



**Metasol** *Meta Solution*

# MC/TOR

Contactors and Overload Relays



LSIS



# ***Metasol*** Contactors and overload relays

New generation of Contactors  
from LSIS



## Metasol Contactors

### **Designed to show superior technology: The Metasol series**

Sealed structure has improved its safety features so that no arc flash is exposed. In order to emphasize its durability as an industrial device, Metasol series adopt simple design form and sophisticated shape applying diamond cut concepts on product surface.



Metasol Contactors

# LSIS META SOLUTION CONTACTORS

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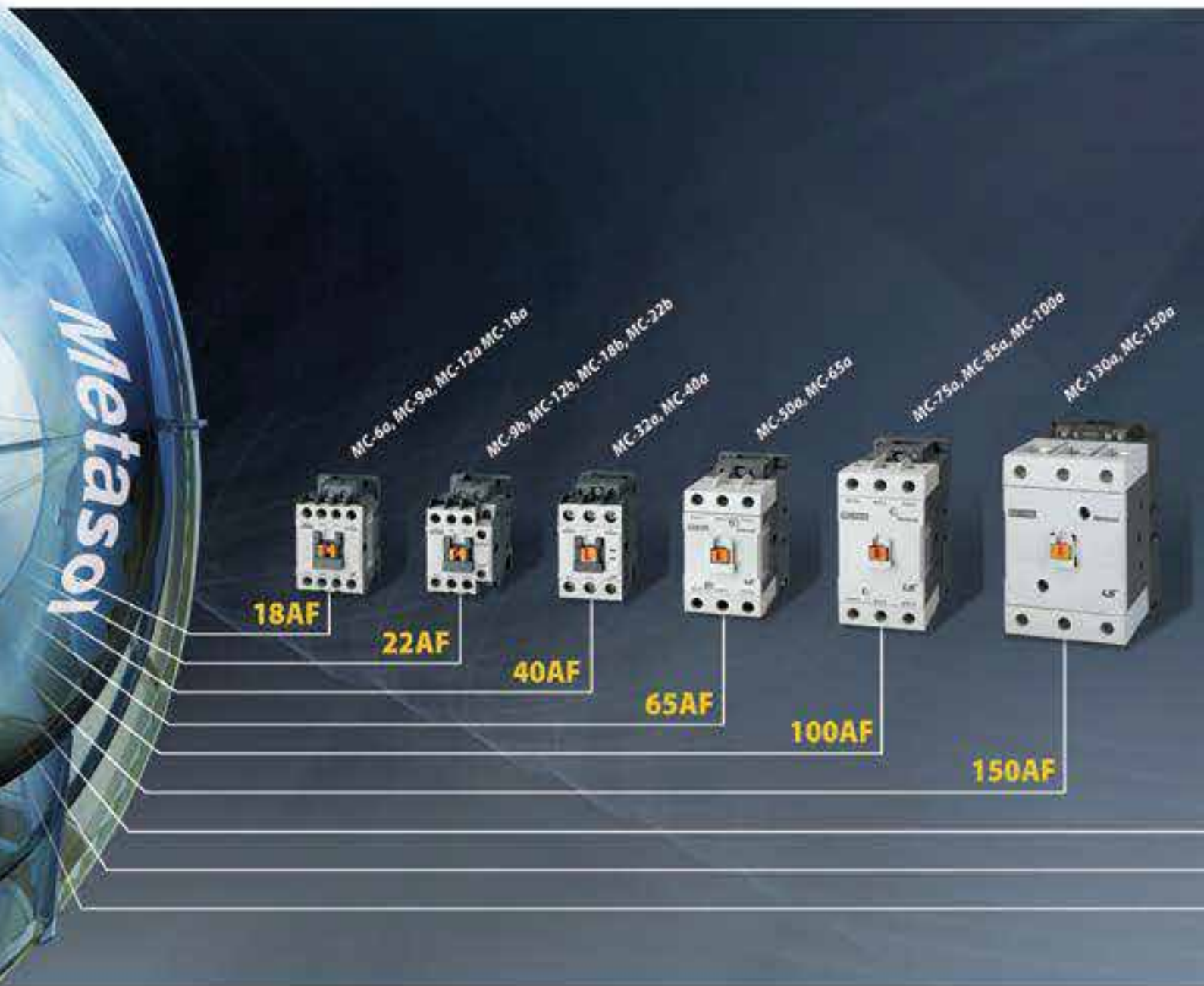


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# Metasol Series completion



More Safe,  
More Valuable



Contactors & Overload Relays





- *Advanced technology & Expert solution*
- *Offering economical solution with compact size & easy connection*
- *Ensure reliability in the system: Type II Coordination*
- *Perfect system with peripheral devices.*
- *Environment friendly product: complies with International environment standard RoHS.*
- *25Models in 9 Frames*
- *Ready for IE3*

# Motor Starters

- Compact design for space saving
- DIN rail and screw mountable (upto 150AF)
- Overload relays directly mountable to contactors separately
- Finger-proof design
- Easy to combine with manual motor starters
- Broad range of accessories
- World class products conforming to IEC and UL standards



## 18AF

### Contactor

MC-6a, 9a, 12a, 18a

Rated current:

6, 9, 12, 18A

Rated insulation voltage:  
690V

### Overload relay MT-12

Current range: 0.1~18A

Trip class: Class10A, 20

## 22AF

### Contactor

MC-9b, 12b, 18b, 22b

Rated current:

9, 12, 18, 22A

Rated insulation voltage:  
690V

### Overload relay MT-32

Current range: 0.1~40A

Trip class: Class10A, 20

## 40AF

### Contactor

MC-32a, 40a

Rated current:

32, 40A

Rated insulation voltage:  
1000V

### Overload relay MT-32

Current range: 0.1~40A

Trip class: Class10A, 20

## 65AF

### Contactor

MC-50a, 65a

Rated current:

50, 65A

Rated insulation voltage:  
1000V

### Overload relay MT-63

Current range: 4~65A

Trip class: Class10A, 20

## 100AF

### Contactor

MC-75a, 85a, 100a

Rated current:

75, 85, 100A

Rated insulation voltage:  
1000V

### Overload relay MT-95

Current range: 7~100A

Trip class: Class10A, 20

## 150AF

### Contactor

MC-130a, 150a

Rated current:

130, 150A

Rated insulation voltage:  
1000V

### Overload relay MT-150

Current range: 34~150A

Trip class: Class10A, 20



MS-500a, MS-630a, MS-800a

MS-185a, MS-225a

MS-265a, MS-330a, MS-400a

225AF

400AF

800AF

| 225AF                                                                                                                                                                                                                | 400AF                                                                                                                                                                                                                           | 800AF                                                                                                                                                                                                                            | 1260AF                                                                                                          | 2100AF                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Contactor</b><br/>MC-185a, 225a</p> <p>Rated current:<br/>185, 225A</p> <p>Rated insulation voltage:<br/>1000V</p> <p><b>Overload relay MT-225</b><br/>Current range: 65~240A<br/>Trip class: Class10A, 20</p> | <p><b>Contactor</b><br/>MC-265a, 330a, 400a</p> <p>Rated current:<br/>265, 330, 400A</p> <p>Rated insulation voltage:<br/>1000V</p> <p><b>Overload relay MT-400</b><br/>Current range: 85~400A<br/>Trip class: Class10A, 20</p> | <p><b>Contactor</b><br/>MC-500a, 630a, 800a</p> <p>Rated current:<br/>500, 630, 800A</p> <p>Rated insulation voltage:<br/>1000V</p> <p><b>Overload relay MT-800</b><br/>Current range: 200~800A<br/>Trip class: Class10A, 20</p> | <p><b>Contactor</b><br/>MC-1260a</p> <p>Rated current:<br/>1260A</p> <p>Rated insulation voltage:<br/>1000V</p> | <p><b>Contactor</b><br/>MC-1400a, 1700a, 2100a</p> <p>Rated current:<br/>1400, 1700, 2100A</p> <p>Rated insulation voltage:<br/>1000V</p> |





## MC/TOR Accessories

Perfect combination of peripheral  
devices and various accessories

# Offering economical solution with compact size & easy connection



## Perfect system with other devices and accessories

### One-touch connection

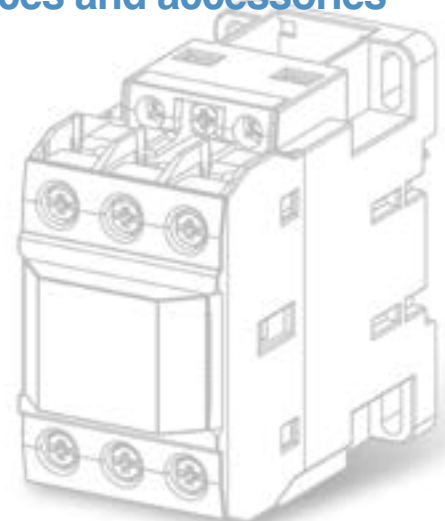
- Din Rail connection without any special tools
- Direct combine a surge unit

### Simple wiring

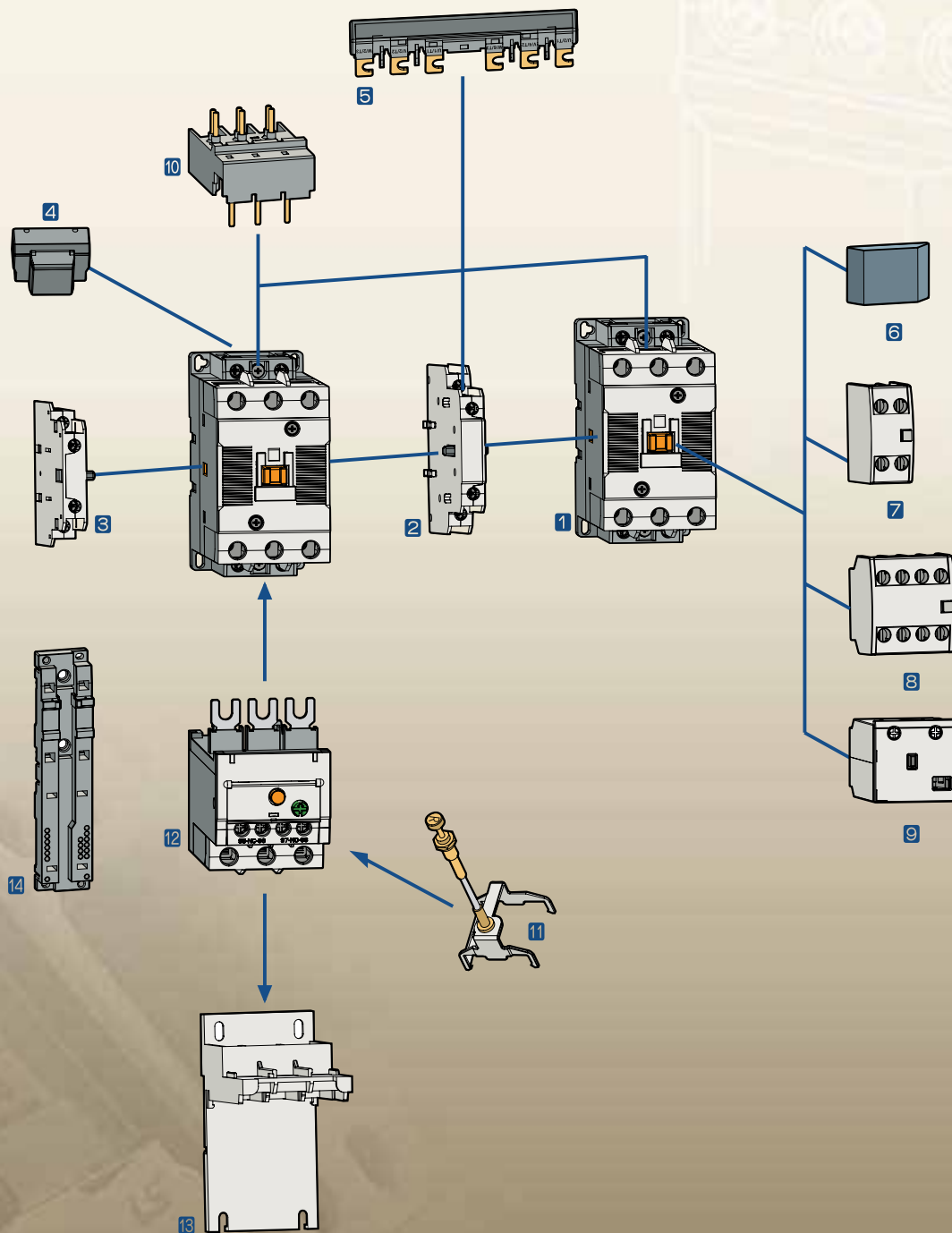
- Mounting unit, Adapter
- Reversing wire set

### Easy maintenance

- 4-terminal type: Easy wiring of operation coil
- Module type of screw terminal
- Interlock unit with built-in auxiliary contacts(2NO built-in)



# Advanced accessories for Metasol contactors



- |                                          |                                               |                                   |
|------------------------------------------|-----------------------------------------------|-----------------------------------|
| 1 Contactor                              | 6 Safety cover (Option)                       | 10 Direct adaptor to MMS          |
| 2 Interlock unit                         | 7 Auxiliary contact unit<br>- front mount(2p) | 11 Remote reset unit              |
| 3 Auxiliary contact unit<br>- side mount | 8 Auxiliary contact unit<br>- front mount(4p) | 12 Overload relay                 |
| 4 Surge unit                             | 9 Mechanical latch unit                       | 13 Separate mounting unit         |
| 5 Wire kit                               |                                               | 14 Mounting unit for use with MMS |

# Table of specifications

## MC type Magnetic contactors



| Frame size                                               |                                                                                     |            |               | 18AF                     |       |        |        | 22AF                     |        |        |        |
|----------------------------------------------------------|-------------------------------------------------------------------------------------|------------|---------------|--------------------------|-------|--------|--------|--------------------------|--------|--------|--------|
| Type                                                     |                                                                                     |            |               | MC-6a                    | MC-9a | MC-12a | MC-18a | MC-9b                    | MC-12b | MC-18b | MC-22b |
| Screws clamp terminals                                   |                                                                                     |            |               | ●                        | ●     | ●      | ●      | ●                        | ●      | ●      | ●      |
| Lug clamp terminals                                      |                                                                                     |            |               |                          |       |        |        |                          |        |        |        |
| Number of poles                                          |                                                                                     |            |               | 3pole                    |       |        |        | 3pole                    |        |        |        |
| Rated operational voltage, Ue                            |                                                                                     |            |               | 690V                     |       |        |        | 690V                     |        |        |        |
| Rated insulation voltage, Ui                             |                                                                                     |            |               | 690V                     |       |        |        | 690V                     |        |        |        |
| Rated frequency                                          |                                                                                     |            |               | 50/60Hz                  |       |        |        | 50/60Hz                  |        |        |        |
| Rated impulse withstand voltage, Uimp                    |                                                                                     |            |               | 6kV                      |       |        |        | 6kV                      |        |        |        |
| Maximum operating rate in operating cycles per hour(AC3) |                                                                                     |            |               | 1800 operations per hour |       |        |        | 1800 operations per hour |        |        |        |
| Durability                                               |                                                                                     |            |               | 15 mil. operations       |       |        |        | 15 mil. operations       |        |        |        |
| Mechanical                                               |                                                                                     |            |               | 2.5 mil. operations      |       |        |        | 2.5 mil. operations      |        |        |        |
| Electrical                                               |                                                                                     |            |               |                          |       |        |        |                          |        |        |        |
| Current and power                                        | AC-1, Thermal current                                                               | A          |               | 25                       | 25    | 25     | 32     | 27                       | 27     | 32     | 45     |
|                                                          | AC-3 200/240V                                                                       | kW         |               | 2.2                      | 2.5   | 3.5    | 4.5    | 2.5                      | 3.5    | 4.5    | 5.5    |
|                                                          |                                                                                     | A          |               | 9                        | 11    | 13     | 18     | 11                       | 13     | 18     | 22     |
|                                                          | 380/440V                                                                            | kW         |               | 3                        | 4     | 5.5    | 7.5    | 4                        | 5.5    | 7.5    | 11     |
|                                                          |                                                                                     | A          |               | 7                        | 9     | 12     | 18     | 9                        | 12     | 18     | 22     |
|                                                          | 500/550V                                                                            | kW         |               | 3                        | 4     | 7.5    | 7.5    | 4                        | 7.5    | 7.5    | 15     |
|                                                          |                                                                                     | A          |               | 6                        | 7     | 12     | 13     | 7                        | 12     | 13     | 20     |
|                                                          | 690V                                                                                | kW         |               | 3                        | 4     | 7.5    | 7.5    | 4                        | 7.5    | 7.5    | 15     |
|                                                          |                                                                                     | A          |               | 4                        | 5     | 9      | 9      | 6                        | 9      | 9      | 18     |
|                                                          | 1000V                                                                               | kW         |               | -                        | -     | -      | -      | -                        | -      | -      | -      |
| Rated Short-time withstand current (IEC 60947)           | 1s                                                                                  | A          |               | 210                      | 250   | 280    | 300    | 250                      | 280    | 300    | 400    |
|                                                          | 10s                                                                                 | A          |               | 105                      | 110   | 120    | 130    | 110                      | 120    | 154    | 186    |
|                                                          | 30s                                                                                 | A          |               | 70                       | 70    | 80     | 85     | 70                       | 80     | 100    | 130    |
|                                                          | 1min                                                                                | A          |               | 61                       | 61    | 61     | 70     | 61                       | 61     | 84     | 90     |
|                                                          | 3min                                                                                | A          |               | 40                       | 45    | 47     | 50     | 45                       | 50     | 60     | 60     |
|                                                          | 10min                                                                               | A          |               | 30                       | 30    | 30     | 40     | 30                       | 30     | 40     | 50     |
|                                                          | ≥ 15min                                                                             | A          |               | 25                       | 26    | 28     | 40     | 26                       | 28     | 40     | 45     |
| UL rating (50/60Hz)                                      | Continuous current                                                                  | A          |               | 25                       | 25    | 25     | 32     | 27                       | 27     | 32     | 45     |
|                                                          | Single phase                                                                        | 110~120V   | HP            | 0.5                      | 0.5   | 0.75   | 1      | 0.5                      | 0.75   | 1      | 2      |
|                                                          |                                                                                     | 220~240V   | HP            | 1.5                      | 1.5   | 2      | 3      | 1.5                      | 2      | 3      | 3      |
|                                                          |                                                                                     | 200~208V   | HP            | 2                        | 2     | 3      | 7.5    | 2                        | 3      | 7.5    | 7.5    |
|                                                          | Three phase                                                                         | 220~240V   | HP            | 3                        | 3     | 5      | 7.5    | 3                        | 5      | 7.5    | 10     |
|                                                          |                                                                                     | 440~480V   | HP            | 5                        | 5     | 7.5    | 10     | 5                        | 7.5    | 10     | 15     |
|                                                          |                                                                                     | 550~600V   | HP            | 7.5                      | 7.5   | 10     | 15     | 7.5                      | 10     | 15     | 20     |
| NEMA size                                                |                                                                                     |            |               | 00                       | 00    | 0      | 1      | 00                       | 0      | 1      |        |
| Size and weight                                          |  | AC control | Weight        | 0.33                     |       |        |        | 0.34                     |        |        |        |
|                                                          |                                                                                     |            | Size(W× H× D) | 45× 73.5× 80.4           |       |        |        | 45× 73.5× 87.4           |        |        |        |
|                                                          |                                                                                     | DC control | Weight        | 0.4                      |       |        |        | 0.41                     |        |        |        |
|                                                          |                                                                                     |            | Size(W× H× D) | 45× 73.5× 96.6           |       |        |        | 45× 73.5× 103.6          |        |        |        |
| Auxiliary(standard)                                      |                                                                                     |            |               | 1a or 1b                 |       |        |        | 1a1b                     |        |        |        |
| Auxiliary                                                |                                                                                     |            |               | Side mount               |       |        |        | UA-1                     |        |        |        |
|                                                          |                                                                                     |            |               | Front mount              |       |        |        | UA-2, UA-4               |        |        |        |

Note) Minimum conduct current of Auxiliary contactor is DC 17V 5mA.

