


CJX2s-120~630 series

AC CONTACTOR

OPERATION INSTRUCTION

Standard:IEC/EN 60947-4-1

CNC Deliver
Power For Better Life

-  Before installing and using this product, please read this instruction carefully and pay more attention to safety.

Safety Notice

Before installation, operation, running, maintenance, and inspection, please carefully read this instruction manual and accurately install and use this product according to the instructions provided in the manual.

△Danger

- It is strictly prohibited to operate the contactor with wet hands.
- It is strictly prohibited to touch the conductive parts during use.
- During maintenance and servicing, it is essential to ensure that the product is not energized.

△Notice

- Installation, maintenance, and servicing should be performed by qualified personnel with professional qualifications.
- Before use, please confirm that the product's voltage, current, frequency, and usage category meet the requirements.
- Please connect the control circuit first and perform a no-load operation test before connecting the load, ensuring that there are no abnormalities.
- Regularly tighten the wiring terminals and remove accumulated dust.
- Do not allow foreign objects to enter the product.
- If accessories are required, please use the matching accessories provided by our company.
- If the product is damaged or produces abnormal sounds when unpacked, do not use it and contact the supplier.
- Please properly dispose of the product as waste when it is no longer in use. Thank you for your cooperation.

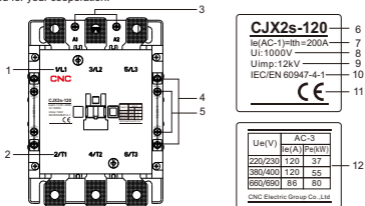


Figure 1 Product diagram

- 1-Main circuit incoming terminals 1/L1,3/L2,5/L3
- 2-Main circuit outgoing terminals 2/T1,4/T2,6/T3
- 3-Coil incoming terminal A1 outgoing terminal A2
- 4-NO auxiliary wiring terminal
- 5-NC auxiliary wiring terminal
- 6-Model
- 7-Agreed free air heating current
- 8-Insulation voltage U_i :1000V
- 9-Rated impulse withstand voltage U_{imp} :12kV
- 10-Standard: IEC/EN 60947-4-1
- 11-Certification label
- 12-Rated working current, voltage and power

See Table 1 for specific parameters

Table 1

Model	Ith A	AC-3 Use category						AC-4 Use category			Intermittent duty cycle operation at a rated operating frequency with a load factor of 40%			
		Ie A			Pe kW			Ie A					AC-3	AC-4
		220V 230V	380V 400V	660V 690V	220V 230V	380V 400V	660V 690V	220V 230V	380V 400V	660V 690V				
C.JX2s-120	200	120	120	86	37	55	80	120	120	86	220/380V; 1200time/h 660V; 300time/h	220/380V; 120time/h 660V; 30time/h		
C.JX2s-160		160	160	107	45	75	100	160	160	107				
C.JX2s-185		185	185	107	55	90	100	160	160	107				
C.JX2s-225	275	225	225	118	63	110	110	185	185	107				
C.JX2s-265	315	265	265	170	75	132	160	265	265	137				
C.JX2s-330	380	330	330	235	90	160	200	330	330	170				
C.JX2s-400	450	400	400	303	132	200	300	330	330	235				
C.JX2s-500	630	500	500	353	160	250	335	500	500	303				
C.JX2s-630	700	630	630	400	200	335	350	500	500	353				

Normal operating, installation and transportation conditions

● Normal operating and installation conditions

① Ambient air temperature: extreme working temperature $-35^{\circ}\text{C}\sim+70^{\circ}\text{C}$, normal working temperature $-5^{\circ}\text{C}\sim+55^{\circ}\text{C}$, the average value within 24 hours does not exceed $+35^{\circ}\text{C}$; When the working environment temperature is higher than 40°C , it must be considered that the allowable limit temperature rise of the product must be reduced. By reducing the rated operating current, reduce the number of contactors installed in the standard components. Otherwise, it may be damaged, shorten the product life, and reduce the working reliability etc. it will also affect the range of action of the product; when it is lower than -5°C , it should be considered that the grease used for insulation and lubrication will freeze at too low ambient temperature, resulting in product malfunction. Table 2 shows the correction coefficients for different rated operating currents when the working environment temperature exceeds $+55^{\circ}\text{C}$ and the rated operating voltage remains unchanged.

Table 2

Ambient temperature($^{\circ}\text{C}$)	55°C	60°C	65°C	70°C
Correction coefficient	1	0.93	0.875	0.75

② The altitude of the installation site does not exceed 2000m; normal parameters are used below 2000m, and the capacity is reduced above 2000m. Table 3 gives the correction coefficients for the rated impulse withstand voltage and rated operating current when the rated voltage remains unchanged at an altitude $> 2000\text{m}$.

