

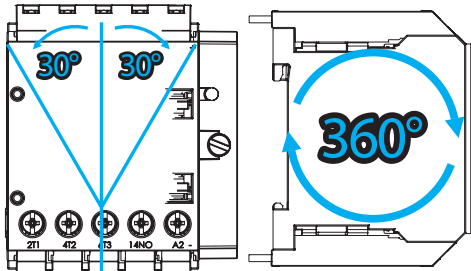
Miniature Contactors - CWC Series

The CWC Series Mini Contactor Line is a Compact Solution for the Control and Operation of Circuits. Its extensive lineup of modular and tool-free accessories makes this series the most flexible mini-contactor available today. The CWC Series miniature contactor features more horsepower for its size than any other miniature contactor on the market.

Standard Features:

- Direct Mounting to RW17D Series Thermal Overload Relays
- Direct Mounting to MPW18 and MPW40 Series Manual Motor Protectors
- Low Consumption DC Coils
- Tool Free DIN Rail Mountable
- Frame size remains the same for AC and DC coil contactors up to 16A
- Complete line of snap-on accessories

Mounting Position of All Compact Contactors



CWC Catalog Number Sequence

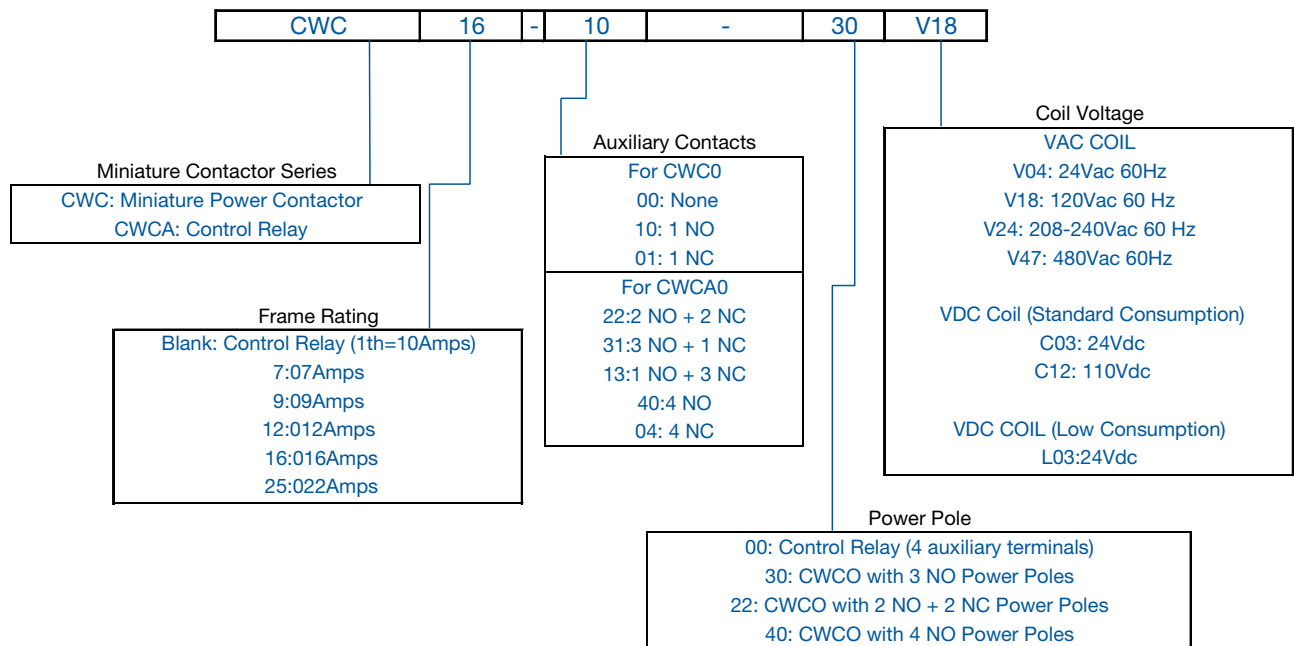


Chart intended for reference only and not to create part numbers



UL File No. E202315

General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

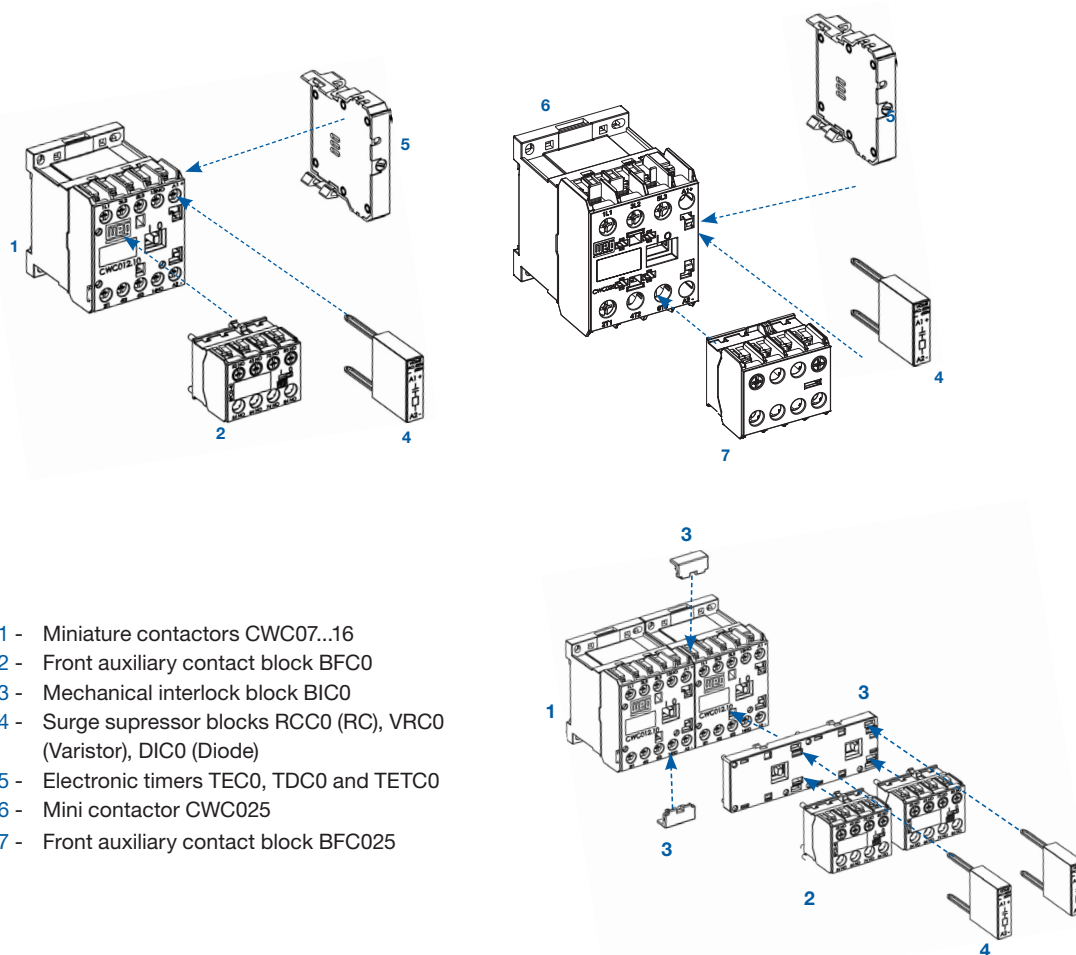
Power Factor Correction

Appendix A

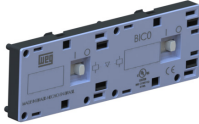
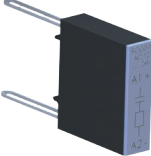
Appendix B