## MT type Thermal Overload Relays



| Type                                  |                                                                                     |             | MT-12/ <input type="checkbox"/> |              | MT-32/ <input type="checkbox"/> |          |  |
|---------------------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------|--------------|---------------------------------|----------|--|
|                                       | screws clamp terminals                                                              |             | ●                               |              | ●                               |          |  |
|                                       | Lug clamp terminals                                                                 |             |                                 |              |                                 |          |  |
| Rated operational voltage, Ue         |                                                                                     |             | 690V                            |              | 690V                            |          |  |
| Rated insulation voltage, Ui          |                                                                                     |             | 690V                            |              | 690V                            |          |  |
| Rated impulse withstand voltage, Uimp |                                                                                     |             | 6kV                             |              | 6kV                             |          |  |
| Trip class                            |                                                                                     |             | 10A, 20                         |              | 10A, 20                         |          |  |
| Setting range                         |                                                                                     |             | 0.1~18A                         |              | 0.1~40A                         |          |  |
| Size and weight                       |  | Weight      | kg                              | 0.1          |                                 | 0.17     |  |
|                                       |                                                                                     | Size(W×H×D) | mm                              | 45×73.2×63.7 |                                 | 45×75×90 |  |

\* The safety cover of magnetic contactor and thermal overload relay is optional.



**40AF**

| MC-32a                   | MC-40a |
|--------------------------|--------|
| •                        | •      |
| 3pole                    |        |
| 1000V                    |        |
| 1000V                    |        |
| 50/60Hz                  |        |
| 8kV                      |        |
| 1800 operations per hour |        |
| 12 mil. operations       |        |
| 2 mil. operations        |        |
| 55                       | 60     |
| 7.5                      | 11     |
| 32                       | 40     |
| 15                       | 18.5   |
| 32                       | 40     |
| 18.5                     | 22     |
| 28                       | 32     |
| 18.5                     | 22     |
| 20                       | 23     |
| 22                       | 22     |
| 17                       | 17     |
| 600                      | 700    |
| 260                      | 300    |
| 160                      | 160    |
| 100                      | 100    |
| 70                       | 70     |
| 55                       | 55     |
| 50                       | 50     |
| 55                       | 60     |
| 2                        | 2      |
| 5                        | 5      |
| 7.5                      | 15     |
| 10                       | 15     |
| 20                       | 30     |
| 25                       | 30     |
| 1P                       | 2      |
| 0.55                     |        |
| 69×83×90                 |        |
| 0.77                     |        |
| 69×83×117.1              |        |

**2a2b**

UA-1  
UA-2, UA-4

**MT-32/ □**

|          |
|----------|
| •        |
| 690V     |
| 690V     |
| 6kV      |
| 10A, 20  |
| 0.1~40A  |
| 0.17     |
| 45×75×90 |

**65AF**

| MC-50a                   | MC-65a |
|--------------------------|--------|
| •                        | •      |
| •                        | •      |
| 3pole                    |        |
| 1000V                    |        |
| 1000V                    |        |
| 50/60Hz                  |        |
| 8kV                      |        |
| 1200 operations per hour |        |
| 12 mil. operations       |        |
| 2 mil. operations        |        |
| 100                      | 115    |
| 15                       | 18.5   |
| 55                       | 65     |
| 22                       | 30     |
| 50                       | 65     |
| 30                       | 33     |
| 43                       | 60     |
| 30                       | 33     |
| 28                       | 35     |
| 30                       | 30     |
| 23                       | 23     |
| 1000                     | 1050   |
| 550                      | 700    |
| 330                      | 380    |
| 250                      | 270    |
| 150                      | 200    |
| 90                       | 120    |
| 87                       | 100    |
| 100                      | 115    |
| 3                        | 5      |
| 10                       | 15     |
| 20                       | 25     |
| 25                       | 30     |
| 40                       | 50     |
| 50                       | 60     |
| 1.05                     |        |
| 79×106×119               |        |
| 1.3                      |        |
| 79×106×146.4             |        |

**2a2b**

UA-1  
UA-2, UA-4

**MT-63/ □**

|           |
|-----------|
| •         |
| •         |
| 690V      |
| 690V      |
| 6kV       |
| 10A, 20   |
| 4~65A     |
| 0.31/0.33 |
| 55×81×100 |

**100AF**

| MC-75a                   | MC-85a | MC-100a |
|--------------------------|--------|---------|
| •                        | •      | •       |
| •                        | •      | •       |
| 3pole                    |        |         |
| 1000V                    |        |         |
| 1000V                    |        |         |
| 50/60Hz                  |        |         |
| 8kV                      |        |         |
| 1200 operations per hour |        |         |
| 12 mil. operations       |        |         |
| 2 mil. operations        |        |         |
| 125                      | 135    | 160     |
| 22                       | 25     | 30      |
| 75                       | 85     | 105     |
| 37                       | 45     | 55      |
| 75                       | 85     | 105     |
| 37                       | 45     | 55      |
| 64                       | 75     | 85      |
| 37                       | 45     | 55      |
| 42                       | 45     | 65      |
| 37                       | 37     | 37      |
| 28                       | 28     | 28      |
| 1100                     | 1200   | 1320    |
| 750                      | 800    | 900     |
| 400                      | 450    | 500     |
| 300                      | 350    | 400     |
| 220                      | 270    | 270     |
| 140                      | 170    | 180     |
| 114                      | 150    | 160     |
| 125                      | 135    | 160     |
| 5                        | 7.5    | 10      |
| 15                       | 15     | 20      |
| 25                       | 30     | 30      |
| 30                       | 40     | 40      |
| 50                       | 60     | 75      |
| 60                       | 75     | 75      |
| 1.93                     |        |         |
| 94×140×135.8             |        |         |
| 2.8                      |        |         |
| 94×140×172.3             |        |         |

**2a2b**

UA-1  
UA-2, UA-4

**MT-95/ □**

|           |
|-----------|
| •         |
| •         |
| 690V      |
| 690V      |
| 6kV       |
| 10A, 20   |
| 7~100A    |
| 0.48/0.5  |
| 70×97×110 |

# Table of specifications

## MC type Magnetic contactors



| Frame size                                               |                                                                                     |                        |               | 150AF                    |               | 225AF                      |               | 400AF                      |               |                     |
|----------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|---------------|--------------------------|---------------|----------------------------|---------------|----------------------------|---------------|---------------------|
| Type                                                     |                                                                                     |                        |               | MC-130a                  | MC-150a       | MC-185a                    | MC-225a       | MC-265a                    | MC-330a       | MC-400a             |
|                                                          |                                                                                     | screws clamp terminals |               | •                        | •             | •                          | •             | •                          | •             | •                   |
|                                                          |                                                                                     | Lug clamp terminals    |               | •                        | •             | •                          | •             |                            |               |                     |
| Number of poles                                          |                                                                                     |                        |               | 3pole                    |               | 3pole                      |               | 3pole                      |               |                     |
| Rated operational voltage, Ue                            |                                                                                     |                        |               | 1000V                    |               | 1000V                      |               | 1000V                      |               |                     |
| Rated insulation voltage, Ui                             |                                                                                     |                        |               | 1000V                    |               | 1000V                      |               | 1000V                      |               |                     |
| Rated frequency                                          |                                                                                     |                        |               | 50/60Hz                  |               | 50/60Hz                    |               | 50/60Hz                    |               |                     |
| Rated impulse withstand voltage, Uimp                    |                                                                                     |                        |               | 8kV                      |               | 8kV                        |               | 8kV                        |               |                     |
| Maximum operating rate in operating cycles per hour(AC3) |                                                                                     |                        |               | 1200 operations per hour |               | 1200 operations per hour   |               | 1200 operations per hour   |               |                     |
| Durability                                               |                                                                                     | Mechanical             |               | 5 mil. operations        |               | 5 mil. operations          |               | 5 mil. operations          |               | 2.5 mil. operations |
|                                                          |                                                                                     | Electrical             |               | 1 mil. operations        |               | 1 mil. operations          |               | 1 mil. operations          |               | 0.5 mil. operations |
| Current and power                                        | AC-1, Thermal current                                                               |                        | A             | 200                      | 250           | 300                        | 350           | 400                        | 500           | 520                 |
|                                                          | AC-3                                                                                | 200/240V               | kW            | 37                       | 45            | 55                         | 75            | 80                         | 90            | 125                 |
|                                                          |                                                                                     |                        | A             | 130                      | 150           | 185                        | 225           | 265                        | 330           | 400                 |
|                                                          |                                                                                     | 380/440V               | kW            | 60                       | 75            | 90                         | 132           | 147                        | 160           | 200                 |
|                                                          |                                                                                     |                        | A             | 130                      | 150           | 185                        | 225           | 265                        | 330           | 400                 |
|                                                          |                                                                                     | 500/550V               | kW            | 60                       | 70            | 110                        | 132           | 147                        | 160           | 225                 |
|                                                          |                                                                                     |                        | A             | 90                       | 100           | 180                        | 200           | 225                        | 250           | 350                 |
|                                                          |                                                                                     | 690V                   | kW            | 55                       | 55            | 110                        | 140           | 160                        | 200           | 250                 |
|                                                          |                                                                                     |                        | A             | 60                       | 60            | 120                        | 150           | 185                        | 220           | 300                 |
|                                                          |                                                                                     | 1000V                  | kW            | 75                       | 75            | 132                        | 132           | 147                        | 147           | 147                 |
|                                                          |                                                                                     |                        | A             | 53                       | 53            | 90                         | 90            | 105                        | 105           | 105                 |
|                                                          | Rated Short-time withstand current (IEC 60947)                                      | 1s                     | A             | 1350                     | 1800          | 2000                       | 2500          | 3500                       | 4000          | 4600                |
| 10s                                                      |                                                                                     | A                      | 950           | 1200                     | 1500          | 1700                       | 2400          | 3000                       | 4400          |                     |
| 30s                                                      |                                                                                     | A                      | 700           | 800                      | 1000          | 1200                       | 1500          | 2500                       | 2974          |                     |
| 1min                                                     |                                                                                     | A                      | 550           | 600                      | 800           | 1000                       | 1100          | 1700                       | 1846          |                     |
| 3min                                                     |                                                                                     | A                      | 350           | 450                      | 520           | 700                        | 800           | 1000                       | 1313          |                     |
| 10min                                                    |                                                                                     | A                      | 200           | 300                      | 350           | 500                        | 600           | 620                        | 760           |                     |
| UL rating (50/60Hz)                                      | ≥ 15min                                                                             | A                      | 175           | 280                      | 320           | 400                        | 500           | 553                        | 699           |                     |
|                                                          | Continuous current                                                                  |                        | A             | 200                      | 250           | 300                        | 350           | 400                        | 500           | 520                 |
|                                                          | Single phase                                                                        | 110~120V               | HP            | 10                       | 15            | 15                         | 15            | -                          | -             | -                   |
|                                                          |                                                                                     | 220~240V               | HP            | 20                       | 25            | 30                         | 40            | -                          | -             | -                   |
|                                                          |                                                                                     | 200~208V               | HP            | 40                       | 40            | 60                         | 60            | 75                         | 100           | 125                 |
|                                                          |                                                                                     | 220~240V               | HP            | 40                       | 50            | 60                         | 75            | 100                        | 100           | 150                 |
| Three phase                                              | 440~480V                                                                            | HP                     | 75            | 100                      | 125           | 150                        | 200           | 200                        | 300           |                     |
|                                                          | 550~600V                                                                            | HP                     | 75            | 75                       | 125           | 150                        | 200           | 200                        | 300           |                     |
| NEMA size                                                |                                                                                     |                        | 4             |                          |               |                            | 5             |                            |               |                     |
| Size and weight                                          |  | AC                     | Weight        | kg                       | 2.4           |                            | 5.4           |                            | 9.2           |                     |
|                                                          |                                                                                     | control                | Size(W× H× D) | mm                       | 119×158×130.3 |                            | 138×203×185.1 |                            | 163×243×204.4 |                     |
|                                                          |                                                                                     | DC                     | Weight        | kg                       |               |                            |               |                            |               |                     |
|                                                          |                                                                                     |                        | Size(W× H× D) | mm                       |               |                            |               |                            |               |                     |
| Auxiliary(standard)                                      |                                                                                     |                        |               | 2a2b                     |               | 2a2b                       |               | 2a2b                       |               |                     |
| Auxiliary                                                |                                                                                     | Side mount             |               | UA-1                     |               | AU-100, AU-100E (Max.4a4b) |               | AU-100, AU-100E (Max.4a4b) |               |                     |
|                                                          |                                                                                     | Front mount            |               | UA-2, UA-4               |               | -                          |               | -                          |               |                     |

## MT type Thermal Overload Relays



| Type                                  |                     |    |  | MT150/ □   | MT225/ □    | MT400/ □    |
|---------------------------------------|---------------------|----|--|------------|-------------|-------------|
| screws clamp terminals                |                     |    |  | •          | •           | •           |
|                                       | Lug clamp terminals |    |  | •          | •           | •           |
| Rated operational voltage, Ue         |                     |    |  | 690V       | 690V        | 690V        |
| Rated insulation voltage, Ui          |                     |    |  | 690V       | 690V        | 690V        |
| Rated impulse withstand voltage, Uimp |                     |    |  | 6kV        | 6kV         | 6kV         |
| Trip class                            |                     |    |  | 10A, 20    | 10A, 20     | 10A, 20     |
| Setting range                         |                     |    |  | 34~150A    | 65~240A     | 85~400A     |
| Size and weight                       | Weight              | kg |  | 0.67       | 2.5         | 2.6         |
|                                       |                     |    |  | 95×109×113 | 147×141×184 | 151×171×198 |

\* The safety cover of magnetic contactor and thermal overload relay is optional.



| 800AF                    |         |         |
|--------------------------|---------|---------|
| MC-500a                  | MC-630a | MC-800a |
| •                        | •       | •       |
| 3pole                    |         |         |
| 1000V                    |         |         |
| 1000V                    |         |         |
| 50/60Hz                  |         |         |
| 8kV                      |         |         |
| 1200 operations per hour |         |         |
| 2.5 mil. operations      |         |         |
| 0.5 mil. operations      |         |         |
| 700                      | 900     | 1050    |
| 147                      | 190     | 220     |
| 500                      | 630     | 800     |
| 265                      | 330     | 440     |
| 500                      | 630     | 800     |
| 265                      | 330     | 500     |
| 400                      | 500     | 720     |
| 300                      | 400     | 500     |
| 380                      | 420     | 630     |
| 280                      | 280     | 280     |
| 220                      | 220     | 220     |
| 6000                     | 7000    | 7500    |
| 5050                     | 6400    | 7000    |
| 4400                     | 4500    | 4900    |
| 3400                     | 3500    | 3800    |
| 2000                     | 2200    | 2500    |
| 1400                     | 1550    | 1550    |
| 1100                     | 1300    | 1300    |
| 700                      | 900     | 1050    |
| -                        | -       | -       |
| -                        | -       | -       |
| 150                      | 200     | 200     |
| 200                      | 250     | 300     |
| 400                      | 500     | 600     |
| 400                      | 500     | 600     |
| 6                        |         | 7       |
| 22.4                     |         |         |
| 285×312×245.3            |         |         |

| 1260AF                  |  |  |
|-------------------------|--|--|
| MC-1260a                |  |  |
| •                       |  |  |
| 3pole                   |  |  |
| 1000V                   |  |  |
| 1000V                   |  |  |
| 50/60Hz                 |  |  |
| 8kV                     |  |  |
| 300 operations per hour |  |  |
| 0.5 mil. operations     |  |  |
| 0.5 mil. operations     |  |  |
| 1260                    |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| -                       |  |  |
| 8000                    |  |  |
| 7200                    |  |  |
| 5200                    |  |  |
| 4000                    |  |  |
| 2300                    |  |  |
| 3000                    |  |  |
| 1500                    |  |  |
| 1260                    |  |  |
| -                       |  |  |
| -                       |  |  |
| 23.5                    |  |  |
| 285×352×246             |  |  |

| 2100AF                  |          |          |
|-------------------------|----------|----------|
| MC-1400a                | MC-1700a | MC-2100a |
| •                       | •        | •        |
| 3pole                   |          |          |
| 1000V                   |          |          |
| 1040V                   |          |          |
| 50/60Hz                 |          |          |
| 8kV                     |          |          |
| 300 operations per hour |          |          |
| 0.5 mil. operations     |          |          |
| 0.05 mil. operations    |          |          |
| 1400                    | 1600     | 2100     |
| 290                     | 310      | -        |
| 860                     | 1050     | -        |
| 550                     | 700      | 900      |
| 860                     | 1050     | 1450     |
| -                       | -        | -        |
| -                       | -        | -        |
| 800                     | 1000     | -        |
| 800                     | 950      | -        |
| -                       | -        | -        |
| -                       | -        | -        |
| -                       | -        | -        |
| 8000                    | 10000    | 10000    |
| -                       | -        | -        |
| 4500                    | 5500     | 5500     |
| -                       | -        | -        |
| 2600                    | 3000     | 3000     |
| -                       | -        | -        |
| 1400                    | 1700     | 2100     |
| -                       | -        | -        |
| -                       | -        | -        |
| 33.8                    |          |          |
| 431×380×246             |          |          |

| 2a2b                       |
|----------------------------|
| AU-100, AU-100E (Max.4a4b) |
| -                          |

| 2a2b                       |
|----------------------------|
| AU-100, AU-100E (Max.4a4b) |
| -                          |

| 2a2b                       |
|----------------------------|
| AU-100, AU-100E (Max.4a4b) |
| -                          |



| MT-800/ □   |
|-------------|
| •           |
| 690V        |
| 690V        |
| 6kV         |
| 10A, 20     |
| 200~800A    |
| 11.5        |
| 360×530×212 |



