Fuji Electric

Innovating Energy Technology

MOTOR CONTROL

Magnetic Contactors and Starters

SC-NEXT

SC-NEXT

62C1-E-0307

SC-NEXT

SC-NEXT, Launched.

For over three decades, the "New SC Series" magnetic contactors and starters by Fuji Electric FA Components & Systems have been the benchmark in the manufacturing world.

Our pursuit of perfection has been the driving force behind our continued success.

With our latest product, the SC-NEXT, we are breaking boundaries and pioneering a new era of innovation. It's a testament to our commitment to surpass ourselves and provide revolutionary performance that's essential for a better future.

Going beyond perfection

Product lineup

Frame			09	12	18		
Appearance of magnetic contactors							
Type	Magnetic contactors		SC09X	SC12X	SC18X	SC20X	
	Magnetic starters		SW09X	SW12X	SW18X	SW20X	
	Thermal overload relays		TR18X			TR38X	
Auxiliary contact arrangement			1NO, 1NC	1NO, 1NC	1NO, 1NC	1NO, 1NC	
Rating (IEC 60947-4-1, JIS standard compliance)	Three-phase squirrel-cage motor capacity (AC-3, AC-3e)	200 to 240V	2.5kW	3.5kW	4kW	5kW	
			11A	13A	18A	20A	
		380 to 440V	4kW	5.5kW	7.5kW	10kW	
			9A	12A	18A	20A	
		500 to 550V	4kW	5.5kW	7.5kW	11kW	
			7A	9A	13A	17A	
		600 to 690V	4kW	5.5kW	7.5kW	7.5kW	
			5A	7A	9A	9A	
	Conventional free air thermal current (Ith)		20A	20A	25A	32A	
Outline [mm]	AC operated products	W	43	43	43	53	
		H	80	80	80	80	
		D	78	78	78	82	
Specifications							
Magnetic contactors	AC operated types (standard types)	SC ☐ X(D)A	○	○	○	○	
	AC operated reversing types	SC ☐ X(D)AR	○	○	○	○	
	DC operated types	SC ☐ X(D)G	○	○	○	○	
	DC operated types (low power consumption types)	SC ☐ X(D)G-L	○	○	○	○	
	Types with super magnets (AC/DC dual operating types)	SC ☐ XS	–	–	–	–	
	Extra pick-up operating coil types	SC ☐ X(D)U	○	○	○	○	
	Mechanical latch types (AC/DC dual operating types)	SC ☐ X(D)V	●	●	●	●	
Magnetic starters	AC operated types (standard types)	SW ☐ X(D)A	○	○	○	○	
	AC operated reversing types	SW ☐ X(D)AR	○	○	○	○	
	DC operated types	SW ☐ X(D)G	○	○	○	○	
	DC operated types (low power consumption types)	SW ☐ X(D)G-L	○	○	○	○	
	Extra pick-up operating coil types	SW ☐ X(D)U	○	○	○	○	
	Types with 3-element thermal overload relays	SW ☐ X(D) ☐ 3	○	○	○	○	
	Types with 2E thermal overload relays	SW ☐ X(D) ☐ K	○	○	○	○	

20	26		32	38		40	50	65
SC20D	SC26X	SC26D	SC32X	SC38X	SC38D	SC40X	SC50X	SC65X
SW20D	SW26X	SW26D	—	SW38X	SW38D	SW40X	SW50X	SW65X
	TR38X					TR65X		
2NO, 1NO1NC, 2NC	1NO, 1NC	2NO, 1NO1NC, 2NC	1NO, 1NC	1NO, 1NC	2NO, 1NO1NC, 2NC	1NO1NC	1NO1NC	1NO1NC
5kW	5.5kW	5.5kW	7.5kW	11kW	11kW	11kW	15kW	18.5kW
20A	26A	26A	32A	38A	38A	40A	50A	65A
10kW	11kW	11kW	15kW	18.5kW	18.5kW	18.5kW	22kW	30kW
20A	26A	26A	32A	38A	38A	40A	50A	65A
11kW	11kW	11kW	15kW	15kW	15kW	18.5kW	25kW	37kW
17A	17A	17A	24A	24A	24A	29A	38A	60A
7.5kW	7.5kW	7.5kW	11kW	11kW	11kW	15kW	22kW	30kW
9A	9A	9A	15A	15A	15A	19A	26A	38A
32A	50A	50A	50A	50A	50A	80A	80A	80A
64	53	64	53	53	64	64	64	64
80	80	80	80	80	80	89	89	89
82	82	82	82	82	82	93	93	93
○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	—	—	—
—	—	—	—	—	—	●	●	●
○	○	○	○	○	○	○	○	○
●	●	●	—	●	●	●	●	●
○	○	○	—	○	○	○	○	○
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○	○	○	—	○	○	○	○	○
○	○	○	—	○	○	○	○	○
○	○	○	—	○	○	○	○	○

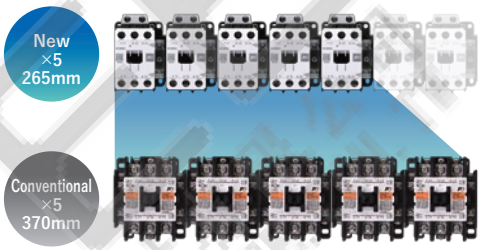
○: On sale, ●: Coming soon (FY 2024), —: Not available

As manufacturing processes and equipment become more advanced, the need for space-saving solutions has become increasingly imperative.

Building better control panels for a brighter future.

Designing control panels can be a daunting task, especially when it comes to adding equipment without changing the panel size. But with our innovative SC-NEXT, we have overcome this challenge by creating a solution that is up to 28% smaller depending on the model selected. Our dedication to creating space-saving and high-performance control panels has led us to develop this groundbreaking technology.

Contributes to downsizing by up to 28% depending on the model selected.



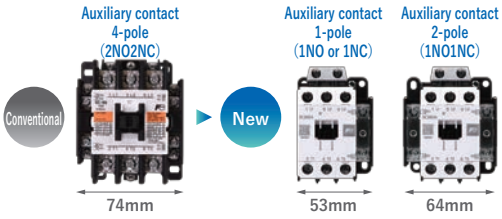
*Comparison of SC-N2 type (35 A) and SC38XA (38 A)

The auxiliary contact configuration can be customized to fit your specific requirements.

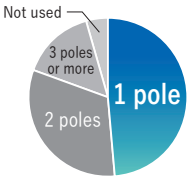
In fact, we have discovered that about half of our magnetic starter users use only one pole. For this reason, we offer a variety of auxiliary contacts to suit customer applications. To ensure compatibility, it is of course possible to select the same number of contacts as in conventional products, but further downsizing can be achieved by reducing the number of contacts as required.

Selectable number of auxiliary contacts

up to 4 poles*



*Up to 4 poles can be selected by adding separately-sold auxiliary contact blocks



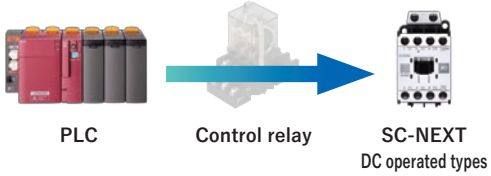
Percentage of auxiliary contact used
Nearly half of customers use only one pole (according to our research)

Enables PLC direct driving. Contributes to further downsizing.

SC-NEXT is the first Japanese product to enable direct driving* from a PLC up to 38 A. This eliminates the need for relays and IC coil drive units, and reduces the space required for the control panel.

*Low-power consumption types are only available for direct driving for DC products (24V 0.1A).

Enables direct driving up to 38A



Make on-site operations safer and more intelligent.

Provides a terminal cover that protects the safety of everyone who handles products.

It includes a terminal cover as standard to ensure IP20 finger protection. Increases safety during maintenance and inspection.

Conforms to IP20※ by coming standard with terminal cover

*Front direction

Get the specification you want to inspect right away.

A 2D code is attached to the surface of the product that allows users to check documentation on product specifications, outline drawings, and user manuals. If you need clarification, simply scan the 2D code to get the answers you need right away.

Product information can be checked from the 2D code on the front of the device.

Increase your contributions to environmental initiatives.

Products that have been used are recycled. Product development with the goal of recycling in mind.

98% of the plastic used in SC-NEXT is made from recyclable resources. This helps to make carbon neutrality a reality.

98% of plastic materials are recyclable

Significant energy savings are achieved. Contributes to reducing energy consumption.

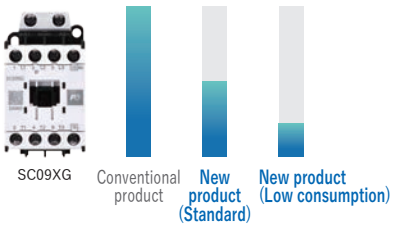
For both AC and DC-operated types, SC-NEXT dramatically lowers coil power consumption. Reducing energy consumption is made possible by the fact that the DC-operated type is up to 73% smaller than the conventional product and the AC-operated type is up to 25% smaller.

AC operated type: Power consumption

power consumption

Up to 25% reduction

DC operated type: Power consumption



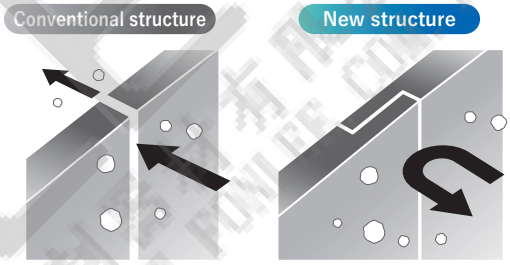
power consumption

Up to 73% reduction

To extend the life of our products for customers.

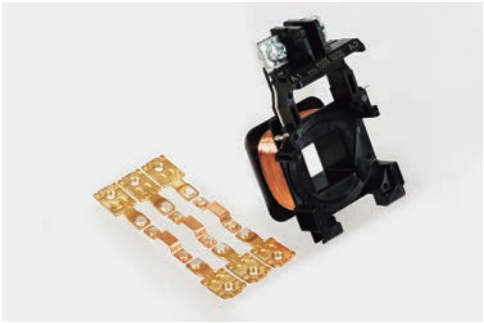
It has a tight-fitting structure, which eliminates the issues associated with magnetic starters.

Dust causes approximately half of all continuity problems, but SC-NEXT reduces the area of opening by 70% when compared to conventional products, and it also uses a revised fitting method.
This structural design prevent the dust entering from outside and contributes to the operation stability.



Consumable parts can be replaced to extend the life of the product.

Consumable parts may deteriorate before the end of the product's life expectancy, depending on how they are used in the field.
The coil and contact can be replaced, avoiding the need to replace the entire product even if it is still functional.
Product life is extended by replacing consumable parts.



Safety Precautions

- The purpose of this document is to provide reference information for selecting and purchasing our electrical equipment and components.
- Make sure to carefully read the “Instruction Manual” and “User’s Manual” before mounting, wiring, operating, maintaining, or inspecting any of the products described in this document in order to ensure correct usage. Incorrect usage could cause accidents that lead to death or serious injury.
  *In addition to the instruction manual attached to the product, instruction manuals are also available on our website via a direct link or QR code on the product packing label.
- If you have any questions or need further details regarding anything in this document, please contact your dealer or our company for consultation.

- Please observe the following items when handling any of the products in this document.

⚠ Warning

- Always turn off the power before mounting, unmounting, wiring, maintaining, or inspecting a product. Never touch the live section of terminals, etc. while power is being supplied. Otherwise, this could cause electric shock or short circuit accidents that could lead to burns, death, or serious injury.
- Always turn off the power before performing maintenance or inspection. Otherwise, this could lead to electric shock.
- Do not insert more than one wire into a single wire insertion slot.
- Do not route wires at the tool insertion slot.
- Do not apply force to tools other than in the insertion direction. Otherwise, this could lead to product damage.

⚠ Caution

- When a method has been designated for transporting the product, do not use any other method. Do not use products that are discovered to be damaged or deformed when unpacking them. Otherwise, this could lead to fire, malfunction, or failure.
- Do not cause shock to products by dropping them, etc. during transport or unpacking. Otherwise, this could lead to product damage or failure.
- Mounting, electrical work, wiring, maintenance, and inspection must be performed by qualified personnel with technical expertise.
- Use and store the product in a suitable environment as described in the Instruction Manual and documentation. Do not install in abnormal environments characterized by high temperatures, high humidity, condensation, dust, corrosive gas, organic solvents, special oils, excessive vibration, shock, etc. Otherwise, this could lead to fire, malfunction, electric shock, or failure.
- Use the product at the rated voltage and current as described in the Instruction Manual and documentation. Otherwise, usage at unspecified ratings could lead to ground fault, short circuit, fire, explosion, failure, or malfunction.
- Mount the product in accordance with the Instruction Manual and documentation. Otherwise, improper mounting could lead to injury due to product dropping, malfunction, or failure.
- Select a wire size appropriate for the applied voltage and rated thermal current, and tighten at the torque prescribed in the Instruction Manual. Otherwise, improper wiring could lead to fires.
- Do not insert any tool other than those that have been specified into tool insertion slots.
- Follow the procedures described in the Instruction Manual when performing electrical inspection.
- Use the specified wire size, sleeve (ferrule) and tools.
- Never touch the product immediately after turning it off. Otherwise, this could lead to burns since the product will still be hot.
- Make sure no foreign objects such as dust, concrete powder, iron powder, or wiring scraps enter inside equipment when performing construction work. Otherwise, this could lead to contact failure, release failure, fire, or malfunction.
- Periodically check that terminal screws and mounting screws are securely tightened. Using a product with loosened screws could lead to fire or malfunction.
- We recommend that you install a live-section protective cover. Failure to do so could lead to electric shock.
- Make sure that wiring is performed in accordance with the Instruction Manual and documentation.
  Otherwise, improper wiring could lead to fire, accident, or failure.
- Never repair a product on-site. Always entrust repair to our company.
  Otherwise, this could lead to fire, accident, or failure.
- Turn off the product before cleaning it. Then, use a towel moistened with warm water to clean it.
  Using thinners or other organic solvents directly as undiluted solutions could cause melting or discoloration to the equipment surface.
- Do not modify or disassemble the product. Otherwise, this could lead to failure.
- When disposing of the product, treat it as industrial waste.
- The products listed in this document have been designed and manufactured as general-purpose products for general industrial applications.
  Make sure to combine other safety equipment and safety devices with the product when using the product with equipment or systems that involve human life.
- Customers who want to use the products introduced in this document for special applications in systems or devices that involve atomic-energy control, aerospace use, medical use, passenger vehicle use, and traffic control should contact our sales office for consultation.
- Customers should prepare safety measures when they apply the products introduced in this document to systems or equipment that involve human life or that could cause severe damage to property in the event of product malfunction.
- The emergency stop circuit and interlock circuit must be configured outside the programmable controller (PLC) and programmable operation display. Otherwise, equipment failure could lead to machine damage or accident.
- Since conductive and insulating materials could be discharged outside the product due to the open-close action, be sure to periodically clean up the discharged materials. Otherwise, there will be risk of malfunction or failure of peripheral equipment. Do not install equipment that requires insulation or parts susceptible to contact failure underneath the product where discharged materials can accumulate.

- The external appearance and specifications of products listed in this document are subject to change without prior notification.

SC-NEXT series

SC-NEXT series

Standard products ---- 12
Production Models, Type Number Nomenclature ---- 14
Production Models ---- 14
Type Number Nomenclature ---- 15
Standards compliance, Safety ---- 19
Ratings ---- 20
Main Circuit Ratings ---- 20
Auxiliary Circuit Ratings ---- 21
Characteristics and Performance ---- 21
Operating Coil Voltages ---- 21
Operating Coil Characteristics ---- 22
Performance ---- 23
AC-3, AC-3e Breaking Current and Electrical Durability ---- 24
AC-1 Breaking Current and Electrical Durability (Resistive load application) ---- 26
Application to various loads ---- 27
Application to Motors ---- 27
Application to Resistive Loads ---- 28
Application to Transformers ---- 28
Application to DC Loads ---- 29
Application to Capacitor Loads ---- 29
Protective Coordination with Overcurrent Circuit Breaker ---- 30
Coordination with Short-circuit Protection Devices (SCPD) (Based on IEC Standards) ---- 30
UL approved Short-circuit Current Ratings (SCCR) ---- 36
General usage conditions and mounting ---- 42
General usage conditions and correct mounting ---- 42
Wiring ---- 44
Application to special environments ---- 45
Operation ---- 46
Recommended updating ---- 47

Magnetic Contactors and Starters ---- 48
Ordering Information ---- 48
Ratings and types ---- 49
Outline and wiring diagram ---- 53

Reversing Magnetic Contactors and Starters ---- 59
Ordering Information ---- 59
Ratings and types ---- 60
Outline ---- 65
Wiring diagram ---- 71

Thermal Overload Relays ---- 72
Ordering Information ---- 72
Types ---- 72
Heater Element Designation Code ---- 73
Auxiliary Circuit Ratings ---- 74
Operating Characteristics ---- 74
Operating Characteristics Curves ---- 75
Outline and wiring diagram ---- 76

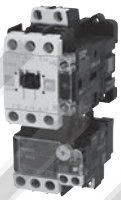
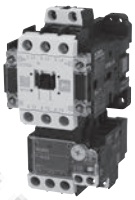
Accessories ---- 78
Types ---- 78
Auxiliary contact blocks ---- 79
Interlock Units, Main Circuit Conductor Kits ---- 82
Coil surge suppression units ---- 84
Three-phase parallel terminal plates ---- 86
Coil drive units for IC output ---- 87
Thermal Overload Relay Dial Covers ---- 90
Thermal Overload Relay Reset Releases ---- 91
Separate Mounting Units for Thermal Overload Relay ---- 93
Live-section Protective Covers ---- 95

Contactor Relays ---- 97
Ordering Information ---- 97
Ratings and types ---- 97
Performances ---- 98
Combinations with Auxiliary Contact Blocks ---- 98
Outline and wiring diagram ---- 99

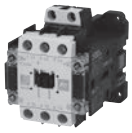
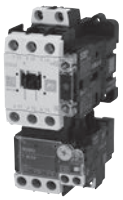
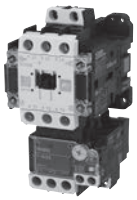
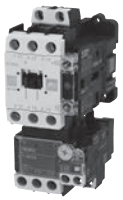
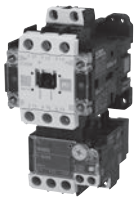
Compatibility between current and conventional models ---- 101
Comparison of new SC-NEXT and old Series types ---- 101
Adapter plate types and outline ---- 113
Compatibility between SC-NEXT series and conventional products ---- 115

■ Standard products

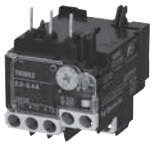
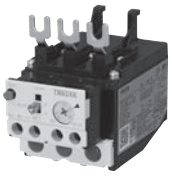
●Magnetic contactors, magnetic starters

Series				SC-NEXT series				
Frame				09X	12X	18X	20X	20D
Magnetic contactors appearance								
Magnetic starters appearance								
Thermal overload relays appearance								
Type	Magnetic contactors	AC operated types		**SC09XA**	**SC12XA**	**SC18XA**	**SC20XA**	**SC20DA**
		DC operated types (standard types)		**SC09XG**	**SC12XG**	**SC18XG**	**SC20XG**	**SC20DG**
		DC operated types (low power consumption types)		**SC09XG□-L**	**SC12XG□-L**	**SC18XG□-L**	**SC20XG □ -L**	**SC20DG □ -L**
	Magnetic starters	AC operated types		**SW09XA**	**SW12XA**	**SW18XA**	**SW20XA**	**SW20DA**
		DC operated types (standard types)		**SW09XG**	**SW12XG**	**SW18XG**	**SW20XG**	**SW20DG**
		DC operated types (low power consumption types)		**SW09XG□-L**	**SW12XG□-L**	**SW18XG□-L**	**SW20XG □ -L**	**SW20DG □ -L**
	Thermal overload relays			**TR18X**			**TR38X**	
Rated insulation voltage (IEC,JIS) ❶				690V	690V	690V	690V	690V
Rated impulse withstand voltage (IEC,JIS) ❶				6kV	6kV	6kV	6kV	6kV
Rated frequency [Hz]				50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
Rating (IEC 60947-4-1, JIS standard compliance)		Three-phase squirrel-cage motor capacity (AC-3, AC-3e)	200 to 240V	2.5kW 11A	3.5kW 13A	4kW 18A	5kW 20A	5kW 20A
			380 to 440V	4kW 9A	5.5kW 12A	7.5kW 18A	10kW 20A	10kW 20A
			500 to 550V	4kW 7A	5.5kW 9A	7.5kW 13A	11kW 17A	11kW 17A
			600 to 690V	4kW 5A	5.5kW 7A	7.5kW 9A	7.5kW 9A	7.5kW 9A
		Resistive loads capacity (AC-1)	200 to 240V	20A	20A	25A	32A	32A
			380 to 440V	20A	20A	25A	32A	32A
		Conventional free air thermal current (Rated continuous current)		20A	20A	25A	32A	32A
Performances	Operating cycles per hour [times/hour]		AC-3, AC-3e, 220V	1800	1800	1800	1800	1800
	Durability [operations]	Mechanical		10 million	10 million	10 million	10 million	10 million
		Electrical 220V	AC-3, AC-3e	2 million	2 million	1.5 million	2 million	2 million
			AC-1	500,000	500,000	500,000	500,000	500,000
Outline W×H×D [mm]		Magnetic contactors (AC operated types)		43×80×78			53×80×82	64×80×82
		Magnetic contactors (DC operated types)		43×80×96			53×80×108	64×80×108
		Magnetic starters (AC operated types)		45×125×78			53×130×82	64×130×82
		Magnetic starters (DC operated types)		45×125×96			53×130×108	64×130×108
Accessories	Auxiliary Contact Blocks	Front mounting (2-pole)		◎			◎	
		Front mounting (4-pole)		◎ ❷			◎ ❷	
		Side mounting		◎			◎	
	Mechanical Interlock Unit			◎			◎	
	Coil Surge Suppression Unit			◎			◎	
	Main Circuit Surge Suppression Unit			◎			◎	
Standards								

❶ The values in parentheses ( ) correspond to magnetic starters and thermal overload relays.
❷ It cannot be combined with SC□G-L (low consumption).
❸ Scheduled acquisition

	26X	26D	32X	38X	38D	40X	50X	65X
								
			-					
	SC26XA	**SC26DA**	**SC32XA**	**SC38XA**	**SC38DA**	**SC40XA**	**SC50XA**	**SC65XA**
	SC26XG	**SC26DG**	**SC32XG**	**SC38XG**	**SC38DG**	**SC40XG**	**SC50XG**	**SC65XG**
	SC26XG □ -L	**SC26DG □ -L**	**SC32XG □ -L**	**SC38XG □ -L**	**SC38DG □ -L**	**-**	**-**	**-**
	SW26XA	**SW26DA**	**-**	**SW38XA**	**SW38DA**	**SW40XA**	**SW50XA**	**SW65XA**
	SW26XG	**SW26DG**	**-**	**SW38XG**	**SW38DG**	**SW40XG**	**SW50XG**	**SW65XG**
	SW26XG □ -L	**SW26DG □ -L**	**-**	**SW38XG □ -L**	**SW38DG □ -L**	**-**	**-**	**-**
	TR38X					**TR65X**		
	690V	690V	690V	690V	690V	1000V (690V) ❶	1000V (690V) ❶	1000V (690V) ❶
	6kV	6kV	6kV	6kV	6kV	8kV (6kV) ❶	8kV (6kV) ❶	8kV (6kV) ❶
	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
	5.5kW 26A	5.5kW 26A	7.5kW 32A	11kW 38A	11kW 38A	11kW 40A	15kW 50A	18.5kW 65A
	11kW 26A	11kW 26A	15kW 32A	18.5kW 38A	18.5kW 38A	18.5kW 40A	22kW 50A	30kW 65A
	11kW 17A	11kW 17A	15kW 24A	15kW 24A	15kW 24A	18.5kW 29A	25kW 38A	37kW 60A
	7.5kW 9A	7.5kW 9A	11kW 15A	11kW 15A	11kW 15A	15kW 19A	22kW 26A	30kW 38A
	40A	40A	50A	50A	50A	60A	80A	80A
	40A	40A	50A	50A	50A	60A	80A	80A
	50A	50A	50A	50A	50A	80A	80A	80A
	1200	1200	1200	1200	1200	1200	1200	1200
	10 million	10 million	10 million	10 million	10 million	5 million	5 million	5 million
	2 million	2 million	2 million	2 million	2 million	2 million	2 million	1.3 million
	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
	53×80×82	64×80×82	53×80×82	53×80×82	64×80×82	64×89×93		
	53×80×108	64×80×108	53×80×108	53×80×108	64×80×108	64×89×125		
	53×130×82	64×130×82	-	53×130×82	64×130×82	64×148×93		
	53×130×108	64×130×108	-	53×130×108	64×130×108	64×148×125		
	◎					◎		
	◎ ❷					◎		
	◎					◎		
	◎					◎		
	◎					◎		
	◎					◎		

●Thermal overload relays

Thermal overload relays appearance			
Type	**TR18X**	**TR38X**	**TR65X**
Protection	Overload and phase-loss protection	Overload and phase-loss protection	Overload and phase-loss protection
Ampere setting range [A] The heating element code is given in brackets.	0.1-0.15 : [P10] 0.13-0.2 : [P13] 0.18-0.27 : [P18] 0.24-0.36 : [P24] 0.34-0.52 : [P34] 0.48-0.72 : [P48] 0.64-0.96 : [P64] 0.8-1.2 : [P80] 0.95-1.45 : [P95] 1.4-2.1 : [1P4] 1.7-2.6 : [1P7] 2.2-3.4 : [2P2] 2.8-4.2 : [2P8] 4-6 : [004] 5-7.5 : [005] 6-9 : [006] 7-10.5 : [007] 9-13 : [009] 13-16.5 : [013] 15-18 : [015]	0.1-0.15 : [P10] 0.13-0.2 : [P13] 0.18-0.27 : [P18] 0.24-0.36 : [P24] 0.34-0.52 : [P34] 0.48-0.72 : [P48] 0.64-0.96 : [P64] 0.8-1.2 : [P80] 0.95-1.45 : [P95] 1.4-2.1 : [1P4] 1.7-2.6 : [1P7] 2.2-3.4 : [2P2] 2.8-4.2 : [2P8] 4-6 : [004] 5-7.5 : [005] 6-9 : [006] 7-10.5 : [007] 9-13 : [009] 12-18 : [012] 18-24 : [018] 20-26 : [020] 26-32 : [026] 32-38 : [032]	4-6 : [004] 5-8 : [005] 6-9 : [006] 7-11 : [007] 9-13 : [009] 12-18 : [012] 18-26 : [018] 24-36 : [024] 32-42 : [032] 36-46 : [036] 44-54 : [044] 53-65 : [053]

■ Production models

● Magnetic Contactors and Magnetic Starters

Product	Operating method	Type ❶	Frame size									
			09	12	18	20	26	32	38	40	50	65
Magnetic Contactors	AC operated type	**SC □ X(D)A**	○	○	○	○	○	○	○	○	○	○
	DC operated types (standard)	**SC □ X(D)G**	○	○	○	○	○	○	○	○	○	○
	DC operated types (low power consumption)	**SC □ X(D)G-L ❷**	○	○	○	○	○	○	○	-	-	-
Reversing Magnetic Contactors	AC operated type	**SC □ X(D)AR**	○	○	○	○	○	○	○	○	○	○
	DC operated types (standard)	**SC □ X(D)GR**	○	○	○	○	○	○	○	○	○	○
	DC operated types (low power consumption)	**SC □ X(D)GR-L ❷**	○	○	○	○	○	○	○	-	-	-
Magnetic Starters	AC operated type	**SW □ X(D)A**	○	○	○	○	○	-	○	○	○	○
	DC operated types (standard)	**SW □ X(D)G**	○	○	○	○	○	-	○	○	○	○
	DC operated types (low power consumption)	**SW □ X(D)G-L ❷**	○	○	○	○	○	-	○	-	-	-
Reversing Magnetic Starters	AC operated type	**SW □ X(D)AR**	○	○	○	○	○	-	○	○	○	○
	DC operated types (standard)	**SW □ X(D)GR**	○	○	○	○	○	-	○	○	○	○
	DC operated types (low power consumption)	**SW □ X(D)GR-L ❷**	○	○	○	○	○	-	○	-	-	-

❶ In the □ mark, is replaced with the frame size. Frame sizes 20, 26, and 38 are available for SC □ D (2-pole auxiliary contact) types.
❷ The coil voltage code is used for the designation.

● Contactor Relays

Product	Operating method	Type
Standard types (Bifurcated contact)	AC operated type	**SCH4XA**
	DC operated types (standard)	**SCH4XG**
	DC operated types (low power consumption)	**SCH4XG-L ❶**
High-capacity contacts types (Single button contact)	AC operated type	**SCH4XAH**
	DC operated types (standard)	**SCH4XGH**
	DC operated types (low power consumption)	**SCH4XGH-L ❶**

❶ The coil voltage code is used for the designation.

Type Number Nomenclature

■ Type number nomenclature

●Type Number Nomenclature (Type Number = Product Code)

・Magnetic Contactors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)	(11)	(12)	(13)
S	C	0	9	X	A			-	1	1	0		

(1)(2) Product category

Series	Code
Contactor	SC

(3)(4)(5) Frame size

Rated current (400V)	Code
9A	09X
12A	12X
18A	18X
20A	20X
	20D
26A	26X
	26D
32A	32X
38A	38X
	38D
40A	40X
50A	50X
65A	65X

X:Standard、D:Wide (see the "Auxiliary contact configuration table")

(6) Operating method

Operating method	Code
AC operated type	A
DC operated type	G
Extra pick-up operating coil type	U

(7) Auxiliary contact

Auxiliary contact	Code
Standard twin contact	Blank
High capacity auxiliary contact (with single contact)	H

(8) Non reversing / Reversing type

Non reversing / Reversing type	Code
Non reversing	Blank
Reversing	R

(12)(13) Processing classification

Processing classification	Code
Tropical/cold region processing	Z3

(10)(11) Auxiliary contact

Contact arrangement	Code	Applicable frame classification
1NO	10	09X, 12X, 18X, 20X, 26X, 32X, 38X
1NC	01	
2NO	20	20D, 26D, 38D
1NO1NC	11	20D, 26D, 38D, 40X, 50X, 65X
2NC	02	20D, 26D, 38D

(9) Coil voltage designation code

Coil type	Operating coil voltage	Code
AC operation	24V AC	E
	48V AC	F ❶
	100V AC	1
	110V AC	H
	115V AC	J ❶
	120V AC	K
	200V AC	2
	220V AC	M
	230V AC	N
	240V AC	P
	380V AC	S ❶
	400V AC	4
	415V AC	X ❶
	440V AC	T

❶ Extra pick-up operating coil types are not supported.

Coil type	Operating coil voltage	Code
DC operation	12V DC	B
	24V DC	E
	48V DC	F
	60V DC	G
	100V DC	1
	110V DC	H
	120V DC	K
	125V DC	D
	200V DC	2
	210V DC	Y
	220V DC	M
(Low consumption)	24V DC	L ❷

❷ Frames up to 38A (SC38)

Note: Products cannot be manufactured for all possible type numbers.

Type Number Nomenclature

・Magnetic Starters

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
S	W	0	9	X	A			3	-	1	1	0	T	1	P	4			

(1)(2) Product category

Series	Code
Starters	SW

(3)(4)(5) Frame size

Rated current (400V)	Code
9A	09X
12A	12X
18A	18X
20A	20X
	20D
26A	26X
	26D
38A	38X
	38D
40A	40X
50A	50X
65A	65X

X:Standard、D:Wide (see the "Auxiliary contact configuration table")
32A frames are not supplied with magnetic starters.

(6) Operating method

Operating method	Code
AC operated type	A
DC operated type	G
Extra pick-up operating coil type	U

(7) Auxiliary contact

Auxiliary contact	Code
Standard twin contact	Blank
High capacity auxiliary contact (with single contact)	H

(8) Non reversing / Reversing type

Non reversing / Reversing type	Code
Non reversing	Blank
Reversing	R

(9) Thermal overload relay

Number of heater elements	Code
3-element	3
2E with open phase detection function	K

(10) Coil voltage designation code

Coil type	Operating coil voltage	Code
AC operation	24V AC	E
	48V AC	F ❶
	100V AC	1
	110V AC	H
	115V AC	J ❶
	120V AC	K
	200V AC	2
	220V AC	M
	230V AC	N
	240V AC	P
	380V AC	S ❶
	400V AC	4
	415V AC	X ❶
	440V AC	T

❶ Extra pick-up operating coil types are not supported.

Coil type	Operating coil voltage	Code
DC operation	12V DC	B
	24V DC	E
	48V DC	F
	60V DC	G
	100V DC	1
	110V DC	H
	120V DC	K
	125V DC	D
	200V DC	2
	210V DC	Y
	220V DC	M
(Low consumption)	24V DC	L ❷

❷ Frames up to 38A (SC38)

(11)(12) Auxiliary contact

Contact arrangement	Code	Applicable frame classification
1NO	10	09X, 12X, 18X, 20X, 26X, 32X, 38X
1NC	01	
2NO	20	20D, 26D, 38D
1NO1NC	11	20D, 26D, 38D, 40X, 50X, 65X
2NC	02	20D, 26D, 38D

(13) Wiring specification with case cover

Wiring specification with case cover	Code
Not applicable (no case cover)	T

(14)(15)(16) Heater element rating

Heater element rating (A)	Code	SW09X	SW12X	SW18X	SW20X(D)	SW26X(D)	SW38X(D)	SW40X	SW50X	SW65X
0.24-0.36	P24	○	○	○	○					
0.34-0.52	P34	○	○	○	○					
0.48-0.72	P48	○	○	○	○					
0.64-0.96	P64	○	○	○	○					
0.8-1.2	P80	○	○	○	○					
0.95-1.45	P95	○	○	○	○					
1.4-2.1	1P4	○	○	○	○					
1.7-2.6	1P7	○	○	○	○					
2.2-3.4	2P2	○	○	○	○					
2.8-4.2	2P8	○	○	○	○					
4-6	004	○	○	○	○	○	○	○		
5-7.5	005	○	○	○	○	○	○			
5-8	005							○		
6-9	006	○	○	○	○	○	○	○		
7-10.5	007	○	○	○	○	○	○			
7-11	007							○	○	○
9-13	009	○	○	○	○	○	○	○	○	○
12-18	012				○	○	○	○	○	○
13-16.5	013			○						
15-18	015			○						
18-24	018				○	○	○			
18-26	018							○	○	○
20-26	020					○	○			
24-36	024							○	○	○
26-32	026						○			
32-38	032						○			
32-42	032							○	○	○
36-46	036								○	○
44-54	044								○	○
53-65	053									○

(17) Reset method

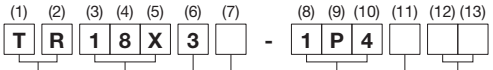
Reset method	Code
Manual reset	Blank
Automatic reset	A

(18)(19) Processing classification

Processing classification	Code
Tropical/cold region processing	Z3

Note: Products cannot be manufactured for all possible type numbers.

・Thermal overload relay



(1)(2) Product category

Series	Code
Thermal overload relay	TR

(3)(4)(5) Frame size

Applicable current	Code
～18A	18X
～38A	38X
～65A	65X

(6) Number of heater elements

Number of heater elements	Code
3-element	3
2E with open phase detection function	K

(7) Installation classification

Installation classification	Code
For magnetic starters	Blank
For separate mounting	H

(12)(13) Processing classification

Processing classification	Code
Tropical/cold region processing	Z3

(11) Reset method

Reset method	Code
Manual reset	Blank
Automatic reset	A

(8)(9)(10) Heater element rating

Heater element rating (A)	Code	TR18X	TR38X	TR65X
0.1-0.15	P10	○	○	
0.13-0.2	P13	○	○	
0.18-0.27	P18	○	○	
0.24-0.36	P24	○	○	
0.34-0.52	P34	○	○	
0.48-0.72	P48	○	○	
0.64-0.96	P64	○	○	
0.8-1.2	P80	○	○	
0.95-1.45	P95	○	○	
1.4-2.1	1P4	○	○	
1.7-2.6	1P7	○	○	
2.2-3.4	2P2	○	○	
2.8-4.2	2P8	○	○	
4-6	004	○	○	○
5-7.5	005	○	○	
5-8	005			○
6-9	006	○	○	○
7-10.5	007	○	○	
7-11	007			○
9-13	009	○	○	○
12-18	012		○	○
13-16.5	013	○		
15-18	015	○		
18-24	018		○	
18-26	018			○
20-26	020		○	
24-36	024			○
26-32	026		○	
32-38	032		○	
32-42	032			○
36-46	036			○
44-54	044			○
53-65	053			○

Note: Products cannot be manufactured for all possible type numbers.

Type Number Nomenclature

・Contactor Relays

(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)	(9)	(10)	(11)	(12)
S	C	H	4	X	A		-	1	2	2		

(1)(2)(3) Product category

Series	Code
Contactor Relays	SCH

(4)(5) Frame classification

Pole	Code
4	4X

(6) Operating method

Operating method	Code
AC operated type	A
DC operated type	G
Extra pick-up operating coil type	U

(7) Auxiliary contact

Auxiliary contact	Code
Standard twin contact	Blank
High capacity auxiliary contact (with single contact)	H

(11)(12) Processing classification

Processing classification	Code
Tropical/cold region processing	Z3

(9)(10) Auxiliary contact

Contact arrangement	Code	Applicable frame classification (combination shipping type)
4NO	40	SCH4X
3NO1NC	31	
2NO2NC	22	
8NO	80	SCH4X + Front mounting (4-pole)
7NO1NC	71	
6NO2NC	62	
5NO3NC	53	
4NO4NC	44	

(8) Coil voltage designation code

Coil type	Operating coil voltage	Code
AC operation	24V AC	E
	48V AC	F ❶
	100V AC	1
	110V AC	H
	115V AC	J ❶
	120V AC	K
	200V AC	2
	220V AC	M
	230V AC	N
	240V AC	P
	380V AC	S ❶
	400V AC	4
	415V AC	X ❶
	440V AC	T

Coil type	Operating coil voltage	Code
DC operation	12V DC	B
	24V DC	E
	48V DC	F
	60V DC	G
	100V DC	1
	110V DC	H
	120V DC	K
	125V DC	D
	200V DC	2
	210V DC	Y
	220V DC	M
(Low consumption)	24V DC	L

❶ Extra pick-up operating coil types are not supported.

Note: Products cannot be manufactured for all possible type numbers.

Standards compliance, Safety

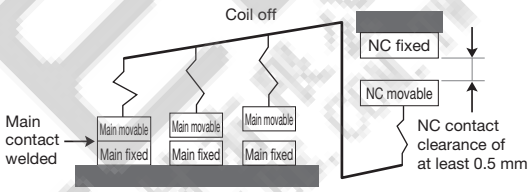
■ Standard compliance

Models	Type	Conforming standards			Certified standards				EC directive	Certification body
		IEC	EN	JIS	UL	CSA	GB	KC	CE mark	TÜV
		International	Europe	Japan	U.S	Canada	China	Korea	Europe	Germany
Magnetic contactors	**SC □□ X(D)**	◎	◎	◎	◎	◎	◎	◎❶	◎	◎
Magnetic starters	**SW □□ X(D)**	◎	◎	◎	◎	◎	—	—	◎	◎
Themal overload relays	**TR □□ 3, TR □□ K**	◎	◎	◎	◎	◎	◎	—	◎	◎
Contactor relays	**SCH4X**	◎	◎	◎	◎	◎	◎	◎❶	◎	◎

(Note) ◎ : Compliant by standard, —: Not compliant, ❶ : Scheduled certification

■ Safety

- SC-NEXT Series magnetic contactors feature a mirror contactor.
- Conforms to the mirror contact requirements of IEC 60947-4-1, Annex F, for standalone magnetic contactors and when combined with auxiliary contact blocks. Certified with TÜV certification.
- A mirror contact can be configured as a safety circuit. In particular, it can play the role of a feedback circuit that monitors welding on the main contact of a magnetic contactor by applying it to a safety relay unit, etc.
- This means that the auxiliary NC contact will always be open to prevent restart even in the event that the main contact becomes welded after the excitation coil of the magnetic contactor is commanded to turn off.



IEC60947-4-1 mirror contacts

■ Main circuit ratings

●IEC-conformance Ratings (IEC 60947-4-1, EN 60947-4-1)

Type	3-phase squirrel-cage motor (AC-3, AC-3e)								Conventional free air thermal current [A] (Rated continuous current)
	Rated capacity [kW]				Rated operational current [A]				
	200-240V	380-440V	500-550V	600-690V	200-240V	380-440V	500-550V	600-690V	
SC09	2.5	4	4	4	11	9	7	5	20
SC12	3.5	5.5	5.5	5.5	13	12	9	7	20
SC18	4	7.5	7.5	7.5	18	18	13	9	25
SC20	5	10	11	7.5	20	20	17	9	32
SC26	5.5	11	11	7.5	26	26	17	9	50
SC32	7.5	15	15	11	32	32	24	15	50
SC38	11	18.5	15	11	38	38	24	15	50
SC40	11	18.5	18.5	15	40	40	29	19	80
SC50	15	22	25	22	50	50	38	26	80
SC65	18.5	30	37	30	65	65	60	38	80

●UL/CSA-conformance Ratings (UL60947-4-1, CSA C22.2)

Type	3-phase squirrel-cage motor								Rated continuous current [A]
	Rated capacity [HP]				Rated operational current [A]				
	200V	220-240V	440-480V	550-600V	200V	220-240V	440-480V	550-600V	
SC09	2	2	5	5	7.8	6.8	7.6	6.1	20
SC12	3	3	5	5	11	9.6	7.6	6.1	20
SC18	5	5	7.5	7.5	17.5	15.2	11	9	25
SC20	5	5	10	10	17.5	15.2	14	11	32
SC26	7.5	10	25	25	25.3	28	34	27	50
SC32	7.5	10	25	25	25.3	28	34	27	50
SC38	10	10	25	25	32.2	28	34	27	50
SC40	10	15	30	30	32.2	42	40	32	80
SC50	15	20	40	40	48.3	54	52	41	80
SC65	15	20	40	40	48.3	54	52	41	80

Type	Single-phase motor				Rated continuous current [A]
	Rated capacity [HP]		Rated operational current [A]		
	110-120V	220-240V	110-120V	220-240V	
SC09	1/3	1	7.2	8	20
SC12	1/3	1	7.2	8	20
SC18	1	2	16	12	25
SC20	1	2	16	12	32
SC26	2	5	24	28	50
SC32	2	5	24	28	50
SC38	3	5	34	28	50
SC40	3	7.5	34	40	80
SC50	3	10	34	50	80
SC65	3	10	34	50	80

Note: Use wires that are rated for 75°C.

●JIS-conformance Ratings (JIS C 8201-4-1)

Type	3-phase squirrel-cage motor (AC-3, AC-3e)						Conventional free air thermal current [A] (Rated continuous current)
	Rated capacity [kW]			Rated operational current [A]			
	200-240V	380-440V	500-550V	200-240V	380-440V	500-550V	
SC09	2.2	4	2.7	11	9	6	20
SC12	2.7	5.5	5.5	13	12	9	20
SC18	3.7	7.5	7	18	18	13	25
SC20	4	7.5	9	20	20	17	32
SC26	5.5	11	11	26	26	20	50
SC32	6.5	15	13	32	32	24	50
SC38	7.5	18.5	15	35	38	26	50
SC40	7.5	18.5	15	40	40	26	80
SC50	11	22	22	50	50	38	80
SC65	15	30	37	65	65	60	80

Ratings, Characteristics and Performance

■ Auxiliary circuit ratings

●IEC, JIS-conformance Ratings (Standard Models: Bifurcated Contact)

Type	Rated insulation voltage [V]	Conventional free air thermal current [A] (Rated continuous current)	AC rated operational voltage [V]	Rated operational current [A]		DC rated operational voltage [V]	Rated operational current [A]		Minimum voltage and current
				AC-15 (Ind. load)	AC-12 (Res. load)		DC-13 ❶ (Ind. load)	DC-12 (Res. load)	
SC09 SC38 **SC12 SC40** **SC18 SC50** **SC20 SC65** **SC26 SCH4** **SC32**	690	10	100 to 120	6	10	24	3	5	5V DC, 3mA
			200 to 240	3	8	48	1.5	3	
			380 to 440	1.5	5	110	0.55	2.5	
			500 to 600	1.2	5	220	0.27	1	

❶ Time constant L/R = 70 ms
Note: The failure level is 10^{-7} for a normal environment without dust, dirt, or corrosive gas. The ratings of additional auxiliary contacts are the same as those given above.

●IEC, JIS-conformance Ratings (Single Button Contact)

Type	Rated insulation voltage [V]	Conventional free air thermal current [A] (Rated continuous current)	AC rated operational voltage [V]	Rated operational current [A]		DC rated operational voltage [V]	Rated operational current [A]		Minimum voltage and current
				AC-15 (Ind. load)	AC-12 (Res. load)		DC-13 ❶ (Ind. load)	DC-12 (Res. load)	
SC09□H SC38□H **SC12□H SC40□H** **SC18□H SC50□H** **SC20□H SC65□H** **SC26□H SCH4□H** **SC32□H**	690	10	100 to 120	6	10	24	5	10	24V DC, 10mA
			200 to 240	6	10	48	1.5	5	
			380 to 440	4	10	110	0.7	4	
			500 to 600	4	10	220	0.27	1	

❶ Time constant L/R = 70 ms
Note: The failure level is 10^{-7} for a normal environment without dust, dirt, or corrosive gas. The ratings of additional auxiliary contacts are the same as those given above.

●UL/CSA-conformance Ratings (Bifurcated Contact or Single Button Contact)

Type	Rated continuous current [A]	Rated operational current [A]						Rating code	
		AC			DC			AC	DC
		Rated operational voltage [V]	Making	Breaking	Rated operational voltage [V]	Making	Breaking		
SC09 SC38 **SC12 SC40** **SC18 SC50** **SC20 SC65** **SC26 SCH4** **SC32**	10	120	60	6	125	0.55	0.55	A600	Q300
		240	30	3					
		480	15	1.5	250	0.27	0.27		
		600	12	1.2					

(Note) Auxiliary contact rating codes are specified in UL60947-4-1, CSA C22.2 No. 14.

■ Operating coil voltages

● AC operated Types

Type	Coil voltage code	Designation code	Coil voltage and frequency
SC09XA **SC12XA** **SC18XA** **SC20XA** **SC26XA** **SC32XA** **SC38XA** **SC20DA** **SC26DA** **SC38DA** **SC40XA** **SC50XA** **SC65XA**	24V AC	E	24V 50Hz / 24-26V 60Hz
	48V AC	F	48V 50Hz / 48-52V 60Hz
	100V AC	1	100V 50Hz / 100-110V 60Hz
	110V AC	H	100-110V 50Hz / 110-120V 60Hz
	115V AC	J	110-115V 50Hz / 115-120V 60Hz
	120V AC	K	110-120V 50Hz / 120-130V 60Hz
	200V AC	2	200V 50Hz / 200-220V 60Hz
	220V AC	M	200-220V 50Hz / 220-240V 60Hz
	230V AC	N	210-230V 50Hz / 230-250V 60Hz
	240V AC	P	220-240V 50Hz / 240-260V 60Hz
	380V AC	S	346-380V 50Hz / 380-420V 60Hz
	400V AC	4	380-400V 50Hz / 400-440V 60Hz
	415V AC	X	380-415V 50Hz / 415-440V 60Hz
	440V AC	T	415-440V 50Hz / 440-480V 60Hz

(Note) The coil voltage code refers to the specified voltage established to simplify the control coil voltage designation. The coil voltage and frequency in the above table (not the coil voltage code) are indicated on the main unit.

● DC operated types (Standard)

Type	Coil voltage code	Designation code	Coil voltage
SC09XG **SC12XG** **SC18XG** **SC20XG** **SC26XG** **SC32XG** **SC38XG** **SC20DG** **SC26DG** **SC38DG** **SC40XG** **SC50XG** **SC65XG**	12V DC	B	DC12V
	24V DC	E	DC24V
	48V DC	F	DC48V
	60V DC	G	DC60V
	100V DC	1	DC100V
	110V DC	H	DC110V
	120V DC	K	DC120V
	125V DC	D	DC125V
	200V DC	2	DC200V
	210V DC	Y	DC210V
	220V DC	M	DC220V

● DC operated types (low consumption)

Type	Coil voltage code	Designation code	Coil voltage
SC09XG SC20XG SC20DG **SC12XG SC26XG SC26DG** **SC18XG SC32XG SC38DG** **SC38XG**	24V DC	L	DC24V

■ Operating coil characteristics

● AC operated type

Type	Power consumption [VA]				Watt loss [W]		Closing voltage [V]		Drop-out voltage [V]		Operating time [ms]	
	Inrush		Sealed									
	200V 50Hz	220V 60Hz	200V 50Hz	220V 60Hz	200V 50Hz	220V 60Hz	50Hz	60Hz	50Hz	60Hz	Coil ON → Main contact ON	Coil OFF → Main contact OFF
SC09XA	66	70	7.2	7.2	2.2	2.3	111 to 131	126 to 146	56 to 84	64 to 92	8 to 19	4 to 15
SC12XA	66	70	7.2	7.2	2.2	2.3	111 to 131	126 to 146	56 to 84	64 to 92	8 to 19	4 to 15
SC18XA	66	70	7.2	7.2	2.2	2.3	111 to 131	126 to 146	56 to 84	64 to 92	8 to 19	4 to 15
SC20XA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC26XA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC32XA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC38XA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC20DA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC26DA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC38DA	90	95	9	9	2.7	2.8	118 to 136	120 to 140	75 to 105	90 to 120	9 to 20	4 to 15
SC40XA	120	135	12.7	12.4	3.6	3.8	110 to 130	120 to 145	75 to 105	85 to 120	9 to 20	4 to 15
SC50XA	120	135	12.7	12.4	3.6	3.8	110 to 130	120 to 145	75 to 105	85 to 120	9 to 20	4 to 15
SC65XA	120	135	12.7	12.4	3.6	3.8	110 to 130	120 to 145	75 to 105	85 to 120	9 to 20	4 to 15

(Note 1) Coil rating: Characteristic of 200 V 50 Hz/200-220 V 60 Hz.
(Note 2) The coil (magnet) power consumption is equivalent even when the coil rated voltage is not rated 200 V AC.
(Note 3) Operating time indicates the case of 200 V AC 50 Hz. Operating time is a reference value and is not guaranteed.
(Note 4) The making voltage and drop-out voltage of the 100 V (100 V AC 50 Hz/100-110 V 60 Hz) coil are about half of those shown above.
(Note 5) The values in the above table show an example in the 20°C cold state.

