

# Mini Motor Contactor J7KNA

### Main contactor

- AC & DC operated
- Integrated auxiliary contacts
- Screw fixing and snap fitting (35 mm DIN-rail)
- Range from 4 to 5.5 kW (AC 3, 380/415V)
- 4 -main pole version (4 kW AC and DC coil)
- Auxiliary contacts suitable for electronic devices (DIN 19240)
- Finger proof (BGV A2)
- Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function is controlled by a safety-related system.



### Accessories

- 2 and 4 pole additional auxiliary contacts in different configurations
- Mechanical interlock (in reversing contactor combination only)
- RC Suppressors
- Link modules for fuseless Load Feeders
- Insulated wiring systems (parallel, Star-delta combinations)

## Approved Standards

| Standard | Standard | Guide No (US,C) |
|----------|----------|-----------------|
| UL       | VDE 0660 | NLDX, NLDX7     |

## Ordering Information

### Model Number Legend

#### 1. Mini Motor Contactors

J7KNA-□□-□□ □□□□  
1 2 3 4

- 1) Mini Contactor
- 2) Rated Motor Current (AC3 400V)  
09: 9A  
12: 12A
- 3) Integrated auxiliary contact  
10: 1 NO 0 NC  
01: 0 NO 1NC  
4: 4 main pole type (no aux contact)
- 4) R: Reversing Contactor
- 5) Coil voltage (AC operated)<sup>1)</sup>  
24: AC24V 50/60Hz  
48: AC48V 50Hz  
60: AC60V 50Hz  
110: AC110-115V 50Hz, AC120-125V 60Hz  
180: AC180-210V 50Hz, AC200-240V 60Hz  
230: AC220-230V 50Hz, AC240V 60Hz  
240: AC230V-240V 50Hz  
400: AC380-400V 50Hz, AC440V 60Hz  
415: AC400-415V 50Hz

Coil voltage (DC operated)  
24D: DC24V  
48D: DC48V  
60D: DC60V  
110D: DC110V  
24VS: DC24V with diode

48VS: DC48V with diode  
110VS: DC110V with diode  
125VS: DC125V with diode

#### 2. Aux. Contact Modules for Mini Motor Contactors

J73KN-□□-□□  
1 2 3

- 1) Auxiliary Contact Modules
- 2) A: for mini motor contactor (DIN EN 50005)  
AM: for mini motor contactor (DIN EN 50012)
- 3) Combination of NO/NC contacts  
11: 1 NO 1 NC  
02: 0 NO 2 NC  
04: 0 NO 4 NC  
22: 2 NO 2 NC  
40: 4 NO 0 NC
- 4) for Reversing Contactors  
v: left side  
x: right side

#### 3. Insulated wiring systems for motor contactors

J74-WKR-A  
1 2 3

- 1) Additional reference for Magnetic contactor
- 2) WKR: Wiring Kit Reverser
- 3) Version

#### 4. Accessories for mini motor contactors/contactor relays (RC suppressor units)

J74KN-D-RC□□  
1 2 3 4




- 1) Additional reference for Magnetic contactor
- 2) D: J7KNA(-AR)
- 3) RC = RC suppressor unit
- 4) Voltage

<sup>1)</sup> See datasheet J7KN Motor Contactor for RC-suppressor units.

## ■ System overview

### Mini Motor Contactors

#### AC Operated




|   | Ratings                             |            |                    | Rated Current |           | Aux. Contacts  |  | Type  | Pack   | Weight |        |
|---|-------------------------------------|------------|--------------------|---------------|-----------|--|--|---|--|--------|--------|
|   | AC2, AC3                            |            |                    | AC3           | AC1       |  |  |   |  |        |        |
|   | 380V<br>400V<br>415V<br>kW          | 500V<br>kW | 660V<br>690V<br>kW | 400V<br>A     | 690V<br>A |  NO |  NC <sup>*1</sup> | Suitable<br>Overload<br>Relay <sup>*2</sup> | Coil Voltage <sup>*3</sup><br>24V 50/60Hz<br>220-230V 50Hz | pcs.   | kg/pc. |
|  | <b>3-pole, With Screw Terminals</b> |            |                    |               |           |  |  |   |  |        |        |
|   | 4                                   | 4          | 4                  | 9             | 20        | 1  | -  | J7TKN-A                                     | J7KNA-09-10-□□□□□□   | 10     | 0.16   |
|   | 5.5                                 | 5.5        | 5.5                | 12            | 20        | 1  | -  | J7TKN-A                                     | J7KNA-12-10-□□□□□□   | 10     | 0.16   |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   | 4                                   | 4          | 4                  | 9             | 20        | -  | 1  | J7TKN-A                                     | J7KNA-09-01-□□□□□□   | 10     | 0.16   |
|   | 5.5                                 | 5.5        | 5.5                | 12            | 20        | -  | 1  | J7TKN-A                                     | J7KNA-12-01-□□□□□□   | 10     | 0.16   |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   | <b>4-pole, With Screw Terminals</b> |            |                    |               |           |  |  |   |  |        |        |
| 4   | 4                                   | 4          | 9                  | 20            | -         | -  | J7TKN-A  | J7KNA-09-4-□□□□□□                           | 10   | 0.19   |        |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |
|   |                                     |            |                    |               |           |  |  |   |  |        |        |