# Table of specifications

## MC type Magnetic contactors (4pole)



| Frame size                                               |                                                                                     |                      |               |    |
|----------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|---------------|----|
| Type                                                     |                                                                                     | Screw clamp terminal |               |    |
| Number of poles                                          |                                                                                     |                      |               |    |
| Rated operational voltage (Ue)                           |                                                                                     |                      |               |    |
| Rated insulation voltage (Ui)                            |                                                                                     |                      |               |    |
| Rated frequency                                          |                                                                                     |                      |               |    |
| Rated impulse withstand voltage, Uimp                    |                                                                                     |                      |               |    |
| Maximum operating rate in operating cycles per hour(AC1) |                                                                                     |                      |               |    |
| Durability                                               | Mechanical                                                                          |                      |               |    |
|                                                          | Electrical                                                                          |                      |               |    |
| Current<br>and<br>Power                                  | AC-1                                                                                | Thermal current      | A             |    |
|                                                          |                                                                                     | 200/240V             | kW            |    |
|                                                          |                                                                                     |                      | A             |    |
|                                                          |                                                                                     | 380/400V             | kW            |    |
|                                                          |                                                                                     |                      | A             |    |
|                                                          |                                                                                     | 500/550V             | kW            |    |
|                                                          |                                                                                     |                      | A             |    |
|                                                          |                                                                                     | 690V                 | kW            |    |
|                                                          | A                                                                                   |                      |               |    |
| UL rating<br>(50/60Hz)                                   | Continuous current                                                                  |                      | A             |    |
|                                                          | Single<br>Phase                                                                     | 110~120V             | HP            |    |
|                                                          |                                                                                     | 220~240V             | HP            |    |
|                                                          |                                                                                     | 200~208V             | HP            |    |
|                                                          | Three<br>Phase                                                                      | 220~240V             | HP            |    |
|                                                          |                                                                                     | 440~480V             | HP            |    |
|                                                          |                                                                                     | 550~600V             | HP            |    |
|                                                          |                                                                                     |                      |               |    |
| Size<br>and<br>weight                                    |  | AC                   | Weight        | kg |
|                                                          |                                                                                     | Control              | Size(W× H× D) | mm |
|                                                          |                                                                                     | DC                   | Weight        | kg |
|                                                          |                                                                                     | Control              | Size(W× H× D) | mm |
| Auxiliary(standard)                                      |                                                                                     |                      |               |    |
| Auxiliary                                                | Side Mount                                                                          |                      |               |    |
|                                                          | Front Mount                                                                         |                      |               |    |



| 18AF                     |         |                     |          |
|--------------------------|---------|---------------------|----------|
| MC-6a/4                  | MC-9a/4 | MC-12a/4            | MC-18a/4 |
| 4pole                    |         |                     |          |
| 690V                     |         |                     |          |
| 690V                     |         |                     |          |
| 50/60Hz                  |         |                     |          |
| 6kV                      |         |                     |          |
| 1800 operations per hour |         |                     |          |
| 15 mil. Operations       |         |                     |          |
| 0.5 mil. Operations      |         | 0.8 mil. Operations |          |
| 25                       | 25      | 25                  | 40       |
| 9                        | 9       | 9                   | 15       |
| 25                       | 25      | 25                  | 40       |
| 17                       | 17      | 17                  | 27       |
| 25                       | 25      | 25                  | 40       |
| 21                       | 21      | 21                  | 35       |
| 25                       | 25      | 25                  | 40       |
| 27                       | 27      | 27                  | 44       |
| 25                       | 25      | 25                  | 40       |
| 25                       | 25      | 25                  | 40       |
| 0.5                      | 0.5     | 0.75                | 1        |
| 1.5                      | 1.5     | 2                   | 3        |
| 2                        | 2       | 3                   | 5        |
| 3                        | 3       | 5                   | 7.5      |
| 5                        | 5       | 7.5                 | 10       |
| 7.5                      | 7.5     | 10                  | 15       |
| 0.33                     |         |                     |          |
| 45× 73.5× 79             |         |                     |          |
| 0.4                      |         |                     |          |
| 45× 73.5× 96.6           |         |                     |          |
| -                        |         |                     |          |
| UA-1                     |         |                     |          |
| UA-2, UA-4               |         |                     |          |



| 22AF               |  |
|--------------------|--|
| MC-22a/4           |  |
| 4pole              |  |
| 690V               |  |
| 690V               |  |
| 50/60Hz            |  |
| 6kV                |  |
| 1800 operations    |  |
| 15 mil. Operations |  |
| 1 mil. Operations  |  |
| 40                 |  |
| 15                 |  |
| 40                 |  |
| 27                 |  |
| 40                 |  |
| 35                 |  |
| 40                 |  |
| 44                 |  |
| 40                 |  |
| 40                 |  |
| 2                  |  |
| 3                  |  |
| 7.5                |  |
| 7.5                |  |
| 10                 |  |
| 15                 |  |
| 0.4                |  |
| 47.2× 80× 86.8     |  |
| 0.5                |  |
| 47.2× 80× 113.2    |  |
| -                  |  |
| AU-1               |  |
| UA-2, UA-4         |  |

| 40AF                     |          |
|--------------------------|----------|
| MC-32a/4                 | MC-40a/4 |
| 4pole                    |          |
| 690V                     |          |
| 690V                     |          |
| 50/60Hz                  |          |
| 6kV                      |          |
| 1800 operations per hour |          |
| 15 mil. Operations       |          |
| 1 mil. Operations        |          |
| 50                       | 60       |
| 18                       | 22       |
| 50                       | 60       |
| 35                       | 42       |
| 50                       | 60       |
| 43                       | 52       |
| 50                       | 60       |
| 55                       | 66       |
| 50                       | 60       |
| 50                       | 60       |
| 2                        | 3        |
| 5                        | 5        |
| 7.5                      | 10       |
| 10                       | 10       |
| 20                       | 25       |
| 20                       | 25       |
| 0.59                     |          |
| 59× 83.5× 94.5           |          |
| 0.7                      |          |
| 59× 83.5× 121            |          |
| -                        |          |
| AU-1                     |          |
| UA-2, UA-4               |          |

| 85AF                     |          |          |          |
|--------------------------|----------|----------|----------|
| MC-50a/4                 | MC-65a/4 | MC-75a/4 | MC-85a/4 |
| 4pole                    |          |          |          |
| 690V                     |          |          |          |
| 1000V                    |          |          |          |
| 50/60Hz                  |          |          |          |
| 8kV                      |          |          |          |
| 1800 operations per hour |          |          |          |
| 12 mil. Operations       |          |          |          |
| 1 mil. Operations        |          |          |          |
| 80                       | 100      | 110      | 135      |
| 30                       | 37       | 41       | 51       |
| 80                       | 100      | 110      | 135      |
| 56                       | 70       | 76       | 95       |
| 80                       | 100      | 110      | 135      |
| 70                       | 88       | 97       | 120      |
| 80                       | 100      | 110      | 135      |
| 88                       | 110      | 120      | 150      |
| 80                       | 100      | 110      | 135      |
| 80                       | 100      | 110      | 135      |
| 3                        | 5        | 5        | 7.5      |
| 7.5                      | 10       | 15       | 15       |
| 10                       | 15       | 20       | 25       |
| 15                       | 20       | 25       | 30       |
| 30                       | 40       | 50       | 50       |
| 30                       | 40       | 50       | 50       |
| 1.2                      |          |          |          |
| 91× 123.5× 117.8         |          |          |          |
| 1.29                     |          |          |          |
| 91× 123.5× 117.8         |          |          |          |
| -                        |          |          |          |
| AU-1                     |          |          |          |
| UA-2, UA-4               |          |          |          |

# Table of specifications

## MC type Magnetic contactors (4pole)



| Frame size                                               |                                                                                     |                      |               |    |
|----------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|---------------|----|
| Type                                                     |                                                                                     | Screw clamp terminal |               |    |
| Number of poles                                          |                                                                                     |                      |               |    |
| Rated operational voltage (Ue)                           |                                                                                     |                      |               |    |
| Rated insulation voltage (Ui)                            |                                                                                     |                      |               |    |
| Rated frequency                                          |                                                                                     |                      |               |    |
| Rated impulse withstand voltage, Uimp                    |                                                                                     |                      |               |    |
| Maximum operating rate in operating cycles per hour(AC1) |                                                                                     |                      |               |    |
| Durability                                               | Mechanical                                                                          |                      |               |    |
|                                                          | Electrical                                                                          |                      |               |    |
| Current<br>and<br>Power                                  | AC-1                                                                                | Thermal current      | A             |    |
|                                                          |                                                                                     | 200/240V             | kW            |    |
|                                                          |                                                                                     |                      | A             |    |
|                                                          |                                                                                     | 380/400V             | kW            |    |
|                                                          |                                                                                     |                      | A             |    |
|                                                          |                                                                                     | 500/550V             | kW            |    |
|                                                          |                                                                                     |                      | A             |    |
|                                                          |                                                                                     | 690V                 | kW            |    |
|                                                          | A                                                                                   |                      |               |    |
| UL rating<br>(50/60Hz)                                   | Continuous current                                                                  |                      | A             |    |
|                                                          | Single<br>Phase                                                                     | 110~120V             | HP            |    |
|                                                          |                                                                                     | 220~240V             | HP            |    |
|                                                          |                                                                                     | 200~208V             | HP            |    |
|                                                          | Three<br>Phase                                                                      | 220~240V             | HP            |    |
|                                                          |                                                                                     | 440~480V             | HP            |    |
|                                                          |                                                                                     | 550~600V             | HP            |    |
|                                                          |                                                                                     |                      |               |    |
| Size<br>and<br>weight                                    |  | AC                   | Weight        | kg |
|                                                          |                                                                                     | Control              | Size(W× H× D) | mm |
|                                                          |                                                                                     | DC                   | Weight        | kg |
|                                                          |                                                                                     | Control              | Size(W× H× D) | mm |
| Auxiliary(standard)                                      |                                                                                     |                      |               |    |
| Auxiliary                                                | Side Mount                                                                          |                      |               |    |
|                                                          | Front Mount                                                                         |                      |               |    |

\* - FLA = 722 A, LRA = 5618 A

\*\* - FLA = 566 A, LRA = 4495 A

| 225AF                    |           |           |           |           |
|--------------------------|-----------|-----------|-----------|-----------|
| MC-100a/4                | MC-130a/4 | MC-150a/4 | MC-185a/4 | MC-225a/4 |
| 4pole                    |           |           |           |           |
| 690V                     |           |           |           |           |
| 1000V                    |           |           |           |           |
| 50/60Hz                  |           |           |           |           |
| 8kV                      |           |           |           |           |
| 1200 operations per hour |           |           |           |           |
| 5 mil. Operations        |           |           |           |           |
| 0.8 mil. Operations      |           |           |           |           |
| 200                      | 250       | 275       | 300       | 350       |
| 57                       | 60        | 76        | 87        | 100       |
| 200                      | 250       | 275       | 300       | 350       |
| 106                      | 110       | 142       | 165       | 185       |
| 200                      | 250       | 275       | 300       | 350       |
| 132                      | 137       | 180       | 205       | 230       |
| 160                      | 165       | 250       | 300       | 330       |
| 165                      | 170       | 225       | 255       | 290       |
| 160                      | 165       | 250       | 300       | 330       |
| 200                      | 250       | 275       | 300       | 350       |
| 7.5                      | 10        | 15        | 15        | 15        |
| 15                       | 20        | 25        | 30        | 40        |
| 30                       | 40        | 40        | 60        | 60        |
| 30                       | 40        | 50        | 60        | 75        |
| 60                       | 75        | 100       | 125       | 150       |
| 60                       | 75        | 100       | 125       | 150       |
| 5.6                      |           |           |           |           |
| 175× 203× 185            |           |           |           |           |
| 2NO2NC                   |           |           |           |           |
| AU-100, AU-100E          |           |           |           |           |
| -                        |           |           |           |           |

**400AF**

| MC-265a/4                | MC-330a/4 | MC-400a/4 |
|--------------------------|-----------|-----------|
| 4pole                    |           |           |
| 690V                     |           |           |
| 1000V                    |           |           |
| 50/60Hz                  |           |           |
| 8kV                      |           |           |
| 1200 operations per hour |           |           |
| 2.5 mil. Operations      |           |           |
| 0.5 mil. Operations      |           |           |
| 400                      | 500       | 520       |
| 115                      | 135       | 160       |
| 400                      | 500       | 520       |
| 215                      | 250       | 300       |
| 400                      | 500       | 520       |
| 265                      | 315       | 375       |
| 360                      | 420       | 500       |
| 335                      | 390       | 470       |
| 360                      | 420       | 500       |
| 400                      | 500       | 520       |
| -                        | -         | -         |
| -                        | -         | -         |
| 75                       | 100       | 125       |
| 100                      | 125       | 150       |
| 200                      | 250       | 300       |
| 200                      | 250       | 300       |

9.9

206× 243× 205

**2NO2NC**

AU-100, AU-100E

-

**800AF**

| MC-500a/4                | MC-630a/4 | MC-800a/4 |
|--------------------------|-----------|-----------|
| 4pole                    |           |           |
| 690V                     |           |           |
| 1000V                    |           |           |
| 50/60Hz                  |           |           |
| 8kV                      |           |           |
| 1200 operations per hour |           |           |
| 2.5 mil. Operations      |           |           |
| 0.5 mil. Operations      |           |           |
| 700                      | 900       | 1050      |
| 245                      | 255       | 310       |
| 700                      | 900       | 1050      |
| 450                      | 470       | 570       |
| 700                      | 900       | 1050      |
| 560                      | 590       | 710       |
| 630                      | 750       | 900       |
| 710                      | 740       | 900       |
| 630                      | 750       | 900       |
| 700                      | 900       | 1050      |
| -                        | -         | -         |
| -                        | -         | -         |
| 150                      | 200       | 200       |
| 200                      | 250       | 300       |
| 400                      | 500       | 600 *     |
| 400                      | 500       | 600 **    |

26.3

346× 310 × 244

**2NO2NC**

AU-100, AU-100E

-



# Type numbering system

## Contactors

| MC-6a         | / | R           | / | 220V                               | 60Hz      | SCREW | 1NO1NC            |
|---------------|---|-------------|---|------------------------------------|-----------|-------|-------------------|
| Rated current |   | Version     |   | Coil voltage                       | Frequency |       | Auxiliary contact |
| 6a 6A         |   | - Standard  |   | AC 220V                            | 60Hz      | None  | None              |
| ⋮             |   | R Reversing |   | ⋮                                  | 50Hz      | SCREW | 1NO1NC            |
| 2100a 2100A   |   | 4 4pole     |   | ⋮                                  |           | LUG   | 2NO2NC            |
| 9b 9A         |   |             |   | DC 24V                             |           |       | 1NO               |
| ⋮             |   |             |   | Note) See page 22, 23 for details. |           |       | 1NC               |
| 22b 22A       |   |             |   |                                    |           |       |                   |

## Starters

| MS-6a         | / | R                 | 2H                             | / | 220V                               | 60Hz      | 1NO1NC            | /        | 0.1                   |
|---------------|---|-------------------|--------------------------------|---|------------------------------------|-----------|-------------------|----------|-----------------------|
| Rated current |   | Contactor version | Relay version                  |   | Coil voltage                       | Frequency | Auxiliary contact |          | Relay setting current |
| 6a 6A         |   | - Standard        | 2H Non-differential (2-heater) |   | AC 220V                            | 60Hz      | None              | 0.1 0.1A |                       |
| ⋮             |   | R Reversing       | ⋮                              |   | ⋮                                  | 50Hz      | 1NO1NC            | ⋮        |                       |
| 800a 800A     |   |                   | 3H Non-differential (3-heater) |   | ⋮                                  |           | 2NO2NC            | ⋮        |                       |
| 9b 9A         |   |                   | 3K Differential                |   | DC 24V                             |           | 1NO               | 800 800A |                       |
| ⋮             |   |                   | 3D Class 20                    |   | Note) See page 22, 23 for details. |           | 1NC               |          |                       |
| 22b 22A       |   |                   |                                |   |                                    |           |                   |          |                       |

## Thermal Overload Relay

| MT-12         | / | 2H                             | 0.1                   |
|---------------|---|--------------------------------|-----------------------|
| Rated current |   | Relay version                  | Relay setting current |
| 12 12AF       |   | 2H Non-differential (2-heater) | 0.1 0.1A              |
| 32 32AF       |   | ⋮                              | ⋮                     |
| 63 63AF       |   | 3H Non-differential (3-heater) | 800 800A              |
| 95 95AF       |   | 3K Differential                |                       |
| ⋮             |   | 3D Class 20                    |                       |
| 800 800AF     |   |                                |                       |

## Contactor relays

| MR | / | 4        |
|----|---|----------|
|    |   | Poles    |
|    |   | 4 4 Pole |
|    |   | 6 6 Pole |
|    |   | 8 8 Pole |



## Optional Accessories

### Auxiliary contact unit

UA1

11

| Version |                 |
|---------|-----------------|
| UA-1    | Side mount      |
| AU-100  |                 |
| AU-100E |                 |
| UA-2    | Front mount(2P) |
| UA-4    | Front mount(4P) |

| Contact composition |         |
|---------------------|---------|
| 11                  | 1NO+1NC |
| 20                  | 2NO     |
| 02                  | 2NC     |
| 40                  | 4NO     |
| 31                  | 3NO+1NC |
| 22                  | 2NO+2NC |
| 13                  | 1NO+3NC |
| 04                  | 4NC     |

Note) UA-2: 2NO, 1NO1NC, 2NC  
 UA-4: 4NO, 3NO1NC, 4NC,  
 2NO2NC, 1NO3NC,

### Surge absorber

US11

| Composition and voltage |             |                |
|-------------------------|-------------|----------------|
| 1                       | Varistor+RC | AC 24~48V      |
| 2                       | Varistor+RC | AC 100~125V    |
| 3                       | Varistor+RC | AC 200~240V    |
| 4                       | Varistor+RC | DC 24~48V      |
| 5                       | Varistor+RC | DC 100~125V    |
| 6                       | Varistor+RC | DC 200~220V    |
| 11                      | Varistor    | AC/DC 24~48V   |
| 12                      | Varistor    | AC/DC 100~125V |
| 13                      | Varistor    | AC/DC 200~240V |
| 14                      | Varistor    | AC/DC 380~440V |
| 22                      | RC          | AC 100~125V    |

Note) See page 82 for details.