● DC operated types (Standard)

Type	Power consumption [VA]		Time constant [ms]	Closing voltage [V]	Drop-out voltage [V]	Operating time [ms]	
	Inrush	Sealed	Sealed			Coil ON → Main contact ON	Coil OFF → Main contact OFF
	24V	24V					
SC09XG	3.9	3.9	30	11 to 16	3 to 7	49 to 54	10 to 23
SC12XG	3.9	3.9	30	11 to 16	3 to 7	49 to 54	10 to 23
SC18XG	3.9	3.9	30	11 to 16	3 to 7	49 to 54	10 to 23
SC20XG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC26XG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC32XG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC38XG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC20DG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC26DG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC38DG	4.6	4.6	34	11 to 16	3 to 7	57 to 64	7 to 20
SC40XG	7.5	7.5	46	11 to 16	3 to 7	70 to 80	7 to 20
SC50XG	7.5	7.5	46	11 to 16	3 to 7	70 to 80	7 to 20
SC65XG	7.5	7.5	46	11 to 16	3 to 7	70 to 80	7 to 20

● DC operated type (low consumption)

Type	Power consumption [VA]		Time constant [ms]	Closing voltage [V]	Drop-out voltage [V]	Operating time [ms]	
	Inrush	Sealed	Sealed			Coil ON → Main contact ON	Coil OFF → Main contact OFF
	24V	24V					
SC09XG-L	2.4	2.4	40	12 to 17	4 to 8	64 to 73	10 to 23
SC12XG-L	2.4	2.4	40	12 to 17	4 to 8	64 to 73	10 to 23
SC18XG-L	2.4	2.4	40	12 to 17	4 to 8	64 to 73	10 to 23
SC20XG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20
SC26XG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20
SC32XG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20
SC38XG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20
SC20DG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20
SC26DG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20
SC38DG-L	2.4	2.4	46	14 to 19	5 to 9	86 to 101	7 to 20

(Note 1) Coil rating: Characteristic of 24 V DC.
(Note 2) The coil (magnet) power consumption is equivalent even when the coil rated voltage is not a rated 24 V DC. * The low-consumption type is only for 24 V.
(Note 3) Operating time is a reference value and is not guaranteed.
(Note 4) The values in the above table show an example in the 20°C cold state.

Performances

Type	Rated operational voltage [V]	Rated operational current [A] (AC-3, AC-3e)	Operating cycles per hour [times/hour]	Durability (million)	
				Mechanical	Electrical (AC-3, AC-3e)❶
SC09	220	11	1800	10	2
	400	9			
SC12	220	13			
	400	12			
SC18	220	18			1.5
	400	18			
SC20	220	20			2
	400	20			
SC26	220	26	1200		
	400	26			
SC32	220	32			
	400	32			
SC38	220	35			
	400	38			
SC40	220	40		5	
	400	40			
SC50	220	50			
	400	50			
SC65	220	65			1.3
	400	65			

❶ Electrical durability is the value at 220 V based on the electrical durability test conditions assumed in JIS standards, and will differ depending on the characteristics and load conditions of the motor used. Electrical durability may degrade and contact welding may occur if the starting current of the motor is high.

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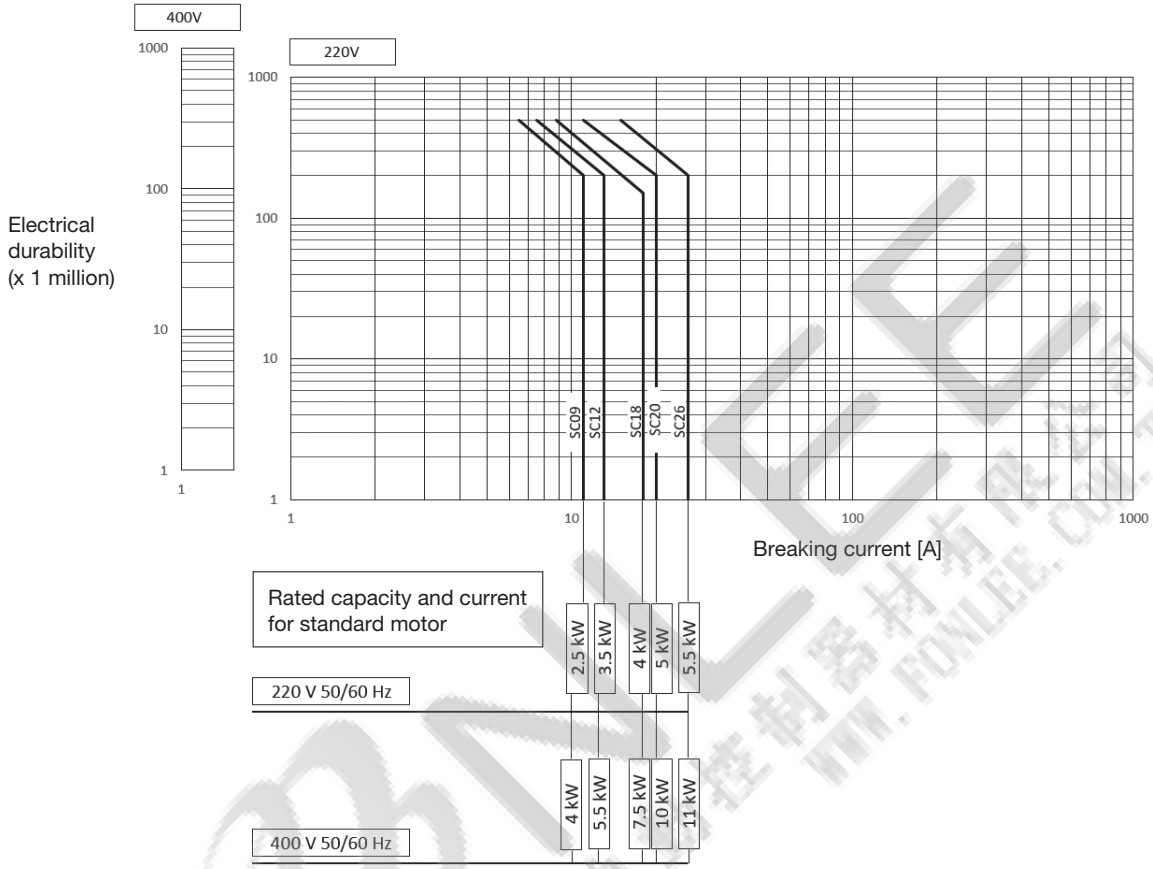
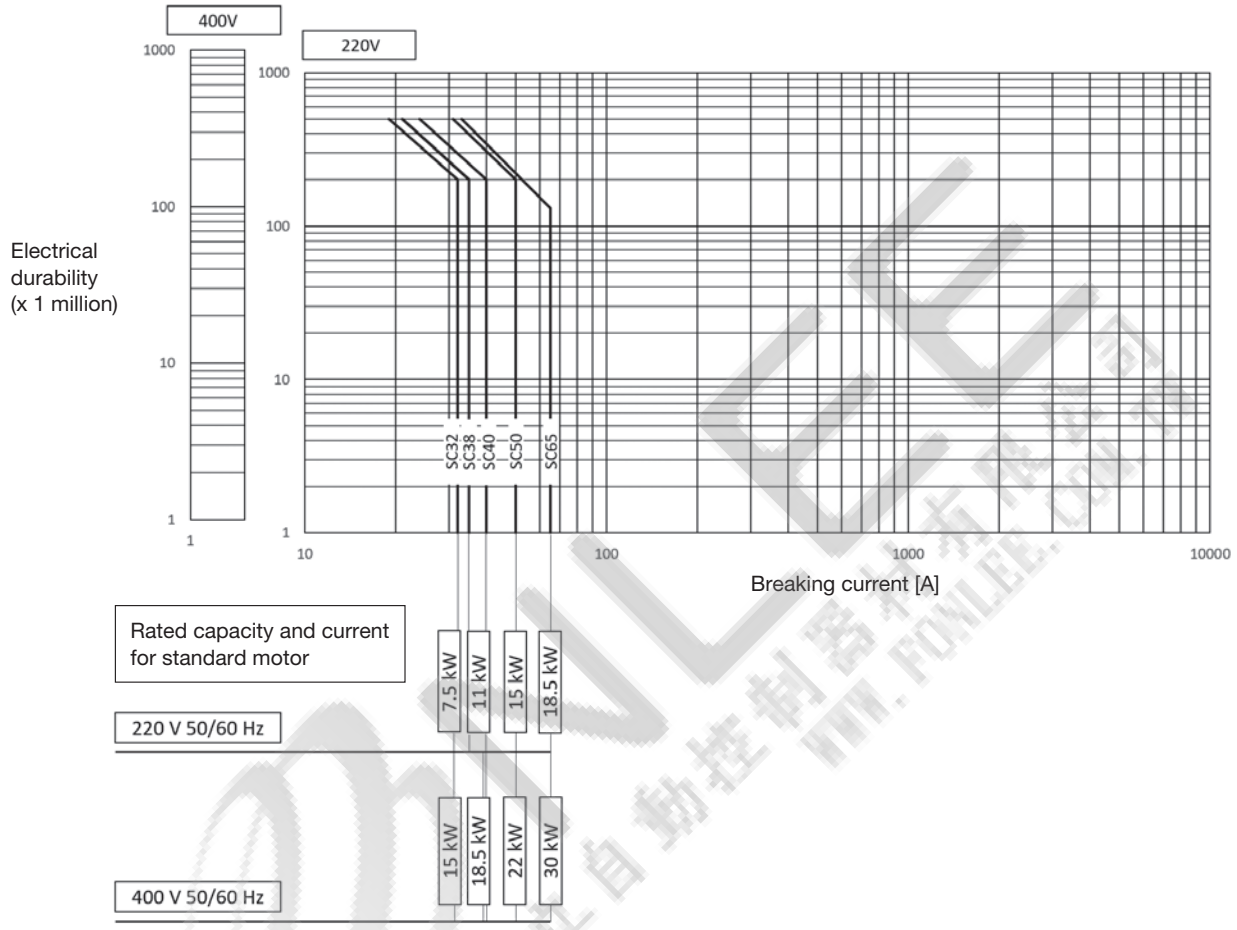
■ AC-3, AC-3e breaking current and electrical durability

●SC09 to SC26



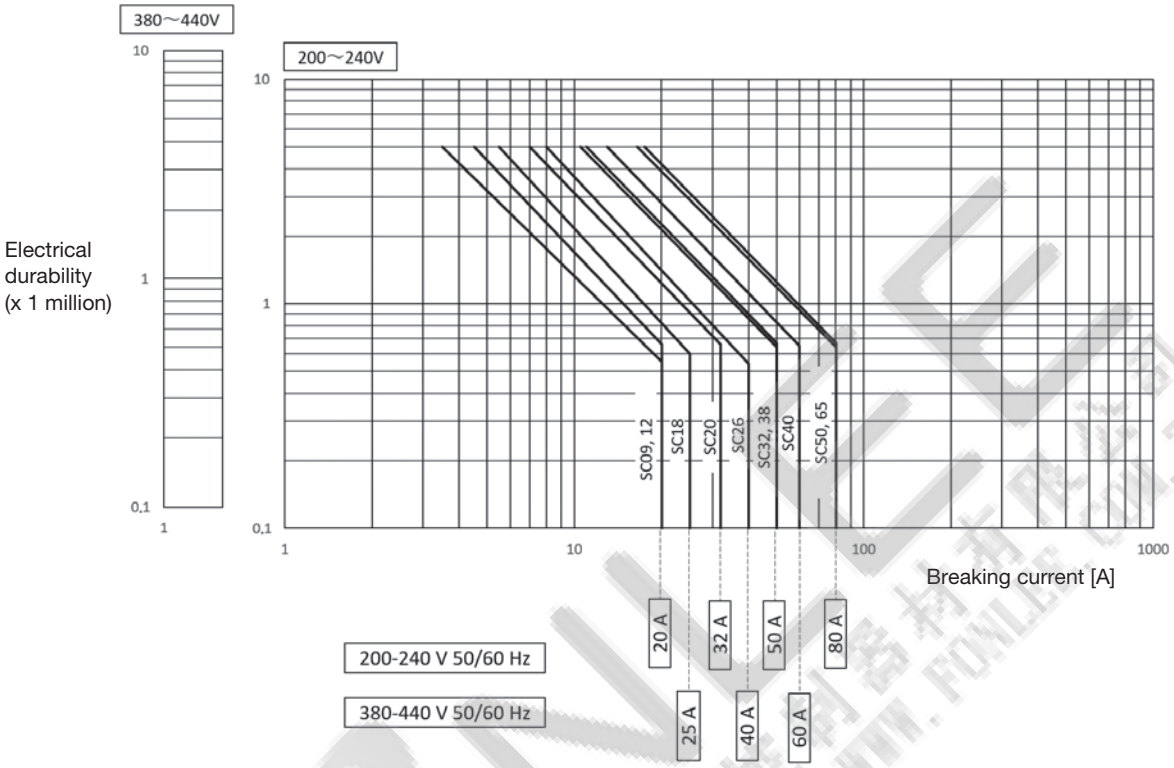
●SC32 to SC65



(Note) At the rated operating current, SC38 supports 800,000 operations at 400 V.

■ AC-1 breaking current and electrical durability (Resistive load application)

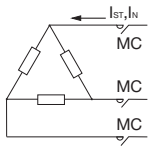
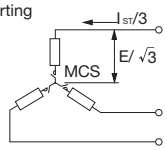
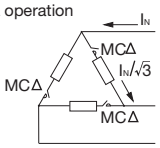
●SC09 to SC65



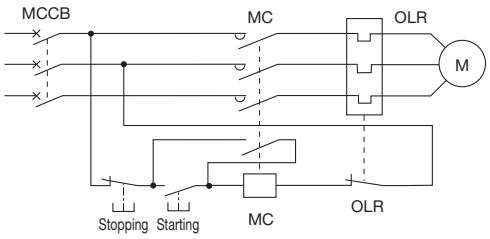
Application to various loads

■ Application to motors

● Direct-on-line starting and star-delta starting

Starting method	Direct-on-line starting (full voltage starting)	Star-delta starting (reduced voltage starting)
Schematic diagram	MC : Magnetic contactor I_N : Motor full-load current I_{ST} : Motor starting current at direct-on-line starting 	Star starting  Delta operation 
Overview and operation	·Method of starting the motor by directly applying the rated voltage through a magnetic contactor. ·Due to the large starting current, an AC-3 magnetic contactor capable of blocking 10 times the motor full-load current and breaking 8 times the current is applied to open/close the conduction path.	·When the MCS is turned on, the motor is started by applying a voltage of 1/√3 of the line voltage to each winding (人). Once it accelerates, the MCS is opened, MC△ is turned on, the windings become △-connected, and full-voltage operation is started.
Current characteristics	·Starting current is 5 to 6 times the motor full-load current.	·Small. (1/3 of the motor's rated voltage)
Torque characteristics	·Starting torque is large and not controlled.	·Starting torque is small. (1/3 of the motor's rated voltage)
Equipment costs	·Least expensive.	·Somewhat inexpensive.

● Example of Direct-on-line starting



● Application of direct-on-line starting (AC-3) with electrical durability

Main circuit voltage	Motor Capacity [kW]	Motor Current [A]	1,000,000 operations	2,000,000 operations	3,000,000 operations	4,000,000 operations	5,000,000 operations
200 to 240V	0.75	4.8	SC09X	SC09X	SC09X	SC09X	SC09X
	1.5	8	SC09X	SC09X	SC09X	SC12X	SC12X
	2.2	11.1	SC09X	SC09X	SC18X	SC18X	SC20X(D)
	3.7	17.4	SC18X	SC20X(D)	SC26X(D)	SC26X(D)	SC38X(D)
	5.5	26	SC26X(D)	SC26X(D)	SC38X(D)	SC50X	SC50X
	7.5	34	SC32X	SC38X(D)	SC50X	SC50X	SC65X
	11	48	SC50X	SC50X	—	—	—
	15	65	SC65X	—	—	—	—
380 to 440V	1.5	4	SC09X	SC09X	SC09X	SC09X	SC09X
	2.2	5.6	SC09X	SC09X	SC09X	SC09X	SC12X
	3.7	8.7	SC12X	SC12X	SC12X	SC12X	SC18X
	5.5	13	SC18X	SC18X	SC18X	SC20X(D)	SC32X
	7.5	17	SC20X(D)	SC20X(D)	SC32X	SC38X(D)	SC40X
	11	24	SC26X(D)	SC38X(D)	SC40X	SC50X	SC50X
	15	32.5	SC32X	SC40X	SC50X	SC65X	—
	18.5	39.5	SC40X	SC50X	—	—	—
	22	46.5	SC50X	SC65X	—	—	—
	30	62	SC65X	—	—	—	—

(Note 1) The motor capacity and current are based on the rated capacity and full-load current values specified in JIS C8201-4-1.

Application to various loads

■ Application to resistive loads

● Standard application

AC-1 is applicable for resistive loads such as electric heaters and electric furnaces, where the inrush current at startup need not be taken into consideration.

Type	Single-phase				Three-phase			
	110V		220V		220V		440V	
	Capacity [kW]	Current [A]	Capacity [kW]	Current [A]	Capacity [kW]	Current [A]	Capacity [kW]	Current [A]
SC09X	2.2	20	4.4	20	7.6	20	15	20
SC12X	2.2	20	4.4	20	7.6	20	15	20
SC18X	2.7	25	5.5	25	9.5	25	18	24
SC20X(D)	3.5	32	7	32	12	32	24	32
SC26X(D)	4.4	40	8.8	40	15	40	27	35
SC32X	5.5	50	11	50	19	50	38	50
SC38X(D)	5.5	50	11	50	19	50	38	50
SC40X	6.6	60	13	60	23	60	46	60
SC50X	8.8	80	17	80	30	80	61	80
SC65X	8.8	80	17	80	30	80	61	80

(Note 1) The table shows applications for which electrical durability is 500,000 operations.

● Contact parallel connection for single-phase resistance loads

When the magnetic contactor is used for a single-phase resistance load, the three main contacts can be connected in parallel as a single pole to increase the rated capacity. We also offer three-phase parallel terminal plates for main terminals, allowing standard-type magnetic contactors to be used as single-phase resistance loads. See page 86 for details.

Standard type magnetic contactor	Single-phase resistance load (AC-1) Current [A]		Three-phase parallel terminal plate	Operating cycles per hour [times/hr.]	Electrical durability [operations]
Type	110V	220V	Type		
SC09X	25	25	SZ-SP1	150	500,000
SC12X	30	30			
SC18X	40	40			
SC20X(D)	50	50	SZ3SP2		
SC26X(D)	100	100			
SC38X(D)	125	125			
SC50X	200	200	SZ3SP3		250,000
SC65X	250	250			

■ Application to transformers

When a magnetic contactor is used to close a transformer circuit, it generates an excessive inrush exiting current (more than 10 times the peak current rating of the transformer). The following table shows applications where the transformer inrush exciting current (peak value) is no more than 20 times the rated current (RMS value) to prevent contact welding of the magnetic contactor due to this inrush exciting current.

Type	Single-phase transformer				Three-phase transformer				Electrical durability [operations]
	220V		440V		220V		440V		
	Capacity [kW]	Current [A]	Capacity [kW]	Current [A]	Capacity [kW]	Current [A]	Capacity [kW]	Current [A]	
SC09X	1	5	1.5	3	2	5	2.5	3	1 million
SC12X	1.5	7.5	2	5	3	7.5	4	5	
SC18X	2	9	3	7	3.5	9	5	7	
SC20X(D)	2.5	10	4	9.5	4	10	7.5	9.5	
SC26X(D)	3	13	5	12	5	13	10	12	
SC32X	3	13	5	12	5	13	10	12	
SC38X(D)	4	17	5	12	6.5	17	10	12	
SC40X	4	17	7.5	16	6.5	17	12	16	
SC50X	5	25	10	24	10	25	18	24	
SC65X	5	25	10	24	10	25	18	24	

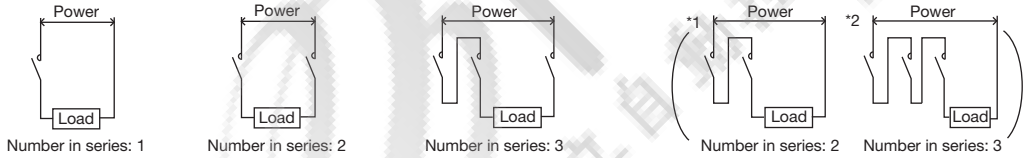
■ Application to DC loads

AC magnetic contactors can also be used with DC circuits by connecting the contacts in series. In such a case, its application is as follows.

Type	Number of contacts in series	DC-1 (JIS C 8201-4-1) Rated operational current [A] (Resistive load, L/R ≦ 1ms)				DC2, DC4 class (JEM1038) Rated operational current [A] (DC motor load, L/R ≦ 15ms)				DC-13 (JIS C 8201-5-1) Rated operational current [A] (Coil load, $T_{0.95}$=300ms)			
		24V	48V	110V	220V	24V	48V	110V	220V	24V	48V	110V	220V
SC09	1	13	13	10	1.2	6	3	2	0.35	6	1	0.7	0.25
	2	13	13	10	6	12	6	4	1.2	10	5	3	0.4
	3	15	15	15	15	15	10	8	4	12	8	4	2
SC12	1	13	13	10	1.2	6	3	2	0.35	6	1	0.7	0.25
	2	13	13	10	6	12	6	4	1.2	10	5	3	0.4
	3	15	15	15	15	15	10	8	4	12	8	4	2
SC18	1	13	13	10	1.2	6	3	2	0.35	6	1	0.7	0.25
	2	13	13	10	6	12	6	4	1.2	10	5	3	0.4
	3	15	15	15	15	15	10	8	4	12	8	4	2
SC20	1	20	15	12	2	10	8	3	0.35	12	3	1	0.25
	2	20	20	15	10	20	15	8	2	20	12	3	1.2
	3	22	22	20	15	22	22	15	8	22	15	10	2
SC26	1	20	15	12	2	10	8	3	0.35	12	3	1	0.25
	2	20	20	15	10	20	15	8	2	20	12	3	1.2
	3	22	22	20	15	22	22	15	8	22	15	10	2
SC32	1	20	15	12	2	10	8	3	0.35	12	3	1	0.25
	2	20	20	15	10	20	15	8	2	20	12	3	1.2
	3	22	22	20	15	22	22	15	8	22	15	10	2
SC38	1	20	15	12	2	10	8	3	0.35	12	3	1	0.25
	2	20	20	15	10	20	15	8	2	20	12	3	1.2
	3	22	22	20	15	22	22	15	8	22	15	10	2
SC40	1	25	25	15	2	15	8	3	0.35	15	3	1	0.3
	2	25	25	25	20	25	15	8	2	20	15	3	1.2
	3	35	35	30	25	35	25	20	8	25	25	10	2
SC50	1	25	25	15	2	15	8	3	0.35	15	3	1	0.3
	2	25	25	25	20	25	15	8	2	20	15	3	1.2
	3	35	35	30	25	35	25	20	8	25	25	10	2
SC65	1	30	30	20	2	20	15	4	0.35	20	3	1	0.4
	2	30	30	30	20	30	20	15	2	20	20	3	1.2
	3	45	45	40	35	35	30	30	8	35	30	15	2

(Note) If it exceeds 220 V, use an SB Series DC magnetic contactor.

● Contact series connection method



(Note 1) The above table shows applications for which electrical durability is about 500,000 operations.
(Note 2) The DC2 class corresponds to the starting and stopping of DC shunt motors, the DC4 class to the starting and stopping of DC series motors, and DC-1 to the opening and closing of resistive loads, according to the JEM 1038 type.
(Note 3) DC-13 corresponds to coil loads, according to the JIS C 8201-5-1 type.
(Note 4) The figure is a typical connection example. As shown in the parentheses ( ) in *1 and *2 in the figure, this table can be used even when two or three contacts are connected to the load on a single side.

■ Application to capacitor loads

When a magnetic contactor is used to close a phase advancing capacitor circuit for power factor correction, an inrush current will flow as determined by the circuit impedance, but if the impedance is extremely small, it will generate an excessive inrush current with a high oscillation frequency. Therefore, it is sometimes necessary to install a series reactor (generally about 6% of the capacitor capacity) to suppress the inrush current when closing the circuit and to reduce the voltage and current distortion caused by harmonics.

● Application to separate mounting capacitors

Type	Single-phase capacitor circuit				Three-phase capacitor circuit					
	200-220V		400-440V		200-220V		400-440V		500-550V	
	Capacity [kvar]	Current [A]	Capacity [kvar]	Current [A]	Capacity [kvar]	Current [A]	Capacity [kvar]	Current [A]	Capacity [kvar]	Current [A]
SC09X	1.2	6	1.7	4.3	2	6	3	4.3	3	3.5
SC12X	1.8	9	3.2	8	3	9	5	8	5	6
SC18X	3	15	6	15	5	15	10	15	10	12
SC20X(D)	4	20	8	20	7	20	14	20	14	16
SC26X(D)	6	30	12	30	10	30	20	30	20	25
SC32X	6	30	12	30	10	30	20	30	20	25
SC38X(D)	7.5	38	12	30	13	38	26	38	25	30
SC40X	7.5	38	12	30	13	38	26	38	25	30
SC50X	11	53	21	53	18	53	36	53	35	41
SC65X	13	65	26	65	22	65	45	65	40	50

(Note 1) The inrush current peak value is no more than 20 times the rated current of the capacitor.
(Note 2) The current-carrying capacity of the magnetic contactor can be selected assuming 1.3 × 1.15 times the overcurrent of the capacitor.
(Note 3) The table is applicable when the series reactor is 0.5% or more.
(Note 4) Electrical durability: 100,000 times or more
(Note 5) The following formula is used to convert kvar to μF.

$$C = \frac{kvar}{2\pi fE^2} \times 10^9 \ [\mu F]$$ (E: Rated voltage, f: Frequency)

■ Coordination with short-circuit protection devices (SCPD) (Based on IEC standards)

Combination of Breaker and Fuse

● Prospective Short-circuit Current "r" (240V and 440V)

Magnetic starter				Coordination type							
Magnetic starter	Magnetic Contactor	Thermal Overload Relay		Type 1					Type 2		
Type	Type	Type	Heater element rating [A]	Short-circuit current "r" [kA]	FUJI Molded Case Circuit Breaker		FUJI Earth Leakage Circuit Breaker		Short-circuit current "r" [kA]	Fuse (IEC60269-1 gG/gM) Rating [A]
					Type	Rating [A]	Type	Rating [A]		
SW09X□3 **SW09X□K**	**SC09X**	**TR18X3** **TR18XK**	0.34-0.52	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	5	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	5	1	4
			0.48-0.72	1		5		5	1	4
			0.64-0.96	1		5		5	1	4
			0.8-1.2	1		5		5	1	6
			0.95-1.45	1		10		10	1	6
			1.4-2.1	1		20		20	1	6
			1.7-2.6	1		20		20	1	6
			2.2-3.4	1		20		20	1	10
			2.8-4.2	1		20		20	1	10
			4-6	1		20		20	1	10
			5-7.5	1		20		20	1	20
			6-9	1		20		20	1	20
			7-10.5	1		20		20	1	20
SW12X□3 **SW12X□K**	**SC12X**	**TR18X3** **TR18XK**	0.34-0.52	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	5	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	5	1	4
			0.48-0.72	1		5		5	1	4
			0.64-0.96	1		5		5	1	4
			0.8-1.2	1		5		5	1	6
			0.95-1.45	1		10		10	1	6
			1.4-2.1	1		20		20	1	6
			1.7-2.6	1		20		20	1	6
			2.2-3.4	1		20		20	1	10
			2.8-4.2	1		20		20	1	10
			4-6	1		20		20	1	10
			5-7.5	1		20		20	1	20
			6-9	1		20		20	1	20
			7-10.5	1		20		20	1	20
			9-13	1		30		30	1	25
SW18X□3 **SW18X□K**	**SC18X**	**TR18X3** **TR18XK**	0.34-0.52	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	5	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	5	1	4
			0.48-0.72	1		5		5	1	4
			0.64-0.96	1		5		5	1	4
			0.8-1.2	1		5		5	1	6
			0.95-1.45	1		10		10	1	6
			1.4-2.1	1		20		20	1	6
			1.7-2.6	1		20		20	1	6
			2.2-3.4	1		20		20	1	10
			2.8-4.2	1		20		20	1	10
			4-6	1		20		20	1	10
			5-7.5	1		20		20	1	20
			6-9	1		20		20	1	20
			7-10.5	1		20		20	1	20
			9-13	1		30		30	1	25
			13-16.5	3	BW50SAG BW50SBG BW125JAG	30	EW50SAG EW50SBG EW125JAG	30	3	32
			15-18	3		50		50	3	63

(Note 1) The G-TWIN Series (BW/EW32□AG, BW/EW50□AG) is applicable to 200 to 230 V.

❶ The ratings of the circuit breakers shown in the table correspond to the values in parentheses ( ).

● Prospective Short-circuit Current “r” (240V and 440V) (Continued)

Magnetic starter				Coordination type						
Magnetic starter	Magnetic Contactor	Thermal Overload Relay		Type 1					Type 2	
Type	Type	Type	Heater element rating [A]	Short-circuit current “r” [kA]	FUJI Molded Case Circuit Breaker		FUJI Earth Leakage Circuit Breaker		Short-circuit current “r” [kA]	Fuse (IEC60269-1 gG/gM) Rating [A]
					Type	Rating [A]	Type	Rating [A]		
SW20X□3 **SW20X□K** **SW20D□3** **SW20D□K**	**SC20X** **SC20D**	**TR38X3** **TR38XK**	0.34-0.52	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	5	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	5	1	4
			0.48-0.72	1		5		5	1	4
			0.64-0.96	1		5		5	1	4
			0.8-1.2	1		5		5	1	6
			0.95-1.45	1		10		10	1	6
			1.4-2.1	1		20		20	1	6
			1.7-2.6	1		20		20	1	6
			2.2-3.4	1		20		20	1	10
			2.8-4.2	1		20		20	1	10
			4-6	1		20		20	1	10
			5-7.5	1		20		20	1	20
			6-9	1		20		20	1	20
			7-10.5	1		20		20	1	20
			9-13	1		30		30	1	25
			12-18	3	BW50SAG BW50SBG BW125JAG	30	EW50SAG EW50SBG EW125JAG	30	3	32
			18-24	3		50		50	3	50
SW26X□3 **SW26X□K** **SW26D□3** **SW26D□K**	**SC26X** **SC26D**	**TR38X3** **TR38XK**	4-6	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	20	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	20	1	25
			5-7.5	1		20		20	1	25
			6-9	1		20		20	1	25
			7-10.5	1		20		20	1	32
			9-13	1		30		30	1	32
			12-18	3	BW50SAG BW50SBG BW125JAG	30	EW50SAG EW50SBG EW125JAG	30	3	32
			18-24	3		50		50	3	50
			20-26	3	BW63SAG BW63SBG BW100EAG BW125JAG	60	EW63SAG EW63SBG EW100EAG EW125JAG	60	3	50
SW38X□3 **SW38X□K** **SW38D□3** **SW38D□K**	**SC38X** **SC38D**	**TR38X3** **TR38XK**	4-6	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	20	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	20	1	25
			5-7.5	1		20		20	1	25
			6-9	1		20		20	1	25
			7-10.5	1		20		20	1	32
			9-13	1		30		30	1	32
			12-18	3	BW50SAG BW50SBG BW125JAG	30	EW50SAG EW50SBG EW125JAG	30	3	32
			18-24	3		50		50	3	50
			20-26	3	BW63SAG BW63SBG BW100EAG BW125JAG	60	EW63SAG EW63SBG EW100EAG EW125JAG	60	3	50
			26-32	3		60		60	3	50
			32-38	3	BW100EAG BW125JAG	75	EW100EAG EW125JAG	75	3	63
—	**SC09X**	—	—	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	30	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	30	1	32
—	**SC12X**	—	—	1		30		30	1	32
—	**SC18X**	—	—	3	BW50SAG BW50SBG BW125JAG	50	EW50SAG EW50SBG EW125JAG	50	3	32
—	**SC20X** **SC20D**	—	—	3	BW100EAG❶ BW125JAG	75(50)	EW100EAG❶ EW125JAG	75(50)	3	50
—	**SC26X** **SC26D**	—	—	3		125(100)		125(100)	3	80
—	**SC32X**	—	—	3		125(100)		125(100)	3	80
—	**SC38X** **SC38D**	—	—	3		125(100)		125(100)	3	80

(Note 1) The G-TWIN Series (BW/EW32□AG, BW/EW50□AG) is applicable to 200 to 230 V.

❶ The ratings of the circuit breakers shown in the table correspond to the values in parentheses ( ).

Protective Coordination with Overcurrent Circuit Breaker

● Prospective Short-circuit Current “r” (240V and 440V) (Continued)

Magnetic starter				Coordination type						
Magnetic starter	Magnetic Contactor	Thermal Overload Relay		Type 1					Type 2	
Type	Type	Type	Heater element rating [A]	Short-circuit current “r” [kA]	FUJI Molded Case Circuit Breaker		FUJI Earth Leakage Circuit Breaker		Short-circuit current “r” [kA]	Fuse (IEC60269-1 gG/gM) Rating [A]
					Type	Rating [A]	Type	Rating [A]		
SW40X	**SC40X**	**TR65X**	4-6	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	30	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	30	1	25
			5-8	1		30		30	1	25
			6-9	1		30		30	1	25
			7-11	1		30		30	1	32
			9-13	1		30		30	1	32
			12-18	3	BW100EAG❶ BW125JAG	125(100)	EW100EAG❶ EW125JAG	125(100)	3	32
			18-26	3		125(100)		125(100)	3	63
			24-36	3		125(100)		125(100)	3	63
			32-42	3		125(100)		125(100)	3	80
SW50X	**SC50X**	**TR65X**	7-11	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	30	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	30	1	32
			9-13	1		30		30	1	32
			12-18	3	BW100EAG❶ BW125JAG	125(100)	EW100EAG❶ EW125JAG	125(100)	3	32
			18-26	3		125(100)		125(100)	3	63
			24-36	3		125(100)		125(100)	3	63
			32-42	3		125(100)		125(100)	3	80
			36-46	3		125(100)		125(100)	3	80
			44-54	3		125(100)		125(100)	3	80
SW65X	**SC65X**	**TR65X**	7-11	1	BW32AAG BW32SBG BW50AAG BW50EBG BW125JAG	30	EW32EAG EW32SBG EW50EAG EW50EBG EW125JAG	30	1	32
			9-13	1		30		30	1	32
			12-18	3	BW100EAG❶ BW125JAG	125(100)	EW100EAG❶ EW125JAG	125(100)	3	32
			18-26	3		125(100)		125(100)	3	63
			24-36	3		125(100)		125(100)	3	63
			32-42	3		125(100)		125(100)	3	80
			36-46	3		125(100)		125(100)	3	80
			44-54	3		125(100)		125(100)	3	80
			53-65	5		125(100)		125(100)	5	100
—	**SC40X**	—	—	3	BW100EAG❶ BW125JAG	125(100)	EW100EAG❶ EW125JAG	125(100)	3	125
—	**SC50X**	—	—	3		125(100)		125(100)	3	125
—	**SC65X**	—	—	5		125(100)		125(100)	5	125

(Note 1) The G-TWIN Series (BW/EW32□AG, BW/EW50□AG) is applicable to 200 to 230 V.

❶ The ratings of the circuit breakers shown in the table correspond to the values in parentheses ( ).

■ Coordination with short-circuit protection devices (SCPD) (Based on IEC standards)

Combination of Breaker and Fuse

● Rated conditional short-circuit current Iq (240V, 440V)

Magnetic starter				Coordination type							
Magnetic starter	Magnetic Contactor	Thermal Overload Relay		Type 1						Type 2	
Type	Type	Type	Heater element rating [A]	Short-circuit current "Iq" [kA]	240V (Note 1) FUJI Molded Case Circuit Breaker BW□ FUJI Earth Leakage Circuit Breaker EW□ Type	Rating [A]	Short-circuit current "Iq" [kA]	440V FUJI Molded Case Circuit Breaker BW□ FUJI Earth Leakage Circuit Breaker EW□ Type	Rating [A]	Short-circuit current "Iq" [kA]	240V, 440V Fuse (IEC60269-1 gG/gM) Rating [A]
SW09X□3 SW09X□K	**SC09X**	**TR18X3 TR18XK**	0.34-0.52	15(10)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	7.5(5)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	65	4
			0.48-0.72	15(10)		5	7.5(5)		5	65	4
			0.64-0.96	15(10)		5	7.5(5)		5	65	4
			0.8-1.2	15(10)		5	7.5(5)		5	65	6
			0.95-1.45	15(10)		5	7.5(5)		5	65	6
			1.4-2.1	15(10)		5	7.5(5)		5	65	6
			1.7-2.6	15(10)		5	7.5(5)		5	65	6
			2.2-3.4	15	BW50RAG EW50RAG	10	7.5(5)		10	65	10
			2.8-4.2	15		10	7.5(5)		10	65	10
			4-6	25	BW125JAG EW125JAG	20	14	BW125JAG EW125JAG	20	65	10
			5-7.5	25		20	14		20	65	20
			6-9	25		20	14		30	65	20
			7-10.5	25		20	14		30	65	20
SW12X□3 SW12X□K	**SC12X**	**TR18X3 TR18XK**	0.34-0.52	15(10)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	7.5(5)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	65	4
			0.48-0.72	15(10)		5	7.5(5)		5	65	4
			0.64-0.96	15(10)		5	7.5(5)		5	65	4
			0.8-1.2	15(10)		5	7.5(5)		5	65	6
			0.95-1.45	15(10)		5	7.5(5)		5	65	6
			1.4-2.1	15(10)		5	7.5(5)		5	65	6
			1.7-2.6	15(10)		5	7.5(5)		5	65	6
			2.2-3.4	15	BW50RAG EW50RAG	10	7.5(5)		10	65	10
			2.8-4.2	15		10	7.5(5)		10	65	10
			4-6	25	BW125JAG EW125JAG	20	14	BW125JAG EW125JAG	20	65	10
			5-7.5	25		20	14		20	65	20
			6-9	25		20	14		30	65	20
			7-10.5	25		20	14		30	65	20
			9-13	25		20	14		30	65	25
SW18X□3 SW18X□K	**SC18X**	**TR18X3 TR18XK**	0.34-0.52	15(10)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	7.5(5)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	65	4
			0.48-0.72	15(10)		5	7.5(5)		5	65	4
			0.64-0.96	15(10)		5	7.5(5)		5	65	4
			0.8-1.2	15(10)		5	7.5(5)		5	65	6
			0.95-1.45	15(10)		5	7.5(5)		5	65	6
			1.4-2.1	15(10)		5	7.5(5)		5	65	6
			1.7-2.6	15(10)		5	7.5(5)		5	65	6
			2.2-3.4	15	BW50RAG EW50RAG	10	7.5(5)		10	65	10
			2.8-4.2	15		10	7.5(5)		10	65	10
			4-6	25	BW125JAG EW125JAG	20	14	BW125JAG EW125JAG	20	65	10
			5-7.5	25		20	14		20	65	20
			6-9	25		20	14		30	65	20
			7-10.5	25		20	14		30	65	20
			9-13	25		20	14		30	65	25
			13-16.5	25		30	14		30	65	32
			15-18	25		30	14		30	65	63

(Note 1) The G-TWIN Series (BW/EW32□AG, BW/EW50□AG) is applicable to 200 to 230 V.

❶ The ratings of the circuit breakers shown in the table correspond to the values in parentheses ( ).

● Rated conditional short-circuit current Iq (240V, 440V) (Continued)

Magnetic starter				Coordination type							
Magnetic starter	Magnetic Contactor	Thermal Overload Relay		Type 1						Type 2	
Type	Type	Type	Heater element rating [A]	Short-circuit current "Iq" [kA]	240V (Note 1) FUJI Molded Case Circuit Breaker BW□ FUJI Earth Leakage Circuit Breaker EW□ Type	Rating [A]	Short-circuit current "Iq" [kA]	440V FUJI Molded Case Circuit Breaker BW□ FUJI Earth Leakage Circuit Breaker EW□ Type	Rating [A]	Short-circuit current "Iq" [kA]	240V, 440V Fuse (IEC60269-1 gG/gM) Rating [A]
SW20X□3 SW20X□K SW20D□3 SW20D□K	**SC20X❷ SC20D❷**	**TR38X3 TR38XK**	0.34-0.52	15(10)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	7.5(5)	BW50SAG❶ EW50SAG❶ BW50SBG EW50SBG	5	65	4
			0.48-0.72	15(10)		5	7.5(5)		5	65	4
			0.64-0.96	15(10)		5	7.5(5)		5	65	4
			0.8-1.2	15(10)		5	7.5(5)		5	65	6
			0.95-1.45	15(10)		5	7.5(5)		5	65	6
			1.4-2.1	15(10)		5	7.5(5)		5	65	6
			1.7-2.6	15(10)		5	7.5(5)		5	65	6
			2.2-3.4	15	BW50RAG EW50RAG	10	7.5(5)		10	65	10
			2.8-4.2	15		10	7.5(5)		10	65	10
			4-6	25	BW125JAG EW125JAG	20	18	BW125JAG EW125JAG	20	65	10
			5-7.5	25		20	18		20	65	20
			6-9	25		30	18		30	65	20
			7-10.5	25		30	18		30	65	20
			9-13	25		30	18		30	65	25
			12-18	25		30	18		30	65	32
			18-24	25		75	18		30	65	40
SW26X□3 SW26X□K SW26D□3 SW26D□K	**SC26X❷ SC26D❷**	**TR38X3 TR38XK**	4-6	25	BW125JAG EW125JAG	20	18	BW125JAG EW125JAG	20	65	10
			5-7.5	25		20	18		20	65	20
			6-9	25		30	18		30	65	20
			7-10.5	25		30	18		30	65	20
			9-13	25		40	18		30	65	25
			12-18	25		40	18		30	65	32
			18-24	25		125	18		30	65	40
			20-26	25		125	18		30	65	40
SW38X□3 SW38X□K SW38D□3 SW38D□K	**SC38X❷ SC38D❷**	**TR38X3 TR38XK**	4-6	25	BW125JAG EW125JAG	20	18	BW125JAG EW125JAG	20	65	10
			5-7.5	25		20	18		20	65	20
			6-9	25		30	18		30	65	20
			7-10.5	25		30	18		30	65	20
			9-13	25		40	18		30	65	25
			12-18	25		40	18		30	65	32
			18-24	25		125	18		30	65	40
			20-26	25		125	18		30	65	40
			26-32	25		125	10		125	65	63
			32-38	25		125	10		125	65	63
—	**SC09X**	—	—	25	BW125JAG EW125JAG	30	10	BW125JAG EW125JAG	30	65	32
—	**SC12X**	—	—	25		30	10		30	65	32
—	**SC18X**	—	—	25		30	10		30	65	32
—	**SC20X❷ SC20D❷**	—	—	25		75	18		30	65	50
—	**SC26X❷ SC26D❷**	—	—	25		125	18		30	65	80
—	**SC32X❷**	—	—	25		125	18		30	65	80
—	**SC38X❷ SC38D❷**	—	—	25		125	18		30	65	80

(Note 1) The G-TWIN Series (BW/EW50□AG) is applicable to 200 to 230 V.

❶ The ratings of the circuit breakers shown in the table correspond to the values in parentheses ( ).

❷ When applying short-circuit current values in the relevant types, always ensure that there is at least 5 mm of arc space in front of the product.

● Rated conditional short-circuit current Iq (240V, 440V) (Continued)

Magnetic starter				Coordination type							
Magnetic starter	Magnetic Contactor	Thermal Overload Relay		Type 1						Type 2	
Type	Type	Type	Heater element rating [A]	Short-circuit current "Iq" [kA]	240V (Note 1) FUJI Molded Case Circuit Breaker BW□ FUJI Earth Leakage Circuit Breaker EW□ Type	Rating [A]	Short-circuit current "Iq" [kA]	440V FUJI Molded Case Circuit Breaker BW□ FUJI Earth Leakage Circuit Breaker EW□ Type	Rating [A]	Short-circuit current "Iq" [kA]	240V, 440V Fuse (IEC60269-1 gG/gM) Rating [A]
SW40X	**SC40X❷**	**TR65X**	4-6	50(25)	BW50RAG❶ EW50RAG❶ BW125RAG EW125RAG	30	50(10)	BW50RAG❶ EW50RAG❶ BW125RAG EW125RAG	30	65	25
			5-8	50(25)		30	50(10)		30	65	25
			6-9	50(25)	BW100EAG❶ EW100EAG❶ BW125RAG EW125RAG	75	50(10)	BW100EAG❶ EW100EAG❶ BW125RAG EW125RAG	75	65	25
			7-11	50(25)		75	50(10)		75	65	32
			9-13	50(25)		75	50(10)		75	65	32
			12-18	50	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	150(125)	50	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	150(125)	65	32
			18-26	50		150(125)	50		150(125)	65	63
			24-36	50		150(125)	50		150(125)	65	63
			32-42	50		250(125)	50		250(125)	65	80
SW50X	**SC50X❷**	**TR65X**	7-11	50(25)	BW100EAG❶ EW100EAG❶ BW125RAG EW125RAG	75	50(10)	BW100EAG❶ EW100EAG❶ BW125RAG EW125RAG	75	65	32
			9-13	50(25)		75	50(10)		75	65	32
			12-18	50	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	150(125)	50	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	150(125)	65	32
			18-26	50		150(125)	50		150(125)	65	63
			24-36	50		150(125)	50		150(125)	65	63
			32-42	50		250(125)	50		250(125)	65	80
			36-46	50		250(125)	50		250(125)	65	80
			44-54	50		250(125)	50		250(125)	65	80
SW65X	**SC65X❷**	**TR65X**	7-11	50(25)	BW100EAG❶ EW100EAG❶ BW125RAG EW125RAG	75	50(10)	BW100EAG❶ EW100EAG❶ BW125RAG EW125RAG	75	65	32
			9-13	50(25)		75	50(10)		75	65	32
			12-18	50	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	150(125)	50	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	150(125)	65	32
			18-26	50		150(125)	50		150(125)	65	63
			24-36	50		150(125)	50		150(125)	65	63
			32-42	50		250(125)	50		250(125)	65	80
			36-46	50		250(125)	50		250(125)	65	80
			44-54	50		250(125)	50		250(125)	65	80
			53-65	50		250(125)	50		250(125)	65	100
—	**SC40X❷**	—	—	35(50)	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	250(125)	35(50)	BW125RAG❶ EW125RAG❶ BW250RAG EW250RAG	250(125)	65	125
—	**SC50X❷**	—	—	35(50)		250(125)	35(50)		250(125)	65	125
—	**SC65X❷**	—	—	35(50)		250(125)	35(50)		250(125)	65	125

(Note 1) The G-TWIN Series (BW/EW50□AG) is applicable to 200 to 230 V.

❶ The ratings of the circuit breakers shown in the table correspond to the values in parentheses ( ).

❷ When applying short-circuit current values in the relevant types, always ensure that there is at least 5 mm of arc space in front of the product.

■ UL approved short-circuit current ratings (SCCR)

Combination of Breaker and Fuse

Magnetic Starter				Short-circuit Current Ratings (SCCR)					
Magnetic Starter	Magnetic Contactor	Thermal Overload Relay		240V AC			240V AC		
Type	Type	Type	Ampere setting range [A]	SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶	
					Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker
SW09X□3 **SW09X□K**	**SC09X**	**TR18X3** **TR18XK**	0.1-0.15 ❹	14	15	BW50RAGU EW50RAGU	18	15	BW50RBGU EW50RBGU
			0.13-0.2 ❹	14	15		18	15	
			0.18-0.27 ❹	14	15		18	15	
			0.24-0.36	14	15		18	15	
			0.34-0.52	14	15		18	15	
			0.48-0.72	14	15		18	15	
			0.64-0.96	14	15		18	15	
			0.8-1.2	14	15		18	15	
			0.95-1.45	14	15		18	15	
			1.4-2.1	14	15		18	15	
			1.7-2.6	14	15		18	15	
			2.2-3.4	14	15		18	15	
			2.8-4.2	14	20		18	20	
			4-6	14	30		18	30	
			5-7.5	14	30		18	30	
			6-9	14	30		18	30	
			7-10.5	14	30		18	30	
SW12X□3 **SW12X□K**	**SC12X**	**TR18X3** **TR18XK**	0.1-0.15 ❹	14	15	BW50RAGU EW50RAGU	18	15	BW50RBGU EW50RBGU
			0.13-0.2 ❹	14	15		18	15	
			0.18-0.27 ❹	14	15		18	15	
			0.24-0.36	14	15		18	15	
			0.34-0.52	14	15		18	15	
			0.48-0.72	14	15		18	15	
			0.64-0.96	14	15		18	15	
			0.8-1.2	14	15		18	15	
			0.95-1.45	14	15		18	15	
			1.4-2.1	14	15		18	15	
			1.7-2.6	14	15		18	15	
			2.2-3.4	14	15		18	15	
			2.8-4.2	14	20		18	20	
			4-6	14	30		18	30	
			5-7.5	14	30		18	30	
			6-9	14	30		18	30	
			7-10.5	14	30		18	30	
			9-13	14	50		18	30	
SW18X□3 **SW18X□K**	**SC18X**	**TR18X3** **TR18XK**	0.1-0.15 ❹	14	15	BW50RAGU EW50RAGU	18	15	BW50RBGU EW50RBGU
			0.13-0.2 ❹	14	15		18	15	
			0.18-0.27 ❹	14	15		18	15	
			0.24-0.36	14	15		18	15	
			0.34-0.52	14	15		18	15	
			0.48-0.72	14	15		18	15	
			0.64-0.96	14	15		18	15	
			0.8-1.2	14	15		18	15	
			0.95-1.45	14	15		18	15	
			1.4-2.1	14	15		18	15	
			1.7-2.6	14	15		18	15	
			2.2-3.4	14	15		18	15	
			2.8-4.2	14	20		18	20	
			4-6	14	30		18	30	
			5-7.5	14	30		18	30	
			6-9	14	30		18	30	
			7-10.5	14	30		18	30	
			9-13	14	50		18	30	
			13-16.5	14	75	BW100EAGU EW100EAGU	18	30	
			15-18	14	75		18	30	
–	**SC09X**	–	–	14	75	BW100EAGU EW100EAGU	18	30	BW50RBGU EW50RBGU
–	**SC12X**	–	–	14	75		18	30	
–	**SC18X**	–	–	14	75		18	30 ❸	

❶ Use UL489 certified molded case circuit breakers or earth leakage circuit breaker.

❷ Use UL248 certified current limiting fuses (Class RK5). However, the rated current of current limiting fuses is the rated value when time-delay fuses are used.

❸ The breaker current ratings shown in the table may not be applicable at some magnetic starter and contactor current-carrying currents.
For example, Section 30.2.1 of UL508A requires that no current exceeding 80% of the breaker's rated current is allowed. This means that a breaker rated at 30 A has a maximum current-carrying capacity of 24 A (= 30 A x 80%), and that even when used in combination with SC18X (rated current-carrying capacity of 25 A), the breaker must be used at 24 A or less.

❹ Magnetic starters are not manufactured for the corresponding thermal overload relay ratings.