\*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function **is** controlled by a safety-related system

\*2) For details see datasheet J7TKN Thermal Overload Relay

\*3) Other coil voltages see *page 6*

#### DC Solenoid Operated




|   | Ratings                             |            |                    | Rated Current |           | Aux. Contacts  |  | Type  | Pack                                 | Weight |        |
|---|-------------------------------------|------------|--------------------|---------------|-----------|--|--|---|--------------------------------------|--------|--------|
|   | AC2, AC3                            |            |                    | AC3           | AC1       |  |  |   |                                      |        |        |
|   | 380V<br>400V<br>415V<br>kW          | 500V<br>kW | 660V<br>690V<br>kW | 400V<br>A     | 690V<br>A |  NO |  NC <sup>*1</sup> | Suitable<br>Overload<br>Relay <sup>*2</sup> | Coil voltage 24V DC 2,5W             | pcs.   | kg/pc. |
|  | <b>3-pole, With Screw Terminals</b> |            |                    |               |           |  |  |   |                                      |        |        |
|   | 4                                   | 4          | 4                  | 9             | 20        | 1  | -  | J7TKN-A                                     | J7KNA-09-10-□□□□D(-VS) <sup>*3</sup> | 10     | 0.19   |
|   | 5.5                                 | 5.5        | 5.5                | 12            | 20        | 1  | -  | J7TKN-A                                     | J7KNA-12-10-□□□□D(-VS) <sup>*3</sup> | 10     | 0.19   |
|   |                                     |            |                    |               |           |  |  |   |                                      |        |        |
|   | 4                                   | 4          | 4                  | 9             | 20        | -  | 1  | J7TKN-A                                     | J7KNA-09-01-□□□□D(-VS) <sup>*3</sup> | 10     | 0.19   |
|   | 5.5                                 | 5.5        | 5.5                | 12            | 20        | -  | 1  | J7TKN-A                                     | J7KNA-12-01-□□□□D(-VS) <sup>*3</sup> | 10     | 0.19   |
|   |                                     |            |                    |               |           |  |  |   |                                      |        |        |
|   |                                     |            |                    |               |           |  |  |   |                                      |        |        |
|   |                                     |            |                    |               |           |  |  |   |                                      |        |        |
|   |                                     |            |                    |               |           |  |  |   |                                      |        |        |

\*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function **must** be controlled by a safety-related system

\*2) For details see datasheet J7TKN Thermal Overload Relay


\*3) with built-in coil suppressor (diode + zener diode)

#### Auxiliary contact blocks with screw terminals for contactors J7KNA-09... and J7KNA-12...



|   | Contacts   |  | Rated Current     |           | Thermal Rated Current | Type        | Pack | Weight |
|---|--|--|-------------------|-----------|-----------------------|-------------|------|--------|
|   |  NO |  NC <sup>*1</sup> | AC15<br>230V<br>A | 400V<br>A |                       |             |      |        |
|  | 1  | 1  | 3                 | 2         | 10                    | J73KN-AM-11 | 10   | 0.04   |
|   | -  | 2  | 3                 | 2         | 10                    | J73KN-AM-02 | 10   | 0.04   |
|   | 2  | 2  | 3                 | 2         | 10                    | J73KN-AM-22 | 10   | 0.04   |

\*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function **is** controlled by a safety-related system

**Link modules for electric connection between MPCB and contactors**

|   | Description   | Version for contactors | For MPCB          | Type                   | Pack pcs | Weight approx. kg/pc |
|---|---|------------------------|-------------------|------------------------|----------|----------------------|
|  | link module (electrical and mechanical connection)<br>See datasheet J7MN Motor Protection Circuit Breaker | J7KNA 09-...12         | J7MN 12 / J7MN 25 | <b>J74MN-VK1 12-25</b> | 1        | 0.015                |

**Suppressor units**

|   | Function  | For Contactors | Voltages   | Partnumber Type   |
|---|---|----------------|--|---|
|  | RC-Unit snap on  | J7KNA(-AR)     | 12 - 48 V AC/DC<br>48 - 127 V AC/DC<br>110 - 250 V AC/DC | <b>J74KN-D-RC24</b><br><b>J74KN-D-RC110</b><br><b>J74KN-D-RC230</b> |

