

⚠ Safety Warning

- ① Only professional technicians are allowed for installation and maintenance.
- ② Installation in any damp, condensed-phase environment with inflammable and explosive gas is forbidden.
- ③ When the product is being installed or maintained, the power must be switched off.
- ④ You are prohibited from touching the conductive part when the product is operating.

1 Use Purpose and Range of Application

NC8 series AC contactor is mainly used in AC 50Hz (or 60Hz) circuits with rated operating voltage up to 690V. It can be used to frequently start and control motor or remotely connect and disconnect circuit under 400V(380V)AC-3 application category. It can also be used with proper thermal overload relay to act as electromagnetic starter.

2 Main Technical Parameters and Performance

Table 1 Environmental conditions

| Environmental conditions | |
|--|---|
| Ambient temp. (°C) | -5°C~+40°C, average temperature should not exceed +35°C within 24h |
| Hot and humid atmospheric conditions | Relative humidity should not exceed 50% at +40°C; up to 90% at +20°C; |
| Altitude | No influence below 2000m, |
| Pollution class/ installation category | Class 3/III |

Table 2 Main technical parameters and performance

| Model | | | NC8-115 | NC8-150 | NC8-170 | NC8-205 | NC8-265 | NC8-300 | NC8-400 | NC8-500 |
|--|-----------|------|---------|---------|---------|---------|---------|---------|---------|---------|
| Rated operating current Ie (A) | 380V/400V | AC-3 | 115 | 150 | 170 | 205 | 265 | 300 | 400 | 500 |
| | | AC-4 | | 150 | | | | | | |
| | 660V/690V | AC-3 | 86 | 107 | 118 | 137 | 185 | 235 | 303 | 354 |
| | | AC-4 | | | 107 | | | | | |
| Conventional thermal current Ith(A) | | | 200 | | 275 | 300 | 330 | 380 | 450 | 630 |
| Rated insulation voltage Ui(V) | | | 690 | | | 1000 | | | | |
| Rated impulse withstand voltage Uimp(kV) | | | 8 | | | | | | | |

Table 2 (continued)

| Model | | NC8-115 | NC8-150 | NC8-170 | NC8-205 | NC8-265 | NC8-300 | NC8-400 | NC8-500 |
|--|-------------------------|--|---------|---------|---------|------------|---------|---------|---------|
| Controllable 3-phase motor power AC-3 (kW) | 380V/400V | 55 | 75 | 90 | 110 | 132 | 160 | 200 | 250 |
| | 660V/690V | 80 | 100 | 110 | 132 | 160 | 200 | 300 | 355 |
| Electrical life 400V (10 ⁴ times) | AC-3 | 120 | | | | | 100 | | 80 |
| | AC-4 | 2 | | 1 | 1.5 | | 1 | 1 | |
| Mechanical life (10 ⁴ times) | | 600 | | | | | | | |
| Rated current of matching fuse (A) | | 224 | 224 | 315 | 120 | | | 80 | |
| Coil power | Pick-up (VA) | 600~700 (NC8-115/ W~170/W:≤300) | | | | 300~600 | | 500~800 | |
| | Hold (VA) | 6~10(NC8-115/ W~170/W:≤10) | | | | 6~11 | | 7~12 | |
| | Thermal loss (W) | 5~9 | | | | 5~10 | | 6~11 | |
| Operation range | | Pick-up voltage (thermal state): (85%~110%)Us Release voltage (normal temperature): (10%~75%)Us | | | | | | | |
| Auxiliary contacts | Basic parameters | AC-15: 360VA; DC-13: 33W; Ith: 10A | | | | | | | |
| | Top mount combinations | F4-20, F4-11, F4-02, F4-04, F4-31, F4-22, F4-13, F4-04 | | | | | | | |
| | Side mount combinations | NCF1-11C | | | | NCF1-11C/B | | | |

3 Installation

See the figure below for accessory installatn and contactor operating principle.

