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"MICRO LINE" AC Contactors & Starters, DC Operated

■ FEATURES

CAN BE DIRECTLY DRIVEN BY TRANSISTOR OUTPUT OF PROGRAMMABLE LOGIC CONTROLLER (PLC)

Direct driving by DC output of programmable logic controller (PLC) or other electronic equipment.

- The power consumption of the SJ-0G contactor (U.S. Cat. No.1JC0A0#) is 1.4W, thanks to the highly efficient polarized electromagnet.
- This contactor can be driven by a transistor output of a PLC or electronic equipment such as photoelectric switch, or a proximity limit switch. Therefore, no interface relay is needed before this contactor for driving a 3-phase induction motor.

Highly reliable auxiliary contacts permitting direct input to an electronic circuit.

- Highly reliable bifurcated auxiliary contacts can be used in a low-level (5VDC, 3mA) circuit. Therefore, the contact output signal can be directly input to other electronic equipment.

Built-in surge suppression circuit.

- The surge suppression circuit, connected in parallel with the the coil, prevents malfunction or damage of devices by surge voltage generated when the contactor operates.

Compact design.

- Installation space is reduced to 72% of conventional FUJI DC operated contactors achieving high performance.

Application to 440V AC circuits.

- Contactors can be applied to 440V AC circuits since the rated isolation voltage is 500V AC.

Snap-on mounting on an IEC or DIN rail.

- Besides screw mounting, snap-on mounting on an IEC or DIN Standard 35mm rail is possible, reducing working costs.

Finger protection cover (standard accessory).

- The SJ-0G (U.S. Cat. No.1JC0A0) has a standard finger protection cover to prevent the live parts from being exposed and ensuring safety during maintenance and inspection. Because terminal numbers conform to IEC standards displayed on the front of the body, the contact arrangement can be confirmed visually.

■ RATINGS UL File No. E42419, CSA File No. LR20479

Size	Type		Max. Motor Capacity (HP)					Continuous Current (A)	Auxiliary Contact	Coil Voltage *2
	Contactor	Starter (Non-Reversing, Open Type)	Single-Phase		Three-Phase					
			110V–120V	220V–240V	110V–120V	200V	220V–240V			
0A	SJ-0G/UL (U.S. Cat. No.1JC0A0#)	SJ-OWG/UL(U.S. Cat. No.1JW0A0#□)	1/3	1	1	2	3	15	1NO*1	DC12V DC24V

Note: Insure proper polarity on the terminals.
*1 - Auxiliary contact 1NC is available.
*2 - Coil voltage tolerance: 85 to 120% of rated voltage.

■ AUXILIARY CONTACT RATINGS

Size	Type	Continuous Current (A)	Rated Operational Current (A)			AC	Minimum Operational Voltage and Current
			Voltage (VAC)	Make	Break		
0A	SJ-0G/UL (U.S. Cat. No.1JC0A0#)	6	120	60	6	A300	5VDC, 3mA
			240	30	3		

EXPLANATION OF PART NUMBER SYSTEM

■ DC OPERATED CONTACTOR

1JC0A0 # 10

- ***BASIC TYPE OF SJ-0G/UL***
- ***COIL VOLTAGE***
  See Code Letter: Table 1
- ***AUXILIARY CONTACT ARRANGEMENT***
  10:1NO Contact
  01:1NC Contact

■ DC OPERATED STARTER

1JW0A0 # * 10

- ***BASIC TYPE OF SJ-0G/UL***
- ***COIL VOLTAGE***
  See Code Letter: Table 1
- ***THERMAL OVERLOAD RELAY AMPERE RANGE***
  See Code Letter: Table 2 on next page
- ***AUXILIARY CONTACT ARRANGEMENT***
  10:1NO Contact
  01:1NC Contact

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COIL INFORMATION

■ TABLE 1: COIL VOLTAGE

Code Letter	DC Coil
T	12V
M	24V

■ OPERATION COIL

COIL VOLTAGE

Voltage	Wiring
12V DC	
24V DC	

Notes: (1) Coil voltage tolerance: 85 to 120% of rated voltage.
(2) Insure proper polarity on coil terminals.

