

# DATASHEET

## Contactors



### Main Features



|                                    |                     |
|------------------------------------|---------------------|
| Reference                          | : CWC0              |
| Product code                       | : 12486608          |
| Rated current Ie AC-3 (Ue ≤ 440 V) | : 9 A               |
| Main contacts (power)              | : 3 NO              |
| Auxiliary contacts                 | : 1 NC              |
| Control voltage                    | : 20V 50Hz/24V 60Hz |
| Type of terminal                   | : Screw             |

### Basic data

|  |                        |
|--|------------------------|
| Rated utilization voltage Ue                       |                        |
| - IEC / UL   | : 690 V / 600 V        |
| Isolation voltage Ui (pollution degree 3)          |                        |
| - IEC / UL   | : 690 V / 600 V        |
| Rated impulse withstand voltage Uimp               | : 4 kV                 |
| - Frequency limits [1]                             | : 25 Hz ... 400 Hz     |
| - Mechanical lifespan                              |                        |
| AC-operated contactor                              | : 10 million           |
| DC-operated contactor                              | : 12 million           |
| Electrical lifespan - Ie AC3                       | : 1,3 million          |
| Number of coil terminals (AC Coil)                 |                        |
| AC coil contactors                                 | : 2                    |
| - DC coil contactors                               | : 2                    |
| Resistance to vibration (IEC 60068-2-6)            |                        |
| opened contactor                                   | : 2 g                  |
| closed contactor                                   | : 3 g                  |
| Resistance to mechanical shock (½ sinusoid = 11ms) |                        |
| opened contactor                                   | : 6 g                  |
| closed contactor                                   | : 6 g                  |
| Installation                                       | : DIN 35 mm (EN 50022) |
| Degree of protection (IEC 60529)                   |                        |
| Main circuit                                       | : IP20                 |
| Control circuit                                    | : IP20                 |

### Alternating current - control circuit

|   |  |
|---|--|
| Isolation voltage Ui (pollution degree 3) |  |
| - IEC / UL                                | : 690 V / 600 V                          |
| Standard voltages for 50/60 Hz            | : 12...660 V                             |
| Command circuit operation limits          |  |
| - control circuit 60 Hz                   | - pick up : 0,4...0,76xUs                |
|   | - drop out : 0,25...0,65xUs              |
| - control circuit 50 Hz                   | - pick up : 0,4...0,76xUs                |
|   | - drop out : 0,25...0,65xUs              |
| - Average coil consumption                |  |
| - operating at 60 Hz                      | - closed magnetic circuit : 2,5...3,5 VA |
|   | - power factor (cos φ) : 0,28            |
|   | - Thermal power dissipated : 1 W         |
|   | - closing the magnetic circuit : 35 VA   |
| - operating at 50 Hz                      | - closed magnetic circuit : 2,5...3,5 VA |
|   | - power factor (cos φ) : 0,28            |
|   | - Thermal power dissipated : 1 W         |
|   | - closing the magnetic circuit : 35 VA   |
| Average time of operation                 |  |
| - closing the NO contacts                 | : 8...20 ms                              |
| - opening the NO contacts                 | : 5...15 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)          | : 9 A |

