

Manufactured models

Series name		CLK-J Series													CLK-H Series							
Frame		25JF2	15JFC	15JC	25J2	25J3	20J	26J	28J	35J3	35J	40J	50J	65J	65H	80H	100H	125H	150H	200H	250H	
Terminal specification		Tab			Screw																	
Contact configuration	Main	2P	3P	3P	2P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	3P	
	Aux.	—	1NO (1NC)	—	—	1NO1NC (2NO,2NC)	—	1NO1NC (2NO2NC)	2NO2NC													
Magnetic contactors	AC-operated model	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	DC-operated model	—	○	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Magnetic starters	AC-operated model	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	DC-operated model	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Standard trip model	With 2-heaters thermal CLK-□T(C)	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		With phase-failure protection thermal CLK-□GT(C)	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		With 3-heaters thermal CLK-□T-3(C)	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Fast-trip model	With 2-heaters thermal CLK-□T-F(C)	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		With phase-failure protection thermal CLK-□GT-F(C)	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		With 3-heaters thermal CLK-□T-3F(C)	—	—	○	—	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Notes. ① ○ : Manufactures
② — : Non manufactures

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
Model explanation

CLK — 15J DC T 40 — 3 C

Type	Frame and Terminal spec		Coil specification	Specification of starter	Aux. contact Configuration	Options	Career mark
	Tab	Screw	Blank...AC Operated model DC...DC Operated model	Blank Contactor T Starter GT Starter With phase-failure protection thermal	15JF, 15J 40C 4NO 31C 3NO1NC 20J, 26J, 28J Blank ... 1NO1NC 20 2NO 02 2NC 35J, 40J Blank ... 1NO1NC 22 2NO2NC 50J~250H Blank ... 2NO2NC	3 ... Thermal overload relay with 3 heaters F ... With fast-trip thermal overlord relay	Only for magnetic starters. However, except for 25J3T, 35J3T, 28JT, 40JT, 65JT models.
	25JF2 15JF	15J 20J 25J2 25J3 26J 28J 35J3 35J 40J 50J 65J					

Note. ① CLK-15JF, 15J accompanies "C" at the end of model name.

Operation coil ratings

Coil name ①	Rated voltage of coil ②	Model	Color of coil nameplate
		25JF, 15JFC, 15JC 20J~65J 65H~250H	
AC100V (Standard)	100V 50Hz 100-110V 60Hz	○	Blue
AC200V (Standard)	200V 50Hz 200-220V 60Hz	○	Yellow
AC 24V	24V 50Hz 24V 60Hz	○	Green
AC110V	105-110V 50Hz 110-120V 60Hz	○	White
AC120V	110-120V 50Hz 120-130V 60Hz	○	White
AC220V	208-220V 50Hz 220-240V 60Hz	○	White
AC240V	220-240V 50Hz 240-260V 60Hz	○	White
AC400V	380-400V 50Hz 400-440V 60Hz	○	Pink
DC 12V	DC 12V ③	○	White
DC 24V	DC 24V ③	○	White
DC100V	DC100V ③	○	White
DC200V	DC200V ③	○	White
Coil terminal symbol			

Notes. ① Coil name voltage is designed to simplify specification in ordering please use coil name when ordering

② Rated voltage of coil indicates the rated operating frequency marked on the coil.

③ DC coil is available for CLK-15JFC, 15JC, 25JF2, 25J2 and 25J3 only.

