



Main Features

| | |
|------------------------------------|-------------------------------|
| Reference | : CWBN |
| Product code | : 14400433 |
| Rated current Ie AC-3 (Ue ≤ 440 V) | : 50 A (N2) |
| Main contacts (power) | : 3 NO |
| Auxiliary contacts | : 1 NO + 1 NC |
| Control voltage | : 180-208V 50Hz/208-240V 60Hz |
| Type of terminal | : Screw |

Basic data

| | |
|--|--------------------|
| Rated utilization voltage Ue | |
| - IEC / UL | : 1000 V / 600 V |
| Isolation voltage Ui (pollution degree 3) | |
| - IEC / UL | : 1000 V / 600 V |
| Rated impulse withstand voltage Uimp | : 8 kV |
| - Frequency limits [1] | : 25 Hz ... 400 Hz |
| - Mechanical lifespan | |
| AC-operated contactor | : 6 million |
| DC-operated contactor | : 6 million |
| Electrical lifespan - Ie AC3 | : 1.6 million |
| Number of coil terminals (AC Coil) | |
| AC coil contactors | : 2 |
| - DC coil contactors | : 2 |
| Resistance to vibration (IEC 60068-2-6) | |
| opened contactor | : 4 g |
| closed contactor | : 4 g |
| Resistance to mechanical shock (½ sinusoid = 11ms) | |
| opened contactor | : 10 g |
| closed contactor | : 15 g |
| Installation | : |
| Degree of protection (IEC 60529) | |
| Main circuit | : IP10 |
| Control circuit | : IP20 |

Alternating current - control circuit

| | | |
|---|--------------------------------|------------------|
| Isolation voltage Ui (pollution degree 3) | | : 1000 V / 600 V |
| - IEC / UL | | |
| Standard voltages for 50/60 Hz | | : 12...550 V |
| Command circuit operation limits | | |
| - control circuit 60 Hz | - pick up | : 0,5...0,8xUs |
| | - drop out | : 0,2...0,6xUs |
| - control circuit 50 Hz | - pick up | : 0,5...0,8xUs |
| | - drop out | : 0,2...0,6xUs |
| - Average coil consumption | | |
| - operating at 60 Hz | - closed magnetic circuit | : 14...21 VA |
| | - power factor (cos φ) | : 0.28 |
| | - Thermal power dissipated | : 4...5,5 W |
| | - closing the magnetic circuit | : 148...222 VA |
| - operating at 50 Hz | - closed magnetic circuit | : 22...32 VA |
| | - power factor (cos φ) | : 0.25 |
| | - Thermal power dissipated | : 5.5...7.8 W |
| | - closing the magnetic circuit | : 162...242 VA |
| Average time of operation | | |
| - closing the NO contacts | | : 10...15 ms |
| - opening the NO contacts | | : 8...12 ms |

Direct current - command circuit

| | |
|----------------------------------|---|
| - IEC / UL | |
| Standard voltages | : |
| Command circuit operation limits | |
| - pick up | : |
| - drop out | : |
| Average consumption | |
| - closed magnetic circuit | : |
| - closing the magnetic circuit | : |
| Thermal power dissipated | : |
| Average time of operation | |
| - closing the NO contacts | : |
| - opening the NO contacts | : |

Main contacts (power)

| | |
|------------------------------|-------------|
| Rated utilization current Ie | |
| - AC-3 (Ue ≤ 440 V) | : 50 A (N2) |