### Interlock unit

UR02

#### Contact composition

|    |      |
|----|------|
| 02 | 2NC  |
| 00 | None |

### Wire kit for Interlocking

UW32

#### Rated current

|    |       |
|----|-------|
| 18 | 18AF  |
| 22 | 22AF  |
| 32 | 40AF  |
| 63 | 65AF  |
| 95 | 100AF |

### Separate mounting unit (For relay)

UZ32

#### Rated current

|     |       |
|-----|-------|
| 12  | 12AF  |
| 32  | 32AF  |
| 63  | 63AF  |
| 95  | 95AF  |
| 150 | 150AF |

### Remote reset unit (For relay)

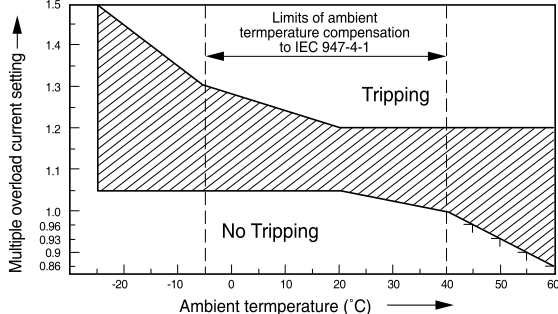
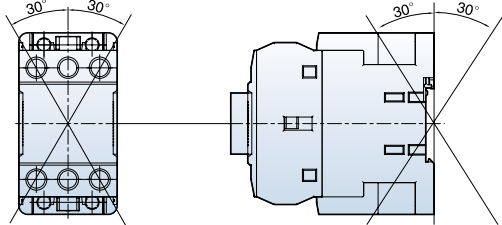
UM

#### Cable length

|    |     |
|----|-----|
| 4R | 400 |
| 5R | 500 |
| 6R | 600 |

## Environment



|                                                                |                                                                                                                                                                                                                                        |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                                                      | IEC/EN 60947-1, IEC/EN 60947-4-1, UL508, K60947                                                                                                                                                                                        |
| Certifications                                                 | CE, UL, CCC                                                                                                                                                                                                                            |
| Rated insulation voltage (Ui)                                  | 1000V (6A~22A: 690V, 32A~800A: 1000V)                                                                                                                                                                                                  |
| Rated impulse withstand voltage (Uimp)                         | 8kV (6A~22A: 6kV, 32A~800A: 8kV)                                                                                                                                                                                                       |
| Degree of protection                                           | IP20 (Conforming to IEC60529)                                                                                                                                                                                                          |
| Ambient air temperature                                        | <p>Storage: -30°C ~ +65°C</p> <p>Operation: -5°C ~ +55°C (AC Type)</p> <p>-5°C ~ +40°C (MT, DC Type)</p> <p>-25°C ~ +60°C (MT refer to Graph)</p>  |
| Operating altitude                                             | 3000m (8900ft)                                                                                                                                                                                                                         |
| Operating positions                                            |                                                                                                                                                    |
| Shock resistance<br>(1/2 sine wave =11ms)                      | Opened: 8G<br>Closed: 10G                                                                                                                                                                                                              |
| Vibration resistance (Conforming to IEC68-2-6)<br>(5...300 Hz) | Opened: 2G<br>Closed: 4G                                                                                                                                                                                                               |
| Flame resistance                                               | Conforming to UL 94: V0<br>Conforming to IEC 695-2-1: 960°C                                                                                                                                                                            |

# Connections

## Connections

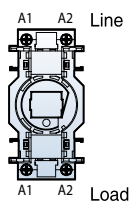
| Wire type<br><br>Frame  |                                                                                     | Main<br>Terminal<br>Size |  |  |  |  |  |  |  | Torque  |      |          |
|-------------------------|-------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|------|----------|
|                         |                                                                                     |                          | (AWG / mm <sup>2</sup> )                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | mm(max)                                                                             | [lb-in] | [Nm] | [kgf·cm] |
| MC-6a/9a                |    | M3.5                     | 18~10 / 1~6                                                                       |                                                                                   | 18~10 / 1~6                                                                       |                                                                                   | 18~10 / 1~6                                                                       |                                                                                   | 8.3                                                                                 | 10      | 1.13 | 12       |
| MC-12a                  |                                                                                     |                          | 16~10 / 1.5~10                                                                    |                                                                                   | 16~10 / 1.5~10                                                                    |                                                                                   | 16~10 / 1.5~10                                                                    |                                                                                   |                                                                                     |         |      |          |
| MC-18a                  |                                                                                     |                          | 16~8 / 1.5~10                                                                     |                                                                                   | 16~8 / 1.5~10                                                                     |                                                                                   | 16~8 / 1.5~10                                                                     |                                                                                   |                                                                                     |         |      |          |
| MC-9b                   |    | M4                       | 18~10 / 1~6                                                                       |                                                                                   | 18~10 / 1~6                                                                       |                                                                                   | 18~10 / 1~6                                                                       |                                                                                   | 9.6                                                                                 | 20      | 2.25 | 23       |
| MC-12b                  |                                                                                     |                          | 18~10 / 1~6                                                                       |                                                                                   | 16~10 / 1~6                                                                       |                                                                                   | 16~10 / 1~6                                                                       |                                                                                   |                                                                                     |         |      |          |
| MC-18b                  |                                                                                     |                          | 18~10 / 1~6                                                                       |                                                                                   | 16~8 / 1.5~10                                                                     |                                                                                   | 16~8 / 1.5~10                                                                     |                                                                                   |                                                                                     |         |      |          |
| MC-22b                  |                                                                                     |                          | 18~10 / 1~6                                                                       |                                                                                   | 14~8 / 2.5~10                                                                     |                                                                                   | 14~8 / 2.5~10                                                                     |                                                                                   |                                                                                     |         |      |          |
| MC-32a                  |   | M5                       | 18~10 / 1~6                                                                       |                                                                                   | 12~8 / 2.5~10                                                                     |                                                                                   | 12~8 / 2.5~10                                                                     |                                                                                   | 12.8                                                                                | 35      | 4    | 41       |
| MC-40a                  |                                                                                     |                          | 18~10 / 1~6                                                                       |                                                                                   | 8~6 / 10~16                                                                       |                                                                                   | 8~6 / 10~16                                                                       |                                                                                   |                                                                                     |         |      |          |
| MC-50a                  |  | M6                       | -                                                                                 |                                                                                   | 10~4 / 6~25                                                                       |                                                                                   | 10~4 / 6~25                                                                       |                                                                                   | 14                                                                                  | 35      | 4    | 41       |
| MC-65a                  |                                                                                     |                          | -                                                                                 |                                                                                   | 8~3 / 10~35                                                                       |                                                                                   | 8~3 / 10~35                                                                       |                                                                                   |                                                                                     |         |      |          |
| MC-75a                  |  | M8                       | -                                                                                 |                                                                                   | 8~2 / 10~35                                                                       |                                                                                   | 8~2 / 10~35                                                                       |                                                                                   | 17                                                                                  | 45      | 5.1  | 52       |
| MC-85a                  |                                                                                     |                          | -                                                                                 |                                                                                   | 8~1/0 / 10~50                                                                     |                                                                                   | 8~1/0 / 10~50                                                                     |                                                                                   |                                                                                     |         |      |          |
| MC-100a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 8~2/0 / 10~70                                                                     |                                                                                   | 8~2/0 / 10~70                                                                     |                                                                                   |                                                                                     |         |      |          |
| MC-130a                 |  | M8                       | -                                                                                 |                                                                                   | 3~2/0 / 35~70                                                                     |                                                                                   | 3~2/0 / 35~70                                                                     |                                                                                   | 24.5                                                                                | 80      | 9.1  | 93       |
| MC-150a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 3~4/0 / 35~95                                                                     |                                                                                   | 3~4/0 / 35~95                                                                     |                                                                                   |                                                                                     |         |      |          |
| MC-6~150a<br>Aux./Coil  |  | M4                       | 20~14 / 0.5~2.5                                                                   |                                                                                   | 18~12 / 0.75~2.5                                                                  |                                                                                   | 18~12 / 0.75~2.5                                                                  |                                                                                   | 7.6                                                                                 | 10      | 1.13 | 12       |
| MC-185a                 |  | M10                      | -                                                                                 |                                                                                   | 1~4/0 / 50~95                                                                     |                                                                                   | 1~4/0 / 50~95                                                                     |                                                                                   | 25                                                                                  | 130     | 14.7 | 150      |
| MC-225a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 1/0~300 / 50~150                                                                  |                                                                                   | 1/0~300 / 50~150                                                                  |                                                                                   |                                                                                     |         |      |          |
| MC-265a                 |  | M12                      | -                                                                                 |                                                                                   | 3/0~500 / 95~240                                                                  |                                                                                   | 3/0~500 / 95~240                                                                  |                                                                                   | 30                                                                                  | 200     | 22.6 | 230      |
| MC-330a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 4/0~500 / 95~240                                                                  |                                                                                   | 4/0~500 / 95~240                                                                  |                                                                                   |                                                                                     |         |      |          |
| MC-400a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 350~700 / 185~185× 2                                                              |                                                                                   | 350~700 / 185~185× 2                                                              |                                                                                   |                                                                                     |         |      |          |
| MC-500a                 |  | M16                      | -                                                                                 |                                                                                   | 350~800 / 185~240× 2                                                              |                                                                                   | 350~800 / 185~240× 2                                                              |                                                                                   | 40                                                                                  | 500     | 56.5 | 576      |
| MC-630a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 600~2000                                                                          |                                                                                   | -                                                                                 |                                                                                   |                                                                                     |         |      |          |
| MC-800a                 |                                                                                     |                          | -                                                                                 |                                                                                   | 1700~Busbar                                                                       |                                                                                   | -                                                                                 |                                                                                   |                                                                                     |         |      |          |
| MC-185~800a<br>Aux/Coil |  | M4                       | 16~10 / 1.25~5.5                                                                  |                                                                                   | 16~10 / 1.25~5.5                                                                  |                                                                                   | 16~10 / 1.25~5.5                                                                  |                                                                                   | 7.6                                                                                 | 15      | 1.75 | 18       |
| MC-1260a                |  | M12                      | -                                                                                 |                                                                                   | 5mm× 100mm× 2ea                                                                   |                                                                                   | -                                                                                 |                                                                                   | -                                                                                   | 200     | 22.6 | 230      |
| MC-1400a                |  | M12                      | -                                                                                 |                                                                                   | 5mm× 100mm× 2ea                                                                   |                                                                                   | -                                                                                 |                                                                                   | -                                                                                   | 200     | 22.6 | 230      |
| MC-1700a                |                                                                                     |                          | -                                                                                 |                                                                                   | 5mm× 100mm× 3ea                                                                   |                                                                                   | -                                                                                 |                                                                                   |                                                                                     |         |      |          |
| MC-2100a                |                                                                                     |                          | -                                                                                 |                                                                                   | 5mm× 100mm× 4ea                                                                   |                                                                                   | -                                                                                 |                                                                                   |                                                                                     |         |      |          |

# Control coil characteristics (3pole)



| Frame size               |         |      | 18AF                                                                                | 22AF      | 40AF      | 65AF      | 100AF       | 150AF(A)  |                                            |
|--------------------------|---------|------|-------------------------------------------------------------------------------------|-----------|-----------|-----------|-------------|-----------|--------------------------------------------|
| Type                     |         |      | MC-6a                                                                               | MC-9b     | MC-32a    | MC-50a    | MC-75a      | MC-130a   |                                            |
|                          |         |      | MC-9a                                                                               | MC-12b    | MC-40a    | MC-65a    | MC-85a      | MC-150a   |                                            |
|                          |         |      | MC-12a                                                                              | MC-18b    |           | MD-30a    | MC-100a     |           |                                            |
|                          |         |      | MC-18a                                                                              | MC-22b    |           |           | MD-60a      |           |                                            |
|                          |         |      | MR-4, 6, 8                                                                          |           |           |           | MD-100a     |           |                                            |
| AC coil                  |         |      |                                                                                     |           |           |           |             |           |                                            |
| Control voltage          | [Uc]    |      |                                                                                     |           |           |           |             |           | 48, 100~240                                |
|                          | 50Hz    | [V]  | 24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V |           |           |           |             |           | 110~120, 220~240,<br>300, 380~440,<br>500V |
|                          | 60Hz    | [V]  | 24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V                 |           |           |           |             |           |                                            |
| Voltage limit            | [Uc]    |      | 85 ~110%                                                                            |           |           |           |             |           |                                            |
| Coil consumption at 20°C |         |      |                                                                                     |           |           |           |             |           |                                            |
| AC 220V                  | Inrush  | [VA] | 70                                                                                  | 70        | 90        | 110       | 240         | 110       |                                            |
| 60Hz                     | Holding | [VA] | 9                                                                                   | 9         | 9         | 13        | 17          | 18        |                                            |
| Heat dissipation         | [W]     |      | 2.3                                                                                 | 2.3       | 2.7       | 2.8       | 5.4         | 2.7       |                                            |
| Operating time           |         |      |                                                                                     |           |           |           |             |           |                                            |
|                          | Closing | [ms] | 15 ... 30                                                                           | 15 ... 30 | 15 ... 30 | 15 ... 30 | 15 ... 30   | 20 ... 40 |                                            |
|                          | Opening | [ms] | 4 ... 19                                                                            | 4 ... 19  | 4 ... 19  | 4 ... 19  | 10 ... 30   | 50 ... 70 |                                            |
| DC coil                  |         |      |                                                                                     |           |           |           |             |           |                                            |
| Control voltage          | [Uc]    |      | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V                               |           |           |           |             |           | 24, 48, 70~110,<br>100~220, 110, 220V      |
|                          |         |      |                                                                                     |           |           |           |             |           |                                            |
| Voltage limit            | [Uc]    |      | 85~110%                                                                             |           |           |           |             |           |                                            |
| Coil consumption at 20°C |         |      |                                                                                     |           |           |           |             |           |                                            |
| DC 110V                  | Inrush  | [W]  | 6                                                                                   | 6         | 9         | 9         | 18          | 213       |                                            |
|                          | Holding | [W]  | 6                                                                                   | 6         | 9         | 9         | 18          | 7.5       |                                            |
| Time constant (L/R)      | [ms]    |      | 28                                                                                  | 28        | 28        | 65        | 75          |           |                                            |
| Operating time           |         |      |                                                                                     |           |           |           |             |           |                                            |
|                          | Closing | [ms] | 40 ... 60                                                                           | 40 ... 60 | 50 ... 65 | 50 ... 65 | 100 ... 120 | 70 ... 80 |                                            |
|                          | Opening | [ms] | 4 ... 19                                                                            | 4 ... 19  | 4 ... 19  | 4 ... 19  | 10 ... 25   | 60 ... 70 |                                            |

Note) Either semi-electronic coil(A) or electronic coil(B) can be chosen for MC-130a and MC-150a



Note) A1(A2) in line side is internally connected to A1(A2) in load side.





| Frame size                                  |              | 150AF(B)                   | 225AF           | 400AF           | 800AF   | 1260AF          | 2100AF          |
|---------------------------------------------|--------------|----------------------------|-----------------|-----------------|---------|-----------------|-----------------|
| Type                                        |              | MC-130a                    | MC-185a         | MC-265a         | MC-500a | MC-1260a        | MC-1400a        |
|                                             |              | MC-150a                    | MC-225a         | MC-330a         | MC-630a |                 | MC-1700a        |
|                                             |              |                            |                 | MC-400a         | MC-800a |                 | MC-2100a        |
| AC/DC common coil                           |              |                            |                 |                 |         |                 |                 |
| Control voltage [Uc]                        |              |                            |                 |                 |         |                 |                 |
|                                             | AC/DC        | AC 24                      | 24/24           | DC 24           | -       | -               | -               |
|                                             | AC/DC        | 24~48/24~48                | 48/48           | -               | 100/100 | -               | -               |
|                                             | AC/DC        | 100~240/100~220            | 100~240/100~220 | 100~240/100~220 | 200/200 | 100~240/100~220 | 100~240/100~220 |
|                                             | AC           | -                          | 300             | 300             | 300     | -               | -               |
|                                             | AC           | -                          | 400             | 400             | 400     | -               | -               |
|                                             | AC           | -                          | 500             | 500             | 500     | -               | -               |
| Voltage limit [Uc]                          |              | 85~110% <sup>Note 1)</sup> |                 |                 |         |                 |                 |
| Coil consumption at 20°C <sup>Note 2)</sup> |              |                            |                 |                 |         |                 |                 |
| AC 220V                                     | Inrush [VA]  | 320                        | 380             | 571             | 1000    | 1500            | 2500            |
| 50/60Hz                                     | Holding [VA] | 10                         | 11.6            | 14              | 29      | 24              | 50              |
| Heat dissipation [W]                        |              | 4.5                        | 4.7             | 5               | 7.8     |                 | 8.7             |
| Operating time                              |              |                            |                 |                 |         |                 |                 |
|                                             | Closing [ms] | 70                         | 70              | 55              | 75      | 75              | 80              |
|                                             | Opening [ms] | 70                         | 70              | 55              | 75      | 75              | 70              |

Note) 1. Voltage limit for DC 24V coil is 75~110%.

