# DATASHEET
## Contactors



## Main Features

| | |
|---|---|
| Reference | : CWM |
| Product code | : 10045425 |
| Rated current Ie AC-3 (Ue ≤ 440 V) | : 105 A |
| Main contacts (power) | : 3 NO |
| Auxiliary contacts | : 1 NO + 1 NC |
| Control voltage | : 110V 50Hz/120V 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 | | : 10 million |
| DC-operated contactor | | : 10 million |
| Electrical lifespan - Ie AC3 | | : 1 million |
| Number of coil terminals (AC Coil) | | |
| AC coil contactors | | : 3 |
| - DC coil contactors | | : 3 |
| Resistance to vibration (IEC 60068-2-6) | | |
| opened contactor | | : 3 g |
| closed contactor | | : 3 g |
| Resistance to mechanical shock (½ sinusoid = 11ms) | | |
| opened contactor | | : 6 g |
| closed contactor | | : 10 g |
| Installation | | : Not available |
| 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...660 V |
| Comand circuit operation limits | | |
| - control circuit 60 Hz | - pick up | : 0,5...0,76xUs |
| | - drop out | : 0,25...0,6xUs |
| - control circuit 50 Hz | - pick up | : 0.5...0.76xUs |
| | - drop out | : 0.25...0.6xUs |
| - Average coil consumption | | |
| - operating at 60 Hz | - closed magnetic circuit | : 16,8...25 VA |
| | - power factor (cos φ) | : 0.32 |
| | - Thermal power dissipated | : 8 W |
| | - closing the magnetic circuit | : 295 VA |
| - operating at 50 Hz | - closed magnetic circuit | : 16.8...25 VA |
| | - power factor (cos φ) | : 0.32 |
| | - Thermal power dissipated | : 8 W |
| | - closing the magnetic circuit | : 295 VA |
| Average time of operation | | |
| - closing the NO contacts | | : 15...30 ms |
| - opening the NO contacts | | : 9...15 ms |

### Direct current - command circuit

| | |
|---|---|
| - IEC / UL | |
| Standard voltages | : |
| Comand 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) | : 105 A |

- AC-4 (Ue ≤ 440 V) : 50 A
- AC-1 (θ ≤ 55 °C, Ue ≤ 690 V) : 140 A

Rated utilization voltage Ue
- IEC / UL : 1000 V / 600 V

Number of main contacts : 3 NO
Establishment capacity (IEC 60947) : 1280 A
Breaking capacity (IEC/EN 60947)
- Ue≤400V : 1050 A
- Ue=500V : 1050 A
- Ue=690V : 950 A

Temporary permissible current (without previously current conduction during 15 min at θ ≤ 40 ºC)
- 1 sec : 3300 A
- 10 sec : 1050 A
- 10 sec : 1050 A
- 1 min :
- 10 min : Not available

Protection against short circuit of the contacts main fuse (gL/gG)
- @600V - UL/CSA : 10 kA
- type 1 coordenation : 250 A
- type 2 coordenation : 200 A

Average power dissipated per pole
AC-1 (θ ≤ 55 °C, Ue ≤ 690 V) : 14.9 W
AC-3 (Ue ≤ 440 V) : 8.4 W

**Utilization category AC-3**

Rated current Ie (θ ≤ 55 ºC)
- Ue ≤ 440V : 105 A
- Ue ≤ 500V : 85 A
- Ue ≤ 690V : 67 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 | 30 kW | 40 cv |
| 380 / 400 V | 55 kW | 75 cv |
| 415 / 440 V | 59 kW | 79 cv |
| 500 V | 59 kW | 79 cv |
| 660 / 690 V | 65 kW | 90 cv |

| Orientative values of power (UL) | | |
|---|---|---|
| Voltage | 1 Phase | 3 Phase |
| 120 V | 10 | Not available |
| 200 V | Not applicable | 30 |
| 208 V | Not available | Not available |
| 240 V | 20 | 40 |
| 480 V | Not available | 75 |
| 600 V | Not available | 75 |

**Utilization category AC-4**

Rated current Ie (θ ≤ 55 ºC)
- Ue ≤ 440V : 50 A
- Ue ≤ 500V : Not available
- Ue ≤ 690V : 50 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 | 11 kW | 15 HP |
| 380 / 400 V | 22 kW | 30 HP |
| 415 / 440 V | 30 kW | 40 HP |
| 500 V | 30 kW | 40 HP |
| 660 / 690 V | 30 kW | 40 HP |