Application of thermal overload relay for motors

Motor output Capacity (kW)	220V 3-phase motor (4-pole)			440V 3-phase motor (4-pole)			
	Magnetic Contactor	Thermal overload relay		Magnetic Contactor	Thermal overload relay		
		Model	Rated current (A)		Model	Rated current (A)	
0.1	15JC	TJ-18JA TJ-18JA-3 GTJ-18JA	0.7	15JC	TJ-18JA TJ-18JA-3 GTJ-18JA	0.35	
0.2			1.2			0.7	
0.4			2.3			1.2	
0.75			3.6			1.8	
1.1			5			2.3	
1.5			6.7			3.6	
2.2			9.2			4.6	
2.5			11			5	
2.7			11			5	
3.7			20J			TJ-18 TJ-18-3 GTJ-18	15
4	18	7.5					
5.5	25J3 26J 28J	TJ-35 TJ-35-3 GTJ-35	22	20J	TJ-18 TJ-18-3 GTJ-18	11	
7.5	35J3 35J 40J		30	25J3 26J 28J		15	
11	50J	TJ-50 TJ-50-3 GTJ-50	42	35J3 35J 40J	TJ-35 TJ-35-3 GTJ-35	22	
15	65J		56	50J		30	
19	65H		68			34	
22	100H	TJ-125 TJ-125-3 GTJ-125	80	65J	TJ-50 TJ-50-3 GTJ-50	42	
30	125H		105	65H		TJ-50 TJ-50-3 GTJ-50	42
37	150H		130	80H		TJ-35 TJ-35-3 GTJ-35	56
40	200H		130	100H		TJ-50	56
45		160	125H	TJ-50-3	68		
55		250H		190	125H	GTJ-50	68
75	TJ-220 TJ-220-3 GTJ-220		240	200H	TJ-125	80	
90	—	—	—	250H	TJ-125-3	105	
					GTJ-125	130	
					TJ-220 TJ-220-3 GTJ-220	160	

Notes. ① Load current will be different for 3-phase motors with other than four poles, and for non-standard motors. Selected the rated current appropriate for each motor in this case.

② If the same rated current is not available, select the closest current and use the adjusting dial to match it to the rated motor current.

Characteristic of the operation electromagnetic

Item Model	Operation coil ratings		Operating voltage(V)		Electromagnetic capacity(VA)		Loss(W)	Operating of main contacts(ms)	
	Voltage	Frequency	Minimum (less or equal)	Open (less or equal)	Inrush (max)	Sealed (max)	Sealed	Closing	Opening
CLK-25JF2	200V	50Hz	154	120	22	6.4	2.1~3.5	6~20	4~33
	200-220V	60Hz	154	120	24	6.9	2.3~3.7	7~23	4~33
CLK-15JFC CLK-15JC CLK-25J2 CLK-25J3	200V	50Hz	154	120	22	6.4	2.1~3.5	6~20	4~33
	200-220V	60Hz	154	120	24	6.9	2.3~3.7	7~23	4~33
	DC200V	—	132	130	46	4.6	2.8~4.6	14~27	4~33
CLK-20J CLK-26J CLK-28J	200V	50Hz	144	120	43	9.8	2.0~3.7	6~22	4~33
	200-220V	60Hz	150	120	48	9.0	1.8~3.3	8~25	4~33
CLK-35J3	200V	50Hz	170	150	50	8.8	1.8~3.0	6~22	4~33
	200-220V	60Hz	170	150	56	8.0	1.3~2.9	8~27	4~33
CLK-35J CLK-40J CLK-50J	200V	50Hz	144	120	92	14.6	3.0~5.7	5~20	4~33
	200-220V	60Hz	148	120	100	14.5	3.2~6.0	8~23	4~33
CLK-65J	200V	50Hz	153	140	73	11.0	3.9~6.7	6~25	4~33
	200-220V	60Hz	160	140	112	17.2	4.2~7.0	10~26	4~33
CLK-65H	200V	50Hz	145	120	175	19.0	3.8~6.5	8~35	4~33
	200-220V	60Hz	148	120	190	18.5	4.2~7.0	8~35	4~33
CLK-80H CLK-100H	200V	50Hz	147	120	255	23.0	5.2~8.6	5~35	4~33
	200-220V	60Hz	150	120	270	23.1	5.9~9.9	5~35	4~33
CLK-125H CLK-150H	200V	50Hz	155	120	560	55	13.5~19.0	12~34	8~33
	200-220V	60Hz	158	120	585	55	15.5~21.0	12~34	8~33
CLK-200H CLK-250H	200V	50Hz	148	120	682	64	9.5~17.5	16~31	9~33
	200-220V	60Hz	154	120	726	61	8.1~19.0	16~35	9~33

- Notes. ① IEC 60947-4-1 stipulate that 85% of rated voltage be applied to coil for switching operation, with satisfactory performance.
 ② Minimum operating voltage indicate 20 operations with zero failure.
 ③ 60Hz is used for 220V input, in addition to operating voltage.
 ④ Values measured at 20°C ± 15°C ambient temperature.
 ⑤ Select operating transformers with capacities of at least a third of the electromagnet inrush capacity.

