

# Table of specifications

## MC type Magnetic contactors



| Frame size   |                        |             | 18AF                     |       |        |        | 22AF                     |        |        |        |     |
|--|------------------------|-------------|--------------------------|-------|--------|--------|--------------------------|--------|--------|--------|-----|
| Type   | Screws clamp terminals |             | MC-6a                    | MC-9a | MC-12a | MC-18a | MC-9b                    | MC-12b | MC-18b | MC-22b |     |
|  | 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   | Mechanical             |             | 15 mil. operations       |       |        |        | 15 mil. operations       |        |        |        |     |
|  | Electrical             |             | 2.5 mil. operations      |       |        |        | 2.5 mil. operations      |        |        |        |     |
| Current and power  | AC-1, Thermal current  | A           | 25                       | 25    | 25     | 32     | 25                       | 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          | -                        | -     | -      | -      | -                        | -      | -      | -      |     |
| A  | -                      | -           | -                        | -     | -      | -      | -                        | -      | -      |        |     |
| 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     | 30     | 26                       | 28     | 30     | 45     |     |
| UL rating (50/60Hz)                                      | Continuous current     | A           | 25                       | 25    | 25     | 32     | 25                       | 25     | 40     | 40     |     |
|  | 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)                                      |                        |             | <b>1a or 1b</b>          |       |        |        | <b>1a1b</b>              |        |        |        |     |
| Auxiliary  | Side mount             |             | UA-1                     |       |        |        | UA-1                     |        |        |        |     |
|  | Front mount            |             | UA-2, UA-4               |       |        |        | UA-2, UA-4               |        |        |        |     |

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

## MT type Thermal Overload Relays



| Type                                  |                        |    | MT-12/□      | MT-32/□  |
|---------------------------------------|------------------------|----|--------------|----------|
| Type                                  | 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                      | 190    |
| 100                      | 120    |
| 70                       | 80     |
| 55                       | 65     |
| 50                       | 60     |
| 50                       | 60     |
| 2                        | 3      |
| 5                        | 7.5    |
| 7.5                      | 15     |
| 10                       | 15     |
| 20                       | 30     |
| 25                       | 30     |
| 1P                       | 2      |
| 0.55                     |        |
| 69×83×90                 |        |
| 0.77                     |        |
| 69×83×117.1              |        |
| <b>2a2b</b>              |        |
| UA-1                     |        |
| UA-2, UA-4               |        |



| 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                       | 96     |
| 70                       | 100    |
| 3                        | 5      |
| 10                       | 15     |
| 20                       | 25     |
| 25                       | 30     |
| 40                       | 50     |
| 50                       | 60     |
| 1.05                     |        |
| 79×106×119               |        |
| 1.3                      |        |
| 79×106×146.4             |        |
| <b>2a2b</b>              |        |
| UA-1                     |        |
| UA-2, UA-4               |        |



| 100AF                    |              |                   |
|--------------------------|--------------|-------------------|
| MC-75a                   | MC-85a       | MC-100a           |
| ●                        | ●            | ●                 |
| ●                        | ●            | ●                 |
|                          |              |                   |
| 3pole                    |              |                   |
| 1000V                    |              |                   |
| 1000V                    |              |                   |
| 50/60Hz                  |              |                   |
| 8kV                      |              |                   |
| 1200 operations per hour |              |                   |
| 12 mil. operations       |              |                   |
| 2 mil. operations        |              | 1 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               |
| 110                      | 135          | 160               |
| 5                        | 7.5          | 10                |
| 15                       | 15           | 20                |
| 25                       | 30           | 30                |
| 30                       | 40           | 40                |
| 50                       | 60           | 75                |
| 60                       | 75           | 75                |
|                          | 3            |                   |
|                          | 1.93         |                   |
|                          | 94×140×135.8 |                   |
|                          | 2.8          |                   |
|                          | 94×140×172.3 |                   |
| <b>2a2b</b>              |              |                   |
| UA-1                     |              |                   |
| UA-2, UA-4               |              |                   |



| MT-32/ □ |
|----------|
| ●        |
|          |
| 690V     |
| 690V     |
| 6kV      |
| 10A, 20  |
| 0.1~40A  |
| 0.17     |
| 45×75×90 |



| MT-63/ □  |
|-----------|
| ●         |
| ●         |
|           |
| 690V      |
| 690V      |
| 6kV       |
| 10A, 20   |
| 4~65A     |
| 0.31/0.33 |
| 55×81×100 |



| MT-95/ □  |
|-----------|
| ●         |
| ●         |
|           |
| 690V      |
| 690V      |
| 6kV       |
| 10A, 20   |
| 7~100A    |
| 0.48/0.5  |
| 70×97×110 |

