

Main Features



Reference	: CWM
Product code	: 10535727
Rated current Ie AC-3 (Ue ≤ 440 V)	: 180 A
Main contacts (power)	: 3 NO
Auxiliary contacts	: 2 NO + 2 NC
Control voltage	: 24-28V 50/60Hz-DC
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	: 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	: 3 g
closed contactor	: 3 g
Installation	: Not available
Degree of protection (IEC 60529)	
Main circuit	: IP00
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	:
Command circuit operation limits	
- control circuit 60 Hz	- pick up
	- drop out
- control circuit 50 Hz	- pick up
	- drop out
- Average coil consumption	
- operating at 60 Hz	- closed magnetic circuit
	- power factor (cos φ)
	- Thermal power dissipated
	- closing the magnetic circuit
- operating at 50 Hz	- closed magnetic circuit
	- power factor (cos φ)
	- Thermal power dissipated
	- closing the magnetic circuit
Average time of operation	
- closing the NO contacts	:
- opening the NO contacts	:

Direct current - command circuit

- IEC / UL	
Standard voltages	: 24...500 V
Command circuit operation limits	
- pick up	: 0,7...0,85xUs
- drop out	: 0,4...0,6xUs
Average consumption	
- closed magnetic circuit	: 12,5 W
- closing the magnetic circuit	: 375 W
Thermal power dissipated	: 5,8 W
Average time of operation	
- closing the NO contacts	: 40...70 ms
- opening the NO contacts	: 55...75 ms

Main contacts (power)

Rated utilization current Ie	
- AC-3 (Ue ≤ 440 V)	: 180 A

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Contactors



- AC-4 (Ue ≤ 440 V)	: 73 A
- AC-1 (θ ≤ 55 °C, Ue ≤ 690 V)	: 225 A
Rated utilization voltage Ue	
- IEC / UL	: 1000 V / 600 V
Number of main contacts	: 3 NO
Establishment capacity (IEC 60947)	: 2100 A
Breaking capacity (IEC/EN 60947)	
- Ue≤400V	: 1400 A
- Ue=500V	: 1400 A
- Ue=690V	: 938 A
Temporary permissible current (without previously current conduction during 15 min at θ ≤ 40 °C)	
- 1 sec	: 4649 A
- 1 sec	: 2100 A
- 1 sec	: 2100 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	: 355 A
- type 2 coordination	: 250 A
Average power dissipated per pole	
AC-1 (θ ≤ 55 °C, Ue ≤ 690 V)	: 21.6 W
AC-3 (Ue ≤ 440 V)	: 13.8 W
Utilization category AC-3	
Rated current Ie (θ ≤ 55 °C)	
- Ue ≤ 440V	: 180 A
- Ue ≤ 500V	: 155 A
- Ue ≤ 690V	: 135 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	55 kW	75 cv
380 / 400 V	90 kW	125 cv
415 / 440 V	110 kW	150 cv
500 V	110 kW	150 cv
660 / 690 V	110 kW	150 cv

Orientative values of power (UL)		
Voltage	1 Phase	3 Phase
120 V	Not available	Not available
200 V	Not applicable	60
208 V	Not available	Not available
240 V	Not available	75
480 V	Not available	150
600 V	Not available	200

Utilization category AC-4

Rated current Ie (θ ≤ 55 °C)	
- Ue ≤ 440V	: 73 A
- Ue ≤ 500V	: 66 A
- Ue ≤ 690V	: 58 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	22 kW	30 HP
380 / 400 V	37 kW	50 HP
415 / 440 V	45 kW	60 HP
500 V	45 kW	60 HP
660 / 690 V	55 kW	75 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	85 kW
380 / 400 V	145 kW
415 / 440 V	160 kW
500 V	190 kW
660 / 690 V	255 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 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) : 14...16 Nm / Not contain
 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...1,5 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
$U_e \leq 24\text{V}$	200 A	225 A	225 A	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	140 A	225 A	Not available
$U_e \leq 440\text{V}$	Not available	Not available	105 A	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
$U_e \leq 24\text{V}$	180 A	180 A	180 A	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	65 A	150 A	Not available
$U_e \leq 440\text{V}$	Not available	Not available	50 A	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	180 A	180 A	180 A	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	65 A	150 A	Not available
Ue ≤ 440V	Not available	Not available	50 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 : 183 mm (7.20 in)
 Width : 135 mm (5.31 in)
 Depth : 172 mm (6.77 in)
 Weight : 5.025 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).

