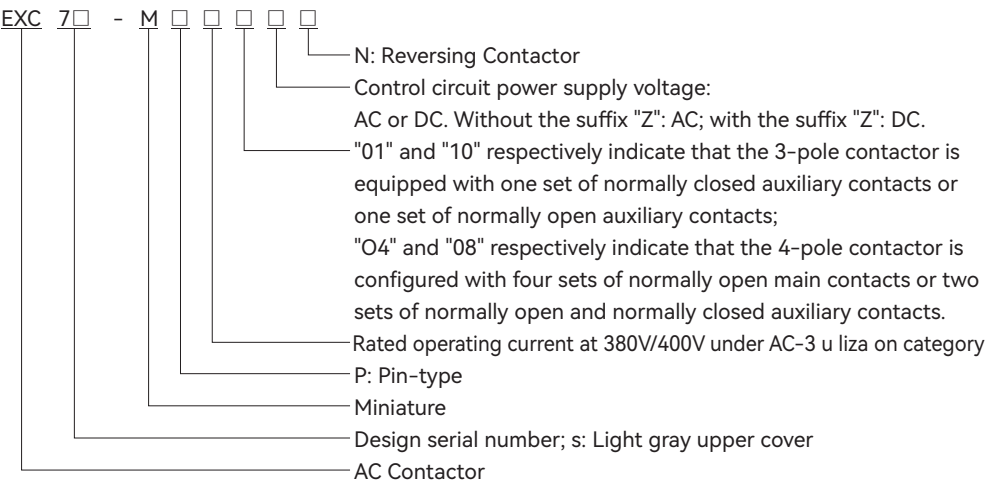




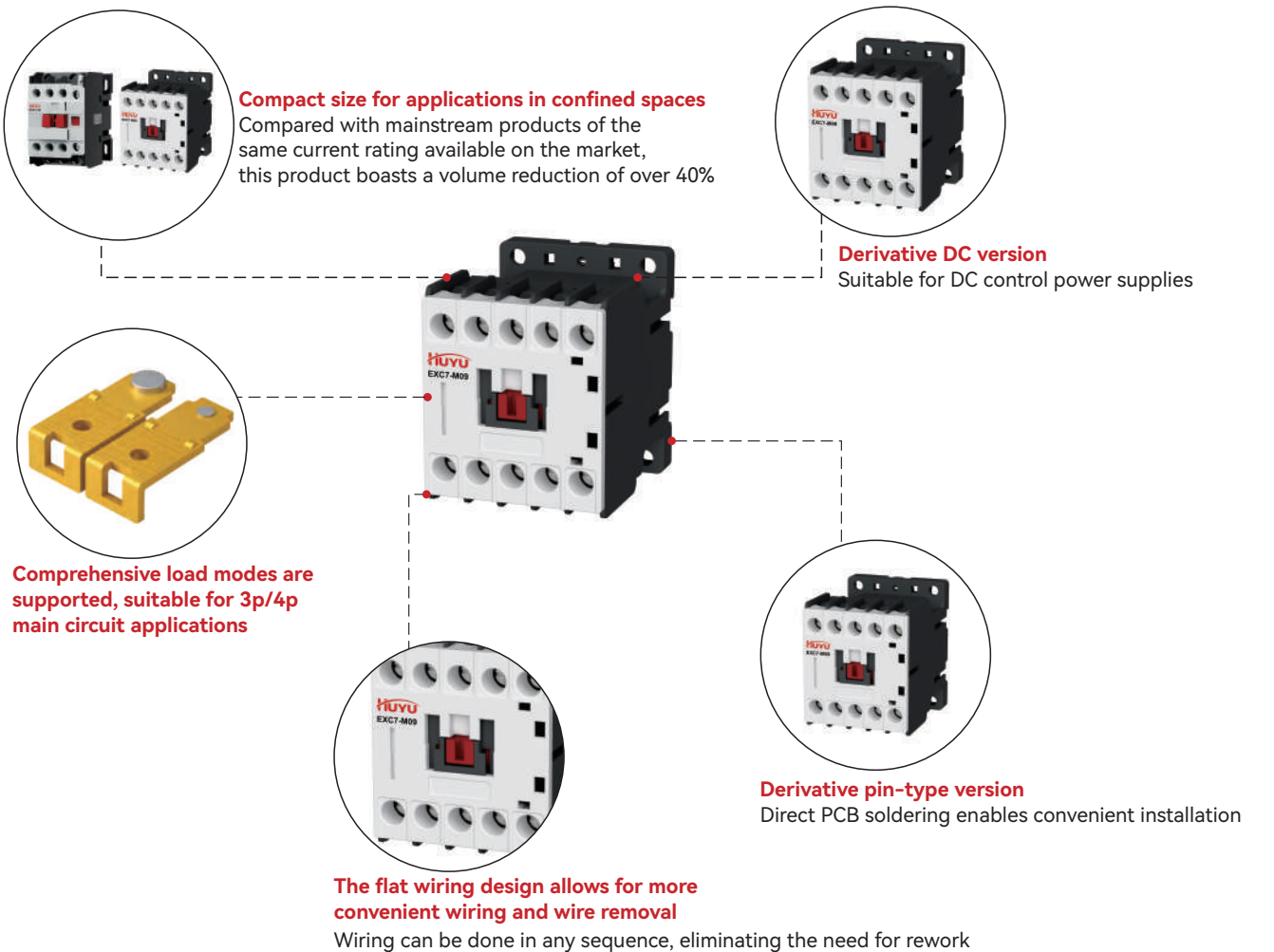
Model and Meaning



Three Key Features

- Smaller footprint, ideal for installation in tight spaces
- Boasting superior cost-effectiveness, this product is priced lower than other products of the same current rating
- Derivative DC and pin-type variants are available to adapt to different working scenarios

Product Structural Analysis Diagram



Product Overview

The EXC7-M Series AC Contactors feature an innovative appearance and a compact structure, and are suitable for occasions involving frequent starting, control of AC motors, and remote circuit breaking. When used in combination with thermal relays, they form electromagnetic starters. Implementation Standards: IEC 60947-1, IEC 60947-4-1

Main Technical Parameters

- Rated working current: 6-16A;
- Rated working voltage: 220V to 690V;
- Rated insulation voltage: 690V;
- Polarities: 3P, 4P
- Installation method: rail and screw

Working Conditions and Installation Conditions

|                             |                                                                                                                                                                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                    | Working conditions and installation conditions                                                                                                                                                                                                                                                              |
| Installation type           | III                                                                                                                                                                                                                                                                                                         |
| Pollution degree            | 3                                                                                                                                                                                                                                                                                                           |
| Certification mark          | CE                                                                                                                                                                                                                                                                                                          |
| Enclosure protection rating | IP20(excluding terminals)                                                                                                                                                                                                                                                                                   |
| Ambient air temperature     | The maximum operating temperature is-35°C to +70°C,and the normal operating temperature is -5°C to +40°CThe average value within 24 hours does not exceed+35°C.<br>If used outside the normal operating temperature range, for details, please refer to the "Instructions for Use in Abnormal Environments" |
| Altitude                    | No more than 2000m                                                                                                                                                                                                                                                                                          |
| Ambient air temperature     | When the maximum temperature is +70°C, the relative humidity of the air shall not exceed 50%.<br>Higher relative humidity is allowed at lower temperatures For example, it reaches 90% at +20°C.<br>Special measures should be taken for condensation that occasionally occurs due to changes in humidity   |
| Installation conditions     | The inclination between the installation surface and the vertical surface shall not exceed +5°                                                                                                                                                                                                              |
| Shock and vibration         | The product should be installed and used in a place free from significant shaking, shock and vibration                                                                                                                                                                                                      |

Instructions for Use in Extreme Temperature Environments

- The GB/T 14048.1 standard specifies the normal operating ambient temperature for the product. When used within this normal range, the product's performance is not significantly affected.
- When the operating ambient temperature exceeds +40°C, it is necessary to consider derating the permissible temperature rise limits. In such cases, the rated operating current must be reduced, and the number of contactors installed in standard assemblies must be decreased. Failure to do so may result in product damage, a shortened service life, reduced operational reliability, and an impact on the product's operating range. When the operating ambient temperature falls below -5°C, consideration must be given to the fact that greases used for insulation and lubrication may solidify at low temperatures, potentially causing product failure. Therefore, manufacturers and users should consult each other regarding design or usage requirements.
- The table below lists the rated operating current correction factors for instances where the rated operating voltage remains constant but the operating ambient temperature exceeds 55°C.

|                         |    |      |       |      |
|-------------------------|----|------|-------|------|
| Ambient temperature(°C) | 55 | 60   | 65    | 70   |
| Correction Factor       | 1  | 0.93 | 0.875 | 0.75 |

- The following table provides correction factors for the rated impulse withstand voltage and rated working current when the altitude exceeds 2000m with the rated working voltage unchanged:

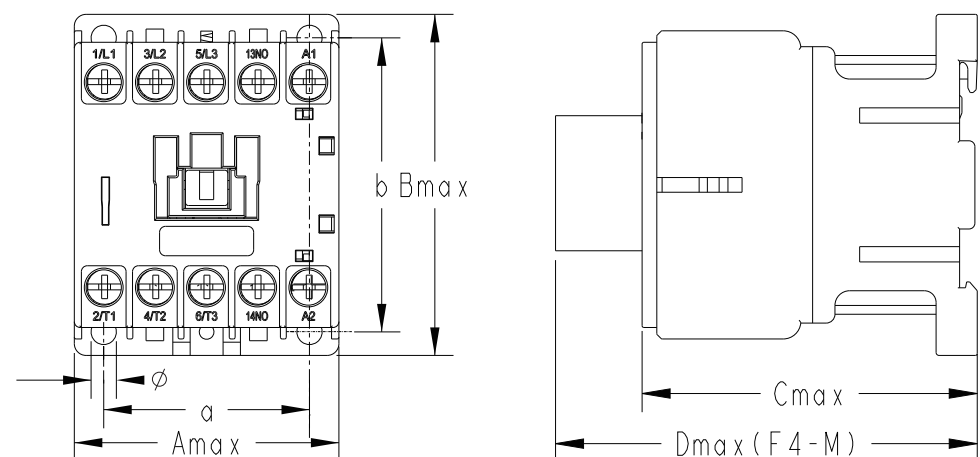
|                                                       |      |      |      |      |
|-------------------------------------------------------|------|------|------|------|
| Altitude (m)                                          | 2000 | 3000 | 4000 | 5000 |
| Correction Factor for Rated Impulse Withstand Voltage | 1    | 0.88 | 0.78 | 0.7  |
| Correction Factor for Rated Working Current           | 1    | 0.92 | 0.9  | 0.85 |