CHARACTERISTICS (In the case of Coil Voltage: 24V DC)

Power Consumption	Pick-Up Voltage	Drop-Up Voltage	Operating Time	
			Coil ON → Main Contact ON	Coil OFF → Main Contact OFF
0.5 W	20.4V DC or Less	2.4V DC or More	35–60 ms	12–22 ms

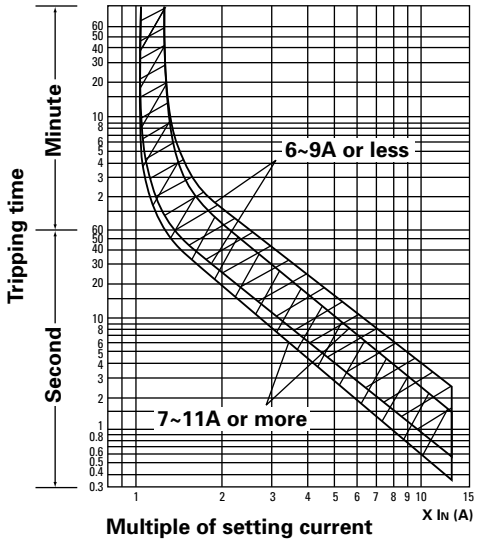
WIRING DIAGRAMS / AUXILIARY CONTACT INFORMATION

■ TABLE 2: THERMAL OVERLOAD RELAY

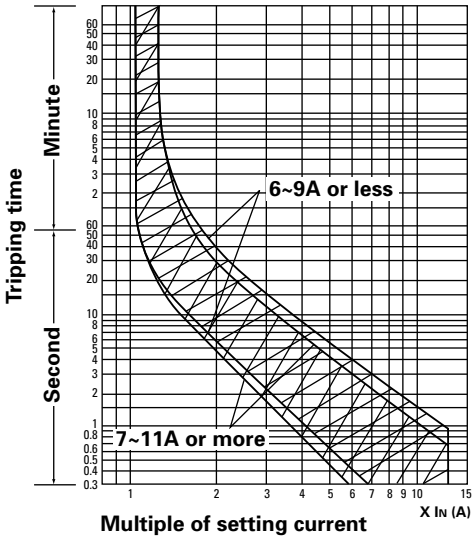
Ampere Setting Range	Code
0.48~0.72	E
0.64~0.96	F
0.8~1.2	G
0.94~1.45	H
1.4~2.2	J
1.7~2.6	K
2.2~3.4	L
2.8~4.2	M
4~6	N
5~8	P
6~9	Q
7~9.6	R

■ THERMAL OVERLOAD RELAY TR-0/UL (U.S. Catalog No.1TR0A□) CHARACTERISTIC CURVES

Cold Start



Hot Start



■ THERMAL OVERLOAD RELAY RATINGS AND PROTECTION COORDINATION

Type (U.S. Catalog No.)	No.of Heater Element	Reset	Auxiliary Contact	Auxiliary Setting Range (A)	Code	Protection Coordination		Starter Type (U.S. Cat. No.)
						Current-Limiting Fuse Rated Current (Max.) (A)	MCCB Rated Current (Max.) (A)	
TR-0/UL (1TR0A□)	3	Manual	1c SPDT	0.48~0.72	E	15	15	SJ-0WG/UL (1JW0A0#□)
				0.64~0.96	F	15	15	
				0.8~1.2	G	15	15	
				0.95~1.45	H	15	15	
				1.4~2.2	J	15	15	
				1.7~2.6	K	15	15	
				2.2~3.4	L	15	15	
				2.8~4.2	M	15	15	
				4~6	N	15	15	
				5~8	P	20	15	
				6~9	Q	30	15	
				7~9.6	R	30	15	

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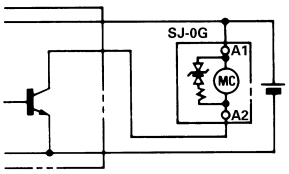
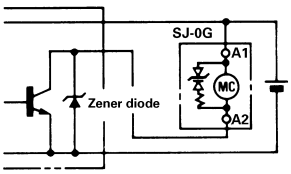
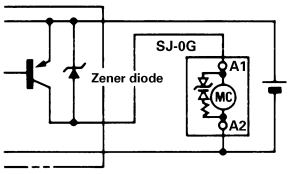
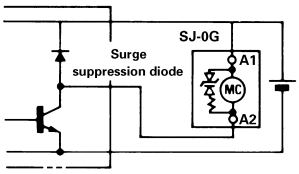
■ WIRE SIZE AND TIGHTENING TORQUE