## ■ System overview

### Mini Motor Contactors

#### AC Operated

| Wiring Diagrams                     | Distinc. Number according to DIN EN 50012 | Auxiliary Contact Blocks |    | Contactor with Auxiliary Contact Block |   |    | Contacts suitable for Electronic Circuits according to DIN 19240 for rated voltage 24V DC (test ratings 17V DC, 5mA) |  |
|-------------------------------------|---|--------------------------|----|--|---|----|--|--|
|                                     |   | Type                     | NO | NC <sup>*1</sup>                       | Distinc. Number according to DIN EN 50012 | NO |  | NC <sup>*1</sup>                                 |
| <b>3-pole, With Screw Terminals</b> |   |                          |    |  |   |    |  |  |
|                                     | 10  | J73KN-AM-11              | 1  | 1                                      | 21  | 2  | 1  | Preferred combinations according to DIN EN 50012 |
|                                     |   | J73KN-AM-02              | 0  | 2                                      | 12  | 1  | 2  |  |
|                                     |   | J73KN-AM-22              | 2  | 2                                      | 32  | 3  | 2  |  |
|                                     | 01  | J73KN-A-11               | 1  | 1                                      | -   | 1  | 2  | Contacts according to DIN EN 50005               |
|                                     |   | J73KN-A-02               | 0  | 2                                      | -   | 0  | 3  |  |
|                                     |   | J73KN-A-40               | 4  | 0                                      | -   | 4  | 1  |  |
|                                     |   | J73KN-A-22               | 2  | 2                                      | -   | 2  | 3  |  |
|                                     |   | J73KN-A-04               | 0  | 4                                      | -   | 0  | 5  |  |
| <b>4-pole, With Screw Terminals</b> |   |                          |    |  |   |    |  |  |
|                                     | 00  | J73KN-A-11               | 1  | 1                                      | -   | 1  | 1  | Contacts according to DIN EN 50005               |
|                                     |   | J73KN-A-02               | 0  | 2                                      | -   | 0  | 2  |  |
|                                     |   | J73KN-A-40               | 4  | 0                                      | -   | 4  | 0  |  |
|                                     |   | J73KN-A-22               | 2  | 2                                      | -   | 2  | 2  |  |
|                                     |   | J73KN-A-04               | 0  | 4                                      | -   | 0  | 4  |  |

\*1) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

#### DC Solenoid Operated

| Wiring Diagrams                     | Distinc. Number according to DIN EN 50012 | Auxiliary Contact Blocks |    | Contactor with Auxiliary Contact Block |   |    | Contacts suitable for Electronic Circuits according to DIN 19240 for rated voltage 24V DC (test ratings 17V DC, 5mA) |  |
|-------------------------------------|---|--------------------------|----|--|---|----|--|--|
|                                     |   | Type                     | NO | NC <sup>*1</sup>                       | Distinc. Number according to DIN EN 50012 | NO |  | NC <sup>*1</sup>                                 |
| <b>3-pole, With Screw Terminals</b> |   |                          |    |  |   |    |  |  |
|                                     | 10  | J73KN-AM-11              | 1  | 1                                      | 21  | 2  | 1  | Preferred combinations according to DIN EN 50012 |
|                                     |   | J73KN-AM-02              | 0  | 2                                      | 12  | 1  | 2  |  |
|                                     |   | J73KN-AM-22              | 2  | 2                                      | 32  | 3  | 2  |  |
|                                     | 01  | J73KN-A-11               | 1  | 1                                      | -   | 1  | 2  | Contacts according to DIN EN 50005               |
|                                     |   | J73KN-A-02               | 0  | 2                                      | -   | 0  | 3  |  |
|                                     |   | J73KN-A-40               | 4  | 0                                      | -   | 4  | 1  |  |
|                                     |   | J73KN-A-22               | 2  | 2                                      | -   | 2  | 3  |  |
|                                     |   | J73KN-A-04               | 0  | 4                                      | -   | 0  | 5  |  |

\*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function is controlled by a safety-related system




( ) = VS-Version

#### Auxiliary contact blocks with screw terminals for contactors J7KNA-09... and J7KNA-12...

| Wiring Diagrams |             |             |            |            |            |            |            | Contacts suitable for Electronic Circuits according to DIN 19240 for rated voltage 24V DC (test ratings 17V DC, 5mA) |
|-----------------|-------------|-------------|------------|------------|------------|------------|------------|--|
| J73KN-AM-11     | J73KN-AM-02 | J73KN-AM-22 | J73KN-A-11 | J73KN-A-02 | J73KN-A-40 | J73KN-A-22 | J73KN-A-04 |  |
|                 |             |             |            |            |            |            |            |  |




## System overview

### Mini Reversing Contactors, Mechanical Interlocked AC Operated

|   | Ratings                             |            |                    | Rated Current |           | Aux. Contacts   |   | Type                                       | Pack  | Weight |        |
|---|-------------------------------------|------------|--------------------|---------------|-----------|---|---|--|---|--------|--------|
|   | AC2, AC3                            |            |                    | AC3           | AC1       |   |   |  |   |        |        |
|   | 380V<br>400V<br>415V<br>kW          | 500V<br>kW | 660V<br>690V<br>kW | 400V<br>A     | 690V<br>A |  |  | Suitable<br>Overload<br>Relay <sup>2</sup> | Coil Voltage <sup>3</sup><br>24V 50/60Hz<br>220-230V 50Hz | pcs.   | kg/pc. |
|  | <b>3-pole, With Screw Terminals</b> |            |                    |               |           |   |   |  |   |        |        |
|   | 4                                   | 4          | 4                  | 9             | 20        | -   | 1   | J7TKN-A                                    | J7KNA-09-01-R-□□□□□                                       | 1      | 0.32   |
|   | 5.5                                 | 5.5        | 5.5                | 12            | 20        | -   | 1   | J7TKN-A                                    | J7KNA-12-01-R-□□□□□                                       | 1      | 0.32   |
|   |                                     |            |                    |               |           |   |   |  |   |        |        |