Features and Performance

| Main Technical Parameters                                  |               |                 |                              |          |          |          |
|------------------------------------------------------------|---------------|-----------------|------------------------------|----------|----------|----------|
| Model                                                      |               |                 | EXC7-M06                     | EXC7-M09 | EXC7-M12 | EXC7-M16 |
| Main circuit characteristics                               |               |                 |                              |          |          |          |
| Polar number                                               |               |                 | 3P/4P                        |          |          |          |
| Rated insulation voltage (Ui)                              |               | V               | 690                          |          |          |          |
| Rated operating voltage(Ue)                                |               | V               | 380/400, 660/690             |          |          |          |
| Agreed heating current (Ith), AC-1 rated operating current |               |                 | 20                           |          |          |          |
| Rated working current (Ie)                                 | AC-3,380/400V | A               | 6                            | 9        | 12       | 16       |
|                                                            | AC-3,660/690V | A               | 3.8                          | 4.9      | 4.9      | 4.9      |
|                                                            | AC-4,380/400V | A               | 6                            | 9        | 9        | 12       |
|                                                            | AC-4,660/690V | A               | 3.8                          | 4.9      | 4.9      | 4.9      |
| Rated working power(Pe)                                    | AC-3,380/400V | kW              | 2.2                          | 4        | 5.5      | 7.5      |
|                                                            | AC-3,660/690V | kW              | 3                            | 4        | 4        | 4        |
| Mechanical life                                            |               |                 | 1200                         |          |          |          |
| Electrical life                                            | AC-3          | 10,000 times    | 120                          |          |          |          |
|                                                            | AC-4          |                 | 22                           |          |          |          |
| Operating frequency                                        | AC-3          | Times per hour  | 1200                         |          |          |          |
|                                                            | AC-4          |                 | 300                          |          |          |          |
| The wiring capability of the main circuit terminals        |               |                 |                              |          |          |          |
| Flexible wire                                              | 1 wire        | mm <sup>2</sup> | 1...2.5                      |          |          |          |
| With terminal blocks                                       | 2 wires       | mm <sup>2</sup> | 1...1.5                      |          |          |          |
| Hard wire                                                  | 1 wire        | mm <sup>2</sup> | 1...2.5                      |          |          |          |
| No terminal blocks                                         | 2 wires       | mm <sup>2</sup> | 1...2.5                      |          |          |          |
| Fastening torque                                           |               | N.m             | 0.8                          |          |          |          |
| Coil                                                       |               |                 |                              |          |          |          |
| Rated control circuit voltage (Us)                         | 50Hz          | V               | 24 36 48 110 127 220 380 415 |          |          |          |
|                                                            | 50/60Hz       | V               | 24 36 48 110 127 220 380 415 |          |          |          |
|                                                            | DC            | V               | 12 24 36 48 110 127 220      |          |          |          |
| Allowable control circuit voltage (Us)                     | Operation     | V               | AC:75%~120%; DC:80%-120%     |          |          |          |
|                                                            | Release       | V               | AC:20%~65%; DC:10%-70%       |          |          |          |
| Coil power consumption                                     | Pull-in       | VA              | 20~40 (≤4.5W DC)             |          |          |          |
|                                                            | Holding       | VA              | 9.0 (≤4.5W DC)               |          |          |          |
| Auxiliary contact                                          |               |                 |                              |          |          |          |
| Contact specification                                      |               | A               | 1NO/1NC                      |          |          |          |
| Agreed heating current (Ith)                               |               | A               | 10                           |          |          |          |
| Rated operating voltage (Ue)                               | AC            | V               | 380/400                      |          |          |          |
|                                                            | SD            | V               | 220                          |          |          |          |
| Rated control capacity                                     | AC-15         | VA              | 360                          |          |          |          |
|                                                            | DC-13         | W               | 33                           |          |          |          |

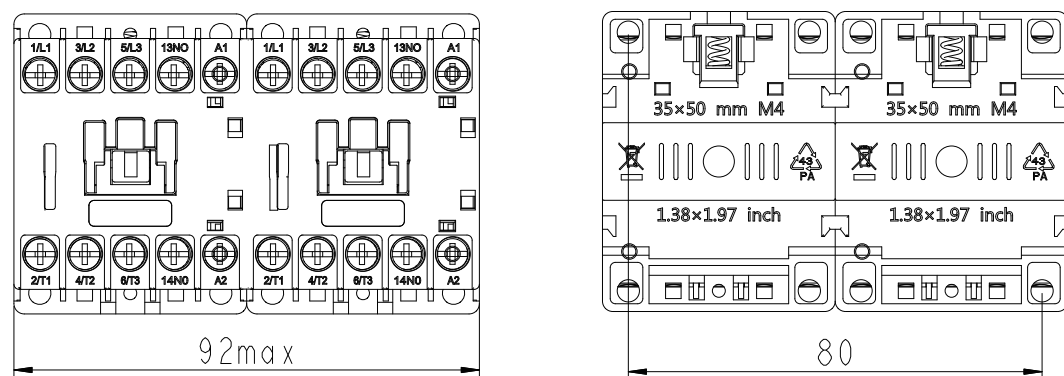
## Outline and Mounting Dimensions

EXC7-M06~M16

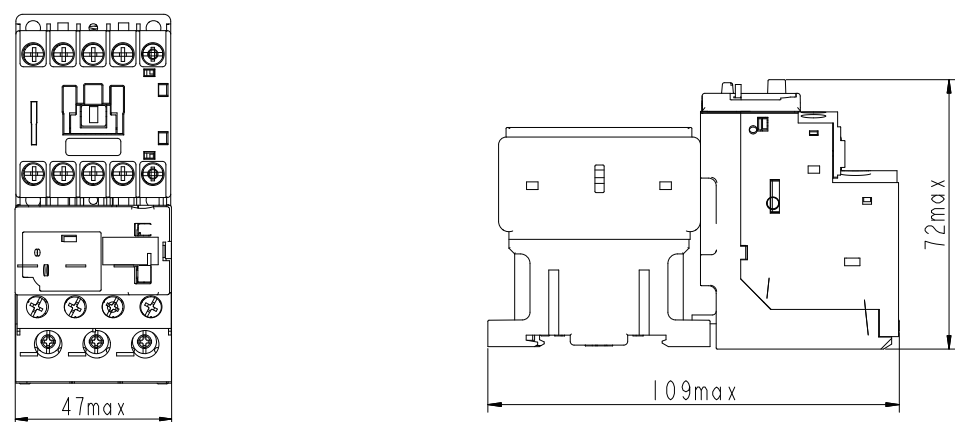


| Model          | Amax | Bmax | Cmax | Dmax | a       | b       | Φ   |
|----------------|------|------|------|------|---------|---------|-----|
| EXC7-M06-M16   | 45.5 | 59   | 58   | 94   | 35±0.35 | 50±0.48 | 4.2 |
| EXC7-M06Z-M16Z | 45.5 | 59   | 70   | 106  | 35±0.35 | 50±0.48 | 4.2 |
| EXC7-MP06-MP16 | 45.5 | 59   | 66   | 102  | /       | /       | /   |

EXC7-M06N~M16N

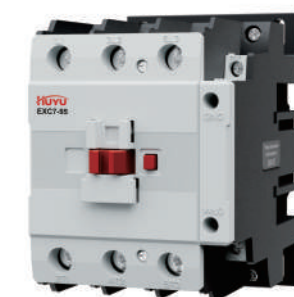


EXC7-M06~M16+JR28s-M

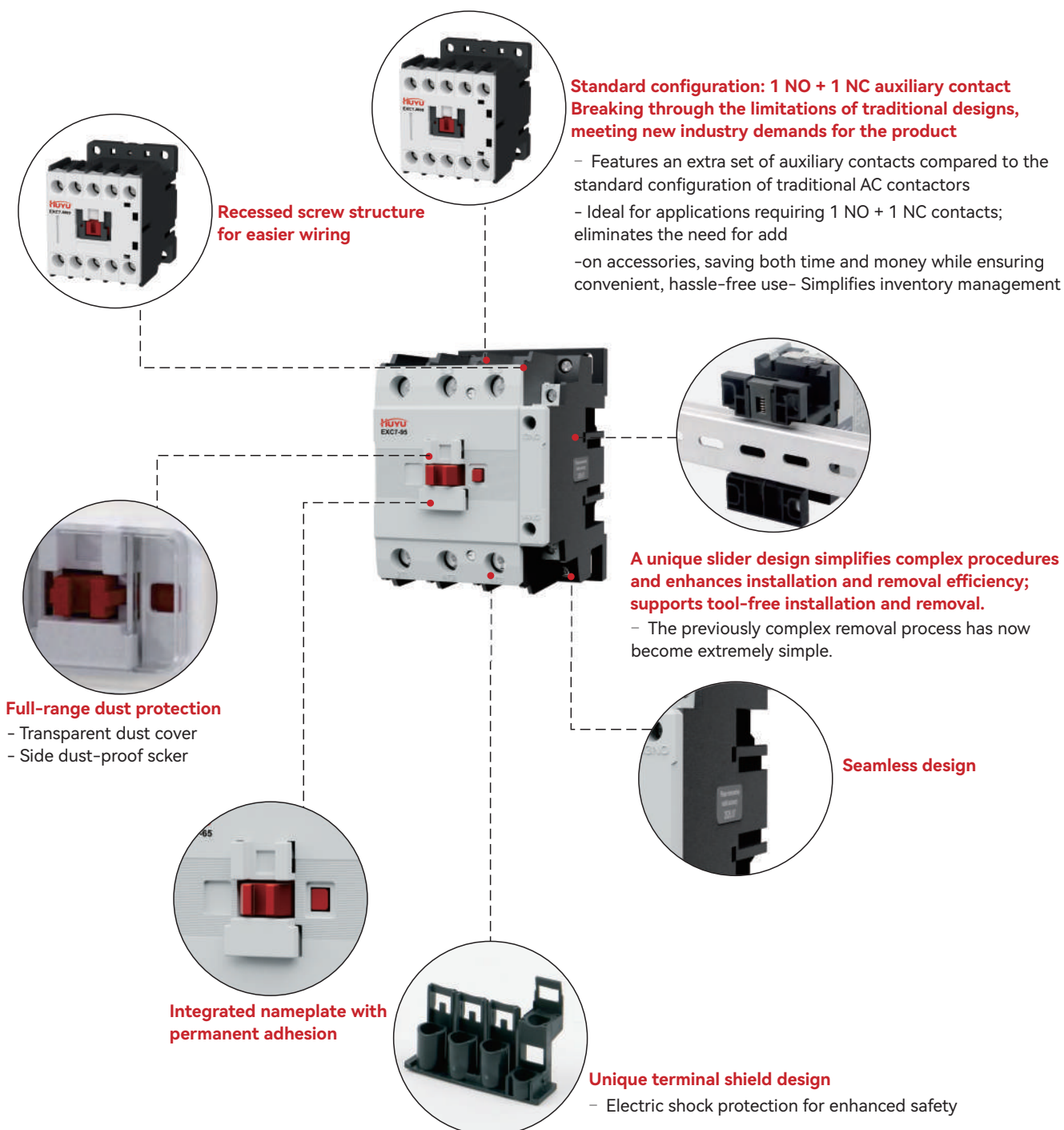


## Three Key Features

- More auxiliary contacts come as standard, meeting diverse application requirements
- Suitable for wider voltage fluctuations, ensuring stable operation of the equipment
- Superior environmental adaptability, enabling reliable operation even in extreme conditions



## Product Structural Analysis Diagram



Product Overview

The all-new EXC7 series AC contactors feature a novel design and a compact structure.This series is primarily used for the frequent starting and control of AC motors and for remote circuit switching; it can also be combined with a suitable thermal overload relay to form an electromagnetic starter.