2. Operating time for DC 24V coil is 90ms.

3. Either semi-electronic coil(A) or electronic coil(B) can be chosen for MC-130a and MC-150a

# Control coil characteristics (4pole)



| Frame size               |         |      | 18AF                                                               | 22AF                                                                                | 40AF      | 85AF                                                                          |
|--------------------------|---------|------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------|
| Type                     |         |      | MC-6a/4P                                                           | MC-22a/4P                                                                           | MC-32a/4P | MC-50a/4P                                                                     |
|                          |         |      | MC-9a/4P                                                           |                                                                                     | MC-40a/4P | MC-65a/4P                                                                     |
|                          |         |      | MC-12a/4P                                                          |                                                                                     |           | MC-75a/4P                                                                     |
|                          |         |      | MC-18a/4P                                                          |                                                                                     |           | MC-85a/4P                                                                     |
| AC coil                  |         |      |                                                                    |                                                                                     |           |                                                                               |
| Control voltage          | [Uc]    |      |                                                                    |                                                                                     |           |                                                                               |
|                          | 50Hz    | [V]  | 24, 32, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 500, 550    | 24, 32, 42, 48, 65, 80, 100, 110, 220, 230, 240, 380, 400, 415, 500, 550, 240(wide) |           | 24, 48, 100, 110, 200, 220, 230, 240, 380, 400, 415, 440, 500, 550, 240(wide) |
|                          | 60Hz    | [V]  | 24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 480, 600 | 24, 48, 110, 120, 208, 220, 240, 277, 380, 440, 480, 600                            |           | 24, 48, 110, 120, 208, 220, 230, 240, 277, 380, 440, 480, 600                 |
|                          | 50/60Hz | [V]  | 24, 48, 100, 110, 120, 200, 220, 230, 20, 380, 415, 440, 500, 550  | 24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550                  |           | 24, 48, 110, 120, 220, 230, 240, 380, 415, 440, 500, 550                      |
| Voltage limit            |         |      | 85~110%                                                            |                                                                                     |           |                                                                               |
| Coil consumption at 20°C |         |      |                                                                    |                                                                                     |           |                                                                               |
| AC 220V                  | Inrush  | [VA] | 70                                                                 | 95                                                                                  | 95        | 220                                                                           |
| 60Hz                     | Holding | [VA] | 9                                                                  | 9                                                                                   | 9         | 17                                                                            |
| Heat dissipation         |         |      | 2.3                                                                | 2                                                                                   | 2         | 5                                                                             |
| Operating time           | Closing | [ms] | 15...30                                                            | 10~17                                                                               | 10~17     | 16~25                                                                         |
|                          | Opening | [ms] | 4...9                                                              | 6~9                                                                                 | 6~9       | 8~15                                                                          |
| DC coil                  |         |      |                                                                    |                                                                                     |           |                                                                               |
| Control voltage          | [Uc]    |      | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250               |                                                                                     |           |                                                                               |
| Voltage limit            |         |      | 85~110%                                                            |                                                                                     |           |                                                                               |
| Coil consumption at 20°C |         |      |                                                                    |                                                                                     |           |                                                                               |
| DC 100V                  | Inrush  | [W]  | 6                                                                  | 9                                                                                   | 9         | 460                                                                           |
| (18AF: DC110V)           | Holding | [W]  | 6                                                                  | 9                                                                                   | 9         | 6                                                                             |
| Time constant (L/R)      |         |      | 28                                                                 | 50                                                                                  | 50        | -                                                                             |
| Operating time           | Closing | [ms] | 40...60                                                            | 45~55                                                                               | 45~55     | 20~30                                                                         |
|                          | Opening | [ms] | 4...19                                                             | 8~15                                                                                | 8~15      | 13~20                                                                         |

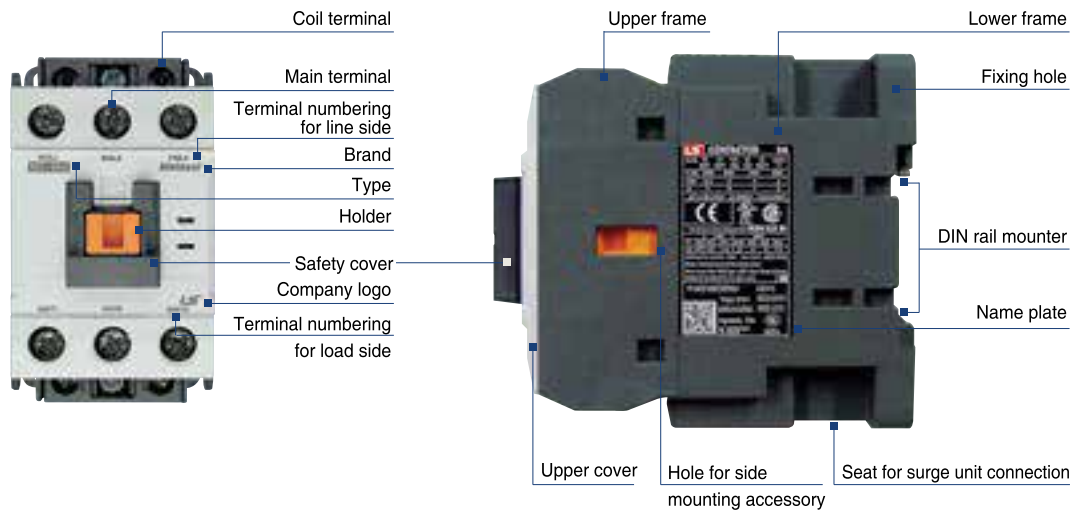


| Frame size               |         |      | 225AF                     | 400AF           | 800AF      |
|--------------------------|---------|------|---------------------------|-----------------|------------|
| Type                     |         |      | MC-100a/4P                | MC-265a/4P      | MC-500a/4P |
|                          |         |      | MC-130a/4P                | MC-330a/4P      | MC-630a/4P |
|                          |         |      | MC-150a/4P                | MC-400a/4P      | MC-800a/4P |
|                          |         |      | MC-185a/4P                |                 |            |
|                          |         |      | MC-225a/4P                |                 |            |
| AC/DC common coil        |         |      |                           |                 |            |
| Control voltage          | [Uc]    |      |                           |                 |            |
|                          | [AC/DC] |      | 24/24                     | 24(DC Only)     | -          |
|                          | [AC/DC] |      | 48/48                     | -               | 100/100    |
|                          | [AC/DC] |      | 100~240/100~220           | 100~240/100~220 | 200/200    |
|                          | [AC]    |      | 300                       | 300             | 300        |
|                          | [AC]    |      | 400                       | 400             | 400        |
|                          | [AC]    |      | 500                       | 500             | 500        |
| Voltage limit            |         |      | 85~110% <sup>Noet1)</sup> |                 |            |
| Coil consumption at 20°C |         |      |                           |                 |            |
| AC 220V                  | Inrush  | [VA] | 380                       | 571             | 1000       |
| 50/60Hz                  | Holding | [VA] | 11.6                      | 14              | 29         |
| Heat dissipation         |         | [W]  | 4.7                       | 5               | 7.8        |
| Operating time           | Closing | [ms] | 70                        | 55              | 75         |
|                          | Opening | [ms] | 70                        | 55              | 75         |

Note) 1. Voltage limit for DC 24V coil is 75~110%.

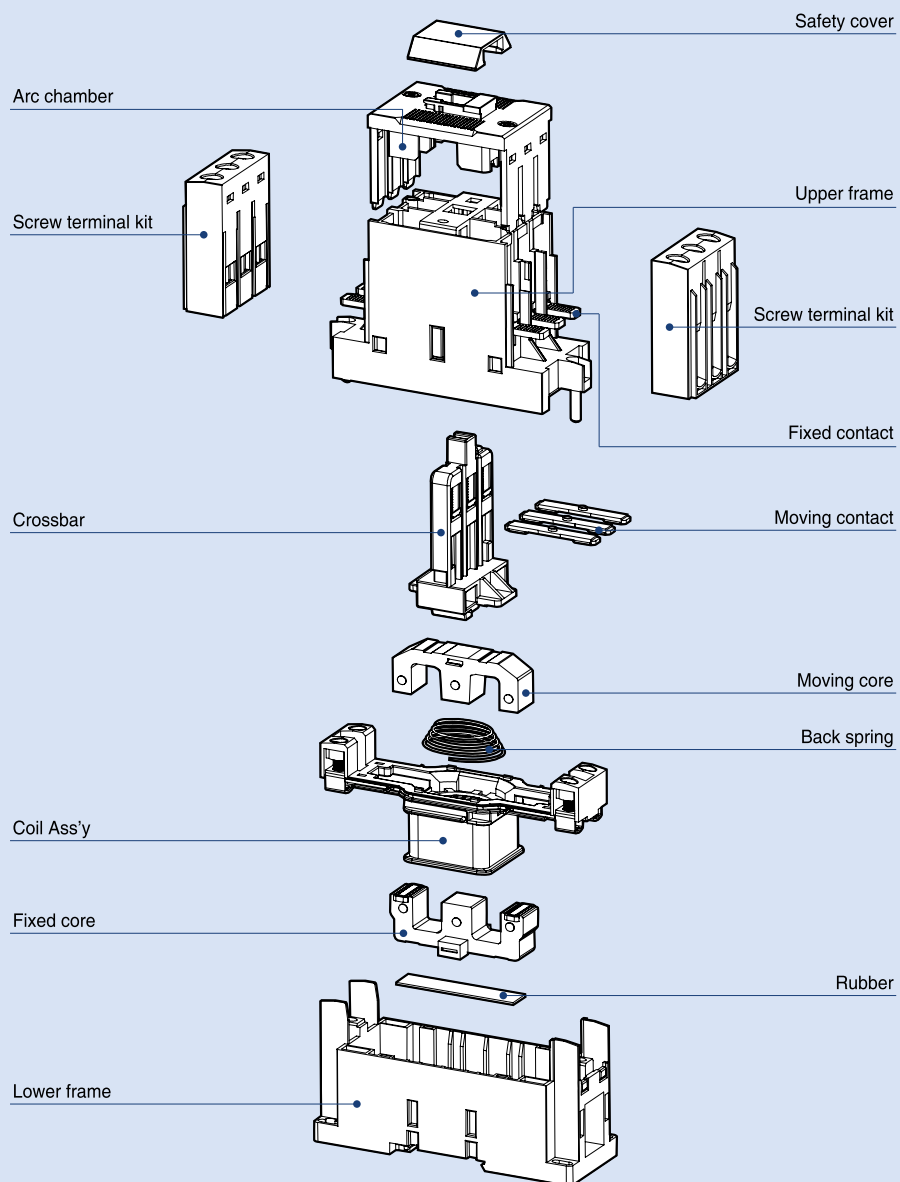
2. Operating time for DC 24V coil is 90ms.

# Marking



|                   |                                                       |              |     |                                   |
|-------------------|-------------------------------------------------------|--------------|-----|-----------------------------------|
| Company logo      | LS                                                    | CONTACTOR    | 9A  | Type                              |
|                   | AC3 IEC EN VDE BS GB K60947                           |              |     | Product name                      |
|                   | 60947 60947 0660 5424 14048,4                         |              |     |                                   |
|                   | V AC 240 440 550 690                                  |              |     | Rating                            |
|                   | kW 2,5 4 4 4                                          |              |     |                                   |
|                   | A 11 9 7 5                                            |              |     |                                   |
|                   | AC1=Ith=25A Uj=690V Uimp=6kV                          |              |     |                                   |
| CE marking        | CE                                                    | UL US        | CSA | UL, CSA rating                    |
|                   | 1000V                                                 |              |     |                                   |
| UL size           | This Device is a Direct Replacement to                | NEMA SIZE 00 |     |                                   |
|                   | 1PH 3PH                                               |              |     |                                   |
|                   | V AC 120 240 208 240 480 600                          |              |     |                                   |
|                   | UL HP 1/2 1,5 2 3 5 7,5                               |              |     |                                   |
| Wire size         | Continuous current : 25A Aux Cont.: A600 P600         |              |     | A, B : Metasol MC                 |
|                   | When protected by 20A time delay fuses,               |              |     | S : Susol MC                      |
|                   | Short circuit 5kA RMS Sym., 600V Max. Break all lines |              |     |                                   |
|                   | WGT9-10 60/75°C Cu-wire only                          |              |     |                                   |
|                   | P0104D21005EC9DEM, J01                                | 120110       |     | Date of manufacture               |
| Country of origin | Torque: 20 lb.in                                      | 제조원: 성우전기    |     |                                   |
| Bar code          | MADE IN KOREA                                         | 판매원: LS산전    |     |                                   |
|                   | Inspected by YS Kim                                   |              |     |                                   |
|                   | SJ02002-9001                                          |              |     |                                   |
|                   | 440V 50A                                              | HOIST-a      |     | Certification (Domestic use only) |

# Internal structure





# Contactors (18AF)

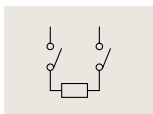
## Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 1NO or 1NC Auxiliary contact built-in as standard.
- Degree of protection: IP20

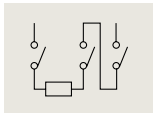
## Rating



MC-18a



2pole for DC contact



3pole for DC contact

| Contactor type                    |           |                 | MC-6a              |     | MC-9a |     | MC-12a |    | MC-18a |    |
|-----------------------------------|-----------|-----------------|--------------------|-----|-------|-----|--------|----|--------|----|
|                                   |           |                 | kW                 | A   | kW    | A   | kW     | A  | kW     | A  |
| AC duty                           | AC3       | 200/240V        | 2.2                | 9   | 2.2   | 11  | 3.5    | 13 | 4.5    | 18 |
|                                   |           | 380/440V        | 3                  | 7   | 4     | 9   | 5.5    | 12 | 7.5    | 18 |
|                                   |           | 500/550V        | 3                  | 6   | 4     | 7   | 7.5    | 12 | 7.5    | 13 |
|                                   |           | 690V            | 3                  | 4   | 4     | 5   | 7.5    | 9  | 7.5    | 9  |
|                                   | AC4       | 200/240V        | 1.5                | 7   | 1.5   | 8   | 2.2    | 11 | 3.7    | 16 |
|                                   |           | 380/440V        | 2.2                | 5   | 2.2   | 6   | 4      | 9  | 4      | 11 |
|                                   | AC1       |                 | -                  | 25  | -     | 25  | -      | 25 | -      | 32 |
| DC1 duty<br>(L/R=1ms)             | 2-pole    | 24V             | -                  | 10  | -     | 10  | -      | 12 | -      | 18 |
|                                   | in series | 48V             | -                  | 10  | -     | 10  | -      | 12 | -      | 18 |
|                                   |           | 110V            | -                  | 6   | -     | 6   | -      | 10 | -      | 13 |
|                                   |           |                 |                    |     |       |     |        |    |        |    |
|                                   | 3-pole    | 24V             | -                  | 10  | -     | 10  | -      | 12 | -      | 18 |
|                                   | in series | 48V             | -                  | 10  | -     | 10  | -      | 12 | -      | 18 |
|                                   |           | 110V            | -                  | 8   | -     | 8   | -      | 12 | -      | 18 |
| DC2, 4 duty<br>(L/R=15ms)         | 2-pole    | 24V             | -                  | 8   | -     | 8   | -      | 12 | -      | 12 |
|                                   | in series | 48V             | -                  | 4   | -     | 4   | -      | 6  | -      | 6  |
|                                   |           | 110V            | -                  | 2.5 | -     | 2.5 | -      | 4  | -      | 4  |
|                                   |           |                 |                    |     |       |     |        |    |        |    |
|                                   | 3-pole    | 24V             | -                  | 8   | -     | 8   | -      | 12 | -      | 12 |
|                                   | in series | 48V             | -                  | 6   | -     | 6   | -      | 10 | -      | 10 |
|                                   |           | 110V            | -                  | 4   | -     | 4   | -      | 8  | -      | 8  |
| Directly mountable Overload relay |           |                 | MT-12              |     |       |     |        |    |        |    |
| Conductor size (solid, stranded)  |           | AWG             | 18~10              |     | 16~10 |     | 16~8   |    | 14~8   |    |
| (the max. number of conducts: 2)  |           | mm <sup>2</sup> | 1~4                |     | 1.5~4 |     | 1.5~10 |    | 2.5~10 |    |
| Conductor type                    |           |                 | 65/75 Cu-wire only |     |       |     |        |    |        |    |



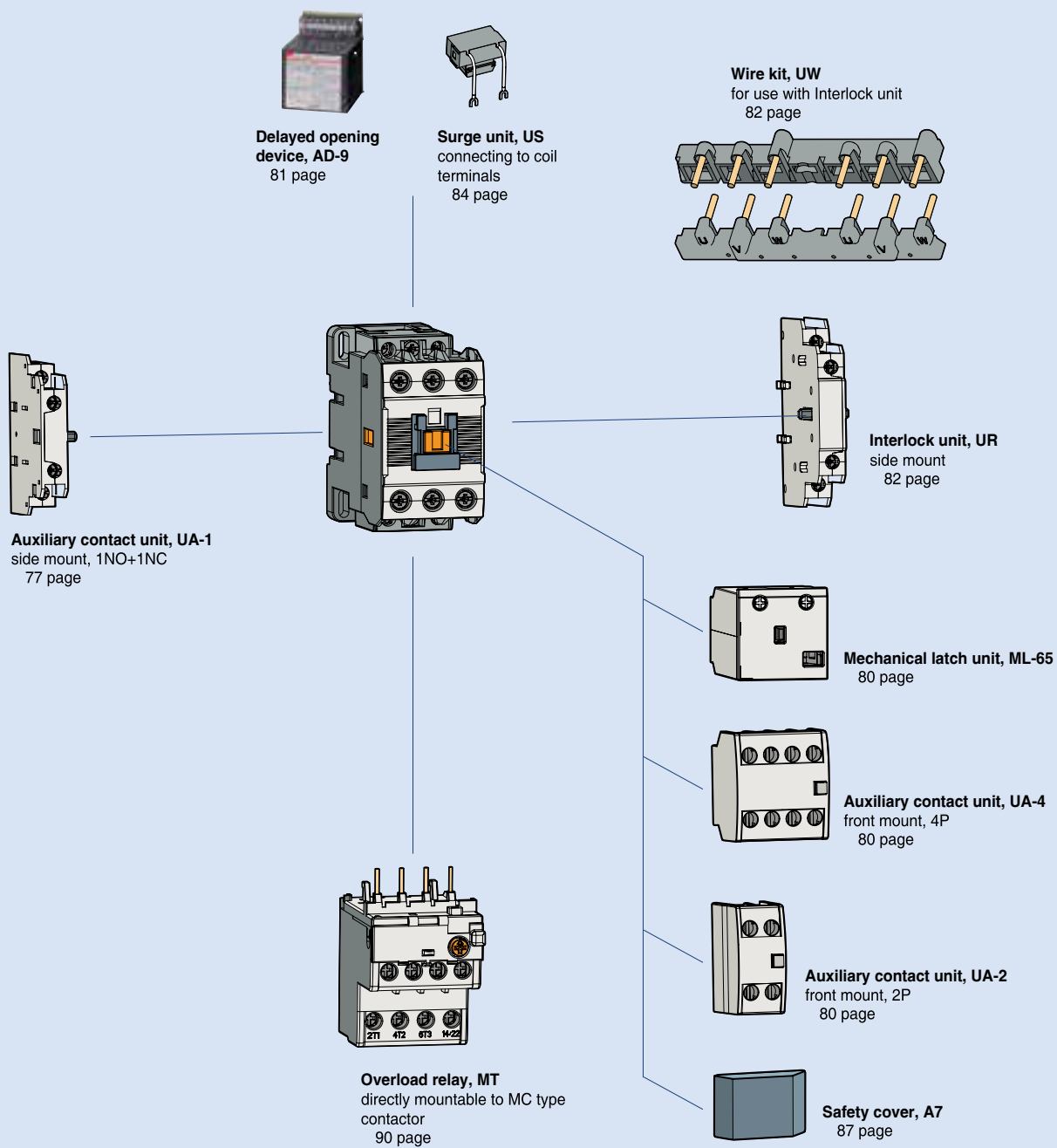
## Coil voltage

|    |      |                                                                                     |
|----|------|-------------------------------------------------------------------------------------|
| AC | 50Hz | 24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V |
|    | 60Hz | 24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V                 |
| DC | DC   | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V                               |

\* Please be cautious for wiring control power cable, especially "+" (Positive) and "-" (Negative) polarity should be correctly considered.

| Certification                                                                               |
|---------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• CE(IEC)</li> <li>• UL508</li> <li>• CCC</li> </ul> |

## Accessories



# Contactors (22AF)

## Description

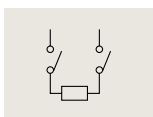
- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 1NO1NC Auxiliary contact built-in as standard.
- UA-1 is available on only left side
- Degree of protection: IP20