	240V AC			480V AC			600V AC		
	SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶	Currentlimiting fuse ❷
		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	Max. rated current [A]
	25	15	BW125JAGU	18	15	BW125JAGU	5	-	1
	25	15	EW125JAGU	18	15	EW125JAGU	5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	20		18	20		5	-	10
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	15	BW125JAGU	18	15	BW125JAGU	5	-	1
	25	15	EW125JAGU	18	15	EW125JAGU	5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	20		18	20		5	-	10
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	15	BW125JAGU	18	15	BW125JAGU	5	-	1
	25	15	EW125JAGU	18	15	EW125JAGU	5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	20		18	20		5	-	10
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	30		18	30		5	-	40
	25	30		18	30		5	-	40
	25	30		18	30		5	-	40
	25	30	BW125JAGU	18	30	BW125JAGU	5	70	40
	25	30	EW125JAGU	18	30	EW125JAGU	5	70	40
	25	30 ❸		18	30 ❸		5	70	40

■ UL approved short-circuit current ratings (SCCR)

Combination of Breaker and Fuse (Continued)

Magnetic Starter				Short-circuit Current Ratings (SCCR)					
Magnetic Starter	Magnetic Contactor	Thermal Overload Relay		240V AC			240V AC		
Type	Type	Type	Ampere setting range [A]	SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶	
					Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker
SW20X□3 **SW20X□K** **SW20D□3** **SW20D□K**	**SC20X** **SC20D**	**TR38X3** **TR38XK**	0.1-0.15 ❹	14	15	BW50RAGU EW50RAGU	18	15	BW50RBGU EW50RBGU
			0.13-0.2 ❹	14	15		18	15	
			0.18-0.27 ❹	14	15		18	15	
			0.24-0.36	14	15		18	15	
			0.34-0.52	14	15		18	15	
			0.48-0.72	14	15		18	15	
			0.64-0.96	14	15		18	15	
			0.8-1.2	14	15		18	15	
			0.95-1.45	14	15		18	15	
			1.4-2.1	14	15		18	15	
			1.7-2.6	14	15		18	15	
			2.2-3.4	14	15		18	15	
			2.8-4.2	14	20		18	20	
			4-6	14	30		18	30	
			5-7.5	14	30		18	30	
			6-9	14	50		18	50	
			7-10.5	14	50		18	50	
			9-13	14	50		18	50	
			12-18	14	75	BW100EAGU EW100EAGU	18	30	
			18-24	14	75		18	30	
SW26X□3 **SW26X□K** **SW26D□3** **SW26D□K**	**SC26X** **SC26D**	**TR38X3** **TR38XK**	4-6	14	30	BW50RAGU EW50RAGU	18	30	BW50RBGU EW50RBGU
			5-7.5	14	30		18	30	
			6-9	14	50		18	50	
			7-10.5	14	50		18	50	
			9-13	14	50		18	50	
			12-18	14	75	BW100EAGU EW100EAGU	18	30	
			18-24	14	75		18	30	
			20-26	—	—	—	18	30 ❸	
SW38X□3 **SW38X□K** **SW38D□3** **SW38D□K**	**SC38X** **SC38D**	**TR38X3** **TR38XK**	4-6	14	30	BW50RAGU EW50RAGU	18	30	BW50RBGU EW50RBGU
			5-7.5	14	30		18	30	
			6-9	14	50		18	50	
			7-10.5	14	50		18	50	
			9-13	14	50		18	50	
			12-18	14	75	BW100EAGU EW100EAGU	18	30	
			18-24	14	75		18	30	
			20-26	—	—	—	18	30 ❸	
			26-32	—	—		—	—	—
			32-38	—	—		—	—	
—	**SC20X** **SC20D**	—	—	—	—	BW100EAGU EW100EAGU	18	30 ❸	BW50RBGU EW50RBGU
—	**SC26X** **SC26D**	—	—	—	—	—	18	30 ❸	
—	**SC32X**	—	—	—	—		18	30 ❸	
—	**SC38X** **SC38D**	—	—	—	—		18	30 ❸	

❶ Use UL489 certified molded case circuit breakers or earth leakage circuit breaker.
❷ Use UL248 certified current limiting fuses (Class RK5). However, the rated current of current limiting fuses is the rated value when time-delay fuses are used.
❸ The breaker current ratings shown in the table may not be applicable at some magnetic starter and contactor current-carrying currents.
For example, Section 30.2.1 of UL508A requires that no current exceeding 80% of the breaker's rated current is allowed. This means that a breaker rated at 30 A has a maximum current-carrying capacity of 24 A (= 30 A x 80%), and that even when used in combination with SC18X (rated current-carrying capacity of 25 A), the breaker must be used at 24 A or less.
❹ Magnetic starters are not manufactured for the corresponding thermal overload relay ratings.

	240V AC			480V AC			600V AC		
	SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶	Currentlimiting fuse ❷
		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	Max. rated current [A]
	25	15	BW125JAGU EW125JAGU	18	15	BW125JAGU EW125JAGU	5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	1
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	3
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	15		18	15		5	-	10
	25	20		18	20		5	-	10
	25	30		18	30		5	-	20
	25	30		18	30		5	-	20
	25	50		18	30		5	-	20
	25	50		18	30		5	-	20
	25	50		18	30		5	-	40
	25	75		18	30		5	-	40
	25	75		18	30		5	-	40
	35	30	BW125JAGU EW125JAGU	35	30	BW125RAGU EW125RAGU	5	-	20
	35	30		35	30		5	-	20
	35/25	30/50		35/10	30/50	BW125RAGU EW125RAGU BW125JAGU EW125JAGU	5	-	20
	35/25	30/50		35/10	30/50		5	-	20
	35/25	30/50		35/10	30/50		5	-	40
	35/25	30/75		35/10	30/75		5	-	40
	35/25	30/75		35/10	30/75		5	-	40
	35/25	30❸/125		35/10	30❸/125		5	-	80
	35	30	BW125JAGU EW125JAGU	35	30	BW125RAGU EW125RAGU	5	-	20
	35	30		35	30		5	-	20
	35/25	30/50		35/10	30/50	BW125RAGU EW125RAGU BW125JAGU EW125JAGU	5	-	20
	35/25	30/50		35/10	30/50		5	-	20
	35/25	30/50		35/10	30/50		5	-	40
	35/25	30/75		35/10	30/75		5	-	40
	35/25	30/75		35/10	30/75		5	-	40
	35/25	30❸/125		35/10	30❸/125		5	-	80
	25	125		10	125		5	-	80
	25	125		10	125		5	-	80
	25	75	BW125JAGU EW125JAGU	18	30❸	BW125JAGU EW125JAGU	5	70	40
	35/25	30❸/125		35/10	30❸/125	BW125RAGU EW125RAGU BW125JAGU EW125JAGU	5	150	80
	35/25	30❸/125		35/10	30❸/125		5	150	80
	35/25	30❸/125		35/10	30❸/125		5	150	80

■ UL approved short-circuit current ratings (SCCR)

Combination of Breaker and Fuse (Continued)

Magnetic Starter				Short-circuit Current Ratings (SCCR)						
Magnetic Starter	Magnetic Contactor	Thermal Overload Relay		240V AC			240V AC			
Type	Type	Type	Ampere setting range [A]	SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶		
					Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker	
SW40X	**SC40X**	**TR65X**	4-6	14	30	BW100EAGU	18	30	BW50RBGU	
			5-8	14	30	EW100EAGU	18	30	EW50RBGU	
			6-9	14	75		18	50		
			7-11	14	75		18	50		
			9-13	14	75		18	50		
			12-18	14	100		18	50		
			18-26	14	100		18	50		
			24-36	14	100		18	50		
			32-42	14	100		18	50		
SW50X	**SC50X**	**TR65X**	7-11	14	75	BW100EAGU	18	50	BW50RBGU	
			9-13	14	75	EW100EAGU	18	50	EW50RBGU	
			12-18	14	100		18	50		
			18-26	14	100		18	50		
			24-36	14	100		18	50		
			32-42	14	100		18	50		
			36-46	14	100		18	50		
			44-54	14	100		18	50		
SW65X	**SC65X**	**TR65X**	7-11	14	75	BW100EAGU	18	50	BW50RBGU	
			9-13	14	75	EW100EAGU	18	50	EW50RBGU	
			12-18	14	100		18	50		
			18-26	14	100		18	50		
			24-36	14	100		18	50		
			32-42	14	100		18	50		
			36-46	14	100		18	50		
			44-54	14	100		18	50		
			53-65	14	100		18	50		
—	**SC40X**	—	—	14	100	BW100EAGU	18	50	BW50RBGU	
—	**SC50X**	—	—	14	100	EW100EAGU	18	50	EW50RBGU	
—	**SC65X**	—	—	14	100		18	50		

❶ Use UL489 certified molded case circuit breakers or earth leakage circuit breaker.
❷ Use UL248 certified current limiting fuses (Class RK5). However, the rated current of current limiting fuses is the rated value when time-delay fuses are used.

	240V AC			480V AC			600V AC		
	SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶		SCCR [kA]	Circuit breaker ❶	Currentlimiting fuse ❷
		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	UL489-certified Molded Case Circuit Breaker / Earth Leakage Circuit Breaker		Max. rated current [A]	Max. rated current [A]
	50	30	BW125RAGU	50	30	BW125RAGU	5	30	30
	50	30	EW125RAGU	50	30	EW125RAGU	5	30	30
	50	75		50	75		5	70	75
	50	75		50	75		5	70	75
	50	75		50	75		5	70	75
	50	150	BW250RAGU	50	150	BW250RAGU	5	150	150
	50	150	EW250RAGU	50	150	EW250RAGU	5	150	150
	50	150		50	150		5	150	150
	50	250		50	250		5	250	150
	50	75	BW125RAGU	50	75	BW125RAGU	5	70	75
	50	75	EW125RAGU	50	75	EW125RAGU	5	70	75
	50	150	BW250RAGU	50	150	BW250RAGU	5	150	150
	50	150	EW250RAGU	50	150	EW250RAGU	5	150	150
	50	150		50	150		5	150	150
	50	250		50	250		5	250	150
	50	250		50	250		5	250	150
	50	250		50	250		5	250	150
	50	75	BW125RAGU	50	75	BW125RAGU	5	70	75
	50	75	EW125RAGU	50	75	EW125RAGU	5	70	75
	50	150	BW250RAGU	50	150	BW250RAGU	5	150	150
	50	150	EW250RAGU	50	150	EW250RAGU	5	150	150
	50	150		50	150		5	150	150
	50	250		50	250		5	250	150
	50	250		50	250		5	250	150
	50	250		50	250		5	250	150
	50	250		50	250		5	250	150
	35/50	250/125	BW250RAGU/ BW125RAGU EW250RAGU/ EW125RAGU	35/50	250/125	BW250RAGU/ BW125RAGU EW250RAGU/ EW125RAGU	5	250	150
	35/50	250/125		35/50	250/125		5	250	150
	35/50	250/125		35/50	250/125		5	250	150

General usage conditions and mounting

■ General usage conditions and correct mounting

● Standard usage conditions

Ambient temperature ❶	-10 to +55°C There should be no condensation or icing due to sudden temperature changes (24 hour average temperature should not exceed 35°C)
Relative temperature	85% or less (no condensation)
Altitude	2000 m or less
Atmosphere	The atmosphere should contain very little dust, smoke, corrosive gas, flammable gas, steam, or salt.
Storage temperature	-40 to +65℃
Vibration resistance	10 to 55Hz 15m/s^2
Shock resistance	50m/s^2
Control circuit voltage fluctuation range	(1) AC operated type (SC□X(D)A, SCH4XA) Making voltage (pick-up voltage): 85 to 110% of rated voltage (2) DC operated type (SC□X(D)G, SCH4XG) Making voltage (pick-up voltage): 85 to 110% of rated voltage (ambient temperature: 55°C), 80 to 110% of rated voltage (ambient temperature: 40°C) (3) Extra pick-up operating coil type (SC□X(D)U) Making voltage (pick-up voltage): 75 to 110% of rated voltage
Mounting	Screw mounting Mounting on 35 mm wide top hat rail (*See “DIN rail mounting” on next page)
Mounting angle	(1) Standard mounting (Fig. 1) Figure 1 shows the correct mounting, but the following angle mounting is also permitted for the front/back and right/left. (Fig. 3) (2) Side mounting (Fig. 2) It is permitted if you keep the following points in mind. ·The characteristics of the magnetic contactor will be almost the same, but the mechanical durability and operating cycles per hour will be diminished. ·The operational limiting current of the thermal overload relay will vary slightly. (3) Ceiling mounting ·Ceiling mounting is not possible for standard type magnetic contactors and starters. Ceiling mounting would not satisfy the specified value of the operating characteristics due to the weight of the moving parts. (4) Horizontal mounting ·Horizontal mounting is not possible for standard type magnetic contactors and starters. Horizontal mounting could result in malfunction due to external vibration or shock caused by the weight of the moving parts. We offer products exclusively for horizontal mounting. To order one, please specify “Z109” at the end of the product type. However, products with “Z109” specifications cannot be used for standard mounting (vertical mounting). ·“Z109” product specifications for horizontal installation have 80% of the mechanical durability, electrical durability, and operating cycles per hour of the standard products. Also, in the case of magnetic starters, the operational limiting current of the thermal overload relay will vary slightly. ·Product types with “Z109” specifications for horizontal mounting are SC09□A to SC65□A and SC20□G to SC65□G. The low power consumption type (SC□G-L) is not available for horizontal mounting.
Mounting interval	Mount it with the mounting interval and arc space shown in the table below.

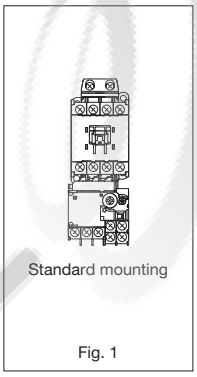


Fig. 1

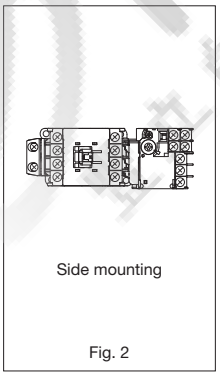


Fig. 2

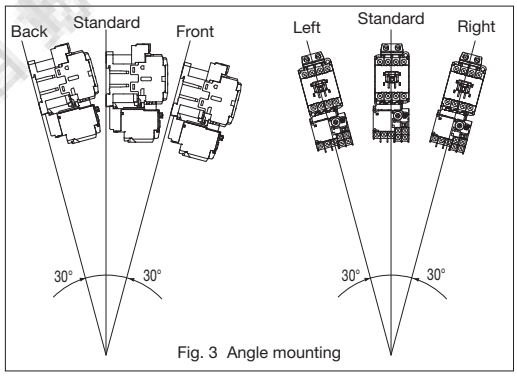
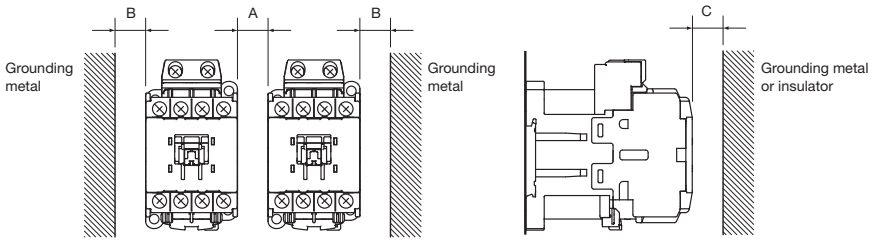


Fig. 3 Angle mounting

A〔mm〕	B〔mm〕	C〔mm〕
0	10	0

This arc space is the value with the closed contact and breaking capacity test conditions of the IEC and JIS standards.



❶ Ambient temperature refers to the temperature in the vicinity of the product while being used.

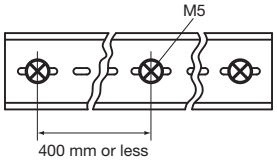
● DIN rail mounting

SC-NEXT Series magnetic contactors and starters can be mounted on 35 mm wide support DIN rails. Secure to the DIN rails within the mounting pitch indicated in the drawing below.

Use holding bracket LT9E-T1 for magnetic contactors and starters SC09 to SC65 and auxiliary relay SCH4.

(In particular, when there are space constraints, such as at DIN rail ends or adjacent to grounding metal)

Note) Applicable DIN rail: TH35-15AL

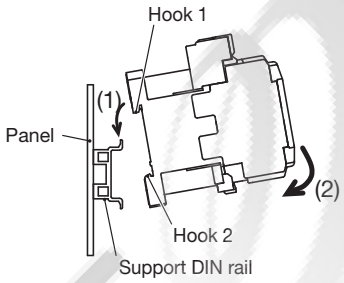


Follow the procedure below to mount or remove products to or from DIN rails.

● SC09 to 65 and SCH4

[Mounting]

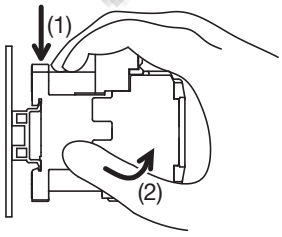
(1) With the product at a roughly 10° angle from the DIN rail, catch the hook on the power supply side, then lightly push it down.
(2) Press the product to the DIN rail.
(3) Lift the product upward, and catch the hook on the load side to the DIN rail.
(4) Lightly rock the product up and down, and confirm that the hook on the load side is caught to the DIN rail.



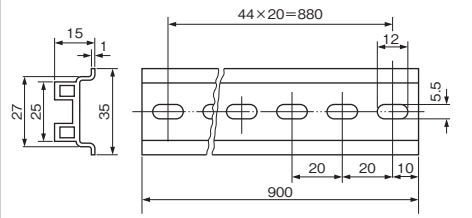
[Removal]

SC09 to 65 and SCH4

(1) Hold the product from the top and bottom, remove the hook at the bottom of the product while pushing downward.
(2) Remove the product.



· Mounting DIN rail

Type	TH35-15AL
Material	Aluminum
Outline [mm]	

■ Wiring

● Connecting wire and terminal processing

Connections should be made precisely as shown in the connection diagram. For types SC09 to SC65, the main terminal, auxiliary terminal, and coil terminal can be wired with solid wire, twisted wire, or crimp terminal.

● Tightening torque

If the body of the magnetic contactor or starter is not mounted properly, the contacts may dangle due to shock upon inrush, adversely affecting the durability of the contactor. Insufficient tightening of wire connections can cause overheating or wire disconnection, resulting in serious accidents such as fire, short-circuit, or electric shock. Therefore, tighten sufficiently according to the values shown in the table below.

● Terminal, wire size, and tightening torque

(1) Solid wire, twisted wire, and crimp terminals can be used for wiring.
When using round crimp terminals (i.e., ring tongue terminals), remove the terminal cover before proceeding with wiring.

(2) See the table below for applicable wire sizes and tightening torques.

● Applicable wire size and tightening torque

・Main circuit

Frame	Magnetic contactor			SC09 to 18X	SC20 to 38X(D)	SC40 to 65X
	Thermal overload relay			TR18X	TR38X	TR65X
Direct connection	Solid wire		[mm]	1×(φ1.2 to 2) 2×(φ1.2 to 1.6) 2×(φ1.6 to 2)	1×(φ1.2 to 2.6) 2×(φ1.2 to 1.6) 2×(φ1.6 to 2)	1×(φ2 to 3.2)
			AWG	1×(16 to 12) 2×(16 to 14) 2×(14 to 12)	1×(16 to 10) 2×(16 to 14) 2×(14 to 12)	1×(14 to 10) 2×(14) 2×(12) 2×(10)
	Twisted wire (Note 1)		[mm²]	1×(0.75 to 3.5) 2×(0.75 to 1.5) 2×(1.5 to 2.5)	1×(0.75 to 5.5) 2×(0.75 to 1) 2×(1 to 1.5) 2×(1.5 to 2.5) 2×(2.5 to 4)	1×(0.75 to 8) (Note 8) 2×(0.75 to 1.5) 2×(1.5 to 4) 2×(4 to 6) (Note 9)
			AWG	1×(18 to 12) 2×(18 to 16) 2×(16 to 14)	1×(18 to 10) 2×(16 to 14) 2×(14 to 12)	1×(18 to 6) 2×(18 to 16) 2×(16 to 14) 2×(14 to 12) 2×(12 to 10) (Note 9) 2×(8)
	Wiring stripping dimension		[mm]	9 to 10	10 to 11	14 to 15
	Flexible twisted wire (with sleeve) (Note 1)		[mm²]	1×(0.75 to 2.5) 2×(0.75 to 1.5) 2×(1.5 to 2.5)	1×(0.75 to 2.5) 2×(0.75 to 1) 2×(1 to 1.5) 2×(1.5 to 2.5)	1×(0.75 to 5.5) 2×(0.75 to 1.5) 2×(1.5 to 4) 2×(4 to 6) (Note 9)
			AWG	1×(18 to 14) 2×(18 to 16) 2×(16 to 14)	1×(18 to 12) 2×(16 to 14) 2×(14 to 12)	1×(18 to 10) 2×(18 to 16) 2×(16 to 14) 2×(14 to 12) 2×(12 to 10) (Note 9)
	Sleeve dimension		[mm]	10	12	12 to 15
Crimp terminal connection	Twisted wire Flexible twisted wire (Note 6)		[mm²]	0.75 to 5.5	0.75 to 14 (Note 5)	0.75 to 25
			AWG	18 to 10	18 to 8	18 to 4
	Crimp terminal max. width	Magnetic contactor Thermal overload relay	[mm]	7.7	9.7	12.4
Terminal screw size				M3.5	M4	M5
Tightening tool (Note 3)				⊕2 ⊖1		
Tightening torque			[N·m]	0.8 to 1.0	1.2 to 1.5	2 to 2.5 (Note 9)
			[Lb·in]	7 to 9	11 to 13	18 to 22 (Note 9)

・Control circuit and auxiliary circuits

Frame	Magnetic contactor				SC09 to 65X, SC20 to 38D
	Thermal overload relay				TR18 to 65X
	Auxiliary relays				SCH4X
Direct connection	Solid wire			[mm]	1×(φ1.2 to 2) 2×(φ1.2 to 1.6) 2×(φ1.6 to 2)
				AWG	1×(18 to 12) 2×(18 to 16) 2×(16 to 14) 2×(14 to 12)
	Twisted wire (Note 1)			[mm²]	1×(0.75 to 2.5) 2×(0.75 to 1.5) 2×(1.5 to 2.5)
				AWG	1×(18 to 14) 2×(18 to 16) 2×(16 to 14)
	Wiring stripping dimension			[mm]	9 to 10
	Flexible twisted wire (with sleeve) (Note 1)			[mm²]	1×(0.75 to 2.5) 2×(0.75 to 1.5) 2×(1.5 to 2.5)
				AWG	1×(18 to 14) 2×(18 to 16) 2×(16 to 14)
	Sleeve dimension			[mm]	10
Crimp terminal connection	Twisted wire Flexible twisted wire (Note 6)			[mm²]	0.75 to 2.5
				AWG	18 to 14
	Crimp terminal max. width	Coil terminal		[mm]	7.7
		Auxiliary terminals	Magnetic contactor Auxiliary relays		
			Thermal overload relay		
Terminal screw size					M3.5
Tightening tool (Note 3)					⊕2 ⊖1
Tightening torque				[N·m]	0.8 to 1.0
				[Lb·in]	7 to 9

* Each terminal can connect two crimp terminals.
Make sure the wire does not stick out more than 1 mm. (See Fig. 1.)
The F dimension of the lower crimp terminal must be at least 7 mm for separate mounting unit TZ1H13N and at least 8 mm for TZ1H26N.
* Tighten all terminal screws, even those that are not used for wiring.
* For the main circuit, a UL and CSA standard-compliant wire size of 14 AWG or larger is required. 16 AWG or smaller cannot be used.
* For the control and auxiliary circuits, a UL and CSA standard-compliant wire size of 18 AWG or larger is required.

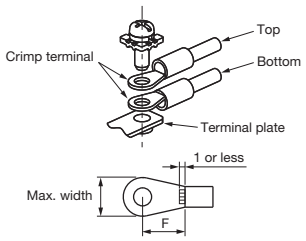


Fig. 1 Connection of two crimp terminals

(Note 1) Flexible twisted wire cannot be used without a sleeve.
When using flexible twisted wire, crimp the sleeve (ferrule) before using the wire.
・For twisted wire of 0.75 to 5.5 mm²: 7 or less strands
・Flexible twisted wire: Wire with more cores than the above

(Note 2) Use crimp terminals not wider than the maximum crimp terminal width, and refer to Fig. 1 for the maximum width of round crimp terminals.

(Note 3) ⊕2: Phillips H type No. 2, ⊖1: I type screwdriver I-1×5.5×L type B

(Note 4) If, after wiring, the connecting wires or crimp terminals become bent due to wire alignment, etc., double-check that the tightening torque is appropriate.

(Note 5) Use a thermal overload relay of 0.75 to 10 mm².

(Note 6) A minimum of 0.5 mm² can be used only for DC-operated types and separate mounting thermal overload relays.

(Note 7) When using a thermal overload relay TR38X with a rating of 32-38A, use a wire of a size larger than 6 mm².

(Note 8) Only one 14 mm² wire can be used. In such a case, separately connect the conductors to both sides of the screw.

(Note 9) When wiring different types in the above specified area, use a tightening torque of 2.5 to 3.0 N·m (22 to 27 Lb·in).

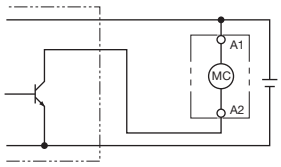
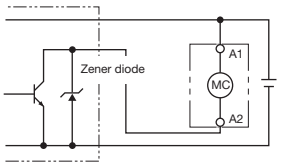
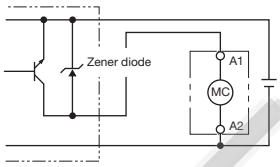
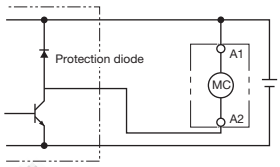
Wiring, Application to special environments

● Connecting with peripheral equipment

There are no surge suppression elements in the operating coils of AC operated and DC operated units. If necessary, use the optional coil-surge suppression unit.

(Note 1) For DC operated types, use a varistor type coil-surge suppression unit.

Table 1 Connecting DC operated operating coil terminals and peripherals

Output configuration of device	No protection diode	Protection diode is built-in		
Connection method				
Examples of devices	DC output models of all types	NPN output photoelectric switch/ proximity switch, etc.	PNP output photoelectric switch/ proximity switch, etc.	Programmable controller, etc.
Precautions	Use an output transistor with a withstand voltage that is equal to or greater than the combined voltage of the coil surge and output power supply.	–		Unit may take longer to rest due to the built-in protection diode.

■ Application to special environments

● Specification for tropical wetlands and cold regions

The specification for tropical wetlands and cold regions required that the terminal screw accessed by the user be changed to stainless steel. All other parts are standard. Magnetic contactors and starters are available as single units or integrated within panels or the like. If they are exported or used in tropical wetlands or cold regions, even standard products can be used under the following conditions.

Ambient conditions			Standard product	Products for tropical wetlands and cold regions
Temperature	In operation	No case cover ❸	-10℃ to +55℃	-25℃ to +55℃ ❶
		With case cover	-10℃ to +40℃	-25℃ to +40℃ ❶
	In transport In storage		-40℃ to +65℃	-60℃ to +65℃ ❷
Relative humidity			85% or less	95% or less

(Note 1) Conditions assume that there is no condensation or icing due to sudden temperature changes.
(Note 2) If used outside of normal operating conditions, the mechanical and electrical life of the product may be diminished.
❶ Thermal overload relays: Down to -10°C.
❷ Thermal overload relays: Down to -40°C.
❸ Refers to the panel inside temperature.

● Precautions regarding condensation and icing

Magnetic contactors and starters (including special products such as those with specifications for tropical wetlands and cold regions) should be used in environments without condensation or icing. Condensation and icing are mainly caused by sudden temperature or humidity changes and can lead to rust, magnetic contact moaning, abnormal attraction, release failure and insulation degradation, any of which can cause unexpected equipment damage and accidents. Please take measures to avoid such circumstances. In particular, caution needs to be given to the formation of unintended condensation and ice as follows: When the product is left in a standalone state, or when there is an equipment configuration where the temperature inside the panel changes easily, or when the panel itself is left outdoors, or when the period until operation after installation is long, or when installing near the coast of a bay, or when there are similar circumstances.

In general, air conditioners, space heaters and moisture regulating materials such as silica gel can be used to help prevent condensation, but please make sure that the power supplied to air conditioners and space heaters is not interrupted due to time zone issues. Moreover, please note that condensation can be induced by temperature changes such as when the air conditioner wind blows directly on equipment inside the panel. We recommend that you also check the inside of the magnetic contactor or magnetic starter when traces of condensation are discovered inside the panel or on equipment inside the panel.

● Application in special atmospheres

・Dust

When using magnetic contactors or starters in dusty environments such as where there is cement, textiles, or construction, the adhesion of dust to the contacts will increase contact resistance and cause an abnormal temperature rise in the contact area, resulting in insulation deterioration and a decrease in electrical durability. If dust gets between the AC exciting electromagnets, the electromagnets will moan due to abnormal attraction. For such applications, make sure to use dustproof panels and equipment.

・Corrosive gas

When using magnetic contactors and starters in chemical plants, refineries, sewage treatment plants, and other locations with high levels of corrosive gases, we offer products with anti-corrosive gas protection that can be used in mildly corrosive environments.

⚠ CAUTION

Do not perform sequence checks manually.
Failure to follow this caution could result in electric shock or fire.

■ Operation

● Operation of thermal overload relay

・TR18X, TR38X

(1) Setting the current [Fig. 1]
Rotate the adjustment dial, and align the full-load current for the motor with the ▼ mark within the scale range. It will not be possible for the product to deliver full performance if used at a point outside the scale. Also, depending on the type of motor used, if the thermal overload relay operates unnecessarily when the motor starts, increase the dial scale setting current value within 5% as a guideline. If raised too much, it will not be possible to provide suitable motor protection, and therefore caution is advised.

(2) Operating indicator [Fig. 1]
If the thermal overload relay operates, the white trip indicator in the operating indicator window will be hidden. (If tripped in the automatic reset state, the white indicator will not be hidden, even if the relay operates.)

(3) Sequence check [Fig. 1]
A sequence check can be carried out by pressing the white trip indicator in the direction indicated by the arrow.

(4) Reset method [Fig. 1]
When the thermal overload relay operates, press the reset rod after eliminating the cause of the abnormality such as overload. Press the reset rod all the way in.
If the reset rod is only pressed in partway, both the NO (a-contact) and NC (b-contact) contacts may remain in a non-conductive state. (It will not be possible to reset the thermal overload relay if it has not sufficiently cooled.)

(5) Switching from manual reset to automatic reset [Fig. 2]
Use the following procedure to switch from manual reset to automatic reset. Use the opposite procedure to switch from automatic reset to manual reset.
[1] Open the front cover.
[2] While pressing the reset rod with a screwdriver, turn it 90 degrees in the clockwise direction.
[3] Check that the reset rod is held in a pressed in state.
[4] Close the front cover.

(6) If in automatic reset state and two-wire circuit
If in the automatic reset state and the circuit is a two-wire circuit, the motor will restart automatically if the thermal overload relay automatically resets, and therefore caution is required.

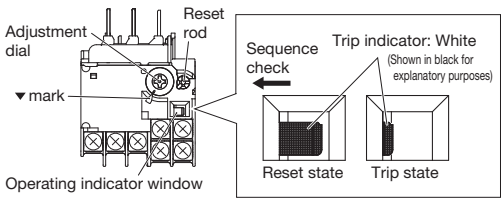


Fig. 1

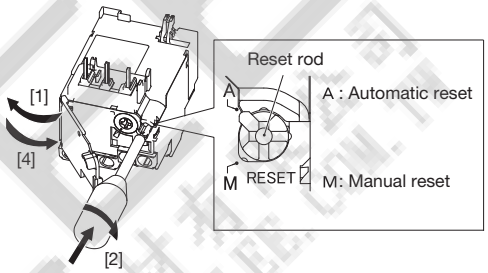


Fig. 2

・TR65X

(1) Setting the current [Fig. 3]
Rotate the adjustment dial, and align the full-load current for the motor with the ▼ mark within the scale range. It will not be possible for the product to deliver full performance if used at a point outside the scale. Also, depending on the type of motor used, if the thermal overload relay operates unnecessarily when the motor starts, increase the dial scale setting current value within 5% as a guideline. If raised too much, it will not be possible to provide suitable motor protection, and therefore caution is advised.

(2) Operating indicator [Fig. 3]
When the thermal overload relay trips, the yellow indicator can be viewed in the trip square-shaped window. (If tripped in the automatic reset state, the yellow indicator will not be completely visible.)

(3) Sequence check [Fig. 3]
Pull the test button toward you to initiate a sequence check. The thermal overload relay may trip during delivery due to vibration caused by transportation or other reasons. In such a case, press the reset button and confirm the reset status before performing the sequence check.

(4) Reset method [Fig. 3]
When the thermal overload relay operates, press the reset rod after eliminating the cause of the abnormality such as overload. (It will not be possible to reset the thermal overload relay if it has not sufficiently cooled.)

(5) Switching from manual reset to automatic reset [Fig. 4]
Use the following procedure to switch from manual reset to automatic reset. Use the opposite procedure to switch from automatic reset to manual reset.
[1] Insert a thin flathead screwdriver into the groove on the indicator cover and remove the stopper.
[2] & [3] While pressing the reset button, turn it 90 degrees in the clockwise direction.
[4] Check that the reset rod is held in a pressed in state.

(6) If in automatic reset state and two-wire circuit
If in the automatic reset state and the circuit is a two-wire circuit, the motor will restart automatically if the thermal overload relay automatically resets, and therefore caution is required.

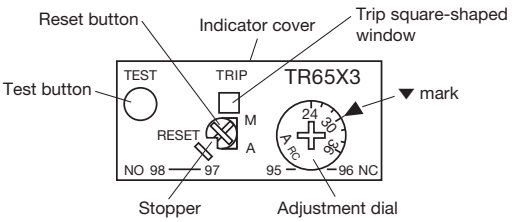


Fig. 3

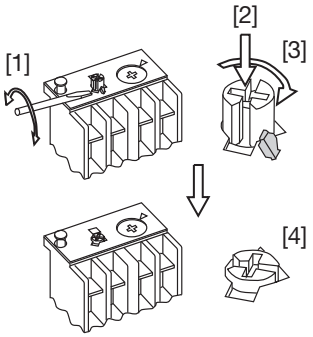


Fig. 4

Operation, Recommended updating

● When used as a separate mounting type

For the types and ratings in Table 1, the thermal overload relay will tend to be inoperative when used as a separate mounting type, compared to when used as a magnetic starter. In such a case, correct the dial setting current value as shown in Table 1 before using it.

Table 1

Type	Ratings	Correction value
TR18X TR38X TR65X	13-16.5A 15-18A 18-24A 20-26A 24-36A 32-42A 36-46A 44-54A 53-65A	Set the dial setting to a value that is 5% lower
TR38X	26-32A 32-38A	Set the dial setting to a value that is 10% lower

● Application to single-phase DC motors

When applied to single-phase DC motors, connect it so that all heat elements can be energized as shown in Fig. 5. All heat elements must be energized to ensure proper operation. The setting current adjustment is the same as when using AC.

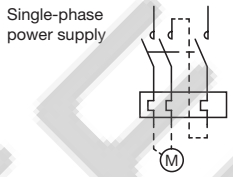


Fig. 5

● Ambient temperature compensation characteristics

With thermal overload relays, changes in ambient temperature tend to result in an operating characteristic of undercompensation in that the pick-up current is high on the low-temperature side, and low on the high-temperature side. As a result, it may be necessary to correct the setting current value depending on the operating environment.

The setting current value correction factor will be basically as shown in Fig. 6 based on the ambient temperature.

If the operational ambient temperature differs significantly by as much as 20°C, calculate the setting current value after correction using the following example as a guide.

[Example] Dial setting value calculation method for ambient temperature of 55°C

$$\frac{\text{Dial setting current value for 20°C}}{\text{Correction factor for ambient temperature of 55°C}} = \text{Dial setting current value for ambient temperature of 55°C}$$

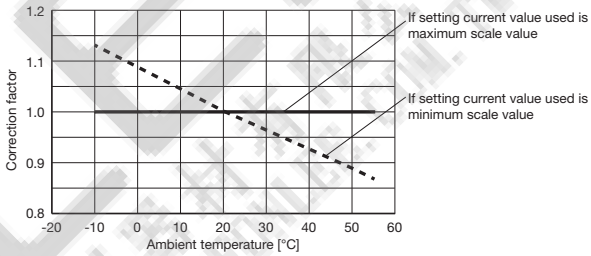


Fig. 6-1 TR18X, TR38X

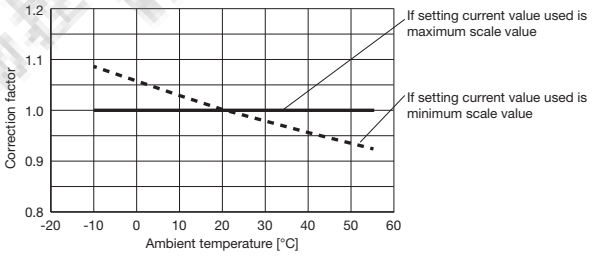


Fig. 6-2 TR65X

● Mounting, removal to and from magnetic contactors

(1) Mounting [Fig. 7]

Use the following mounting procedure.

[1] Loosen the terminal screws on terminals 2, 4, and 6 of the magnetic contactor.

[2] Align the legs of the thermal overload relay with the holes of the magnetic contactor and insert them in the direction of the arrow.

[3] Insert the main circuit of the thermal overload relay into the right side of each terminal screw of the magnetic contactor (TR18X and TR38X only).

[4] Securely tighten the terminal screws of the magnetic contactor with the specified torque (Refer to the user's manual of the magnetic contactor).

(2) Removal [Fig. 8]

Use the following removal procedure.

[1] Loosen the terminal screws on terminals 2, 4, and 6 of the magnetic contactor.

[2] Detach the thermal overload relay in the direction of the arrow.

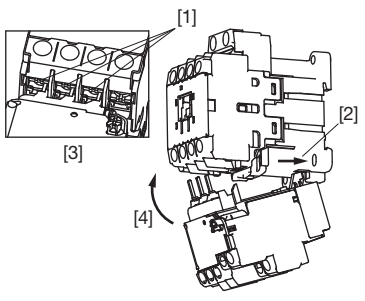


Fig. 7

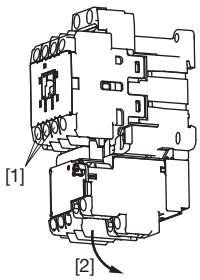


Fig. 8

■ Recommended updating

The main contacts, mechanical components, and other parts in Fuji Electric magnetic contactors and starters have a wear life expectancy based on the number of times they are operated. Coil electric wires and electronic components in electronic units have a life expectancy based on degradation over time according to the environment and conditions they are used in.

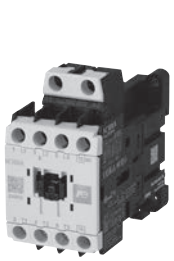
We recommend refreshing Fuji Electric magnetic contactors and starters when they reach the specified number of operations as noted in the user's manual or catalog, or roughly 10 years from the manufacture date under standard usage conditions as noted in the "Survey Concerning Recommended Refresh Periods for Low Voltage Devices" report published by The Japan Electrical Manufacturers' Association (JEMA).

Magnetic Contactors and Starters

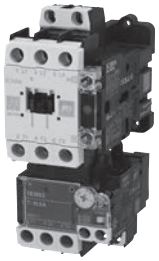
■ Features

Global standard product that conforms to both Japanese and international standards

- Standard products conform to, and have obtained certification for the world's major standards (IEC, GB, UL, CSA, JIS)
- AC and DC operating coils and low consumption DC products are available (SC09 to SC38)
- Broad lineup of accessories
  Auxiliary contact blocks (2-pole, 4-pole)
  Coil-surge suppression units
  Interlock units
- Improved thermal overload relay wireability
  Terminal arrangement with no interference from main circuit, auxiliary circuit wiring



SC18XA



SW38XA

■ Ordering Information (Types)

● Magnetic Contactors

SC	09X	A	H	-	1	10
(1)	(2)	(3)	(4)		(5)	(6)

(1) Series (2) Frame size (3) Coil operation method (A: AC operated type, G: DC operated type, U: Extra pick-up operating coil type)

(4) Auxiliary contact structure specification (No: Standard twin contact, H: High capacity auxiliary contact (with single contact))

(5) Coil voltage designation code (see the code table on page 21) (6) Auxiliary contact configuration

● Magnetic Starters

SW	09X	A	H	3	-	1	10	T	007	A
(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)

(1) Series (2) Frame size (3) Coil operation method (A: AC operated type, G: DC operated type, U: Extra pick-up operating coil type)

(4) Auxiliary contact structure specification (No: Standard twin contact, H: High capacity auxiliary contact (with single contact))

(5) Number of heater elements (3: 3-element, K: 2E with open phase detection function) (6) Coil voltage designation code (see the code table on page 21)

(7) Auxiliary contact configuration (8) With or without case cover (T: Without case cover) (9) Heater element rating

(10) Reset method (No: Manual reset, A: Automatic reset*) * Minimum sales unit : 20 units

■ Ratings and types

● Magnetic Contactors

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	500 to 550V	Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	500 to 550V	Resistive load (AC-1) 200 to 240V	380 to 440V	Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (5)	Auxiliary contact arrangement (6)	Type
09 [09X]	2.5	4	4	11	9	7	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T]	1NO [10]	**SC09XA-□10**
												1NC [01]	**SC09XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10]	**SC09XAH-□10**
												1NC [01]	**SC09XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y]	1NO [10]	**SC09XG-□10**
												1NC [01]	**SC09XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10]	**SC09XGH-□10**
												1NC [01]	**SC09XGH-□01**
12 [12X]	3.5	5.5	5.5	13	12	9	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T]	1NO [10]	**SC12XA-□10**
												1NC [01]	**SC12XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10]	**SC12XAH-□10**
												1NC [01]	**SC12XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y]	1NO [10]	**SC12XG-□10**
												1NC [01]	**SC12XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10]	**SC12XGH-□10**
												1NC [01]	**SC12XGH-□01**
18 [18X]	4	7.5	7	18	18	13	25	25	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T]	1NO [10]	**SC18XA-□10**
												1NC [01]	**SC18XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10]	**SC18XAH-□10**
												1NC [01]	**SC18XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y]	1NO [10]	**SC18XG-□10**
												1NC [01]	**SC18XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10]	**SC18XGH-□10**
												1NC [01]	**SC18XGH-□01**
20 [20X]	5	10	11	20	20	17	32	32	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T]	1NO [10]	**SC20XA-□10**
												1NC [01]	**SC20XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10]	**SC20XAH-□10**
												1NC [01]	**SC20XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y]	1NO [10]	**SC20XG-□10**
												1NC [01]	**SC20XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10]	**SC20XGH-□10**
												1NC [01]	**SC20XGH-□01**
20 [20D]	5	10	11	20	20	17	32	32	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S]	2NO [20]	**SC20DA-□20**
												1NO1NC [11]	**SC20DA-□11**
												2NC [02]	**SC20DA-□02**
										Single contact [H]	110V [H] 220V [M] 400V [4]	2NO [20]	**SC20DAH-□20**
												1NO1NC [11]	**SC20DAH-□11**
												2NC [02]	**SC20DAH-□02**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M]	2NO [20]	**SC20DG-□20**
												1NO1NC [11]	**SC20DG-□11**
												2NC [02]	**SC20DG-□02**
										Single contact [H]	60V [G] 125V [D] 24V (Low consumption) [L]	2NO [20]	**SC20DGH-□20**
												1NO1NC [11]	**SC20DGH-□11**
												2NC [02]	**SC20DGH-□02**
26 [26X]	5.5	11	11	26	26	17	40	40	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T]	1NO [10]	**SC26XA-□10**
												1NC [01]	**SC26XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10]	**SC26XAH-□10**
												1NC [01]	**SC26XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y]	1NO [10]	**SC26XG-□10**
												1NC [01]	**SC26XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10]	**SC26XGH-□10**
												1NC [01]	**SC26XGH-□01**
26 [26D]	5.5	11	11	26	26	17	40	40	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S]	2NO [20]	**SC26DA-□20**
												1NO1NC [11]	**SC26DA-□11**
												2NC [02]	**SC26DA-□02**
										Single contact [H]	110V [H] 220V [M] 400V [4]	2NO [20]	**SC26DAH-□20**
												1NO1NC [11]	**SC26DAH-□11**
												2NC [02]	**SC26DAH-□02**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M]	2NO [20]	**SC26DG-□20**
												1NO1NC [11]	**SC26DG-□11**
												2NC [02]	**SC26DG-□02**
										Single contact [H]	60V [G] 125V [D] 24V (Low consumption) [L]	2NO [20]	**SC26DGH-□20**
												1NO1NC [11]	**SC26DGH-□11**
												2NC [02]	**SC26DGH-□02**

(Note) The □ in the type field corresponds to the coil voltage specification code.

Magnetic Contactors and Starters

● Magnetic Contactors (Continued)

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e)			Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e)			Rated operational current [A] Resistive load (AC-1)		Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (5)	Auxiliary contact arrangement (6)	Type
	200 to 240V	380 to 440V	500 to 550V	200 to 240V	380 to 440V	500 to 550V	200 to 240V	380 to 440V					
32 [32X]	7.5	15	15	32	32	24	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X]	1NO [10]	**SC32XA-□10**
											48V [F] 120V [K] 240V [P] 440V [T]	1NC [01]	**SC32XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S]	1NO [10]	**SC32XAH-□10**
											110V [H] 220V [M] 400V [4]	1NC [01]	**SC32XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2]	1NO [10]	**SC32XG-□10**
											24V [E] 110V [H] 210V [Y]	1NC [01]	**SC32XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M]	1NO [10]	**SC32XGH-□10**
											60V [G] 125V [D] 24V (Low consumption) [L]	1NC [01]	**SC32XGH-□01**
38 [38X]	11	18.5	15	38	38	24	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X]	1NO [10]	**SC38XA-□10**
											48V [F] 120V [K] 240V [P] 440V [T]	1NC [01]	**SC38XA-□01**
										Single contact [H]	100V [1] 200V [2] 380V [S]	1NO [10]	**SC38XAH-□10**
											110V [H] 220V [M] 400V [4]	1NC [01]	**SC38XAH-□01**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2]	1NO [10]	**SC38XG-□10**
											24V [E] 110V [H] 210V [Y]	1NC [01]	**SC38XG-□01**
										Single contact [H]	48V [F] 120V [K] 220V [M]	1NO [10]	**SC38XGH-□10**
											60V [G] 125V [D] 24V (Low consumption) [L]	1NC [01]	**SC38XGH-□01**
38 [38D]	11	18.5	15	38	38	24	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X]	2NO [20]	**SC38DA-□20**
											48V [F] 120V [K] 240V [P] 440V [T]	1NO1NC [11]	**SC38DA-□11**
											100V [1] 200V [2] 380V [S]	2NC [02]	**SC38DA-□02**
										Single contact [H]	110V [H] 220V [M] 400V [4]	2NO [20]	**SC38DAH-□20**
												1NO1NC [11]	**SC38DAH-□11**
												2NC [02]	**SC38DAH-□02**
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2]	2NO [20]	**SC38DG-□20**
											24V [E] 110V [H] 210V [Y]	1NO1NC [11]	**SC38DG-□11**
											48V [F] 120V [K] 220V [M]	2NC [02]	**SC38DG-□02**
										Single contact [H]	60V [G] 125V [D] 24V (Low consumption) [L]	2NO [20]	**SC38DGH-□20**
												1NO1NC [11]	**SC38DGH-□11**
												2NC [02]	**SC38DGH-□02**
40 [40X]	11	18.5	18.5	40	40	29	60	60	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X]	1NO1NC [11]	**SC40XA-□11**
											48V [F] 120V [K] 240V [P] 440V [T]		
										Single contact [H]	100V [1] 200V [2] 380V [S]		**SC40XAH-□11**
											110V [H] 220V [M] 400V [4]		
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2]		**SC40XG-□11**
											24V [E] 110V [H] 210V [Y]		
										Single contact [H]	48V [F] 120V [K] 220V [M]		**SC40XGH-□11**
											60V [G] 125V [D]		
50 [50X]	15	22	25	50	50	38	80	80	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X]		**SC50XA-□11**
											48V [F] 120V [K] 240V [P] 440V [T]		
										Single contact [H]	100V [1] 200V [2] 380V [S]		**SC50XAH-□11**
											110V [H] 220V [M] 400V [4]		
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2]		**SC50XG-□11**
											24V [E] 110V [H] 210V [Y]		
										Single contact [H]	48V [F] 120V [K] 220V [M]		**SC50XGH-□11**
											60V [G] 125V [D]		
65 [65X]	18.5	30	37	65	65	60	80	80	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X]		**SC65XA-□11**
											48V [F] 120V [K] 240V [P] 440V [T]		
										Single contact [H]	100V [1] 200V [2] 380V [S]		**SC65XAH-□11**
											110V [H] 220V [M] 400V [4]		
									DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2]		**SC65XG-□11**
											24V [E] 110V [H] 210V [Y]		
										Single contact [H]	48V [F] 120V [K] 220V [M]		**SC65XGH-□11**
											60V [G] 125V [D]		

(Note) The □ in the type field corresponds to the coil voltage specification code.

● Magnetic Starters

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (6)	Auxiliary contact arrangement (7)	Thermal overload relay rating [A] Rating range [Designation code] (9)	Type
09 [09X]	2.5	4	11	9	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10] 1NC [01]	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW09XA△-□10T■■■** **SW09XA△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10] 1NC [01]	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007]	**SW09XG△-□10T■■■** **SW09XG△-□01T■■■**
12 [12X]	3.5	5.5	13	12	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10] 1NC [01]	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW12XA△-□10T■■■** **SW12XA△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10] 1NC [01]	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009]	**SW12XG△-□10T■■■** **SW12XG△-□01T■■■**
18 [18X]	4	7.5	18	18	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10] 1NC [01]	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW18XA△-□10T■■■** **SW18XA△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10] 1NC [01]	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 13-16.5 [013] 15-18 [015]	**SW18XG△-□10T■■■** **SW18XG△-□01T■■■**
20 [20X]	5	10	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10] 1NC [01]	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW20XA△-□10T■■■** **SW20XA△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10] 1NC [01]	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7]	**SW20XG△-□10T■■■** **SW20XG△-□01T■■■**
20 [20D]	5	10	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO [20] 1NO1NC [11] 2NC [02]	2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018]	**SW20DA△-□20T■■■** **SW20DA△-□11T■■■** **SW20DA△-□02T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO [20] 1NO1NC [11] 2NC [02]		**SW20DG△-□20T■■■** **SW20DG△-□11T■■■** **SW20DG△-□02T■■■**
26 [26X]	5.5	11	26	26	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10] 1NC [01]	4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018] 20-26 [020]	**SW26XA△-□10T■■■** **SW26XA△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10] 1NC [01]		**SW26XG△-□10T■■■** **SW26XG△-□01T■■■**
26 [26D]	5.5	11	26	26	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO [20] 1NO1NC [11] 2NC [02]		**SW26DA△-□20T■■■** **SW26DA△-□11T■■■** **SW26DA△-□02T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO [20] 1NO1NC [11] 2NC [02]		**SW26DG△-□20T■■■** **SW26DG△-□11T■■■** **SW26DG△-□02T■■■**

Note: □ corresponds to the coil voltage designation code.
■■■ corresponds to the heater element designation code.
△ corresponds to the Number of heater elements.