Compliant with standards: IEC60947-1, IEC60947-4-1.

Main Technical Parameters

- Rated workingcurrent:9-95A;
- Rated workingvoltage:220Vto 690V;
- Rated insulation voltage: 690V;
- Polarities:3P
- Installation method: rail and screw

Working Conditions and Installation Conditions

|                            |                                                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                   | Working conditions and installation conditions                                                                                                                                                                                                                                                           |
| Installation category      | III                                                                                                                                                                                                                                                                                                      |
| Pollution degree           | 3                                                                                                                                                                                                                                                                                                        |
| Certification mark         | CE                                                                                                                                                                                                                                                                                                       |
| Enclosure protection class | CJX2s-09~38: IP20 (excluding terminals)<br>CJX2s-40~95: IP10; CJX2s-110: IP00                                                                                                                                                                                                                            |
| Ambient air temperature    | Extreme operating temperature: -35°C to +70°C;<br>Normal operating temperature: -5°C to +40°C;<br>Average temperature over a 24-hour period: not exceeding +35°C.<br>For use outside the normal operating temperature range,<br>please refer to the "Instructions for Use in Non-standard Environments." |
| Altitude                   | Not exceeding 2000m                                                                                                                                                                                                                                                                                      |
| Ambient air temperature    | At a maximum temperature of +70°C, relative humidity shall not exceed 50%;<br>higher relative humidity is permissible at lower temperatures,<br>e.g., up to 90% at +20°C.<br>Special measures should be taken regarding occasional condensation caused by temperature fluctuations.                      |
| Installation conditions    | Inclination of the mounting surface relative to the vertical plane: not exceeding ±5°                                                                                                                                                                                                                    |
| Shock and vibration        | The product should be installed and used in locations free from significant swaying, shock, and vibration.                                                                                                                                                                                               |

Instructions for Use in Extreme Temperature Environments

- The GB/T 14048.1 standard specifies the normal operating ambient temperature range for the product; performance remains unaffected when the product is used within this range.

- When the operating ambient temperature exceeds +40°C, the permissible temperature rise limit must be adjusted downward. In such cases, the rated operating current must be reduced, and the number of contactors installed in standard assemblies must be limited; failure to do so may result in product damage, reduced service life, compromised operational reliability, and an impact on the product's operating range.

When the operating ambient temperature falls below -5°C, consideration must be given to the fact that greases used for insulation and lubrication may solidify at low temperatures, potentially causing product malfunction. Therefore, manufacturers and users should consult regarding design or application requirements.

- The table below lists the derating factors for rated operating current when the rated operating voltage remains constant and the operating ambient temperature exceeds 55°C.

|                         |    |      |       |      |
|-------------------------|----|------|-------|------|
| Ambient temperature(°C) | 55 | 60   | 65    | 70   |
| Correction Factor       | 1  | 0.93 | 0.875 | 0.75 |

EXC7 AC Contactor

- +55°C to +70°C: The pick-up voltage range for the AC contactor is (90%~110%)Us. The (70%~120%)Us range represents test results obtained under cold-state conditions at an ambient temperature of 20°C.

- The following table lists the correction factors for rated impulse withstand voltage and rated operating current when the rated operating voltage remains unchanged and the altitude exceeds 2000 m:

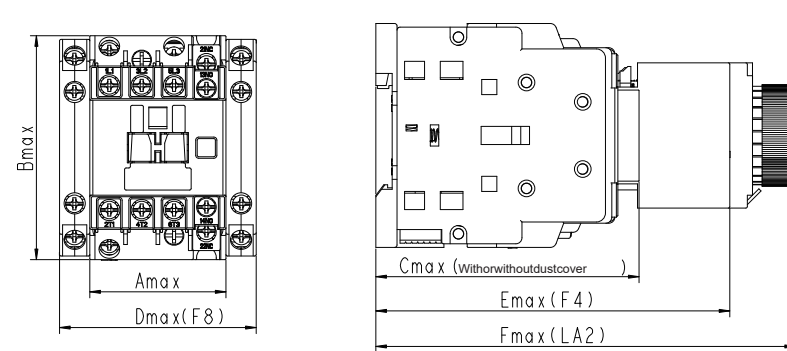
|                                                       |      |      |      |      |
|-------------------------------------------------------|------|------|------|------|
| Altitude (m)                                          | 2000 | 3000 | 4000 | 5000 |
| Correction Factor for Rated Impulse Withstand Voltage | 1    | 0.88 | 0.78 | 0.7  |
| Correction Factor for Rated Working Current           | 1    | 0.92 | 0.9  | 0.85 |

Features and Performance

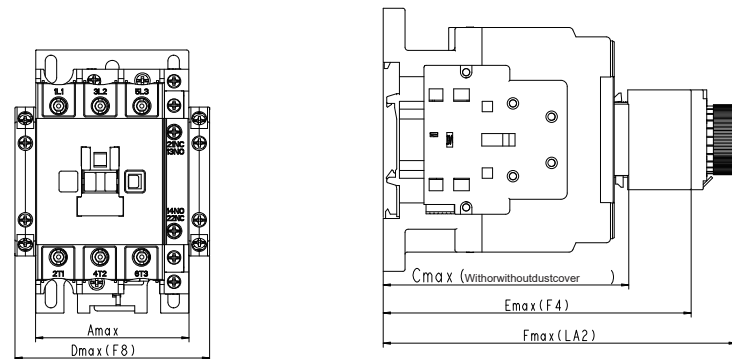
| Main Technical Parameters                                  |               |                |                                              |     |     |         |          |      |          |     |     |        |      |          |
|------------------------------------------------------------|---------------|----------------|----------------------------------------------|-----|-----|---------|----------|------|----------|-----|-----|--------|------|----------|
| Model(EXC7)                                                |               |                | -09                                          | -12 | -18 | -25     | -32      | -38  | -40      | -50 | -65 | -80    | -95  | -110     |
| Main circuit characteristics                               |               |                |                                              |     |     |         |          |      |          |     |     |        |      |          |
| Polar number                                               |               |                | 3P                                           |     |     |         |          |      |          |     |     |        |      |          |
| Rated insulation voltage (Ui)                              |               | V              | 690                                          |     |     |         |          |      |          |     |     |        |      |          |
| Rated operating voltage(Ue)                                |               | V              | 380/400, 660/690                             |     |     |         |          |      |          |     |     |        |      |          |
| Agreed heating current (Ith), AC-1 rated operating current |               |                | 20                                           | 25  | 32  | 40      | 50       | 50   | 60       | 80  | 80  | 100    | 125  | 140      |
| Rated working current (Ie)                                 | AC-3,380/400V | A              | 9                                            | 12  | 18  | 25      | 32       | 38   | 40       | 50  | 65  | 80     | 95   | 110      |
|                                                            | AC-3,660/690V | A              | 6.6                                          | 8.9 | 12  | 18      | 22       | 22   | 34       | 39  | 42  | 49     | 49   | 86       |
|                                                            | AC-4,380/400V | A              | 3.5                                          | 5   | 7.7 | 8.5     | 12       | 14   | 18.5     | 24  | 28  | 37     | 44   | 51       |
|                                                            | AC-4,660/690V | A              | 1.5                                          | 2   | 3.8 | 4.4     | 7.5      | 8.9  | 9        | 12  | 14  | 17.3   | 21.3 | 25       |
| Rated working power(Pe)                                    | AC-3,380/400V | kW             | 4                                            | 5.5 | 7.5 | 11      | 15       | 18.5 | 18.5     | 22  | 30  | 37     | 45   | 55       |
|                                                            | AC-3,660/690V | kW             | 5.5                                          | 7.5 | 10  | 15      | 18.5     | 18.5 | 30       | 37  | 37  | 45     | 45   | 80       |
|                                                            | AC-4,380/400V | kW             | 1.5                                          | 2.2 | 3.3 | 4       | 5.4      | 5.5  | 7.5      | 11  | 15  | 18.5   | 22   | 25.5     |
|                                                            | AC-4,660/690V | kW             | 1.1                                          | 1.5 | 3   | 3.7     | 5.5      | 6    | 7.5      | 10  | 11  | 15     | 18.5 | 21.7     |
| Mechanical life                                            |               | 10,000 times   | 1200                                         |     |     | 1000    |          |      | 900      |     |     | 650    |      |          |
| Electrical life                                            | AC-3          | 10,000 times   | 110                                          |     |     |         | 90       |      |          |     | 65  |        |      |          |
|                                                            | AC-4          | 10,000 times   | 22                                           |     |     |         |          | 17   |          |     | 11  |        |      |          |
| Operating frequency                                        | AC-3          | Times per hour | 1200                                         |     |     |         | 600      |      |          |     |     |        |      |          |
|                                                            | AC-4          | Times per hour | 300                                          |     |     |         | 180      |      |          |     |     |        |      |          |
| The wiring capability of the main circuit terminals        |               |                |                                              |     |     |         |          |      |          |     |     |        |      |          |
| Flexible wire                                              | 1 wire        | mm²            | 1...4                                        |     |     | 1...6   |          |      | 2.5...25 |     |     | 4...50 |      | 10...150 |
| With terminal blocks                                       | 2 wires       | mm²            | 1...2.5                                      |     |     | 1...4   |          |      | 2.5...10 |     |     | 4...16 |      | 10...75  |
| Hard wire                                                  | 1 wire        | mm²            | 1...4                                        |     |     | 1.5...6 | 1.5...10 |      | 2.5...25 |     |     | 4...50 |      | 10...150 |
| No terminal blocks                                         | 2 wires       | mm²            | 1...4                                        |     |     | 1.5...6 |          |      | 2.5...10 |     |     | 4...25 |      | 10...75  |
| Fastening torque                                           |               | N.m            | 1.2                                          |     |     | 1.8     |          |      | 6        |     |     | 9      |      | 10       |
| Coil                                                       |               |                |                                              |     |     |         |          |      |          |     |     |        |      |          |
| Rated control circuit voltage (Us)                         | 50Hz          | V              | 24、36、48、110、127、220/230、240、380/400、415、440 |     |     |         |          |      |          |     |     |        |      |          |
|                                                            | 50/60Hz       | V              | 24、36、48、110、127、220/230、240、380/400、415、440 |     |     |         |          |      |          |     |     |        |      |          |
| Allowable control circuit voltage (Us)                     | Operation     | V              | 70%~120%                                     |     |     |         |          |      |          |     |     |        |      |          |
|                                                            | Release       | V              | 20%~65%                                      |     |     |         |          |      |          |     |     |        |      |          |
| Coil power consumption                                     | Pull-in       | VA             | 60                                           |     |     | 70      |          |      | 200      |     |     | 200    |      |          |
|                                                            | Holding       | VA             | ≤9.0                                         |     |     | ≤14     |          |      | ≤25      |     |     | ≤25    |      |          |
| Auxiliary contact                                          |               |                |                                              |     |     |         |          |      |          |     |     |        |      |          |
| Contact specification                                      |               | A              | 1NO/1NC                                      |     |     |         |          |      |          |     |     |        |      |          |
| Agreed heating current (Ith)                               |               | A              | 10                                           |     |     |         |          |      |          |     |     |        |      |          |
| Rated operating voltage (Ue)                               | AC            | V              | 380                                          |     |     |         |          |      |          |     |     |        |      |          |
|                                                            | SD            | V              | 220                                          |     |     |         |          |      |          |     |     |        |      |          |
| Rated control capacity                                     | AC-15         | VA             | 360                                          |     |     |         |          |      |          |     |     |        |      |          |
|                                                            | DC-13         | W              | 33                                           |     |     |         |          |      |          |     |     |        |      |          |