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Contactors



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|--|------------------|
| - AC-4 (Ue ≤ 440 V) | : 32 A |
| - AC-1 (θ ≤ 55 °C, Ue ≤ 690 V) | : 110 A |
| Rated utilization voltage Ue | |
| - IEC / UL | : 1000 V / 600 V |
| Number of main contacts | : 3 NO |
| Establishment capacity (IEC 60947) | : 1000 A |
| Breaking capacity (IEC/EN 60947) | |
| - Ue≤400V | : 1000 A |
| - Ue=500V | : 880 A |
| - Ue=690V | : 640 A |
| Temporary permissible current (without previously current conduction during 15 min at θ ≤ 40 °C) | |
| - 1 sec | : 900 A |
| - 1 sec | : 640 A |
| - 1 sec | : 640 A |
| - 1 min | : |
| - 10 min | : 130 A |
| Protection against short circuit of the contacts main fuse (gL/gG) | |
| - @600V - UL/CSA | : 5 kA |
| - type 1 coordination | : 160 A |
| - type 2 coordination | : Not available |
| Average power dissipated per pole | |
| AC-1 (θ ≤ 55 °C, Ue ≤ 690 V) | : 19 W |
| AC-3 (Ue ≤ 440 V) | : 10 W |
| Utilization category AC-3 | |
| Rated current Ie (θ ≤ 55 °C) | |
| - Ue ≤ 440V | : 50 A (N2) |
| - Ue ≤ 500V | : 45 A |
| - Ue ≤ 690V | : 35 A |
| Maximum percentage (600 ops./h) | : 100 % |

Orientative values of power (IEC)-three-phase induction motors (50/60 Hz)-IV poles-1800 rpm

| Voltage | kW | cv or HP |
|-------------|-------|----------|
| 220 / 240 V | 15 kW | 20 cv |
| 380 / 400 V | 22 kW | 29 cv |
| 415 / 440 V | 30 kW | 40 cv |
| 500 V | 30 kW | 40 cv |
| 660 / 690 V | 33 kW | 44 cv |

Orientative values of power (UL)

| Voltage | 1 Phase | 3 Phase |
|---------|----------------|---------------|
| 120 V | 3 | Not available |
| 200 V | Not applicable | 10 |
| 208 V | Not available | Not available |
| 240 V | 7.5 | 15 |
| 480 V | Not available | 25 |
| 600 V | Not available | 25 |

Utilization category AC-4

Rated current Ie (θ ≤ 55 °C)

| | |
|-------------|----------|
| - Ue ≤ 440V | : 32 A |
| - Ue ≤ 500V | : 23,5 A |
| - Ue ≤ 690V | : 18 A |

Orientative values of power (IEC)-three-phase induction motors (50/60 Hz)-IV poles-1800 rpm

| Voltage | kW | cv or HP |
|-------------|--------|----------|
| 220 / 240 V | 5.5 kW | 7.4 HP |
| 380 / 400 V | 11 kW | 14.7 HP |
| 415 / 440 V | 11 kW | 14.7 HP |
| 500 V | 15 kW | 20.1 HP |
| 660 / 690 V | 15 kW | 20.1 HP |

Utilization category AC-1 (3 P/NA)

Maximum percentage (600 ops./h)

: 1

Maximum power operation θ ≤ 55°C (three resistors)

| Voltage | Power |
|-------------|---------|
| 220 / 240 V | 21.6 kW |
| 380 / 400 V | 36 kW |
| 415 / 440 V | 39.4 kW |
| 500 V | 45 kW |
| 660 / 690 V | 62.1 kW |

Auxiliary contacts

| | |
|-----------------------|------------------|
| Standards compliance | : IEC 600947-5-1 |
| Insulation voltage Ui | |
| - IEC / UL | : 1000 V / 600 V |

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Contactors



Rated utilization voltage U_e
 - IEC / UL : 690 V / 690 V
 Conventional thermal current I_{th} ($\theta \leq 55^\circ\text{C}$) : 10 A
 Rated current I_e - IEC 60947-5-1/AC-15
 - 220 / 240 V : 10 A
 - 380 / 440 V : 4 A
 - 500 V : 2,5 A
 - 660 / 690 V : 1,5 A
 Rated current I_e - IEC 60947-5-1/DC-13
 - 24 V : 4 A
 - 48 V : 2 A
 - 110 V : 0,7 A
 - 220 V : 0,3 A
 - 440 V : 0,15 A
 Establishment capacity - (AC-15 and $U_e \leq 690\text{V}$ 50/60Hz) : 10 x I_e
 Interruption capacity - (AC-15 and $U_e \leq 400\text{V}$ 50/60Hz) : 1 x I_e
 Protection against short circuit of the contacts main fuse (gL/gG) : 10 A
 Control circuit reliability : 17/5 V/mA
 Electrical lifespan : 1 Million
 Mechanical lifespan : 6 million
 Non-overlapping time between NO and NC contacts : 1,5 ms
 Impedance per pole : 2,5 m Ω