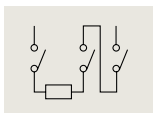
MC-22b

## Rating

| Contactor type                    |        |           | MC-9b |     | MC-12b |    | MC-18b |    | MC-22b |    |
|-----------------------------------|--------|-----------|-------|-----|--------|----|--------|----|--------|----|
|                                   |        |           | kW    | A   | kW     | A  | kW     | A  | kW     | A  |
| AC duty                           | AC3    | 200/240V  | 2.2   | 11  | 3.5    | 13 | 4.5    | 18 | 5.5    | 22 |
|                                   |        | 380/440V  | 4     | 9   | 5.5    | 12 | 7.5    | 18 | 11     | 22 |
|                                   |        | 500/550V  | 4     | 7   | 7.5    | 12 | 7.5    | 13 | 15     | 20 |
|                                   |        | 690V      | 4     | 6   | 7.5    | 9  | 7.5    | 9  | 15     | 18 |
|                                   | AC4    | 200/240V  | 1.5   | 8   | 2.2    | 11 | 3.7    | 16 | 3.7    | 18 |
|                                   |        | 380/440V  | 2.2   | 6   | 4      | 9  | 4      | 11 | 5.5    | 13 |
| DC1 duty<br>(L/R=1ms)             | AC1    |           | -     | 27  | -      | 27 | -      | 32 | -      | 45 |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   | 2-pole | 24V       | -     | 10  | -      | 12 | -      | 18 | -      | 20 |
|                                   |        | in series |       |     |        |    |        |    |        |    |
|                                   |        | 48V       | -     | 10  | -      | 12 | -      | 18 | -      | 20 |
| DC 2,4 duty<br>(L/R=15ms)         | 3-pole | 110V      | -     | 6   | -      | 10 | -      | 13 | -      | 15 |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   | 2-pole | 24V       | -     | 10  | -      | 12 | -      | 18 | -      | 20 |
|                                   |        | in series |       |     |        |    |        |    |        |    |
|                                   |        | 48V       | -     | 10  | -      | 12 | -      | 18 | -      | 20 |
| Directly mountable Overload relay | 3-pole | 110V      | -     | 8   | -      | 12 | -      | 18 | -      | 20 |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   | 2-pole | 24V       | -     | 8   | -      | 12 | -      | 12 | -      | 20 |
|                                   |        | in series |       |     |        |    |        |    |        |    |
|                                   |        | 48V       | -     | 4   | -      | 6  | -      | 6  | -      | 15 |
| Conductor size (solid, stranded)  | 3-pole | 110V      | -     | 2.5 | -      | 4  | -      | 4  | -      | 8  |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   | 2-pole | 24V       | -     | 8   | -      | 12 | -      | 12 | -      | 20 |
|                                   |        | in series |       |     |        |    |        |    |        |    |
|                                   |        | 48V       | -     | 6   | -      | 10 | -      | 10 | -      | 20 |
| Conductor type                    | 3-pole | 110V      | -     | 4   | -      | 8  |        | 8  | -      | 15 |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   | 2-pole |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |
|                                   |        |           |       |     |        |    |        |    |        |    |



2pole for DC contact



3pole for DC contact



## Coil voltage

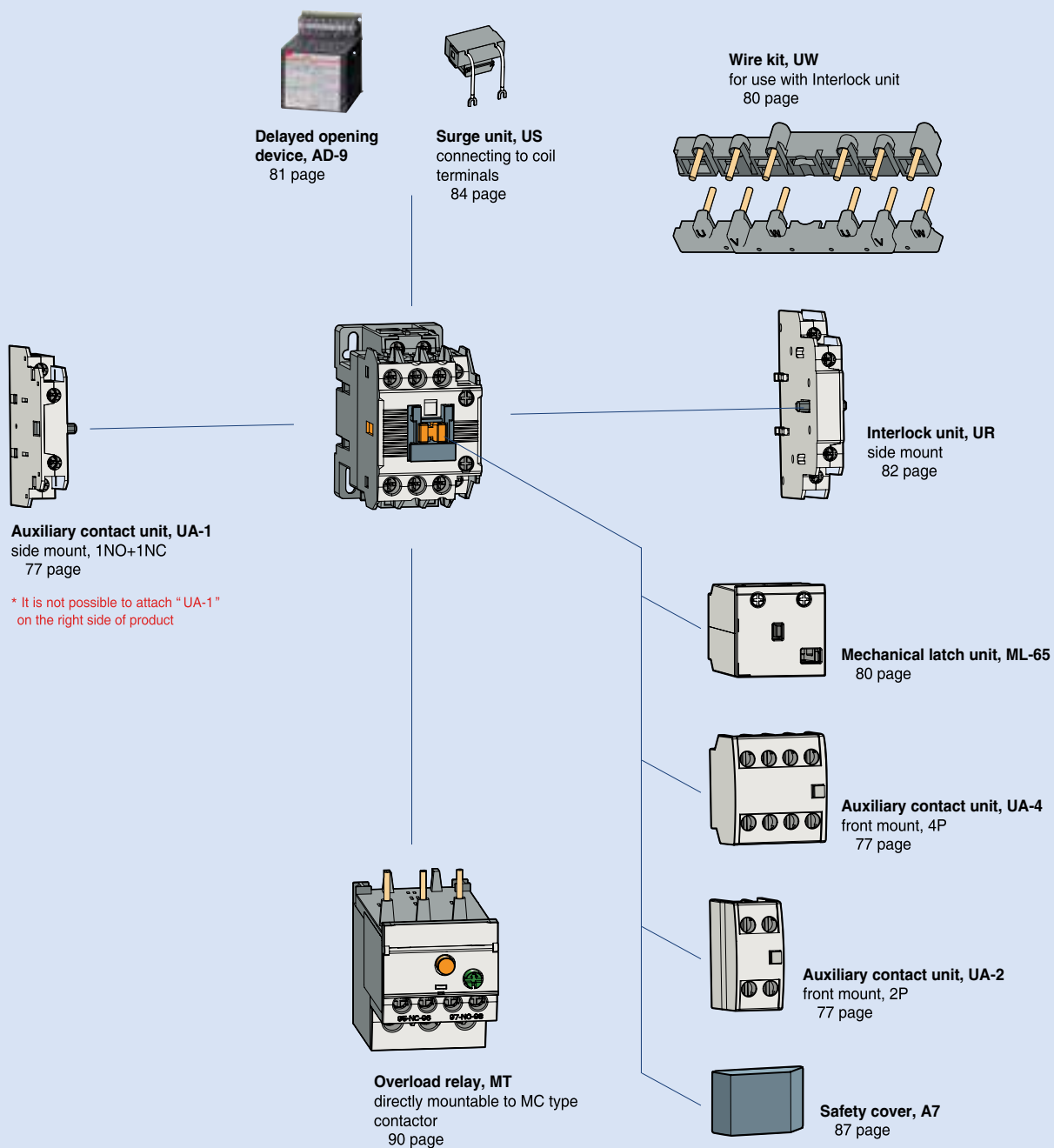
|    |      |                                                                                     |
|----|------|-------------------------------------------------------------------------------------|
| AC | 50Hz | 24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V |
|    | 60Hz | 24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V                 |
| DC | DC   | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V                               |

\* Please be cautious for wiring control power cable, especially "+" (Positive) and "-" (Negative) polarity should be correctly considered.

## Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors (40AF)

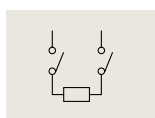
## Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

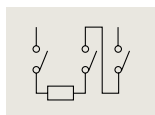
## Rating



MC-40a



2pole for DC contact



3pole for DC contact

| Contactor type                    |                  |                 | MC-32a             |    | MC-40a |    |
|-----------------------------------|------------------|-----------------|--------------------|----|--------|----|
|                                   |                  |                 | kW                 | A  | kW     | A  |
| AC duty                           | AC3              | 200/240V        | 7.5                | 32 | 11     | 40 |
|                                   |                  | 380/440V        | 15                 | 32 | 18.5   | 40 |
|                                   |                  | 500/550V        | 18.5               | 28 | 22     | 32 |
|                                   |                  | 690V            | 18.5               | 20 | 22     | 23 |
|                                   |                  | 1000V           | 22                 | 17 | 22     | 17 |
|                                   | AC4              | 200/240V        | 4.5                | 20 | 5.5    | 25 |
|                                   |                  | 380/440V        | 7.5                | 17 | 11     | 24 |
|                                   | AC1              | -               | 55                 | -  | 60     |    |
|                                   | DC1<br>(L/R=1ms) | 2-pole          | 24V                | -  | 25     | -  |
| in series                         |                  | 48V             | -                  | 25 | -      | 35 |
|                                   |                  | 110V            | -                  | 25 | -      | 25 |
| 3-pole                            |                  | 24V             | -                  | 25 | -      | 35 |
| in series                         |                  | 48V             | -                  | 25 | -      | 35 |
|                                   |                  | 110V            | -                  | 25 | -      | 35 |
| DC2,4<br>(L/R=15ms)               | 2-pole           | 24V             | -                  | 25 | -      | 35 |
|                                   | in series        | 48V             | -                  | 20 | -      | 20 |
|                                   |                  | 110V            | -                  | 10 | -      | 10 |
|                                   | 3-pole           | 24V             | -                  | 25 | -      | 35 |
|                                   | in series        | 48V             | -                  | 25 | -      | 30 |
|                                   |                  | 110V            | -                  | 20 | -      | 20 |
| Directly mountable Overload relay |                  |                 | MT-32              |    |        |    |
| Conductor size (solid, stranded)  |                  | AWG             | 12~8               |    | 8~6    |    |
| (the max. number of conducts: 2)  |                  | mm <sup>2</sup> | 2.5~10             |    | 10~16  |    |
| Conductor type                    |                  |                 | 65/75 Cu-wire only |    |        |    |



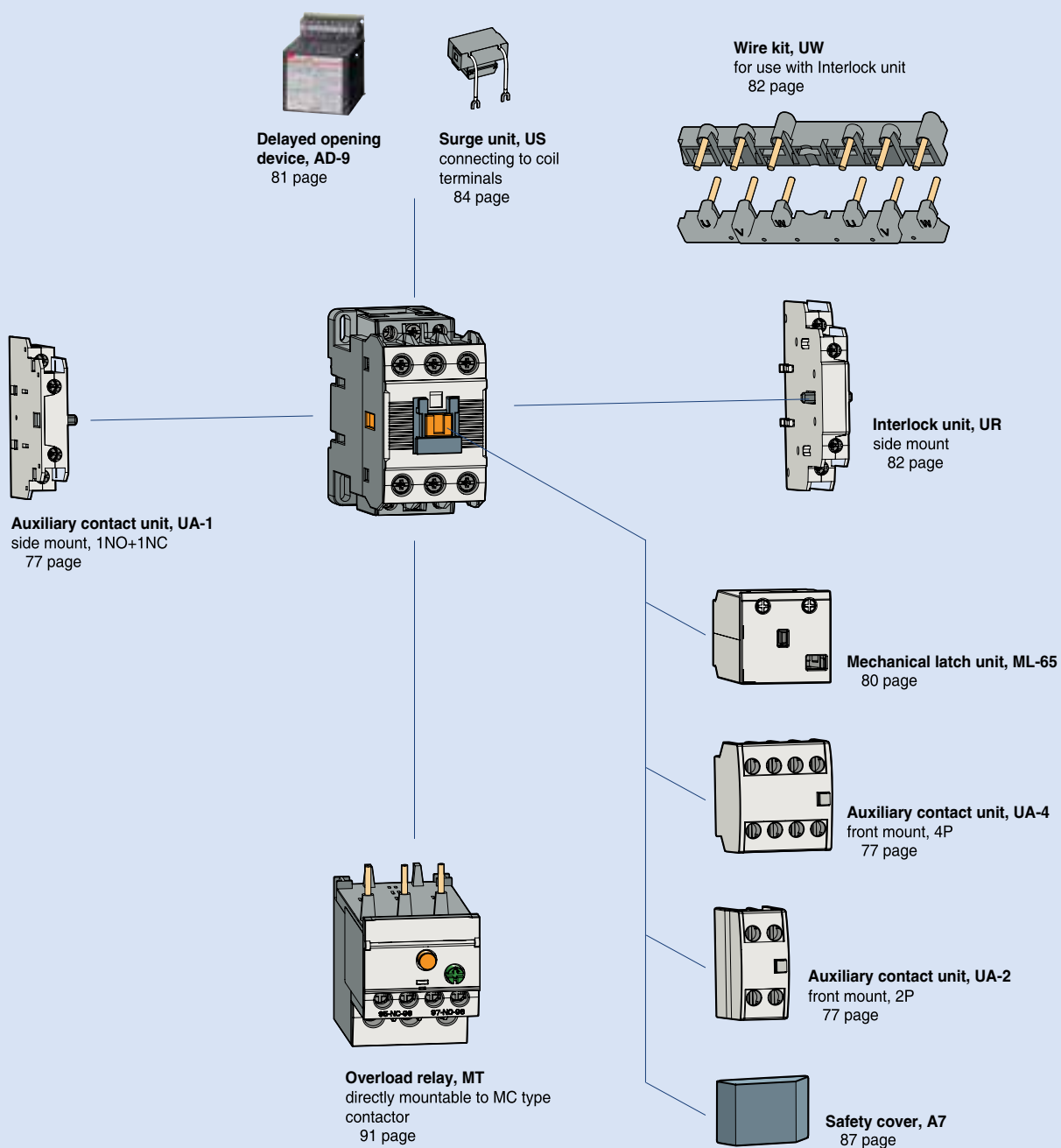
## Coil voltage

|    |      |                                                                                     |
|----|------|-------------------------------------------------------------------------------------|
| AC | 50Hz | 24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V |
|    | 60Hz | 24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V                 |
| DC | DC   | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V                               |

## Certification

- CE(IEC)
- UL508
- CCC

## Accessories





# Contactors (65AF)

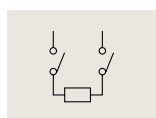
## Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- Both screw and Box terminal (lug) type are available
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available rating
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

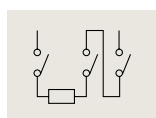
## Rating



MC-65a



2pole for DC contact



3pole for DC contact

| Contactor type                                                       |           |                 | MC-50a             |     | MC-65a |     |
|----------------------------------------------------------------------|-----------|-----------------|--------------------|-----|--------|-----|
|                                                                      |           |                 | kW                 | A   | kW     | A   |
| AC duty                                                              | AC3       | 200/240V        | 15                 | 55  | 18.5   | 65  |
|                                                                      |           | 380/440V        | 22                 | 50  | 30     | 65  |
|                                                                      |           | 500/550V        | 30                 | 43  | 33     | 60  |
|                                                                      |           | 690V            | 30                 | 28  | 33     | 35  |
|                                                                      |           | 1000V           | 30                 | 23  | 30     | 23  |
|                                                                      | AC4       | 200/240V        | 7.5                | 35  | 11     | 50  |
|                                                                      |           | 380/440V        | 15                 | 32  | 22     | 47  |
|                                                                      | AC1       |                 | -                  | 100 | -      | 115 |
| DC1 duty<br>(L/R=1ms)                                                | 2-pole    | 24V             | -                  | 50  | -      | 50  |
|                                                                      | in series | 48V             | -                  | 40  | -      | 40  |
|                                                                      |           | 110V            | -                  | 35  | -      | 35  |
|                                                                      | 3-pole    | 24V             | -                  | 50  | -      | 65  |
|                                                                      | in series | 48V             | -                  | 50  | -      | 65  |
|                                                                      |           | 110V            | -                  | 50  | -      | 65  |
| DC2, 4 duty<br>(L/R=15ms)                                            | 2-pole    | 24V             | -                  | 45  | -      | 45  |
|                                                                      | in series | 48V             | -                  | 25  | -      | 25  |
|                                                                      |           | 110V            | -                  | 15  | -      | 15  |
|                                                                      | 3-pole    | 24V             | -                  | 50  | -      | 50  |
|                                                                      | in series | 48V             | -                  | 35  | -      | 35  |
|                                                                      |           | 110V            | -                  | 30  | -      | 30  |
| Directly mountable Overload relay                                    |           |                 | MT-63              |     |        |     |
| Conductor size (solid, stranded)<br>(the max. number of conducts: 2) |           | AWG             | 10~4               |     | 8~3    |     |
|                                                                      |           | mm <sup>2</sup> | 6~25               |     | 10~35  |     |
| Conductor type                                                       |           |                 | 65/75 Cu-wire only |     |        |     |



## Coil voltage

|    |      |                                                                                     |
|----|------|-------------------------------------------------------------------------------------|
| AC | 50Hz | 24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V |
|    | 60Hz | 24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V                 |
| DC | DC   | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V                               |

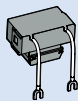
## Certification

- CE(IEC)
- UL508
- CCC

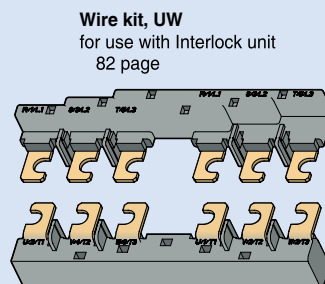
## Accessories



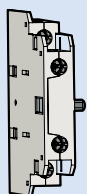
**Delayed opening device, AD-50**  
81 page



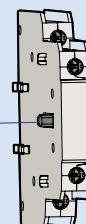
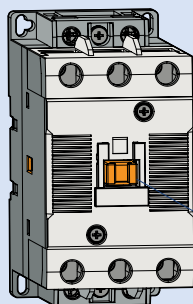
**Surge unit, US**  
connecting to coil terminals  
84 page



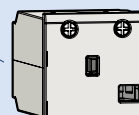
**Wire kit, UW**  
for use with Interlock unit  
82 page



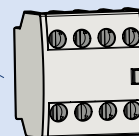
**Auxiliary contact unit, UA-1**  
side mount, 1NO+1NC  
77 page



**Interlock unit, UR**  
side mount  
82 page



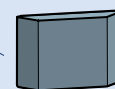
**Mechanical latch unit, ML-65**  
80 page



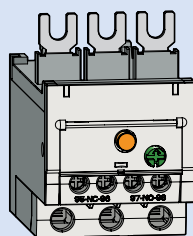
**Auxiliary contact unit, UA-4**  
front mount, 4P  
77 page



**Auxiliary contact unit, UA-2**  
front mount, 2P  
77 page



**Safety cover, A7**  
87 page



**Overload relay, MT**  
directly mountable to MC type  
contactor  
91 page

# Contactors (100AF)

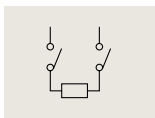
## Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- Both screw and Box terminal (lug) type are available
- AC or DC control in different physical size
- Front/side mountable accessories available
- Direct mountable overload relay available Rating
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