## Shape and Installation Dimensions

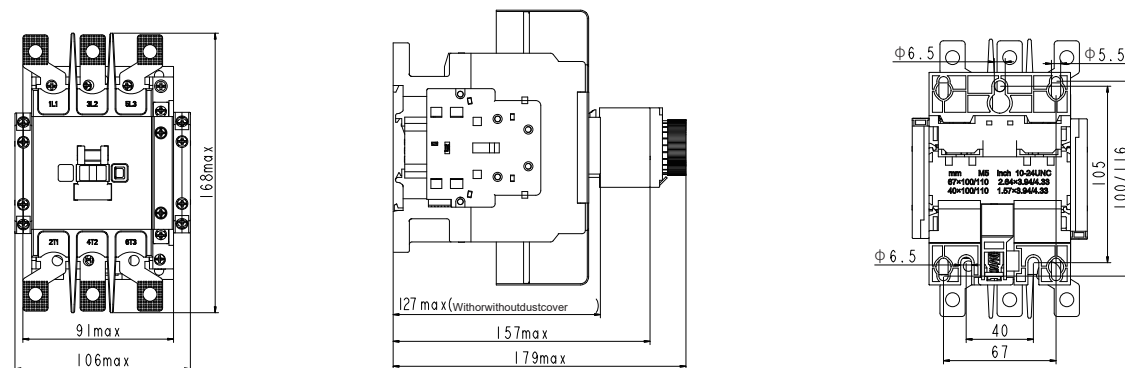
CJX2s-09~38



CJX2s-40~95

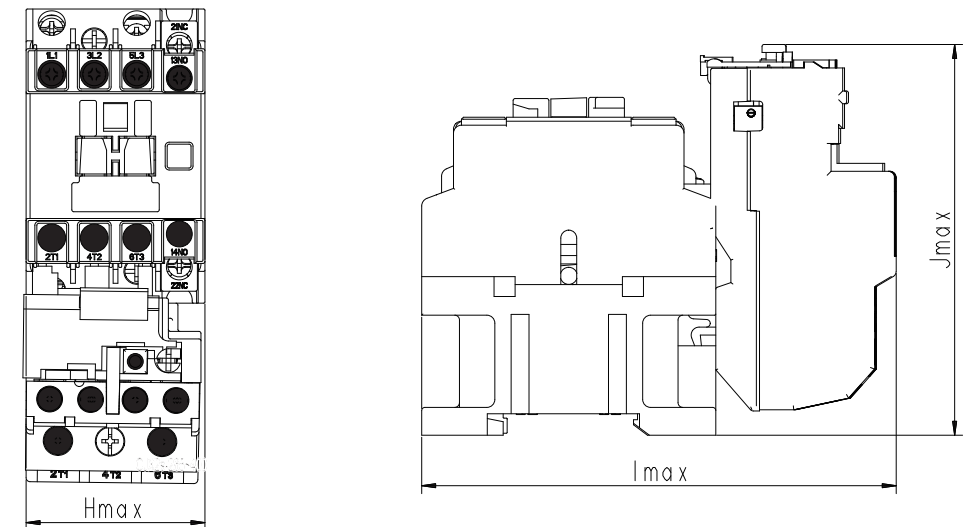


CJX2s-110



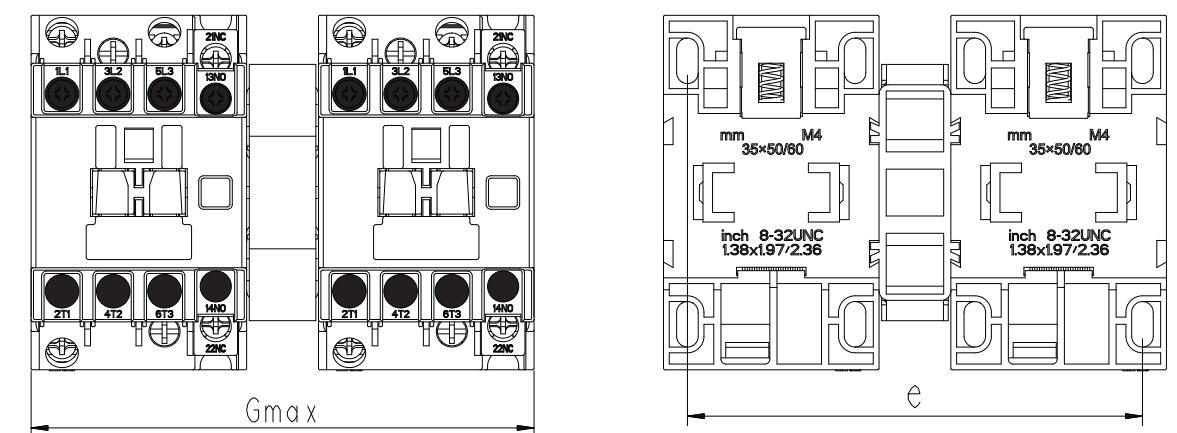
| Model         | Amax  | Bmax | Cmax | Dmax | Emax | a  | b     | c  | d   | Φ1  | Φ2  |
|---------------|-------|------|------|------|------|----|-------|----|-----|-----|-----|
| EXC7-09,12,18 | 74.5  | 45.5 | 89   | 68   | 119  | 34 | 50/60 | -  | -   | 4.5 | -   |
| EXC7-25,32,38 | 83    | 56.5 | 100  | 79   | 130  | 40 | 50/72 | -  | -   | 4.5 | -   |
| EXC7-40,50,65 | 127.5 | 74.5 | 120  | 96   | 150  | 59 | 116   | 40 | 105 | 5.5 | 6.5 |
| EXC7-80,95    | 127.5 | 85.5 | 127  | 107  | 157  | 67 | 116   | 40 | 105 | 5.5 | 6.5 |

CJX2s-09~95+JR28s-25~93



| Model      | Hmax | Imax | Jmax |
|------------|------|------|------|
| EXC7-09~18 | 47   | 122  | 100  |
| EXC7-25    | 58   | 130  | 107  |
| EXC7-32~38 | 58   | 143  | 96   |
| EXC7-40~65 | 75   | 174  | 125  |
| EXC7-80~95 | 86   | 180  | 128  |

CJX2s-09N~95N



| Model      | Gmax | e           |
|------------|------|-------------|
| EXC7-09~18 | 107  | 95          |
| EXC7-25~38 | 130  | 110.5/111.5 |
| EXC7-40~65 | 164  | 148         |
| EXC7-80~95 | 186  | 166.5       |

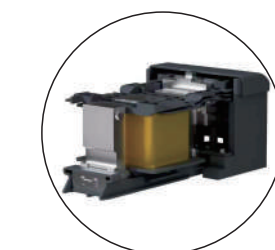
## EXC7 High-current AC Contactor

### Three Key Features

- Dual-coil control circuit, compliant with the trend of energy conservation and consumption reduction
- Adaptable to wider voltage fluctuations, ensuring stable equipment operation
- Superior environmental adaptability, reliable operation even in extreme conditions

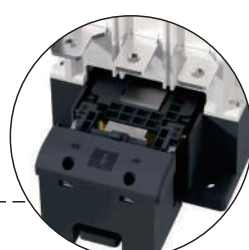


### Product Structural Analysis Diagram



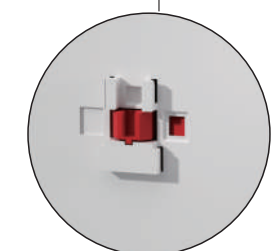
#### Dual-coil control circuit

- Lower holding power consumption, over 40% reduction compared with traditional contactors,
- energy-saving and highly efficient



#### Bottom drawer-type coil

- Easy to maintain and replace,
- reducing customers' operational costs



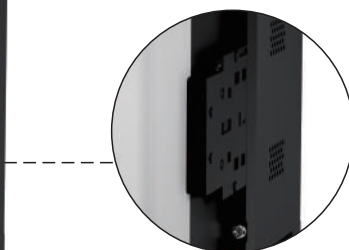
#### Full-range dustproof

- A dust cover can be installed on the front to prevent dust from entering the product and ensure its reliability operation.



