

Main Features



Reference	: CWBS
Product code	: 13454435
Rated current Ie AC-3 (Ue ≤ 440 V)	: 18 A
Main contacts (power)	: 3 NO
Auxiliary contacts	: 2 NO + 2 NC
Control voltage	: 24V DC
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	: 6 kV
- Frequency limits [1]	: 25 Hz ... 400 Hz
- Mechanical lifespan	
AC-operated contactor	: 10 million
DC-operated contactor	: 10 million
Electrical lifespan - Ie AC3	: 1.8 millones
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	: 10 g
closed contactor	: 15 g
Installation	: Screw
Degree of protection (IEC 60529)	
Main circuit	: IP10
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	:
Comand 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	: 12...500 V
Comand circuit operation limits	
- pick up	: 0,5...0,8xUs
- drop out	: 0,1...0,4xUs
Average consumption	
- closed magnetic circuit	: 5...7 W
- closing the magnetic circuit	: 5...7 W
Thermal power dissipated	: 5...7 W
Average time of operation	
- closing the NO contacts	: 35...45 ms
- opening the NO contacts	: 8...12 ms

Main contacts (power)

Rated utilization current Ie	
- AC-3 (Ue ≤ 440 V)	: 18 A

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Contactors



- AC-4 ($U_e \leq 440$ V)	: 8,5 A
- AC-1 ($\theta \leq 55$ °C, $U_e \leq 690$ V)	: 32 A
Rated utilization voltage U_e	
- IEC / UL	: 690 V / 600 V
Number of main contacts	: 3 NO
Establishment capacity (IEC 60947)	: 300 A
Breaking capacity (IEC/EN 60947)	
- $U_e \leq 400$ V	: 300 A
- $U_e = 500$ V	: 250 A
- $U_e = 690$ V	: 180 A
Temporary permissible current (without previously current conduction during 15 min at $\theta \leq 40$ °C)	
- 1 sec	: 240 A
- 10 sec	: 145 A
- 10 sec	: 145 A
- 1 min	:
- 10 min	: 40 A
Protection against short circuit of the contacts main fuse (gL/gG)	
- @600V - UL/CSA	: 5 kA
- type 1 coordination	: 50 A
- type 2 coordination	: Not available
Average power dissipated per pole	
AC-1 ($\theta \leq 55$ °C, $U_e \leq 690$ V)	: 2,5 W
AC-3 ($U_e \leq 440$ V)	: 0,8 W
Utilization category AC-3	
Rated current I_e ($\theta \leq 55$ °C)	
- $U_e \leq 440$ V	: 18 A
- $U_e \leq 500$ V	: 15,8 A
- $U_e \leq 690$ V	: 12,8 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	4,5 kW	6 HP
380 / 400 V	7,5 kW	10 HP
415 / 440 V	9,2 kW	12,5 HP
500 V	10 kW	13,4 HP
660 / 690 V	11 kW	15 HP

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

Utilization category AC-4

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

- $U_e \leq 440$ V	: 8,5 A
- $U_e \leq 500$ V	: 7,5 A
- $U_e \leq 690$ V	: 5,4 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	2,2 kW	2,9 HP
380 / 400 V	4 kW	5,4 HP
415 / 440 V	3,7 kW	5 HP
500 V	5 kW	6,7 HP
660 / 690 V	5 kW	6,7 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	12 kW
380 / 400 V	21 kW
415 / 440 V	24,5 kW
500 V	27,5 kW
660 / 690 V	36,5 kW

Auxiliary contacts

Standards compliance	:
Insulation voltage U_i	:
- IEC / UL	: /

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Contactors



Rated utilization voltage U_e

- IEC / UL : /

Conventional thermal current I_{th} ($\theta \leq 55^\circ\text{C}$) :

Rated current I_e - IEC 60947-5-1/AC-15

- 220 / 240 V :

- 380 / 440 V :

- 500 V :

- 660 / 690 V :

Rated current I_e - IEC 60947-5-1/DC-13

- 24 V :

- 48 V :

- 110 V :

- 220 V :

- 440 V :

Establishment capacity - (AC-15 and $U_e \leq 690\text{V } 50/60\text{Hz}$) :

Interruption capacity - (AC-15 and $U_e \leq 400\text{V } 50/60\text{Hz}$) :

Protection against short circuit of the contacts main fuse (gL/gG) :

Control circuit reliability :

Electrical lifespan :

Mechanical lifespan :

Non-overlapping time between NO and NC contacts :

Impedance per pole :

Connection

Main contacts

Type of the screw : M4 Flat/Phillips

Section of the conductors

Type of the conductor	Section (IEC)	Section (UL)
Rigid cable	1 x 1...6 mm ²	1 x
	2 x 1...6 mm ²	2 x
Flexible cable without terminal	1 x 1...6 mm ²	1 x
	2 x 1...6 mm ²	2 x
Flexible cable with terminal	1 x 1...6 mm ²	1 x
	2 x 1...4 mm ²	2 x

Tightening torque (IEC/UL) : 1.7 Nm / 15 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 1...4 mm ²	1 x
	2 x 1...4 mm ²	2 x
Flexible cable without terminal	1 x 1...4 mm ²	1 x
	2 x 1...4 mm ²	2 x
Flexible cable with terminal	1 x 1...4 mm ²	1 x
	2 x 1...2,5 mm ²	2 x