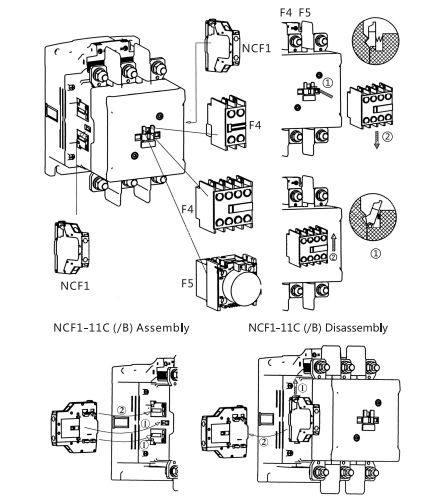


Figure 1 Accessory installation

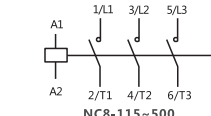


Figure 2 Contactor operating principle

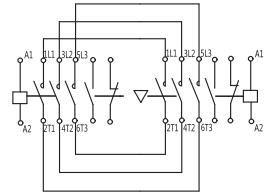


Figure 3 Contactor operating principle

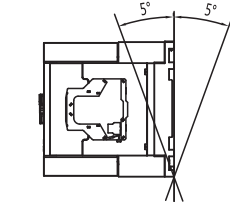


Figure 4 Product installation drawing

See Table 3 for overall and installation dimensions of the contactor

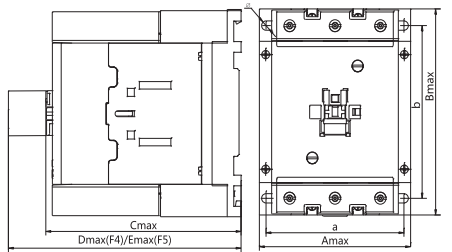


Figure 5 NC8-115~170 Dimensions

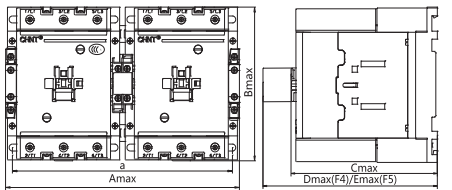


Figure 6 NC8-115/N~170/N Dimensions

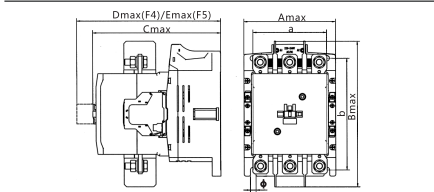


Figure 7 NC8-205~500 Dimensions

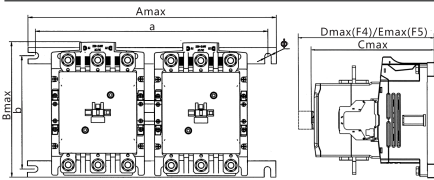


Table 3 Overall and installation dimensions

Unit: mm

| Contactor model | Amax | Bmax | Cmax | Dmax | Emax | a | b | φ |
|-----------------|------|------|------|-------|-------|-----------|---------|-----|
| NC8-115~170 | 120 | 156 | 155 | 190.5 | 210.5 | 96~110 | 130±0.8 | 7 |
| NC8-205~300 | 150 | 235 | 207 | 239 | 260 | 120 | 180 | 9 |
| NC8-400~500 | 165 | 248 | 225 | 258 | 280 | 130 | 180 | 9 |
| NC8-115/N~170/N | 255 | 156 | 155 | 190.5 | 210.5 | 235.4±1.2 | 130±0.8 | 7 |
| NC8-205/N~300/N | 400 | 215 | 220 | 252 | 273 | 375±0.5 | 180±0.5 | 8.5 |
| NC8-400/N~500/N | 480 | 220 | 238 | 270 | 293 | 455±0.5 | 180±0.5 | 8.5 |

4 Maintenance

See Table 4 for wiring capacity of terminals.

Table 4 Wiring capacity of terminals

| Model | Terminal type | Wiring capacity (mm²) |
|--------------|-------------------|--|
| NC8-115~170 | 4mm slot type | 10-95, 10-50, 10-95, 10-50, 10-95, 10-50 |
| M3.5 0.8 N.m | Slot type Philips | 1-4, 1-4, 1-4, 1-2.5, 1-4, 1-4 |
| NC8-205~300 | Wrench | 10-95, 10-50, 10-95, 10-50, 50-240, 50-240 |
| M3.5 1.2 N.m | Slot type Philips | 1-4, 1-4, 1-4, 1-2.5, 1-4, 1-4 |

Check if the contactor can operate reliably every month. Method: Check if the contactor inclines 5° forward upon pick-up and inclines 5° backward upon release.

Conduct maintenance every month. **Note: Do not disassemble, assemble and repair the product at will. Replace the product if it is found to be damaged.**

Table 5 Analysis and Troubleshooting of Faults

| Symptoms | Cause analysis | Troubleshooting method |
|---|--|--|
| The product does not operate or does not operate reliably | Inconsistency between control power voltage and coil voltage. Insufficient operation circuit power capacity or disconnection or wrong connection exists in the circuit. Coil burnt; mechanical movable parts jammed. | Use control power supply that complies with coil voltage. Check the circuit to ensure correct connection. Replace the coil, remove foreign objects or replace the product. |
| Noise | There are foreign objects on the polar face of magnet yoke or armature. The voltage of control power is too low. | Clean the polar face of the iron core. Use control power supply that complies with coil voltage. |
| The product does not release or release slowly | Contact welding There is oil or dust on the polar face of the iron core. | Replace the product. Clean the polar face of the iron core. |

5 Environmental Protection

In order to protect the environment, the product or product parts should be disposed of according to the industrial waste treatment process, or be sent to the recycling station for assortment, dismantling and recycling according to local regulations.

CHNT

QC PASS

NC8-115~500
AC Contactor
IEC/EN 60947-4-1

Check 07

Test date: Please see the packing

ZHEJIANG CHINT ELECTRICS CO., LTD.

CHNT

CHINT ELECTRICS

NC8-115~500
AC Contactor
User Instruction

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NC8-115~500
AC Contactor

User Instruction