#### Newly added arc barrier structure

- Arc barriers can be retrofitted to increase the creepage distance between poles and achieve a higher insulation class



#### Equipped with 2 normally open and 2 normally closed auxiliary contacts as standard

- No additional accessories need to be installed, making inventory management more convenient



#### Brand-new platform design with a smaller footprint

- Its footprint is reduced by more than 20% compared with traditional contacts, effectively saving cabinet space

## EXC7 High-current AC Contactor

### Product Overview

The new EXC7-120~800A series AC contactors feature an innovative appearance and a compact structure. They are mainly used for frequent starting and control of AC motors, remote switching on and off of circuits, and can be combined with appropriate thermal overload relays to form electromagnetic starters

Complies with standards: GB/T 14048.1/IEC 60947-1, GB/T 14048.4/IEC 60947-4-1

### Main Technical Parameters

- Rated working current: 120~800A;
- Rated working voltage: 220V to 690V;
- Rated insulation voltage: 1000V;
- Polarities: 3P
- Installation method: rail and screw

### Working Conditions and Installation Conditions

| Category                   | Working conditions and installation conditions                                                                                                                                                                                                                                                                |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation category      | III                                                                                                                                                                                                                                                                                                           |
| Pollution degree           | 3                                                                                                                                                                                                                                                                                                             |
| Enclosure protection class | IP00                                                                                                                                                                                                                                                                                                          |
| Ambient air temperature    | The maximum operating temperature is -35°C to +70°C, and the normal operating temperature is -5°C to +40°C. The average value within 24 hours does not exceed +35°C. If used outside the normal operating temperature range, for details, please refer to the "Instructions for Use in Abnormal Environments" |
| Altitude                   | No more than 2000m                                                                                                                                                                                                                                                                                            |
| Ambient air temperature    | When the maximum temperature is +70°C, the relative humidity of the air shall not exceed 50%. Higher relative humidity is allowed at lower temperatures. For example, it reaches 90% at +20°C. Special measures should be taken for condensation that occasionally occurs due to changes in humidity          |
| Installation conditions    | The inclination between the installation surface and the vertical surface shall not exceed +5°.                                                                                                                                                                                                               |
| Shock and vibration        | The product should be installed and used in a place free from significant shaking, shock and vibration                                                                                                                                                                                                        |

### Instructions for Use in Abnormal Temperature Environments

- The GB/T 14048.1 standard specifies the normal operating ambient temperature for the product.

When used within the normal operating ambient temperature range, the product's performance is not significantly affected.

- When the operating ambient temperature exceeds +40°C, it is necessary to consider derating the permissible temperature rise limit. In such cases, the rated operating current must be reduced, and the number of contactors installed in standard assemblies must be decreased. Failure to do so may result in product damage, reduced service life, diminished operational reliability, and an impact on the product's operating range.

When the operating ambient temperature falls below -5°C, consideration must be given to the fact that greases used for insulation and lubrication may solidify at low temperatures, potentially causing product failure. Therefore, the manufacturer and the user should consult regarding design or usage requirements.

- The table below lists the rated operating current derating factors for instances where the rated operating voltage remains constant but the operating ambient temperature exceeds 55°C.

| Ambient temperature(°C) | 55 | 60   | 65    | 70   |
|-------------------------|----|------|-------|------|
| Correction Factor       | 1  | 0.93 | 0.875 | 0.75 |

- +55°C~+70°C: The pull-in voltage range of the AC contactor is (90%~110%)U<sub>n</sub>. The range of (70%~120%)U<sub>n</sub> is the test result obtained under the condition of cold state at normal temperature of 20°C

- The following table provides correction factors for the rated impulse withstand voltage and rated working current when the altitude exceeds 2000m with the rated working voltage remains unchanged:

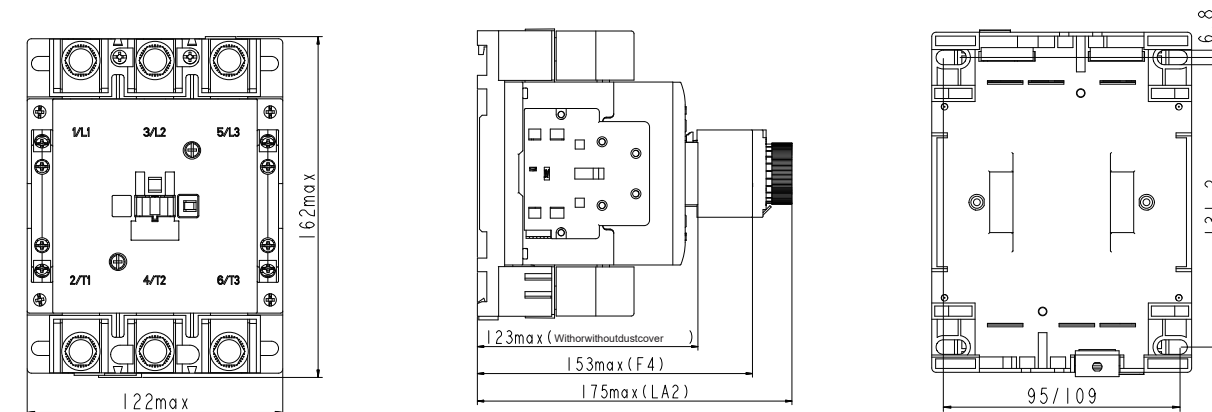
| Altitude (m)                                          | 2000 | 3000 | 4000 | 5000 |
|-------------------------------------------------------|------|------|------|------|
| Correction Factor for Rated Impulse Withstand Voltage | 1    | 0.88 | 0.78 | 0.7  |
| Correction Factor for Rated Working Current           | 1    | 0.92 | 0.9  | 0.85 |

Features and Performance

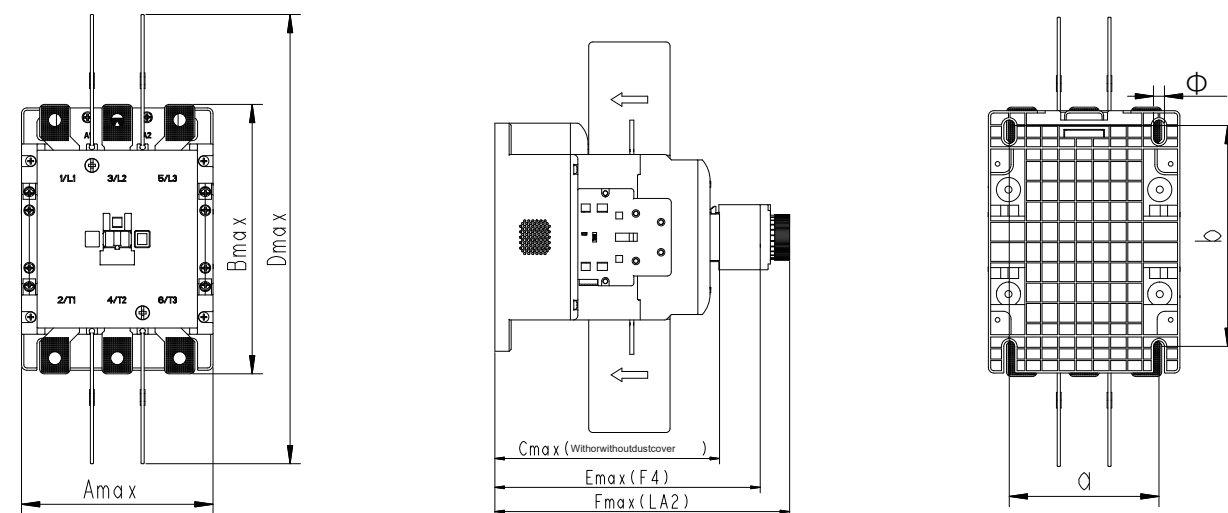
| Main Technical Parameters                                  |               |                 |                             |      |          |     |      |          |     |      |     |     |
|------------------------------------------------------------|---------------|-----------------|-----------------------------|------|----------|-----|------|----------|-----|------|-----|-----|
| Frame Size                                                 |               |                 | 120                         | 160  | 185      | 225 | 265  | 330      | 400 | 500  | 630 | 800 |
| Main circuit characteristics                               |               |                 |                             |      |          |     |      |          |     |      |     |     |
| Polar number                                               |               |                 | 3P                          |      |          |     |      |          |     |      |     |     |
| Rated insulation voltage (Ui)                              |               | V               | 1000                        |      |          |     |      |          |     |      |     |     |
| Rated operating voltage(Ue)                                |               | V               | 380/400, 660/690            |      |          |     |      |          |     |      |     |     |
| Agreed heating current (Ith), AC-1 rated operating current |               |                 | 200                         | 200  | 275      | 275 | 315  | 380      | 450 | 630  | 700 | 900 |
| Rated working current (Ie)                                 | AC-3,380/400V | A               | 120                         | 160  | 185      | 225 | 265  | 330      | 400 | 500  | 630 | 800 |
|                                                            | AC-3,660/690V | A               | 86                          | 107  | 107      | 118 | 170  | 235      | 303 | 353  | 400 | 470 |
| Rated working power(Pe)                                    | AC-4,380/400V | kW              | 55                          | 75   | 90       | 110 | 132  | 160      | 200 | 250  | 335 | 450 |
|                                                            | AC-4,660/690V | kW              | 80                          | 100  | 100      | 110 | 160  | 200      | 300 | 335  | 350 | 375 |
| Mechanical life                                            |               | 10,000 times    | 600                         |      |          |     |      |          |     |      |     |     |
| Electrical life                                            | AC-3          | 10,000 times    | 120                         |      |          |     |      | 80       |     |      |     |     |
| Operating frequency                                        | AC-3          | 10,000 times    | 800                         |      |          |     |      | 600      |     |      |     |     |
| The wiring capability of the main circuit terminals        |               |                 |                             |      |          |     |      |          |     |      |     |     |
| Flexible wire                                              | 1 wire        | mm <sup>2</sup> | 10...95                     |      | 10...150 |     |      | /        |     |      |     |     |
| With terminal blocks                                       | 2 wires       | mm <sup>2</sup> | 10...95                     |      | 10...75  |     |      | /        |     |      |     |     |
| Hard wire                                                  | 1 wire        | mm <sup>2</sup> | 10...95                     |      | 10...150 |     |      | 50...240 |     |      |     |     |
| No terminal blocks                                         | 2 wires       | mm <sup>2</sup> | 10...95                     |      | 10...75  |     |      | 50...240 |     |      |     |     |
| Fastening torque                                           |               | N.m             | 10                          |      |          |     |      | 14       |     |      |     |     |
| Coil                                                       |               |                 |                             |      |          |     |      |          |     |      |     |     |
| Rated control circuit voltage (Us)                         | 50Hz          | V               | 110V、127V、220/230V、380/400V |      |          |     |      |          |     |      |     |     |
|                                                            | 50/60Hz       | V               | 75% ~120%                   |      |          |     |      |          |     |      |     |     |
| Allowable control circuit voltage (Us)                     | Operation     | V               | 20% 70%                     |      |          |     |      |          |     |      |     |     |
|                                                            | Release       | V               |                             |      |          |     |      |          |     |      |     |     |
| Coil power consumption                                     | Pull-in       | VA              | ≤300                        | ≤500 |          |     | ≤600 |          |     | ≤800 |     |     |
|                                                            | Holding       | VA              | ≤30                         | ≤11  |          |     |      |          |     |      |     |     |
| Auxiliary contact                                          |               |                 |                             |      |          |     |      |          |     |      |     |     |
| Contact specification                                      |               | A               | /                           |      | 2NO/2NC  |     |      |          |     |      |     |     |
| Agreed heating current (Ith)                               |               | A               | 10                          |      |          |     |      |          |     |      |     |     |
| Rated operating voltage (Ue)                               | AC            | V               | 380                         |      |          |     |      |          |     |      |     |     |
|                                                            | SD            | V               | 220                         |      |          |     |      |          |     |      |     |     |
| Rated control capacity                                     | AC-15         | VA              | 360                         |      |          |     |      |          |     |      |     |     |
|                                                            | DC-13         | W               | 33                          |      |          |     |      |          |     |      |     |     |

