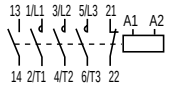
1NC



2NO

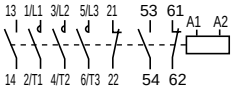


1NO+1NC



2NC

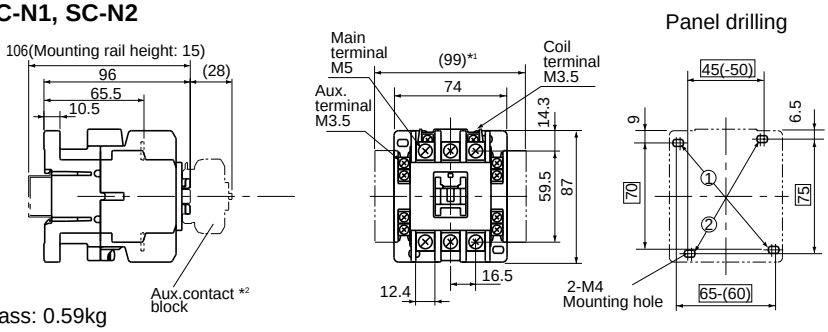
2NO+2NC



Note: Use the two mounting holes on a diagonal line to mount a contactor.
Mounting holes indicated by ① are compatible with those of SRC type.
Mounting holes indicated by ② are compatible with IEC standard

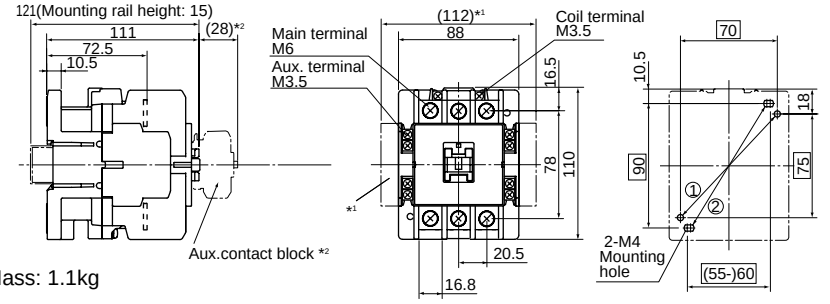
■ Dimensions, mm
Contactors/Open type

SC-N1, SC-N2



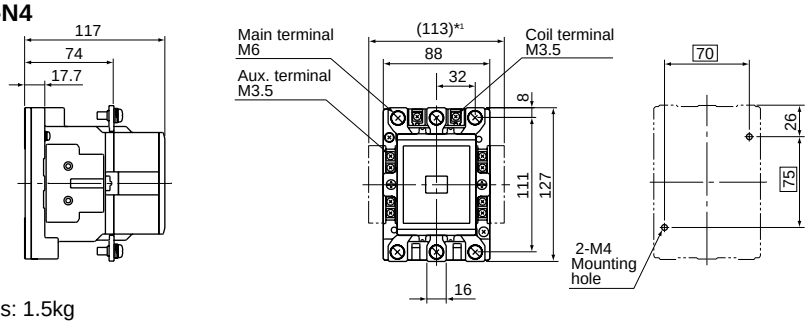
Mass: 0.59kg

SC-N2S, SC-N3



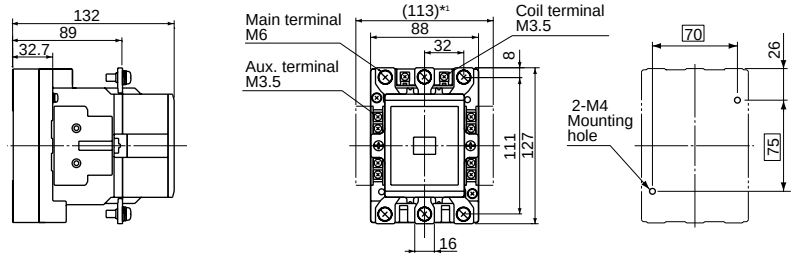
Mass: 1.1kg

SC-N4



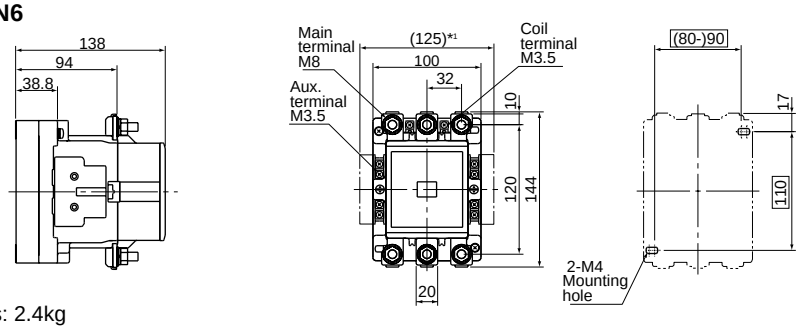
Mass: 1.5kg

SC-N5A



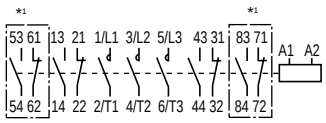
Mass: 1.5kg

SC-N6



Mass: 2.4kg

■ Wiring diagrams
SC-N1 to SC-N16



*1 In case of auxiliary contact 4NO+4NC

Note: • Use the two mounting holes on a diagonal line to mount a contactor.
Mounting holes indicated by ① are compatible with those of SRC type.
Mounting holes indicated by ② are compatible with IEC standard
*1 For two side mounting aux. contact blocks mounted
*2 For front mounting aux. contact blocks mounted