



Page 14-2

#### TWO POLES

- IEC rated current Ith: 20A (AC1)
- IEC operating power: 1.3kW (AC3 230V)
- Ideal for domestic applications.



Page 14-2

#### THREE AND FOUR POLES

- IEC rated current Ith: 25A, 40A and 63A (AC1)
- IEC operating power: 4kW, 11kW and 15kW (AC3 400V)
- Ideal for civil or industrial installations, such as office buildings, stores, hospitals, hotels, etc.



- Two, three and four-pole versions, 20A to 63A
- Very silent during operation or control stage
- Operation flag indicator
- Add-on auxiliary contacts.

**Modular contactors**

SEC. - PAGE

|                                     |        |
|-------------------------------------|--------|
| Contactors .....                    | 14 - 2 |
| Add-on blocks and accessories ..... | 14 - 3 |
| Dimensions .....                    | 14 - 4 |
| Wiring diagrams .....               | 14 - 4 |
| Technical characteristics .....     | 14 - 5 |

## CN contactors



CN20...

moduLo



CN25...

moduLo



CN40...

moduLo



CN63...

moduLo

| Order code | Rated auxiliary supply voltage | Configuration and n° of contacts | Qty per pkg | Wt   |
|------------|--------------------------------|----------------------------------|-------------|------|
|            | [V] ①                          | 1NO 1NC                          | n°          | [kg] |

One or two-pole.

|               |             |      |    |       |
|---------------|-------------|------|----|-------|
| CN20 11 024②⑦ | 24VAC/DC    | 1 1③ | 10 | 0.135 |
| CN20 11 220②⑦ | 220-230VAC③ | 1 1③ | 10 | 0.135 |
| CN20 20 024②⑦ | 24VAC/DC    | 2 —  | 10 | 0.135 |
| CN20 20 220②⑦ | 220-230VAC③ | 2 —  | 10 | 0.135 |

| Order code | Rated auxiliary supply voltage | Configuration and n° of contacts | Q.ty per pkg | Wt   |
|------------|--------------------------------|----------------------------------|--------------|------|
|            | [V] ①                          | 1NO 1NC                          | n°           | [kg] |

Three-pole or four-pole.

|              |             |      |   |       |
|--------------|-------------|------|---|-------|
| CN25 10 024③ | 24VAC/DC    | 4④ — | 5 | 0.260 |
| CN25 10 220③ | 220-230VAC③ | 4④ — | 5 | 0.260 |
| CN25 01 024③ | 24VAC/DC    | 3 1④ | 5 | 0.260 |
| CN25 01 220③ | 220-230VAC③ | 3 1④ | 5 | 0.260 |

Three-pole or four-pole.

|              |             |      |   |       |
|--------------|-------------|------|---|-------|
| CN40 10 024③ | 24VAC/DC    | 4④ — | 5 | 0.425 |
| CN40 10 220③ | 220-230VAC③ | 4④ — | 5 | 0.425 |
| CN40 01 024③ | 24VAC/DC    | 3 1④ | 5 | 0.425 |
| CN40 01 220③ | 220-230VAC③ | 3 1④ | 5 | 0.425 |

Three-pole or four-pole.

|             |             |      |   |       |
|-------------|-------------|------|---|-------|
| CN63 10 024 | 24VAC/DC    | 4④ — | 5 | 0.425 |
| CN63 10 220 | 220-230VAC③ | 4④ — | 5 | 0.425 |
| CN63 01 024 | 24VAC/DC    | 3 1④ | 5 | 0.425 |
| CN63 01 220 | 220-230VAC③ | 3 1④ | 5 | 0.425 |

- ① Other voltages on request. Consult Customer Service; see contact details on inside front cover.
- ② 2NC version supplied on request.
- ③ The last (NC) pole has the same characteristics as the power pole. It can therefore be used indifferently as an auxiliary or as a NC power contact.
- ④ The fourth NO or NC pole has the same characteristics as the power poles; therefore it can be used indifferently as auxiliary or as power contact.
- ⑤ On request CN25 and CN40 contactors in the following versions can be supplied: 2NO + 2NC or 4NC power poles. Consult Customer Service; see contact details on inside front cover.
- ⑥ Can also operate at 220VDC.
- ⑦ No auxiliary contacts can be mounted.