Shape and Installation Dimensions

CJX2s-120-160



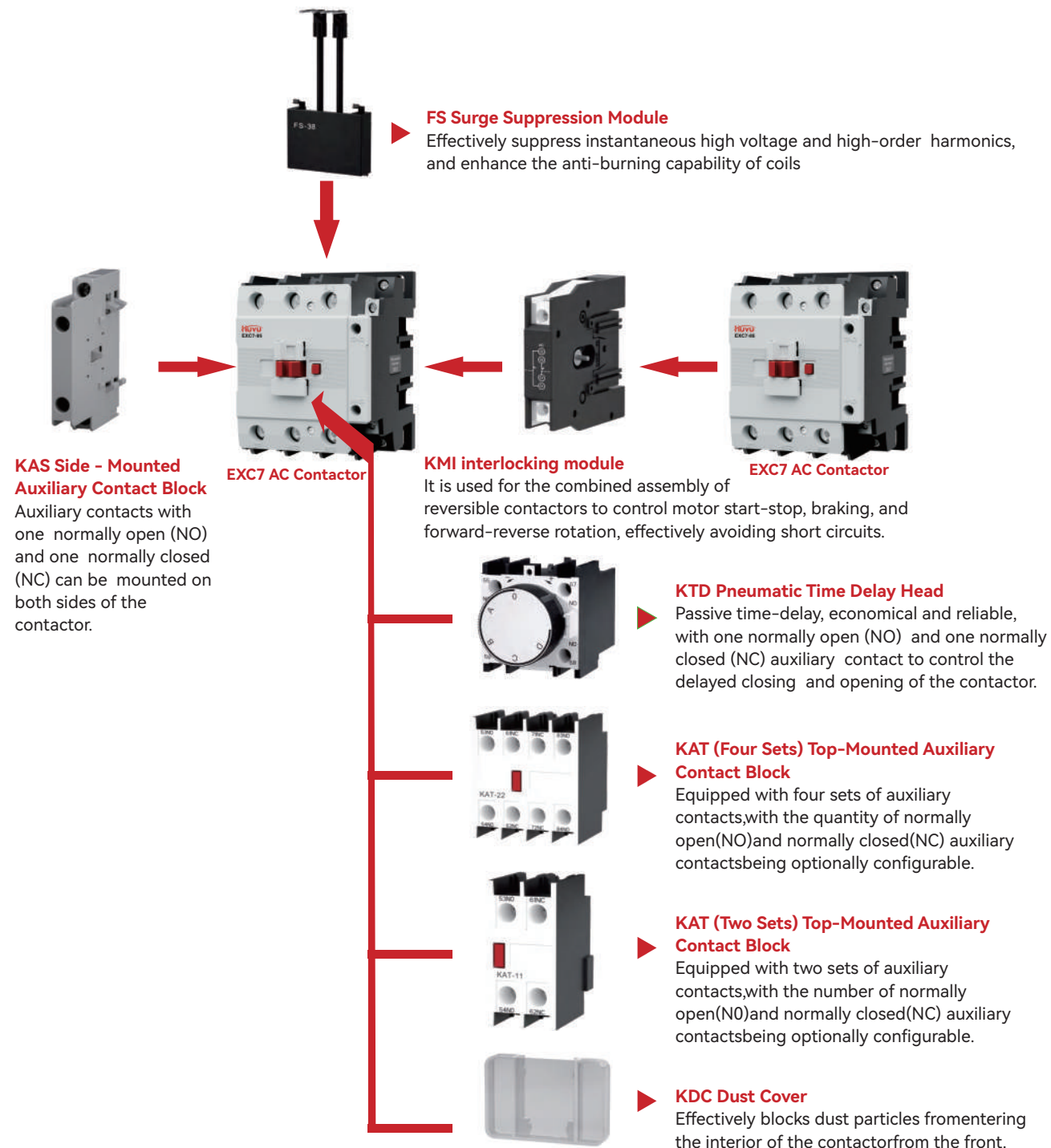
CJX2s-185-800



| Model        | Amax | Bmax | Cmax | Dmax | Emax | Fmax | a   | b           | Φ |
|--------------|------|------|------|------|------|------|-----|-------------|---|
| EXC7-185-265 | 124  | 174  | 167  | 290  | 197  | 219  | 96  | 113.5/141.5 | 7 |
| EXC7-330-500 | 156  | 212  | 210  | 318  | 239  | 261  | 120 | 180/186     | 9 |
| EXC7-630-800 | 171  | 231  | 236  | 333  | 333  | 288  | 133 | 180/186     | 9 |

## Product Installation Diagram

C



## Surge Suppression Module Technical Parameters

| Product Appearance                                                                  | Product Model | Delay Range (s) | Delay Type | Applicable Contactor Model |
|-------------------------------------------------------------------------------------|---------------|-----------------|------------|----------------------------|
|  | KTD-C1        | 0.1-3           | On-delay   | EXC7-09~630                |
|                                                                                     | KTD-C2        | 0.1-30          |            |                            |
|                                                                                     | KTD-C3        | 10-180          |            |                            |
|                                                                                     | KTD-D1        | 0.1-3           | Off-delay  |                            |
|                                                                                     | KTD-D2        | 0.1-30          |            |                            |
|                                                                                     | KTD-D3        | 10-180          |            |                            |

## Technical Parameters of Auxiliary Contact Block

| Product Appearance | Product Model | NO (Normally Open) | NC (Normally Closed) | Applicable Contactor Model |
|--------------------|---------------|--------------------|----------------------|----------------------------|
|                    | KAT-M20       | 2                  | 0                    | EXC7-M06~M16               |
|                    | KAT-M11       | 1                  | 1                    |                            |
|                    | KAT-M02       | 0                  | 2                    |                            |
|                    | KAT-M40       | 4                  | 0                    |                            |
|                    | KAT-M31       | 3                  | 1                    |                            |
|                    | KAT-M22       | 2                  | 2                    |                            |
|                    | KAT-M13       | 1                  | 3                    |                            |
|                    | KAT-M04       | 0                  | 4                    |                            |
|                    | KAT-20        | 2                  | 0                    | EXC7-09~630                |
|                    | KAT-11        | 1                  | 1                    |                            |
|                    | KAT-02        | 0                  | 2                    |                            |
|                    | KAT-40        | 4                  | 0                    |                            |
|                    | KAT-31        | 3                  | 1                    |                            |
|                    | KAT-22        | 2                  | 2                    |                            |
|                    | KAT-13        | 1                  | 3                    |                            |
|                    | KAT-04        | 0                  | 4                    |                            |
|                    | KAS-20        | 2                  | 2                    |                            |
|                    | KAS-11        | 1                  | 1                    |                            |
|                    | KAS-02        | 0                  | 2                    |                            |

## Mechanical Linkage Matching

| Product Appearance | Product Model              | Applicable Contactor Model |
|--------------------|----------------------------|----------------------------|
|                    | KMI Mechanical Chain Store | EXC7-09~38                 |
|                    | KMI Electrical Chain Store | EXC7-09~95                 |

## Dust Cover Matching

| Product Appearance | Product Model | Applicable Contactor Model |
|--------------------|---------------|----------------------------|
|                    | KDC-1         | EXC7-09~38                 |
|                    | KDC-2         | EXC7-40~95                 |

**Surge Suppression Module Technical Parameters**

| Product Appearance                                                                | Product Model | Matched Fuse Rang (A)                            | Applicable Contactor Model |
|-----------------------------------------------------------------------------------|---------------|--------------------------------------------------|----------------------------|
|  | FS-M          | AC/DC 24~48V<br>AC/DC 100~250V<br>AC/DC 380~440V | EXC7-M06~M16               |
|  | FS-18         |                                                  | EXC7-09~18                 |
|                                                                                   | FS-32         |                                                  | EXC7-25~32                 |
|  | FS-65         |                                                  | EXC7-40~65                 |
|                                                                                   | FS-95         |                                                  | EXC7-80~95                 |

**Technical Parameters of Thermal Overload Relay**

| Product Appearance                                                                  | Rated Current (A) | Matched Fuse Rang (A) |     | Applicable Contactor Model                          |
|-------------------------------------------------------------------------------------|-------------------|-----------------------|-----|-----------------------------------------------------|
|                                                                                     |                   | aM                    | gG  |                                                     |
|  | 0.1~0.16          | 0.25                  | 2   | EXC7-09<br>EXC7-12<br>EXC7-18<br>EXC7-25            |
|                                                                                     | 0.16~0.25         | 0.5                   | 2   |                                                     |
|                                                                                     | 0.25~0.4          | 1                     | 2   |                                                     |
|                                                                                     | 0.4~0.63          | 1                     | 2   |                                                     |
|                                                                                     | 0.63~1            | 2                     | 4   |                                                     |
|                                                                                     | 1~1.6             | 2                     | 4   |                                                     |
|                                                                                     | 1.25~2            | 4                     | 6   |                                                     |
|                                                                                     | 1.6~2.5           | 4                     | 6   |                                                     |
|                                                                                     | 2.5~4             | 6                     | 10  |                                                     |
|                                                                                     | 4~6               | 8                     | 16  |                                                     |
|                                                                                     | 5.5~8             | 12                    | 20  |                                                     |
|                                                                                     | 7~10              | 12                    | 20  |                                                     |
|                                                                                     | 9~13              | 16                    | 25  |                                                     |
|  | 23~32             | 40                    | 63  | EXC7-32<br>EXC7-38                                  |
|                                                                                     | 28~36             | 40                    | 80  |                                                     |
|  | 23~32             | 40                    | 63  | EXC7-40<br>EXC7-50<br>EXC7-65<br>EXC7-80<br>EXC7-95 |
|                                                                                     | 30~40             | 40                    | 100 |                                                     |
|                                                                                     | 37~50             | 63                    | 100 |                                                     |
|                                                                                     | 48~65             | 63                    | 100 |                                                     |
|                                                                                     | 55~70             | 80                    | 125 |                                                     |
|                                                                                     | 63~80             | 80                    | 125 |                                                     |
|                                                                                     | 80~93             | 100                   | 160 |                                                     |

