

# 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)
- Mirror Contacts (NC) according to IEC 60947-4-1 for safety applications

## 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     |
| ICE 947-5-1 | EN 60947-5-1 |                 |

## 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 LVSG
- 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 LVSG
- 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<br>380V<br>400V<br>415V<br>kW | 500V<br>kW | 660V<br>690V<br>kW | AC3<br>400V<br>A | AC1<br>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) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

\*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<br>380V<br>400V<br>415V<br>kW | 500V<br>kW | 660V<br>690V<br>kW | AC3<br>400V<br>A | AC1<br>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) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

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

## 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              |                                           | 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) |
|------------------------------|-------------------------------------------|--------------------------|----|------------------|-------------------------------------------|----|------------------|----------------------------------------------------------------------------------------------------------------------|
|                              | Distinc. Number according to DIN EN 50012 | Type                     | NO | NC <sup>*1</sup> | Distinc. Number according to DIN EN 50012 | NO | NC <sup>*1</sup> |                                                                                                                      |
| 3-pole, With Screw Terminals |                                           |                          |    |                  |                                           |    |                  |                                                                                                                      |
|                              | 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                |                                                                                                                      |
| 4-pole, With Screw Terminals |                                           |                          |    |                  |                                           |    |                  |                                                                                                                      |
|                              | 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> |                                                                                                                      |
| 3-pole, With Screw Terminals |                                           |                          |    |                 |                                           |    |                 |                                                                                                                      |
|                              | 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) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

() = 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

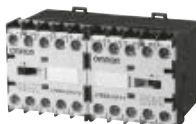
|                                                                                   | Ratings                      |            |                    | Rated Current |           | Aux. Contacts                                                                           |                                                                                           | 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 | <br>NO | <br>NC*1 | Suitable<br>Overload<br>Relay*2 | 24<br>230          | Coil Voltage*3<br>24V 50/60Hz<br>220-230V 50Hz | pcs. | kg/pc. |
|  | 3-pole, With Screw Terminals |            |                    |               |           |                                                                                         |                                                                                           |                                 |                    |                                                |      |        |
|                                                                                   | 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) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

\*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 | <br>NO | <br>NC <sup>*1</sup> | Suitable<br>Overload<br>Relay <sup>*2</sup> | Coil voltage 24V DC 2,5W              | pcs.   | kg/pc. |
|  | 3-pole, With Screw Terminals |            |                    |               |           |                                                                                         |                                                                                                       |                                             |                                       |        |        |
|                                                                                    | 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) Mirror Contact (NC) according to IEC 60947-4-1 for safety applications

\*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 |                       |              |      |        |
|  | NO                                                                                  | NC <sup>*1</sup>                                                                    |                   |           | A                     |              | pcs. | kg/pc. |
|                                                                                     | 1                                                                                   | 1                                                                                   | 3                 | 2         | 10                    | J73KN-AM-11V | 10   | 0.04   |
|                                                                                     | 1                                                                                   | 1                                                                                   | 3                 | 2         | 10                    | J73KN-AM-11X | 10   | 0.04   |