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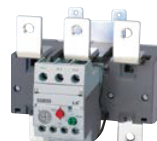
Metasol

## MC type Magnetic contactors



| Frame size   |                        |             | 150AF                    |      | 225AF                      |      | 400AF                      |      |                     |     |
|--|------------------------|-------------|--------------------------|------|----------------------------|------|----------------------------|------|---------------------|-----|
| Type   | 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                 |     |
|  |                        | kW          | 37                       | 45   | 55                         | 75   | 80                         | 90   | 125                 |     |
|  | AC-3 200/240V          | A           | 130                      | 150  | 185                        | 225  | 265                        | 330  | 400                 |     |
|  |                        | kW          | 60                       | 75   | 90                         | 132  | 147                        | 160  | 200                 |     |
|  | 380/440V               | A           | 130                      | 150  | 185                        | 225  | 265                        | 330  | 400                 |     |
|  |                        | kW          | 60                       | 70   | 110                        | 132  | 147                        | 160  | 225                 |     |
|  | 500/550V               | A           | 90                       | 100  | 180                        | 200  | 225                        | 280  | 350                 |     |
|  |                        | kW          | 55                       | 55   | 110                        | 140  | 160                        | 200  | 250                 |     |
|  | 690V                   | A           | 60                       | 60   | 120                        | 150  | 185                        | 220  | 300                 |     |
|  |                        | kW          | 75                       | 75   | 132                        | 132  | 147                        | 147  | 147                 |     |
| 1000V  | A                      | 50          | 50                       | 90   | 90                         | 105  | 105                        | 105  |                     |     |
|  | kW                     |             |                          |      |                            |      |                            |      |                     |     |
| 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)                                      | Continuous current     | A           | 200                      | 250  | 300                        | 350  | 400                        | 500  | 520                 |     |
|  |                        | HP          | 10                       | 15   | 15                         | 15   | -                          | -    | -                   |     |
|  | Single phase           | 110~120V    | HP                       | 20   | 25                         | 30   | 40                         | -    | -                   | -   |
|  |                        | 220~240V    | HP                       | 40   | 40                         | 60   | 60                         | 75   | 100                 | 125 |
|  | Three phase            | 220~240V    | HP                       | 40   | 50                         | 60   | 75                         | 100  | 100                 | 150 |
|  |                        | 440~480V    | HP                       | 75   | 100                        | 125  | 150                        | 200  | 200                 | 300 |
|  | 550~600V               | HP          | 75                       | 75   | 125                        | 150  | 200                        | 200  | 300                 |     |
| NEMA size  |                        |             |                          | 4    |                            |      |                            |      |                     |     |
| Size and weight  | AC control             | Weight      | 2.4                      |      | 5.4                        |      | 9.2                        |      |                     |     |
|  | DC control             | Size(W×H×D) | 119×158×130.3            |      | 138×203×185.1              |      | 163×243×204.4              |      |                     |     |
| Auxiliary(standard)                                      | DC control             | Weight      |                          |      |                            |      |                            |      |                     |     |
|  | DC control             | Size(W×H×D) |                          |      |                            |      |                            |      |                     |     |
| Auxiliary  | Side mount             |             | <b>2a2b</b>              |      | <b>2a2b</b>                |      | <b>2a2b</b>                |      |                     |     |
|  | Front mount            |             | UA-1<br>UA-2, UA-4       |      | AU-100, AU-100E (Max.4a4b) |      | AU-100, AU-100E (Max.4a4b) |      |                     |     |

## MT type Thermal Overload Relays



| Type                                  |                        |    | MT150/□    | MT225/□     | MT400/□     |
|---------------------------------------|------------------------|----|------------|-------------|-------------|
| Type                                  | 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         |
|                                       | Size(W×H×D)            | mm | 95×109×113 | 147×141×184 | 151×171×198 |

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