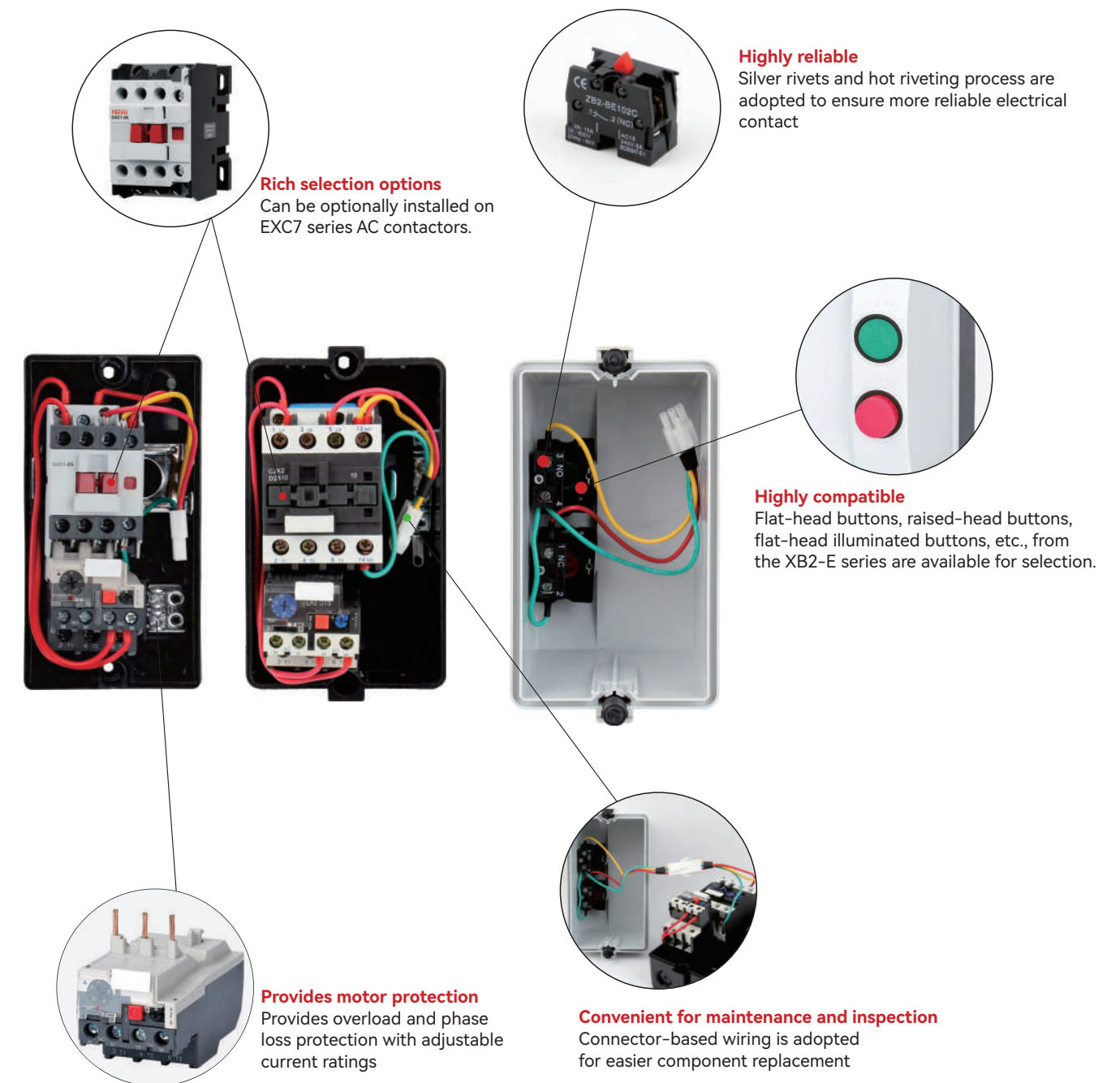
**EXQ7** Electromagnetic starter



**Three Key Features**

- Protection Class: IP 55
- Highly reliable Highly compatible
- Convenient for maintenance and inspection

**Product Structural Analysis Diagram**



Scope of Application

The EXQ7 series electromagnetic starter (hereinafter referred to as the starter) is primarily designed for the direct starting and stopping of three-phase squirrel-cage induction motors—operating under the AC-3 utilization category with a rated frequency of 50Hz (or 60Hz), a rated operational voltage up to 660V, and a rated operational current up to 93A—and provides overload protection for the motor. Compliant standards: IEC/EN 60947-4-1, GB/T 14048.4

Normal Operating Conditions and Installation Conditions

- Altitude: Not exceeding 2,000 meters
- Ambient air temperature: Range of -5°C to +40°C; the average temperature over a 24-hour period must not exceed +35°C
- Atmospheric conditions: Relative humidity must not exceed 50% at +40°C; higher relative humidity is permissible at lower temperatures. The monthly average minimum temperature during the wettest month must not exceed +25°C, and the monthly average maximum relative humidity during that month must not exceed 90%. Additionally, consideration should be given to condensation on the product surface caused by temperature fluctuations
- Inclination from the vertical: Not exceeding 5°
- Must be used in locations free from explosion hazards, and where the surrounding medium contains no gases or conductive dust capable of corroding metal or damaging insulation
- Must be installed in a location protected from rain and snow, and free from saturated water vapor
- Must be installed in a location free from severe shaking, impact, and vibration

Structural Features

The starter features a protective enclosure design. Models EXQ7-09 through EXQ7-32 have an IP55 protection rating, while models EXQ7-40 through EXQ7-95 are rated IP20. Internally, the unit combines an EXC7 AC contactor with a JR28s thermal overload relay. The input and output terminals utilize a knockout-style wiring design, allowing users to select and open any of the four knockout positions for wiring as needed. The starter cover can be completely detached from the base, facilitating installation and maintenance. Start and stop operations are controlled via XB2 series push-button switch assemblies, ensuring safe and reliable performance. To ensure optimal protective performance, the starter must be mounted vertically. Mounting screws should be selected based on the mounting hole dimensions and must be at least M5 in size; spring washers, flat washers, and rubber sealing rings must be used during installation to ensure a secure fit. Additionally, appropriate waterproof cable glands should be installed at the knockout openings.

Main Parameters and Technical Performance

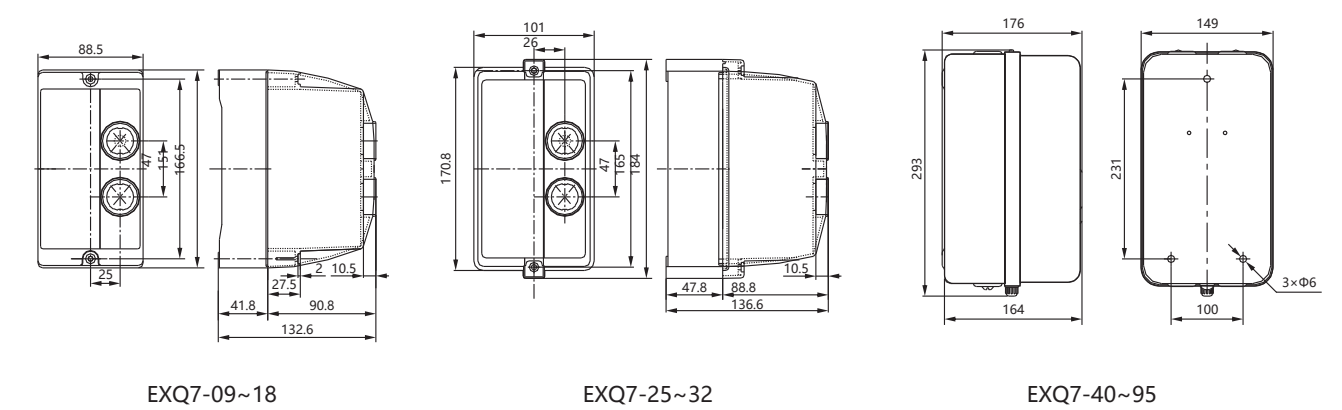
Main Technical Parameters of the Starter (see Table 1)  
Rated control power supply voltage  $U_s$  of the coil can be divided into AC 50Hz (or 60Hz) with the following specifications: 36V, 110V, 220V, 380V.  
Operating Conditions: The coil pull-in voltage shall be (85%~110%)  $U_s$   
the coil release voltage shall be (20%~75%)  $U_s$

**EXQ7 Electromagnetic starter**

Main Parameters and Technical Performance

| Model and Specification | Rated Frame Current Ie(A) | Rated Control Power of Frame Pe(kW) |      |      | Model of Assembled AC Contactor | Model of Assembled Thermal Overload Relay | Setting Current Range A                                                                            |
|-------------------------|---------------------------|-------------------------------------|------|------|---------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------|
|                         |                           | AC-3                                |      |      |                                 |                                           |                                                                                                    |
|                         |                           | 660V                                | 380V | 220V |                                 |                                           |                                                                                                    |
| EXQ7-09                 | 9                         | 5.5                                 | 4    | 2.2  | EXC7-09                         | JR28-25<br>JR28s-25                       | 0.1~0.16, 0.16~0.25<br>0.25~0.4, 0.4~0.63<br>0.63~1, 1~1.6<br>1.25~2, 1.6~2.5<br>2.5~4, 4~6, 5.5~8 |
| EXQ7-12                 | 12                        | 7.5                                 | 5.5  | 3    | EXC7-12                         | JR28-25<br>JR28s-25                       | 7~10, 9~13                                                                                         |
| EXQ7-18                 | 18                        | 10                                  | 7.5  | 4    | EXC7-18                         |                                           | 12~18                                                                                              |
| EXQ7-25                 | 25                        | 15                                  | 11   | 5.5  | EXC7-25                         |                                           | 17~25                                                                                              |
| EXQ7-32                 | 32                        | 18.5                                | 15   | 7.5  | EXC7-32                         |                                           | 23~32                                                                                              |
| EXQ7-40                 | 40                        | 18.5                                | 18.5 | 11   | EXC7-40                         | JR28-93<br>JR28s-93                       | 23~32, 30~40                                                                                       |
| EXQ7-50                 | 50                        | 37                                  | 22   | 15   | EXC7-50                         |                                           | 37~50, 48~65                                                                                       |
| EXQ7-65                 | 65                        | 37                                  | 30   | 18.5 | EXC7-65                         |                                           | 55~70, 63~80                                                                                       |
| EXQ7-80                 | 80                        | 45                                  | 37   | 22   | EXC7-80                         |                                           | 80~93                                                                                              |
| EXQ7-93                 | 93                        | 45                                  | 45   | 25   | EXC7-95                         |                                           |                                                                                                    |