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

### 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.<br><b>J7KNA-09-10-24</b> | Voltage Marking at the coil |            | Rated Control Voltage U <sub>s</sub> range for |             |             |             |
|--------------------------------------------------------|-----------------------------|------------|------------------------------------------------|-------------|-------------|-------------|
|                                                        | for 50Hz V                  | for 60Hz V | 50Hz min V.                                    | 50Hz max V. | 60Hz min V. | 60Hz 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-...       |
|-----------------------------------------------------------------|-----------------|--------------------|--------------------|
| <b>Rated insulation voltage <math>U_i</math></b>                | V AC            | 690 <sup>(1)</sup> | 690 <sup>(1)</sup> |
| <b>Making capacity <math>I_{eff}</math></b> at $U_e = 690V$ AC  | A               | 165                | 165                |
| <b>Breaking capacity <math>I_{eff}</math></b> 400V AC           | A               | 100                | 100                |
| $\cos\varphi = 0,65$ 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 230V     | kW              | 7.9                | 7.9                |
| 50-60Hz, $\cos\varphi = 1$ 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 230V     | kW              | 6.3                | 6.3                |
| 50-60Hz, $\cos\varphi = 1$ 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 $I_e$ 220V                            | A               | 12                 | 15                 |
| open and enclosed 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 220-240V          | kW              | 3                  | 4                  |
| 50-60Hz 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 $I_e$ 220V                            | A               | 12                 | 15                 |
| open and enclosed 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 220-240V          | kW              | 3                  | 4                  |
| 50-60Hz 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-... |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------|-------------------------------|--------------|--------------|
| Utilization category DC1                                                                                                                                      |                                   |      |                               |              |              |
| Switching of resistive load                                                                                                                                   | 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           |              |
| Utilization category DC3 and DC5                                                                                                                              |                                   |      |                               |              |              |
| Switching of shunt motors                                                                                                                                     | 1 pole                            | 24V  | A                             | 20           | 20           |
| and series motors                                                                                                                                             |                                   | 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            |
| Maximum ambient temperature                                                                                                                                   |                                   |      |                               |              |              |
| Operation                                                                                                                                                     | open                              | °C   | -40 to +60 (+90) <sup>2</sup> |              |              |
|                                                                                                                                                               | enclosed                          | °C   | -40 to +40                    |              |              |
| with thermal overload relay                                                                                                                                   | open                              | °C   | -25 to +60                    |              |              |
|                                                                                                                                                               | enclosed                          | °C   | -25 to +40                    |              |              |
| Storage                                                                                                                                                       |                                   | °C   | -50 to +90                    |              |              |
| Short circuit protection                                                                                                                                      |                                   |      |                               |              |              |
| for contactors without thermal overload relay                                                                                                                 |                                   |      |                               |              |              |
| Coordination-type "1" according to IEC 947-4-1                                                                                                                |                                   |      |                               |              |              |
| Contact welding without hazard of persons                                                                                                                     |                                   |      |                               |              |              |
| max. fuse size                                                                                                                                                | gL (gG)                           | A    | 40                            | 40           |              |
| Coordination-type "2" according to IEC 947-4-1                                                                                                                |                                   |      |                               |              |              |
| Light contact welding accepted                                                                                                                                |                                   |      |                               |              |              |
| max. fuse size                                                                                                                                                | gL (gG)                           | A    | 25                            | 25           |              |
| Contact welding not accepted                                                                                                                                  |                                   |      |                               |              |              |
| 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. |                                   |      |                               |              |              |
| Cable cross-sections                                                                                                                                          |                                   |      |                               |              |              |
| for contactors without thermal overload relay                                                                                                                 |                                   |      |                               |              |              |
| main connector                                                                                                                                                | solid or stranded                 | mm²  | 0.5 - 2.5                     | 0.5 - 2.5    |              |
|                                                                                                                                                               | flexible                          | mm²  | 0.5 - 2.5                     | 0.5 - 2.5    |              |
|                                                                                                                                                               | flexible with multicore cable end | mm²  | 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                         | 10 <sup>6</sup> | 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

Data according to IEC 947-5-1, VDE 0660, EN 60947-5-1

| Auxiliary Contacts                                                                                                                                             |                    | Type | J7KNA-09...<br>J7KNA-12...     | J7KNA-09...D(VS) <sup>*1</sup><br>J7KNA-12...D(VS) | J73KN-A...        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|--------------------------------|----------------------------------------------------|-------------------|
| Rated insulation voltage U <sub>i</sub>                                                                                                                        |                    | V AC | 690 <sup>*2</sup>              | 690 <sup>*1</sup>                                  | 690 <sup>*1</sup> |
| Thermal rated current I <sub>th</sub> to 690V                                                                                                                  |                    |      |                                |                                                    |                   |
| Ambient temperature                                                                                                                                            | 40°C               | A    | 10                             | 10                                                 | 10                |
|                                                                                                                                                                | 60°C               | A    | 6                              | 6                                                  | 6                 |
| Power loss per pole                                                                                                                                            | at I <sub>th</sub> | W    | 0.5                            | 0.5                                                | 0.5               |
| Utilization category AC15                                                                                                                                      |                    |      |                                |                                                    |                   |
| 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               |
| Utilization category DC13                                                                                                                                      |                    |      |                                |                                                    |                   |
| 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               |
| Maximum ambient temperature                                                                                                                                    |                    |      |                                |                                                    |                   |
| Operation                                                                                                                                                      | open               | °C   | -40 to +60 (+90) <sup>*3</sup> |                                                    |                   |
|                                                                                                                                                                | enclosed           | °C   |                                |                                                    |                   |
| Storage                                                                                                                                                        |                    | °C   | -40 to +90                     |                                                    |                   |
| Short circuit protection<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. |                    |      |                                |                                                    |                   |
| Power consumption of coils                                                                                                                                     |                    |      |                                |                                                    |                   |
| AC operated                                                                                                                                                    | inrush             | VA   | 25                             | -                                                  | -                 |
|                                                                                                                                                                | sealed             | VA   | 4 - 5                          | -                                                  | -                 |
|                                                                                                                                                                |                    | W    | 1.2                            | -                                                  | -                 |
| DC operated                                                                                                                                                    | inrush             | W    | -                              | 2.5                                                | -                 |
|                                                                                                                                                                | sealed             | W    | -                              | 2.5                                                | -                 |
| Operation range of coils<br>in multiples of control voltage U <sub>s</sub>                                                                                     |                    |      | 0.85 - 1.1                     | 0.8 - 1.1                                          | -                 |
| Switching time 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