Tightening torque (IEC/UL) : 1 Nm / 8.8 lb.in

Direct current application

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

Voltage	Rated utilization current (I_e)			
	Pole(s) in series			
	1	2	3	4
$U_e \leq 24\text{V}$	25 A	25 A	25 A	Not available
$U_e \leq 48\text{V}$	25 A	25 A	25 A	Not available
$U_e \leq 60\text{V}$	25 A	25 A	25 A	Not available
$U_e \leq 125\text{V}$	4 A	25 A	25 A	Not available
$U_e \leq 220\text{V}$	1 A	4 A	25 A	Not available
$U_e \leq 440\text{V}$	0,4 A	1 A	4 A	Not available
$U_e \leq 600\text{V}$	Not available	0,4 A	1 A	Not available

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

Voltage	Rated utilization current (I_e)			
	Pole(s) in series			
	1	2	3	4
$U_e \leq 24\text{V}$	22 A	22 A	22 A	Not available
$U_e \leq 48\text{V}$	22 A	22 A	22 A	Not available
$U_e \leq 60\text{V}$	22 A	22 A	22 A	Not available
$U_e \leq 125\text{V}$	2 A	22 A	22 A	Not available
$U_e \leq 220\text{V}$	0,5 A	2 A	22 A	Not available
$U_e \leq 440\text{V}$	Not available	0,3 A	1,5 A	Not available
$U_e \leq 600\text{V}$	Not available	Not available	0,8 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	22 A	22 A	22 A	Not available
Ue ≤ 48V	22 A	22 A	22 A	Not available
Ue ≤ 60V	22 A	22 A	22 A	Not available
Ue ≤ 125V	2 A	22 A	22 A	Not available
Ue ≤ 220V	Not available	2 A	22 A	Not available
Ue ≤ 440V	Not available	Not available	1,5 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 : 78,4 mm (3.09 in)
Width : 45 mm (1.77 in)
Depth : 134.6 mm (5.30 in)
Weight : 0.465 kg

Standards

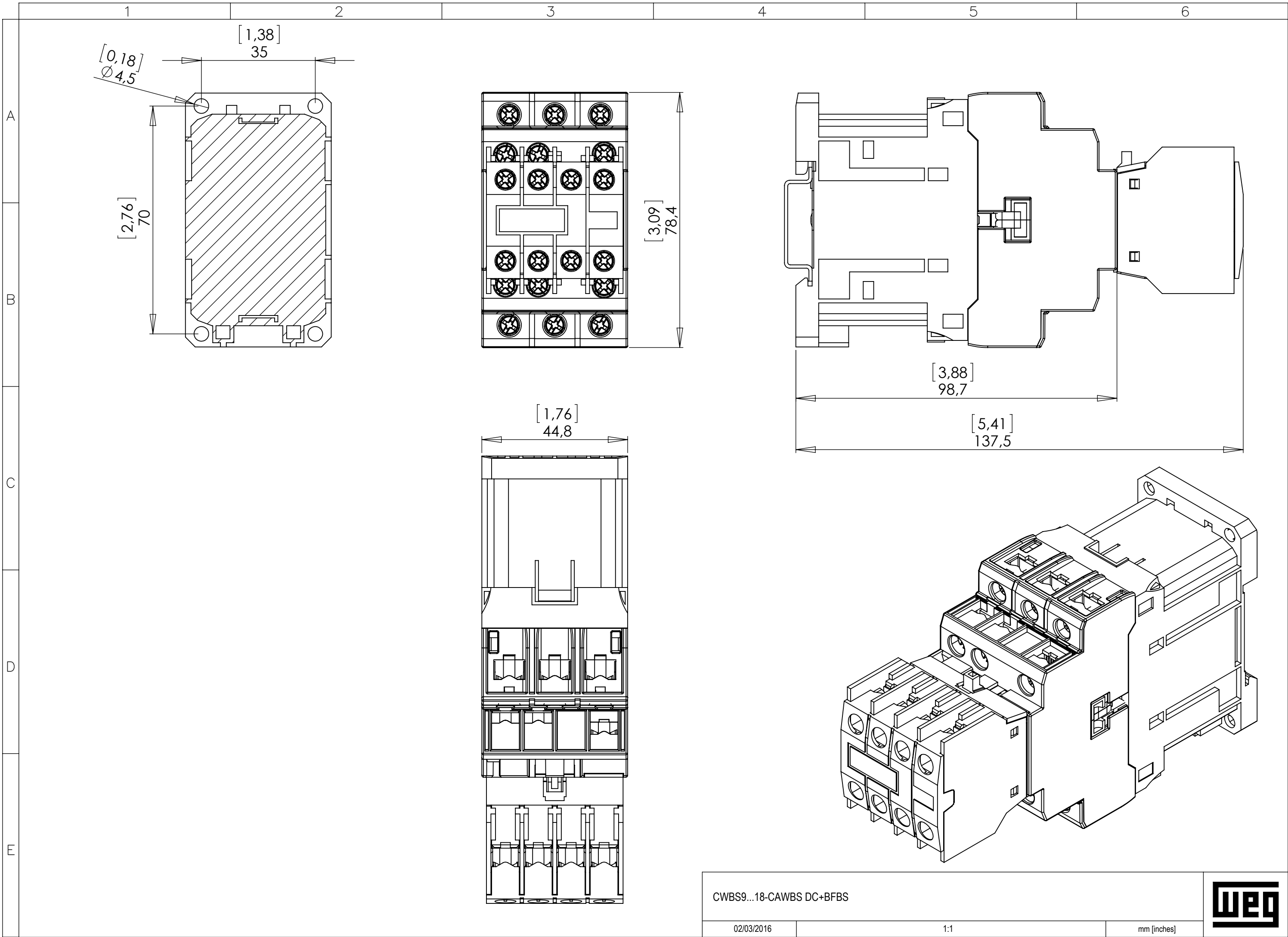
IEC 60947-1
UL 508

Certifications

CE, UL 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).



CWBS9...18-CAWBS DC+BFBS

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1:1

mm [inches]