Shape and Installation Dimensions



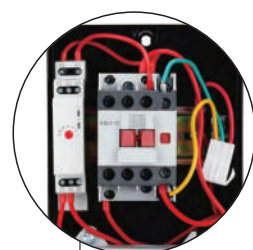
C



### Three Key Features

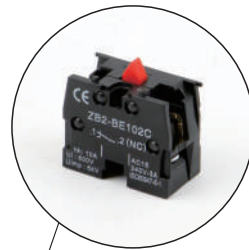
- Protection Class: IP 55
- Highly reliable
- Convenient for maintenance and inspection

### Product Structural Analysis Diagram



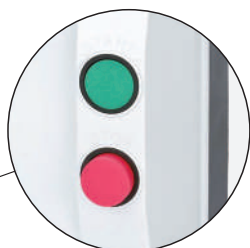
#### Automatically cut off the circuit

Connect the level switch to automatically shut off the water pump when the liquid level reaches the preset level; the sensitivity is adjustable according to ambient humidity



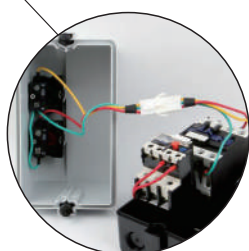
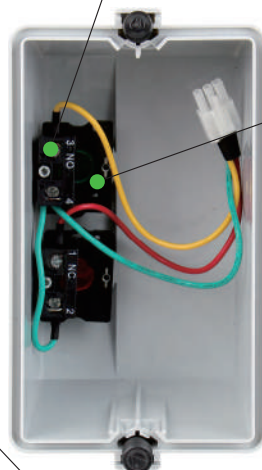
#### Highly reliable

Silver rivets and hot riveting process are adopted to ensure more reliable electrical contact



#### Highly compatible

Flat-head buttons, raised-head buttons, flat-head illuminated buttons, etc., from the XB2-E series are available for selection.



#### Convenient for maintenance and inspection

Connector-based wiring is adopted for easier component replacement



#### Provides motor protection

Feeds back circuit status, provides overload and phase loss protection, and indicates circuit status via indicator lights

### Scope of Application

The EXQJ7 series motor controller(hereinafter referred to as the controller) is mainly used in circuits with AC frequency of 50Hz(or 60Hz), rated operating voltage of 380V, and rated control power up to 18.5kW(corresponding current of 38A).It is designed to directly control the start and stop of water pumps or motors, provide overload and phase failure protection for motors, and realize automatic liquid level control for domestic water towers and reservoirs.

This product is not suitable for liquid level control of low-conductivity liquids, such as petroleum, purified water, flammable and explosive chemical liquids, and high-density sewage.

The version equipped with a liquid level relay is used to control the start and stop as well as automatic pumping and draining of water pumps, while providing overload and phase failure protection. The version without a liquid level relay is designed to control the start and stop of motors, with overload and phase loss protection functions. The motor comprehensive protector of the controller shall be configured before being connected and put into operation.

### Normal Operating Conditions and Installation Conditions

- Altitude: The altitude of the installation location shall not exceed 2000 m
- Ambient Temperature: -5°C ~ +40°C; the average temperature within 24 hours shall not exceed +35°C.
- Atmospheric Conditions: The maximum relative air humidity at the installation location shall not exceed 50%.
- At a temperature of 40°C, the lower the temperature, the higher the relative humidity may be.
- If condensation occasionally occurs on the product due to temperature variations, special measures shall be taken
- Pollution Degree: 3
- Installation Category: II
- It shall be installed in locations free from obvious vibration or impact.
- It shall be used in non-explosive media free from excessive gases or dust that may cause metal corrosion or insulation failure.
- It shall be installed in locations with rain and snow protection; the inclination relative to the vertical plane shall not exceed 5°

### Main Parameters and Technical Performance

| Model and Specification | Rated Frame Current Ie(A) | Rated Control Power of Frame Pe(kW) |      | Model of Assembled AC Contactor | Model of the Matched Motor Protector | Setting Current Range A | Protector Turns |
|-------------------------|---------------------------|-------------------------------------|------|---------------------------------|--------------------------------------|-------------------------|-----------------|
|                         |                           | AC-3                                |      |                                 |                                      |                         |                 |
|                         |                           | 380V                                | 220V |                                 |                                      |                         |                 |
| EXQJ7 0.72A~2.4A        | 2.4                       | 1.1                                 | 0.55 | EXC7-09                         | JD-8/0.5A~5A                         | 0.72~2.4                | 5               |
| EXQJ7-W 0.72A~2.4       |                           |                                     |      |                                 |                                      |                         |                 |
| EXQJ7 3.5A~11A          | 12                        | 5.5                                 | 3    | EXC7-12                         | JD-8/2A~20A                          | 3.5~11                  | 1               |
| EXQJ7-W 3.5A~11A        |                           |                                     |      |                                 |                                      |                         |                 |
| EXQJ7 10A~16A           | 16                        | 7.5                                 | 4    | EXC7-18                         | JD-8/2A~20A                          | 10~16                   | 1               |
| EXQJ7-W 10A~16A         |                           |                                     |      |                                 |                                      |                         |                 |
| EXQJ7 20A~25A           | 25                        | 11                                  | 5.5  | EXC7-25                         | JD-8/20A~80A                         | 20~25                   | 1               |
| EXQJ7-W 20A~25A         |                           |                                     |      |                                 |                                      |                         |                 |
| EXQJ7-W 30A~38A         | 38                        | 18.5                                | 9    | EXC7-38                         | JD-8/20A~80A                         | 30~38                   | 1               |
| EXQJ7-W 30A~38A         |                           |                                     |      |                                 |                                      |                         |                 |

- Rated Control Power Supply Voltage Ue: AC220V,AC380V

- Protection Class:IP55

- Protection Characteristics of the Controller:

Phase Loss Protection Characteristic: When any phase of the three-phase main circuit passing through the motor comprehensive protector is lost, the motor comprehensive protector shall operate, with an operating time ≤ 5s

Overload Protection Characteristic of the Controller Under Three-Phase Balanced Load

| Serial Number | Setting the Current Multiplier | Operating Time              |    |           | Initial Conditions                                         |
|---------------|--------------------------------|-----------------------------|----|-----------|------------------------------------------------------------|
| 1             | 1.05                           | No operation within 2 hours |    |           | Cold Start                                                 |
| 2             | 1.2                            | Operation within 2 hours    |    |           | Perform after Sequence 1                                   |
| 3             | 1.5                            | Trip Class                  | 30 | ≤12min    | Start after applying 1.0 times the set current for 2 hours |
| 4             | 7.2                            | Trip Class                  | 30 | 9s≤Tp≤30s | Cold Start                                                 |

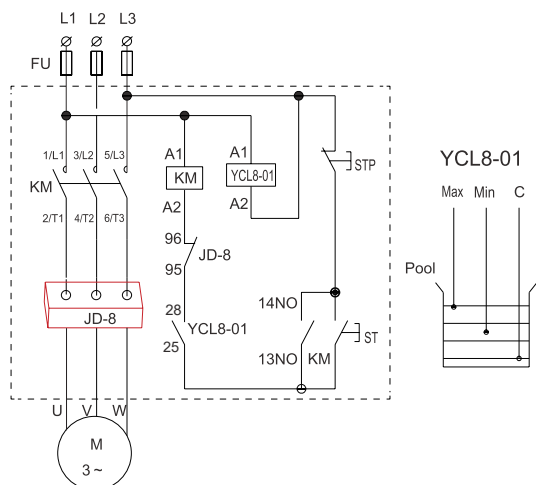
- Maximum distance of the liquid level control electrode's down -lead: 200 m

- Mounting Method: Device Mounting

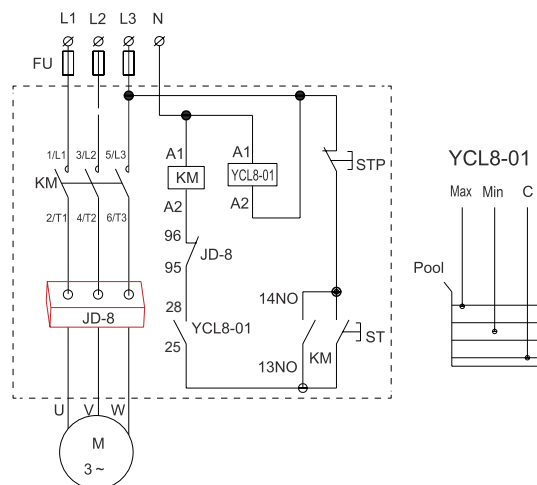
## Wiring Diagram

C

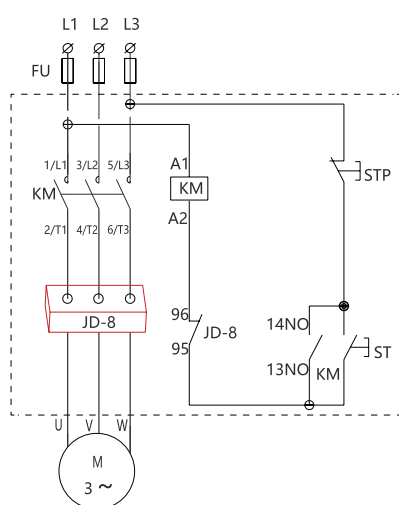
### 1. Wiring Diagram of EXQJ7-W When Both Control Circuit Voltage and Main Circuit Voltage Are AC380V



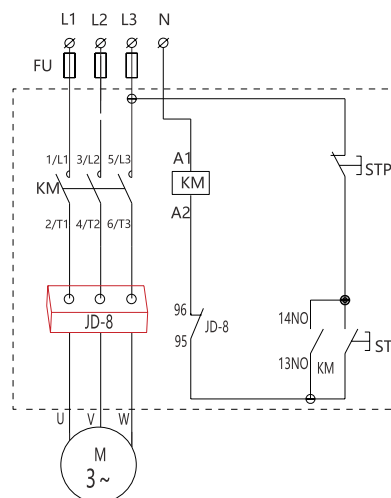
## 2. Wiring Diagram of EXQJ7-W When Main Circuit Voltage Is AC380V and Control Circuit Voltage Is AC220V



### 3.Wiring Diagram of EXQJ7 When Both Control Circuit Voltage and Main Circuit Voltage Are AC380V



#### 4. Wiring Diagram of EXQJ7 When Its Main Circuit Voltage Is AC380V and Control Circuit Voltage Is AC220V



## Shape and Installation Dimensions