# DATASHEET

## Contactors



|  |                 |
|--|-----------------|
| - AC-4 (Ue ≤ 440 V)  | : 3,5 A         |
| - AC-1 (θ ≤ 55 °C, Ue ≤ 690 V)   | : 20 A          |
| Rated utilization voltage Ue   |                 |
| - IEC / UL   | : 690 V / 600 V |
| Number of main contacts  | : 3 NO          |
| Establishment capacity (IEC 60947)   | : 90 A          |
| Breaking capacity (IEC/EN 60947)   |                 |
| - Ue≤400V  | : 72 A          |
| - Ue=500V  | : 72 A          |
| - Ue=690V  | : 54 A          |
| Temporary permissible current (without previously current conduction during 15 min at θ ≤ 40 °C) |                 |
| - 1 sec  | : 250 A         |
| - 10 sec   | : 95 A          |
| - 10 sec   | : 95 A          |
| - 1 min  | :               |
| - 10 min   | : Not available |
| Protection against short circuit of the contacts main fuse (gL/gG)                               |                 |
| - @600V - UL/CSA   | : 5 kA          |
| - type 1 coordination  | : 35 A          |
| - type 2 coordination  | : 20 A          |
| Average power dissipated per pole  |                 |
| AC-1 (θ ≤ 55 °C, Ue ≤ 690 V)   | : 2,4 W         |
| AC-3 (Ue ≤ 440 V)  | : 0,5 W         |
| <b>Utilization category AC-3</b>   |                 |
| Rated current Ie (θ ≤ 55 °C)   |                 |
| - Ue ≤ 440V  | : 9 A           |
| - Ue ≤ 500V  | : 7,5 A         |
| - Ue ≤ 690V  | : 5,5 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   | 2,2 kW | 3 HP     |
| 380 / 400 V   | 4 kW   | 5,4 HP   |
| 415 / 440 V   | 4,5 kW | 6 HP     |
| 500 V   | 4,5 kW | 6 HP     |
| 660 / 690 V   | 4 kW   | 5,4 HP   |

| Orientative values of power (UL) |                |               |
|----------------------------------|----------------|---------------|
| Voltage                          | 1 Phase        | 3 Phase       |
| 120 V                            | 0.5            | 1             |
| 200 V                            | Not applicable | Not available |
| 208 V                            | 1              | 2             |
| 240 V                            | 1              | 3             |
| 480 V                            | Not available  | 5             |
| 600 V                            | Not available  | 7.5           |

### Utilization category AC-4

|                              |                 |
|------------------------------|-----------------|
| Rated current Ie (θ ≤ 55 °C) |                 |
| - Ue ≤ 440V                  | : 3,5 A         |
| - Ue ≤ 500V                  | : Not available |
| - Ue ≤ 690V                  | : Not available |

| Orientative values of power (IEC)-three-phase induction motors (50/60 Hz)-IV poles-1800 rpm |         |          |
|---|---------|----------|
| Voltage   | kW      | cv or HP |
| 220 / 240 V   | 0,75 kW | 1 HP     |
| 380 / 400 V   | 1,1 kW  | 1.5 HP   |
| 415 / 440 V   | 1,5 kW  | 2 HP     |
| 500 V   | 1,5 kW  | 2 HP     |
| 660 / 690 V   | 1,5 kW  | 2 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  | 7,5 kW  |
| 380 / 400 V  | 13 kW   |
| 415 / 440 V  | 14.5 kW |
| 500 V  | 16,5 kW |
| 660 / 690 V  | 22 kW   |

### Auxiliary contacts

|                       |                  |
|-----------------------|------------------|
| Standards compliance  | : IEC 600947-5-1 |
| Insulation voltage Ui |                  |
| - IEC / UL            | : 690 V / 600 V  |

# DATASHEET

## 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 : 6 A  
 - 500 V : 4 A  
 - 660 / 690 V : 2 A  
 Rated current  $I_e$  - IEC 60947-5-1/DC-13  
 - 24 V : 6 A  
 - 48 V : 4 A  
 - 110 V : 2 A  
 - 220 V : 0,7 A  
 - 440 V : Not available  
 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) : 10 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 : 10 million  
 Non-overlapping time between NO and NC contacts : Not available  
 Impedance per pole : Not available

### Connection

Main contacts  
 Type of the screw : M3 Flat/Phillips  
 Section of the conductors

| Type of the conductor           | Section (IEC)                  | Section (UL) |
|---------------------------------|--------------------------------|--------------|
| Rigid cable                     | 1 x 0,5...2,5 mm <sup>2</sup>  | 1 x          |
|                                 | 2 x 0,5...2,5 mm <sup>2</sup>  | 2 x          |
| Flexible cable without terminal | 1 x 0,75...2,5 mm <sup>2</sup> | 1 x          |
|                                 | 2 x 0,75...2,5 mm <sup>2</sup> | 2 x          |
| Flexible cable with terminal    | 1 x 0,5...2,5 mm <sup>2</sup>  | 1 x          |
|                                 | 2 x 0,5...1,5 mm <sup>2</sup>  | 2 x          |