- \*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function is controlled by a safety-related system
- \*2) For details see datasheet J7TKN Thermal Overload Relay
- \*3) Other coil voltages see *page 6*

### DC Solenoid Operated

|   | Ratings                             |            |                    | Rated Current |           | Aux. Contacts   |   | Type                                       | Pack                                  | Weight |        |
|---|-------------------------------------|------------|--------------------|---------------|-----------|---|---|--|---------------------------------------|--------|--------|
|   | AC2, AC3                            |            |                    | AC3           | AC1       |   |   |  |                                       |        |        |
|   | 380V<br>400V<br>415V<br>kW          | 500V<br>kW | 660V<br>690V<br>kW | 400V<br>A     | 690V<br>A |  |  | Suitable<br>Overload<br>Relay <sup>2</sup> | Coil voltage 24V DC 2,5W              | pcs.   | kg/pc. |
|  | <b>3-pole, With Screw Terminals</b> |            |                    |               |           |   |   |  |                                       |        |        |
|   | 4                                   | 4          | 4                  | 9             | 20        | -   | 1   | J7TKN-A                                    | J7KNA-09-01-R-□□□□D(-VS) <sup>3</sup> | 1      | 0.38   |
|   | 5.5                                 | 5.5        | 5.5                | 12            | 20        | -   | 1   | J7TKN-A                                    | J7KNA-12-01-R-□□□□D(-VS) <sup>3</sup> | 1      | 0.38   |
|   |                                     |            |                    |               |           |   |   |  |                                       |        |        |


- \*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function is controlled by a safety-related system
- \*2) For details see datasheet J7TKN Thermal Overload Relay
- \*3) with built-in coil suppressor (diode + zener diode)

### Auxiliary contact blocks with screw terminals for contactors J7KNA-09-01-R...(D) and J7KNA-12-01-R...(D)

|   | Contacts  |   | Rated Current     |           | Thermal Rated Current | Type         | Pack | Weight |
|---|---|---|-------------------|-----------|-----------------------|--------------|------|--------|
|   |  |  | AC15<br>230V<br>A | 400V<br>A |                       |              |      |        |
|  | 1   | 1   | 3                 | 2         | 10                    | J73KN-AM-11V | 10   | 0.04   |
|   | 1   | 1   | 3                 | 2         | 10                    | J73KN-AM-11X | 10   | 0.04   |
|   |   |   |                   |           |                       |              |      |        |

- \*1) Magnetic contactor with Mirror contacts according to EN 60947-4-1 in safety applications, whose switching function is controlled by a safety-related system

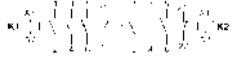
### Insulated wiring systems for contactors J7KNA-09-01-R...(D) and J7KNA-12-01-R...(D)

|   | Description   | Version (A) | For contactors                            | Type      | Pack pcs |
|---|---|-------------|---|-----------|----------|
|  | Reversing Starter Connector with Coil Connector for Mini Reversing Contactors, mechanical interlocked | 16          | J7KNA-09-01-R...(D) & J7KNA-12-01-R...(D) | J74-WKR-A | 1        |

## ■ System overview



### Mini Motor Contactors

AC/DC solenoid operated

|  |   |                                       |      |                                 |                     |  |   |
|--|---|---------------------------------------|------|---------------------------------|---------------------|--|---|
| Wiring Diagrams  | Distinc. Number according to DIN EN 50012 | Auxiliary Contact Blocks suitable for |      |                                 |                     | Contacts suitable for Electronic Circuits according to DIN 19240 for rated voltage 24V DC (test ratings 17V DC, 5mA) |   |
|  |   | left hand side<br>Contactor K1        |      | right hand side<br>Contactor K2 |                     |  |   |
|  | Type                                      | NO                                    | NC*1 | Type                            | NO                  | NC*1   |   |
| <b>3-pole, With Screw Terminals</b>  |   |                                       |      |                                 |                     |  |   |
|  | 01  | <b>J73KN-AM-11V</b>                   | 1    | 1                               | <b>J73KN-AM-11X</b> | 1  | 1 |
|  |   |                                       |      |                                 |                     |  |   |
|  |   |                                       |      |                                 |                     |  |   |
|  |   |                                       |      |                                 |                     |  |   |

\*1) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

### Auxiliary contact blocks with screw terminals for contactors J7KNA-09-01-R...(D) and J7KNA-12-01-R...(D)

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| Wiring Diagrams  |  |  |  |  | Contacts suitable for Electronic Circuits according to DIN 19240 for rated voltage 24V DC (test ratings 17V DC, 5mA) |
| J73KN-AM-11V   | J73KN-AM-11X   |  |  |  |  |
|  |  |  |  |  |  |