Magnetic Contactors and Starters

● Magnetic Starters (Continued)

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (6)	Auxiliary contact arrangement (7)	Thermal overload relay rating [A] Rating range [Designation code] (9)	Type
38 [38X]	11	18.5	38	38	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO [10] 1NC [01]	4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018] 20-26 [020] 26-32 [026] 32-38 [032]	**SW38XA△-□10T■■■** **SW38XA△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO [10] 1NC [01]		**SW38XG△-□10T■■■** **SW38XG△-□01T■■■**
38 [38D]	11	18.5	38	38	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO [20] 1NO1NC [11] 2NC [02]		**SW38DA△-□20T■■■** **SW38DA△-□11T■■■** **SW38DA△-□02T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO [20] 1NO1NC [11] 2NC [02]		**SW38DG△-□20T■■■** **SW38DG△-□11T■■■** **SW38DG△-□02T■■■**
40 [40X]	11	18.5	40	40	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC [11]	4-6 [004] 5-8 [005] 6-9 [006] 7-11 [007] 9-13 [009] 12-18 [012] 18-26 [018] 24-36 [024] 32-42 [032]	**SW40XA△-□11T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]			**SW40XG△-□11T■■■**
50 [50X]	15	22	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC [11]	7-11 [007] 9-13 [009] 12-18 [012] 18-26 [018] 24-36 [024] 32-42 [032] 36-46 [036] 44-54 [044]	**SW50XA△-□11T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]			**SW50XG△-□11T■■■**
65 [65X]	18.5	30	65	65	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC [11]	7-11 [007] 9-13 [009] 12-18 [012] 18-26 [018] 24-36 [024] 32-42 [032] 36-46 [036] 44-54 [044] 53-65 [053]	**SW65XA△-□11T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]			**SW65XG△-□11T■■■**

Note: □ corresponds to the coil voltage designation code.
■■■ corresponds to the heater element designation code.
△ corresponds to the Number of heater elements.

● Heater element rating

Heater element rating [A]	Heater element designation code (9)	Magnetic Starters SW09X	SW12X	SW18X	SW20X SW20D	SW26X SW26D	SW38X SW38D	SW40X	SW50X	SW65X
0.24 - 0.36	P24	○	○	○	○	○	○			
0.34 - 0.52	P34	○	○	○	○	○	○			
0.48 - 0.72	P48	○	○	○	○	○	○			
0.64 - 0.96	P64	○	○	○	○	○	○			
0.8 - 1.2	P80	○	○	○	○	○	○			
0.95 - 1.45	P95	○	○	○	○	○	○			
1.4 - 2.1	1P4	○	○	○	○	○	○			
1.7 - 2.6	1P7	○	○	○	○	○	○			
2.2 - 3.4	2P2	○	○	○	○	○	○			
2.8 - 4.2	2P8	○	○	○	○	○	○			
4 - 6	004	○	○	○	○	○	○	○		
5 - 7.5	005	○	○	○	○	○	○			
5 - 8	005							○		
6 - 9	006	○	○	○	○	○	○	○		
7 - 10.5	007	○	○	○	○	○	○			
7 - 11	007							○	○	○
9 - 13	009	○	○	○	○	○	○	○	○	○
12 - 18	012				○	○	○	○	○	○
13 - 16.5	013			○						
15 - 18	015			○						
18 - 24	018				○	○	○			
18 - 26	018							○	○	○
20 - 26	020					○	○			
24 - 36	024							○	○	○
26 - 32	026						○			
32 - 38	032						○			
32 - 42	032							○	○	○
36 - 46	036								○	○
44 - 54	044								○	○
53 - 65	053									○

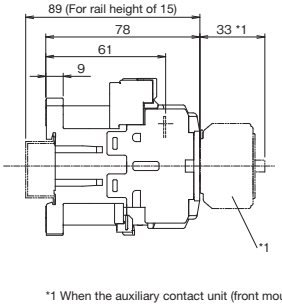
■ Outline and wiring diagram

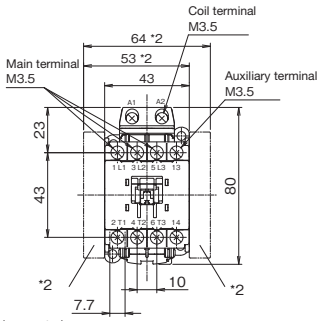
● AC operated type magnetic contactor

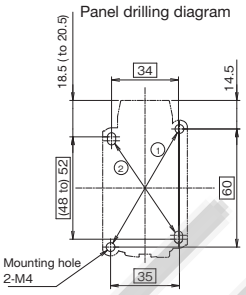
[Unit : mm]

SC09XA
SC12XA
SC18XA

35mm







Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 A1 A2 / 2/T1 4/T2 6/T3 14
1NC	1/L1 3/L2 5/L3 21 A1 A2 / 2/T1 4/T2 6/T3 22

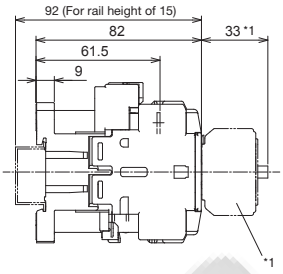
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

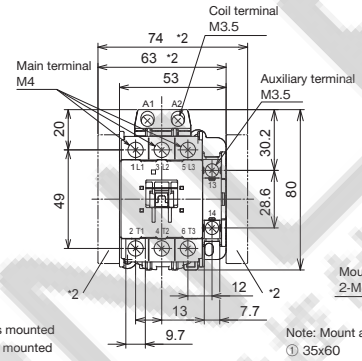
Note: Mount at two diagonal mounting holes.
① 35×60 : Compatible with SC-03, SC-0, SC-05, SC-4-0
② 34×(48 to)52 : Compatible with SC-03, SC-0, SC-05, SC-4-0

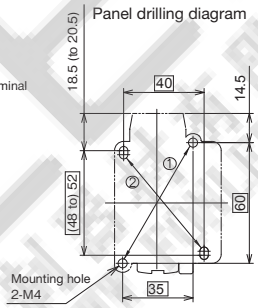
Weight : 0.27kg

SC20XA
SC26XA
SC32XA
SC38XA

35mm







Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 A1 A2 / 2/T1 4/T2 6/T3 14
1NC	1/L1 3/L2 5/L3 21 A1 A2 / 2/T1 4/T2 6/T3 22

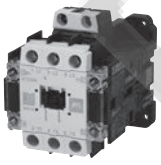
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

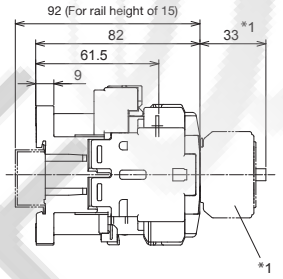
Note: Mount at two diagonal mounting holes.
① 35x60 : Compatible with SC-4-1
② 40x(48 to)52

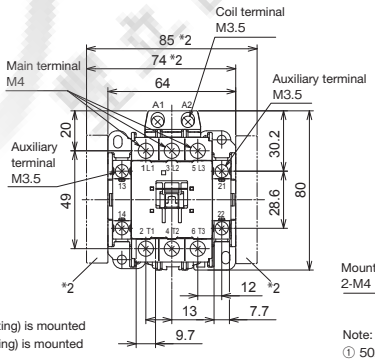
Weight : 0.36kg

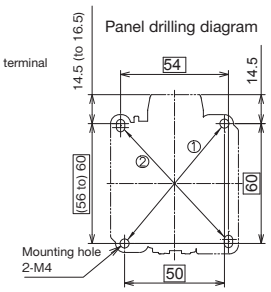
SC20DA
SC26DA
SC38DA

35mm









Auxiliary contact	Contact arrangement
2NO	13 1/L1 3/L2 5/L3 23 A1 A2 / 14 2/T1 4/T2 6/T3 24
1NO1NC	13 1/L1 3/L2 5/L3 21 A1 A2 / 14 2/T1 4/T2 6/T3 22
2NC	11 1/L1 3/L2 5/L3 21 A1 A2 / 12 2/T1 4/T2 6/T3 22

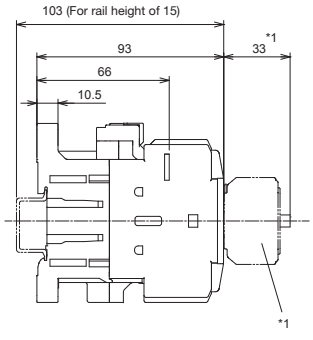
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

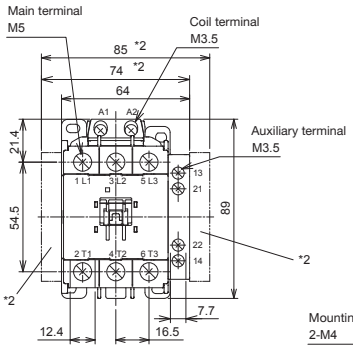
Note: Mount at two diagonal mounting holes.
① 50x60 : Compatible with SC-5-1
② 54x(56 to)60 : Compatible with SC-5-1

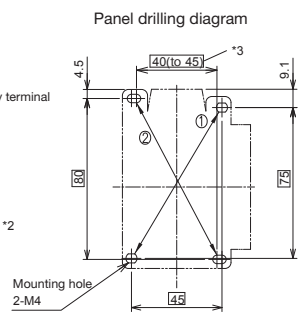
Weight : 0.38kg

SC40XA
SC50XA
SC65XA

35mm







Auxiliary contact	Contact arrangement
1NO1NC	1/L1 3/L2 5/L3 13 21 A1 A2 / 2/T1 4/T2 6/T3 14 22

*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted
*3 Apply 45 x 80 when the coil drive unit for IC output is mounted

Note: Mount at two diagonal mounting holes.
① 45x75
② 40(to 45)x80

Weight : 0.54kg

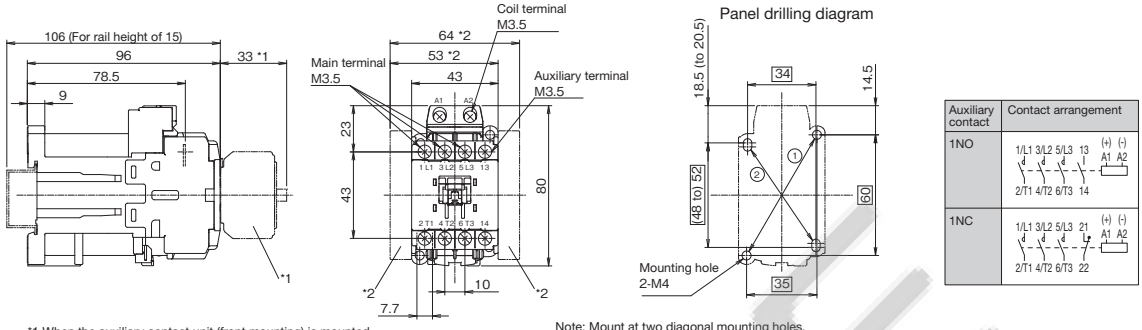
Magnetic Contactors and Starters

● DC operated type magnetic contactor (Continued)

[Unit : mm]

SC09XG
SC12XG
SC18XG

35mm



*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

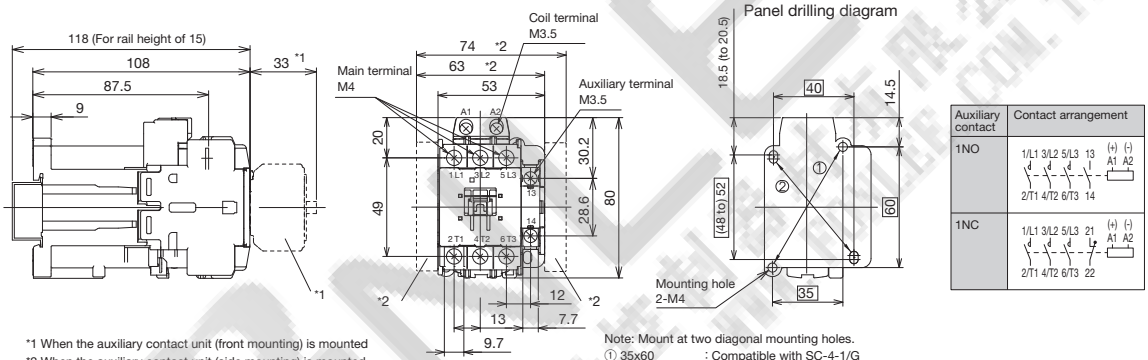
Note: Mount at two diagonal mounting holes.
① 35x60 : Compatible with SC-03/G, SC-0/G, SC-05/G, SC-4-0/G
② 34x(48 to)52 : Compatible with SC-03/G, SC-0/G, SC-05/G, SC-4-0/G

Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 (+) (-) A1 A2 2/T1 4/T2 6/T3 14
1NC	1/L1 3/L2 5/L3 21 (+) (-) A1 A2 2/T1 4/T2 6/T3 22

Weight : 0.35kg

SC20XG
SC26XG
SC32XG
SC38XG

35mm



*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

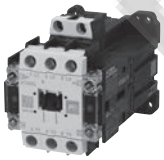
Note: Mount at two diagonal mounting holes.
① 35x60 : Compatible with SC-4-1/G
② 40x(48 to)52

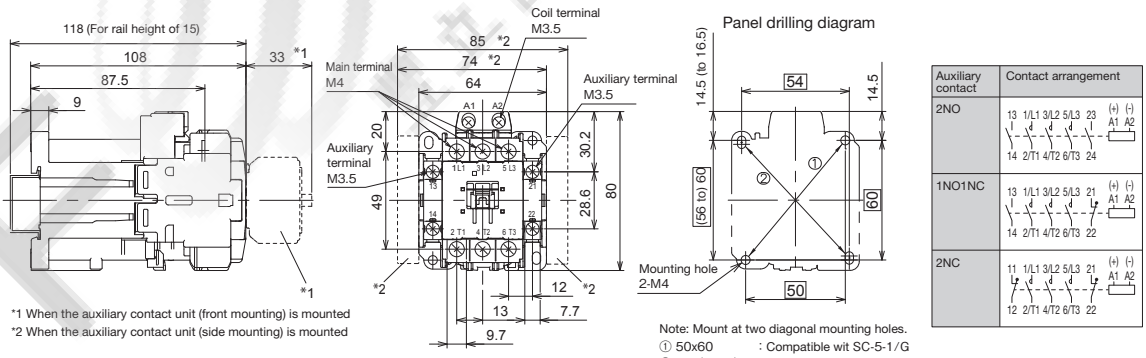
Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 (+) (-) A1 A2 2/T1 4/T2 6/T3 14
1NC	1/L1 3/L2 5/L3 21 (+) (-) A1 A2 2/T1 4/T2 6/T3 22

Weight : 0.49kg

SC20DG
SC26DG
SC38DG

35mm





*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

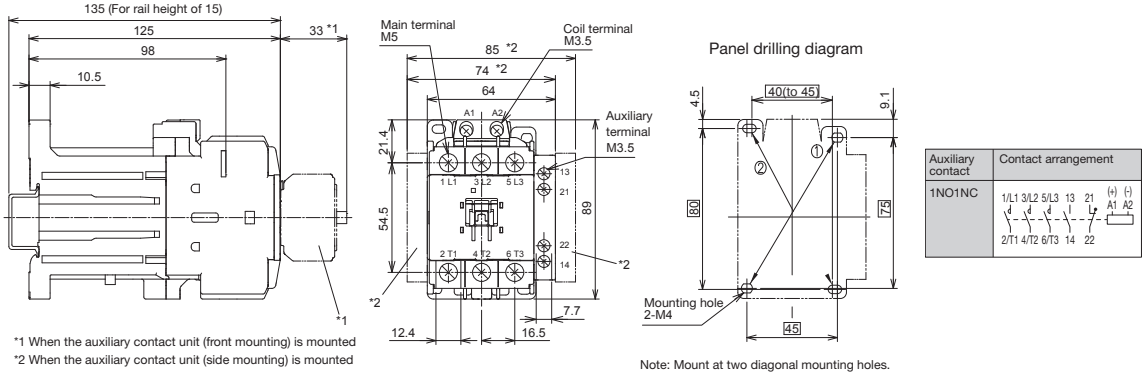
Note: Mount at two diagonal mounting holes.
① 50x60 : Compatible wit SC-5-1/G
② 54x(56 to)60 : Compatible wit SC-5-1/G

Auxiliary contact	Contact arrangement
2NO	13 1/L1 3/L2 5/L3 23 (+) (-) A1 A2 14 2/T1 4/T2 6/T3 24
1NO1NC	13 1/L1 3/L2 5/L3 21 (+) (-) A1 A2 14 2/T1 4/T2 6/T3 22
2NC	11 1/L1 3/L2 5/L3 21 (+) (-) A1 A2 12 2/T1 4/T2 6/T3 22

Weight : 0.52kg

SC40XG
SC50XG
SC65XG

35mm



*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 45x75
② 40(to 45)x80

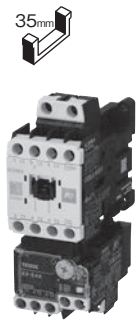
Auxiliary contact	Contact arrangement
1NO1NC	1/L1 3/L2 5/L3 13 21 (+) (-) A1 A2 2/T1 4/T2 6/T3 14 22

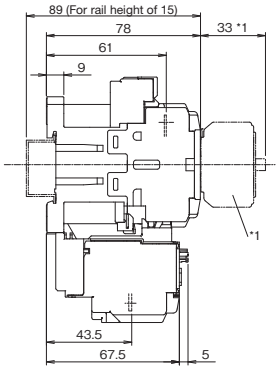
Weight : 0.78kg

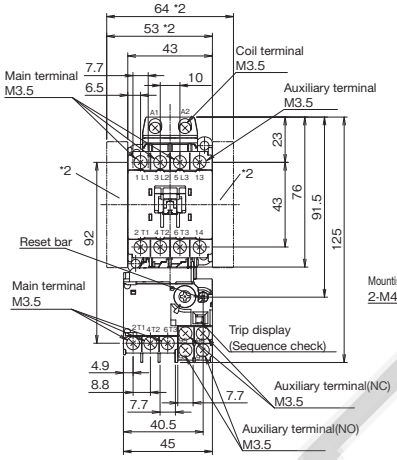
● AC operated type magnetic starter

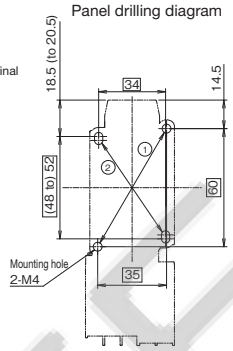
[Unit : mm]

SW09XA
SW12XA
SW18XA









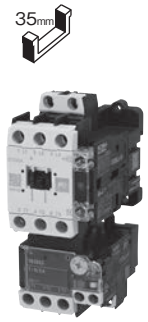
Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 A1 A2 / 14 97 95 / 2/T1 4/T2 6/T3 98 96
1NC	1/L1 3/L2 5/L3 21 A1 A2 / 22 97 95 / 2/T1 4/T2 6/T3 98 96

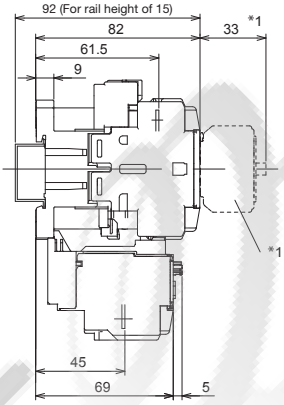
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

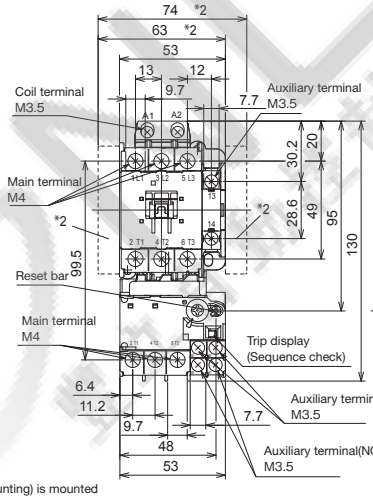
Note: Mount at two diagonal mounting holes.
① 35×60 : Compatible with SW-03, SW-0, SW-05, SW-4-0
② 34×(48 to)52 : Compatible with SW-03, SW-0, SW-05, SW-4-0

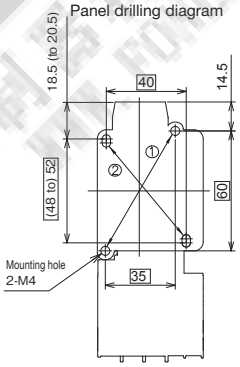
Weight : 0.37kg

SW20XA
SW26XA
SW38XA









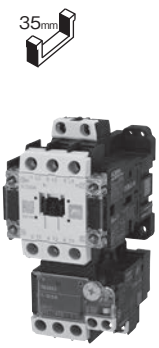
Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 A1 A2 / 14 97 95 / 2/T1 4/T2 6/T3 98 96
1NC	1/L1 3/L2 5/L3 21 A1 A2 / 22 97 95 / 2/T1 4/T2 6/T3 98 96

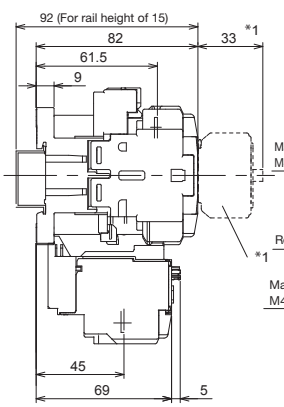
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

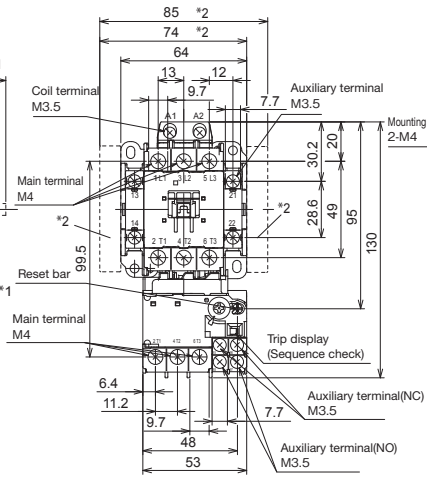
Note: Mount at two diagonal mounting holes.
① 35x60 : Compatible with SW-4-1
② 40x(48 to)52

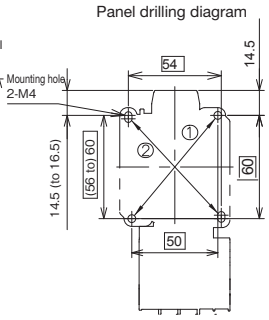
Weight : 0.49kg

SW20DA
SW26DA
SW38DA









Auxiliary contact	Contact arrangement
2NO	13 1/L1 3/L2 5/L3 23 A1 A2 / 14 24 97 95 / 2/T1 4/T2 6/T3 98 96
1NO1NC	13 1/L1 3/L2 5/L3 21 A1 A2 / 14 22 97 95 / 2/T1 4/T2 6/T3 98 96
2NC	11 1/L1 3/L2 5/L3 21 A1 A2 / 12 22 97 95 / 2/T1 4/T2 6/T3 98 96

*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 50x60 : Compatible with SW-5-1
② 54x(56 to)60 : Compatible with SW-5-1

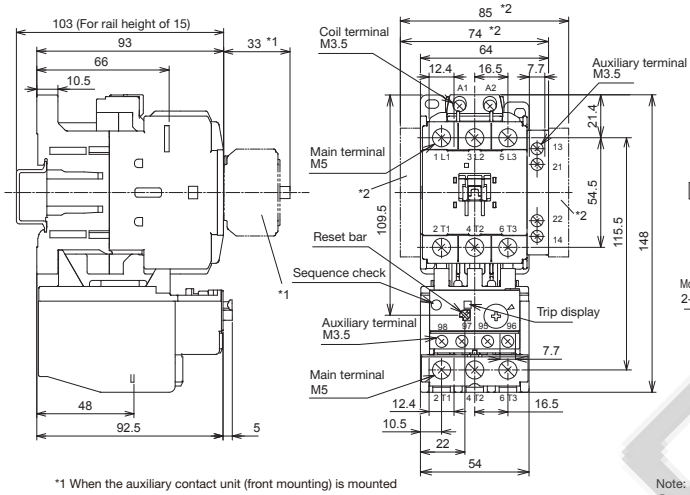
Weight : 0.51kg

Magnetic Contactors and Starters

● AC operated type magnetic starter (Continued)

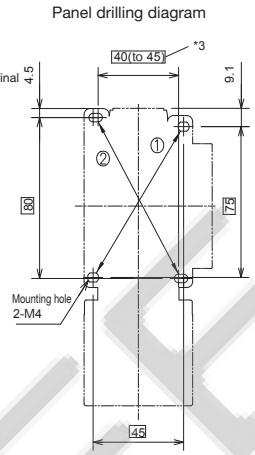
[Unit : mm]

SW40XA
SW50XA
SW65XA

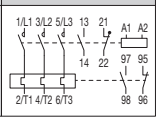


*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted
*3 Apply 45 x 80 when the coil drive unit for IC output is mounted.

Panel drilling diagram



Note: Mount at two diagonal mounting holes.
① 45x75
② 40(to 45)x80

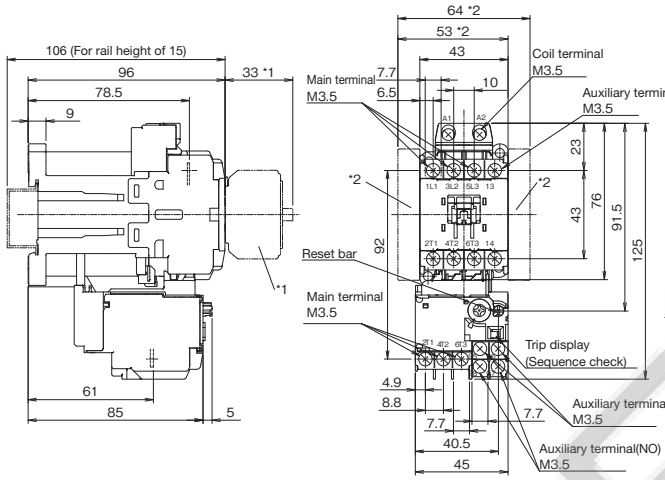
Auxiliary contact	Contact arrangement
1NO1NC	

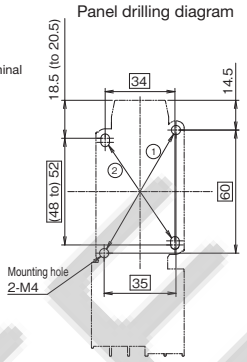
Weight : 0.77kg

● DC operated type magnetic starter

[Unit : mm]

SW09XG
SW12XG
SW18XG





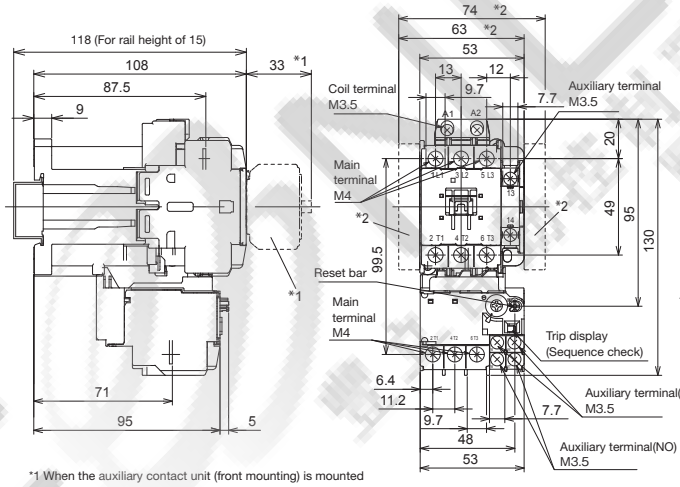
Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 (+) A1 (-) A2 / 14 97 95 / 2/T1 4/T2 6/T3 98 96
1NC	1/L1 3/L2 5/L3 21 (+) A1 (-) A2 / 22 97 95 / 2/T1 4/T2 6/T3 98 96

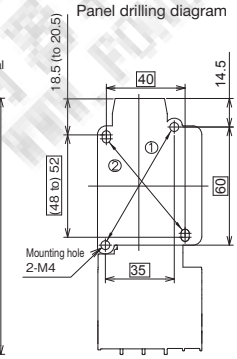
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 35×60 : Compatible with SW-03/G, SW-0/G, SW-05/G, SW-4-0/G
② 34×(48 to)52 : Compatible with SW-03/G, SW-0/G, SW-05/G, SW-4-0/G

Weight : 0.45kg

SW20XG
SW26XG
SW38XG





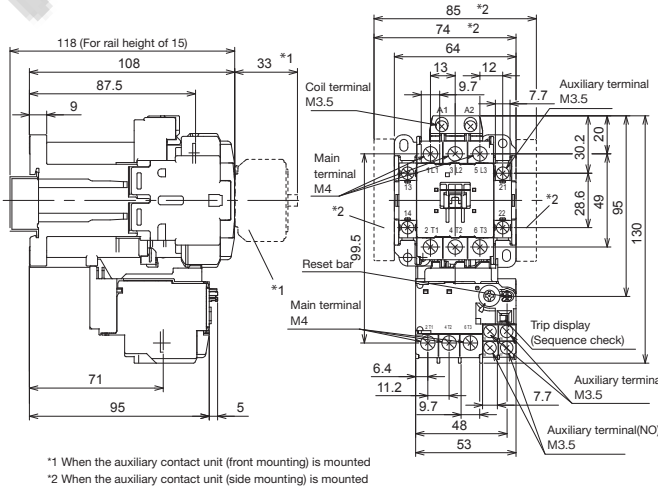
Auxiliary contact	Contact arrangement
1NO	1/L1 3/L2 5/L3 13 (+) A1 (-) A2 / 14 97 95 / 2/T1 4/T2 6/T3 98 96
1NC	1/L1 3/L2 5/L3 21 (+) A1 (-) A2 / 22 97 95 / 2/T1 4/T2 6/T3 98 96

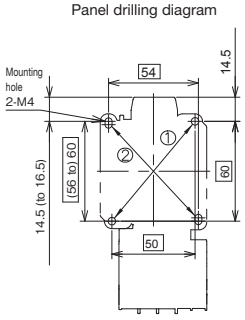
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 35x60 : Compatible with SW-4-1/G
② 40x(48 to)52

Weight : 0.62kg

SW20DG
SW26DG
SW38DG





Auxiliary contact	Contact arrangement
2NO	13 1/L1 3/L2 5/L3 23 (+) A1 (-) A2 / 14 24 97 95 / 2/T1 4/T2 6/T3 98 96
1NO1NC	13 1/L1 3/L2 5/L3 21 (+) A1 (-) A2 / 14 22 97 95 / 2/T1 4/T2 6/T3 98 96
2NC	11 1/L1 3/L2 5/L3 21 (+) A1 (-) A2 / 12 22 97 95 / 2/T1 4/T2 6/T3 98 96

*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 50x60 : Compatible with SW-5-1/G
② 54x(56 to)60 : Compatible with SW-5-1/G

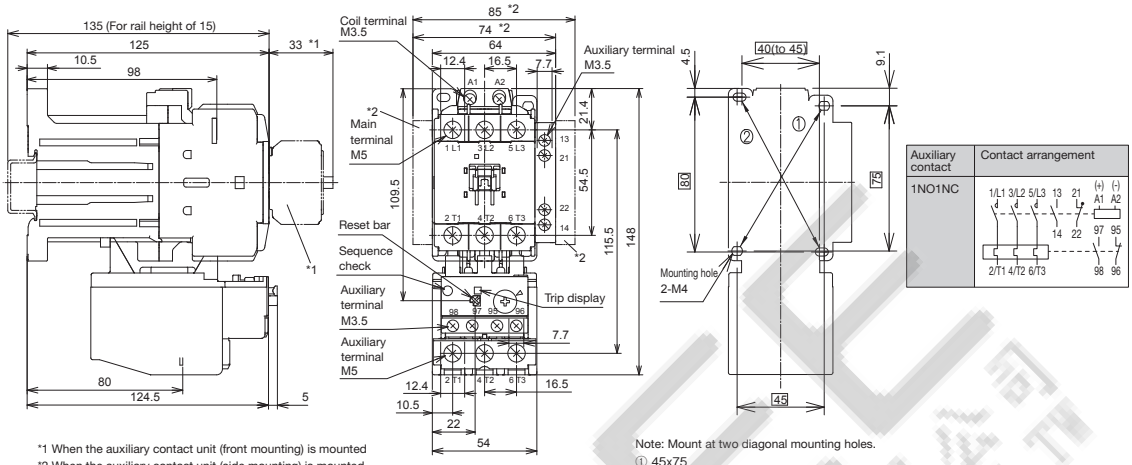
Weight : 0.65kg

Magnetic Contactors and Starters

● DC operated type magnetic starter (Continued)

[Unit : mm]

SW40XG
SW50XG
SW65XG



*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 45x75
② 40(to 45)x80

Weight : 1.00kg

Reversing Magnetic Contactors and Starters

■ Features

- Suitable for switching between forward and reverse motor operation.
- These products come standard with mechanical interlocks.

SC18XAR

■ Ordering Information (Types)

● Reversing Magnetic Contactors

SC	09X	A	H	R	-	1	10
(1)	(2)	(3)	(4)	(5)		(6)	(7)

(1) Series (2) Frame size (3) Coil operation method (A: AC operated type, G: DC operated type, U: Extra pick-up operating coil type)
(4) Auxiliary contact structure specification (No: Standard twin contact, H: High capacity auxiliary contact (with single contact))
(5) Non reversing / Reversing type (No: Non reversing, R: Reversing) (6) Coil voltage designation code (7) Auxiliary contact configuration

● Reversing Magnetic Starters

SW	09X	A	H	R	3	-	1	10	T	007	A
(1)	(2)	(3)	(4)	(5)	(6)		(7)	(8)	(9)	(10)	(11)

(1) Series (2) Frame size (3) Coil operation method (A: AC operated type, G: DC operated type, U: Extra pick-up operating coil type)
(4) Auxiliary contact structure specification (No: Standard twin contact, H: High capacity auxiliary contact (with single contact))
(5) Non reversing / Reversing type (No: Non reversing, R: Reversing) (6) Number of heater elements (3: 3-element, K: 2E with open phase detection function)
(7) Coil voltage designation code (8) Auxiliary contact configuration (9) With or without case cover (T: Without case cover) (10) Heater element rating
(11) Reset method (No: Manual reset, A: Automatic reset*) * Minimum sales unit: 20 units

■ Ratings and types

● Reversing Magnetic Contactors

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e)			Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e)			Rated operational current [A] Resistive load (AC-1)		Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (6)	Auxiliary contact arrangement ❶❷ (7)	Type
	200 to 240V	380 to 440V	500 to 550V	200 to 240V	380 to 440V	500 to 550V	200 to 240V	380 to 440V					
09 [09X]	2.5	4	4	11	9	7	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC09XAR-□10**
												1NC×2	**SC09XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC09XGR-□10**
												1NC×2	**SC09XGR-□01**
12 [12X]	3.5	5.5	5.5	13	12	9	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC12XAR-□10**
												1NC×2	**SC12XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC12XGR-□10**
												1NC×2	**SC12XGR-□01**
18 [18X]	4	7.5	7.5	18	18	13	25	25	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC18XAR-□10**
												1NC×2	**SC18XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC18XGR-□10**
												1NC×2	**SC18XGR-□01**
20 [20X]	5	10	11	20	20	17	32	32	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC20XAR-□10**
												1NC×2	**SC20XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC20XGR-□10**
												1NC×2	**SC20XGR-□01**
20 [20D]	5	10	11	20	20	17	32	32	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO×2	**SC20DAR-□20**
												1NO1NC×2	**SC20DAR-□11**
												2NC×2	**SC20DAR-□02**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO ×2	**SC20DGR-□20**
												1NO1NC×2	**SC20DGR-□11**
												2NC×2	**SC20DGR-□02**
26 [26X]	5.5	11	11	26	26	17	40	40	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC26XAR-□10**
												1NC×2	**SC26XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC26XGR-□10**
												1NC×2	**SC26XGR-□01**
26 [26D]	5.5	11	11	26	26	17	40	40	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO×2	**SC26DAR-□20**
												1NO1NC×2	**SC26DAR-□11**
												2NC×2	**SC26DAR-□02**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO×2	**SC26DGR-□20**
												1NO1NC×2	**SC26DGR-□11**
												2NC×2	**SC26DGR-□02**

Note 1: The □ in the type field corresponds to the coil voltage specification code.

Note 2: When using rapid switching, use an electrical interlock such as a time delay relay to ensure a switching time of at least 15 ms to prevent short-circuit accidents.

❶ Please note that the auxiliary contact configurations 1NO x 2 and 2NO x 2 are not electrically interlocked in the main body of the magnetic contactor. Therefore, when using the configurations, always make sure to electrically interlock the contacts in the external control circuit to prevent short-circuit accidents due to simultaneous inrush.

❷ The auxiliary contact configurations include electrical interlocking in the main body of the magnetic contactor. If you would like to use an auxiliary contact, please also install an optional auxiliary contact block.

● Reversing Magnetic Contactors (Continued)

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e)			Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e)			Resistive load (AC-1)		Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (6)	Auxiliary contact arrangement ❶❷ (7)	Type
	200 to 240V	380 to 440V	500 to 550V	200 to 240V	380 to 440V	500 to 550V	200 to 240V	380 to 440V					
32 [32X]	7.5	15	15	32	32	24	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC32XAR-□10**
												1NC×2	**SC32XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC32XGR-□10**
												1NC×2	**SC32XGR-□01**
38 [38X]	11	18.5	15	38	38	24	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2	**SC38XAR-□10**
												1NC×2	**SC38XAR-□01**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2	**SC38XGR-□10**
												1NC×2	**SC38XGR-□01**
38 [38D]	11	18.5	15	38	38	24	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO×2	**SC38DAR-□20**
												1NO1NC×2	**SC38DAR-□11**
												2NC×2	**SC38DAR-□02**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO×2	**SC38DGR-□20**
												1NO1NC×2	**SC38DGR-□11**
												2NC×2	**SC38DGR-□02**
40 [40X]	11	18.5	18.5	40	40	29	60	60	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC×2	**SC40XAR-□11**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]		**SC40XGR-□11**
50 [50X]	15	22	25	50	50	38	80	80	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]		**SC50XAR-□11**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]		**SC50XGR-□11**
65 [65X]	18.5	30	37	65	65	60	80	80	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]		**SC65XAR-□11**
									DC operated type [G]	Twin contact [No]	12V [NC] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]		**SC65XGR-□11**

Note 1: The □ in the type field corresponds to the coil voltage specification code.

Note 2: When using rapid switching, use an electrical interlock such as a time delay relay to ensure a switching time of at least 15 ms to prevent short-circuit accidents.

❶ Please note that the auxiliary contact configurations 1NO x 2 and 2NO x 2 are not electrically interlocked in the main body of the magnetic contactor. Therefore, when using the configurations, always make sure to electrically interlock the contacts in the external control circuit to prevent short-circuit accidents due to simultaneous inrush.

❷ The auxiliary contact configurations include electrical interlocking in the main body of the magnetic contactor. If you would like to use an auxiliary contact, please also install an optional auxiliary contact block.

Reversing Magnetic Contactors and Starters

● Reversing Magnetic Starters

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (7)	Auxiliary contact arrangement ❶❷ (8)	Thermal overload relay rating [A] Rating range [Designation code] (10)	Type
09 [09X]	2.5	4	11	9	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2 1NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW09XAR△-□10T■■■** **SW09XAR△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2 1NC×2	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007]	**SW09XGR△-□10T■■■** **SW09XGR△-□01T■■■**
12 [12X]	3.5	5.5	13	12	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2 1NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW12XAR△-□10T■■■** **SW12XAR△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2 1NC×2	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009]	**SW12XGR△-□10T■■■** **SW12XGR△-□01T■■■**
18 [18X]	4	7.5	18	18	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2 1NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW18XAR△-□10T■■■** **SW18XAR△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2 1NC×2	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 13-16.5 [013] 15-18 [015]	**SW18XGR△-□10T■■■** **SW18XGR△-□01T■■■**
20 [20X]	5	10	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2 1NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW20XAR△-□10T■■■** **SW20XAR△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2 1NC×2	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018]	**SW20XGR△-□10T■■■** **SW20XGR△-□01T■■■**
20 [20D]	5	10	20	20	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO ×2 1NO1NC×2 2NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64]	**SW20DAR△-□20T■■■** **SW20DAR△-□11T■■■** **SW20DAR△-□02T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO ×2 1NO1NC×2 2NC×2	0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018]	**SW20DGR△-□20T■■■** **SW20DGR△-□11T■■■** **SW20DGR△-□02T■■■**

Note 1: □ corresponds to the coil voltage designation code.
■■■ corresponds to the heater element designation code.
△ corresponds to the Number of heater elements.

Note 2: When using rapid switching, use an electrical interlock such as a time delay relay to ensure a switching time of at least 15 ms to prevent short-circuit accidents.

❶ Please note that the auxiliary contact configurations 1NO x 2 and 2NO x 2 are not electrically interlocked in the main body of the magnetic contactor. Therefore, when using the configurations, always make sure to electrically interlock the contacts in the external control circuit to prevent short-circuit accidents due to simultaneous inrush.

❷ The auxiliary contact configurations include electrical interlocking in the main body of the magnetic contactor. If you would like to use an auxiliary contact, please also install an optional auxiliary contact block.

● Reversing Magnetic Starters (Continued)

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (7)	Auxiliary contact arrangement ❶❷ (8)	Thermal overload relay rating [A] Rating range [Designation code] (10)	Type
26 [26X]	5.5	11	26	26	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2 1NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64] 0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018] 20-26 [020]	**SW26XAR△-□10T■■■** **SW26XAR△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2 1NC×2		**SW26XGR△-□10T■■■** **SW26XGR△-□01T■■■**
26 [26D]	5.5	11	26	26	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO×2 1NO1NC×2 2NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64] 0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018] 20-26 [020]	**SW26DAR△-□20T■■■** **SW26DAR△-□11T■■■** **SW26DAR△-□02T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO×2 1NO1NC×2 2NC×2		**SW26DGR△-□20T■■■** **SW26DGR△-□11T■■■** **SW26DGR△-□02T■■■**
38 [38X]	11	18.5	38	38	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO×2 1NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64] 0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018] 20-26 [020] 26-32 [026] 32-38 [032]	**SW38XAR△-□10T■■■** **SW38XAR△-□01T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	1NO×2 1NC×2		**SW38XGR△-□10T■■■** **SW38XGR△-□01T■■■**
38 [38D]	11	18.5	38	38	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	2NO×2 1NO1NC×2 2NC×2	0.24-0.36 [P24] 0.34-0.52 [P34] 0.48-0.72 [P48] 0.64-0.96 [P64] 0.8-1.2 [P80] 0.95-1.45 [P95] 1.4-2.1 [1P4] 1.7-2.6 [1P7] 2.2-3.4 [2P2] 2.8-4.2 [2P8] 4-6 [004] 5-7.5 [005] 6-9 [006] 7-10.5 [007] 9-13 [009] 12-18 [012] 18-24 [018] 20-26 [020] 26-32 [026] 32-38 [032]	**SW38DAR△-□20T■■■** **SW38DAR△-□11T■■■** **SW38DAR△-□02T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D] 24V (Low consumption) [L]	2NO×2 1NO1NC×2 2NC×2		**SW38DGR△-□20T■■■** **SW38DGR△-□11T■■■** **SW38DGR△-□02T■■■**

Note 1: □ corresponds to the coil voltage designation code.
■■■ corresponds to the heater element designation code.
△ corresponds to the Number of heater elements.

Note 2: When using rapid switching, use an electrical interlock such as a time delay relay to ensure a switching time of at least 15 ms to prevent short-circuit accidents.

❶ Please note that the auxiliary contact configurations 1NO x 2 and 2NO x 2 are not electrically interlocked in the main body of the magnetic contactor. Therefore, when using the configurations, always make sure to electrically interlock the contacts in the external control circuit to prevent short-circuit accidents due to simultaneous inrush.

❷ The auxiliary contact configurations include electrical interlocking in the main body of the magnetic contactor. If you would like to use an auxiliary contact, please also install an optional auxiliary contact block.

Reversing Magnetic Contactors and Starters

● Reversing Magnetic Starters (Continued)

Frame size (2)	Rated capacity [kW] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Rated operational current [A] Three-phase squirrel-cage induction motor (AC-3,AC-3e) 200 to 240V	380 to 440V	Coil operating method (3)	Auxiliary contact (4)	Coil voltage designation code (7)	Auxiliary contact arrangement ❶❷ (8)	Thermal overload relay rating [A] Rating range [Designation code] (10)	Type
40 [40X]	11	18.5	40	40	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC×2	4-6 [004] 5-8 [005] 6-9 [006] 7-11 [007]	**SW40XAR△-□11T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]		9-13 [009] 12-18 [012] 18-26 [018] 24-36 [024] 32-42 [032]	**SW40XGR△-□11T■■■**
50 [50X]	15	22	50	50	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC×2	4-6 [004] 5-8 [005] 6-9 [006] 7-11 [007]	**SW50XAR△-□11T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]		9-13 [009] 12-18 [012] 18-26 [018] 24-36 [024] 32-42 [032] 36-46 [036] 44-54 [044]	**SW50XGR△-□11T■■■**
65 [65X]	18.5	30	65	65	AC operated type [A]	Twin contact [No]	24V [E] 115V [J] 230V [N] 415V [X] 48V [F] 120V [K] 240V [P] 440V [T] 100V [1] 200V [2] 380V [S] 110V [H] 220V [M] 400V [4]	1NO1NC×2	4-6 [004] 5-8 [005] 6-9 [006] 7-11 [007]	**SW65XAR△-□11T■■■**
					DC operated type [G]	Twin contact [No]	12V [B] 100V [1] 200V [2] 24V [E] 110V [H] 210V [Y] 48V [F] 120V [K] 220V [M] 60V [G] 125V [D]		9-13 [009] 12-18 [012] 18-26 [018] 24-36 [024] 32-42 [032] 36-46 [036] 44-54 [044] 53-65 [053]	**SW65XGR△-□11T■■■**

Note 1: □ corresponds to the coil voltage designation code.
■■■ corresponds to the heater element designation code.
△ corresponds to the Number of heater elements.

Note 2: When using rapid switching, use an electrical interlock such as a time delay relay to ensure a switching time of at least 15 ms to prevent short-circuit accidents.

❶ Please note that the auxiliary contact configurations 1NO x 2 and 2NO x 2 are not electrically interlocked in the main body of the magnetic contactor. Therefore, when using the configurations, always make sure to electrically interlock the contacts in the external control circuit to prevent short-circuit accidents due to simultaneous inrush.

❷ The auxiliary contact configurations include electrical interlocking in the main body of the magnetic contactor. If you would like to use an auxiliary contact, please also install an optional auxiliary contact block.

●Thermal relay ratings

See page 52.

