

Main Features



Reference	: CWM
Product code	: 10451945
Rated current Ie AC-3 (Ue ≤ 440 V)	: 50 A
Main contacts (power)	: 3 NO
Auxiliary contacts	: No auxiliary contacts
Control voltage	: 20V 50Hz/24V 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	: 1.1 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)	
- IEC / UL	: 1000 V / 600 V
Standard voltages for 50/60 Hz	: 12...660 V
Command 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	:
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

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Contactors



- AC-4 (Ue ≤ 440 V)	: 23 A
- AC-1 (θ ≤ 55 °C, Ue ≤ 690 V)	: 90 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	: 920 A
- Ue=500V	: 920 A
- Ue=690V	: 780 A
Temporary permissible current (without previously current conduction during 15 min at θ ≤ 40 °C)	
- 1 sec	: 1580 A
- 1 sec	: 500 A
- 1 sec	: 500 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 coordination	: 200 A
- type 2 coordination	: 100 A
Average power dissipated per pole	
AC-1 (θ ≤ 55 °C, Ue ≤ 690 V)	: 6.7 W
AC-3 (Ue ≤ 440 V)	: 2.1 W
Utilization category AC-3	
Rated current Ie (θ ≤ 55 °C)	
- Ue ≤ 440V	: 50 A
- Ue ≤ 500V	: 38 A
- Ue ≤ 690V	: 34 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	30 cv
415 / 440 V	30 kW	40 cv
500 V	30 kW	40 cv
660 / 690 V	30 kW	40 cv

Orientative values of power (UL)		
Voltage	1 Phase	3 Phase
120 V	5	Not available
200 V	Not applicable	15
208 V	Not available	Not available
240 V	10	15
480 V	Not available	40
600 V	Not available	40

Utilization category AC-4

Rated current Ie (θ ≤ 55 °C)	
- Ue ≤ 440V	: 23 A
- Ue ≤ 500V	: Not available
- Ue ≤ 690V	: 23 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	7.5 HP
380 / 400 V	11 kW	15 HP
415 / 440 V	11 kW	15 HP
500 V	15 kW	20 HP
660 / 690 V	15 kW	20 HP

Utilization category AC-1 (3 P/NA)

Maximum percentage (600 ops./h)	: 1
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Maximum power operation θ ≤ 55°C (three resistors)	
Voltage	Power
220 / 240 V	34 kW
380 / 400 V	59 kW
415 / 440 V	68.5 kW
500 V	77 kW
660 / 690 V	100 kW

Auxiliary contacts

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

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Contactors



Rated utilization voltage U_e
 - IEC / UL : Not available / Not available
 Conventional thermal current I_{th} ($\theta \leq 55^\circ\text{C}$) : Not available
 Rated current I_e - 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 I_e - 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 $U_e \leq 690\text{V}$ 50/60Hz) : Not available
 Interruption capacity - (AC-15 and $U_e \leq 400\text{V}$ 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 : M8 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 contain	2 x
Flexible cable with terminal	1 x Not contain	1 x
	2 x Not contain	2 x

Tightening torque (IEC/UL) : 4...6 Nm / 40 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 mm ²	1 x
	2 x 0,5...2,5 mm ²	2 x
Flexible cable without terminal	1 x 1...4 mm ²	1 x
	2 x 1...2,5 mm ²	2 x
Flexible cable with terminal	1 x 0,5...4 mm ²	1 x
	2 x 0,5...2,5 mm ²	2 x

Tightening torque (IEC/UL) : 0,8...1,1 Nm / Not available

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
$U_e \leq 24\text{V}$	50 A	90 A	90 A	Not available
$U_e \leq 48\text{V}$	45 A	90 A	90 A	Not available
$U_e \leq 60\text{V}$	40 A	90 A	90 A	Not available
$U_e \leq 125\text{V}$	16 A	80 A	90 A	Not available
$U_e \leq 220\text{V}$	2 A	20 A	90 A	Not available
$U_e \leq 440\text{V}$	0.8 A	2 A	15 A	Not available
$U_e \leq 600\text{V}$	Not available	1 A	7.5 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
$U_e \leq 24\text{V}$	40 A	65 A	65 A	Not available
$U_e \leq 48\text{V}$	30 A	65 A	65 A	Not available
$U_e \leq 60\text{V}$	25 A	65 A	65 A	Not available
$U_e \leq 125\text{V}$	3 A	50 A	65 A	Not available
$U_e \leq 220\text{V}$	0.8 A	7 A	50 A	Not available
$U_e \leq 440\text{V}$	Not available	1 A	3 A	Not available
$U_e \leq 600\text{V}$	Not available	Not available	1,5 A	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	40 A	65 A	65 A	Not available
Ue ≤ 48V	30 A	65 A	65 A	Not available
Ue ≤ 60V	25 A	65 A	65 A	Not available
Ue ≤ 125V	1.2 A	50 A	60 A	Not available
Ue ≤ 220V	0.5 A	3 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 : 116.5 mm (4.59 in)
 Width : 66 mm (2.60 in)
 Depth : 116 mm (4.57 in)
 Weight : 3.1 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).