Contactors

CWC Series - Miniature Contactors



CWC Series - Miniature Contactors

						
Type	3 poles	CWC07	CWC09	CWC012	CWC016	CWC025
Rated operational power ¹⁾						
Single-phase						
115Vac	Hp	1/3	1/3	1/2	1	1 1/2
230Vac	Hp	3/4	1	2	2	3
Three-phase						
230Vac	Hp	1 1/2	3	3	5	7 1/2
460Vac	Hp	5	5	7 1/2	10	15
575Vac	Hp	5	7 1/2	7 1/2	10	15
General Purpose Rating (AC-1)	A	18	20	22	22	32
Inductive Motor Switching (AC-3)		7	9	12	16	25
Overload relay	A	 RW17-1D		0.28...0.4 0.4...0.63 0.56...0.8 0.8...1.2 1.2...1.8 1.8...2.8	2.8...4 4...6.3 5.6...8 7...10 8...12.5 10...15 11...17	 RW17-2D 7...10 8...12.5 10...15 11...17 15...23 22...32
Auxiliary contact blocks		 BFC0-20 (2NO) BFC0-22 (2NO + 2NC) BFC0-11 (1NO + 1NC) BFC0-04 (4NC) BFC0-02 (2NC) BFC0-31 (2NO + 1NC) BFC0-40 (4NO) BFC0-13 (1NO + 3NC)		 BFC025-11 (1NO+1NC) BFC025-20 (2NO) BFC025-02 (2NC)		
Mechanical interlock		 BICO		-		
Timer				ON-Delay (TECO) OFF-Delay (TDCO) Star-Delta (TETCO)		
Surge suppressor				RC block: RCC0-1 D49 12-24V 50/60Hz RCC0-2 D53 24-48V 50/60Hz RCC0-3 D55 50-127V 50/60Hz RCC0-4 D63 130-250V 50/60Hz RCC0-5 D84 275-380V 50/60Hz RCC0-6 D73 400-510V 50/60Hz Varistor block: VRC0-1 E01 12-48V 50/60Hz / 12-60VDC VRC0-2 E34 50-127V 50/60Hz / 60-180VDC VRC0-3 E50 130-250V 50/60Hz / 180-300VDC VRC0-4 E41 277-380V 50/60Hz / 300-510VDC VRC0-5 D73 400-510V 50/60Hz Diode block(CWC07-16): DIC0-1C33 12-600VDC		

Notes: 1) Some motor characteristics may vary according to each manufacturer.

Contactors

CWC Series - Miniature Contactors

Three Pole Miniature Contactor with AC Coil

Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
Single Phase		Three Phase									
115V	230V	200V	230V	460V	575V	N.O.	N.C.				
1/3	3/4	1-1/2	1-1/2	5	5	1	0	7	CWC07-10-30*	\$48	Z6
						0	1		CWC07-01-30*	\$48	
1/3	1	2	3	5	7-1/2	1	0	9	CWC09-10-30*	\$52	
						0	1		CWC09-01-30*	\$52	
1/2	2	3	3	7-1/2	7-1/2	1	0	12	CWC012-10-30*	\$64	
						0	1		CWC012-01-30*	\$64	
1	2	3	5	10	10	1	0	16	CWC016-10-30*	\$70	
						0	1		CWC016-01-30*	\$70	
1-1/2	3	5	7-1/2	15	15	0	0	22	CWC025-00-30*	\$80	

To complete the selection

- Replace "*" with desired coil voltage from Coil Voltage Code Table

*AC COIL VOLTAGE CODE SELECTION				
60 Hz	24V	120V	208-240V	480V
CODE	V04	V18	V24	V47
50 Hz	-	110V	-	400-415V

Note: Other voltages available upon request.



Three Pole Miniature Contactors with DC Coil

Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
Single Phase		Three Phase									
115V	230V	200V	230V	460V	575V	N.O.	N.C.				
1/3	3/4	1-1/2	1-1/2	5	5	1	0	7	CWC07-10-30+	\$62	Z6
						0	1		CWC07-01-30+	\$62	
1/3	1	2	3	5	7-1/2	1	0	9	CWC09-10-30+	\$68	
						0	1		CWC09-01-30+	\$68	
1/2	2	3	3	7-1/2	7-1/2	1	0	12	CWC012-10-30+	\$74	
						0	1		CWC012-01-30+	\$74	
1	2	3	5	10	10	1	0	16	CWC016-10-30+	\$79	
						0	1		CWC016-01-30+	\$79	

To complete the selection

- Replace "+" with desired coil voltage from Coil Voltage Code Table



+DC COIL VOLTAGE CODE SELECTION			
Vdc	24V	110V	24V LOW CONSUMPTION*
CODE	C03	C12	L03

Four Pole Contactors with AC Coil

Horse Power @460V	Main Contacts		Catalog Number	List Price	Multiplier
	N.O.	N.C.			
5	4	0	CWC07-00-40*	\$48	Z6
	2	2	CWC07-00-22*		
5	4	0	CWC09-00-40*	\$52	
	2	2	CWC09-00-22*		
10	4	0	CWC016-00-40*	\$70	
	2	2	CWC016-00-22*		