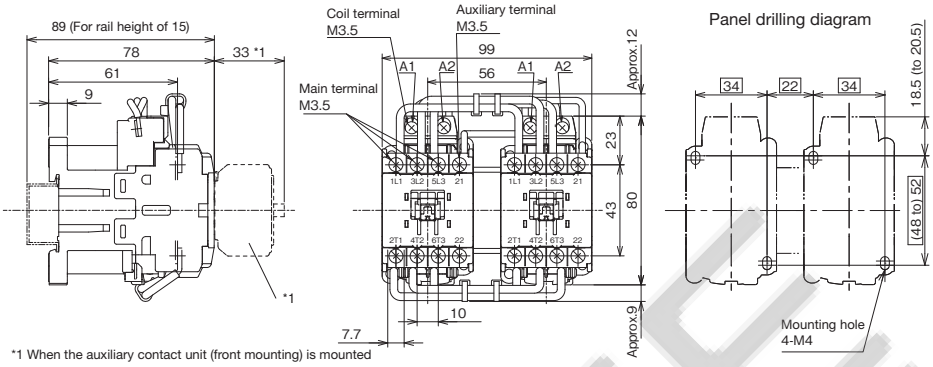
■ Outline

● Reversing AC operated type magnetic contactor

[Unit : mm]

SC09XAR
SC12XAR
SC18XAR

35mm

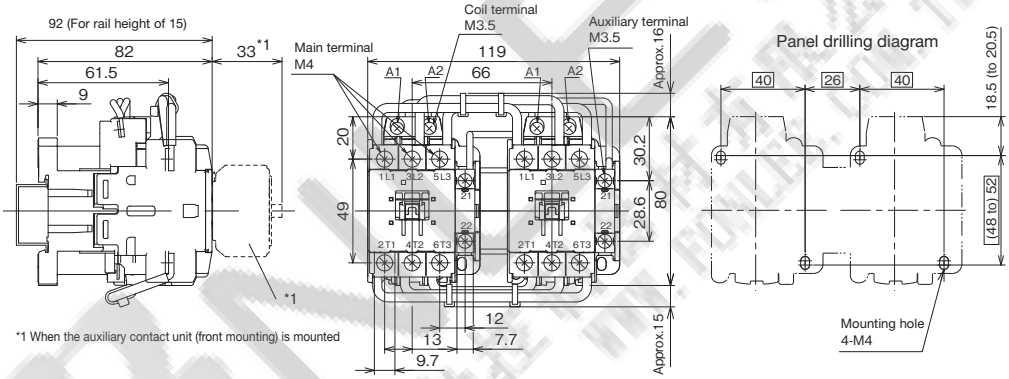


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.58kg

SC20XAR
SC26XAR
SC32XAR
SC38XAR

35mm

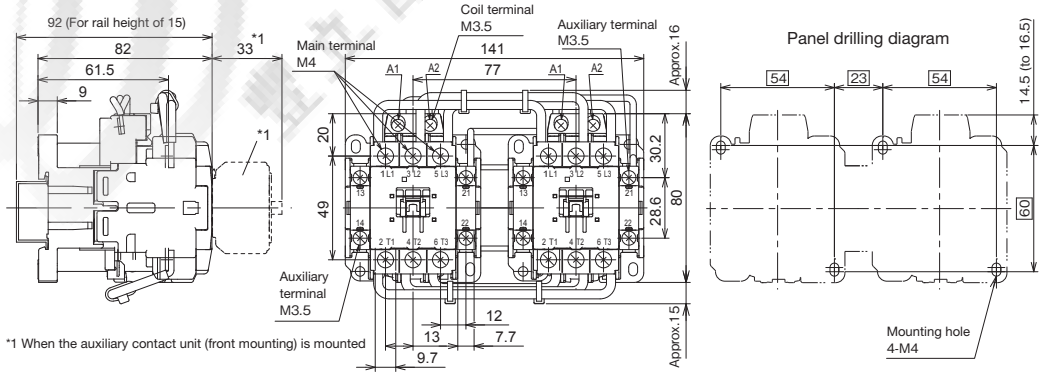


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.77kg

SC20DAR
SC26DAR
SC38DAR

35mm

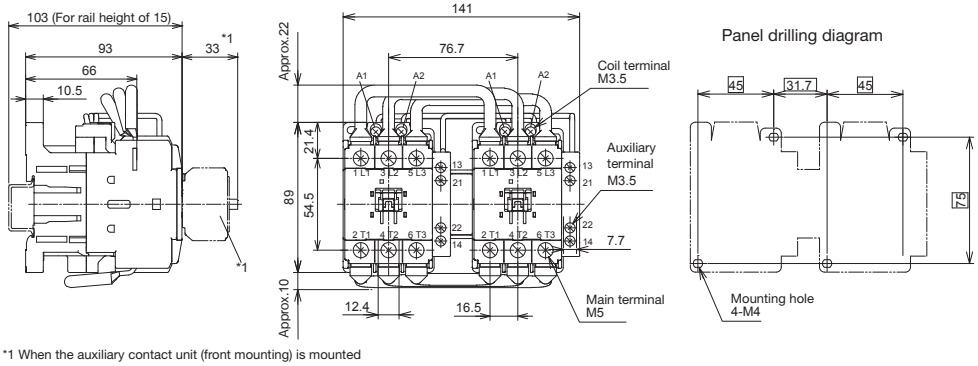


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.81kg

SC40XAR
SC50XAR
SC65XAR

35mm



*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 1.33kg

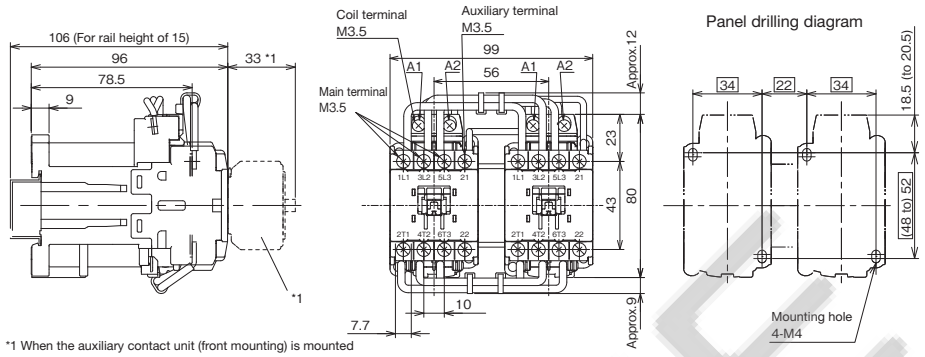
Reversing Magnetic Contactors and Starters

● Reversing DC operated type magnetic contactor

[Unit : mm]

SC09XGR
SC12XGR
SC18XGR

35mm

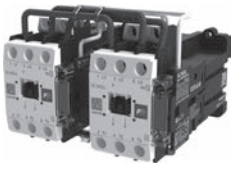


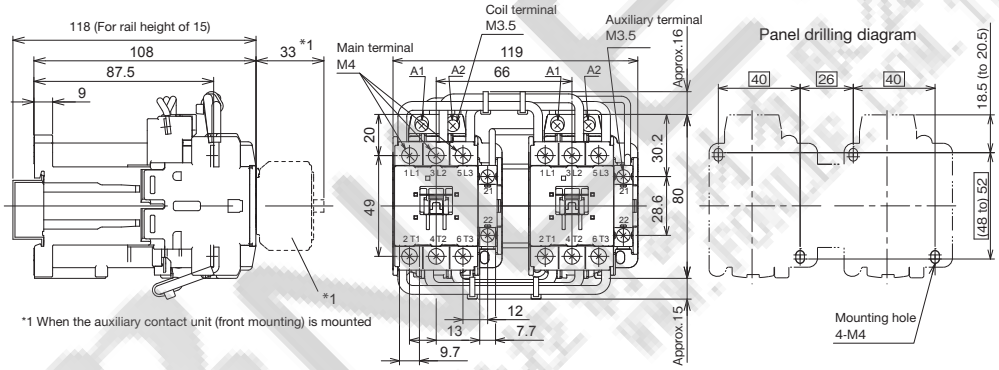
*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.74kg

SC20XGR
SC26XGR
SC32XGR
SC38XGR

35mm



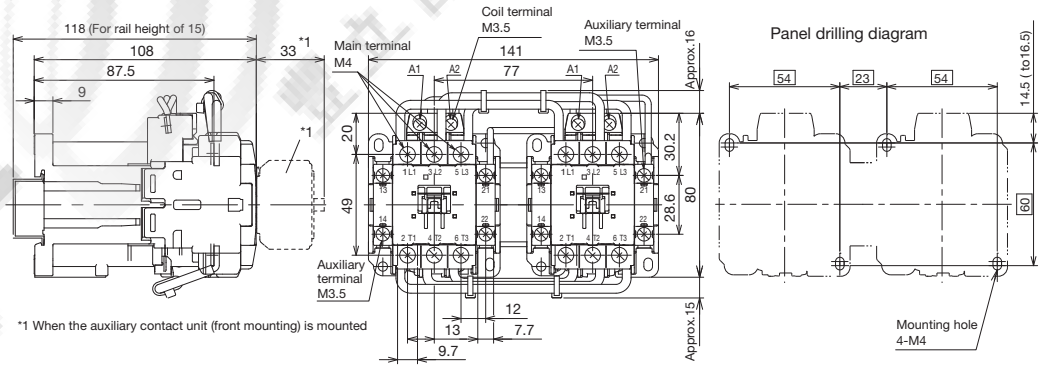


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 1.03kg

SC20DGR
SC26DGR
SC38DGR

35mm

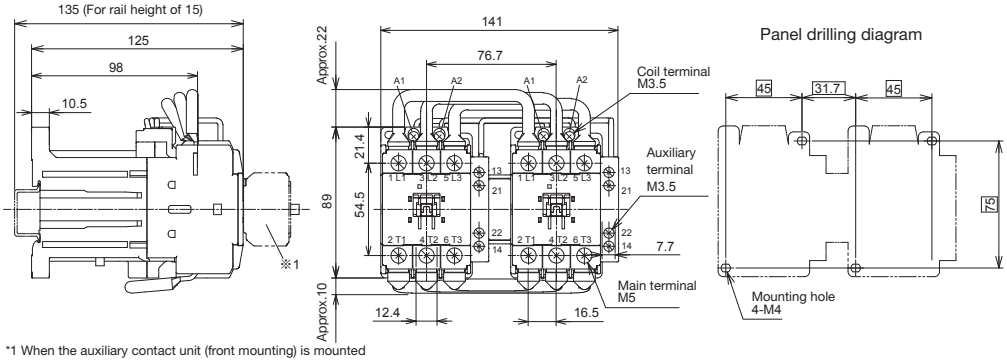


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 1.09kg

SC40XGR
SC50XGR
SC65XGR

35mm



*1 When the auxiliary contact unit (front mounting) is mounted

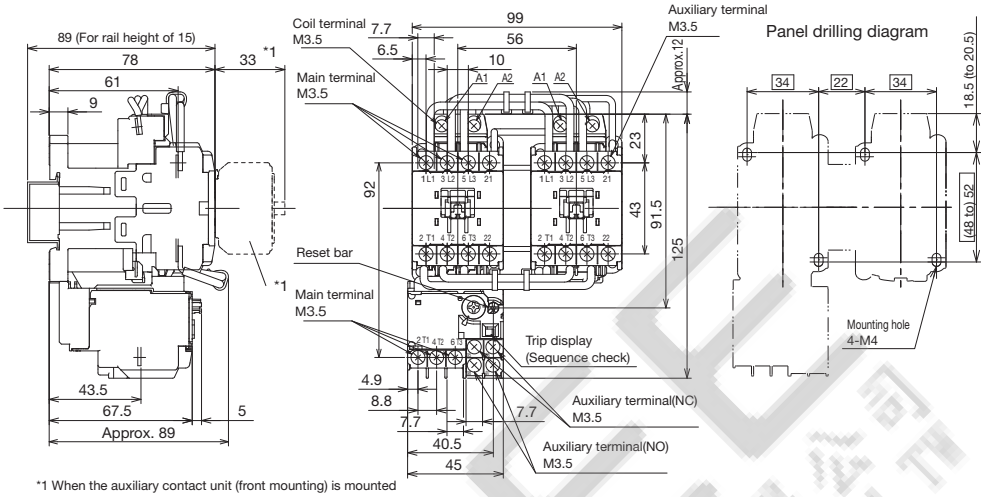
Weight : 1.81kg

● Reversing AC operated type magnetic starter

[Unit : mm]

SW09XAR
SW12XAR
SW18XAR

35mm

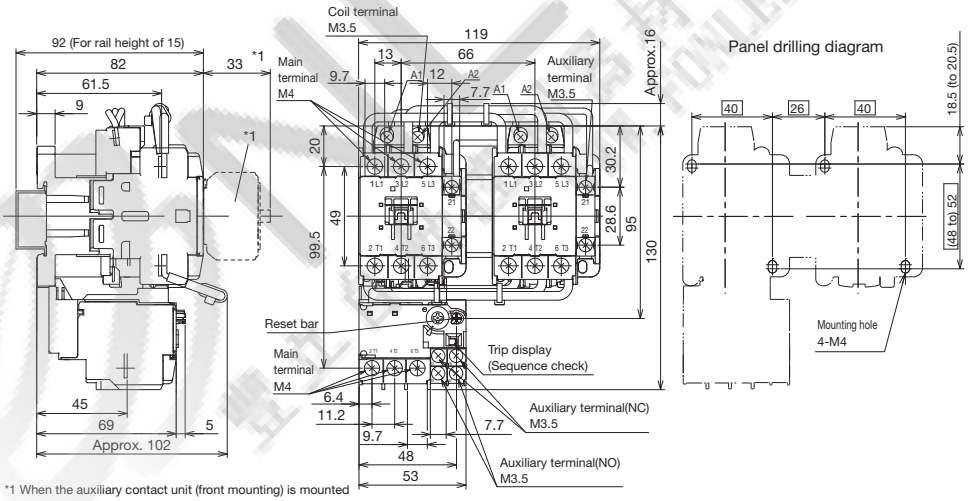


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.68kg

SW20XAR
SW26XAR
SW38XAR

35mm

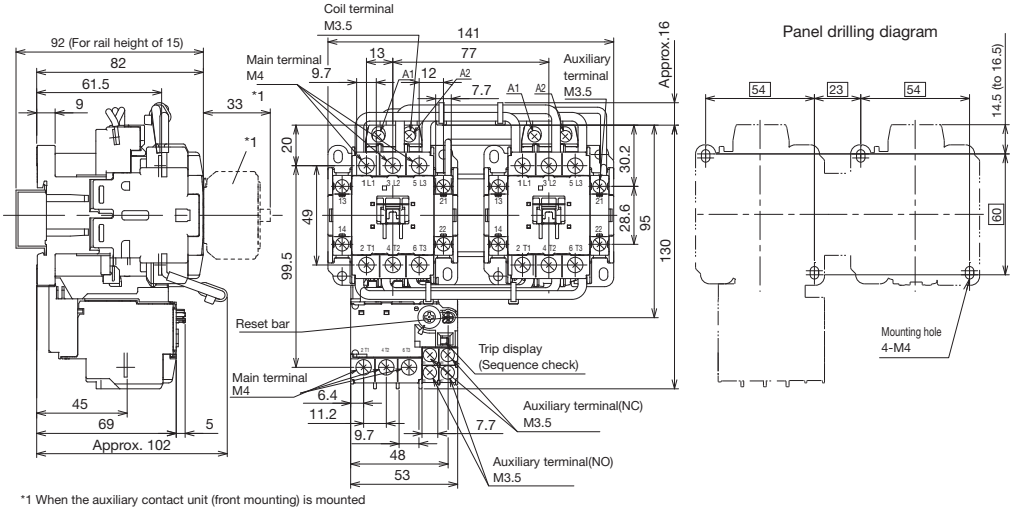


*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.90kg

SW20DAR
SW26DAR
SW38DAR

35mm



*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.94kg

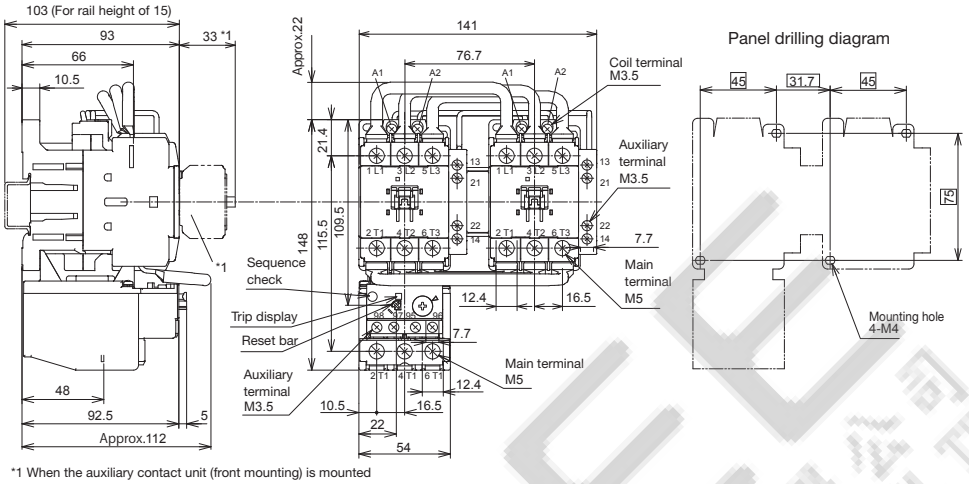
Reversing Magnetic Contactors and Starters

● Reversing AC operated type magnetic starter (Continued)

[Unit : mm]

SW40XAR
SW50XAR
SW65XAR

35mm



*1 When the auxiliary contact unit (front mounting) is mounted

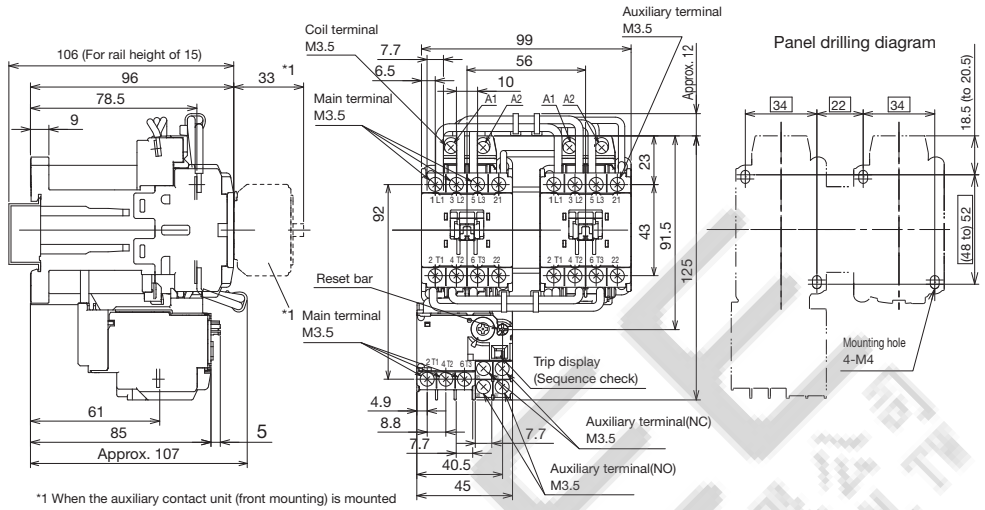
Weight : 1.56kg

● Reversing DC operated type magnetic starter

[Unit : mm]

SW09XGR
SW12XGR
SW18XGR

35mm

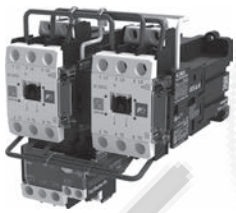


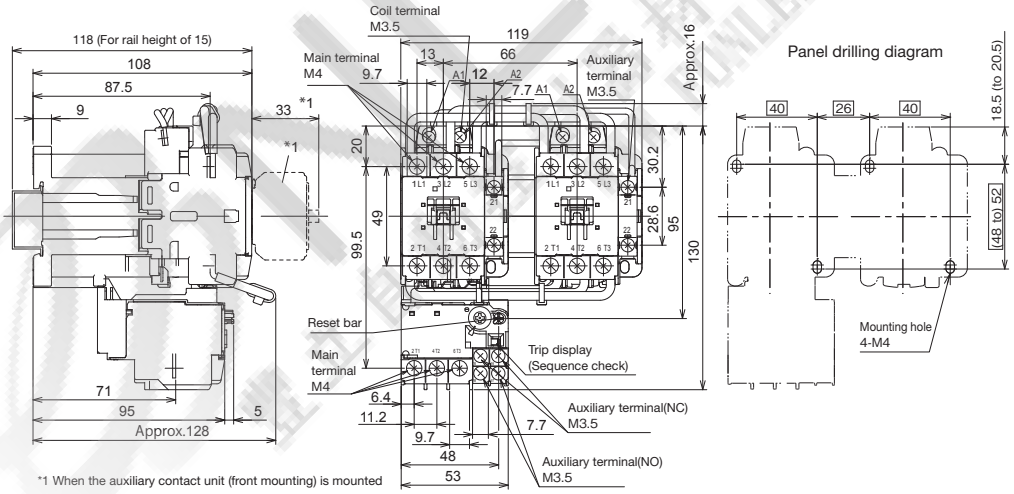
*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 0.84kg

SW20XGR
SW26XGR
SW38XGR

35mm



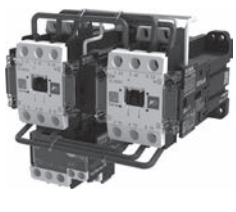


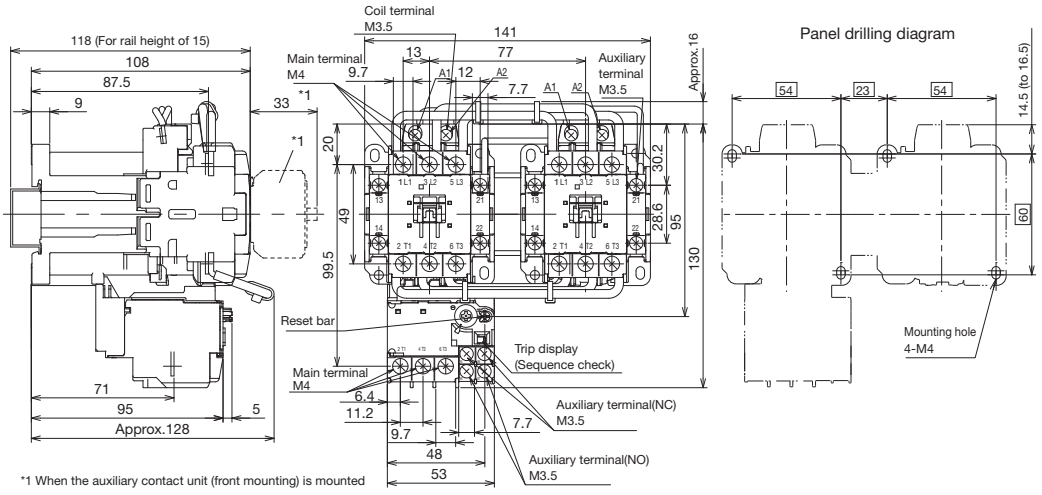
*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 1.22kg

SW20DGR
SW26DGR
SW38DGR

35mm





*1 When the auxiliary contact unit (front mounting) is mounted

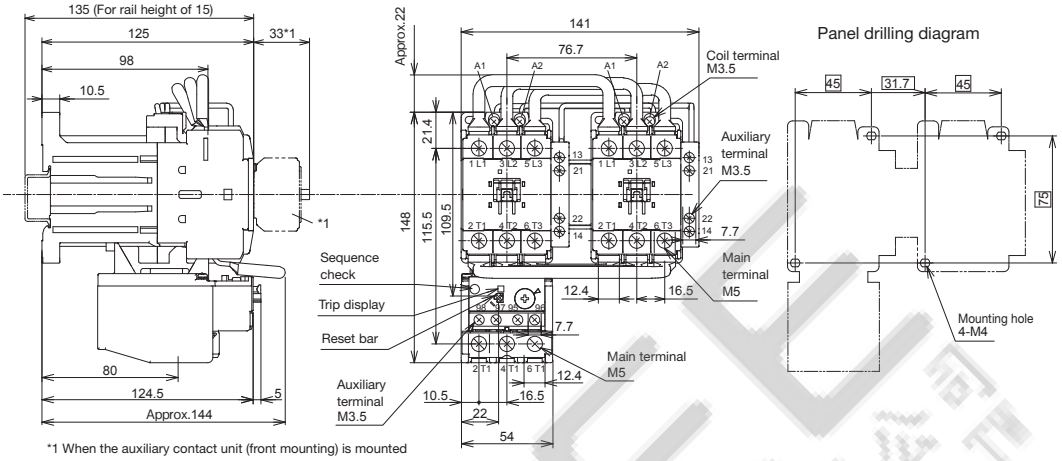
Weight : 1.26kg

Reversing Magnetic Contactors and Starters

● Reversing DC operated type magnetic starter (Continued)

[Unit : mm]

SW40XGR
SW50XGR
SW65XGR



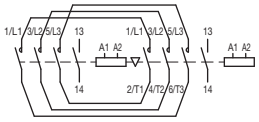
*1 When the auxiliary contact unit (front mounting) is mounted

Weight : 2.03kg

■ Wiring diagram

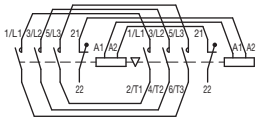
SC09XAR to SC38XAR

● 1NO x 2



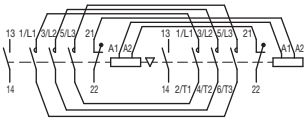
Note: Implement an electrical interlock separately

● 1NC x 2



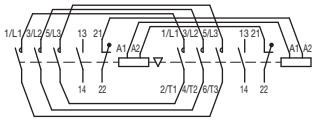
SC20DAR to SC38DAR

● 1NO1NC x 2



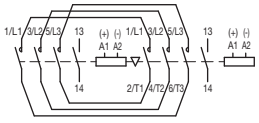
SC40XAR to SC65XAR

● 1NO1NC x 2



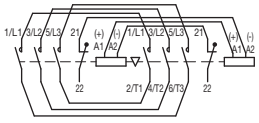
SC09XGR to SC38XGR

● 1NO x 2



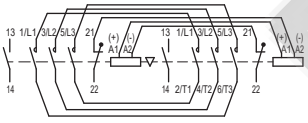
Note: Implement an electrical interlock separately

● 1NC x 2



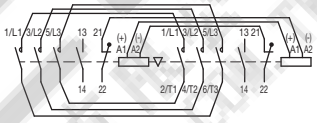
SC20DGR to SC38DGR

● 1NO1NC x 2



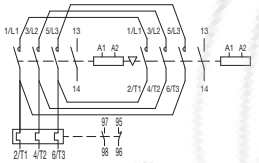
SC40XGR to SC65XGR

● 1NO1NC x 2



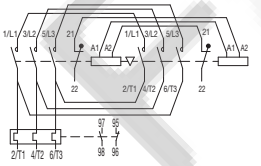
SW09XAR to SW38XAR

● 1NO x 2



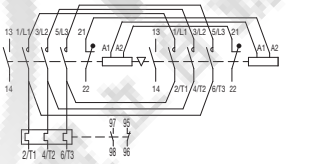
Note: Implement an electrical interlock separately

● 1NC x 2



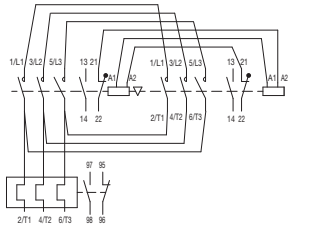
SW20DAR to SW38DAR

● 1NO1NC x 2



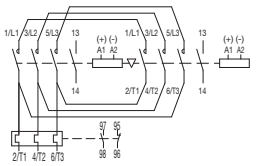
SW40XAR to SW65XAR

● 1NO1NC x 2



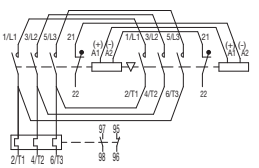
SW09XGR to SW38XGR

● 1NO x 2



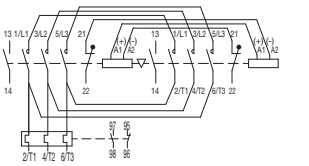
Note: Implement an electrical interlock separately

● 1NC x 2



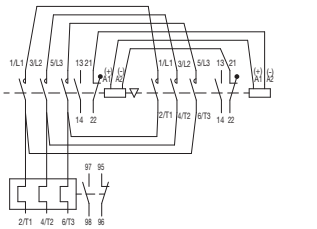
SW20DGR to SW38DGR

● 1NO1NC x 2



SW40XGR to SW65XGR

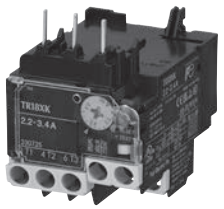
● 1NO1NC x 2



Thermal Overload Relays

Features

- Standard products conform to, and have obtained certification for the world's major standards (IEC, GB, UL, CSA, JIS)
- Comes standard with terminal cover and dial cover
- Uses 1NO+1NC (1a1b) highly reliable independent auxiliary contacts, enabling use of different voltages for NO (a-contact) and NC (b-contact) contacts.
- Easy to switch between manual and automatic reset methods.
- Arranges main and auxiliary terminals in parallel to improve wiring workability.



TR18X

Ordering Information (Types)

● Thermal Overload Relays

TR	18X	3	H	-	1P4	A
(1)	(2)	(3)	(4)		(5)	(6)

(1) Series (2) Frame size (3) Number of heater elements (3: 3-element, K: 2E (with open phase detection function))

(4) No: For magnetic starters, H: For separate mounting (5) Heater element rating

(6) Reset method (No: Manual reset, A: Automatic reset*) *Minimum sales unit: 20 units

Types

Frame (1)(2)	Number of heater elements (3)	Mounting classification (4)	Type ❶	Heater element code (5)
TR18X	3-element [3]	For magnetic starters [No]	**TR18X3-**□	0.1 to 9A
				13, 15A
		For separate mounting [H]	**TR18X3H-**□	0.1 to 9A
				13, 15A
	2E (with phase-loss detection) [K]	For magnetic starters [No]	**TR18XK-**□	0.1 to 9A
				13, 15A
		For separate mounting [H]	**TR18XKH-**□	0.1 to 9A
				13, 15A
TR38X	3-element [3]	For magnetic starters [No]	**TR38X3-**□	0.1 to 12A
				18 to 32A
		For separate mounting [H]	**TR38X3H-**□	0.1 to 12A
				18 to 32A
	2E (with phase-loss detection) [K]	For magnetic starters [No]	**TR38XK-**□	0.1 to 12A
				18 to 32A
		For separate mounting [H]	**TR38XKH-**□	0.1 to 12A
				18 to 32A
TR65X	3-element [3]	For magnetic starters [No]	**TR65X3-**□	4 to 53A
		For separate mounting [H]	**TR65X3H-**□	4 to 53A
	2E (with phase-loss detection) [K]	For magnetic starters [No]	**TR65XK-**□	4 to 53A
		For separate mounting [H]	**TR65XKH-**□	4 to 53A

❶ □ corresponds to the heater element designation code. Specify A at the end of the automatic reset type.

■ Heater element rating code

● Applicable type

・Magnetic Contactor : SC09 to 18X□

・Thermal Overload Relay : TR18X□

・Magnetic Starters : SW09 to 18X□

* Magnetic starters are not manufactured for the thermal overload relay ratings in the gray shaded area.

Type	Heater element rating [A]	Fuji low voltage three-phase motor full load current (reference value)				Applicable magnetic contactors		
	Rating range [Designation Code]	Main Circuit Voltage	Capacity P[kW]	Current Ie[A]				
				Standard Efficiency Motor [IE1]	Premium Efficiency Motor [IE3]			
TR18X	0.1-0.15 [P10]	4P 200V AC 50Hz				SC09X	SC12X	SC18X
	0.13-0.2 [P13]							
	0.18-0.27 [P18]							
	0.24-0.36 [P24]							
	0.34-0.52 [P34]							
	0.48-0.72 [P48]		0.1	0.68				
	0.64-0.96 [P64]							
	0.8-1.2 [P80]							
	0.95-1.45 [P95]		0.2	1.3				
	1.4-2.1 [1P4]							
	1.7-2.6 [1P7]		0.4	2.3				
	2.2-3.4 [2P2]							
	2.8-4.2 [2P8]		0.75	3.8	3.5			
	4-6 [004]							
	5-7.5 [005]		1.5	7.0	6.9			
	6-9 [006]							
	7-10.5 [007]		2.2	9.8	9.5			
	9-13 [009]							
	13-16.5 [013]		3.7	16	15.5	—	—	
	15-18 [015]							

Type	Heater element rating [A]	Fuji low voltage three-phase motor full load current (reference value)				Applicable magnetic contactors		
	Rating range [Designation Code]	Main Circuit Voltage	Capacity P[kW]	Current Ie[A]				
				Standard Efficiency Motor [IE1]	Premium Efficiency Motor [IE3]			
TR18X	0.1-0.15 [P10]	4P 400V AC 50Hz				SC09X	SC12X	SC18X
	0.13-0.2 [P13]							
	0.18-0.27 [P18]							
	0.24-0.36 [P24]							
	0.34-0.52 [P34]							
	0.48-0.72 [P48]		0.2	0.65				
	0.64-0.96 [P64]							
	0.8-1.2 [P80]		0.4	1.15				
	0.95-1.45 [P95]							
	1.4-2.1 [1P4]		0.75	1.9	1.8			
	1.7-2.6 [1P7]							
	2.2-3.4 [2P2]							
	2.8-4.2 [2P8]		1.5	3.5	3.5			
	4-6 [004]		2.2	4.9	4.8			
	5-7.5 [005]							
	6-9 [006]		3.7	8.0	7.8			
	7-10.5 [007]					—		
	9-13 [009]		5.5	11.9	10.5			
	13-16.5 [013]		7.5	15.9	13.5		—	
	15-18 [015]							

● Applicable type

・Magnetic Contactor : SC20 to 38□

・Thermal Overload Relay : TR38X□

・Magnetic Starters : SW20 to 38□

* Magnetic starters are not manufactured for the thermal overload relay ratings in the gray shaded area.

* For SC26 to SC38, magnetic starters are not manufactured for the thermal overload relay ratings in the gray shaded area.

* Magnetic starters are not manufactured for SC32X in the gray shaded area.

Type	Heater element rating [A]	Fuji low voltage three-phase motor full load current (reference value)				Applicable magnetic contactors			
	Rating range [Designation Code]	Main Circuit Voltage	Capacity P[kW]	Current Ie[A]					
				Standard Efficiency Motor [IE1]	Premium Efficiency Motor [IE3]				
TR38X	0.1-0.15 [P10]	4P 200V AC 50Hz				SC20X SC20D		SC32X	
	0.13-0.2 [P13]								
	0.18-0.27 [P18]								
	0.24-0.36 [P24]								
	0.34-0.52 [P34]								
	0.48-0.72 [P48]		0.1	0.68					
	0.64-0.96 [P64]								
	0.8-1.2 [P80]								
	0.95-1.45 [P95]		0.2	1.3					
	1.4-2.1 [1P4]								
	1.7-2.6 [1P7]		0.4	2.3					
	2.2-3.4 [2P2]								
	2.8-4.2 [2P8]		0.75	3.8	3.5				
	4-6 [004]						SC26X SC26D		SC38X SC38D
	5-7.5 [005]		1.5	7.0	6.9				
	6-9 [006]								
	7-10.5 [007]		2.2	9.8	9.5				
	9-13 [009]								
	12-18 [012]		3.7	16	15.5				
	18-24 [018]		5.5	23.8	21				
	20-26 [020]					–			
	26-32 [026]		7.5	31.8	27.5		–		
	32-38 [032]							–	

Type	Heater element rating [A]	Fuji low voltage three-phase motor full load current (reference value)				Applicable magnetic contactors			
	Rating range [Designation Code]	Main Circuit Voltage	Capacity P[kW]	Current Ie[A]					
				Standard Efficiency Motor [IE1]	Premium Efficiency Motor [IE3]				
TR38X	0.1-0.15 [P10]	4P 200V AC 50Hz				SC20X SC20D		SC32X	
	0.13-0.2 [P13]								
	0.18-0.27 [P18]								
	0.24-0.36 [P24]								
	0.34-0.52 [P34]								
	0.48-0.72 [P48]		0.2	0.65					
	0.64-0.96 [P64]								
	0.8-1.2 [P80]		0.4	1.15					
	0.95-1.45 [P95]								
	1.4-2.1 [1P4]		0.75	1.9	1.8				
	1.7-2.6 [1P7]								
	2.2-3.4 [2P2]								
	2.8-4.2 [2P8]		1.5	3.5	3.5				
	4-6 [004]		2.2	4.9	4.8		SC26X SC26D		SC38X SC38D
	5-7.5 [005]								
	6-9 [006]		3.7	8.0	7.8				
	7-10.5 [007]								
	9-13 [009]		5.5	11.9	10.5				
	12-18 [012]		7.5	15.9	13.5				
	18-24 [018]		11	21	20				
	20-26 [020]					–			
	26-32 [026]		15	27.5	27		–		
	32-38 [032]		18.5	34	34			–	

Thermal Overload Relays

● Applicable type
- Magnetic Contactor : SC40 to 65X□
- Thermal Overload Relay : TR65X□
- Magnetic Starters : SW40 to 65X□

* For SC50X, SC65X, magnetic starters are not manufactured for the thermal overload relay ratings in the gray shaded area.

Type	Heater element rating [A]		Fuji low voltage three-phase motor full load current (reference value)				Applicable magnetic contactors		
	Rating range [Designation Code]		Main Circuit Voltage	Capacity P[kW]	Current Ie[A] Standard Efficiency Motor [IE1]	Current Ie[A] Premium Efficiency Motor [IE3]			
TR65X	4-6	[004]	4P 200V AC 50Hz				SC40X		
	5-8	[005]		1.5	7.0	6.9			
	6-9	[006]							
	7-11	[007]		2.2	9.8	9.5		SC50X	SC65X
	9-13	[009]							
	12-18	[012]		3.7	16	15.5			
	18-26	[018]		5.5	23.8	21			
	24-36	[024]		7.5	31.8	27.5			
	32-42	[032]							
	36-46	[036]		11	42	40	—		
	44-54	[044]							
	53-65	[053]		15	55	54		—	

Type	Heater element rating [A]		Fuji low voltage three-phase motor full load current (reference value)				Applicable magnetic contactors		
	Rating range [Designation Code]		Main Circuit Voltage	Capacity P[kW]	Current Ie[A] Standard Efficiency Motor [IE1]	Current Ie[A] Premium Efficiency Motor [IE3]			
TR65X	4-6	[004]	4P 400V AC 50Hz	2.2	4.9	4.8	SC40X		
	5-8	[005]							
	6-9	[006]		3.7	8.0	7.8			
	7-11	[007]						SC50X	SC65X
	9-13	[009]		5.5	11.9	10.5			
	12-18	[012]		7.5	15.9	13.5			
	18-26	[018]		11	21	20			
	24-36	[024]		15	27.5	27			
	32-42	[032]		18.5	34	34			
	36-46	[036]		22	39	42	—		
	44-54	[044]							
	53-65	[053]		30	54	58		—	

■ Auxiliary circuit ratings

● IEC/JIS-conformance Ratings

Type	Conventional free air thermal current [A] (Rated thermal current)	Rated operational voltage [V]	Rated operational current [A] AC-15 (Ind. load)	Rated operational current [A] DC-13 (Ind. load)	Minimum voltage and current
TR18X **TR38X** **TR65X**	5	24	3 (0.8)	1.1 (0.8)	5V DC, 3mA
		100-120	2.5 (0.5)	0.28	
		200-240	2 (0.5)	0.14	
		380-440	1 (0.5)	-	
		500-600	0.6 (0.5)	-	

( ) numbers are for automatic recovery

● UL/CSA-conformance Ratings

Type	Rated continuous current [A]	Rated operational current [A] AC Rated operational voltage [V]	AC Making	AC Breaking	DC Rated operational voltage [V]	DC Making	DC Breaking	Rating code AC	Rating code DC
TR18X **TR38X** **TR65X**	5	120	30	3	125	0.22	0.22	B600	R300
		240	15	1.5					
		480	7.5	0.75	250	0.11	0.11		
		600	6	0.6					

■ Operating characteristics (specifications)

● 3-pole Circuits

Standard	Operating limit Non-tripping	Operating limit Tripping	Overload (hot start)	Locked rotor (cold start)	Ambient temperature
IEC 60947-4-1 JIS C 8201-4-1	105% Ie (for less than 2h)	125% Ie (for less than 2h)	Tripping class 10A: 150% Ie for less than 2min	Tripping class 10A: 720% Ie for 2 to 10 s max.	20℃

● 2-pole Circuits

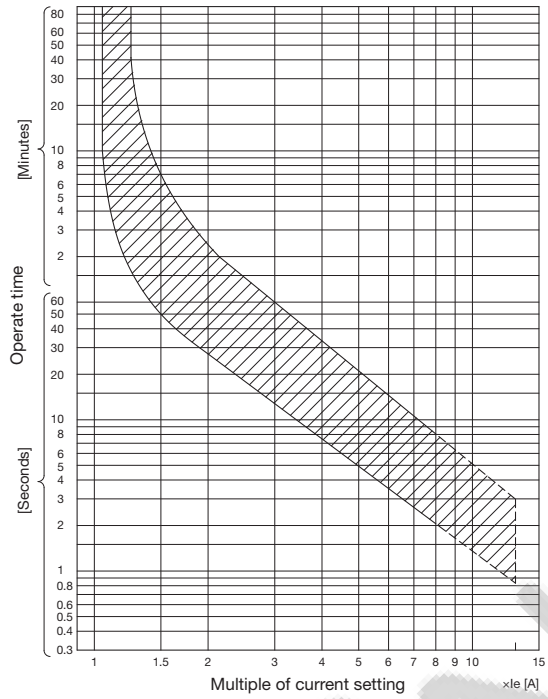
Standard	Phase-loss protection	Non-tripping	Operation (hot start)	Ambient temperature
IEC 60947-4-1 JIS C 8201-4-1	Without phase loss protection device	3-pole: 105% Ie	2-pole: 132% Ie (for less than 2h) 1-pole: 0% Ie	20℃
	With phase loss protection device	2-pole: 100% Ie 1-pole: 90% Ie	2-pole: 115% Ie (for less than 2h) 1-pole: 0% Ie	

■ Operating characteristics curves

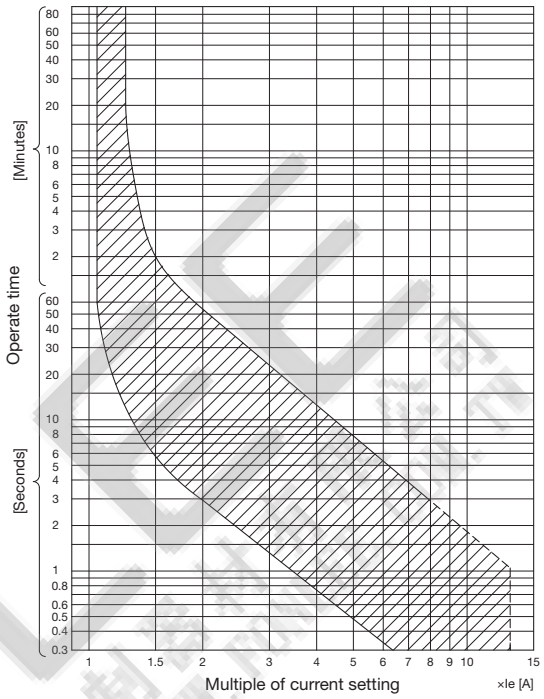
● Tripping Class 10A

TR18X, TR38X, TR65X

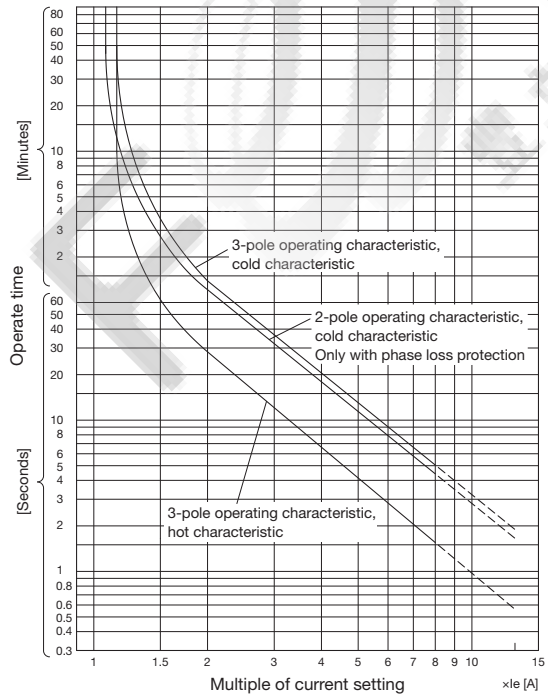
Cold start characteristics (Ambient temperature: 20°C)



Hot start characteristics (Ambient temperature: 20°C)



Average Values (Ambient temperature: 20°C)

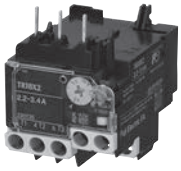


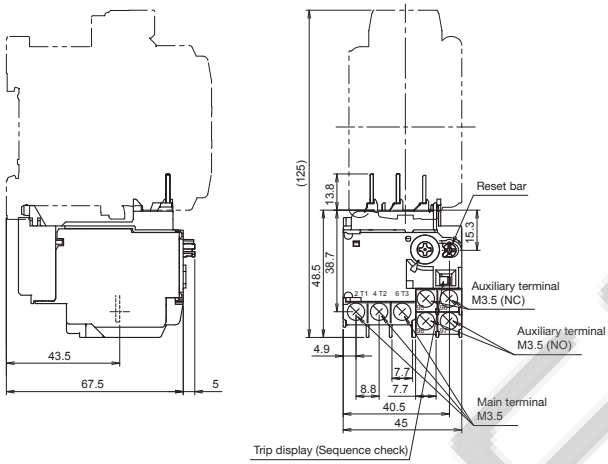
■ Outline and wiring diagram

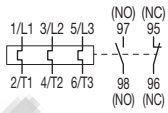
● For magnetic starters

[Unit : mm]

TR18X

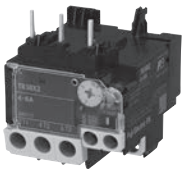


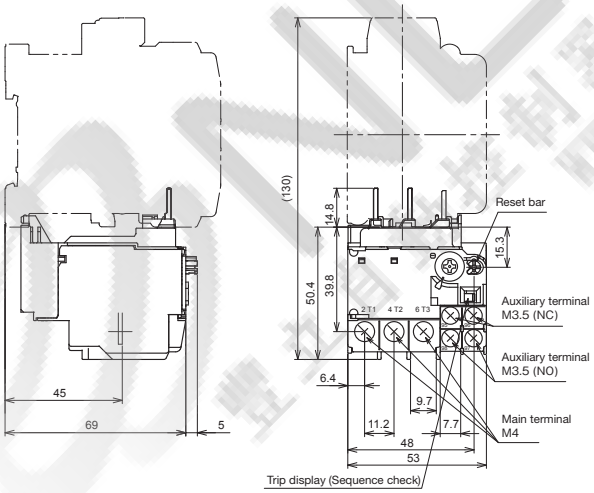


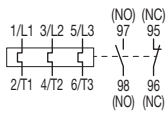
No. of heater element	Contact arrangement
3-element	

Weight : 0.1kg

TR38X

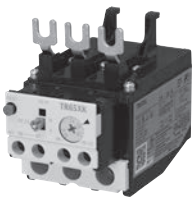


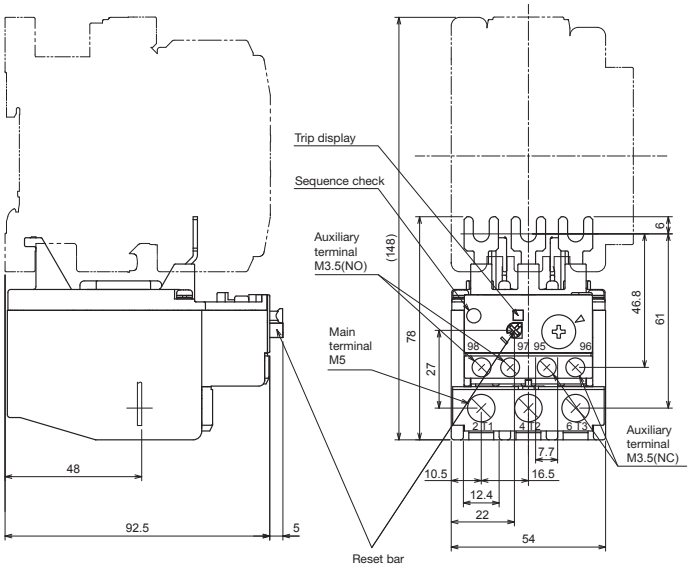


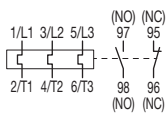
No. of heater element	Contact arrangement
3-element	

Weight : 0.13kg

TR65X





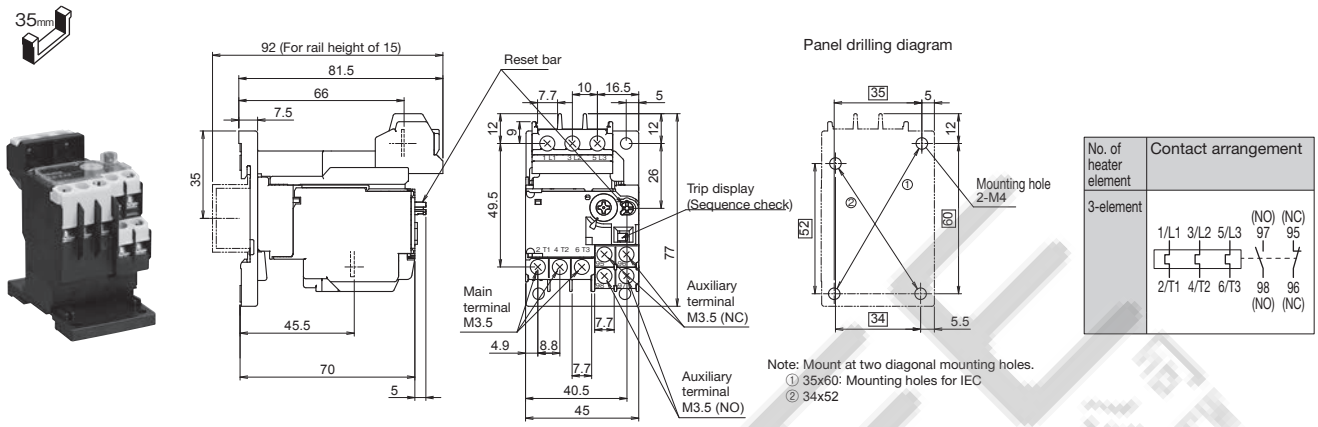
No. of heater element	Contact arrangement
3-element	

Weight : 0.2kg

● For separate mounting

[Unit : mm]

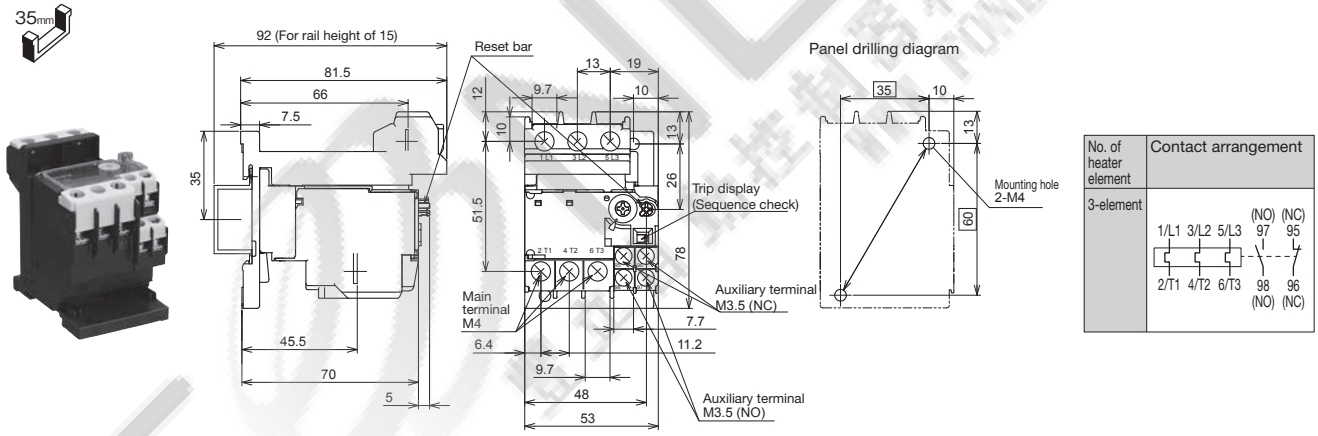
TR18XH



No. of heater element	Contact arrangement
3-element	1/L1 3/L2 5/L3 (NO) 97 (NC) 95 / 2/T1 4/T2 6/T3 98 (NO) 96 (NC)

Weight : 0.13kg

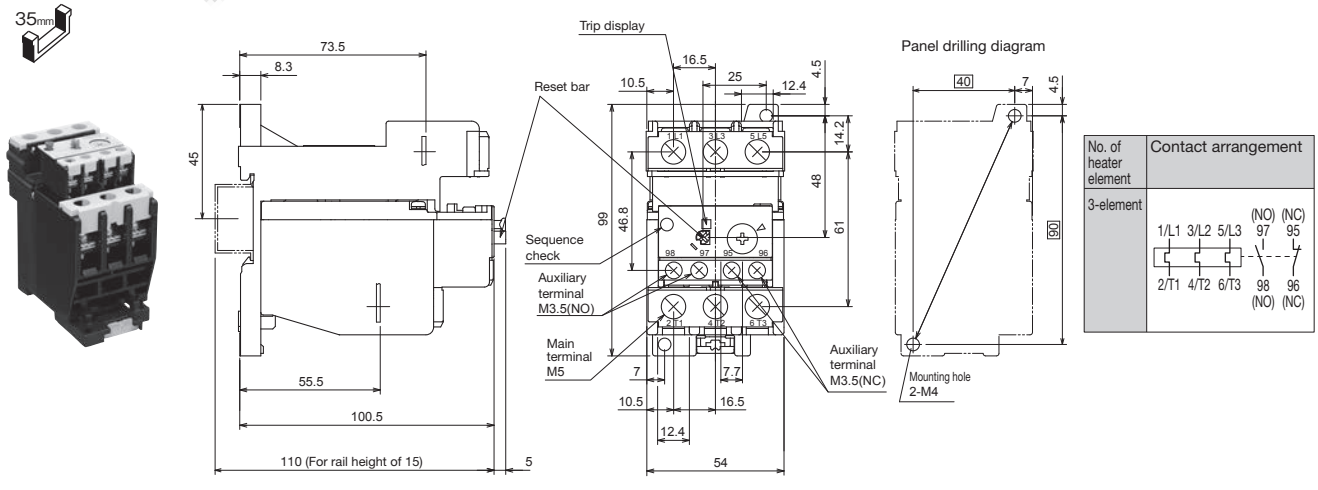
TR38XH



No. of heater element	Contact arrangement
3-element	1/L1 3/L2 5/L3 (NO) 97 (NC) 95 / 2/T1 4/T2 6/T3 98 (NO) 96 (NC)

Weight : 0.16kg

TR65XH



No. of heater element	Contact arrangement
3-element	1/L1 3/L2 5/L3 (NO) 97 (NC) 95 / 2/T1 4/T2 6/T3 98 (NO) 96 (NC)

Weight : 0.29kg

Types

Product name	Type	Specifications			Applicable models	Remarks
Auxiliary contact block (front mounting)	**SZ3A40**	Bifurcated contact	4-poles	4NO	SC09X to SC65X SC20D, SC26D, SC38D SCH4X	
	SZ3A31			3NO1NC		
	SZ3A22			2NO2NC		
	SZ3A20		2-poles	2NO		
	SZ3A11			1NO1NC		
	SZ3A02			2NC		
	SZ3A40H	Single contact	4-poles	4NO		
	SZ3A31H			3NO1NC		
	SZ3A22H			2NO2NC		
	SZ3A20H		2-poles	2NO		
	SZ3A11H			1NO1NC		
	SZ3A02H			2NC		
Auxiliary contact block (side mounting)	**SZ3AS1**	Bifurcated contact	1NO1NC			
	SZ3AS1H	Single contact	1NO1NC			
Coil-surge suppression unit	**SZ-Z1**	Built-in varistor	24 to 48V AC/DC		SC09X to SC65X SC20D, SC26D, SC38D SCH4X	
	SZ-Z2		100 to 250V AC/DC			
	SZ-Z3		380 to 440V AC			
	SZ-Z4	Built-in CR	24 to 48V AC/DC			
	SZ-Z5		100 to 250V AC/DC			
Interlock unit	**SZ3RM**				SC09X to SC65X, SC20D, SC26D, SC38D	
Main circuit conductor kit	**SZ3RW09X**	Power side + load side			SC09X to 18X	
	SZ3RW20X	Power side + load side			SC20X	
	SZ3RW26X	Power side + load side			SC26X to 38X	
	SZ3RW20D	Power side + load side			SC20D	
	SZ3RW26D	Power side + load side			SC26D to 38D	
	SZ3RW40X	Power side + load side			SC40X, SC50X, SC65X	
Coil drive units for IC output	**SZ3CD1**	Relay type			SC09X to 65X SC20D, SC26D, SC38D, SCH4X	
	SZ3CD2	SSR type				
Three-phase parallel terminal plate	**SZ-SP1**	For single-phase resistance load type assembly			SC09X to 18X	
	SZ3SP2				SC20X to 38X, SC20D, SC26D, SC38D	
	SZ3SP3				SC40X, SC50X, SC65X	
Separate mounting unit for thermal overload relay	**TZ1H13N**	For separate mounting type thermal overload relay assembly			TR18X	
	TZ1H26N				TR38X	
	SZ-HD/T				TR65X	
Live-section protective cover	**SZ3JC09X**	For magnetic contactor			SC09X to 18X	
	SZ3JC20X				SC20X to 38X	
	SZ3JC20D				SC20D to 38D	
	SZ3JC40X				SC40X, SC50X, SC65X	
	SZ3JW09X	For magnetic starter			SW09X to 18X	
	SZ3JW20X				SW20X to 38X	
	SZ3JW20D				SW20D to 38D	
	SZ3JW40X				SW40X, SW50X, SW65X	
Fault detector unit	**SY-F-A3/M**	Operating voltage: 100 to 120 V AC, output contact: SPDT			SC09X to SC65X SC20D, SC26D, SC38D	
	SY-F-A4/M	Operating voltage: 200 to 240 V AC, output contact: SPDT				
Thermal dial cover	**SZ-DA**				TR65X	
Thermal overload relay reset release	**SZ-R1**	Release length: 300mm			TR18X, TR38X	
	SZ-R2	Release length: 500mm			TR18X, TR38X	
	SZ-R3	Release length: 700mm			TR18X, TR38X	
	SZ-R4	Release length: 300mm			TR65X	
	SZ-R5	Release length: 500mm			TR65X	
	SZ-R6	Release length: 700mm			TR65X	
Adapter plate	**SZ3APR18X**	SC(SW)-4-0RM → SC(SW)18R			SC(SW)18R	
	SZ3AP26D	SC(SW)-N1,N2 → SC(SW)26, 38			SC(SW)26, SC(SW)38	
	SZ3AP50X	SC(SW)-N2S,N3 → SC(SW)50, 65			SC(SW)50, SC(SW)65	
	SZ3APR26X	SC(SW)-N1,N2RM → SC(SW)26, 38R			SC(SW)26, SC(SW)38R	
	SZ3APR50X	SC(SW)-N2S,N3RM → SC(SW)50, 65R			SC(SW)50, SC(SW)65R	

Auxiliary contact blocks

Features

- Capable of one-touch auxiliary contact expansion.
- The front mounting unit enables the addition of auxiliary contacts without changing the mounting area in order to contribute to the downsizing of control panels.
- Using a bifurcated contact with high contact reliability, it realizes the minimum operating voltage and current values of 5 V DC and 3 mA.