## Specifications

### ■ Coil Voltages

| Suffix to contactor type e.g. | Voltage Marking at the coil |            | Rated Control Voltage U <sub>s</sub> range for |            |            |            |
|-------------------------------|-----------------------------|------------|--|------------|------------|------------|
|                               | for 50Hz V                  | for 60Hz V | 50Hz   |            | 60Hz       |            |
| J7KNA-09-10-24                |                             |            | min V.   | max V.     | min V.     | max V.     |
| <b>24</b>                     | <b>24</b>                   | <b>24</b>  | <b>22</b>                                      | <b>24</b>  | <b>24</b>  | <b>24</b>  |
| 48                            | 48                          | 48         | 48   | 50         | 48         | 52         |
| 100                           | 100                         | 110-115    | 100  | 105        | 110        | 115        |
| 110                           | 110-115                     | 120-125    | 110  | 115        | 120        | 125        |
| 200                           | 200                         | 210-220    | 195  | 205        | 210        | 220        |
| <b>230</b>                    | <b>220-230</b>              | <b>240</b> | <b>220</b>                                     | <b>230</b> | <b>240</b> | <b>250</b> |
| 400                           | 380-400                     | 440        | 380  | 400        | 415        | 440        |
| 550                           | 525-550                     | 600        | 525  | 550        | 570        | 600        |

**Standard voltages in bold type letters.** Coil not exchangeable

Please see datasheet J7KN Motor Contactor for RC-suppressor units.

## ■ Engineering data and Characteristics

### Mini Motor Contactors

Data according to IEC 947-4-1, VDE 0660, EN 60947-4-1

| Main Contacts  |                    | Type            | J7KNA-09-...       | J7KNA-12-...       |
|--|--------------------|-----------------|--------------------|--------------------|
| Rated insulation voltage $U_i$   |                    | V AC            | 690 <sup>(1)</sup> | 690 <sup>(1)</sup> |
| Making capacity $I_{eff}$  | at $U_e = 690V$ AC | A               | 165                | 165                |
| Breaking capacity $I_{eff}$<br>$\cos\varphi = 0,65$                                  | 400V AC            | A               | 100                | 100                |
|  | 500V AC            | A               | 90                 | 90                 |
|  | 690V AC            | A               | 80                 | 80                 |
| <b>Utilization category AC1</b>  |                    |                 |                    |                    |
| <b>Switching of resistive load</b>   |                    |                 |                    |                    |
| Rated operational current $I_e (=I_{th})$ at 40°C, open                              |                    | A               | 20                 | 20                 |
| Rated operational power of three-phase resistive loads<br>50-60Hz, $\cos\varphi = 1$ | 230V               | kW              | 7.9                | 7.9                |
|  | 240V               | kW              | 8.3                | 8.3                |
|  | 400V               | kW              | 13.8               | 13.8               |
|  | 415V               | kW              | 14.3               | 14.3               |
| Rated operational current $I_e (=I_{the})$ at 60°C, enclosed                         |                    | A               | 16                 | 16                 |
| Rated operational power of three-phase resistive loads<br>50-60Hz, $\cos\varphi = 1$ | 230V               | kW              | 6.3                | 6.3                |
|  | 240V               | kW              | 6.7                | 6.7                |
|  | 400V               | kW              | 11                 | 11                 |
|  | 415V               | kW              | 11.5               | 11.5               |
| Minimum cross-section of conductor at load with $I_e (=I_{th})$                      |                    | mm <sup>2</sup> | 2.5                | 2.5                |
| <b>Utilization category AC2 and AC3</b>  |                    |                 |                    |                    |
| <b>Switching of three-phase motors</b>   |                    |                 |                    |                    |
| Rated operational current $I_e$<br>open and enclosed                                 | 220V               | A               | 12                 | 15                 |
|  | 230V               | A               | 11.5               | 14.5               |
|  | 240V               | A               | 11                 | 14                 |
|  | 380-400V           | A               | 9                  | 12                 |
|  | 415-440V           | A               | 8                  | 11                 |
|  | 500V               | A               | 7                  | 9                  |
|  | 660-690V           | A               | 5                  | 6.5                |
| Rated operational power of three-phase motors<br>50-60Hz                             | 220-240V           | kW              | 3                  | 4                  |
|  | 380-440V           | kW              | 4                  | 5.5                |
|  | 500-690V           | kW              | 4                  | 5.5                |
| <b>Utilization category AC4</b>  |                    |                 |                    |                    |
| <b>Switching of squirrel cage motors, inching</b>                                    |                    |                 |                    |                    |
| Rated operational current $I_e$<br>open and enclosed                                 | 220V               | A               | 12                 | 15                 |
|  | 230V               | A               | 11.5               | 14.5               |
|  | 240V               | A               | 11                 | 14                 |
|  | 380-400V           | A               | 9                  | 12                 |
|  | 415-440V           | A               | 8                  | 11                 |
|  | 500V               | A               | 7                  | 9                  |
|  | 660-690V           | A               | 5                  | 6.5                |
| Rated operational power of three-phase motors<br>50-60Hz                             | 220-240V           | kW              | 3                  | 4                  |
|  | 380-440V           | kW              | 4                  | 5.5                |
|  | 500-690V           | kW              | 4                  | 5.5                |