### General characteristics

- DC powered magnetic core system assuring silent operation and noise damping during the control phase
- Overvoltage protection circuit and voltage peak limitation of the magnetic core
- Equipped with 2 or 4 closing contacts of equal capacity permitting use in power or auxiliary circuits
- Operation flag indicator
- Fast mounting.

### Operational characteristics

| Type    | IEC conventional free-air thermal current Ith in AC1 | IEC operating power in AC3 230V 400V | Protection fuse gG (IEC) |
|---------|------------------------------------------------------|--------------------------------------|--------------------------|
|         | [A]                                                  | [kW] [kW]                            | [A]                      |
| CN20... | 20                                                   | 1.3 —                                | 20                       |
| CN25... | 25                                                   | 2.2 4                                | 35                       |
| CN40... | 40                                                   | 5.5 11                               | 63                       |
| CN63... | 63                                                   | 8.5 15                               | 80                       |

- IEC degree of protection: IP20
- Mounting on 35mm DIN rail (IEC/EN 60175).

When contactors are mounted side by side and operate in continuous service ( $\geq 1$  hour), spacing is needed between equipment to consent appropriate cooling. 9mm spacing is required; there is an accessory, called half-module spacer, order code CNX 80, for this specific type of mounting. The following table indicates details of the space needed between each.

Maximum number of contactors to be mounted side-by-side without spacing; the CNX 80 spacer is required when the number of pieces are more than indicated below:

|                                                                     | CN20 | CN25 | CN40 | CN63 |
|---------------------------------------------------------------------|------|------|------|------|
| Ambient temperature $\leq 40^{\circ}\text{C}$                       | 3    | 3    | 3    | 3    |
| Ambient temperature $> 40^{\circ}\text{C} \dots 55^{\circ}\text{C}$ | 2    | 2    | 3    | 2    |

⑤ Not suitable for ambient temperature higher than  $40^{\circ}\text{C}$ .

### Operational characteristics of contactor-incorporated auxiliary contacts

| Type    | IEC insulation voltage $U_i$ | IEC rating (AC15 category) 230V 400V |
|---------|------------------------------|--------------------------------------|
|         | [V]                          | [A] [A]                              |
| CN20... | 440                          | 6 6                                  |
| CN25... | 440                          | 6 4                                  |
| CN40... | 500                          | 6 4                                  |
| CN63... | 500                          | 6 4                                  |

### Certifications and compliance

Certifications obtained: GOST.  
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 61095.

### Utilisation

- Lighting systems
- Electric home heating
- Heat pumps
- Conditioning
- Ventilation
- Civil installations.

### Lighting circuit switching

See page 14-6.

**Add-on blocks and accessories**



CNH...



CNP2

| Order code | Characteristics | Max qty per contactor | Qty per pkg | Wt   |
|------------|-----------------|-----------------------|-------------|------|
|            |                 | n°                    | n°          | [kg] |

Auxiliary contacts<sup>❶</sup>.

|                |           |   |   |       |
|----------------|-----------|---|---|-------|
| <b>CNH 11❶</b> | 1NO + 1NC | 1 | 1 | 0.044 |
| <b>CNH 20❶</b> | 2NO       | 1 | 1 | 0.044 |

Set for terminal protection (also sealable).

|              |                   |   |    |       |
|--------------|-------------------|---|----|-------|
| <b>CNP 0</b> | For CN20          | 2 | 1❷ | 0.001 |
| <b>CNP 1</b> | For CN25          | 2 | 1❷ | 0.002 |
| <b>CNP 2</b> | For CN40 and CN63 | 2 | 1❷ | 0.003 |

Spacer.

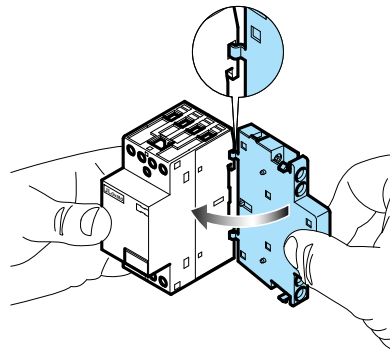
|               |                 |   |    |       |
|---------------|-----------------|---|----|-------|
| <b>CNX 80</b> | 1/2 module wide | 1 | 10 | 0.013 |
|---------------|-----------------|---|----|-------|

❶ Not suitable for CN20 modular contactors.