SZ3A22

SZ3AS1

Ordering Information (Types)

● Auxiliary contact blocks

SZ3A22

(1) Type

Types

Product name	Number of contacts	Contact arrangement	Mounting	Used with	Type
Auxiliary Contact Blocks with Bifurcated Contacts	4	4NO	Front mounting	SC09 to SC65 SCH4	**SZ3A40**
		3NO1NC			**SZ3A31**
		2NO2NC			**SZ3A22**
	2	2NO			**SZ3A20**
		1NO1NC			**SZ3A11**
		2NC			**SZ3A02**
Auxiliary Contact Blocks with Single Contacts	4	4NO	Front mounting	SC09 to SC65 SCH4	**SZ3A40H**
		3NO1NC			**SZ3A31H**
		2NO2NC			**SZ3A22H**
	2	2NO			**SZ3A20H**
		1NO1NC			**SZ3A11H**
		2NC			**SZ3A02H**
Auxiliary Contact Block (Bifurcated Contact)	2	1NO1NC	Side Mounting	SC09 to SC65 SCH4	**SZ3AS1**
Auxiliary Contact Block (Single Contact)	2	1NO1NC	Side Mounting	SC09 to SC65 SCH4	**SZ3AS1H**

Note: DC operation type low consumption is up to 2 contacts

Ratings

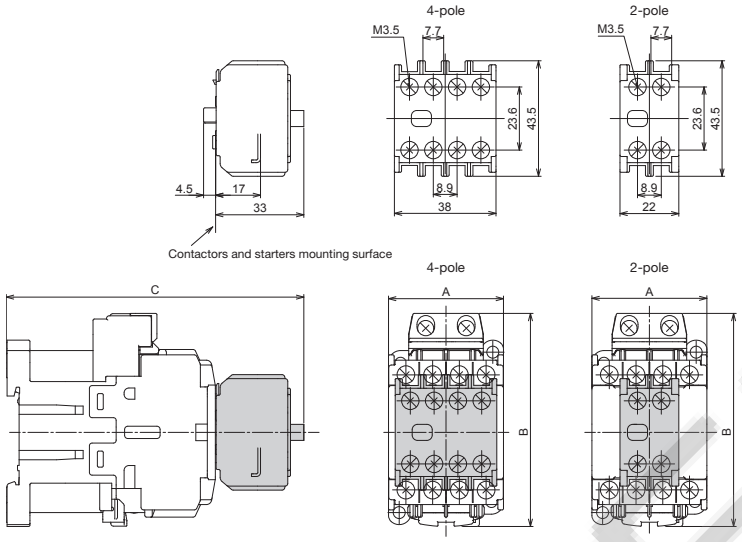
Type	Conventional free air thermal current (Rated continuous current) [A]	Making and breaking current (AC) [A]	Rated operational current [A]						Minimum voltage and current ❶
			AC			DC			
			Rated operational voltage [V]	Ind. load (AC-15)	Res. load (AC-12)	Rated operational voltage [V]	Ind. load (DC-13)	Res. load (DC-12)	
SZ3A□ SZ3AS1 (Bifurcated contacts)	10	60	100 to 120	6	10	24	3	5	5V DC, 3mA
		30	200 to 240	3	8	48	1.5	3	
		15	380 to 440	1.5	5	110	0.55	2.5	
		12	500 to 600	1.2	5	220	0.27	1	
SZ3A□H SZ3AS1H (Single contacts)	10	60	100 to 120	6	10	24	5	10	24V DC, 10mA
			200 to 240	6	10	48	1.5	5	
		40	380 to 440	4	10	110	0.7	4	
			500 to 600	4	10	220	0.27	1	

❶Note: The failure level is 10^{-7} for a normal environment without dust, dirt, or corrosive gas.

■ Outline and wiring diagram

● Front mounting

- **SZ3A40**
- **SZ3A31**
- **SZ3A22**
- **SZ3A20**
- **SZ3A11**
- **SZ3A02**
- **SZ3A40H**
- **SZ3A31H**
- **SZ3A22H**
- **SZ3A20H**
- **SZ3A11H**
- **SZ3A02H**



Contact arrangement

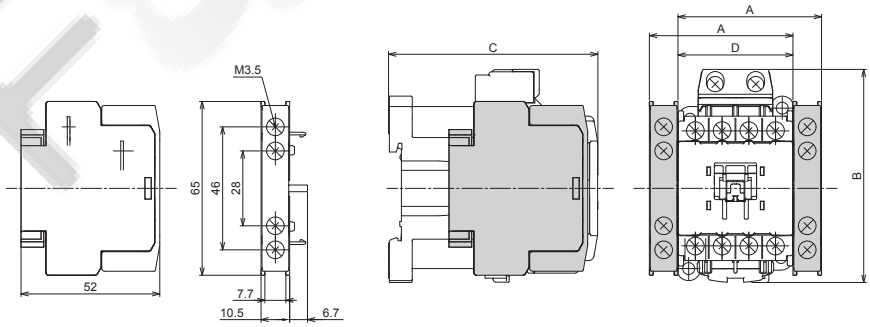
Type	Contact arrangement		Weight [g]
SZ3A40 **SZ3A40H**	4NO	53 63 73 83 54 64 74 84	50
SZ3A31 **SZ3A31H**	3NO1NC	53 61 73 83 54 62 74 84	50
SZ3A22 **SZ3A22H**	2NO2NC	53 61 71 83 54 62 72 84	50
SZ3A20 **SZ3A20H**	2NO	53 63 54 64	30
SZ3A11 **SZ3A11H**	1NO1NC	53 61 54 62	30
SZ3A02 **SZ3A02H**	2NC	51 61 52 62	30

Outline table

Magnetic contactors combined with auxiliary contact blocks		Outline [mm]			Weight [kg]	
Type	Number of auxiliary contacts	A	B	C	4-pole	2-pole
SC09 to 18XA	1	43	80	111	0.32	0.3
SC09 to 18XG	1	43	80	129	0.4	0.38
SC20 to 38XA	1	53	80	115	0.41	0.39
SC20 to 38XG	1	53	80	141	0.57	0.55
SC20 to 38DA	2	64	80	115	0.43	0.41
SC20 to 38DG	2	64	80	141	0.57	0.55
SC40 to 65XA	2	64	89	126	0.57	0.55
SC40 to 65XG	2	64	89	158	0.83	0.81

● Side Mounting

- **SZ3AS1**
- **SZ3AS1H**



Contact arrangement

Type	Contact arrangement		Weight [g]
SZ3AS1 **SZ3AS1H** For left side mounting	1NO1NC	53 61 54 62	30
SZ3AS1 **SZ3AS1H** For right side mounting	1NO1NC	83 71 84 72	30

Outline table

Magnetic contactors combined with auxiliary contact blocks		Outline [mm]				Weight [kg]	
Type	Number of auxiliary contacts	A	B	C	D	4-pole	2-pole
SC09 to 18XA	1	53	80	78	43	0.33	0.3
SC09 to 18XG	1	53	80	96	43	0.41	0.38
SC20 to 38XA	1	63	80	82	53	0.42	0.39
SC20 to 38XG	1	63	80	108	53	0.55	0.52
SC20 to 38DA	2	74	80	82	64	0.44	0.41
SC20 to 38DG	2	74	80	108	64	0.58	0.55
SC40 to 65XA	2	74	89	93	64	0.58	0.55
SC40 to 65XG	2	74	89	125	64	0.84	0.81

■ Mounting and removal method

● Front mounting type (SZ3A□) (Fig. 1)

・Mounting

To mount it, press it onto the main unit in the direction of [1] and move it in the direction of [2] until the hook of the unit engages with the mounting groove of the main unit. After mounting, press the moving part of the unit to confirm that it moves smoothly.

・Removal

Use your finger to pull up the hook on the unit and move it in the direction of [3].

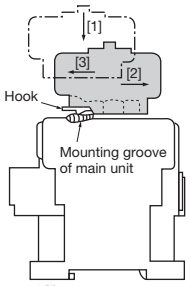


Fig. 1

● Side mounting type (SZ3AS□) (Fig. 2)

・Mounting

To mount it, place Hook 1 of the unit into the mounting hole of the main unit in the direction of [1], insert the moving convex part of the unit into the moving concave part of the main unit in the direction of [2], and push the unit in the direction of [3] until Hook 2 of the unit engages in the mounting groove of the main unit. If mounting is incomplete, there will be a possibility of it detaching, so check it by pushing in the parts of [4]. After mounting, press the moving part of the main unit to confirm that it moves smoothly. It cannot be mounted with screws.

・Removal

To remove it, push it in the direction of [5] and remove the hook.

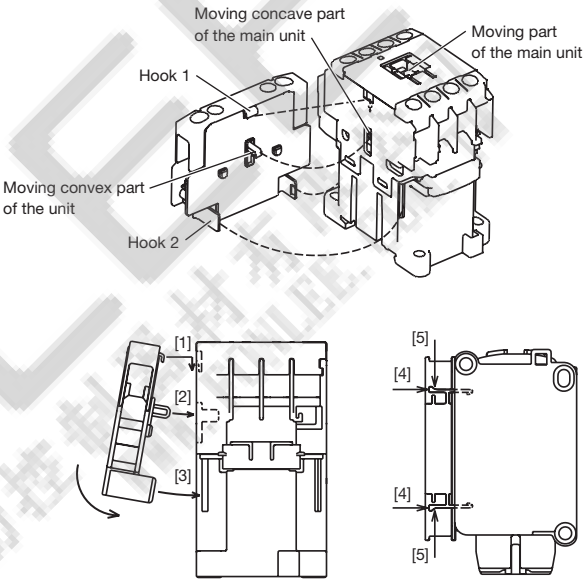


Fig. 2

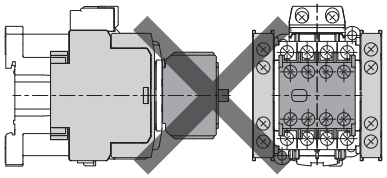
■ Precautions when combining with auxiliary contact blocks

(1) The auxiliary contact block cannot be used during simultaneous front mounting and side mounting.

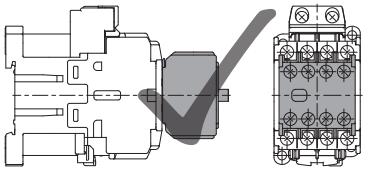
(2) Only one type of front mounting unit can be mounted per magnetic contactor and auxiliary relay. Therefore, additional front mounting auxiliary contact blocks or front mounting optional units cannot be used when a front mounting auxiliary contact block or mechanical latch unit has already been mounted.

(3) The side mounting auxiliary contact block can only be mounted on one side when the interlock unit is mounted.

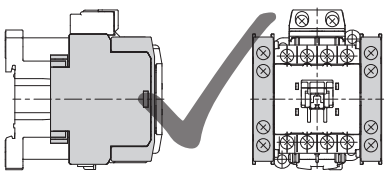
● Simultaneous mounting of front mounting and side mounting units is prohibited.



● Mounting only the front mounting unit



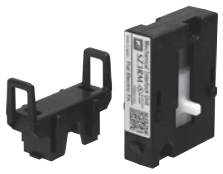
● Mounting only the side mounting unit



Interlock Units, Main Circuit Conductor Kits

Features

- The simultaneous turning on of two magnetic contactors is prevented mechanically.
- It is easy to configure a reversing type magnetic contactor by using a reversible conductor kit in combination with an interlock unit.



SZ3RM

SZ3RW09X

Ordering information (types)

● Interlock Units

SZ3RM

[1] Type

● Main Circuit Conductor Kits

SZ3RW09X

[1] Type

Types

● Interlock Units: Joins two Magnetic Contactors to mechanically lock them.

Product name	Used with	Type
Interlock Units	SC09, 12, 18, 20, 26, 32, 38, 40, 50, 65	**SZ3RM**

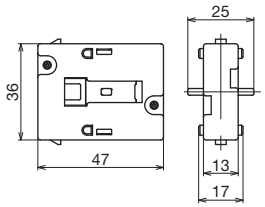
●Main Circuit Conductor Kits: Used to reverse the circuit wiring between the main circuit terminals.

Product name	Used with	Details	Used with	Type
Main Circuit Conductor Kits	14AWG(ø1.6)	·One set for power supply side ·One set for load side	SC09, 12, 18	**SZ3RW09X**
			SC20X	**SZ3RW20X**
			SC20D	**SZ3RW20D**
	10AWG(ø2.6)		SC26X, 32X, 38X	**SZ3RW26X**
			SC26D, 38D	**SZ3RW26D**
	-	Dedicated terminal board	SC40, 50, 65	**SZ3RW40X**

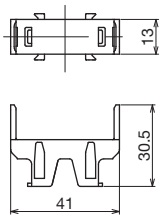
■ Outline

● Interlock unit: SZ3RM [Unit : mm]

Interlock



Joint block



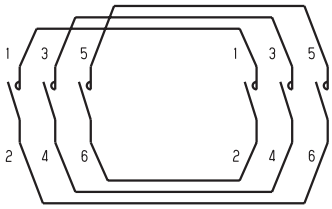
Weight : 21g

(Note 1) The interlock unit consists of an interlock and joint block.
(Note 2) For the outline drawing when combined with a magnetic contactor, please refer to the section on reversing type magnetic contactor and starters on pages 65 to 70.

■ Wiring diagram

● Main circuit conductor kit: SZ3RW

For power side



For load side

■ Mounting method

● Interlock unit (Fig. 1)

(1) Use the main unit to press down the interlock unit from both sides so that the protrusion [1] on the moving part of the interlock unit and the concave part [2] on the moving part of the main unit and the circular boss [3] on the interlock unit and the concave part [4] on the side of the main unit are aligned.
(2) Insert guide [5] of the joint block into guide [6] of the main unit and secure hook [8] of the joint block to protrusion [7] of the interlock unit.
(3) After mounting it, press the moving contact supports of the left and right magnetic contactors one by one from the front to confirm that they move smoothly.
(4) To remove it, use a flathead screwdriver to remove hook [8] of the joint block from protrusion [7] of the interlock unit, and then pull out the joint block.

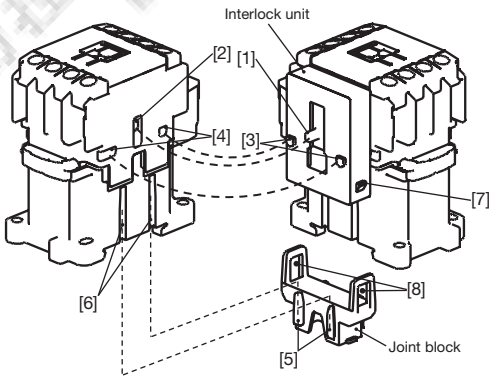


Fig. 1

● Main circuit conductor kit (Fig. 2, Fig. 3)

Mount it on the main circuit terminal. There are wires for the power supply side and for the load side, so be careful not to mistake the wires when mounting.

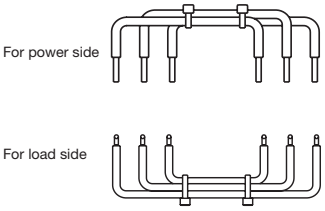


Fig. 2

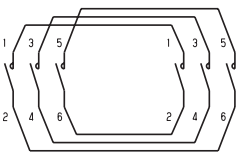


Fig. 3

⚠CAUTION Cautions on use

- If using with rapid switching, provide an electrical interlock with a device such as a time delay relay to ensure that the contact switching time for the two magnetic contactors is 15 ms or longer in order to prevent short-circuit faults.
- Be sure to provide an electrical interlock between the forward rotation side and reverse rotation side control circuits.

Coil surge suppression units

Features

- Absorbs surge voltage when the coil is off and suppresses malfunction of electronic circuits.
- Simplifies mounting by just tightening the connecting terminal to the coil terminal.
- A broad lineup is available, including models with or without surge suppression functions and operation indicating lamps.
  (1) Varistor built-in type : Cuts off the peak value of the surge voltage.
  (2) CR built-in type : Suppresses the steep rise in surge voltage.

SZ-Z4

Ordering information (types)

● Coil surge suppression units

SZ-Z1

[1] Type

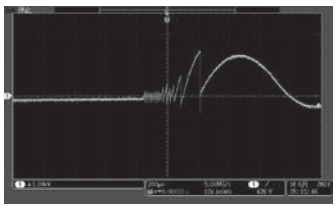
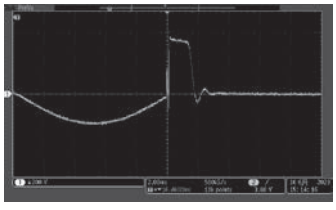
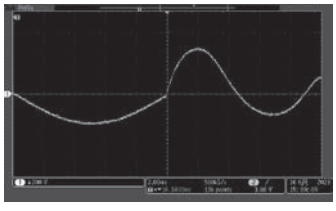
Ratings and types

Product name	Surge suppression element	Specification	Applicable model		Control circuit voltage ❷	Type [1]
			AC-operated type	DC-operated type		
Coil Surge Suppression Units	Varistor	Varistor voltage: 100V	SC09□A to 65□A SCH4XA	SC09□G to 65□G SCH4XG	24-48V AC/DC	**SZ-Z1**
		Varistor voltage: 470V			100-250V AC/DC	**SZ-Z2**
		Varistor voltage: 910V			380-440V AC ❶	**SZ-Z3**
	CR	0.22μF, 22Ω			24-48V AC/DC	**SZ-Z4**
		0.1μF, 220Ω			100-250V AC/DC	**SZ-Z5**

❶ This type of unit is used for AC-operated contactors only.

❷ Maximum allowable circuit voltage: 110% of the rated voltage

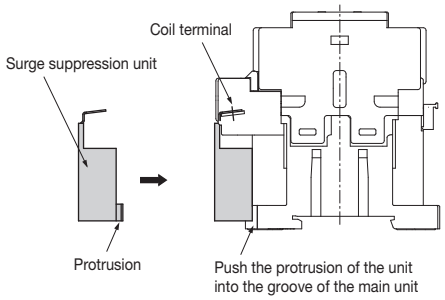
Coil surge suppression characteristics

Models	Applications	Coil surge suppression characteristics (200 V AC, coil)
No surge suppression unit	Coils produce a steep surge voltage due to coil inductance as a result of sudden current fluctuations when they are turned off. This voltage represents noise to surrounding electronic devices, causing them to malfunction, or destroying their circuits.	SC18  (0.2ms/div, 1kV/div)
Varistor built-in type	When the surge voltage reaches a certain level or higher, current flows to the coil and the varistor connected in parallel, exerting a controlling effect on the peak wave of the surge voltage. Varistors can be used for both AC or DC circuits. The suppression surge voltage is approximately equal to the varistor voltage.	SC18 + SZ-Z2  (2ms/div, 200V/div)
CR built-in type	It suppresses the steep rise of surge voltage (dv/dt characteristic) by reducing the surge voltage frequency with the CR circuit (capacitor-resistor series circuit) connected in parallel with the inductor. Varistors can be used for both AC or DC circuits.	SC18 + SZ-Z5  (2ms/div, 200V/div)

■ Mounting method

●SZ-Z1 to Z5

(1) Mount it by inserting the terminals of the unit into the coil terminals A1 and A2 and pushing the fixing protrusion of the unit into the groove of the magnetic contactor body. Tighten the unit terminals with the wires of the operating circuit.

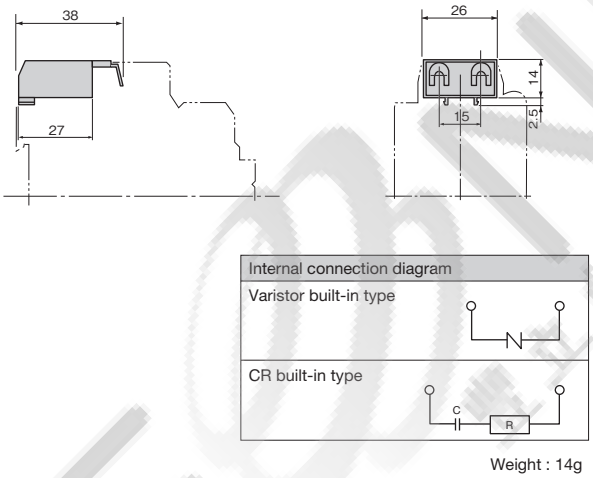


■ Outline

[Unit : mm]

● **SZ-Z1, Z2, Z3** (Varistor built-in type)

● **SZ-Z4, Z5** (CR built-in type)



Weight : 14g

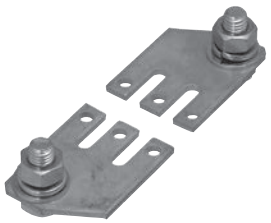
⚠CAUTION Cautions on use

In the case of the built-in CR type, SZ-Z5 has a leakage current of approximately 8 mA when 200 V AC is applied at the rated voltage.

Three-phase parallel terminal plates

Features

- It can be used as a single-phase resistance load magnetic contactor by mounting it on the main circuit terminal of a standard type magnetic contactor.



SZ3SP2

Ordering information (types)

● Three-phase parallel terminal plates

SZ3SP2

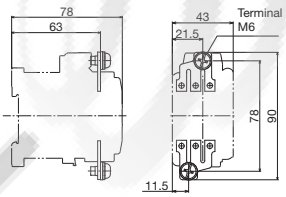
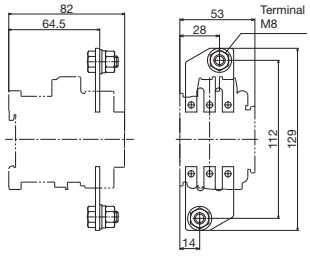
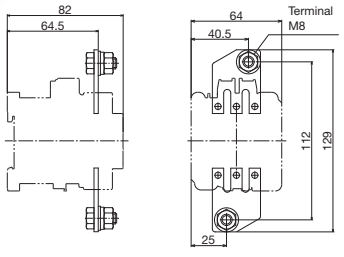
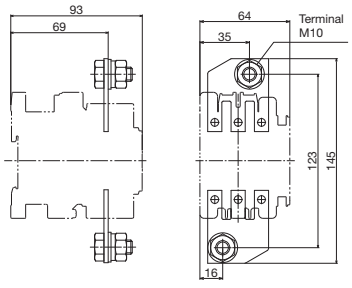
[1] Type

Types

Product name	Applicable models	Type [1]
Three-phase parallel terminal plates	SC09X to 18X	**SZ-SP1**
	SC20X(D) to 38X(D)	**SZ3SP2**
	SC40X to 65X	**SZ3SP3**

(Note) For ratings when a three-phase parallel terminal plates and magnetic contactor are combined, see Application to Resistive Loads on page 28.

Outline

Combination types		Outline (SC-□ + SZ□SP□)	Combination types		Outline (SC-□ + SZ□SP□)
Magnetic contactor	Three-phase parallel terminal plate		Magnetic contactor	Three-phase parallel terminal plate	
SC09X SC12X SC18X	**SZ-SP1**	 Mount the terminal plate on the power supply side after wiring the coil terminal. Weight : 25g	SC20X SC26X SC32X SC38X	**SZ3SP2**	 Mount the terminal plate on the power supply side after wiring the coil terminal. Weight : 110g
SC20D SC26D SC38D	**SZ3SP2**	 Mount the terminal plate on the power supply side after wiring the coil terminal. Weight : 110g	SC40X SC50X SC65X	**SZ3SP3**	 Mount the terminal plate on the power supply side after wiring the coil terminal. Weight : 200g

(Note 1) The solid line (—) shows the outline of the three-phase parallel terminal plate and the double-dotted chain line (—-- —) shows the outline of the magnetic contactor.
(Note 2) The mass indicates one three-phase parallel plate.

⚠CAUTION Cautions for mounting three-phase parallel terminal plates (SZ□SP□)

(1) Always mount the three-phase parallel terminal plate on the main terminal as shown in the dimensional outline drawing.

(2) Mount the three-phase parallel terminal plate on the power supply side to the main unit after wiring the coil terminal. (SZ-SP1, SZ3SP2, SZ3SP3)

Coil drive units for IC output

■ Features

- It is possible to drive the coil of the magnetic contactor and starter with the transistor output (24 V DC) of the electronic control circuit.
- A surge suppression function is included.
- Outputs are available in contact (relay) and non-contact (SSR) types.

SZ3CD1

■ Ordering information (types)

● Coil drive units for IC output

SZ3CD1

[1] Type

■ Types

Product name	Output device	Input section		Output section	Mounting method	Applicable models	Type
		Rated voltage	Power consumption	Max. make/break voltage			
Coil drive units for IC output	Contact (relay type)	24V DC	0.2W(8.3mA)	250V AC 50/60Hz, 110V DC	Top mount	SC09□ to 65□ SCH4X	**SZ3CD1**
	Non-contact (SSR type)	24V DC	0.36W(15mA)	100-240V AC 50/60Hz	Top mount		**SZ3CD2**

■ Specifications

Type		**SZ3CD1**	**SZ3CD2**
Input section	Rated voltage	24V DC	24V DC
	Pick-up voltage	85% or less of rated voltage	70% or less of rated voltage
	Drop-out voltage	Over 5% of rated voltage	Over 5% of rated voltage
	Max. allowable voltage	130% or less of rated voltage	110% or less of rated voltage
	Power consumption	0.2W(8.3mA)	0.36W(15mA)
Output section	Output device	Relay output	SSR output
	Max. make/break voltage	250V AC 50/60Hz, 110V DC	100-240V AC 50/60Hz
	Operating time	2 to 5ms	1ms or less
	Recovery Time	2.5 to 6.6ms	1/2 cycle + 1ms or less
	Leakage current when open circuit (50Hz, 240V)	—	1.5mA
	Ambient temperature ❶	-10 to +55℃	-10 to +55℃

❶ Ambient temperature refers to the temperature near the product when in use.

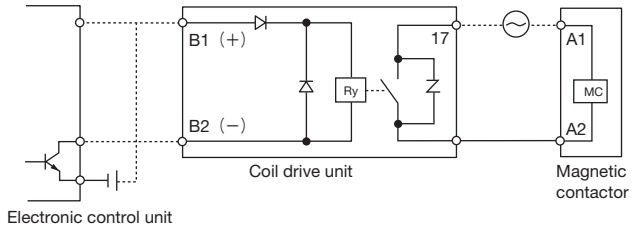
■ Electrical durability of relay contact type [10,000 times]

Coil drive unit type			SZ3CD1			
Applicable models	Type		**SC(SW)09X to 18X**	**SC(SW)20□ to 38□**	**SC(SW)40X to 65X**	**SCH4X**
	Control Coil Voltage	24V DC	70	70	70	70
		48V DC	60	60	60	60
		100V AC	150	150	150	150
		200V AC	200	200	200	200

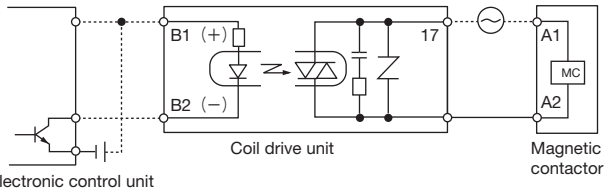
Coil drive units for IC output

■ Example of connection circuit

●SZ3CD1



●SZ3CD2



■ Mounting method

Mount it by inserting the terminals of the unit into the coil terminals A1 and A2 and pushing the fixing protrusion of the unit into the groove of the magnetic contactor body. Tighten the unit terminals with the wires of the operating circuit. (Fig. 1)

● Mounting when using round crimp terminals (Fig. 2)
When using a coil drive unit for IC output with a magnetic contactor, it must be pre-wired to the A1 coil terminal of the magnetic contactor before mounting the coil drive unit for IC output. Mount it by following the procedure below (Steps [1] to [5] correspond to the numbers in the figure).

i) When the wires of coil terminals A1 and A2 have round crimp terminals
Step [1]: Remove the coil terminal cover of the magnetic contactor.
Step [2]: Wire it to coil terminal A1 of the magnetic contactor. In doing so, leave a gap of about 2 to 3 mm between coil terminal A1 and the crimp terminal.
Step [3]: Mount the coil terminal cover removed in Step [1].
Step [4]: Mount the coil drive unit for IC output to the magnetic contactor and tighten the screws for coil terminals A1 and A2.
Step [5]: Mount the terminal cover SZ-T31 after wiring to the coil drive unit for IC output.

ii) When the wires of coil terminals A1 and A2 have fork terminals
Steps [1] to [3] are not required.
Step [4]: Mount the coil drive unit for IC output to the magnetic contactor and wire it according to the side wiring diagram.
Step [5]: Mount the terminal cover SZ-T31 after wiring to the coil drive unit for IC output.

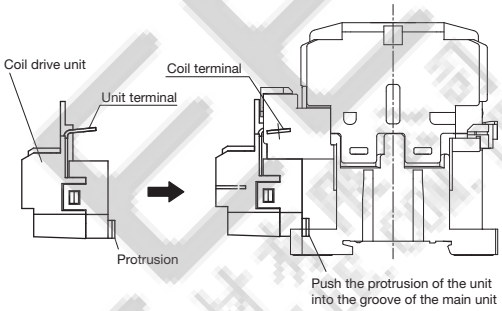


Fig. 1

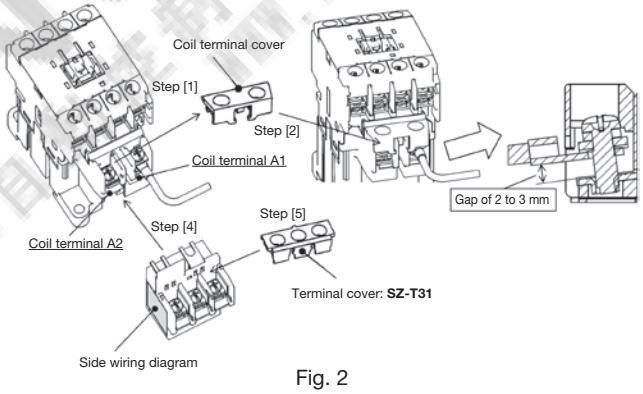


Fig. 2

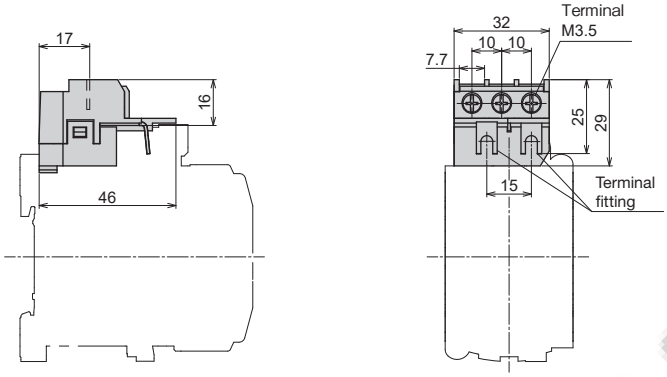
⚠ CAUTION Cautions on use

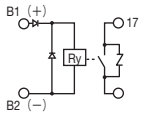
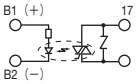
Applicable models	Contact (relay type)	Non-contact (SSR type)
	SZ3CD1	SZ3CD2
Precautions	·The input connection terminals B1 and B2 from the electronic control unit have + and - polarity, so use caution when making connections. ·The rated operating voltage of the control coil of the coil drive unit is 24 V DC. The allowable power range is 85 to 130% of the rated operating voltage. If the voltage falls below 85%, a malfunction will occur, resulting in contact welding and coil burnout of the magnetic contactor and auxiliary relay. If the voltage exceeds 130%, the life expectancy of the coil drive unit could be reduced, so check the voltage sufficiently during operation tests.	·The input connection terminals B1 and B2 from the electronic control unit have + and - polarity, so use caution when making connections. ·The unit is designed exclusively for driving the coil of the magnetic contactor. Do not use it for any other purpose. ·Apply a control voltage that has a steep rise. ·Do not use a control coil power supply that has continuous, steep rises and falls. ·For control power supplies that are rectifier power supplies containing ripple, use a valley point voltage of 70% or more of the rated control voltage. ·Only one magnetic contactor can be driven per unit.

■ Outline and wiring diagram

[Unit : mm]

● **SZ3CD1**
● **SZ3CD2**



Wiring diagrams	
SZ3CD1	SZ3CD2
	

(Note) The terminal fitting on the left side in the above illustration is for mechanical fixing.

Weight : 26g

Thermal Overload Relay Dial Covers

Features

- Prevents unintentional changes in the setting current value of the thermal overload relay.

SZ-DA

Ordering information (types)

● Thermal Overload Relay Dial Covers

SZ-DA

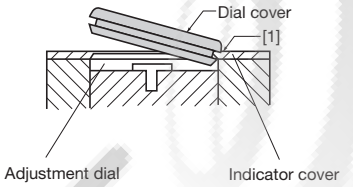
[1] Type

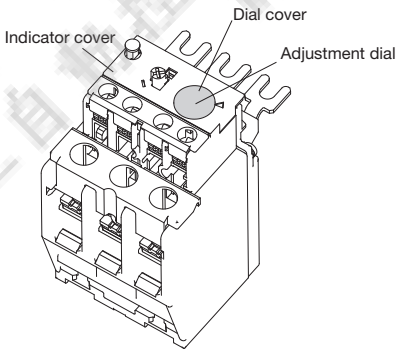
Types

Product name	Applicable thermal overload relay	Type
Thermal Overload Relay Dial Covers	TR65X	**SZ-DA**

Mounting method

As shown in the figure below, tilt the dial cover toward the round hole in the indicator cover above the adjustment dial of the thermal overload relay, hook [1], and rotate it while pressing it.

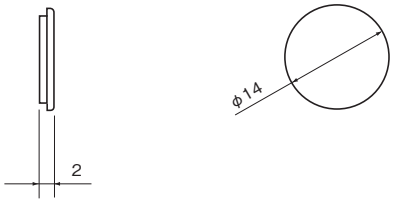




Outline

[Unit : mm]

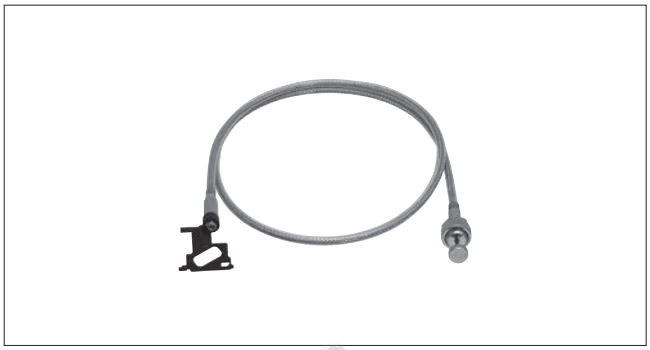
● **SZ-DA**



Thermal Overload Relay Reset Releases

■ Features

• Enables the resetting of the thermal overload relay from the panel surface or from a remote location.



■ Ordering information (types)

● Thermal Overload Relay Reset Releases

SZ-R1

[1] Type

■ Types

Product name	Release length [mm]	Weight [g]	Applicable models	Type [1]
Thermal Overload Relay Reset Releases	300	30	TR18X TR38X	**SZ-R1**
	500	40		**SZ-R2**
	700	50		**SZ-R3**
	300	30	TR65X	**SZ-R4**
	500	40		**SZ-R5**
	700	50		**SZ-R6**

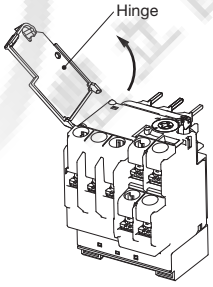
■ Operation method

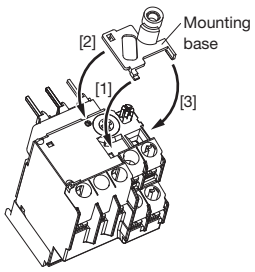
●SZ-R1, R2, R3

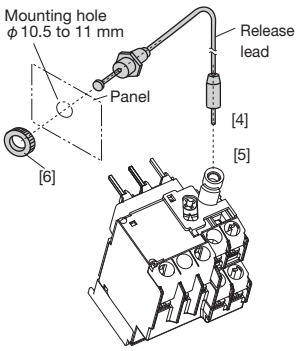
(1) Remove the front cover. As shown in the figure, it is relatively easy to remove it by holding it near the hinge and pulling hard.

(2) Insert claw [1] of the mounting base into the hole of the thermal overload relay and hook [2] and [3].
Once mounted, the mounting base cannot be removed. (Once the mounting base is mounted, it was designed to be difficult to remove.)

(3) Tighten male screw [4] of the release onto female screw [5] of the mounting base.
Remove nut [6] of the release from the release, insert the release from the back of the panel, and tighten nut [6] from the panel surface to secure it.







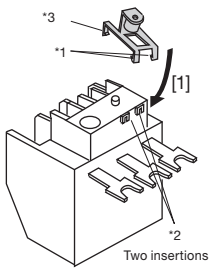
●SZ-R4, R5, R6

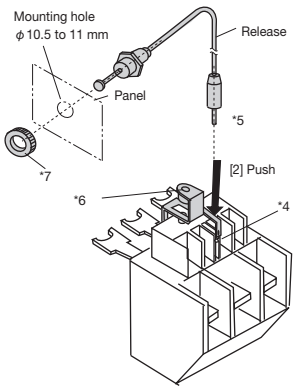
(1) Insert claw (*1) of the mounting base into groove (*2) of the thermal overload relay, and hook claw (*3) onto groove (*4).

(2) Mount screw (*5) of the release onto hole (*6) of the mounting base.

(3) Remove nut (*7) of the release from the release, insert the release from the back of the panel, and secure it with nut (*7) from the panel surface.

(4) To remove the mounting base, insert a flathead screwdriver into groove (*4) and unhook claw (*3).



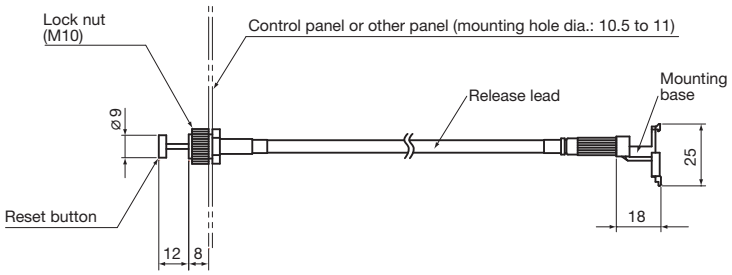


Thermal Overload Relay Reset Releases

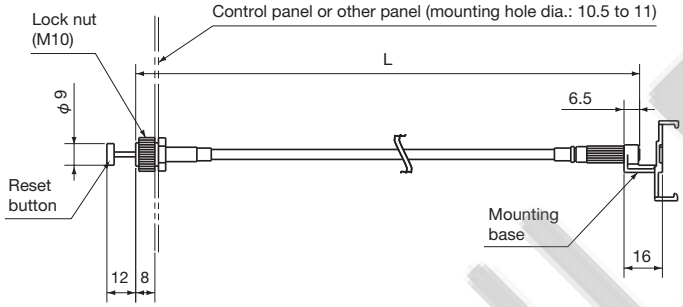
■ Outline

[Unit : mm]

●**SZ-R1, R2, R3**

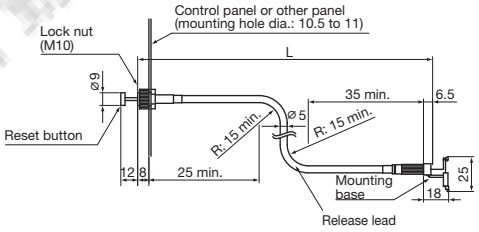


●**SZ-R4, R5, R6**



⚠CAUTION Cautions on use

- When mounting, ensure that the release lead is not bent within 25 mm from the panel and 35 mm from the mounting base.
- Make sure that the bending radius of the lead of the release is 15 mm or more. (See the figure on the right.)
- Make sure the hole diameter for mounting is ϕ10.5 to 11.



Separate Mounting Units for Thermal Overload Relay

■ Features

- It can be used as a separate mounting thermal overload relay by combining it with a thermal overload relay designed for magnetic starters.
- It can be mounted with screws or on an IEC top-hat type 35 mm wide DIN rail.

TZ1H13N

■ Ordering information (types)

● Separate Mounting Units for Thermal Overload Relay

TZ1H13N

[1] Type

■ Types

Product name	Applicable Thermal Overload Relay	Type [1]
Separate Mounting Units for Thermal Overload Relay	TR18X	**TZ1H13N**
	TR38X	**TZ1H26N**
	TR65X	**SZ-HD/T**

■ Mounting method

● TZ1H13N, TZ1H26N

[1] Fully loosen the terminal screws of the separate mounting unit.

[2] Insert the connecting wires of the thermal overload relay along the insertion guide of the separate mounting unit (see Fig. 1).

[3] Press the thermal overload relay in the direction of the arrow, and confirm that the lower section of the thermal overload relay is securely engaged with the hooks (2 locations) of the separate mounting unit (see Fig. 2).

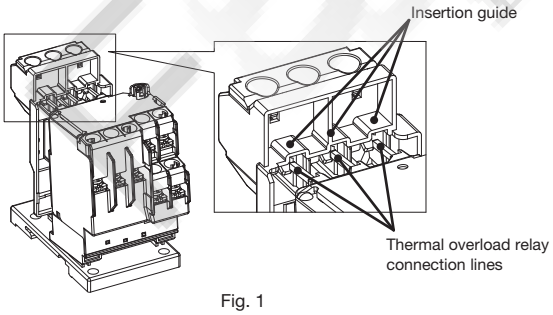


Fig. 1

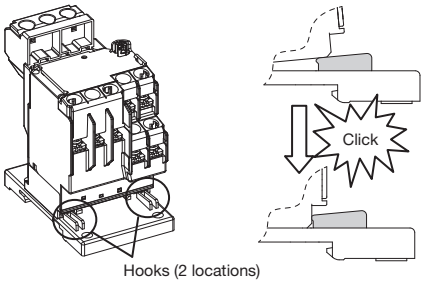


Fig. 2

● SZ-HD/T

Loosen the terminal screws of the separate mounting unit, insert the thermal overload relay as shown in the figure below, and push it in the direction of the arrow until you hear it click. (Fig. 3)

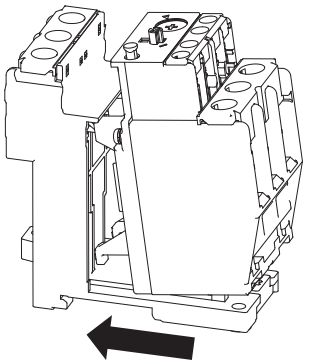


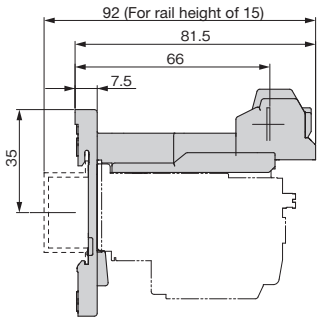
Fig. 3

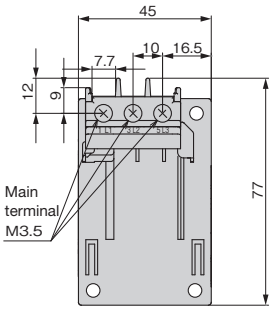
Separate Mounting Units for Thermal Overload Relay

Outline

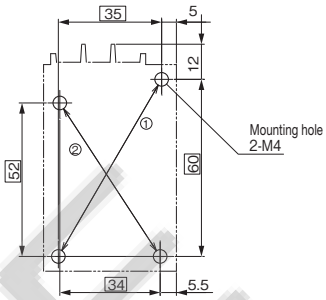
[Unit : mm]

TZ1H13N





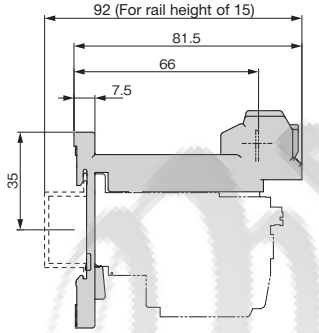
Panel drilling diagram

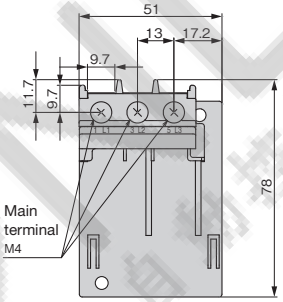


・Mounting dimensions: ① and ② can be mounted
①…35×60
②…34×52
・Mounting screws: 2-M4

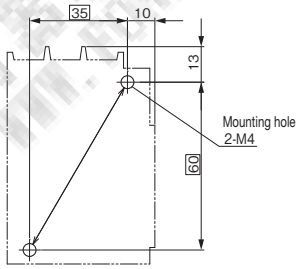
Weight : 30g

TZ1H26N





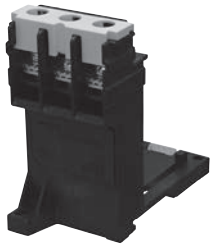
Panel drilling diagram

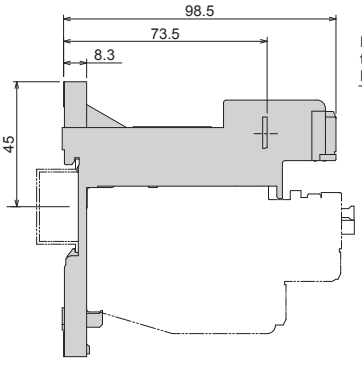


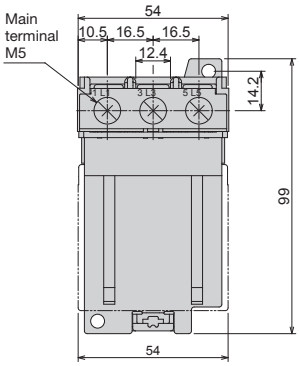
・Installation dimensions: 35×60
・Mounting screws: 2-M4

Weight : 40g

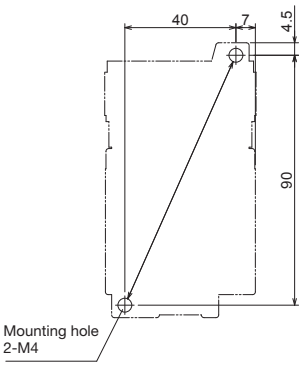
SZ-HD/T







Panel drilling diagram

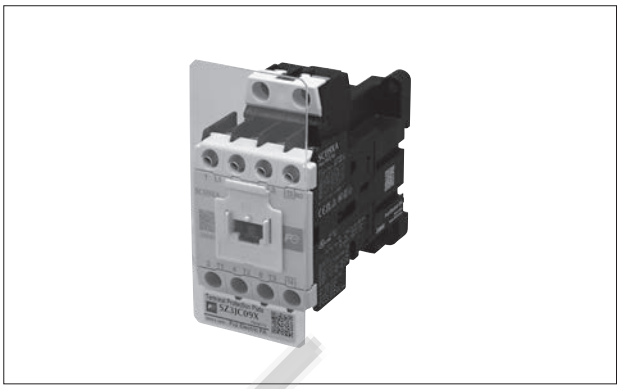


Weight : 90g

Live-section Protective Covers

■ Features

• It is possible to increase safety during maintenance and inspection by covering the entire front surface in order to prevent exposure of the live section.