## Mini Motor Contactors

Data according to IEC 947-4-1, VDE 0660, EN 60947-4-1

| Main Contacts   |                                   | Type            | J7KNA-09-...                  | J7KNA-12-... |
|---|-----------------------------------|-----------------|-------------------------------|--------------|
| <b>Utilization category DC1</b>   |                                   |                 |                               |              |
| <b>Switching of resistive load</b>  | 1 pole 24V                        | A               | 20                            | 20           |
| Time constant L/R 1ms   | 60V                               | A               | 20                            | 20           |
| Rated operational current I <sub>o</sub>  | 110V                              | A               | 5                             | 5            |
|   | 220V                              | A               | 0.6                           | 0.6          |
| 3 poles in series   | 24V                               | A               | 20                            | 20           |
|   | 60V                               | A               | 20                            | 20           |
|   | 110V                              | A               | 20                            | 20           |
|   | 220V                              | A               | 16                            | 16           |
| <b>Utilization category DC3 and DC5</b>   |                                   |                 |                               |              |
| <b>Switching of shunt motors and series motors</b>  | 1 pole 24V                        | A               | 20                            | 20           |
|   | 60V                               | A               | 5                             | 5            |
| Time constant L/R 15ms  | 110V                              | A               | 1                             | 1            |
| Rated operational current I <sub>o</sub>  | 220V                              | A               | 0.15                          | 0.15         |
|   | 3 poles in series 24V             | A               | 20                            | 20           |
|   | 60V                               | A               | 20                            | 20           |
|   | 110V                              | A               | 20                            | 20           |
|   | 220V                              | A               | 2                             | 2            |
| <b>Maximum ambient temperature</b>  |                                   |                 |                               |              |
| Operation   | open                              | °C              | -40 to +60 (+90) <sup>2</sup> |              |
|   | enclosed                          | °C              |                               |              |
| with thermal overload relay   | open                              | °C              | -25 to +60                    |              |
|   | enclosed                          | °C              |                               |              |
| Storage   |                                   | °C              | -50 to +90                    |              |
| <b>Short circuit protection</b>   |                                   |                 |                               |              |
| for contactors without thermal overload relay   |                                   |                 |                               |              |
| Coordination-type "1" according to IEC 947-4-1<br>Contact welding without hazard of persons<br>max. fuse size   |                                   |                 |                               |              |
|   | gL (gG)                           | A               | 40                            | 40           |
| Coordination-type "2" according to IEC 947-4-1<br>Light contact welding accepted<br>max. fuse size  |                                   |                 |                               |              |
|   | gL (gG)                           | A               | 25                            | 25           |
| Contact welding not accepted<br>max. fuse size  |                                   |                 |                               |              |
|   | gL (gG)                           | A               | 10                            | 10           |
| For contactors with thermal overload relay the device with the smaller admissible backup fuse (contactor or thermal overload relay) determines the fuse size. |                                   |                 |                               |              |
| <b>Cable cross-sections</b>   |                                   |                 |                               |              |
| for contactors without thermal overload relay   |                                   |                 |                               |              |
| main connector  | solid or stranded                 | mm <sup>2</sup> | 0.5 - 2.5                     | 0.5 - 2.5    |
|   | flexible                          | mm <sup>2</sup> | 0.5 - 2.5                     | 0.5 - 2.5    |
|   | flexible with multicore cable end | mm <sup>2</sup> | 0.5 - 1.5                     | 0.5 - 1.5    |
| Cables per clamp  |                                   |                 | 2                             | 2            |
|   | solid or stranded                 | AWG             | 18 - 14                       | 18 - 14      |



**Mini Motor Contactors**

Data according to IEC 947-4-1, VDE 0660, EN 60947-4-1

| Main Contacts                                       |                             | Type            | J7KNA-09-... | J7KNA-12-... |
|---|-----------------------------|-----------------|--------------|--------------|
| <b>Frequency of operations z</b>                    | without load                | 1/h             | 10000        | 10000        |
| Contactors without thermal overload relay           | AC3, I <sub>e</sub>         | 1/h             | 600          | 700          |
|   | AC4, I <sub>e</sub>         | 1/h             | 120          | 150          |
|   | DC3, I <sub>e</sub>         | 1/h             | 600          | 700          |
|   |                             |                 |              |              |
| <b>Mechanical life</b> AC operated                  | S x                         | 10 <sup>6</sup> | 5            | 5            |
|   | DC operated                 | S x             | 15           | 15           |
| <b>Short time current</b>                           | 10s-current                 | A               | 96           | 120          |
| <b>Power loss</b> per pole                          | at I <sub>e</sub> /AC3 400V | W               | 0.15         | 0.25         |
| <b>Resistance to shock according to IEC 68-2-27</b> |                             |                 |              |              |
| Shock time 20ms sine-wave                           |                             |                 |              |              |
| AC operated   | NO                          | g               | 5            | 5            |
|   | NC                          | g               | 5            | 5            |
| DC operated   | NO                          | g               | 8            | 8            |
|   | NC                          | g               | 6            | 6            |

\*1) Suitable at 690V for: earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry): U<sub>imp</sub> = 8kV.  
Data for other conditions on request.