❷ Set of 2 pieces.

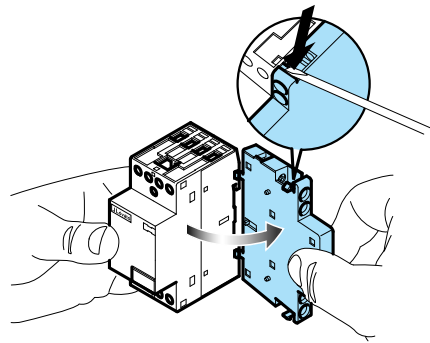
**Mounting**

Fasten the CNH... auxiliary contact by slightly pressing it in place.



**Removal**

Release the catch using a screwdriver.



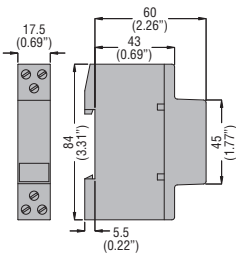
**Operational characteristics for auxiliary contacts**

- Rated insulation voltage: 440VAC
- IEC conventional free air thermal current Ith: 6A
- Minimum switching capacity: 5mA 12V
- Conductor section: 1...1.5mm<sup>2</sup>
- Maximum tightening torque: 1Nm.

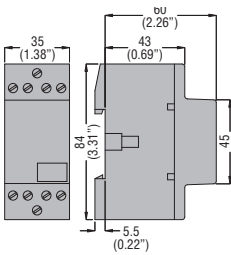
**Certifications and compliance**

Certifications obtained: GOST.  
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 61095.

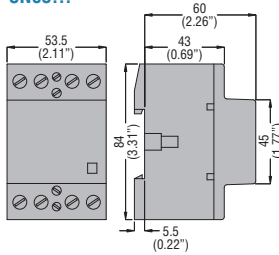
CONTACTORS  
CN20...



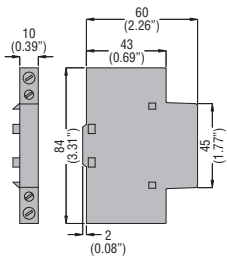
CN25...



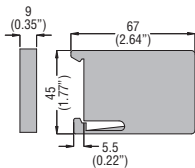
CN40...  
CN63...



ADD-ON BLOCKS  
Contact blocks  
CNH...



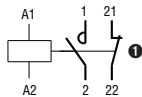
Spacer  
CNX80



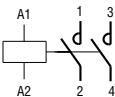
Wiring diagrams

TWO-POLE MODULAR CONTACTORS

CN20 11

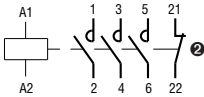


CN20 20

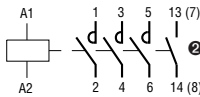


THREE AND FOUR-POLE MODULAR CONTACTORS

CN25 01  
CN40 01  
CN63 01



CN25 10  
CN40 10  
CN63 10



- ① The NC contact has the same characteristics as the power pole contact. Therefore, it can be used indifferently as an auxiliary or as a NC power pole contact.
- ② The fourth pole NO or NC has the same characteristics as the power poles. Therefore, it can be used indifferently as auxiliary or as power pole contact.