■ Ordering information (types)

● Live-section Protective Covers

SZ3JC09X

[1] Type

■ Types

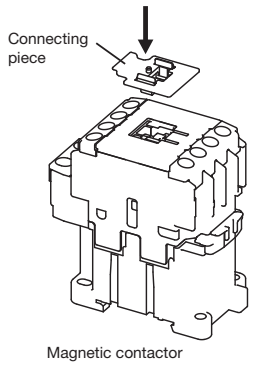
Product name	Applicable models		Type
	Product category	Type	
Live-section Protective Covers	Non-reversing type magnetic contactors Auxiliary relays	SC09X to 18X, SCH4X	**SZ3JC09X**
		SC20X to 38X	**SZ3JC20X**
		SC20D to 38D	**SZ3JC20D**
		SC40X to 65X	**SZ3JC40X**
	Non-reversing type magnetic starters	SW09X to 18X	**SZ3JW09X**
		SW20X to 38X	**SZ3JW20X**
		SW20D to 38D	**SZ3JW20D**
		SW40X to 65X	**SZ3JW40X**

(Note 1) It can't be used at the same time as front mounting type accessory.
(Note 2) It cannot be mounted to a mechanical latch magnetic contactor (SC□V).
(Note 3) DC operated and super magnet types can also be mounted in the same combinations as standard types.
(Note 4) For reversing type magnetic contactors, it is possible to mount two non-reversing type magnetic contactor live-section protective covers to SC09 to SC65□R.
(Note 5) It cannot be mounted on reversing type magnetic starters.

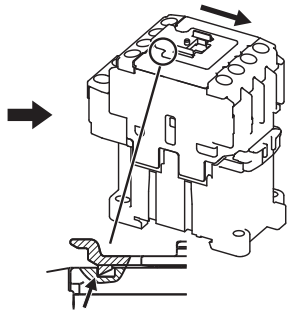
■ Mounting method

● SZ3JC(W)09 to 40X, 20D

[1] Put the connecting piece into the magnetic contactor.

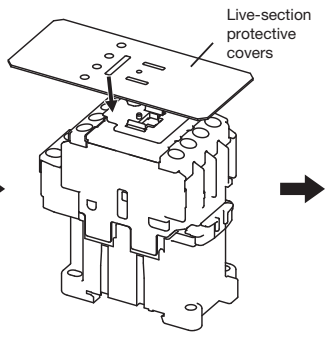


[2] Slide the top of the connecting piece while pressing down on it.

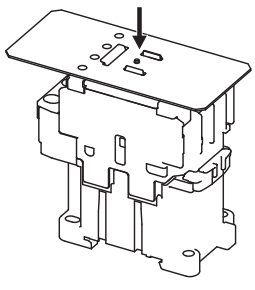


Note) Slide the hook until it engages with the groove on the main body.

[3] Hook the horizontal hole of the cover onto the end of the connecting piece.



[4] Mount the cover by pushing it down from the top until it clicks into place.

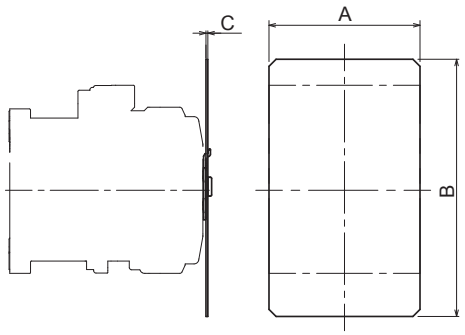


Note) Check that the claws on both sides are engaged.

Live-section Protective Covers

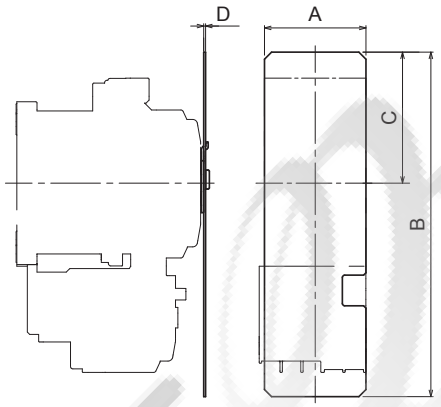
Outline

SZ3JC09X to 40X



Magnetic contactor type	Live-section protective covers type	Outline [mm]			Weight [g]
		A	B	C	
SC09X to 18X	**SZ3JC09X**	43	94	0.8	5
SC20X to 38X	**SZ3JC20X**	53	109		7
SC20D to 38D	**SZ3JC20D**	64	109		8
SC40X to 65X	**SZ3JC40X**	63	116		8

SZ3JW09X to 40X



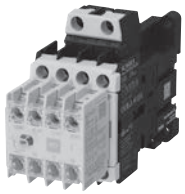
Magnetic contactor type	Live-section protective covers type	Outline [mm]				Weight [g]
		A	B	C	D	
SW09X to 18X	**SZ3JW09X**	43	146	55.5	0.8	7
SW20X to 38X	**SZ3JW20X**	53	160	55.5		9
SW20D to 38D	**SZ3JW20D**	64	160	55.5		11
SW40X to 65X	**SZ3JW40X**	63	177	59.5		11

Contactor Relays

■ Features

- Standard products conform to, and have obtained certification for the world's major standards (JIS, IEC, GB, UL, CSA)
- AC and DC operating coils and low consumption DC products are available.
- Twin contacts can be used to improve contact reliability and handle minute loads of 5 V DC 3 mA.
- High capacity contact specifications (single contact) are also available.
- Enables configuration of a wide variety of contact variations by combining with auxiliary contact blocks.

SCH4XA (4-contact)



SCH4XA (8-contact)

■ Ordering Information (Types)

● Contactor Relays

SCH4X	A	H	-	1	22
(1)	(2)	(3)		(4)	(5)

(1) Series (2) Coil operation method (A: AC operated type, G: DC operated type, U: Extra pick-up operating coil type)

(3) Auxiliary contact structure specification (No: Standard twin contact, H: High capacity auxiliary contact (with single contact))

(4) Coil voltage designation code (5) Auxiliary contact configuration

■ Rating

See page 21 for details.

■ Ratings and types

Operating coil specification [2]	Contact specification [3]	Number of contacts	Coil voltage specification [4]	Contact arrengement [5]	Type ❶
AC-operated types [A]	Bifurcated contact [blank]	4	24V AC [E] 48V AC [F] 100V AC [1] 110V AC [H] 115V AC [J] 120V AC [K] 200V AC [2] 220V AC [M] 230V AC [N] 240V AC [P] 380V AC [S] 400V AC [4] 415V AC [X] 440V AC [T]	4NO [40]	**SCH4XA-□40**
				3NO1NC [31]	**SCH4XA-□31**
				2NO2NC [22]	**SCH4XA-□22**
	Single button contact [H]	4		4NO [40]	**SCH4XAH-□40**
				3NO1NC [31]	**SCH4XAH-□31**
				2NO2NC [22]	**SCH4XAH-□22**
	Bifurcated contact [blank]	8		8NO [80]	**SCH4XA-□80**
				7NO1NC [71]	**SCH4XA-□71**
				6NO2NC [62]	**SCH4XA-□62**
				5NO3NC [53]	**SCH4XA-□53**
				4NO4NC [44]	**SCH4XA-□44**
	Single button contact [H]	8		8NO [80]	**SCH4XAH-□80**
				7NO1NC [71]	**SCH4XAH-□71**
				6NO2NC [62]	**SCH4XAH-□62**
				5NO3NC [53]	**SCH4XAH-□53**
				4NO4NC [44]	**SCH4XAH-□44**
DC-operated types [G]	Bifurcated contact [blank]	4	Standard 12V DC [B] 24V DC [E] 48V DC [F] 60V DC [G] 100V DC [1] 110V DC [H] 120V DC [K] 125V DC [D] 200V DC [2] 210V DC [Y] 220V DC [M] Low consumption ❷ 24V DC [L]	4NO [40]	**SCH4XG-□40**
				3NO1NC [31]	**SCH4XG-□31**
				2NO2NC [22]	**SCH4XG-□22**
	Single button contact [H]	4		4NO [40]	**SCH4XGH-□40**
				3NO1NC [31]	**SCH4XGH-□31**
				2NO2NC [22]	**SCH4XGH-□22**
	Bifurcated contact [blank]	8		8NO [80]	**SCH4XG-□80**
				7NO1NC [71]	**SCH4XG-□71**
				6NO2NC [62]	**SCH4XG-□62**
				5NO3NC [53]	**SCH4XG-□53**
				4NO4NC [44]	**SCH4XG-□44**
	Single button contact [H]	8		8NO [80]	**SCH4XGH-□80**
				7NO1NC [71]	**SCH4XGH-□71**
				6NO2NC [62]	**SCH4XGH-□62**
				5NO3NC [53]	**SCH4XGH-□53**
				4NO4NC [44]	**SCH4XGH-□44**

❶ "□" in the type column is replaced with the coil voltage code.

❷ If the coil voltage is low consumption type, the 8 contact model cannot be specified.

■ Performances

● Durability (Based on JIS C 8201-5-1)

Type	Number of contacts	Operating cycles per hour [times/hour]	Mechanical durability [100,000 times or more]	Electrical durability [100,000 times or more]				
				AC-15		AC-12		DC-13, -12 ❶
				220V	440V	220V	440V	24-220V
SCH4XA **SCH4XG** **SCH4XG-L**	4	1800	1000	50	50	25	25	50

❶ Time constant L/R=70ms

■ Combinations with auxiliary contact blocks

SC-NEXT Series Contactor Relays and Auxiliary Contacts Blocks can be combined as shown in the following table.

Auxiliary Contact Block / Contactor Relay type	Type	Front mounting						Side mounting	
	Type	SZ3A40	SZ3A31	SZ3A22	SZ3A20	SZ3A11	SZ3A02	SZ3AS1+SZ3AS1	SZ3AS1
	Auxiliary contact arrangement	4NO	3NO1NC	2NO2NC	2NO	1NO1NC	2NC	2NO2NC	1NO1NC
		Combined auxiliary contact arrangement							
SCH4XA SCH4XG	4NO	8NO	7NO1NC	6NO2NC	6NO	5NO1NC	4NO2NC	6NO2NC	5NO1NC
	3NO1NC	7NO1NC	6NO2NC	5NO3NC	5NO1NC	4NO2NC	3NO3NC	5NO3NC	4NO2NC
	2NO2NC	6NO2NC	5NO3NC	4NO4NC	4NO2NC	3NO3NC	2NO4NC	4NO4NC	3NO3NC
SCH4XG□-L (low consumption type)	4NO	—	—	—	6NO	5NO1NC	4NO2NC	—	5NO1NC
	3NO1NC	—	—	—	5NO1NC	4NO2NC	3NO3NC	—	4NO2NC
	2NO2NC	—	—	—	4NO2NC	3NO3NC	2NO4NC	—	3NO3NC

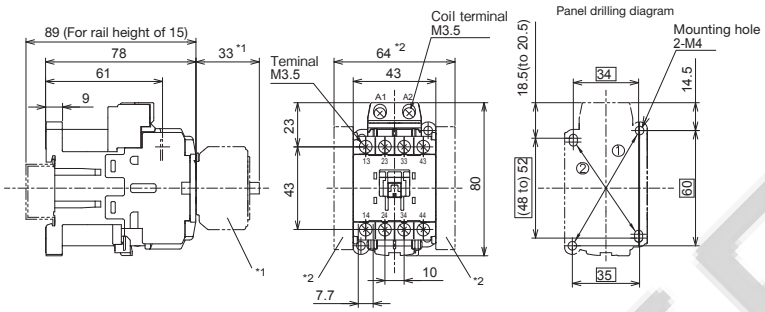
(Note) The auxiliary contact unit cannot be installed in both front mounting type and side mounting type configurations at the same time.

■ Outline and wiring diagram

● AC operated type Contactor Relays

[Unit : mm]

SCH4XA (4-pole)



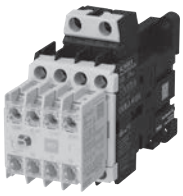
Auxiliary contact	
4NO	13 23 33 43 A1 A2 / 14 24 34 44
3NO1NC	13 21 33 43 A1 A2 / 14 22 34 44
2NO2NC	13 21 31 43 A1 A2 / 14 22 32 44

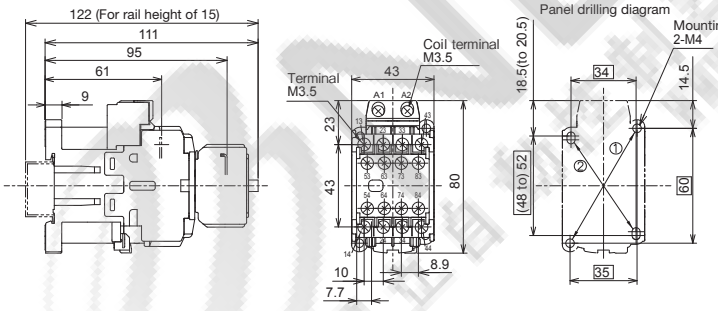
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 35x60 : Mounting holes for IEC
② 34x(48 to)52 : Compatible with SH-4, SH-5

Weight : 0.27kg

SCH4XA (8-pole)





Auxiliary contact		Combination: Auxiliary relay SCH4X□	Combination: Front mounting SZ3A□ (4 contacts)
8NO	13 23 33 43 53 63 73 83 A1 A2 / 14 24 34 44 54 64 74 84	4NO	4NO
7NO1NC	13 23 33 43 53 61 73 83 A1 A2 / 14 24 34 44 54 62 74 84	4NO	3NO1NC
6NO2NC	13 23 33 43 53 61 71 83 A1 A2 / 14 24 34 44 54 62 72 84	4NO	2NO2NC
5NO3NC	13 21 31 43 53 61 73 83 A1 A2 / 14 22 32 44 54 62 74 84	2NO2NC	3NO1NC
4NO4NC	13 21 31 43 53 61 71 83 A1 A2 / 14 22 32 44 54 62 72 84	2NO2NC	2NO2NC

Note: Mount at two diagonal mounting holes.
① 35x60 : Mounting holes for IEC
② 34x(48 to)52 : Compatible with SH-4, SH-5

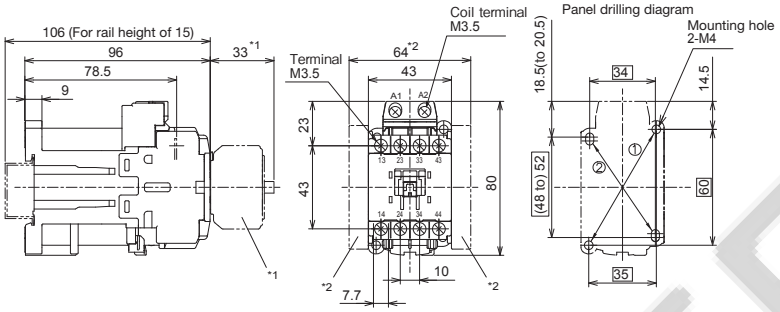
Weight : 0.32kg

● DC operated type Contactor Relays

[Unit : mm]

SCH4XG (4-pole)

35mm



Auxiliary contact	
4NO	13 23 33 43 (+) (-) A1 A2 / 14 24 34 44
3NO1NC	13 21 33 43 (+) (-) A1 A2 / 14 22 34 44
2NO2NC	13 21 31 43 (+) (-) A1 A2 / 14 22 32 44

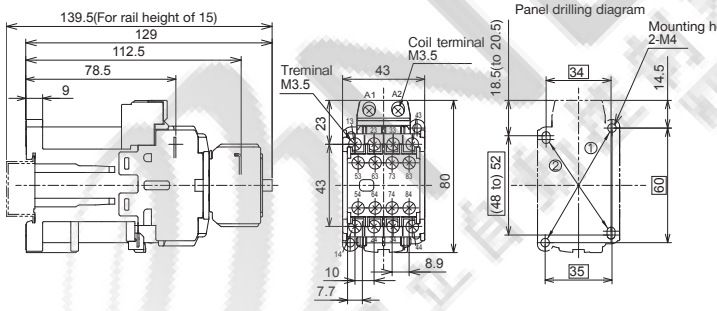
*1 When the auxiliary contact unit (front mounting) is mounted
*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 35x60 : Mounting holes for IEC
② 34x(48 to)52 : Compatible with SH-4/G, SH-5/G

Weight : 0.35kg

SCH4XG (8-pole)

35mm



Auxiliary contact		Combination: Auxiliary relay SCH4X□	Combination: Front mounting SZ3A□ (4 contacts)
8NO	13 23 33 43 53 63 73 83 (+) (-) A1 A2 / 14 24 34 44 54 64 74 84	4NO	4NO
7NO1NC	13 23 33 43 53 61 73 83 (+) (-) A1 A2 / 14 24 34 44 54 62 74 84	4NO	3NO1NC
6NO2NC	13 23 33 43 53 61 71 83 (+) (-) A1 A2 / 14 24 34 44 54 62 72 84	4NO	2NO2NC
5NO3NC	13 21 31 43 53 61 73 83 (+) (-) A1 A2 / 14 22 32 44 54 62 74 84	2NO2NC	3NO1NC
4NO4NC	13 21 31 43 53 61 71 83 (+) (-) A1 A2 / 14 22 32 44 54 62 72 84	2NO2NC	2NO2NC

Note: Mount at two diagonal mounting holes.
① 35x60 : Mounting holes for IEC
② 34x(48 to)52 : Compatible with SH-4/G, SH-5/G

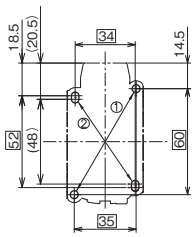
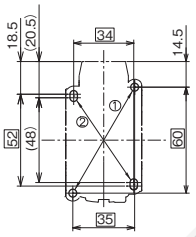
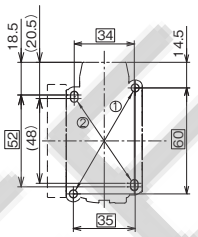
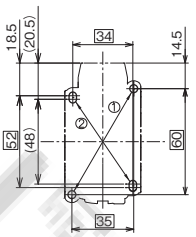
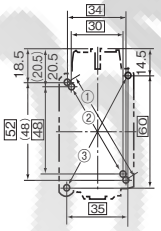
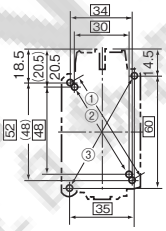
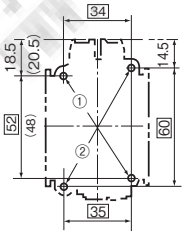
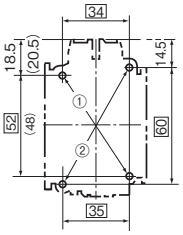
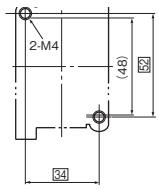
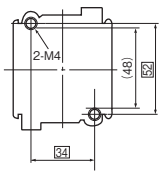
Weight : 0.4kg

Compatibility between current and conventional models

■ Comparison of new SC-NEXT and old Series types

● Magnetic contactors (Non-reversing・no case cover)

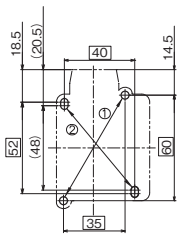
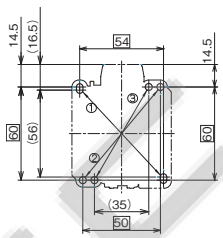
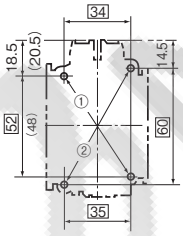
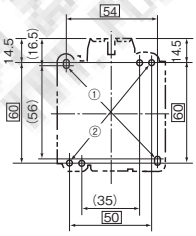
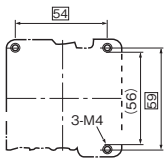
・IEC-conformance Ratings (IEC 60947-4-1, EN 60947-4-1)

Current series (SC-NEXT series)	Type		**SC09X**	**SC12X**		**SC18X**
	Rated capacity (AC-3, AC-3e)	220V	2.5kW,11A	3.5kW,13A	3.5kW,13A	4kW,18A
		440V	4kW,9A	5.5kW,12A	5.5kW,12A	7.5kW,18A
	Conventional free air thermal current (Rated thermal current)〔A〕		20	20	20	25
	Auxiliary contact arrangement		1NO,1NC	1NO,1NC	2NO1NC,1NO2NC	1NO,1NC
	Outline〔mm〕 W×H×D	AC operated	43×80×78	43×80×78	53×80×78	43×80×78
		DC operated	43×80×96	43×80×96	53×80×96	43×80×96
	Panel drilling diagram					
	Mian circuit	Terminal screw	M3.5	M3.5		M3.5
		Crimp terminal max. width	7.7mm	7.7mm		7.7mm
	Auxiliary curcuit	Terminal screw	M3.5	M3.5		M3.5
		Crimp terminal max. width	7.7mm	7.7mm		7.7mm
	Mounting compatible with SC series		○	○		○
Conventional series (SC series)	Type		**SC-03**	**SC-0**	**SC-05**	**SC-4-0**
	Rated capacity (AC-3)	220V	2.5kW,11A	3.5kW,13A	3.5kW,13A	4.5kW,18A
		440V	4kW,9A	5.5kW,12A	5.5kW,12A	7.5kW,16A
	Conventional free air thermal current (Rated thermal current)〔A〕		20	20	20	25
	Auxiliary contact arrangement		1NO,1NC	1NO,1NC	2NO,1NO1NC,2NC	1NO,1NC
	Outline〔mm〕 W×H×D	AC operated	43×81×80	43×81×80	53×81×80	53×81×81
		DC operated	43×81×107	43×81×107	53×81×107	53×81×108
	Panel drilling diagram					
	Mian circuit	Terminal screw	M3.5	M3.5	M3.5	M4
		Crimp terminal max. width	7.7mm	7.7mm	7.7mm	9.7mm
	Auxiliary curcuit	Terminal screw	M3.5	M3.5	M3.5	M3.5
		Crimp terminal max. width	7.7mm	7.7mm	7.7mm	7.7mm
	Mounting compatible with SRC, SC series			○	○	
Conventional series (SRC・SC series)	Type			**SRCa3631-0**	**SRCa3631-05**	
	Rated capacity (AC-3)	220V		3.5kW,13A	3.5kW,13A	
		440V		5.5kW,12A	5.5kW,12A	
	Conventional free air thermal current (Rated thermal current)〔A〕			20	20	
	Auxiliary contact arrangement			1NO	1NO1NC	
	Outline〔mm〕 W×H×D	AC operated		45×71×75	53×71×75	
		DC operated				
	Panel drilling diagram					
	Mian circuit	Terminal screw		M3.5	M3.5	
		Crimp terminal max. width		6.8mm	6.8mm	
	Auxiliary curcuit	Terminal screw		M3.5	M3.5	
		Crimp terminal max. width		6.8mm	6.8mm	

Compatibility between current and conventional models

● Magnetic contactors (Non-reversing・no case cover) (continued)

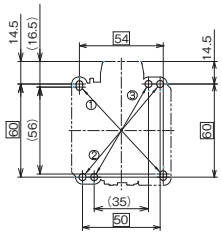
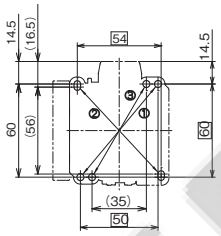
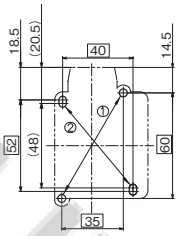
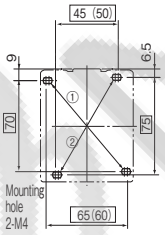
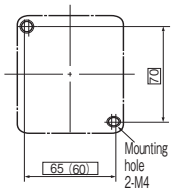
・IEC-conformance Ratings (IEC 60947-4-1, EN 60947-4-1)

Current series (SC-NEXT series)	Type		**SC20X**	**SC20D**	
	Rated capacity (AC-3, AC-3e)	220V	5kW,20A(22A) ❶	5kW,20A(22A) ❶	5kW,20A(22A) ❶
		440V	10kW,20A(22A) ❶	10kW,20A(22A) ❶	10kW,20A(22A) ❶
	Conventional free air thermal current (Rated thermal current) 〔A〕		32	32	32
	Auxiliary contact arrangement		1NO,1NC	2NO,1NO1NC,2NC	2NO2NC
	Outline 〔mm〕 W×H×D	AC operated	53×80×82	64×80×82	64×80×115
		DC operated	53×80×108	64×80×108	64×80×141
	Panel drilling diagram				
	Mian circuit	Terminal screw	M4	M4	
		Crimp terminal max. width	9.7mm	9.7mm	
	Auxiliary curcuit	Terminal screw	M3.5	M3.5	
		Crimp terminal max. width	7.7mm	7.7mm	
	Mounting compatible with SC series		○	○	
Conventional series (SC series)	Type		**SC-4-1**	**SC-5-1**	
	Rated capacity (AC-3)	220V	5.5kW,22A	5.5kW,22A	5.5kW,22A
		440V	11kW,22A	11kW,22A	11kW,22A
	Conventional free air thermal current (Rated thermal current) 〔A〕		32	32	32
	Auxiliary contact arrangement		1NO,1NC	2NO,1NO1NC,2NC	2NO2NC
	Outline 〔mm〕 W×H×D	AC operated	53×81×81	64×81×81	64×81×109
		DC operated	53×81×108	64×81×108	64×81×136
	Panel drilling diagram				
	Mian circuit	Terminal screw	M4	M4	
		Crimp terminal max. width	9.7mm	9.7mm	
	Auxiliary curcuit	Terminal screw	M3.5	M3.5	
		Crimp terminal max. width	7.7mm	7.7mm	
	Mounting compatible with SRC, SC series			○	
Conventional series (SRC・SC series)	Type				**SRC3631-5-1N**
	Rated capacity (AC-3)	220V			5.5kW, 22A
		440V			11kW,22A
	Conventional free air thermal current (Rated thermal current) 〔A〕				30
	Auxiliary contact arrangement				2NO2NC
	Outline 〔mm〕 W×H×D	AC operated			68×71×91.5
		DC operated			
	Panel drilling diagram				
	Mian circuit	Terminal screw			M4
		Crimp terminal max. width			8.5mm
	Auxiliary curcuit	Terminal screw			M4
		Crimp terminal max. width			8.5mm

❶ Electrical durability is slightly reduced. If you have further question, please contact to sales members of Fuji Electric FA Components & Systems.

● Magnetic contactors (Non-reversing・no case cover) (continued)

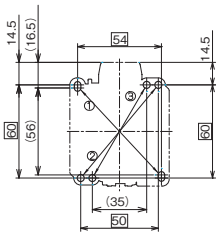
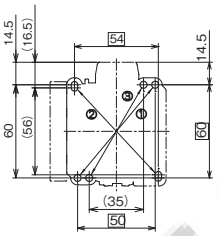
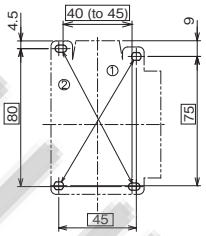
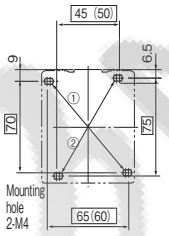
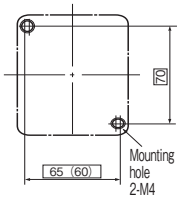
・IEC-conformance Ratings (IEC 60947-4-1, EN 60947-4-1)

Current series (SC-NEXT series)	Type		**SC26D**		**SC32X**
	Rated capacity (AC-3, AC-3e)	220V	5.5kW,26A	5.5kW,26A	7.5kW,32A
		440V	11kW,26A	11kW,26A	15kW,32A
	Conventional free air thermal current (Rated thermal current) 〔A〕		50	50	50
	Auxiliary contact arrangement		2NO,1NO1NC,2NC	2NO2NC	1NO1NC
	Outline 〔mm〕 W×H×D	AC operated	64×80×82	74×80×82	53×80×82
		DC operated	64×80×108	74×80×108	53×80×108
	Panel drilling diagram				
	Mian circuit	Terminal screw	M4		M4
		Crimp terminal max. width	9.7mm		9.7mm
	Auxiliary curcuit	Terminal screw	M3.5		M3.5
		Crimp terminal max. width	7.7mm		7.7mm
	Mounting compatible with SC series		△(SZ3AP26D)		△(SZ3AP26D)
Conventional series (SC series)	Type		**SC-N1**		
	Rated capacity (AC-3)	220V	7.5kW,32A		
		440V	15kW,32A		
	Conventional free air thermal current (Rated thermal current) 〔A〕		50		
	Auxiliary contact arrangement		2NO2NC		
	Outline 〔mm〕 W×H×D	AC operated	74×87×96		
		DC operated	74×87×122		
	Panel drilling diagram				
	Mian circuit	Terminal screw	M5		
		Crimp terminal max. width	12.4mm		
	Auxiliary curcuit	Terminal screw	M3.5		
		Crimp terminal max. width	7.7mm		
	Mounting compatible with SRC, SC series		○		
Conventional series (SRC・SC series)	Type		**SC-1N**		
	Rated capacity (AC-3)	220V	7.5kW,32A		
		440V	15kW,32A		
	Conventional free air thermal current (Rated thermal current) 〔A〕		50		
	Auxiliary contact arrangement		2NO2NC		
	Outline 〔mm〕 W×H×D	AC operated	74×87×103		
		DC operated			
	Panel drilling diagram				
	Mian circuit	Terminal screw	M5		
		Crimp terminal max. width	12.4mm		
	Auxiliary curcuit	Terminal screw	M3.5		
		Crimp terminal max. width	7.7mm		

Compatibility between current and conventional models

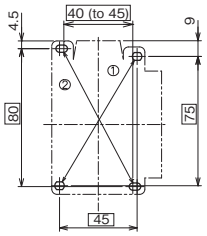
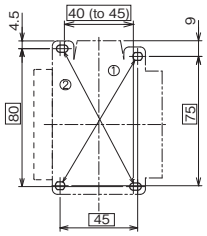
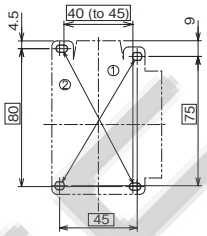
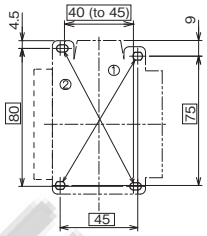
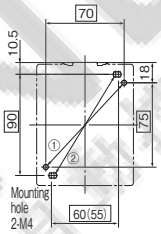
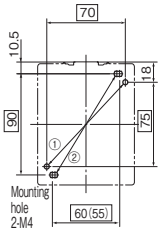
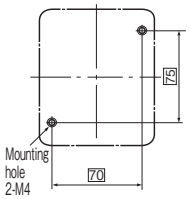
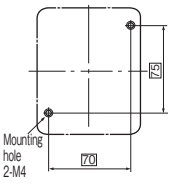
● Magnetic contactors (Non-reversing・no case cover) (continued)

・IEC-conformance Ratings (IEC 60947-4-1, EN 60947-4-1)

Current series (SC-NEXT series)	Type		**SC38D**		**SC40X**
	Rated capacity (AC-3, AC-3e)	220V	11kW,38A	11kW,38A	11kW,40A
		440V	18.5kW,38A	18.5kW,38A	18.5kW,40A
	Conventional free air thermal current (Rated thermal current) [A]		50	50	80
	Auxiliary contact arrangement		2NO,1NO1NC,2NC	2NO2NC	1NO1NC
	Outline [mm] W×H×D	AC operated	64×80×82	74×80×82	64×89×93
		DC operated	64×80×108	74×80×108	64×89×125
	Panel drilling diagram				
	Mian circuit	Terminal screw	M4		M5
		Crimp terminal max. width	9.7mm		12.4mm
	Auxiliary curcuit	Terminal screw	M3.5		M3.5
		Crimp terminal max. width	7.7mm		7.7mm
	Mounting compatible with SC series		△(SZ3AP26D)		△(SZ3AP50X)
Conventional series (SC series)	Type		**SC-N2**		
	Rated capacity (AC-3)	220V	11kW,40A		
		440V	18.5kW,40A		
	Conventional free air thermal current (Rated thermal current) [A]		60		
	Auxiliary contact arrangement		2NO2NC		
	Outline [mm] W×H×D	AC operated	74×87×96		
		DC operated	74×87×122		
	Panel drilling diagram				
	Mian circuit	Terminal screw	M5		
		Crimp terminal max. width	12.4mm		
	Auxiliary curcuit	Terminal screw	M3.5		
		Crimp terminal max. width	7.7mm		
	Mounting compatible with SRC, SC series		○		
Conventional series (SRC・SC series)	Type		**SC-2N**		
	Rated capacity (AC-3)	220V	11kW,40A		
		440V	18.5kW,40A		
	Conventional free air thermal current (Rated thermal current) [A]		60		
	Auxiliary contact arrangement		2NO2NC		
	Outline [mm] W×H×D	AC operated	74×87×103		
		DC operated			
	Panel drilling diagram				
	Mian circuit	Terminal screw	M5		
		Crimp terminal max. width	12.4mm		
	Auxiliary curcuit	Terminal screw	M3.5		
		Crimp terminal max. width	7.7mm		

● Magnetic contactors (Non-reversing・no case cover) (continued)

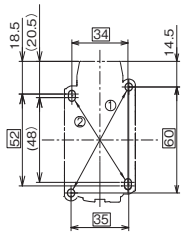
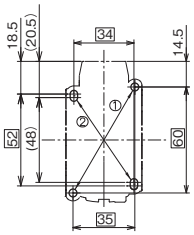
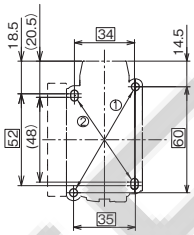
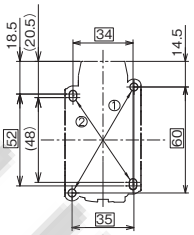
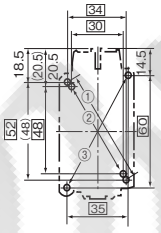
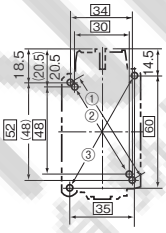
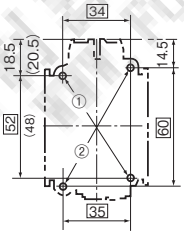
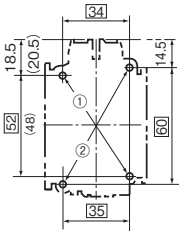
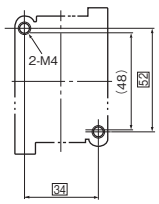
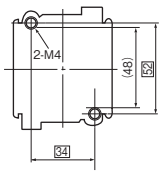
・IEC-conformance Ratings (IEC 60947-4-1, EN 60947-4-1)

Current series (SC-NEXT series)	Type		**SC50X**		**SC65X**	
	Rated capacity (AC-3, AC-3e)	220V	15kW,50A	15kW,50A	18.5kW,65A	18.5kW,65A
		440V	22kW,50A	22kW,50A	30kW,65A	30kW,65A
	Conventional free air thermal current (Rated thermal current) 〔A〕		80	80	80	80
	Auxiliary contact arrangement		1NO1NC	2NO2NC	1NO1NC	2NO2NC
	Outline 〔mm〕 W×H×D	AC operated	64×89×93	74×89×93	64×89×93	74×89×93
		DC operated	64×89×125	74×89×125	64×89×125	74×89×125
	Panel drilling diagram					
	Mian circuit	Terminal screw	M5		M5	
		Crimp terminal max. width	12.4mm		12.4mm	
	Auxiliary curcuit	Terminal screw	M3.5		M3.5	
		Crimp terminal max. width	7.7mm		7.7mm	
	Mounting compatible with SC series		△(SZ3AP50X)		△(SZ3AP50X)	
Conventional series (SC series)	Type			**SC-N2S**		**SC-N3**
	Rated capacity (AC-3)	220V		15kW,50A		18.5kW,65A
		440V		22kW,50A		30kW,65A
	Conventional free air thermal current (Rated thermal current) 〔A〕			80		100
	Auxiliary contact arrangement			2NO2NC		2NO2NC
	Outline 〔mm〕 W×H×D	AC operated		88×110×111		88×110×111
		DC operated		88×110×130		88×110×130
	Panel drilling diagram					
	Mian circuit	Terminal screw		M6		M6
		Crimp terminal max. width		16.7mm		16.7mm
	Auxiliary curcuit	Terminal screw		M3.5		M3.5
		Crimp terminal max. width		7.7mm		7.7mm
	Mounting compatible with SRC, SC series			○		○
Conventional series (SRC・SC series)	Type			**SC-2SN**		**SC-3N**
	Rated capacity (AC-3)	220V		15kW,50A		18.5kW,65A
		440V		22kW,50A		30kW,65A
	Conventional free air thermal current (Rated thermal current) 〔A〕			80		100
	Auxiliary contact arrangement			2NO2NC		2NO2NC
	Outline 〔mm〕 W×H×D	AC operated		88×110 ×118		88×110 ×118
		DC operated				
	Panel drilling diagram					
	Mian circuit	Terminal screw		M6		M6
		Crimp terminal max. width		16.8mm		16.8mm
	Auxiliary curcuit	Terminal screw		M3.5		M3.5
		Crimp terminal max. width		7.7mm		7.7mm

Compatibility between current and conventional models

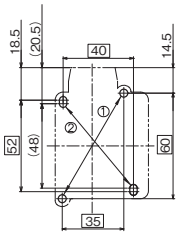
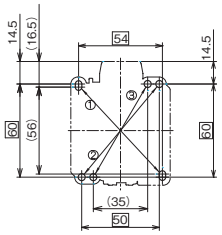
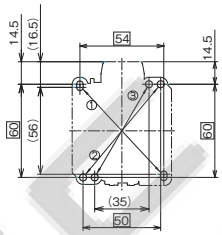
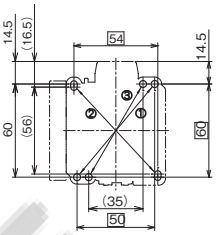
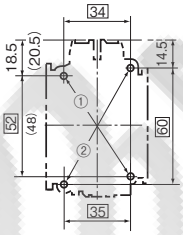
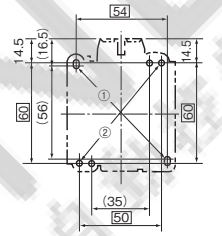
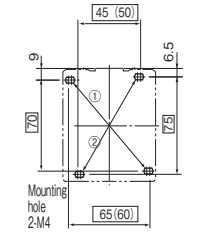
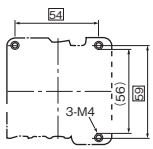
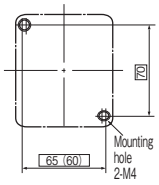
● Magnetic contactors (Non-reversing・no case cover)

・JIS-conformance Ratings (JIS C 8201-4-1)

Current series (SC-NEXT series)	Type		**SC09X**	**SC12X**		**SC18X**
	Rated capacity (AC-3, AC-3e)	220V	2.2kW,11A	2.7kW,13A	2.7kW,13A	3.7kW,18A
		440V	4kW,9A	5.5kW,12A	5.5kW,12A	7.5kW,18A
	Conventional free air thermal current (Rated thermal current)〔A〕		20	20	20	25
	Auxiliary contact arrangement		1NO,1NC	1NO,1NC	2NO1NC,1NO2NC	1NO,1NC
	Outline〔mm〕 W×H×D	AC operated	43×80×78	43×80×78	53×80×78	43×80×78
		DC operated	43×80×96	43×80×96	53×80×96	43×80×96
	Panel drilling diagram					
	Mian circuit	Terminal screw	M3.5	M3.5		M3.5
		Crimp terminal max. width	7.7mm	7.7mm		7.7mm
	Auxiliary curcuit	Terminal screw	M3.5	M3.5		M3.5
		Crimp terminal max. width	7.7mm	7.7mm		7.7mm
	Mounting compatible with SC series		○	○		○
Conventional series (SC series)	Type		**SC-03**	**SC-0**	**SC-05**	**SC-4-0**
	Rated capacity (AC-3)	220V	2.2kW,11A	2.7kW,13A	2.7kW,13A	3.7kW,18A
		440V	2.2kW,7A	4kW,9A	4kW,9A	5.5kW,13A
	Conventional free air thermal current (Rated thermal current)〔A〕		20	20	20	25
	Auxiliary contact arrangement		1NO,1NC	1NO,1NC	2NO,1NO1NC,2NC	1NO,1NC
	Outline〔mm〕 W×H×D	AC operated	43×81×80	43×81×80	53×81×80	53×81×81
		DC operated	43×81×107	43×81×107	53×81×107	53×81×108
	Panel drilling diagram					
	Mian circuit	Terminal screw	M3.5	M3.5	M3.5	M4
		Crimp terminal max. width	7.7mm	7.7mm	7.7mm	9.7mm
	Auxiliary curcuit	Terminal screw	M3.5	M3.5	M3.5	M3.5
		Crimp terminal max. width	7.7mm	7.7mm	7.7mm	7.7mm
	Mounting compatible with SRC, SC series			○	○	
Conventional series (SRC・SC series)	Type			**SRCa3631-0**	**SRCa3631-05**	
	Rated capacity (AC-3)	220V		2.7kW,13A	2.7kW,13A	
		440V		4kW,9A	4kW,9A	
	Conventional free air thermal current (Rated thermal current)〔A〕			20	20	
	Auxiliary contact arrangement			1NO	1NO1NC	
	Outline〔mm〕 W×H×D	AC operated		45×71×75	53×71×75	
		DC operated				
	Panel drilling diagram					
	Mian circuit	Terminal screw		M3.5	M3.5	
		Crimp terminal max. width		6.8mm	6.8mm	
	Auxiliary curcuit	Terminal screw		M3.5	M3.5	
		Crimp terminal max. width		6.8mm	6.8mm	

● Magnetic contactors (Non-reversing・no case cover) (continued)

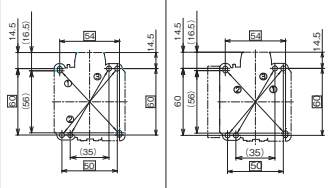
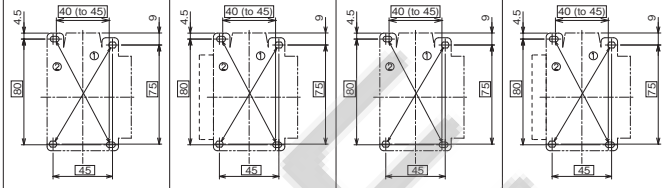
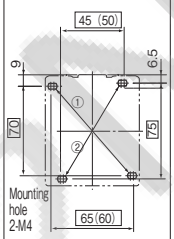
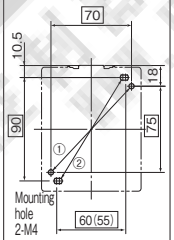
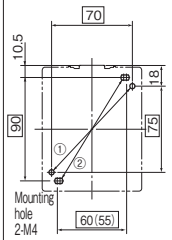
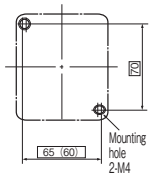
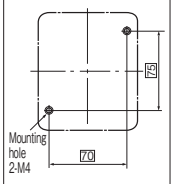
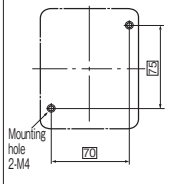
・JIS-conformance Ratings (JIS C 8201-4-1)

Current series (SC-NEXT series)	Type		**SC20X**	**SC20D**		**SC26D**	
	Rated capacity (AC-3, AC-3e)	220V	4kW,20A	4kW,20A	4kW,20A	5.5kW,26A	5.5kW,26A
		440V	7.5kW,20A	7.5kW,20A	7.5kW,20A	11kW,25A	11kW,25A
	Conventional free air thermal current (Rated thermal current) 〔A〕		32	32	32	40	40
	Auxiliary contact arrangement		1NO,1NC	2NO,1NO1NC,2NC	2NO2NC	2NO,1NO1NC,2NC	2NO2NC
	Outline 〔mm〕 W×H×D	AC operated	53×80×82	64×80×82	64×80×115	64×80×82	74×80×82
		DC operated	53×80×108	64×80×108	64×80×141	64×80×108	74×80×108
	Panel drilling diagram						
	Mian circuit	Terminal screw	M4	M4		M4	
		Crimp terminal max. width	9.7mm	9.7mm		9.7mm	
	Auxiliary curcuit	Terminal screw	M3.5	M3.5		M3.5	
		Crimp terminal max. width	7.7mm	7.7mm		7.7mm	
	Mounting compatible with SC series		○	○		△(SZ3AP26D)	
Conventional series (SC series)	Type		**SC-4-1**	**SC-5-1**			**SC-N1**
	Rated capacity (AC-3)	220V	4kW,18A(19A)	4kW,18A(19A)	4kW,18A(19A)		5.5kW,26A
		440V	7.5kW,17A	7.5kW,17A	7.5kW,17A		11kW,25A
	Conventional free air thermal current (Rated thermal current) 〔A〕		32	32	32		50
	Auxiliary contact arrangement		1NO,1NC	2NO,1NO1NC,2NC	2NO2NC		2NO2NC
	Outline 〔mm〕 W×H×D	AC operated	53×81×81	64×81×81	64×81×109		74×87×96
		DC operated	53×81×108	64×81×108	64×81×136		74×87×122
	Panel drilling diagram						
	Mian circuit	Terminal screw	M4	M4			M5
		Crimp terminal max. width	9.7mm	9.7mm			12.4mm
	Auxiliary curcuit	Terminal screw	M3.5	M3.5			M3.5
		Crimp terminal max. width	7.7mm	7.7mm			7.7mm
	Mounting compatible with SRC, SC series			○			○
Conventional series (SRC・SC series)	Type				**SRC3631-5-1N**		**SC-1N**
	Rated capacity (AC-3)	220V			4kW,18A(19A)		5.5kW,26A
		440V			7.5kW,17A		11kW,25A
	Conventional free air thermal current (Rated thermal current) 〔A〕				30		50
	Auxiliary contact arrangement				2NO2NC		2NO2NC
	Outline 〔mm〕 W×H×D	AC operated			68×71×91.5		74×87×103
		DC operated					
	Panel drilling diagram						
	Mian circuit	Terminal screw			M4		M5
		Crimp terminal max. width			8.5mm		12.4mm
	Auxiliary curcuit	Terminal screw			M4		M3.5
		Crimp terminal max. width			8.5mm		7.7mm

Compatibility between current and conventional models

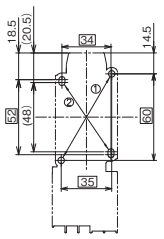
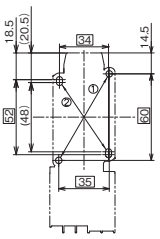
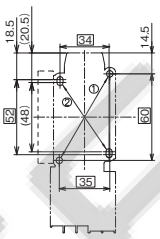
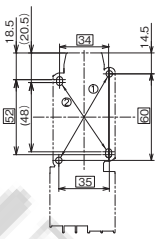
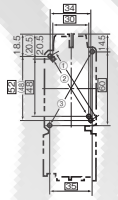
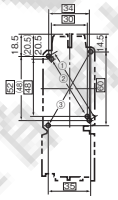
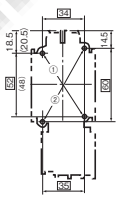
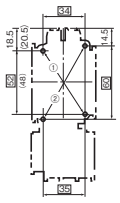
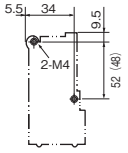
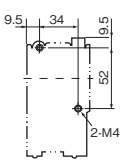
● Magnetic contactors (Non-reversing・no case cover) (continued)

・JIS-conformance Ratings (JIS C 8201-4-1)

Current series (SC-NEXT series)	Type		**SC38D**		**SC50X**		**SC65X**	
	Rated capacity (AC-3, AC-3e)	220V	7.5kW,35A	7.5kW,35A	11kW,50A	11kW,50A	15kW,65A	15kW,65A
		440V	18.5kW,38A	18.5kW,38A	22kW,50A	22kW,50A	30kW,65A	30kW,65A
	Conventional free air tharmal current (Rated thermal current)〔A〕		50	50	80	80	80	80
	Auxiliary contact arrangement		2NO,1NO1NC,2NC	2NO2NC	1NO1NC	2NO2NC	1NO1NC	2NO2NC
	Outline〔mm〕 W×H×D	AC operated	64×80×82	74×80×82	64×89×93	74×89×93	64×89×93	74×89×93
		DC operated	64×80×108	74×80×108	64×89×125	74×89×125	64×89×125	74×89×125
	Panel drilling diagram							
	Mian circuit	Terminal screw	M4		M5		M5	
		Crimp terminal max. width	9.7mm		12.4mm		12.4mm	
	Auxiliary curcuit	Terminal screw	M3.5		M3.5		M3.5	
		Crimp terminal max. width	7.7mm		7.7mm		7.7mm	
	Mounting compatible with SC series		△(SZ3AP26D)		△(SZ3AP50X)		△(SZ3AP50X)	
Conventional series (SC series)	Type			**SC-N2**		**SC-N2S**		**SC-N3**
	Rated capacity (AC-3)	220V		7.5kW,35A		11kW,50A		15kW,65A
		440V		15kW,32A		22kW,48A		30kW,65A
	Conventional free air tharmal current (Rated thermal current)〔A〕			60		80		100
	Auxiliary contact arrangement			2NO2NC		2NO2NC		2NO2NC
	Outline〔mm〕 W×H×D	AC operated		74×87×96		88×110×111		88×110×111
		DC operated		74×87×122		88×110×130		88×110×130
	Panel drilling diagram							
	Mian circuit	Terminal screw		M5		M6		M6
		Crimp terminal max. width		12.4mm		16.7mm		16.7mm
	Auxiliary curcuit	Terminal screw		M3.5		M3.5		M3.5
		Crimp terminal max. width		7.7mm		7.7mm		7.7mm
	Mounting compatible with SRC, SC series			○		○		○
Conventional series (SRC・SC series)	Type			**SC-2N**		**SC-2SN**		**SC-3N**
	Rated capacity (AC-3)	220V		7.5kW,35A		11kW,50A		15kW,65A
		440V		15kW,32A		22kW,48A		30kW,65A
	Conventional free air tharmal current (Rated thermal current)〔A〕			60		80		100
	Auxiliary contact arrangement			2NO2NC		2NO2NC		2NO2NC
	Outline〔mm〕 W×H×D	AC operated		74×87×103		88×110 ×118		88×110 ×118
		DC operated						
	Panel drilling diagram							
	Mian circuit	Terminal screw		M5		M6		M6
		Crimp terminal max. width		12.4mm		16.8mm		16.8mm
	Auxiliary curcuit	Terminal screw		M3.5		M3.5		M3.5
		Crimp terminal max. width		7.7mm		7.7mm		7.7mm