To complete the selection

- Replace "*" with desired coil voltage from Coil Voltage Code Table

*AC COIL VOLTAGE SELECTION				
60 Hz	24V	120V	208-240V	480V
CODE	V04	V18	V24	V47
50 Hz	-	110V	-	400-415V



Four Pole Contactors with DC Coil

Horse Power @460V	Main Contacts		Catalog Number	List Price	Multiplier
	N.O.	N.C.			
5	4	0	CWC07-00-40+	\$62	Z6
	2	2	CWC07-00-22+		
5	4	0	CWC09-00-40+	\$68	
	2	2	CWC09-00-22+		
10	4	0	CWC016-00-40+	\$79	
	2	2	CWC016-00-22+		

To complete the selection

- Replace "+" with desired coil voltage from Coil Voltage Code Table

+DC COIL VOLTAGE CODE SELECTION FOR CWC0_-00-40+		
60 Hz	24V	110V
CODE	C03	C12

+DC COIL VOLTAGE CODE SELECTION FOR CWC0_-00-22+		
60 Hz	24V	110V
CODE	R03	R12



Contactors



CWC Series - Miniature Contactors

Miniature Control Relay

Current Rating Amps	Rating	Auxiliary Contacts			Catalog Number	List Price	Multiplier
		N.O.		N.C.			
10	A600, Q600	2		2	CWCA0-22-00*	\$45	Z6
		3		1	CWCA0-31-00*	\$45	
		4		0	CWCA0-40-00*	\$45	
		1		3	CWCA0-13-00*	\$45	
		0		4	CWCA0-04-00*	\$45	

To complete the selection
- Replace “*” with desired coil voltage from Coil Voltage Code Table

*AC COIL VOLTAGE SELECTION				
60 Hz	24V	120V	208-240V	480V
CODE	V04	V18	V24	V47
50 Hz	-	110V	-	400-415V

Note: Other voltages available upon request.



Miniature Control Relay with DC Coil

Current Rating Amps	Rating	Auxiliary Contacts			Catalog Number	List Price	Multiplier
		N.O.		N.C.			
10	A600, Q600	2		2	CWCA0-22-00+	\$59	Z6
		3		1	CWCA0-31-00+	\$59	
		4		0	CWCA0-40-00+	\$59	
		1		3	CWCA0-13-00+	\$59	
		0		4	CWCA0-04-00+	\$59	

To complete the selection
- Replace “+” with desired coil voltage from Coil Voltage Code Table

+DC COIL VOLTAGE CODE SELECTION			
Vdc	24V	110V	24V LOW CONSUMPTION*
CODE	C03	C12	L03

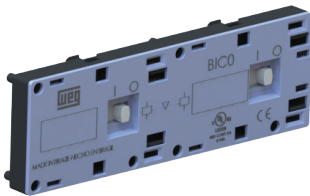


Front Auxiliary Contact Block

	For use with	Max. number of contacts/mini contactor	Auxiliary contacts		For use with CWC0 (3 pole)		For use with CWC0 (4 pole)		For use with CWCA0		List Price	Multiplier	
			NO	NC	Terminal Markings	Catalog Number	Terminal markings	Catalog Number	Terminal markings	Catalog Number			
	CWC07...16 CWCA0	2	2	0		BFC0-20		BFC4-20		BFCA-20	\$15	Z6	
			1	1		BFC0-11		BFC4-11		BFCA-11			
			0	2		BFC0-02		BFC4-02		BFCA-02			
		4	4	0		BFC0-40*		BFC4-40*		BFCA-40*	\$26		
			2	2		BFC0-22*		BFC4-22*		BFCA-22*			
			0	4		BFC0-04*		BFC4-04*		BFCA-04*			
			3	1		BFC0-31*		BFC4-31*		BFCA-31*			
			1	3		BFC0-13*		BFC4-13*		BFCA-13*			
		CWC025	2	2	0		BFC025-20	-	-	-	-		\$15
				1	1		BFC025-11	-	-	-	-		
	0			2		BFC025-02	-	-	-	-			