Standard service conditions

- | | |
|----------------------------------|--|
| (1) Standard ambient temperature | Open Model (to be used in control box)55°C |
| (2) Maximum ambient temperature | Open Model 60°C(mean daily temperature not to exceed 50°C) |
| (3) Minimum ambient temperature | -5°C |
| (4) Ambient storage temperature | -20°C~70°C |
| (5) Relative humidity | 45~85%RH |
| (6) Altitude | 2,000m max. |
| (7) Vibration-resistant | 10~55Hz 2G |
| (8) Shock-resistant | 5G |
| (9) Atmosphere | Don't dew and freeze, and must not contain much dust, smoke, corrosive gas, flammable gas, vapor, and salt.
And it is impossible to use a hermetically sealed box.
(Except CLK-25JF2, 15JFC,15JC) |
| (10)Pollution degree | Please use magnetic contactors and starters in environment of lower than Pollution degree3.
Pollution degree3:Conductive pollutant occurs.
Or
Pollution of dry non-conductive occurs in normal condition. But pollutant of conductive occurs in dew condensation condition. (IEC 60947-1) |

Mounting space

For mounting more than one magnetic starters in a row, make sure that the space between the units is more than the distance indicated in the table below. Also, be sure that the space between the starter and other metallic items is more than the distance indicated below.



【In the case of Faston terminal, please ensure the space(C) from RESEPTACUL.】

Model		Space (mm)					
		A	B	C	D	E	F
Magnetic Starters	CLK-15JTC,25J3T	5	5	5	10	5	5
	CLK-20,26,28JT (C)	5	5	5	10	5	5
	CLK-35J3T,35,40,50,65JT (C)	5	5	5	10	5	5
	CLK-65~100HTC	5	5	5	30	5	5
	CLK-125,150HTC	5	5	5	40	5	5
	CLK-200HTC	5	10	5	50	10	5
	CLK-250HTC	—	—	5	50	10	15

Model		Space (mm)			
		A	B	C	D
Magnetic Contactor	CLK-25JF2,15JFC	5	5	5	10
	CLK-15JC	5	5	5	10
	CLK-25J2,25J3	5	5	5	10
	CLK-20,26,28J	5	5	5	10
	CLK-35J3,35,40,50,65J	5	5	5	10
	CLK-65~100H	5	5	5	30
	CLK-125,150H	5	5	5	40
	CLK-200H	5	10	5	50
	CLK-250H	20	10	5	50

Notes. ①The space indicates the distance from the largest part of the product.
②Also applies to magnetic starters with 3-element thermal overload relays.

Note. ① The space indicates the distance from the largest part of the product.

Item Model	Screw size		Control circuit	Suitable crimp-style terminal		Tightening torque N · m {kgf · cm}	
	Main circuit	Thermal		Main circuit	Control circuit	Main circuit	Control circuit
	Contactor						
CLK-25JF2	—	—	—	#250series (Match to POSITIVE ROCK CONNECTION)		—	—
CLK-15JFC	—	—	—				
CLK-15JC	M3.5	M4	M3.5	1.25-3.5~2-3.5 1.25-4~5.5-4①	1.25-3.5 ∩ 2-3.5	M3.5:0.8~1.2{8~12} M4 :1.2~1.8{12~18}①	0.8~1.2{8~12}
CLK-25J2,25J3	M4	M4		1.25-4~5.5-4		1.2~1.8{12~18}	
CLK-20J							
CLK-26J,28J							
CLK-35J3,35J,40J	M5	M5		1.25-5~14-5		2.4~3.5{24~36}	
CLK-50J							
CLK-65J							
CLK-65H							
CLK-80H	M6	M6		2-6~38-6S②		3.9~5.9{40~60}	
CLK-100H							
CLK-125H	M8	M8	2-8~CB80-8③	9.0~13.5{92~138}			
CLK-150H							
CLK-200H	M8	M8	2-8~CB100-8③				
CLK-250H			M10	M10	2-10~150-10	18.1~27.0{185~275}	