● Magnetic starters (Non-reversing・no case cover)

・JIS-conformance Ratings (JIS C 8201-4-1)

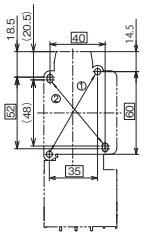
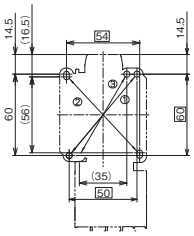
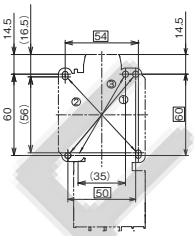
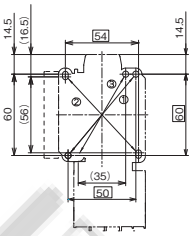
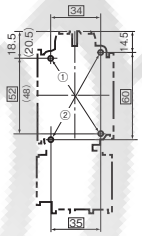
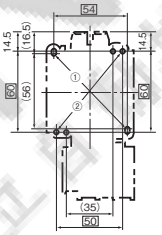
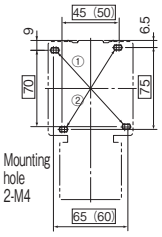
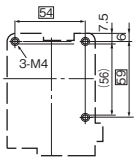
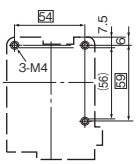
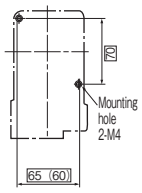
Current series (SC-NEXT series)	Type			**SW09X**	**SW12X**		**SW18X**
	Convination types			**SC09X + TR18X**	**SC12X + TR18X**	**SC12X + TR18X**	**SC18X + TR18X**
	Rated capacity (AC-3, AC-3e)	220V		2.2kW,11A	2.7kW,13A	2.7kW,13A	3.7kW,18A
		440V		4kW,9A	5.5kW,12A	5.5kW,12A	7.5kW,18A
	Auxiliary contact arrangement			1NO,1NC	1NO,1NC	2NO1NC,1NO2NC	1NO,1NC
	Outline (mm) W×H×D	AC operated		45×125×78	45×125×78	53×125×78	45×125×78
		DC operated		45×125×96	45×125×96	53×125×96	45×125×96
	Panel drilling diagram						
	Mian circuit	Terminal screw		M3.5	M3.5		M3.5
		Crimp terminal max. width	Contactors	7.7mm	7.7mm		7.7mm
			TOR	7.7mm	7.7mm		7.7mm
	Auxiliary curcuit	Terminal screw		M3.5	M3.5		M3.5
		Crimp terminal max. width	Contactors	7.7mm	7.7mm		7.7mm
			TOR	7.7mm	7.7mm		7.7mm
	Mounting compatible with SC series			○	○		○
Conventional series (SC series)	Type			**SW-03**	**SW-0**	**SW-05**	**SW-4-0**
	Convination types			**SC-03 + TR-0N**	**SC-0 + TR-0N**	**SC-05 + TR-0N**	**SC-4-0 + TR-5-1N**
	Rated capacity (AC-3)	220V		2.2kW,11A	2.7kW,13A	2.7kW,13A	3.7kW,18A
		440V		2.7kW,7A	4kW,9A	4kW,9A	5.5kW,13A
	Auxiliary contact arrangement			1NO,1NC	1NO,1NC	2NO,1NO1NC,2NC	1NO,1NC
	Outline (mm) W×H×D	AC operated		44×122×80	44×122×80	53×122×80	53×127×81
		DC operated		44×122×107	44×122×107	53×122×107	53×127×108
	Panel drilling diagram						
	Mian circuit	Terminal screw		M3.5	M3.5	M3.5	M4
		Crimp terminal max. width	Contactors	7.7mm	7.7mm	7.7mm	9.7mm
			TOR	7.7mm	7.7mm	7.7mm	9.7mm
	Auxiliary curcuit	Terminal screw		M3.5	M3.5	M3.5	M3.5
		Crimp terminal max. width	Contactors	7.7mm	7.7mm	7.7mm	7.7mm
			TOR	7.7mm	7.7mm	7.7mm	7.7mm
	Mounting compatible with SRC, SC series				○	○	○
Conventional series (SRC・SC series)	Type				**SRCb3931-0 CN**	**SRCa3931-05 CN**	
	Convination types				**SRCa3631-0 + TR-0**	**SRCa3631-05 + TR-0**	
	Rated capacity (AC-3)	220V			2.7kW,12A(13A)	2.7kW,12A(13A)	
		440V			4kW, 9A	4kW, 9A	
	Auxiliary contact arrangement				1NO	1NO1NC	
	Outline (mm) W×H×D	AC operated			51.5×104.5 ×79.5	53×104.5 ×79.5	
		DC operated					
	Panel drilling diagram						
	Mian circuit	Terminal screw			M3.5	M3.5	
		Crimp terminal max. width	Contactors		6.8mm	6.8mm	
			TOR		6.8mm	6.8mm	
	Auxiliary curcuit	Terminal screw			M3.5	M3.5	
		Crimp terminal max. width	Contactors		6.8mm	6.8mm	
			TOR		6.8mm	6.8mm	

(Note) TOR:Thermal Overload Relay

Compatibility between current and conventional models

● Magnetic starters (Non-reversing・no case cover) (continued)

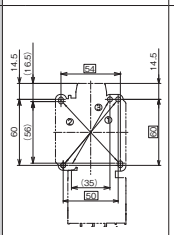
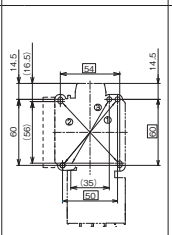
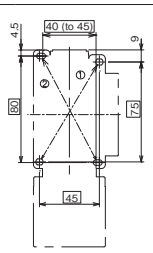
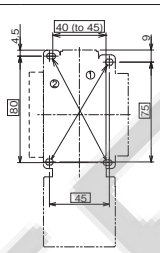
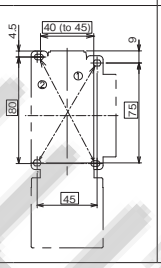
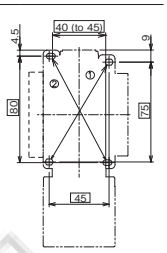
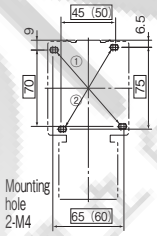
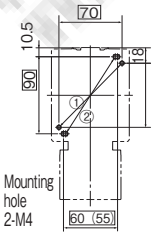
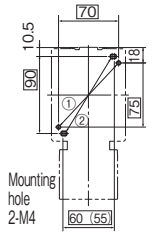
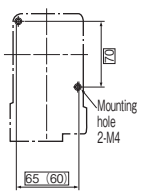
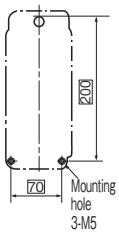
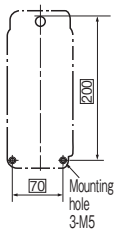
・JIS-conformance Ratings (JIS C 8201-4-1)

Current series (SC-NEXT series)	Type			**SW20X**	**SW20D**		**SW26D**	
	Convination types			**SC20X + TR38X**	**SC20D + TR38X**	**SC20D + TR38X**	**SC26D + TR38X**	**SC26D + TR38X**
	Rated capacity (AC-3, AC-3e)	220V		4kW,20A	4kW,20A	4kW,20A	5.5kW,26A	5.5kW,26A
		440V		7.5kW,20A	7.5kW,20A	7.5kW,20A	11kW,25A	11kW,25A
	Auxiliary contact arrangement			1NO,1NC	2NO,1NO1NC,2NC	2NO2NC	2NO,1NO1NC,2NC	2NO2NC
	Outline (mm) WxHxD	AC operated		53×130×82	64×130×82	64×130×115	64×130×82	74×130×82
		DC operated		53×130×108	64×130×108	64×130×141	64×130×108	74×130×108
	Panel drilling diagram							
	Mian circuit	Terminal screw		M4	M4		M4	
		Crimp terminal max. width	Contactors	9.7mm	9.7mm		9.7mm	
			TOR	9.7mm	9.7mm		9.7mm	
	Auxiliary curcuit	Terminal screw		M3.5	M3.5		M3.5	
		Crimp terminal max. width	Contactors	7.7mm	7.7mm		7.7mm	
			TOR	7.7mm	7.7mm		7.7mm	
	Mounting compatible with SC series			○	○		△(SZ3AP26D)	
Conventional series (SC series)	Type			**SW-4-1**	**SW-5-1**			**SW-N1**
	Convination types			**SC-4-1 + TR-5-1N**	**SC-5-1 + TR-5-1N**			**SC-N1 + TR-N2**
	Rated capacity (AC-3)	220V		4kW,18A	4kW,18A	4kW,18A		5.5kW,26A
		440V		7.5kW,17A	7.5kW,17A	7.5kW,17A		11kW,25A
	Auxiliary contact arrangement			1NO,1NC	2NO,1NO1NC,2NC	2NO2NC		2NO2NC
	Outline (mm) WxHxD	AC operated		53×127×81	64×127×81	64×127×109		74×146×96
		DC operated		53×127×108	64×127×108	53×127×136		74×146×122
	Panel drilling diagram							
	Mian circuit	Terminal screw		M4	M4			M5
		Crimp terminal max. width	Contactors	9.7mm	9.7mm			12.4mm
			TOR	9.7mm	9.7mm			12.4mm
	Auxiliary curcuit	Terminal screw		M3.5	M3.5			M3.5
		Crimp terminal max. width	Contactors	7.7mm	7.7mm			7.7mm
			TOR	7.7mm	7.7mm			7.7mm
	Mounting compatible with SRC, SC series			○	○			○
Conventional series (SRC・SC series)	Type				**SRCa3931-5-1 CN**	**SRC3931-5-1N CN**		**SW-1N**
	Convination types				**SRC3631-5-1 + RCa3737-1C**	**SRC3631-5-1N + RCa3737-1C**		**SC-1N + TR-2N**
	Rated capacity (AC-3)	220V			4kW,18A	4kW,18A		5.5kW,26A
		440V			7.5kW,17A	7.5kW,17A		11kW,25A
	Auxiliary contact arrangement				1NO1NC	2NO2NC		2NO2NC
	Outline (mm) WxHxD	AC operated			68×99×79	74×99×91.5		78×141 ×103
		DC operated						
	Panel drilling diagram							
	Mian circuit	Terminal screw			M4	M4		M5
		Crimp terminal max. width	Contactors		8.5mm	8.5mm		12.4mm
			TOR		8.5mm	8.5mm		12.4mm
	Auxiliary curcuit	Terminal screw			M4	M4		M3.5
		Crimp terminal max. width	Contactors		8.5mm	8.5mm		7.7mm
			TOR		8.5mm	8.5mm		7.7mm

(Note) TOR:Thermal Overload Relay

● Magnetic starters (Non-reversing・no case cover) (continued)

・JIS-conformance Ratings (JIS C 8201-4-1)

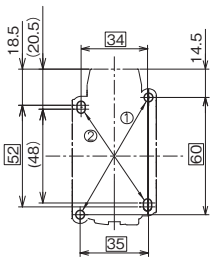
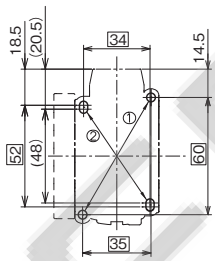
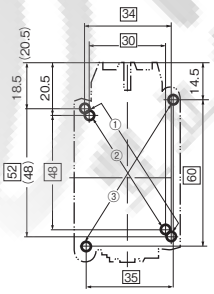
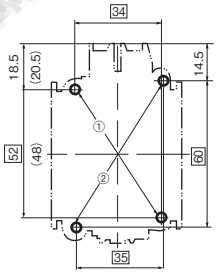
Current series (SC-NEXT series)	Type			SW38D		SW50X		SW65X		
	Convination types			SC38D + TR38X	SC38D + TR38X	SC50X + TR65X	SC50X + TR65X	SC65X + TR65X	SC65X + TR65X	
	Rated capacity (AC-3, AC-3e)	220V		7.5kW,35A	7.5kW,35A	11kW,50A	11kW,50A	15kW,65A	15kW,65A	
		440V		18.5kW,38A	18.5kW,38A	22kW,50A	22kW,50A	30kW,65A	30kW,65A	
	Auxiliary contact arrangement			2NO,1NO1NC,2NC	2NO2NC	1NO1NC	2NO2NC	1NO1NC	2NO2NC	
	Outline (mm) W×H×D	AC operated		64×130×82	74×130×82	64×148×93	74×148×93	64×148×93	74×148×93	
		DC operated		64×130×108	74×130×108	64×148×125	74×148×125	64×148×125	74×148×125	
	Panel drilling diagram									
	Mian circuit	Terminal screw		M4		M5		M5		
		Crimp terminal max. width	Contactors	9.7mm		12.4mm		12.4mm		
			TOR	9.7mm		12.4mm		12.4mm		
	Auxiliary curcuit	Terminal screw		M3.5		M3.5		M3.5		
		Crimp terminal max. width	Contactors	7.7mm		7.7mm		7.7mm		
			TOR	7.7mm		7.7mm		7.7mm		
	Mounting compatible with SC series			△(SZ3AP26D)		△(SZ3AP50X)		△(SZ3AP50X)		
Conventional series (SC series)	Type				SW-N2		SW-N2S		SW-N3	
	Convination types				SC-N2 + TR-N2		SC-N2S + TR-N2		SC-N3 + TR-N3	
	Rated capacity (AC-3)	220V			7.5kW,35A		11kW,50A		15kW,65A	
		440V			15kW,32A		22kW,48A		30kW,65A	
	Auxiliary contact arrangement				2NO2NC		2NO2NC		2NO2NC	
	Outline (mm) W×H×D	AC operated			74×146×96		88×177×111		88×177×111	
		DC operated			74×146×122		88×177×130		88×177×130	
	Panel drilling diagram									
	Mian circuit	Terminal screw			M5		M6		M6	
		Crimp terminal max. width	Contactors		12.4mm		16.8mm		16.8mm	
			TOR		12.4mm		16.8mm		16.8mm	
	Auxiliary curcuit	Terminal screw			M3.5		M3.5		M3.5	
		Crimp terminal max. width	Contactors		7.7mm		7.7mm		7.7mm	
			TOR		7.7mm		7.7mm		7.7mm	
	Mounting compatible with SRC, SC series				○		△(SZ-N2SW/AP)		△(SZ-N2SW/AP)	
Conventional series (SRC・SC series)	Type				SW-2N		SW-2SN		SW-3N	
	Convination types				SC-2N + TR-2N		SC-2SN + TR-3N		SC-3N + TR-3N	
	Rated capacity (AC-3)	220V			7.5kW,35A		11kW,50A		15kW,65A	
		440V			15kW,32A		22kW,48A		30kW,65A	
	Auxiliary contact arrangement				2NO2NC		2NO2NC		2NO2NC	
	Outline (mm) W×H×D	AC operated			78×141 ×103		88×215 ×123		88×215 ×123	
		DC operated								
	Panel drilling diagram									
	Mian circuit	Terminal screw			M5		M6		M6	
		Crimp terminal max. width	Contactors		12.4mm		16.8mm		16.8mm	
			TOR		12.4mm		15.3mm ❶		15.3mm ❶	
	Auxiliary curcuit	Terminal screw			M3.5		M3.5		M3.5	
		Crimp terminal max. width	Contactors		7.7mm		7.7mm		7.7mm	
			TOR		7.7mm		7.7mm		7.7mm	

❶ Use a crimp terminal with a width less than or equal to the maximum width. (Use a crimp terminal manufacturer's narrow width product.)

(Note) TOR:Thermal Overload Relay

Compatibility between current and conventional models

● Contactor relays

Current series (SC-NEXT series)	Type		**SCH4X**	
	Rated capacity (AC-15)	220V	3A	3A
		440V	1.5A	1.5A
	Conventional free air thermal current (Rated continuous current)		10A	10A
	Contact arrangement		4NO, 3NO1NC, 2NO2NC	5NO1NC, 4NO2NC, 3NO3NC, 1NO5NC
	Outline [mm] W×H×D	AC operated type	43×80×78	53×80×78
		DC operated type	43×80×96	53×80×96
	Panel drilling diagram			
	Auxiliary circuits	Terminal screw	M3.5	M3.5
		Maximum crimp terminal width	7.7mm	7.7mm
	Mounting compatible with SC series		○	○
Conventional series (SC series)	Type		**SH-4**	**SH-5**
	Rated capacity (AC-15)	220V	3A	3A
		440V	1.5A	1.5A
	Conventional free air thermal current (Rated continuous current)		10A	10A
	Contact arrangement		4NO, 3NO1NC, 2NO2NC	5NO, 4NO1NC, 3NO2NC, 2NO3NC, 1NO4NC, 5NC
	Outline [mm] W×H×D	AC operated type	43×81×80	53×81×80
		DC operated type	43×81×107	53×81×107
	Panel drilling diagram			
	Auxiliary circuits	Terminal screw	M3.5	M3.5
		Maximum crimp terminal width	7.7mm	7.7mm
	Mounting compatible with SRC series		○	○

■ Adapter plate types and outline

● Types

Adapter plate		Applicable models		Screw size when mounting the applicable current model to the adapter plate ❷
Type		Product category	Type ❶	Mounting screw size
SC-NEXT series	**SZ3AP26D**	Magnetic contactor Magnetic starter	SC26X(D) (←SC-N1)	Pan-head screws with built-in washers (spring washer and flat washer) M4-16 (2 pcs.) *Accessory
			SC38X(D) (←SC-N2)	
			SW26X(D) (←SW-N1)	
			SW38X(D) (←SW-N2)	
	SZ3AP50X		SC50X (←SC-N2S)	Pan-head screws with built-in washers (spring washer and flat washer) M4-16 (2 pcs.) *Accessory
			SC65X (←SC-N3)	
			SW50X (←SW-N2S)	
			SW65X (←SW-N3)	
	SZ3APR18X	Reversing type magnetic contactor Reversing type magnetic starter	SC18X□R (←SC-4-0RM)	Pan-head screws with built-in washers (spring washer and flat washer) M4-16 (2 pcs.) *Accessory
			SW18X□R (←SW-4-0RM)	
	SZ3APR26X		SC26X(D)□R (←SC-N1RM)	Pan-head screws with built-in washers (spring washer and flat washer) M4-16 (2 pcs.) *Accessory
			SC38X(D)□R (←SC-N2RM)	
			SW26X(D)□R (←SW-N1RM)	
			SW38X(D)□R (←SW-N2RM)	
	SZ3APR50X		SC50X□R (←SC-N2SRM)	Pan-head screws with built-in washers (spring washer and flat washer) M4-16 (2 pcs.) *Accessory
			SC65X□R (←SC-N3RM)	
			SW50X□R (←SW-N2SRM)	
			SW65X□R (←SW-N3RM)	

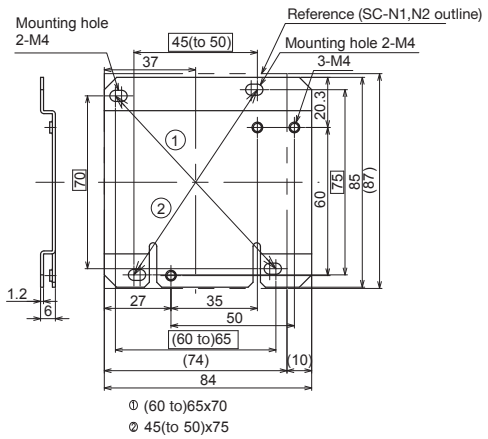
❶ The type in parentheses ( ) indicates the type of the conventional model that can be replaced by the current model.
❷ The number in parentheses ( ) indicates the number used.

Compatibility between current and conventional models

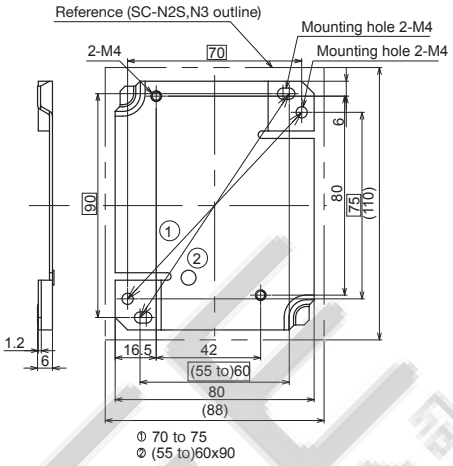
● Outline

[Unit : mm]

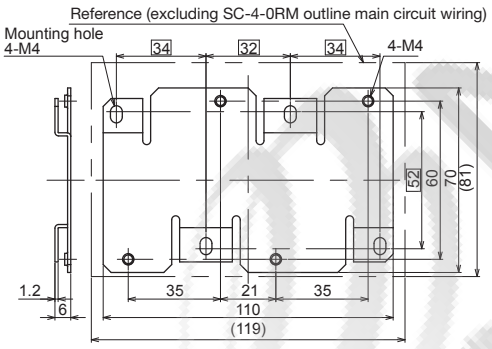
SZ3AP26D



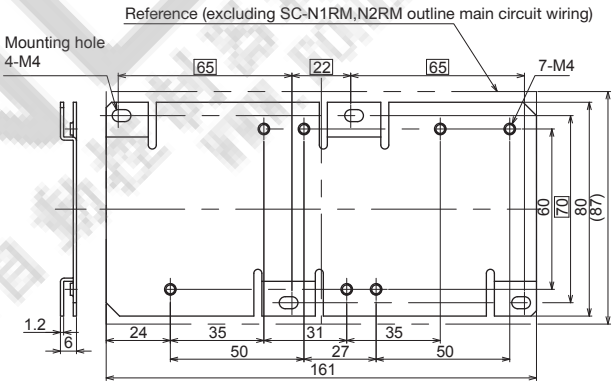
SZ3AP50X



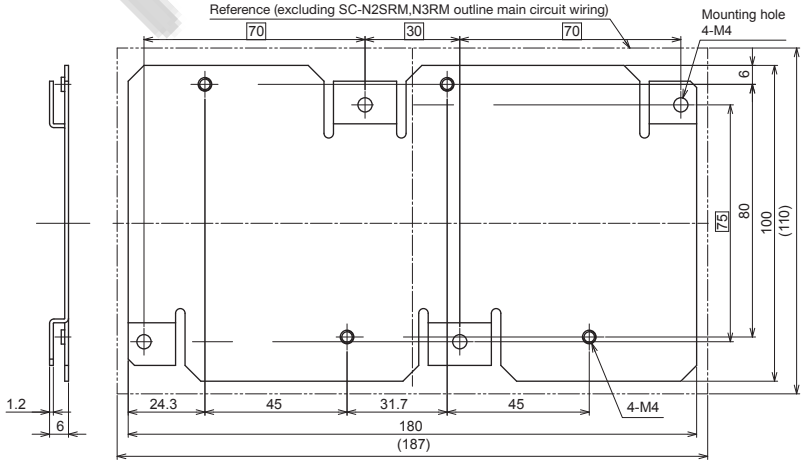
SZ3APR18X



SZ3APR26X



SZ3APR50X



(Note 1) After mounting only the adapter plate to the mounting plate, please mount the main unit to the adapter plate.

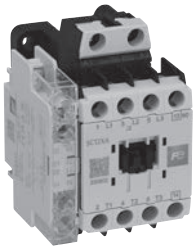
■ Compatibility between SC-NEXT series and conventional models

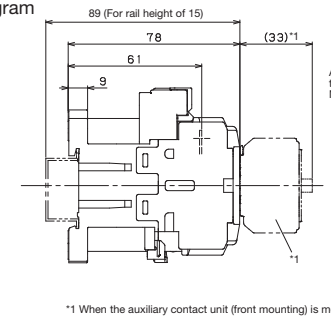
● Magnetic contactors, Magnetic starters

Current series (SC-NEXT series)

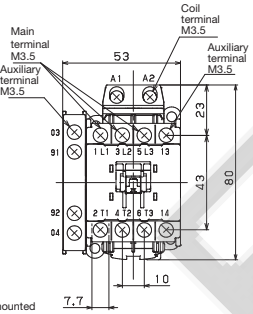
Type		SC12X		SW12X	
Rated capacity (AC-3, AC-3e)	220V	2.7kW 13A			
	440V	5.5kW 12A			
Conventional free air thermal current (Rated thermal current) [A]		20A		-	
Auxiliary contact arrangement		2NO1NC	1NO2NC	2NO1NC	1NO2NC
Ordering code *□: Coil voltage code		SC12X△-□21	SC12X△-□12	SW12X△-□21T■■■	SW12X△-□12T■■■
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	53×80×78 (99×80×111)		53×125×78 (99×125×111)	
	DC operated type	53×80×96 (99×80×129)		53×125×96 (99×125×129)	

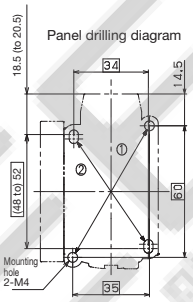
Outline drawing, wiring diagram





*1 When the auxiliary contact unit (front mounting) is mounted





Auxiliary contact	Contact arrangement
2NO1NC (2NO compatible)	
1NO2NC (1NO1NC compatible)	
(2NO compatible)	

Note: Mount at two diagonal mounting holes.
① 35×60 : Compatible with SC-05
② 34×(48 to)52 : Compatible with SC-05

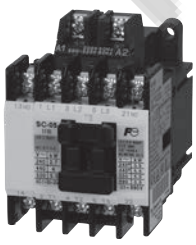
(Note 1) This product has an auxiliary contact block (side-mounted type) mounted on the left side.
(Note 2) For reversing types, it changes to those with front-mounting auxiliary contacts (1NO+1NC).
(Note 3) Number of combinable auxiliary contacts: AC operated type, max. 4 additional poles
(Note 4) Number of combinable auxiliary contacts: DC operated type (standard), max. 2 additional poles; DC operated type (low consumption), none
(Note 5) The DC operated type has polarity. A1(+)/A2(-)
(Note 6) The terminal numbers in parentheses ( ) are numbers that are listed for side mounting auxiliary contact blocks.

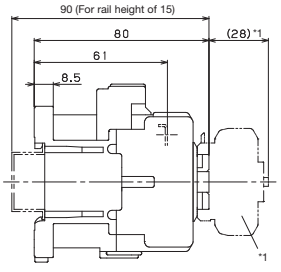
Terminal screw	Main circuit	M3.5
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	7.7mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit *The Terminal number will change. Please be careful.	2NO1NC [2NO compatible] : NO contact 03-04 13-14 (NC contact 91-92) 1NO2NC [1NO1NC compatible] : NO contact 03-04 NC contact (91-92) 21-22 1NO2NC [2NC compatible] : (NO contact 03-04) NC contact 91-92 21-22
Mounting compatible with SC series		Non-reversing type: ○ Reversing type: △(SZ3APR18X)

Conventional series (SC series)

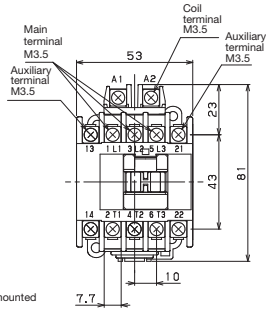
Type		SC-05	SW-05
Rated capacity (AC-3)	220V	2.7kW 13A	
	440V	4kW 9A	
Conventional free air thermal current (Rated thermal current) [A]		20A	-
Auxiliary contact arrangement		2NO, 1NO1NC, 2NC	
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	53×81×80 (119×81×80)	53×122×80 (119×122×80)
	DC operated type	53×81×107 (119×81×107)	53×122×107 (119×122×107)

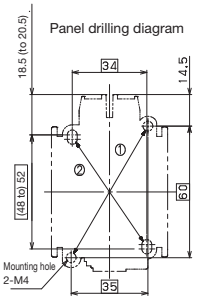
Outline drawing, wiring diagram





*1 When the auxiliary contact unit (front mounting) is mounted





Auxiliary contact	Contact arrangement
2NO	
1NO1NC	
2NC	

Note: Mount at two diagonal mounting holes.
① 35×60
② 34×(48 to)52

Terminal screw	Main circuit	M3.5
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	7.7mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit	2NO : NO contact 13-14 23-24 1NO1NC : NO contact 13-14 NC contact 21-22 2NC : NC contact 11-12 21-22

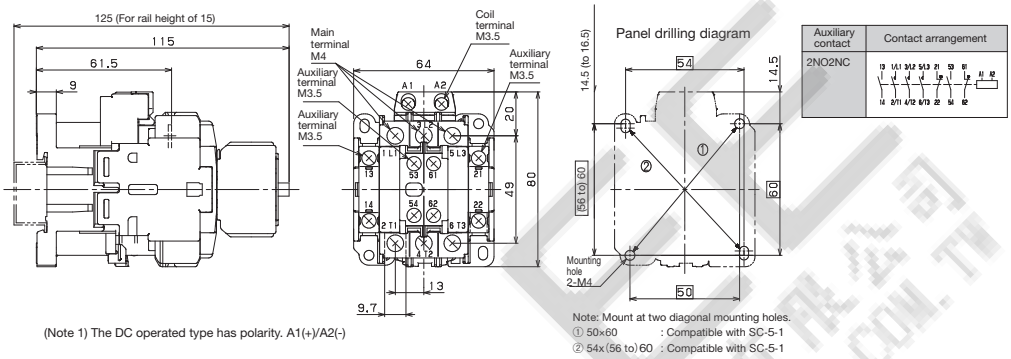
Compatibility between current and conventional models

● Magnetic contactors, Magnetic starters (continued)

Current series (SC-NEXT series)

Type		SC20D (Auxiliary contact 2NO2NC)	SW20D (Auxiliary contact 2NO2NC)
Rated capacity (AC-3, AC-3e)	220V	4kW 20A	
	440V	7.5kW 20A	
Conventional free air thermal current (Rated thermal current) [A]		32A	-
Auxiliary contact arrangement		2NO2NC	
Ordering code *□: Coil voltage code		SC20D△-□22	SW20D△-□22T■■■
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	64×80×115 (141×80×115)	64×130×115 (141×130×115)
	DC operated type	64×80×141 (141×80×141)	64×130×141 (141×130×141)

Outline drawing, wiring diagram



(Note 1) The DC operated type has polarity. A1(+)/A2(-)

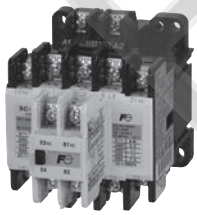
Note: Mount at two diagonal mounting holes.
① 50×60 : Compatible with SC-5-1
② 54×(56 to)60 : Compatible with SC-5-1

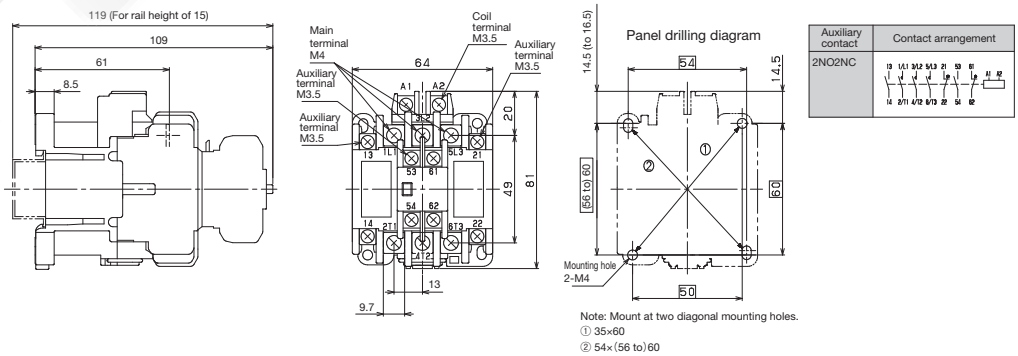
Terminal screw	Main circuit	M4
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	9.7mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit *The Terminal number will change. Please be careful.	2NO2NC : NO contact 13-14 53-54 NC contact 21-22 61-62
Mounting compatible with SC series		Non-reversing type: ○ Reversing type: ○

Conventional series (SC series)

Type		SC-5-1 (Auxiliary contact 2NO2NC)	SW-5-1 (Auxiliary contact 2NO2NC)
Rated capacity (AC-3)	220V	4kW 18A (19A)	
	440V	7.5kW 17A	
Conventional free air thermal current (Rated thermal current) [A]		32A	-
Auxiliary contact arrangement		2NO2NC	
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	64×81×109 (141×81×109)	64×127×109 (141×127×109)
	DC operated type	64×81×136 (141×81×136)	64×127×136 (141×127×136)

Outline drawing, wiring diagram





Note: Mount at two diagonal mounting holes.
① 35×60
② 54×(56 to)60

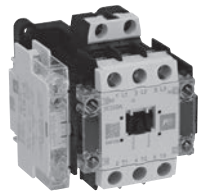
Terminal screw	Main circuit	M4
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	9.7mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit	2NO2NC : NO contact 13-14 53-54 NC contact 21-22 61-62

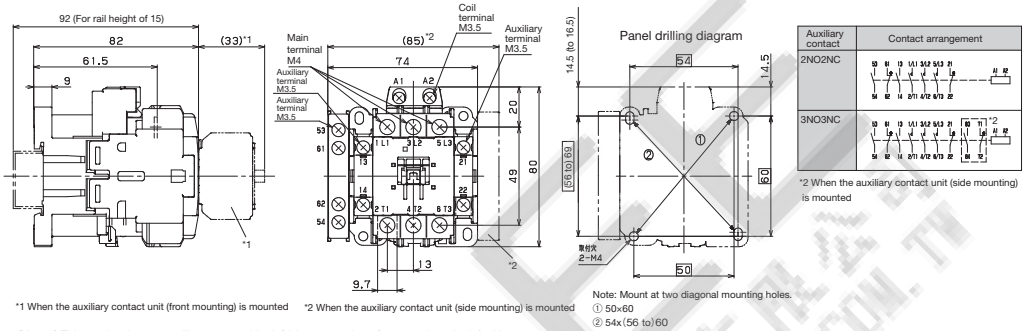
● Magnetic contactors, Magnetic starters (continued)

Current series (SC-NEXT series)

Type		SC26D		SC38D		SW26D		SW38D	
Rated capacity (AC-3, AC-3e)	220V	5.5kW 26A		7.5kW 35A		5.5kW 26A		7.5kW 35A	
	440V	11kW 26A		18.5kW 38A		11kW 26A		18.5kW 38A	
Conventional free air thermal current (Rated thermal current) [A]		50A				-			
Auxiliary contact arrangement		2NO2NC	3NO3NC	2NO2NC	3NO3NC	2NO2NC	3NO3NC	2NO2NC	3NO3NC
Ordering code *□: Coil voltage code		SC26D△ -□22	SC26D△ -□33	SC38D△ -□22	SC38D△ -□33	SW26D△-□ 22T■■■	SW26D△-□ 33T■■■	SW38D△-□ 22T■■■	SW38D△-□ 33T■■■
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	74×80×82 (141×80×115)				74×130×82 (141×130×115)			
	DC operated type	74×80×108 (141×80×141)				74×130×108 (141×130×141)			

Outline drawing, wiring diagram





*1 When the auxiliary contact unit (front mounting) is mounted

*2 When the auxiliary contact unit (side mounting) is mounted

*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 50×60
② 54×(56 to)60

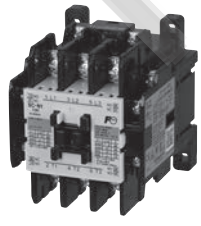
(Note 1) This product has an auxiliary contact block (side-mounted type) mounted on the left side.
(Note 2) For reversing types, it changes to those with front-mounting auxiliary contacts (1NO+1NC).
(Note 3) The DC operated type has polarity. A1(+)/A2(-)

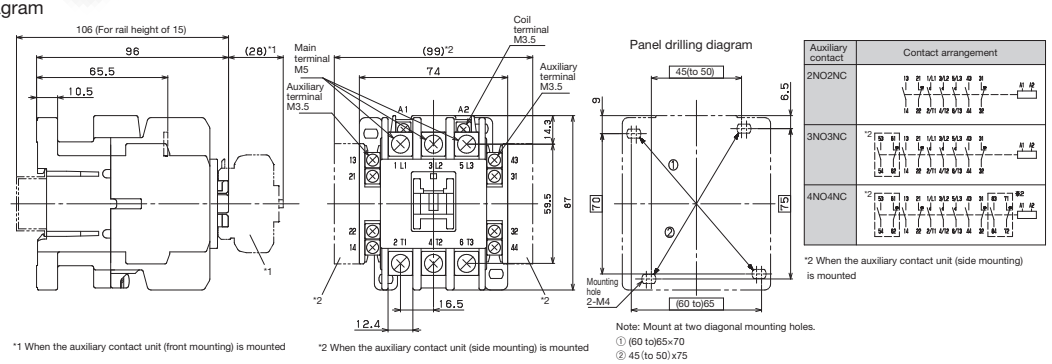
Terminal screw	Main circuit	M4
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	9.7mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit *The Terminal number will change. Please be careful.	2NO2NC : NO contact 53-54 13-14 NC contact 61-62 21-22 3NO3NC : NO contact 53-54 13-14 83-84 NC contact 61-62 21-22 71-72
Mounting compatible with SC series		Non-reversing type: △(SZ3AP26D) Reversing type: △(SZ3APR26X)

Conventional series (SC series)

Type		SC-N1	SC-N2	SW-N1	SW-N2
Rated capacity (AC-3)	220V	5.5kW 26A	7.5kW 35A	5.5kW 26A	7.5kW 35A
	440V	11kW 25A	15kW 32A	11kW 25A	15kW 32A
Conventional free air thermal current (Rated thermal current) [A]		50A	60A	-	
Auxiliary contact arrangement		2NO2NC, 3NO3NC, 4NO4NC			
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	74×87×96 (161×87×96)		74×146×96 (161×146×96)	
	DC operated type	74×87×122 (161×87×122)		74×146×122 (161×146×122)	

Outline drawing, wiring diagram





*1 When the auxiliary contact unit (front mounting) is mounted

*2 When the auxiliary contact unit (side mounting) is mounted

*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① (60 to)65×70
② 45(to 50)×75

Terminal screw	Main circuit	M5
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	12.4mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit	2NO2NC : NO contact 13-14 43-44 NC contact 21-22 31-32 3NO3NC : NO contact 53-54 13-14 43-44 NC contact 61-62 21-22 31-32 4NO4NC : NO contact 53-54 13-14 43-44 83-84 NC contact 61-62 21-22 31-32 71-72

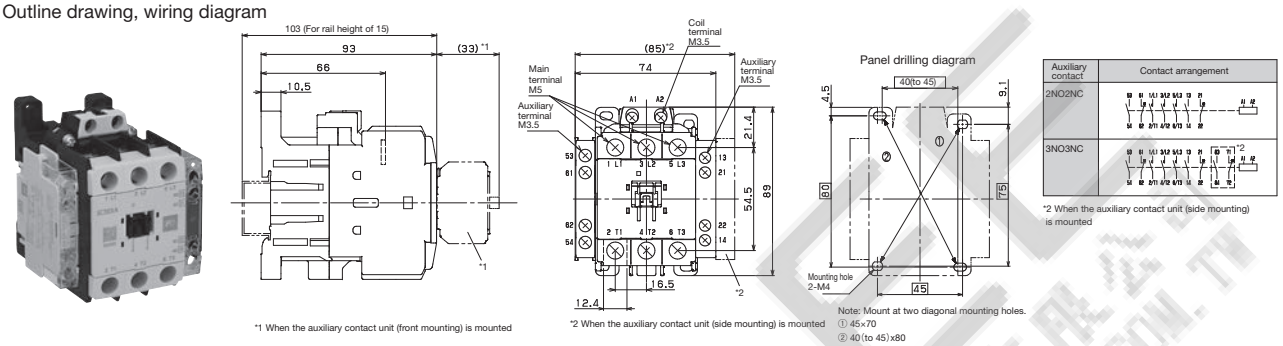
Compatibility between current and conventional models

● Magnetic contactors, Magnetic starters (continued)

Current series (SC-NEXT series)

Type		SC50X		SC65X		SW50X		SW65X	
Rated capacity (AC-3, AC-3e)	220V	11kW 50A		15kW 65A		11kW 50A		15kW 65A	
	440V	22kW 50A		30kW 65A		22kW 50A		30kW 65A	
Conventional free air thermal current (Rated thermal current) [A]		80A				-			
Auxiliary contact arrangement		2NO2NC	3NO3NC	2NO2NC	3NO3NC	2NO2NC	3NO3NC	2NO2NC	3NO3NC
Ordering code *□: Coil voltage code		SC50X△-□22	SC50X△-□33	SC65X△-□22	SC65X△-□33	SW50X△-□22T■■■	SW65X△-□33T■■■	SW50X△-□22T■■■	SW65X△-□33T■■■
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	74×89×93 (141×89×126)				74×148×93 (141×148×126)			
	DC operated type	74×89×125 (141×89×158)				74×148×125 (141×148×158)			

Outline drawing, wiring diagram



*1 When the auxiliary contact unit (front mounting) is mounted

*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 45×70
② 40 (to 45)×80

*2 When the auxiliary contact unit (side mounting) is mounted

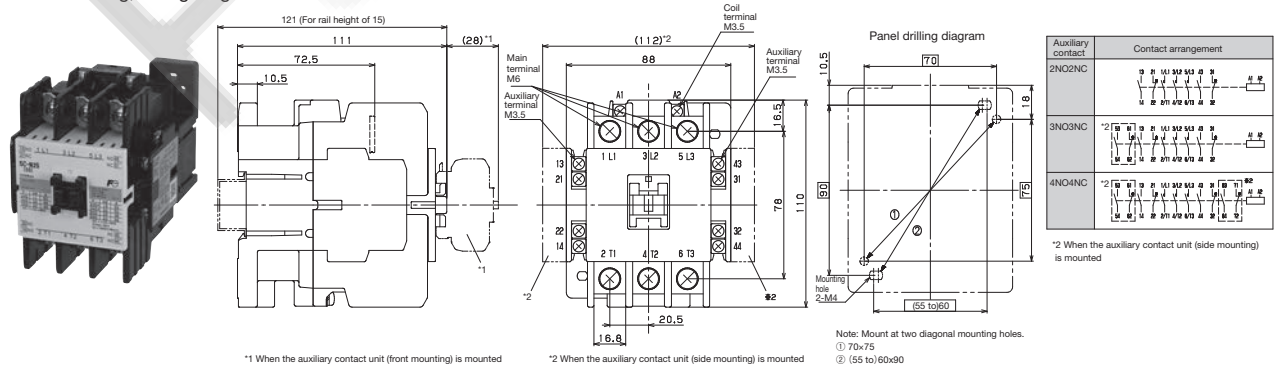
(Note 1) This product has an auxiliary contact block (side-mounted type) mounted on the left side.
(Note 2) For reversing types, it changes to those with front-mounting auxiliary contacts (1NO+1NC).
(Note 3) The DC operated type has polarity. A1(+)/A2(-)

Terminal screw	Main circuit	M5
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	12.4mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit *The Terminal number will change. Please be careful.	2NO2NC : NO contact 53-54 13-14 NC contact 61-62 21-22 3NO3NC : NO contact 53-54 13-14 83-84 NC contact 61-62 21-22 71-72
Mounting compatible with SC series		Non-reversing type: △(SZ3AP50X) Reversing type: △(SZ3APR50X)

Conventional series (SC series)

Type		SC-N2S	SC-N3	SW-N2S	SW-N3
Rated capacity (AC-3)	220V	11kW 50A	15kW 65A	11kW 50A	15kW 65A
	440V	22kW 48A	30kW 65A	22kW 48A	30kW 65A
Conventional free air thermal current (Rated thermal current) [A]		80A	100A	-	
Auxiliary contact arrangement		2NO2NC, 3NO3NC, 4NO4NC			
Outline [mm] W×H×D The outline in parentheses ( ) indicates the reversing type.	AC operated type	88×110×111 (187×110×111)		88×177×111 (187×177×111)	
	DC operated type	88×110×130 (187×110×130)		88×177×130 (187×177×130)	

Outline drawing, wiring diagram



*1 When the auxiliary contact unit (front mounting) is mounted

*2 When the auxiliary contact unit (side mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 70×75
② (55 to)60×90

*2 When the auxiliary contact unit (side mounting) is mounted

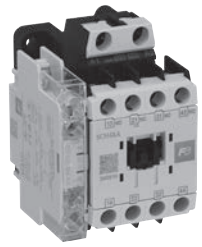
Terminal screw	Main circuit	M6
	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Main circuit	16.7mm
	Auxiliary circuit	7.7mm
Terminal number display	Main circuit	Power side: 1/L1 3/L2 5/L3, Load side: 2/T1 4/T2 6/T3
	Auxiliary circuit	2NO2NC : NO contact 13-14 43-44 NC contact 21-22 31-32 3NO3NC : NO contact 53-54 13-14 43-44 NC contact 61-62 21-22 31-32 4NO4NC : NO contact 53-54 13-14 43-44 83-84 NC contact 61-62 21-22 31-32 71-72

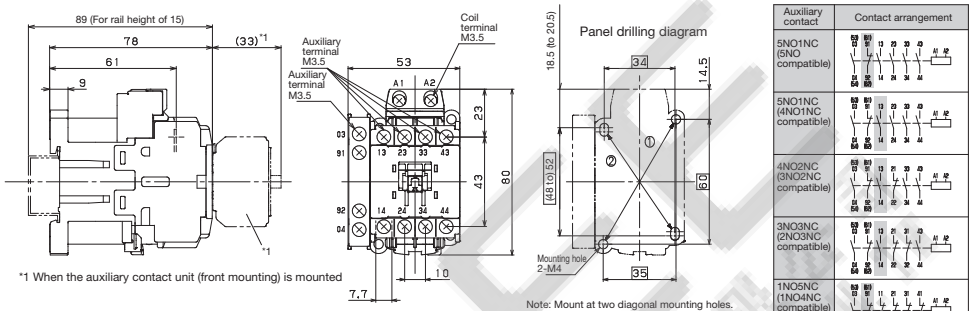
● Auxiliary relays

Current series (SC-NEXT series)

Type		SCH4X			
Rated capacity (AC-3, AC-3e)	220V	3A			
	440V	1.5A			
Conventional free air thermal current (Rated thermal current) [A]		10A			
Auxiliary contact arrangement		5NO1NC	4NO2NC	3NO3NC	1NO5NC (Order unit is number in min. 20)
Ordering code *□: Coil voltage code		SCH4X△-□51	SCH4X△-□42	SCH4X△-□33	SCH4X△-□15
Outline [mm] W×H×D	AC operated type	53×80×78			
	DC operated type	53×80×96			

Outline drawing, wiring diagram





*1 When the auxiliary contact unit (front mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 35×60 : Compatible with SH-5
② 34×(48 to) 52 : Compatible with SH-5

Auxiliary contact	Contact arrangement
5NO1NC (5NO compatible)	
5NO1NC (4NO1NC compatible)	
4NO2NC (3NO2NC compatible)	
3NO3NC (2NO3NC compatible)	
1NO5NC (1NO4NC compatible)	
1NO5NC (5NC compatible)	

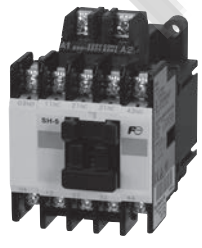
(Note 1) This product has an auxiliary contact block (side-mounted type) mounted on the left side.
(Note 2) Number of combinable auxiliary contacts: AC operated type, max. 4 additional poles
(Note 3) Number of combinable auxiliary contacts: DC operated type (standard), max. 4 additional poles;
DC operated type (low consumption), max. 2 additional poles
(Note 4) The DC operated type has polarity. A1(+)/A2(-)
(Note 5) The terminal numbers in parentheses ( ) are numbers that are listed for side mounting auxiliary contact blocks.

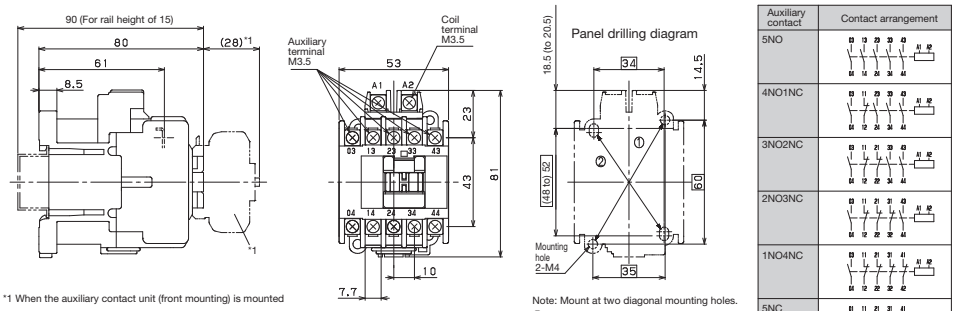
Terminal screw	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Auxiliary circuit	7.7mm
Terminal number display	Auxiliary circuit *The Terminal number will change. Please be careful.	5NO1NC [5NO compatible] : NO contact 03-04 13-14 23-24 33-34 43-44 (NC contact 91-92) 5NO1NC [4NO1NC compatible] : NO contact 03-04 (13-14) 23-24 33-34 43-44 NC contact 91-92 4NO2NC [3NO2NC compatible] : NO contact 03-04 (13-14) 33-34 43-44 NC contact 91-92 21-22 3NO3NC [2NO3NC compatible] : NO contact 03-04 (13-14) 43-44 NC contact 91-92 21-22 31-32 1NO5NC [1NO4NC compatible] : NO contact 03-04 NC contact (91-92) 11-12 21-22 31-32 41-42 1NO5NC [5NC compatible] : (NO contact 03-04) NC contact 91-92 11-12 21-22 31-32 41-42
Mounting compatible with SC series		○

Conventional series (SC series)

Type		SH-5			
Rated capacity (AC-3)	220V	3A			
	440V	1.5A			
Conventional free air thermal current (Rated thermal current) [A]		10A			
Auxiliary contact arrangement		5NO, 4NO1NC, 3NO2NC, 2NO3NC, 1NO4NC, 5NC			
Outline [mm] W×H×D	AC operated type	53×81×80			
	DC operated type	53×81×107			

Outline drawing, wiring diagram





*1 When the auxiliary contact unit (front mounting) is mounted

Note: Mount at two diagonal mounting holes.
① 35×60
② 34×(48 to) 52

Auxiliary contact	Contact arrangement
5NO	
4NO1NC	
3NO2NC	
2NO3NC	
1NO4NC	
5NC	

Terminal screw	Auxiliary circuit	M3.5
Applicable ring crimp terminal (Max.)	Auxiliary circuit	7.7mm
Terminal number display	Auxiliary circuit	5NO : NO contact 03-04 13-14 23-24 33-34 43-44 4NO1NC : NO contact 03-04 23-24 33-34 43-44 NC contact 11-12 3NO2NC : NO contact 03-04 33-34 43-44 NC contact 11-12 21-22 2NO3NC : NO contact 03-04 43-44 Nc contact 11-12 21-22 31-32 1NO4NC : NO contact 03-04 NC contact 11-12 21-22 31-32 41-42 5bNC : NC contact 01-02 11-12 21-22 31-32 41-42

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