**Utilization category AC-1 (3 P/NA)**

Maximum percentage (600 ops./h) : 1

| Maximum power operation θ ≤ 55ºC (three resistors) | |
|---|---|
| Voltage | Power |
| 220 / 240 V | 53 kW |
| 380 / 400 V | 92 kW |
| 415 / 440 V | 106.5 kW |
| 500 V | 121 kW |
| 660 / 690 V | 160 kW |

**Auxiliary contacts**

Standards compliance : Not available
Insulation voltage Ui
- IEC / UL : Not available / Not available

Rated utilization voltage Ue
- IEC / UL : Not available / Not available
Conventional thermal current Ith (θ ≤ 55ºC) : Not available
Rated current Ie - IEC 60947-5-1/AC-15
- 220 / 240 V : Not available
- 380 / 440 V : Not available
- 500 V : Not available
- 660 / 690 V : Not available
Rated current Ie - IEC 60947-5-1/DC-13
- 24 V : Not available
- 48 V : Not available
- 110 V : Not available
- 220 V : Not available
- 440 V : Not available
Establishment capacity - (AC-15 and Ue ≤ 690V 50/60Hz) : Not available
Interruption capacity - (AC-15 and Ue ≤ 400V 50/60Hz) : Not available
Protection against short circuit of the contacts main fuse (gL/gG) : Not available
Control circuit reliability : Not available
Electrical lifespan : Not available
Mechanical lifespan : Not available
Non-overlapping time between NO and NC contacts : Not available
Impedance per pole : Not available

**Connection**

Main contacts
Type of the screw : M10 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 avaliable | 2 x |
| Flexible cable with terminal | 1 x Not contain | 1 x |
| | 2 x Not contain | 2 x |

Tightening torque (IEC/UL) : 5...6.5 Nm / 60 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 0,5...4 mm² | 1 x |
| | 2 x 0,5...2,5 mm² | 2 x |
| Flexible cable without terminal | 1 x 1...4 mm² | 1 x |
| | 2 x 1...2,5 mm² | 2 x |
| Flexible cable with terminal | 1 x 0,5...4 mm² | 1 x |
| | 2 x 0,5...2,5 mm² | 2 x |

Tightening torque (IEC/UL) : 0,8...1,1 Nm / 10 lb.in

**Direct current application**

Utilization category DC-1 (L/R ≤ 1 ms)

| | Rated utilization current (Ie) | | | |
|---|---|---|---|---|
| | Pole(s) in series | | | |
| Voltage | 1 | 2 | 3 | 4 |
| Ue ≤ 24V | 80 A | 140 A | 140 A | Not available |
| Ue ≤ 48V | 70 A | 140 A | 140 A | Not available |
| Ue ≤ 60V | 65 A | 140 A | 140 A | Not available |
| Ue ≤ 125V | 16 A | 110 A | 140 A | Not available |
| Ue ≤ 220V | 2 A | 20 A | 140 A | Not available |
| Ue ≤ 440V | 0.8 A | 2 A | 15 A | Not available |
| Ue ≤ 600V | Not available | 1 A | 7.5 A | Not available |

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

| | Rated utilization current (Ie) | | | |
|---|---|---|---|---|
| | Pole(s) in series | | | |
| Voltage | 1 | 2 | 3 | 4 |
| Ue ≤ 24V | 65 A | 105 A | 105 A | Not available |
| Ue ≤ 48V | 45 A | 105 A | 105 A | Not available |
| Ue ≤ 60V | 35 A | 105 A | 105 A | Not available |
| Ue ≤ 125V | 3 A | 85 A | 105 A | Not available |
| Ue ≤ 220V | 0.8 A | 7 A | 95 A | Not available |
| Ue ≤ 440V | Not available | 1 A | 3 A | Not available |
| Ue ≤ 600V | Not available | Not available | 1,5 A | Not available |

Operation category DC-5 (L/R ≤ 15ms)

| | Rated utilization current (Ie) | | | |
|---|---|---|---|---|
| | Pole(s) in series | | | |
| Voltage | 1 | 2 | 3 | 4 |
| Ue ≤ 24V | 65 A | 105 A | 105 A | Not available |
| Ue ≤ 48V | 45 A | 105 A | 105 A | Not available |
| Ue ≤ 60V | 35 A | 105 A | 105 A | Not available |
| Ue ≤ 125V | 1.2 A | 80 A | 95 A | Not available |
| Ue ≤ 220V | 0.5 A | 4 A | 7 A | Not available |
| Ue ≤ 440V | Not available | Not available | 1 A | 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 : 117 mm (4.61 in)
Width : 75 mm (2.95 in)
Depth : 126 mm (4.96 in)
Weight : 1.46 kg

**Standards**

IEC 60947-1
UL 508

**Certifications**

CE, UL, UL-NOM, IRAM, BUREAU VERITAS and EAC

**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).