ADD-ON AUXILIARY CONTACTS

CNH11



CNH20



| TYPE                                                  |            |      | CN20...    | CN25...    | CN40...    | CN63...    |
|-------------------------------------------------------|------------|------|------------|------------|------------|------------|
| CONTACT CHARACTERISTICS                               |            |      |            |            |            |            |
| IEC conventional free air thermal current Ith (≤40°C) | A          |      | 20         | 25         | 40         | 63         |
| IEC rated insulation voltage Ui                       | V          |      | 230        | 440        | 440        | 440        |
| IEC rated impulse withstand voltage Uimp              | kV         |      | 4          | 4          | 4          | 4          |
| Minimum switching capacity                            |            |      | 17V, ≥50mA | 17V, ≥50mA | 17V, ≥50mA | 17V, ≥50mA |
| Average coil consumption in-rush and holding          | W          |      | 2.5        | 3          | 5          | 5          |
| Maximum tightening torque for coil terminals          | Nm         |      | 0.6        | 0.6        | 0.6        | 0.6        |
|                                                       | lbft       |      | 0.44       | 0.44       | 0.44       | 0.44       |
|                                                       | Tool       |      | PZ1        | PZ1        | PZ2        | PZ2        |
| Coil conductor section                                | min.       | mm²  | 1          |            |            |            |
|                                                       | max.       | mm²  | 2,5        |            |            |            |
| Maximum tightening torque for power terminals         | Nm         |      | 1.2        | 1,2        | 2          | 2          |
|                                                       | lbft       |      | 0.9        | 0.9        | 1.48       | 1.48       |
|                                                       | Tool       |      | PZ1        | PZ1        | PZ2        | PZ2        |
| Power conductor section                               | min.       | mm²  | 2.5        | 2.5        | 1          | 1          |
|                                                       | max.       | mm²  | 6          | 6          | 25         | 25         |
| AC/DC CONTROL CIRCUIT                                 |            |      |            |            |            |            |
| Operating voltage limits                              | pick-up    | % Us | 85-110     |            |            |            |
|                                                       | drop-out   | % Us | 20-25      |            |            |            |
| OPERATING TIMES                                       |            |      |            |            |            |            |
| Average time                                          | closing NO | ms   | 15-45      | 15-45      | 15-20      | 15-20      |
|                                                       | opening NO | ms   | 25-50      | 20-70      | 35-45      | 35-45      |
| LIFE                                                  |            |      |            |            |            |            |
| Mechanical                                            | cycles     |      | 3,000,000  | 3,000,000  | 3,000,000  | 3,000,000  |
| Electrical (in AC3 duty)                              | cycles     |      | 300,000    | 500,000    | 150,000    | 150,000    |
| Electrical (in AC1 duty)                              | cycles     |      | 200,000    | 200,000    | 100,000    | 100,000    |
| AMBIENT CONDITIONS                                    |            |      |            |            |            |            |
| Operating temperature                                 | °C         |      | -5...+55   |            |            |            |
| Storage temperature                                   | °C         |      | -30...+80  |            |            |            |