Notes. ①Thermal overload relay side
②Standard 38-6 crimp-type terminal is too wide. Please use 38-6S (Nichifu Terminal industries CO.,Ltd.) or 38-S6 (Japan Solderless Terminal Mfg. CO.,Ltd.)
③Standard 80-8 and 100-8 crimp-type terminal lugs are too wide. Please use CB-type terminal connectors for low-voltage switching devices (Nichifu Terminal industries CO.,Ltd.) or for molded case circuit breakers (Japan Solderless Terminal Mfg. CO.,Ltd.).

Power supply voltage of the control circuit

The voltage and frequency of the operating circuit should be the same as the rated voltage and frequency of the operating coil, if the voltage is greater than 100% of the rated voltage of the coil, this will result various deteriorations for coil insulation and for mechanical and electrical performances. At the inrush time, if the power supply voltage is less than the minimum operating voltage of contactors, it may cause the coil burning out because of small coil impedance, contact chattering or contact welding.

Application in the circuit exceeding AC380V

When using solderless terminals for the circuit exceeding AC380V, use of solderless terminals with insulation tube is recommended.

Auxiliary contact terminal (NC)

When NC auxiliary contact terminal is inserted into the magnetic contactor, be sure to push the contactor rod insertion. (When the terminal falls out or inspection.) (Except CLK-25JF2, CLK-15JFC, CLK-15JC, 25J2, 25J3.)

Maintenance

· Contact

The contact tips will discolor slightly and become irregular in using, but this will not affect their performance. Do not file the tips, as this will shorten their contact life. Contacts should be replaced when the thickness of the contact tips becomes half the size of new ones. All three phases should be replaced at the same time.

· Core

To minimize hum level, contact surfaces of cores are polished to a high degree of flatness and coated with a corrosion-resistant finish. As well as being matched to the shading coil, movable core and fixed core. However, in long-term storage, dirt, iron filings, and rust through humidity on the core surfaces may cause core humming. So appropriate storage conditions are highly requested.

· Do not lubricate

Abrasion of moving parts is very small. The switch is designed to operate with stable characteristics. Lubrication may cause the magnetic contactor to prevent its normal operations. Please exercise caution, especially when used in oil-operated machinery.

Connecting of tab terminal

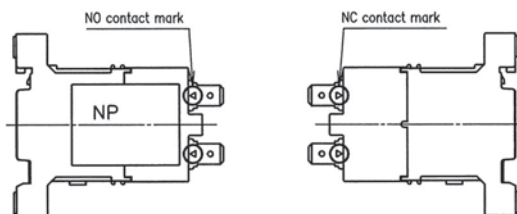
· For connecting, please put "#250" to use.

It is possible to use "POSITIVE ROCK CONNECTER" also.

· Faston terminal is marked with a triangle mark.

When connecting, please verify mark.

But coil terminal isn't represented.



· When connecting, make certain that Faston terminal is connected.

When connecting, please plug in a RESEPUTACUL perpendicular to the Faston terminal.

· When pulling out RESEPUTACUL from terminal, please pull out RESEPUTACUL one by one.

And pull out RESEPUTACUL perpendicular to the Faston terminal.



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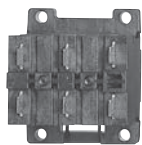
When a contact welding is occurred by causes indicated below, there would be the danger such as reckless driving of machines and abnormal heat of the heater. Please use with the commiserations for the safety supposing the failure of making and breaking operations by mechanical rocking or contact welding.

Moreover, the thermal overload relay cannot protect phenomena.