Table 3

Altitude(m)	2000	3000	4000
Rated impulse withstand voltage coefficient	1	0.88	0.78
Rated operating current coefficient	1	0.92	0.9

- ③ When the maximum temperature is $+70^{\circ}\text{C}$, the relative humidity of the air does not exceed 50%; at lower temperatures, higher relative humidity is allowed, such as reaching 90% at $+20^{\circ}\text{C}$. For condensation that occasionally occurs due to temperature changes, it should be take protective measures;
- ④ The installation position should be vertical, and the inclination in each direction should not exceed $\pm 30^{\circ}$;
- ⑤ Install in a place free from shock, vibration and rain and snow;
- ⑥ Pollution degree: Degree 3;
- ⑦ Installation category: Category III;
- ⑧ Rated impulse withstand voltage U_{imp} : 12KV;
- ⑨ Rated frequency: 50/60Hz;
- ⑩ Protection degree: The protection degree of the main circuit of the contactor is IP00, and of the control circuit and auxiliary circuit is IP20;

① Applicable to 8-hour working system, intermittent period, uninterrupted and short-time working system.

● Normal operating and installation conditions

① Temperature: $-25^{\circ}\text{C}\sim+55^{\circ}\text{C}$, up to $+70^{\circ}\text{C}$ in a short time (24h);

② Relative humidity: $\leq 95\%$;

③ Products should be handled with care during transportation, do not turn them upside down, and avoid strong collisions;

④ Products must not be exposed to rain or snow during transportation and storage.

Installation

● All contactors are installed with screws. Before installation, check that the rated voltage and frequency of the coil are consistent with the control power supply. Do not use if the contactor is damaged or is not firmly assembled.

● See Figure 2 for product installation requirements.

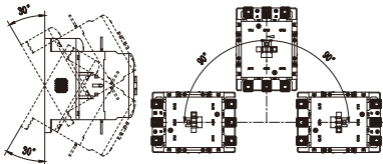


Figure 2 Installation requirement

● See Figure 3 and Table 4 for the overall and mounting dimensions of the contactor.

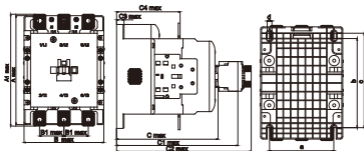


Figure 3 CJX2s-120~630

Overall and mounting dimensions of CJX2s-120~630 AC Contactors

Table 4

Unit:mm

Model	Amax	A1max	Bmax	B1max	Cmax	C1max	C2max
CJX2s-120/160/185/225	169.5	173.5	123.5	37.5	165	197	218
CJX2s-265/330/400	210	206.5	154	52.5	206	240	260
CJX2s-500/630	216.5	138.5	170.5	62	231.5	263.5	285

Note: B1max--Phase spacing between contactors
 C1max--contactors + F4 C2max--+F3--T/F3--D
 C3--Contactor wiring height C4--Contactor main circuit wiring height

Model	C3max	C4max	a	b	c	d
CJX2s-120/160/185/225	12	102.5	96	133.6	141.6	7
CJX2s-265/330/400	16.5	132	120	180	186	9
CJX2s-500/630	18	158	131.5	181.5	191.5	10

- See Figure 4 and Table 5 for overall and mounting dimensions of the reversible AC Contactors

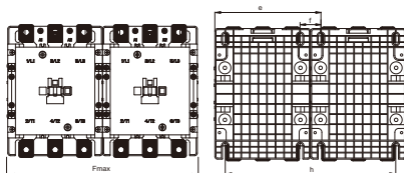


Figure 4 CJX2s-120~630N

Overall and mounting dimensions of CJX2s-120~630N reversible AC Contactors

Table 5

Unit:mm

Model	Fmax	e	f	h
CJX2s-120/160/185/225	250	136.2	26.8	218.8
CJX2s-265/330/400	310	187.5	45	274
CJX2s-500/630	345	190	40.5	281

• Accessory installation

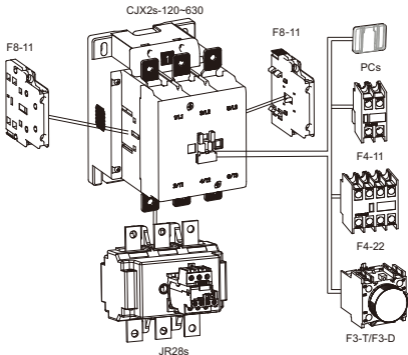


Figure 5 Accessory installation diagram

(1) The CJX2s-120-630 contactor body is equipped with two sets of normally open and normally closed auxiliary contact groups as standard. Its model is F8, and its main parameters are shown in Table 6;