\*2) With reduced control voltage range 0.9 up to 1.0 x U<sub>s</sub> and with reduced rated current I<sub>e</sub>/AC1 according to I<sub>e</sub>/AC3

Mini Motor Contactors

| Auxiliary Contacts   |                    | Type | J7KNA-09...<br>J7KNA-12...    | J7KNA-09...D(VS) <sup>1</sup><br>J7KNA-12...D(VS) | J73KN-A...       |
|--|--------------------|------|-------------------------------|---|------------------|
| <b>Rated insulation voltage U<sub>i</sub></b>  |                    | V AC | 690 <sup>2</sup>              | 690 <sup>1</sup>                                  | 690 <sup>1</sup> |
| <b>Thermal rated current I<sub>th</sub> to 690V</b>  |                    |      |                               |   |                  |
| Ambient temperature  | 40°C               | A    | 10                            | 10  | 10               |
|  | 60°C               | A    | 6                             | 6   | 6                |
| <b>Power loss</b> per pole   | at I <sub>th</sub> | W    | 0.5                           | 0.5   | 0.5              |
| <b>Utilization category AC15</b>   |                    |      |                               |   |                  |
| Rated operational current I <sub>e</sub>   | 220-240V           | A    | 3                             | 3   | 3                |
|  | 380-415V           | A    | 2                             | 2   | 2                |
|  | 440V               | A    | 1.6                           | 1.6   | 1.6              |
|  | 500V               | A    | 1.2                           | 1.2   | 1.2              |
|  | 660-690V           | A    | 0.6                           | 0.6   | 0.6              |
| <b>Utilization category DC13</b>   |                    |      |                               |   |                  |
| Rated operational current I <sub>e</sub>   | 60V                | A    | 2                             | 2   | 2                |
|  | 110V               | A    | 0.4                           | 0.4   | 0.4              |
|  | 220V               | A    | 0.1                           | 0.1   | 0.1              |
| <b>Maximum ambient temperature</b>   |                    |      |                               |   |                  |
| Operation  | open               | °C   | -40 to +60 (+90) <sup>3</sup> |   |                  |
|  | enclosed           | °C   |                               |   |                  |
| Storage  |                    | °C   | -40 to +90                    |   |                  |
| <b>Short circuit protection</b><br>short-circuit current 1kA,<br>contact welding not accepted  |                    |      |                               |   |                  |
| max. fuse size   | gL (gG)            | A    | 20                            | 20  | 20               |
| For contactors with thermal overload relay the device with the smaller admissible control fuse (contactor or thermal overload relay) determines the fuse size. |                    |      |                               |   |                  |
| <b>Power consumption of coils</b>  |                    |      |                               |   |                  |
| AC operated  | inrush             | VA   | 25                            | -   | -                |
|  | sealed             | VA   | 4 - 5                         | -   | -                |
|  |                    | W    | 1.2                           | -   | -                |
| DC operated  | inrush             | W    | -                             | 2.5   | -                |
|  | sealed             | W    | -                             | 2.5   | -                |
| <b>Operation range of coils</b><br>in multiples of control voltage U <sub>s</sub>  |                    |      | 0.85 - 1.1                    | 0.8 - 1.1   | -                |
| <b>Switching time</b> at control voltage U <sub>i</sub> ±10% <sup>4,5</sup>  |                    |      |                               |   |                  |
| AC operated  | make time          | ms   | 15 - 19                       | -   | -                |
|  | release time       | ms   | 8 - 25                        | -   | -                |
|  | arc duration       | ms   | 10 - 15                       | -   | -                |
| DC operated  | make time          | ms   | -                             | 15 - 25   | -                |
|  | release time       | ms   | -                             | 8 - 25  | -                |
|  | arc duration       | ms   | -                             | 10 - 15   | -                |

## Mini Motor Contactors

| Auxiliary Contacts         |                                   | Type            | J7KNA-09...<br>J7KNA-12... | J7KNA-09...D(VS) <sup>*1</sup><br>J7KNA-12...D(VS) | J73KN-A... |
|----------------------------|-----------------------------------|-----------------|----------------------------|--|------------|
| <b>Cable cross-section</b> |                                   |                 |                            |  |            |
| all connectors             | solid                             | mm <sup>2</sup> | 0.75 - 2.5                 | 0.75 - 2.5   | 0.75 - 2.5 |
|                            | flexible                          | mm <sup>2</sup> | 0.75 - 2.5                 | 0.75 - 2.5   | 0.75 - 2.5 |
|                            | flexible with multicore cable end | mm <sup>2</sup> | 0.5 - 1.5                  | 0.5 - 1.5  | 0.5 - 2.5  |
| Clamps per pole            |                                   |                 | 2                          | 2  | 2          |
|                            | solid or stranded                 | AWG             | 18 - 14                    | 18 - 14  | 18 - 14    |

\*1) version „VS“

\*2) Suitable at 690V for: earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry):  $U_{imp} = 8kV$ .  
Data for other conditions on request.

\*3) With reduced control voltage range 0.9 up to  $1.0 \times U_s$  and with reduced thermal rated current  $I_{th}$  to  $I_e/AC15$

\*4) Summary switching time = release time + arc duration

\*5) Release time of NC make time of NO increase when suppressor units for voltage peak protection are used (Varistor, RC-units, Diode units).