### LIGHTING CIRCUIT SWITCHING

| Lamp features                                      | Lamp power | Retd current | Capacitor power | Maximum number [n] of lamps each contactor pole<br>230V 50Hz |      |      |      |
|----------------------------------------------------|------------|--------------|-----------------|--------------------------------------------------------------|------|------|------|
|                                                    | [W]        | [A]          | [μF]            | CN20                                                         | CN25 | CN40 | CN63 |
| INCANDESCENT AND TUNGSTEN HALOGEN                  | 60         | 0.26         | -               | 23                                                           | 29   | 65   | 85   |
|                                                    | 100        | 0.43         | -               | 14                                                           | 16   | 40   | 50   |
|                                                    | 200        | 0.87         | -               | 7                                                            | 8    | 20   | 25   |
|                                                    | 500        | 2.17         | -               | 3                                                            | 3    | 8    | 10   |
|                                                    | 1000       | 4.35         | -               | 1                                                            | 1    | 4    | 5    |
| ENERGY SAVING                                      | 3          | 0.03         | -               | 50                                                           | 60   | 150  | 200  |
|                                                    | 5          | 0.04         | -               | 45                                                           | 55   | 135  | 180  |
|                                                    | 7          | 0.055        | -               | 40                                                           | 50   | 12   | 160  |
|                                                    | 8          | 0.065        | -               | 35                                                           | 45   | 110  | 150  |
|                                                    | 9          | 0.075        | -               | 30                                                           | 40   | 100  | 140  |
|                                                    | 10         | 0.08         | -               | 30                                                           | 40   | 100  | 140  |
|                                                    | 11         | 0.09         | -               | 30                                                           | 40   | 100  | 140  |
|                                                    | 12         | 0.10         | -               | 25                                                           | 35   | 95   | 120  |
|                                                    | 14         | 0.11         | -               | 25                                                           | 35   | 90   | 120  |
|                                                    | 15         | 0.12         | -               | 20                                                           | 30   | 85   | 115  |
|                                                    | 16         | 0.13         | -               | 20                                                           | 30   | 80   | 105  |
|                                                    | 18         | 0.145        | -               | 18                                                           | 26   | 70   | 95   |
|                                                    | 20         | 0.16         | -               | 17                                                           | 22   | 65   | 85   |
|                                                    | 21         | 0.17         | -               | 15                                                           | 20   | 60   | 80   |
|                                                    | 23         | 0.185        | -               | 15                                                           | 20   | 60   | 70   |
|                                                    | 24         | 0.195        | -               | 15                                                           | 20   | 55   | 70   |
|                                                    | 30         | 0.16         | -               | 15                                                           | 20   | 55   | 70   |
| FLUORESCENT<br>not corrected and series correction | 18         | 0.37         | -               | 22                                                           | 24   | 90   | 140  |
|                                                    | 24         | 0.35         | -               | 22                                                           | 24   | 90   | 140  |
|                                                    | 36         | 0.43         | -               | 17                                                           | 20   | 65   | 95   |
|                                                    | 58         | 0.67         | -               | 14                                                           | 17   | 45   | 70   |
| FLUORESCENT<br>DUO circuit (lead-lag)              | 18         | 0.11         | -               | 30                                                           | 40   | 100  | 150  |
|                                                    | 24         | 0.14         | -               | 24                                                           | 31   | 78   | 118  |
|                                                    | 36         | 0.22         | -               | 17                                                           | 24   | 65   | 95   |
|                                                    | 58         | 0.35         | -               | 10                                                           | 14   | 40   | 60   |
| FLUORESCENT<br>corrected                           | 18         | 0.12         | 4.5             | 7                                                            | 8    | 48   | 73   |
|                                                    | 24         | 0.15         | 4.5             | 7                                                            | 8    | 48   | 73   |
|                                                    | 36         | 0.2          | 4.5             | 7                                                            | 8    | 48   | 73   |
|                                                    | 58         | 0.32         | 7               | 4                                                            | 5    | 31   | 47   |
| ELECTRONIC FLUORESCENT BALLAST                     | 1 x 18     | 0.09         | -               | 25                                                           | 35   | 100  | 140  |
|                                                    | 1 x 36     | 0.16         | -               | 15                                                           | 20   | 52   | 75   |
|                                                    | 1 x 58     | 0.25         | -               | 14                                                           | 19   | 50   | 72   |
|                                                    | 2 x 18     | 0.17         | -               | 12                                                           | 17   | 50   | 70   |
|                                                    | 2 x 36     | 0.32         | -               | 7                                                            | 10   | 26   | 38   |
|                                                    | 2 x 58     | 0.49         | -               | 7                                                            | 9    | 25   | 36   |
| HIGH-PRESSURE MERCURY VAPOUR<br>not corrected      | 50         | 0.61         | -               | 14                                                           | 18   | 38   | 55   |
|                                                    | 80         | 0.8          | -               | 10                                                           | 13   | 29   | 42   |
|                                                    | 125        | 1.15         | -               | 7                                                            | 9    | 20   | 29   |
|                                                    | 250        | 2.15         | -               | 4                                                            | 5    | 10   | 15   |
|                                                    | 400        | 3.25         | -               | 2                                                            | 3    | 7    | 10   |
|                                                    | 700        | 5.4          | -               | 1                                                            | 2    | 4    | 6    |
|                                                    | 1000       | 7.5          | -               | 1                                                            | 1    | 3    | 4    |
| HIGH-PRESSURE MERCURY VAPOUR<br>corrected          | 50         | 0.28         | 7               | 4                                                            | 5    | 31   | 47   |
|                                                    | 80         | 0.41         | 8               | 4                                                            | 5    | 27   | 41   |
|                                                    | 125        | 0.65         | 10              | 3                                                            | 4    | 22   | 33   |
|                                                    | 250        | 1.22         | 18              | 1                                                            | 2    | 12   | 18   |
|                                                    | 400        | 1.95         | 25              | 1                                                            | 1    | 9    | 13   |
|                                                    | 700        | 3.45         | 45              | -                                                            | -    | 5    | 7    |
|                                                    | 1000       | 4.8          | 60              | -                                                            | -    | 4    | 5    |