- Table 6 Main parameters of auxiliary contacts

Table 6

Use category	Rated insulation voltage U_i	Agreed free air heating current I_{th}	Control capacity		Rated working current I_e	
			NO	OFF	220V	380/400V
AC-15	690V	10A	3600VA	360VA	3.13A	1.89A
DC-13			33W		0.31A	-

Each contactor can be equipped with an independent auxiliary contact module. Its model specifications and normally open and normally closed combinations are shown in Table 7. The installation and removal methods of F8 are shown in Figure 6 and Figure 7.

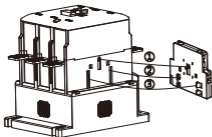


Figure 6 Installation method

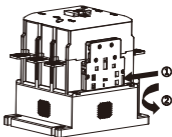


Figure7 Removal method

Table 7 Auxiliary contact group

Specifications	F8 -11
(NO) Number of NO	1
(NC) Number of NC	1

(2)Air delay head The contactor can be equipped with an F3 air delay head to form a delay contactor. The delay range is as shown in Table 8.

Table 8 Air delay head

Specifications	Delay range	Number of delay contacts	Delay type
F3--T0	0.1~3s	1NO+1NC	Power on delay
F3--T2	0.1~30s		
F3--T4	10~180s		
F3--D0	0.1~3s		Power off delay
F3--D2	0.1~30s		
F3--D4	10~180s		
Note: The air delay head is adjusted to the minimum value when leaving the factory.			

(3)The installation and removal of the air delay head are shown in Figure 8 and Figure 9.

During installation:

- ① Align the chute with the contactor slide rail.
- ② Push down until the buckle automatically locks;

When disassembling:

- ① Lift the buckle upwards
- ② Push upwards along the chute to remove

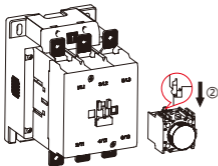


Figure 8 Installation of air delay head

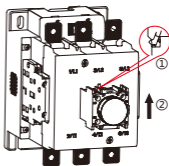


Figure 9 Removal of air delay head

(4)The installation method of MI mechanical interlocking is shown in Figure 10:

- ① Installing MI
- ② Install another contactor as shown in the figure
- ③ Install the fixed module as shown in the figure
- ④ Fix the two contactors with fastening screws, nuts, and connecting plates as shown in the figure

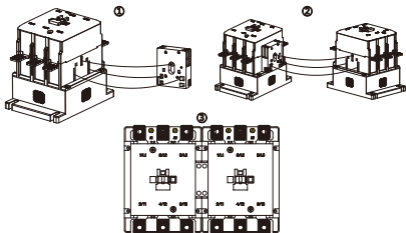


Figure 10 Installation method of mechanical interlocking MI

(5)The installation and removal methods of the coil are shown in Figure 11 and Figure 12.

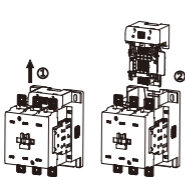


Figure 11 The removal method of the coil

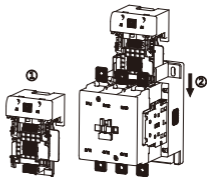


Figure 12 The installation method of the coil

(6) Electromagnetic starter

The contactor can be installed and combined with the JR28s series thermal overload relay to form an electromagnetic starter.

Debugging and operation

- Check whether the technical parameters of the product meet the usage requirements;
- First connect the control circuit and conduct a no-load operation test. If there are no abnormalities, then connect the load;
- Do not allow foreign objects to fall into the product;
- It is recommended to select SCPD based on Type 1 coordinated protection cooperation, and the fuse models are shown in Table 9;

Table 9 Matching fuse models

Model	CJX2s-120	CJX2s-160	CJX2s-185	CJX2s-225
Main circuit	RT16-160A	RT16-200A	RT16-250A	RT16-315A
Model	CJX2s-265	CJX2s-330	CJX2s-400	
Main circuit	RT16-400A	RT16-400A	RT16-500A	
Model	CJX2s-500	CJX2s-630		
Main circuit	RT16-630A	RT16-830A		
Auxiliary circuit	RT16-00 10A			

- See Table 10 for wiring capacity and tightening torque.

