

DATASHEET

Contactors



Main Features



Reference	: CWC0
Product code	: 12679845
Rated current Ie AC-3 (Ue ≤ 440 V)	: 16 A
Main contacts (power)	: 3 NO
Auxiliary contacts	: 1 NC
Control voltage	: 42V 50Hz/48V 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 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)		: 690 V / 600 V
- IEC / UL		
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)	: 16 A

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- AC-4 ($U_e \leq 440$ V)	: 5 A
- AC-1 ($\theta \leq 55$ °C, $U_e \leq 690$ V)	: 22 A
Rated utilization voltage U_e	
- IEC / UL	: 690 V / 600 V
Number of main contacts	: 3 NO
Establishment capacity (IEC 60947)	: 160 A
Breaking capacity (IEC/EN 60947)	
- $U_e \leq 400$ V	: 128 A
- $U_e = 500$ V	: 128 A
- $U_e = 690$ V	: 96 A
Temporary permissible current (without previously current conduction during 15 min at $\theta \leq 40$ °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	: 25 A
Average power dissipated per pole	
AC-1 ($\theta \leq 55$ °C, $U_e \leq 690$ V)	: 2,4 W
AC-3 ($U_e \leq 440$ V)	: 1,3 W
Utilization category AC-3	
Rated current I_e ($\theta \leq 55$ °C)	
- $U_e \leq 440$ V	: 16 A
- $U_e \leq 500$ V	: 13 A
- $U_e \leq 690$ V	: 10 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	4 kW	5,4 HP
380 / 400 V	7,5 kW	10 HP
415 / 440 V	7,5 kW	10 HP
500 V	7,5 kW	10 HP
660 / 690 V	7,5 kW	10 HP

Orientative values of power (UL)		
Voltage	1 Phase	3 Phase
120 V	1	2
200 V	Not applicable	Not available
208 V	2	3
240 V	5	5
480 V	Not available	10
600 V	Not available	10

Utilization category AC-4

Rated current I_e ($\theta \leq 55$ °C)

- $U_e \leq 440$ V	: 5 A
- $U_e \leq 500$ V	: Not available
- $U_e \leq 690$ V	: 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	1,1 kW	1,5 HP
380 / 400 V	2,2 kW	2,9 HP
415 / 440 V	2,2 kW	2,9 HP
500 V	2,2 kW	2,9 HP
660 / 690 V	2,2 kW	2,9 HP

Utilization category AC-1 (3 P/NA)

Maximum percentage (600 ops./h)

: 1

Maximum power operation $\theta \leq 55$ °C (three resistors)	
Voltage	Power
220 / 240 V	8,3 kW
380 / 400 V	14,5 kW
415 / 440 V	16 kW
500 V	18 kW
660 / 690 V	25 kW

Auxiliary contacts

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

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Rated utilization voltage Ue	
- IEC / UL	: 690 V / 690 V
Conventional thermal current Ith ($\theta \leq 55^{\circ}\text{C}$)	: 10 A
Rated current Ie - 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 Ie - 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 Ue $\leq$ 690V 50/60Hz)	: 10 x Ie
Interruption capacity - (AC-15 and Ue $\leq$ 400V 50/60Hz)	: 10 x Ie
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 ²	1 x
	2 x 0,5...2,5 mm ²	2 x
Flexible cable without terminal	1 x 0,75...2,5 mm ²	1 x
	2 x 0,75...2,5 mm ²	2 x
Flexible cable with terminal	1 x 0,5...2,5 mm ²	1 x
	2 x 0,5...1,5 mm ²	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 ²	1 x
	2 x 0,5...2,5 mm ²	2 x
Flexible cable without terminal	1 x 0,75...2,5 mm ²	1 x
	2 x 0,75...2,5 mm ²	2 x
Flexible cable with terminal	1 x 0,5...2,5 mm ²	1 x
	2 x 0,5...1,5 mm ²	2 x

Tightening torque (IEC/UL)	: 1,1 Nm / 10 lb.in
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Direct current application

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

Voltage	Rated utilization current (Ie)			
	Pole(s) in series			
	1	2	3	4
Ue $\leq$ 24V	16 A	20 A	22 A	Not available
Ue $\leq$ 48V	13 A	20 A	22 A	Not available
Ue $\leq$ 60V	10 A	18 A	22 A	Not available
Ue $\leq$ 125V	5 A	10 A	16 A	Not available
Ue $\leq$ 220V	0,7 A	6 A	10 A	Not available
Ue $\leq$ 440V	0,3 A	0,7 A	4 A	Not available
Ue $\leq$ 600V	Not available	0,3 A	1,5 A	Not available

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

Voltage	Rated utilization current (Ie)			
	Pole(s) in series			
	1	2	3	4
Ue $\leq$ 24V	9 A	12 A	15 A	Not available
Ue $\leq$ 48V	8 A	12 A	15 A	Not available
Ue $\leq$ 60V	5 A	10 A	14 A	Not available
Ue $\leq$ 125V	1,5 A	5,5 A	10 A	Not available
Ue $\leq$ 220V	0,4 A	1,5 A	7 A	Not available
Ue $\leq$ 440V	Not available	0,2 A	1 A	Not available
Ue $\leq$ 600V	Not available	Not available	0,6 A	Not available

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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	3 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).