Type		Main Circuit						Control Circuit Terminal					
Contactor and Starter (U.S.Cat. No.)	Thermal Overload Relay	Wire Size (Max.) (Copper) (AWG)		Screw Size		Tightening Torque (kgf • cm)		Wire Size (Max.) (Copper) (AWG)		Screw Size		Tightening Torque (kgf • cm)	
		Line Side (Contactor)	Load Side (OL Relay)	Line Side (Contactor)	Load Side (OL Relay)	Line Side (Contactor)	Load Side (OL Relay)	Line Side (Contactor)	Load Side (OL Relay)	Line Side (Contactor)	Load Side (OL Relay)	Line Side (Contactor)	Load Side (OL Relay)
SJ-0G/UL (1JC0A0#)	TR-0/UL (1TR0A□)	14	14	M 3.5	M 3.5	8~9	8~9	14	14	M 3.5	M 3.5	8~9	8~9
SJ-0WG/UL (1JW0A0#□)													

■ WIRINGS

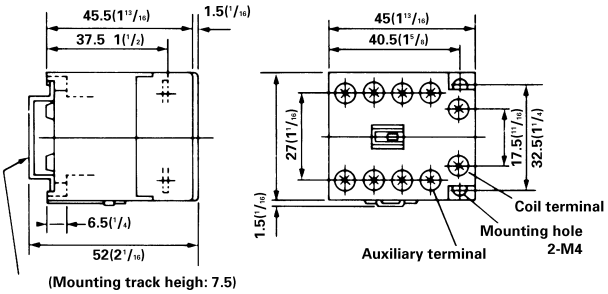
- The SJ-0G/UL contactor (U.S. Catalog No.1JC0A0#) is provided with a surge suppression circuit, so no external surge suppression device is required for the ordinary sequence circuit. Coil surge voltage: 50V or below.
- Connect the contactor to a DC output device as shown below.

Output Circuit	Without Surge Suppression Diode	With Surge Suppression Diode		
Connection				
Device	DC Output Device	NPN Output Photoelectric	Proximity Limit Switch	Programmable Logic Controller

- Note that the polarity of operation coil terminal A1 is positive (+) and terminal A2 is negative (–).
- Apply the normal power and voltage to the operation coil.
- Note that with the Surge Suppression Diode, the reset time is prolonged.

■ DIMENSIONS: mm (inches)

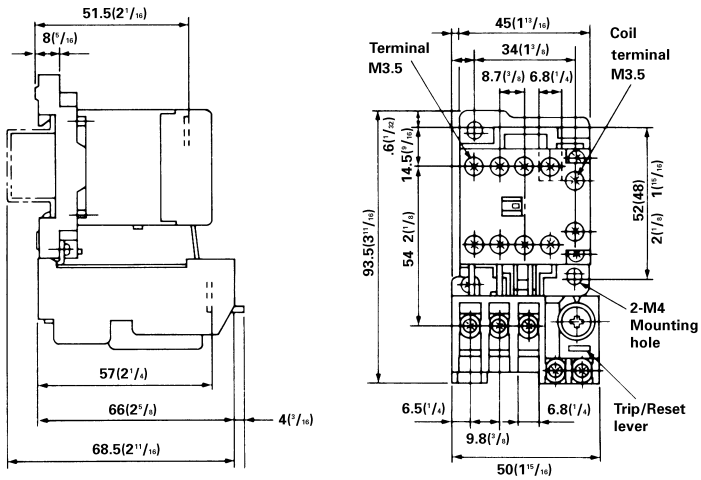
SJ-OG/UL (U.S. Cat. No.1JC0A0#)



(Mounting track heigh: 7.5)

Net weight: 0.17kg .38lbs.

SJ-OWG/UL (U.S. Cat. No.1JW0A0#□)



(Mounting track height: 7.5(5/16))

Net weight: 0.27kg .6 lbs.

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