Table 10

Current specification			120/160/185/225	265/330/400	500/630
Main circuit wiring					
Copper wire	Number	mm ²	1	1	1
	Wire cross-sectional area mm ²	mm ²	95/120/150/185	240	240
Copper busbar	Number	mm ²	2	2	2
	Dimension mm	mm ²	25x3	30x5	40x5
Tightening torque	N·m	mm ²			
Control and auxiliary circuit wiring					
Soft wire	1 wire	mm ²	1...4		
Without terminal connectors	2 wires	mm ²			
Soft wire	1 wire	mm ²	1...4		
With terminal connectors wire	2 wires	mm ²			

Maintenance

- Contactors should be regularly tightened with wiring terminals and cleaned of accumulated dust, otherwise there is a risk of fire and short circuits;
- Small metal particles splashed around the contacts of the contactor or on the arc shield should be removed. Use should be stopped when the contact surface is burned to the point where the base material is exposed.

Troubleshooting

See Table 11 for common troubleshooting

Table 11

Symptom	Reasons	Measures
The iron core cannot be closed or the suction force is insufficient (i.e. the contact is closed but the iron core has not been fully closed)	<ol style="list-style-type: none">1. The power supply voltage is too low or fluctuates excessively;2. Insufficient power capacity or wire breakage, wiring errors, and poor contact of control contacts in the operating circuit;3. The technical parameters of the coil do not match the usage conditions;4. The product itself is damaged (such as coil breakage or burning, mechanical movable parts getting stuck, etc.)	<ol style="list-style-type: none">1. Increase the power supply voltage;2. Increase power capacity, replace wiring, and repair control contacts;3. Replace the contactor;4. Eliminate stuck faults and repair damaged parts.
Not releasing or releasing slowly	<ol style="list-style-type: none">1. Contact fusion welding;2. Mechanical movable parts are stuck;3. There is oil or dust adhering to the pole surface of the iron core.	<ol style="list-style-type: none">1. Eliminate welding faults, repair or replace contactors;2. Eliminate stuck faults;3. Clean the pole surface of the iron core.

<p>Coil overheating or burning</p>	<ol style="list-style-type: none"> 1. The power supply voltage is too high or too low; 2. The technical parameters of the coil (such as rated voltage, frequency, power on duration, and applicable working system) do not match the actual use; 3. The moving part is stuck; 4. The pole surface of the iron core is uneven or dust adheres. 	<ol style="list-style-type: none"> 1. Adjust the power supply voltage; 2. Replace the contactor; 3. Eliminate mechanical jamming faults; 4. Clear the polar surface.
<p>Electromagnetic (AC) noise is high</p>	<ol style="list-style-type: none"> 1. The power supply voltage is too low; 2. The magnetic system is skewed or mechanically stuck, making the iron core unable to be sucked flat; 3. Rust on the pole surface of the iron core or intrusion of foreign objects into the pole surface of the iron core; 4. The short-circuit ring is broken or the pole surface of the iron core is excessively worn and uneven. 	<ol style="list-style-type: none"> 1. Increase the voltage of the operating circuit; 2. Adjust the magnetic system or eliminate mechanical jamming faults; 3. Clean the polar surface; 4. Replace the contactor.
<p>Contact fusion welding</p>	<ol style="list-style-type: none"> 1. Operating frequency is too high or the product is used under excessive load; 2. Short circuit on the load side; 	<ol style="list-style-type: none"> 1. Replace with a suitable contactor; 2. Eliminate short circuit faults.

Company commitment

If the product is damaged or cannot be used normally due to manufacturing quality issues within 18 months from the production date, provided that the user complies with the usage and storage conditions and the product seal is intact, our company is responsible for free repair or replacement. If it exceeds the warranty period, it needs to be repaired for a fee. However, if damage is caused by the following circumstances, even within the warranty period, paid repairs will be made:

- (1) Improper use, maintenance, or storage;
- (2) Self modification or improper maintenance;
 Due to falling or damage during installation after purchase;
- (3) Force majeure such as earthquakes, fires, lightning strikes, abnormal voltages, and secondary disasters.
- (4) If you have any questions, please contact the dealer or our company's customer service department.



CERTIFICATE

Product Model: CJX2s-120~630 series

Standard: IEC/EN 60947-4-1

Inspector: CNC001

Production date: Printed on the product
or package.

This product is qualified according
to the delivery inspection

CNC

CJX2s-120~630 series

CNC ELECTRIC

Tel: 0086-577-61989999 Fax: 0086-577-61891122

www.cncele.com E-mail: cncele@cncele.com