Connection

Main contacts
 Type of the screw : M6 internal hexagonal
 Section of the conductors

| Type of the conductor | Section (IEC) | Section (UL) |
|---------------------------------|-------------------|--------------|
| Rigid cable | 1 x Not available | 1 x |
| | 2 x Not available | 2 x |
| Flexible cable without terminal | 1 x Not available | 1 x |
| | 2 x Not available | 2 x |
| Flexible cable with terminal | 1 x Not contain | 1 x |
| | 2 x Not contain | 2 x |

Tightening torque (IEC/UL) : 5 Nm / 45 lb.in
 Control circuit
 Type of the screw : M3,5 Flat/Phillips
 Section of the conductors

| Type of the conductor | Section (IEC) | Section (UL) |
|---------------------------------|-----------------------------|--------------|
| Rigid cable | 1 x 1...4 mm ² | 1 x |
| | 2 x 1...4 mm ² | 2 x |
| Flexible cable without terminal | 1 x 1...4 mm ² | 1 x |
| | 2 x 1...4 mm ² | 2 x |
| Flexible cable with terminal | 1 x 1...4 mm ² | 1 x |
| | 2 x 1...2,5 mm ² | 2 x |

Tightening torque (IEC/UL) : 1 Nm / 8.8 lb.in

Direct current application

Utilization category DC-1 (L/R \leq 1 ms)

| Voltage | Rated utilization current (I_e) | | | |
|------------------------|-------------------------------------|---------------|---------------|---------------|
| | Pole(s) in series | | | |
| | 1 | 2 | 3 | 4 |
| $U_e \leq 24\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 48\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 60\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 125\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 220\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 440\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 600\text{V}$ | Not available | Not available | Not available | Not available |

Utilization category DC-3 (L/R \leq 2.5 ms)

| Voltage | Rated utilization current (I_e) | | | |
|------------------------|-------------------------------------|---------------|---------------|---------------|
| | Pole(s) in series | | | |
| | 1 | 2 | 3 | 4 |
| $U_e \leq 24\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 48\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 60\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 125\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 220\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 440\text{V}$ | Not available | Not available | Not available | Not available |
| $U_e \leq 600\text{V}$ | Not available | Not available | Not available | Not available |

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Contactors



Operation category DC-5 (L/R ≤ 15ms)

| Voltage | Rated utilization current (Ie) | | | |
|-----------|--------------------------------|---------------|---------------|---------------|
| | Pole(s) in series | | | |
| | 1 | 2 | 3 | 4 |
| Ue ≤ 24V | Not available | Not available | Not available | Not available |
| Ue ≤ 48V | Not available | Not available | Not available | Not available |
| Ue ≤ 60V | Not available | Not available | Not available | Not available |
| Ue ≤ 125V | Not available | Not available | Not available | Not available |
| Ue ≤ 220V | Not available | Not available | Not available | Not available |
| Ue ≤ 440V | Not available | Not available | Not available | Not available |
| Ue ≤ 600V | Not available | Not available | Not available | Not available |

Ambient temperature

Operation : -25 °C ... +55 °C
 Storage : -55 °C ... +80 °C
 Maximum altitude with no change of rated values [2] : 3000 m

Dimensions

Height : 115 mm (4.53 in)
 Width : 54 mm (2.13 in)
 Depth : 120.7 mm (4.75 in)
 Weight : 0.91 kg

Standards

IEC 60947-1
 UL 508

Certifications

CE and UL

Notes

- 1) Values above 60 Hz should have current reduction;
- 2) For altitudes of 3000 to 4000 m (0.90 x 0.80 x Ie and Ui) and from 4000 to 5000 m (0.80 x 0.75 x Ie and Ui).