- Making / Breaking current and operation under use over-spec.
- Abnormal consumption of contact-tip and the life of contact-tip.
- Secular variation
- Chattering of contact.
- Instantaneous voltage drops of the power supply.

25JF2

CLK-25JF2



(Only for 2-pole type)

Ratings

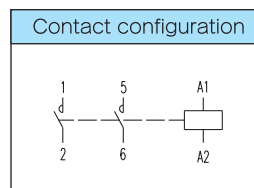
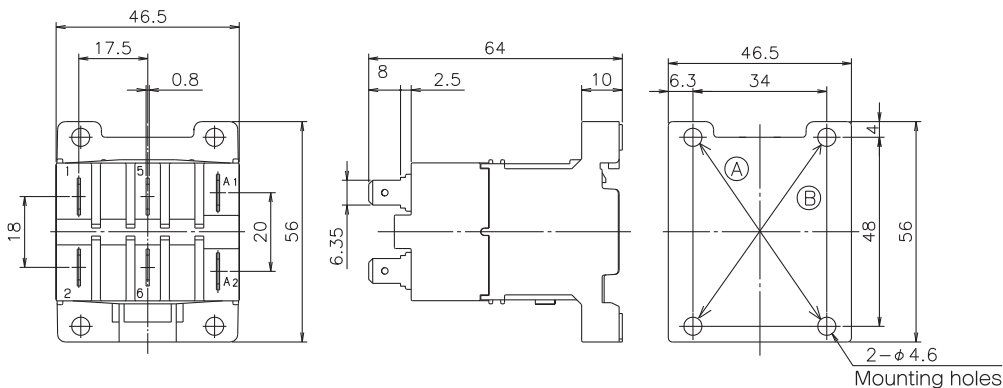
Frame		25J	
Rated capacity	AC-3 (kW)	110V	1.2
		240V	2.4
AC-1 (A)	240V	30	
	440V	21	

Conforming wire size and tightening torque

		Conforming terminal connector
Contactor	Main circuit	#250 series (Match to POSITIVE ROCK CONNECTION)
	Control circuit	

Notes. Rated capacity is single phase motor rating.

Magnetic contactor CLK-25JF2



- Ⓐ 34×48 (recommended)
- Ⓑ 34×48 (compatible with CLK-15H)

Weight 0.16kg

15JFC

CLK-15JFC



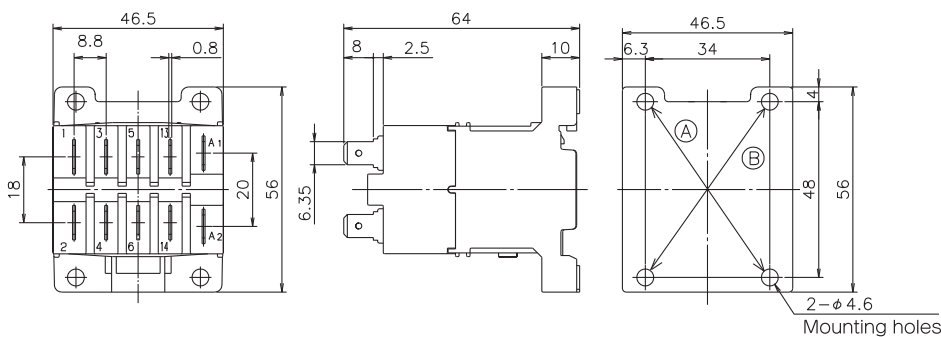
Ratings

Frame		15J	
Rated capacity	AC-3 (kW)	240V	3
		440V	4.5
AC-1 (A)	240V	24	
	440V	18	

Conforming wire size and tightening torque

		Conforming terminal connector
Contactor	Main circuit	#250 series (Match to POSITIVE ROCK CONNECTION)
	Control circuit	

Magnetic contactor CLK-15JFC, 15JFDCC



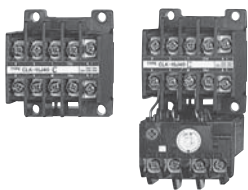
Aux. Contact	Contact configuration
1NO	
1NC	

- Ⓐ 34×48 (recommended)
- Ⓑ 34×48 (CLK-15H)