## Mini Contactors for North America

### Data according to UL508

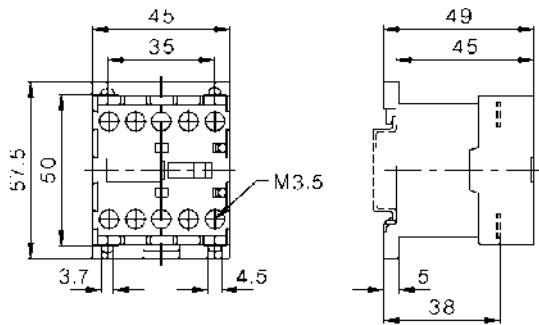
| Main Contacts (cULus)  |                     | Type | J7KNA-09... | J7KNA-12... | J73KN-A... |
|--|---------------------|------|-------------|-------------|------------|
| Rated operational current "General Use"                                    |                     | A    | 15          | 20          | 10         |
| Rated operational power of three-phase motors<br>at 60Hz (3ph)             | 115V                | hp   | 1½          | 2           | -          |
|  | 200V                | hp   | 3           | 3           | -          |
|  | 230V                | hp   | 3           | 3           | -          |
|  | 460V                | hp   | 5           | 7½          | -          |
|  | 575V                | hp   | 7½          | 10          | -          |
| Rated operational power of of AC motors<br>at 60Hz (1ph)                   | 115V                | hp   | ½           | ¾           | -          |
|  | 200V                | hp   | 1           | 1½          | -          |
|  | 230V                | hp   | 1½          | 2           | -          |
| Fuses  |                     | A    | 30          | 30          | -          |
| Suitable for use on a capability of delivering not more than rms<br>(SCCR) |                     | A    | 5000        | 5000        | -          |
|  |                     | V    | 600         | 600         | -          |
| Rated voltage  |                     | V AC | 600         | 600         | 600        |
| <b>Auxiliary Contacts (cULus)</b>  |                     |      |             |             |            |
|  | heavy pilot duty    | AC   | A600        | A600        | A600       |
|  | standard pilot duty | DC   | Q600        | Q600        | Q600       |

## ■ Dimensions

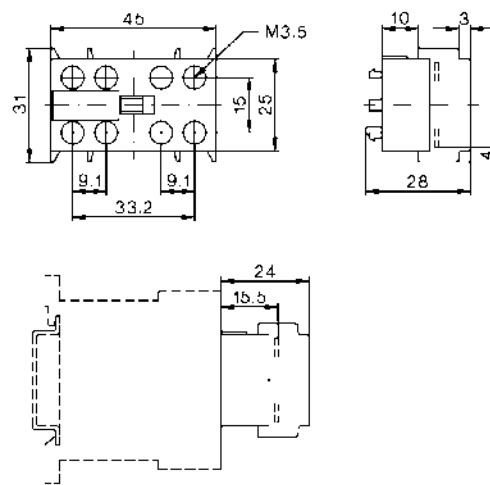
AC and DC operated  
with screw terminals

### Auxiliary Contact Blocks

J7KNA-09...  
J7KNA-12...

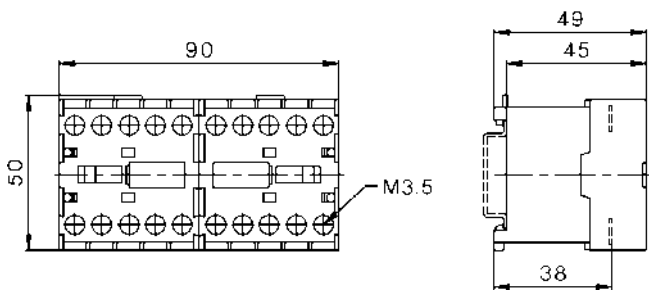


J73KN-A...

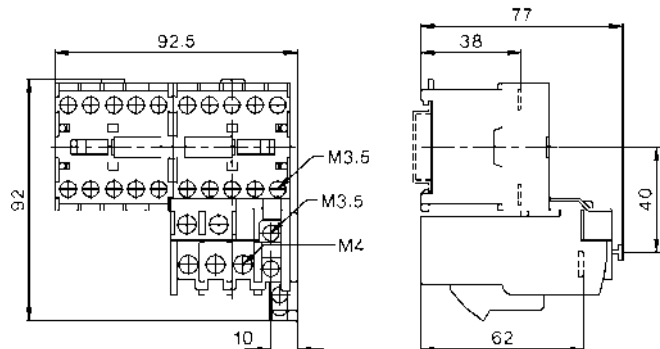


### Reversing Contactors

J7KNA-09-01-R...  
J7KNA-12-01-R...

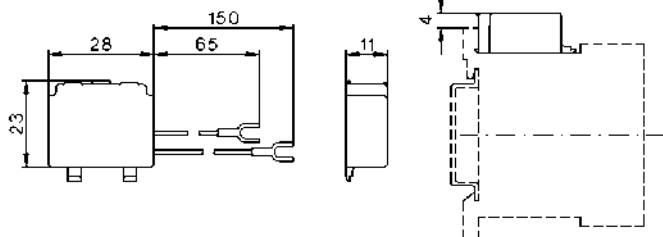


J7KNA-09-01-R... + J7TKN-A  
J7KNA-12-01-R... + J7TKN-A



### Suppressor units

J74KN-D-RC...



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.