Tightening torque (IEC/UL) : 1.1 Nm / 10 lb.in  
 Control circuit  
 Type of the screw : M3 Flat/Phillips  
 Section of the conductors

| Type of the conductor           | Section (IEC)                  | Section (UL) |
|---------------------------------|--------------------------------|--------------|
| Rigid cable                     | 1 x 0,5...2,5 mm <sup>2</sup>  | 1 x          |
|                                 | 2 x 0,5...2,5 mm <sup>2</sup>  | 2 x          |
| Flexible cable without terminal | 1 x 0,75...2,5 mm <sup>2</sup> | 1 x          |
|                                 | 2 x 0,75...2,5 mm <sup>2</sup> | 2 x          |
| Flexible cable with terminal    | 1 x 0,5...2,5 mm <sup>2</sup>  | 1 x          |
|                                 | 2 x 0,5...1,5 mm <sup>2</sup>  | 2 x          |

Tightening torque (IEC/UL) : 1,1 Nm / 10 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             |
| $U_e \leq 24\text{V}$  | 10 A                                | 15 A  | 15 A  | Not available |
| $U_e \leq 48\text{V}$  | 10 A                                | 15 A  | 15 A  | Not available |
| $U_e \leq 60\text{V}$  | 8 A                                 | 15 A  | 15 A  | Not available |
| $U_e \leq 125\text{V}$ | 4 A                                 | 8 A   | 12 A  | Not available |
| $U_e \leq 220\text{V}$ | 0,6 A                               | 5 A   | 9 A   | Not available |
| $U_e \leq 440\text{V}$ | 0,2 A                               | 0,6 A | 3,5 A | Not available |
| $U_e \leq 600\text{V}$ | Not available                       | 0,2 A | 1 A   | 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             |
| $U_e \leq 24\text{V}$  | 9 A                                 | 12 A          | 15 A  | Not available |
| $U_e \leq 48\text{V}$  | 8 A                                 | 12 A          | 15 A  | Not available |
| $U_e \leq 60\text{V}$  | 5 A                                 | 10 A          | 14 A  | Not available |
| $U_e \leq 125\text{V}$ | 1,5 A                               | 5,5 A         | 10 A  | Not available |
| $U_e \leq 220\text{V}$ | 0,4 A                               | 1,5 A         | 7 A   | Not available |
| $U_e \leq 440\text{V}$ | Not available                       | 0,2 A         | 1 A   | Not available |
| $U_e \leq 600\text{V}$ | Not available                       | Not available | 0,6 A | Not available |

# DATASHEET

## Contactors



Operation category DC-5 (L/R ≤ 15ms)

| Voltage   | Rated utilization current (Ie) |               |               |               |
|-----------|--------------------------------|---------------|---------------|---------------|
|           | Pole(s) in series              |               |               |               |
|           | 1                              | 2             | 3             | 4             |
| Ue ≤ 24V  | 8 A                            | 12 A          | 15 A          | Not available |
| Ue ≤ 48V  | 8 A                            | 12 A          | 15 A          | Not available |
| Ue ≤ 60V  | 5 A                            | 10 A          | 14 A          | Not available |
| Ue ≤ 125V | 1,5 A                          | 5,5 A         | 9 A           | Not available |
| Ue ≤ 220V | 0,4 A                          | 0,7 A         | 2,5 A         | Not available |
| Ue ≤ 440V | Not available                  | Not available | 0,3 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 : 58 mm (2.28 in)

Width : 45 mm (1.77 in)

Depth : 52 mm (2.05 in)

Weight : 194 g

### Standards

IEC 60947-1

UL 508

### Certifications

CE, UL, UL-NOM, IRAM 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).



CWC07...16-CWCA0

24/02/2012

1:1

mm [inches]



Los valores demostrados pueden ser cambiados sin aviso previo. La información es de referencia solamente.

A3 Sujeito a alteração sem aviso prévio. As informações contidas são valores de referência. The values shown are subject to change without prior notice. The information is for reference only.