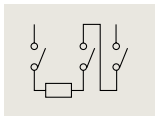
## Rating



MC-100a



2pole for DC contact



3pole for DC contact

| Contactor type                   |                                   |          | MC-75a             |       | MC-85a |    | MC-100a |     |
|----------------------------------|-----------------------------------|----------|--------------------|-------|--------|----|---------|-----|
|                                  |                                   |          | kW                 | A     | kW     | A  | kW      | A   |
| AC duty                          | AC3                               | 200/240V | 22                 | 75    | 25     | 85 | 30      | 105 |
|                                  |                                   | 380/440V | 37                 | 75    | 45     | 85 | 55      | 105 |
|                                  |                                   | 500/550V | 37                 | 64    | 45     | 75 | 55      | 85  |
|                                  |                                   | 690V     | 37                 | 42    | 45     | 45 | 45      | 65  |
|                                  |                                   | 1000V    | 37                 | 28    | 37     | 28 | 37      | 28  |
|                                  | AC4                               | 200/240V | 13                 | 55    | 15     | 65 | 19      | 80  |
|                                  |                                   | 380/440V | 25                 | 52    | 30     | 62 | 37      | 75  |
|                                  | AC1                               | -        | 125                | -     | 135    | -  | 160     |     |
|                                  | DC1 duty<br>(L/R=1ms)             | 2-pole   | 24V                | -     | 75     | -  | 80      | -   |
| in series                        |                                   | 48V      | -                  | 65    | -      | 65 | -       | 100 |
|                                  |                                   | 110V     | -                  | 50    | -      | 50 | -       | 80  |
| 3-pole                           |                                   | 24V      | -                  | 75    | -      | 80 | -       | 100 |
| in series                        |                                   | 48V      | -                  | 75    | -      | 80 | -       | 100 |
|                                  |                                   | 110V     | -                  | 75    | -      | 80 | -       | 100 |
| DC2, 4 duty<br>(L/R=15ms)        |                                   | 2-pole   | 24V                | -     | 65     | -  | 65      | -   |
|                                  | in series                         | 48V      | -                  | 40    | -      | 40 | -       | 60  |
|                                  |                                   | 110V     | -                  | 20    | -      | 20 | -       | 40  |
|                                  | 3-pole                            | 24V      | -                  | 80    | -      | 80 | -       | 100 |
|                                  | in series                         | 48V      | -                  | 60    | -      | 60 | -       | 90  |
|                                  |                                   | 110V     | -                  | 50    | -      | 50 | -       | 80  |
|                                  | Directly mountable Overload relay |          |                    | MT-95 |        |    |         |     |
| Conductor size (solid, stranded) |                                   | AWG      | 8~2                |       | 8~0    |    | 8~00    |     |
| (the max. number of conducts: 2) |                                   | mm²      | 10~35              |       | 10~50  |    | 10~70   |     |
| Conductor type                   |                                   |          | 65/75 Cu-wire only |       |        |    |         |     |



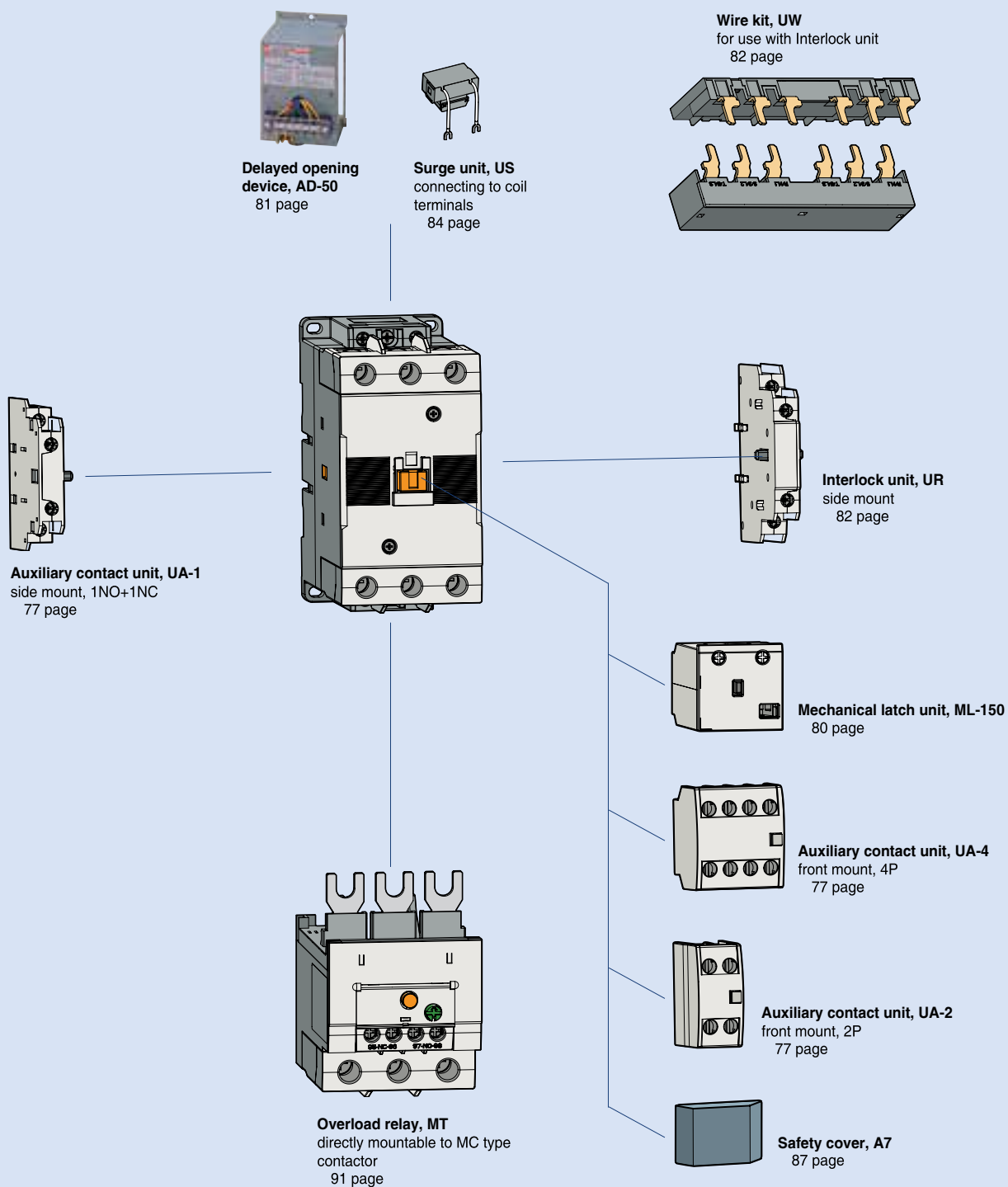
## Coil voltage

|    |      |                                                                                     |
|----|------|-------------------------------------------------------------------------------------|
| AC | 50Hz | 24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V |
|    | 60Hz | 24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V                 |
| DC | DC   | 12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250V                               |

## Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors (150AF)

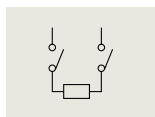
## Description

- 3-pole(NO) main contact
- Finger proof design
- DIN rail or screw mountable
- Both screw and Box terminal (lug) type are available
- AC or DC control in the same physical size
- Front/side mountable accessories available
- Direct mountable overload relay available
- 2NO2NC Auxiliary contact built-in is possible as standard
- Degree of protection: IP20

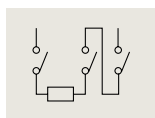
## Rating



MC-150a



2pole for DC contact



3pole for DC contact

| Contactor type                   |                                   |          | MC-130a            |        | MC-150a |     |
|----------------------------------|-----------------------------------|----------|--------------------|--------|---------|-----|
|                                  |                                   |          | kW                 | A      | kW      | A   |
| AC duty                          | AC3                               | 200/240V | 37                 | 130    | 45      | 150 |
|                                  |                                   | 380/440V | 60                 | 130    | 75      | 150 |
|                                  |                                   | 500/550V | 60                 | 90     | 70      | 100 |
|                                  |                                   | 690V     | 55                 | 60     | 55      | 60  |
|                                  |                                   | 1000V    | 75                 | 53     | 75      | 53  |
|                                  | AC4                               | 200/240V | 22                 | 93     | 30      | 120 |
|                                  |                                   | 380/440V | 45                 | 90     | 55      | 110 |
|                                  | AC1                               | -        | 200                | -      | 250     |     |
|                                  | DC1 duty                          | 2-pole   | 24V                | -      | 120     | -   |
| (L/R=1ms)                        | in series                         | 48V      | -                  | 100    | -       | 120 |
|                                  |                                   | 110V     | -                  | 80     | -       | 100 |
|                                  | 3-pole                            | 24V      | -                  | 120    | -       | 150 |
|                                  | in series                         | 48V      | -                  | 120    | -       | 150 |
|                                  |                                   | 110V     | -                  | 100    | -       | 150 |
|                                  | DC2,4 duty                        | 2-pole   | 24V                | -      | 120     | -   |
| (L/R=15ms)                       | in series                         | 48V      | -                  | 60     | -       | 100 |
|                                  |                                   | 110V     | -                  | 40     | -       | 80  |
|                                  | 3-pole                            | 24V      | -                  | 120    | -       | 150 |
|                                  | in series                         | 48V      | -                  | 90     | -       | 130 |
|                                  |                                   | 110V     | -                  | 80     | -       | 120 |
|                                  | Directly mountable Overload relay |          |                    | MT-150 |         |     |
| Conductor size (solid, stranded) |                                   | AWG      | 3~00               |        | 3~4/0   |     |
| (the max. number of conducts: 2) |                                   | mm²      | 35~70              |        | 35~95   |     |
| Conductor type                   |                                   |          | 65/75 Cu-wire only |        |         |     |



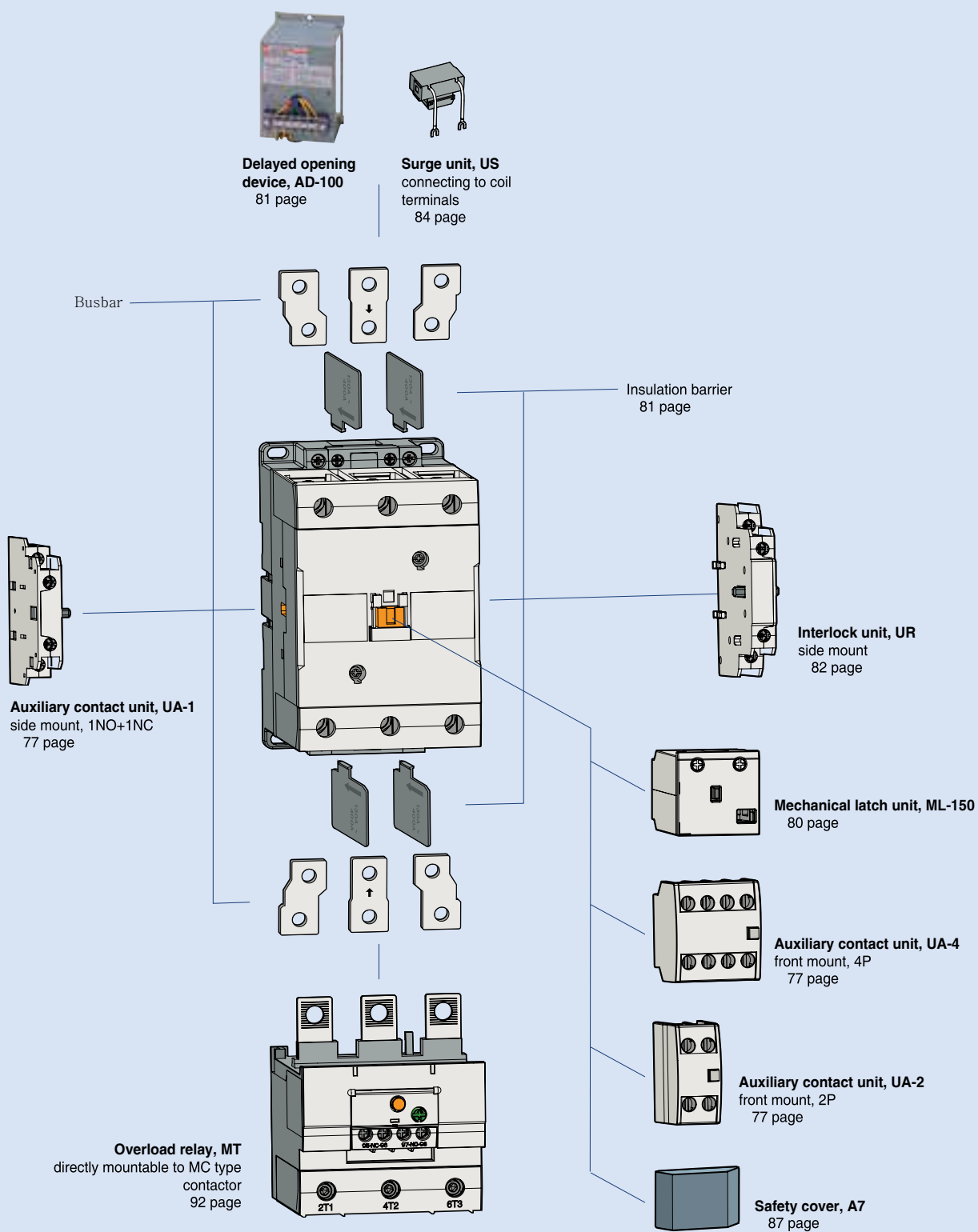
## Coil voltage

|       |         |                                                       |
|-------|---------|-------------------------------------------------------|
| AC/DC |         | 100~240 / 100~220 / 24~48                             |
| AC    | 50/60Hz | 24, 48, 100~240, 110~120, 220~240, 300, 380~440, 500V |
| DC    | DC      | 24, 48, 70~110, 100~220, 110, 220V                    |

## Certification

- CE(IEC)
- UL508
- CCC

## Accessories

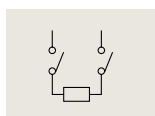


# Contactors (225AF)

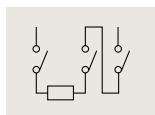
## Description

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Direct mountable overload relays available
- Degree of protection: IP20

## Rating



2pole for DC contact



3pole for DC contact

| Contactor type                   |                                   |                 | MC-185a             |        | MC-225a |     |
|----------------------------------|-----------------------------------|-----------------|---------------------|--------|---------|-----|
|                                  |                                   |                 | kW                  | A      | kW      | A   |
| AC duty                          | AC3                               | 200/240V        | 55                  | 185    | 75      | 225 |
|                                  |                                   | 380/440V        | 90                  | 185    | 132     | 225 |
|                                  |                                   | 500/550V        | 110                 | 180    | 132     | 200 |
|                                  |                                   | 690V            | 110                 | 120    | 140     | 150 |
|                                  |                                   | 1000V           | 132                 | 90     | 132     | 90  |
|                                  | AC4                               | 200/240V        | 37                  | 150    | 45      | 180 |
|                                  |                                   | 380/440V        | 75                  | 150    | 90      | 180 |
|                                  | AC1                               | -               | 300                 | -      | 350     |     |
|                                  | DC1 duty<br>(L/R=1ms)             | 2-pole          | 24V                 | -      | 180     | -   |
| in series                        |                                   | 48V             | -                   | 180    | -       | 180 |
|                                  |                                   | 110V            | -                   | 150    | -       | 150 |
| 3-pole                           |                                   | 24V             | -                   | 180    | -       | 220 |
| in series                        |                                   | 48V             | -                   | 180    | -       | 220 |
|                                  |                                   | 110V            | -                   | 180    | -       | 220 |
| DC2, 4 duty<br>(L/R=15ms)        |                                   | 2-pole          | 24V                 | -      | 180     | -   |
|                                  | in series                         | 48V             | -                   | 150    | -       | 150 |
|                                  |                                   | 110V            | -                   | 120    | -       | 120 |
|                                  | 3-pole                            | 24V             | -                   | 180    | -       | 220 |
|                                  | in series                         | 48V             | -                   | 180    | -       | 220 |
|                                  |                                   | 110V            | -                   | 150    | -       | 150 |
|                                  | Directly mountable Overload relay |                 |                     | MT-225 |         |     |
| Conductor size (solid, stranded) |                                   | AWG             | 1~4/0               |        | 0~300   |     |
| (the max. number of conducts: 2) |                                   | mm <sup>2</sup> | 50~95               |        | 50~150  |     |
| Conductor type                   |                                   |                 | 75 Cu stranded wire |        |         |     |



## Coil voltage, AC/DC common

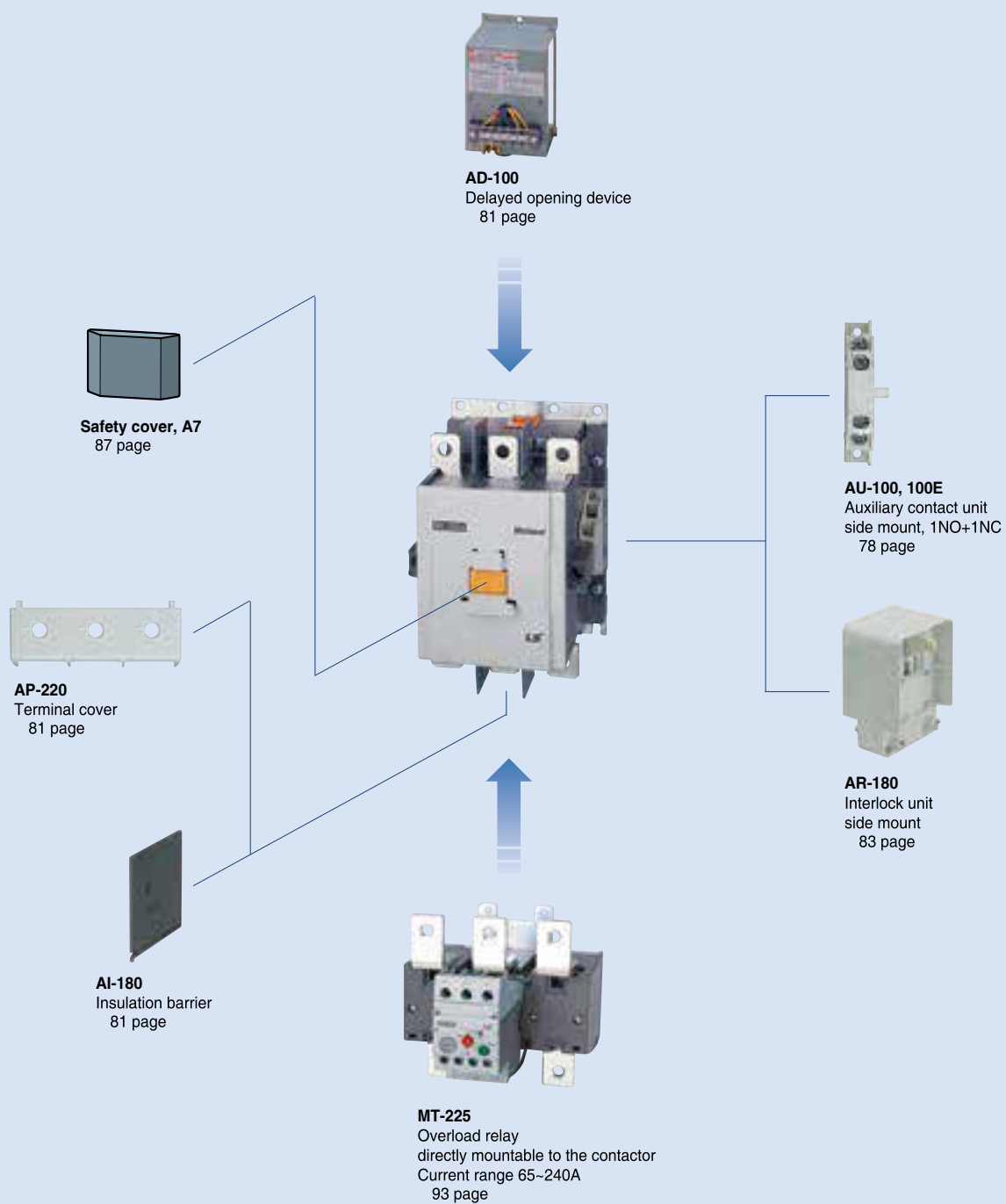
| Nominal(ordering) voltage | AC 50/60Hz | DC         |
|---------------------------|------------|------------|
| 24V                       | 24 - 25V   | 24V        |
| 48V                       | 48 - 50V   | 48V        |
| 100/200V                  | 100 - 240V | 100 - 220V |
| 300V                      | 265 - 347V | -          |
| 400V                      | 380 - 450V | -          |
| 500V                      | 440 - 575V | -          |