Data according to IEC 947-5-1, VDE 0660, EN 60947-5-1

| 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

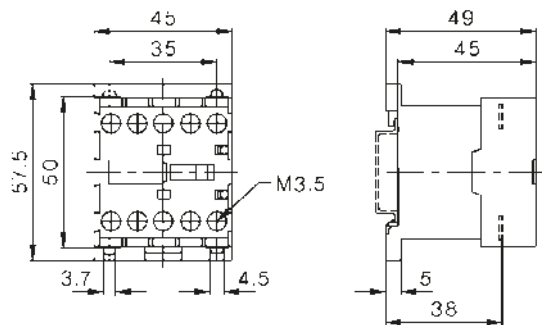
| Main Contacts (cULus)                                                      | Type                | J7KNA-09... | J7KNA-12... | J73KN-A... |
|----------------------------------------------------------------------------|---------------------|-------------|-------------|------------|
| Rated operational 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 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

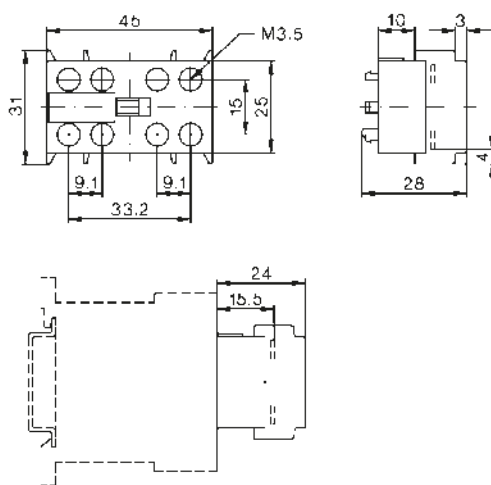
AC and DC operated  
with screw terminals

### Auxiliary Contact Blocks

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

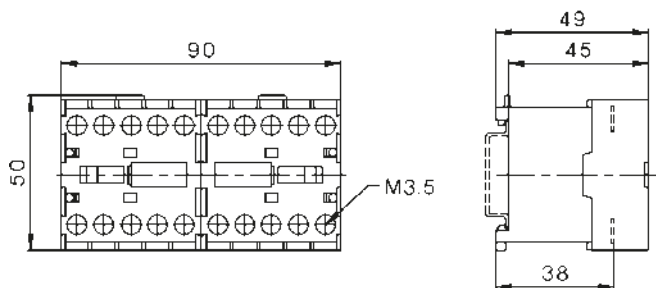


J73KN-A...

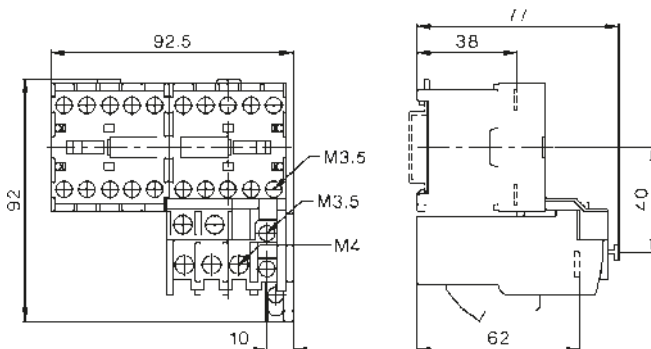


### Reversing Contactors

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

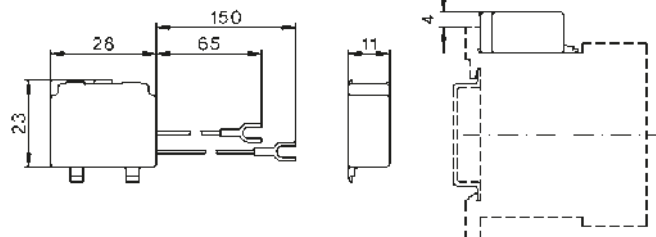


J7KNA-09-01-R... + J7TKN-A  
J7KNA-12-01-R... + J7TKN-A



### Suppressor units

J74KN-D-RC...



CONSULTING DISTRIBUTOR



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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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