| Lamp features                                | Lamp power | Retd current | Capacitor power | Maximum number [n] of lamps each contactor pole<br>230V 50Hz |      |      |      |
|----------------------------------------------|------------|--------------|-----------------|--------------------------------------------------------------|------|------|------|
|                                              | [W]        | [A]          | [μF]            | CN20                                                         | CN25 | CN40 | CN63 |
| METAL HALIDE<br>not corrected                | 35         | 0.53         | -               | 18                                                           | 22   | 43   | 60   |
|                                              | 70         | 1            | -               | 10                                                           | 12   | 23   | 32   |
|                                              | 150        | 1.8          | -               | 5                                                            | 7    | 12   | 18   |
|                                              | 250        | 3            | -               | 3                                                            | 4    | 7    | 10   |
|                                              | 400        | 3.5          | -               | 3                                                            | 3    | 6    | 9    |
|                                              | 1000       | 9.5          | -               | 1                                                            | 1    | 2    | 3    |
|                                              | 2000       | 16.5         | -               | -                                                            | -    | 1    | 1    |
| METAL HALIDE<br>corrected                    | 35         | 0.25         | 6               | 5                                                            | 6    | 36   | 50   |
|                                              | 70         | 0.45         | 12              | 2                                                            | 3    | 18   | 25   |
|                                              | 150        | 0.75         | 20              | 1                                                            | 1    | 11   | 15   |
|                                              | 250        | 1.5          | 33              | -                                                            | 1    | 6    | 9    |
|                                              | 400        | 2.5          | 35              | -                                                            | 1    | 6    | 8    |
|                                              | 1000       | 5.8          | 95              | -                                                            | -    | 2    | 3    |
|                                              | 2000       | 11.5         | 148             | -                                                            | -    | 1    | 2    |
| HIGH-PRESSURE SODIUM VAPOUR<br>not corrected | 150        | 1.8          | -               | 5                                                            | 6    | 17   | 22   |
|                                              | 250        | 3            | -               | 3                                                            | 4    | 10   | 13   |
|                                              | 400        | 4.7          | -               | 2                                                            | 2    | 6    | 8    |
|                                              | 1000       | 10.3         | -               | -                                                            | 1    | 3    | 3    |
| HIGH-PRESSURE SODIUM VAPOUR<br>corrected     | 150        | 0.83         | 20              | 1                                                            | 1    | 11   | 16   |
|                                              | 250        | 1.5          | 33              | -                                                            | 1    | 6    | 10   |
|                                              | 400        | 2.4          | 48              | -                                                            | -    | 4    | 6    |
|                                              | 1000       | 6.3          | 106             | -                                                            | -    | 2    | 3    |
| LOW-PRESSURE SODIUM VAPOUR<br>not corrected  | 18         | 0.35         | -               | 22                                                           | 27   | 71   | 90   |
|                                              | 35         | 1.5          | -               | 7                                                            | 9    | 23   | 30   |
|                                              | 55         | 1.5          | -               | 7                                                            | 9    | 23   | 30   |
|                                              | 90         | 2.4          | -               | 4                                                            | 5    | 14   | 19   |
|                                              | 135        | 3.5          | -               | 3                                                            | 4    | 10   | 13   |
|                                              | 180        | 3.3          | -               | 3                                                            | 4    | 10   | 13   |
| LOW-PRESSURE SODIUM VAPOUR<br>corrected      | 18         | 0.35         | 5               | 6                                                            | 7    | 44   | 66   |
|                                              | 35         | 0.31         | 20              | 1                                                            | 1    | 11   | 16   |
|                                              | 55         | 0.42         | 20              | 1                                                            | 1    | 11   | 16   |
|                                              | 90         | 0.63         | 26              | 1                                                            | 1    | 8    | 12   |
|                                              | 135        | 0.94         | 45              | -                                                            | -    | 4    | 7    |
|                                              | 180        | 1.16         | 40              | -                                                            | -    | 5    | 8    |