### Certification

- CE(IEC)
- UL508
- CCC



## Accessories



# Contactors (400AF)

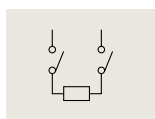
## Description

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Direct mountable overload relays available
- Degree of protection: IP20

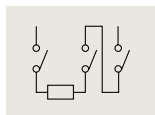
## Rating



MC-400a



2pole for DC contact



3pole for DC contact

| Contactor type                    |                       |          | MC-265a             |     | MC-330a |     | MC-400a |     |
|-----------------------------------|-----------------------|----------|---------------------|-----|---------|-----|---------|-----|
|                                   |                       |          | kW                  | A   | kW      | A   | kW      | A   |
| AC duty                           | AC3                   | 200/240V | 80                  | 265 | 90      | 330 | 125     | 400 |
|                                   |                       | 380/440V | 147                 | 265 | 160     | 330 | 200     | 400 |
|                                   |                       | 500/550V | 147                 | 225 | 160     | 250 | 225     | 350 |
|                                   |                       | 690V     | 160                 | 185 | 200     | 220 | 250     | 300 |
|                                   |                       | 1000V    | 147                 | 105 | 147     | 105 | 147     | 105 |
|                                   | AC4                   | 200/240V | 50                  | 200 | 55      | 220 | 75      | 300 |
|                                   |                       | 380/440V | 102                 | 200 | 110     | 220 | 150     | 300 |
|                                   | AC1                   | -        | 400                 | -   | 500     | -   | 520     |     |
|                                   | DC1 duty<br>(L/R=1ms) | 2-pole   | 24V                 | -   | 220     | -   | 300     | -   |
| in series                         |                       | 48V      | -                   | 180 | -       | 240 | -       | 240 |
|                                   |                       | 110V     | -                   | 150 | -       | 200 | -       | 200 |
| 3-pole                            |                       | 24V      | -                   | 220 | -       | 300 | -       | 400 |
| in series                         |                       | 48V      | -                   | 220 | -       | 300 | -       | 400 |
|                                   |                       | 110V     | -                   | 220 | -       | 300 | -       | 400 |
| DC2, 4 duty<br>(L/R=15ms)         | 2-pole                | 24V      | -                   | 220 | -       | 300 | -       | 400 |
|                                   | in series             | 48V      | -                   | 150 | -       | 200 | -       | 200 |
|                                   |                       | 110V     | -                   | 120 | -       | 150 | -       | 150 |
|                                   | 3-pole                | 24V      | -                   | 220 | -       | 300 | -       | 400 |
|                                   | in series             | 48V      | -                   | 220 | -       | 280 | -       | 280 |
|                                   |                       | 110V     | -                   | 150 | -       | 200 | -       | 200 |
| Directly mountable Overload relay |                       |          | MT-400              |     |         |     |         |     |
| Conductor size (solid, stranded)  |                       | AWG      | 3/0~500             |     | 4/0~500 |     | 350~700 |     |
| (the max. number of conducts: 2)  |                       | mm²      | 95~240              |     | 95~240  |     | 185~370 |     |
| Conductor type                    |                       |          | 75 Cu stranded wire |     |         |     |         |     |



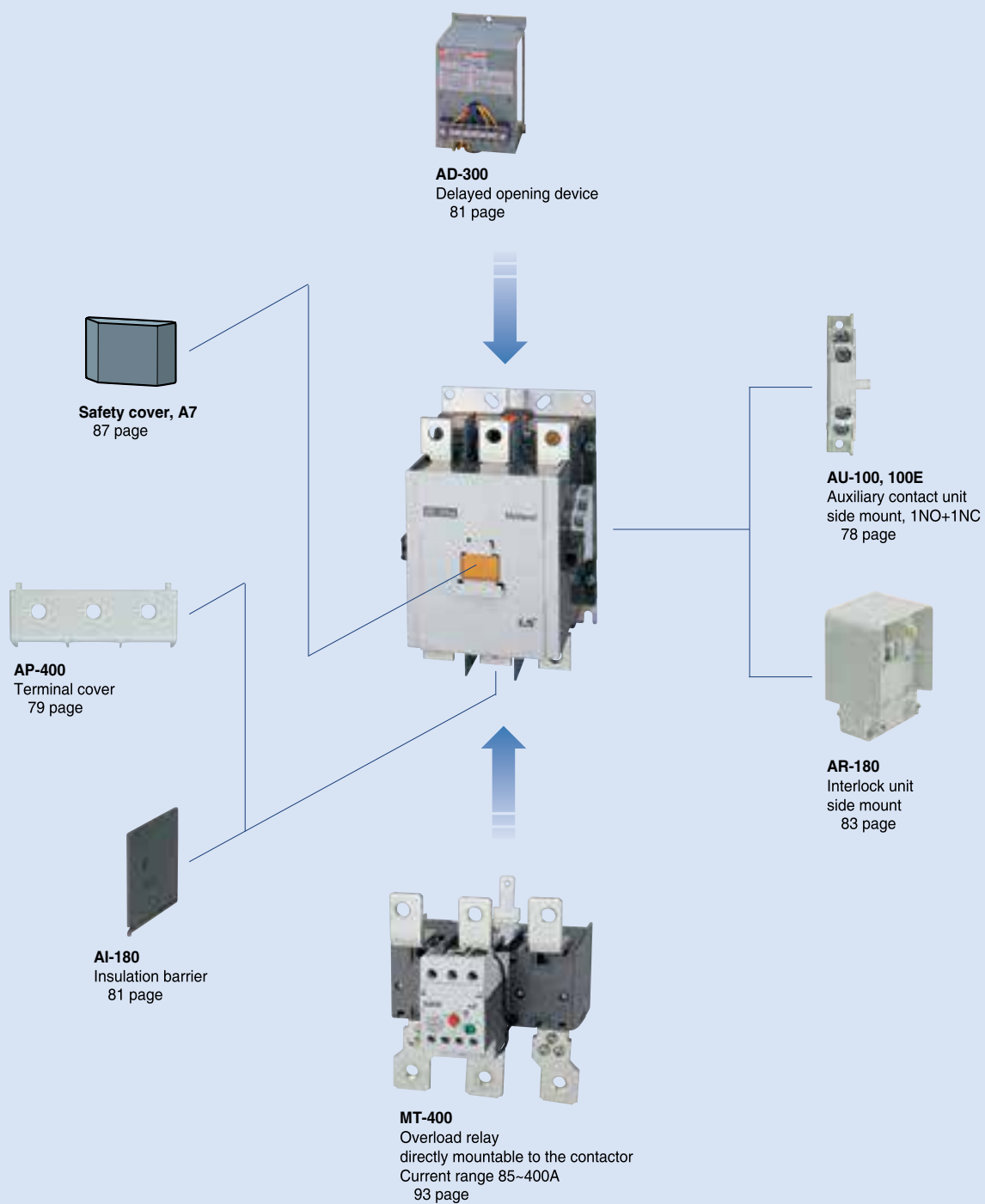
### Coil voltage, AC/DC common

| Nominal(ordering) voltage | AC 50/60Hz | DC         |
|---------------------------|------------|------------|
| 100/200V                  | 100 - 240V | 100 - 220V |
| 300V                      | 265 - 347V | -          |
| 400V                      | 380 - 450V | -          |
| 500V                      | 440 - 575V | -          |

#### Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors (800AF)

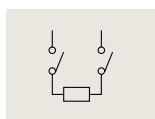
## Description

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Overload relays available
- Degree of protection: IP20

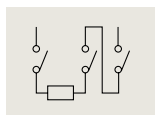
## Rating



MC-800a



2pole for DC contact



3pole for DC contact

| Contactor type                   |                                   |          | MC-500a             |        | MC-630a  |     | MC-800a     |     |
|----------------------------------|-----------------------------------|----------|---------------------|--------|----------|-----|-------------|-----|
|                                  |                                   |          | kW                  | A      | kW       | A   | kW          | A   |
| AC duty                          | AC3                               | 200/240V | 147                 | 500    | 190      | 630 | 220         | 800 |
|                                  |                                   | 380/440V | 265                 | 500    | 330      | 630 | 440         | 800 |
|                                  |                                   | 500/550V | 265                 | 400    | 330      | 500 | 500         | 720 |
|                                  |                                   | 690V     | 300                 | 380    | 400      | 420 | 500         | 630 |
|                                  |                                   | 1000V    | 280                 | 220    | 280      | 220 | 280         | 220 |
|                                  | AC4                               | 200/240V | 90                  | 350    | 110      | 400 | 160         | 630 |
|                                  |                                   | 380/440V | 176                 | 350    | 200      | 400 | 300         | 630 |
|                                  | AC1                               | -        | 700                 | -      | 900      | -   | 1050        |     |
|                                  | DC1 duty<br>(L/R=1ms)             | 2-pole   | 24V                 | -      | 400      | -   | 630         | -   |
| in series                        |                                   | 48V      | -                   | 240    | -        | 630 | -           | 800 |
|                                  |                                   | 110V     | -                   | 200    | -        | 630 | -           | 630 |
| 3-pole                           |                                   | 24V      | -                   | 400    | -        | 630 | -           | 800 |
| in series                        |                                   | 48V      | -                   | 400    | -        | 630 | -           | 800 |
|                                  |                                   | 110V     | -                   | 400    | -        | 630 | -           | 800 |
| DC2, 4 duty<br>(L/R=15ms)        |                                   | 2-pole   | 24V                 | -      | 400      | -   | 630         | -   |
|                                  | in series                         | 48V      | -                   | 200    | -        | 630 | -           | 630 |
|                                  |                                   | 110V     | -                   | 150    | -        | 630 | -           | 630 |
|                                  | 3-pole                            | 24V      | -                   | 400    | -        | 630 | -           | 800 |
|                                  | in series                         | 48V      | -                   | 280    | -        | 630 | -           | 630 |
|                                  |                                   | 110V     | -                   | 200    | -        | 630 | -           | 630 |
|                                  | Directly mountable Overload relay |          |                     | MT-800 |          |     |             |     |
| Conductor size (solid, stranded) |                                   | AWG      | 350~800             |        | 600~2000 |     | 1700~Busbar |     |
| (the max. number of conducts: 2) |                                   | mm²      | 185~480             |        | -        |     | -           |     |
| Conductor type                   |                                   |          | 75 Cu stranded wire |        |          |     |             |     |



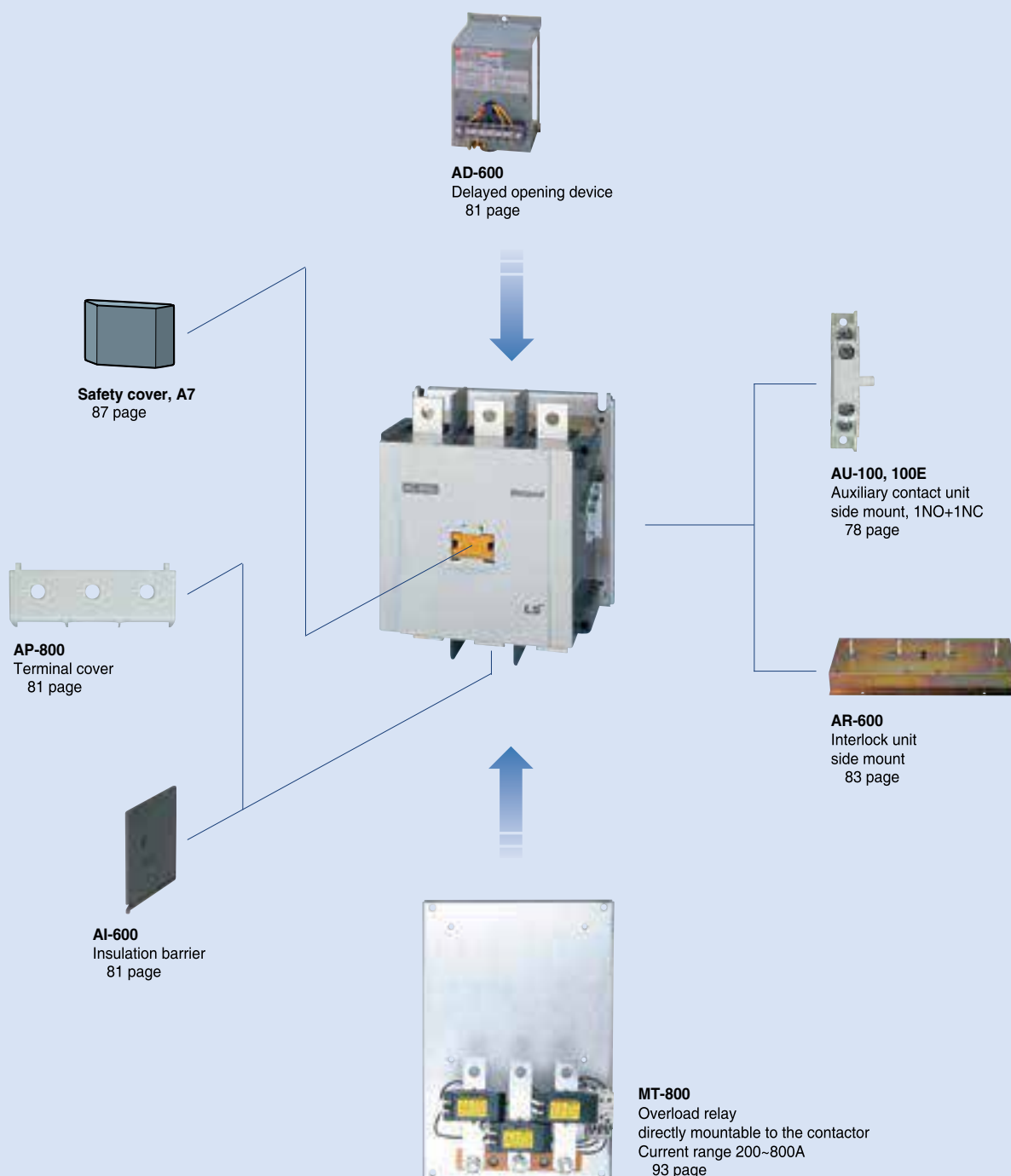
## Coil voltage, AC/DC common

| Nominal(ordering) voltage | AC 50/60Hz | DC         |
|---------------------------|------------|------------|
| 100V                      | 100 - 127V | 100 - 110V |
| 200V                      | 200 - 240V | 200 - 220V |
| 300V                      | 265 - 347V | -          |
| 400V                      | 380 - 450V | -          |
| 500V                      | 440 - 575V | -          |

### Certification

- CE(IEC)
- UL508
- CCC

## Accessories



# Contactors (1260AF)

## Description

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Overload relays available
- Degree of protection: IP20



MC-1260a

## Rating

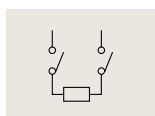
| Contactor type                   |     |          | MC-1260a      |      |
|----------------------------------|-----|----------|---------------|------|
|                                  |     |          | kW            | A    |
| AC duty                          | AC3 | 200/240V | -             | -    |
|                                  |     | 380/440V | -             | -    |
|                                  |     | 500/550V | -             | -    |
|                                  |     | 690V     | -             | -    |
|                                  |     | 1000V    | -             | -    |
|                                  | AC1 |          | -             | 1260 |
| Conductor size (solid, stranded) |     | Bubar    | 5mm×100mm×2ea |      |
| Conductor type                   |     |          | Busbar        |      |



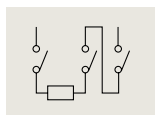
## Coil voltage, AC/DC common

| Nominal(ordering) voltage | AC 50/60Hz | DC         |
|---------------------------|------------|------------|
| 100V / 200V               | 100 - 240V | 100 - 220V |

| Certification                                                                     |
|-----------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• CE(IEC)</li> <li>• UL, UL/cUL</li> </ul> |



2pole for DC contact



3pole for DC contact

## Accessories



**AI-800**  
Insulation barrier  
81 page



**AU-100, 100E**  
Auxiliary contact unit  
side mount, 1NO+1NC  
78 page



# Contactors (2100AF)

## Description

- 3-pole main contact
- AC/DC common use coil built
- Wide coil operation voltage
- Screw mountable
- 2NO+2NC Auxiliary contacts built-in as standard
- Top/side mountable accessories available
- Overload relays available
- Degree of protection: IP20

## Rating



MC-2100a

| Contactor type                   |     |          | MC-1400a        |     | MC-1700a        |      | MC-2100a        |      |
|----------------------------------|-----|----------|-----------------|-----|-----------------|------|-----------------|------|
|                                  |     |          | kW              | A   | kW              | A    | kW              | A    |
| AC duty                          | AC3 | 200/240V | 290             | 860 | 310             | 1050 | -               | -    |
|                                  |     | 380/440V | 550             | 860 | 700             | 1050 | 900             | 1450 |
|                                  |     | 500/550V | -               | -   | -               | -    | -               | -    |
|                                  |     | 690V     | 800             | 800 | 1000            | 950  | -               | -    |
|                                  |     | 1000V    | -               | -   | -               | -    | -               | -    |
| AC1                              |     | -        | 1400            | -   | 1600            | -    | 2100            |      |
| Conductor size (solid, stranded) |     | Busbar   | 5mm× 100mm× 2ea |     | 5mm× 100mm× 2ea |      | 5mm× 100mm× 2ea |      |
| Conductor type                   |     |          | Busbar          |     |                 |      |                 |      |



## Coil voltage, AC/DC common

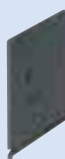
| Nominal(ordering) voltage | AC 50/60Hz | DC         |
|---------------------------|------------|------------|
| 100V / 200V               | 100 - 240V | 100 - 220V |

| Certification                                                                                     |
|---------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• CE(IEC)</li> <li>• UL60947-4-1</li> <li>• CCC</li> </ul> |

## Accessories



**AU-100, 100E**  
Auxiliary contact unit  
side mount, 1NO+1NC  
78 page



**AI-2100**  
Insulation barrier  
81 page