Weight 15JFC 0.16kg
15JFDCC 0.18kg

15JC

CLK-15JC CLK-15JTC



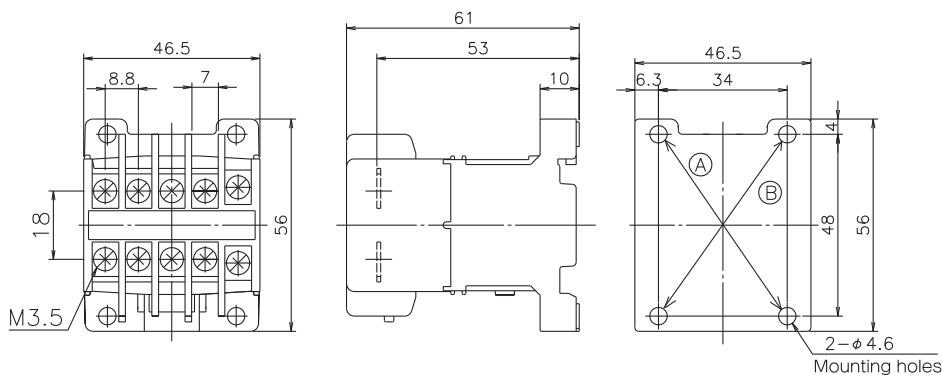
Ratings

Frame		15J	
Rated capacity	AC-3 (kW)	240V	3
		440V	4.5
	AC-1 (A)	240V	20
		440V	18

Conforming wire size and tightening torque

		Screw size	Conforming terminal connector	Tightening torque N·m(kgf·cm)
Contactor	Main circuit	M3.5	1.25-3.5	0.8~1.2 (8~12)
	Control circuit		2-3.5	
Thermal overload relay	Main circuit	M4	1.25-4~5.5-4	1.2~1.8 (12~18)
	Control circuit	M3.5	1.25-3.5~2-3.5	0.8~1.2 (8~12)

Magnetic contactor CLK-15JC, 15JDCC

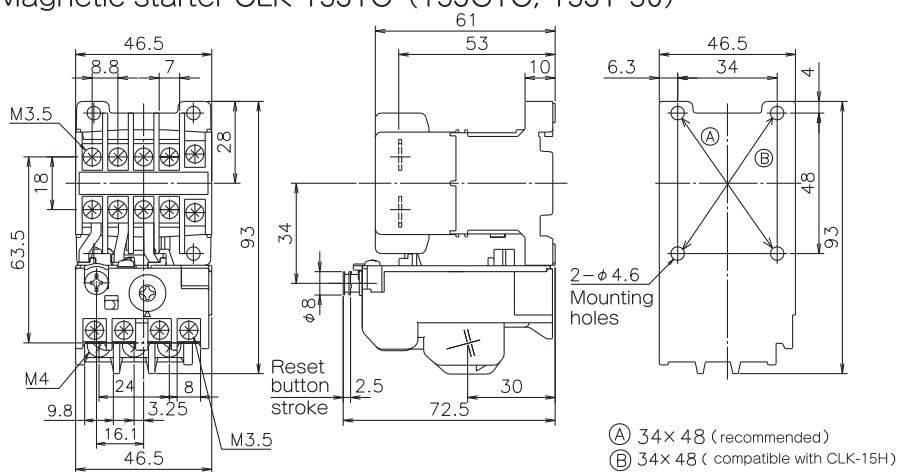


- (A) 34×48 (recommended)
- (B) 34×48 (compatible with CLK-15H)

Aux. Contact	Contact configuration
1a (1NO)	
1b (1NC)	

Weight 15JC=0.17kg
15JDCC=0.19kg

Magnetic starter CLK-15JTC (15JGTC, 15JT-30)



- (A) 34×48 (recommended)
- (B) 34×48 (compatible with CLK-15H)

Aux. Contact	Contact configuration
1a (1NO)	
1b (1NC)	

For 3-heaters and phase-failure protection
97(NO) 95(NC)

Weight 0.29kg