*Low consumption 24Vdc contactors can only use 2 pole auxiliary contact blocks

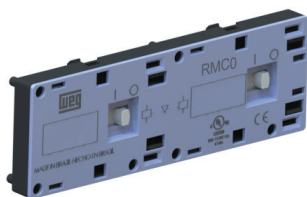
Mechanical Interlock Block

	• Front Mounting • Mechanical interlock without width increase • Allows assembly of auxiliary contact blocks, surge suppressor and timing relay	For use with	Catalog Number	List Price	Multiplier
		CWC07...16 CWCA0	BICO	\$10	Z6

Contactors

CWC Series - Miniature Contactors

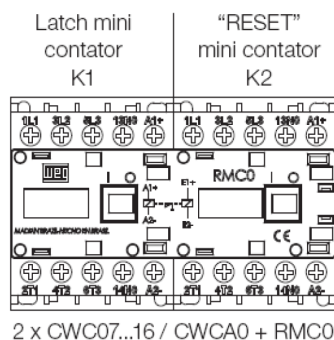
RMCO Latch Block



- Front Mounting
- Mechanical interlock using 2 minicontactors (AC or DC coil)
- Can be mounted with the following accessories: auxiliary contact block, surge suppressor and timers.

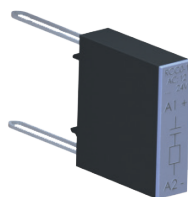
For use with	Catalog Number	List Price	Multiplier
CWC07...16 CWCA0	RMCO	\$12	Z6

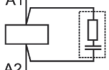
Operation Description of Latch Block RMCO



Surge suppressors

- Fast front mounting (clip on).
- Allows mounting with all the accessories.



For use with	Circuit diagram	Voltage	Catalog Number	List Price	Multiplier
CWC07...25 CWCA0		24-48V 50/60Hz	RCC0-2 D53	\$18	Z6
		50-127V 50/60Hz	RCC0-3 D55		
		130-250V 50/60Hz	RCC0-4 D63		
		400-510V 50/60Hz	RCC0-6 D73		
		12-48V 50/60Hz / 12-60VDC	VRC0-1 E49		
		50-127V 50/60Hz / 60-180VDC	VRC0-2 E34		
		130-250V 50/60Hz / 180-300VDC	VRC0-3 E38		
		400-510V 50/60Hz	VRC0-5 D73		
CWC07...16 CWCA0		12-600VDC	DIC0-1 C33		

Electronic timing relay

- Right-side fast mounting
- Up to 30 minutes timing
- LED status indication

	Function	Time	Voltages	Catalog Number		List Price	Multiplier
	On-Delay (TECO)	3 - 0,3 to 3 seconds	24-240V 50/60Hz - DC	TECO-U003S-E05		\$150	Z6
		10 - 1 to 10 seconds		TECO-U010S-E05			
		30 - 3 to 30 seconds		TECO-U030S-E05			
		60 - 6 to 60 seconds		TECO-U060S-E05			
		100 - 10 to 100 seconds		TECO-U100S-E05			
		300 - 30 to 300 seconds		TECO-U300S-E05			
		1800 - 180 to 1800 seconds		TECO-U030M-E05			
	Off-Delay (TDCO)	-	24-60V 50/60Hz - DC 100-240V 50/60Hz - DC	24-60V AC/DC	100-240V AC/DC	\$150	
		3 - 0,3 to 3 seconds		TDCO-U010S-E04	TDCO-U003S-E09		
		10 - 1 to 10 seconds		TDCO-U003S-E04	TDCO-U010S-E09		
		30 - 3 to 30 seconds		TDCO-U030S-E04	TDCO-U030S-E09		
		60 - 6 to 60 seconds		TDCO-U060S-E04	TDCO-U060S-E09		
		100 - 10 to 100 seconds		TDCO-U100S-E04	TDCO-U100S-E09		
		300 - 30 to 300 seconds		TDCO-U300S-E04	TDCO-U300S-E09		
		1800 - 180 to 1800 seconds		TDCO-U030M-E04	TDCO-U030M-E09		
	Start-Delta (TETCO)	30 - 3 to 30 seconds	24-28V 50/60Hz - DC	TETCO-U030S-D52		\$130	
			110-130V 50/60Hz - DC	TETCO-U030S-D61			
			220-240V 50/60Hz - DC	TETCO-U030S-D66			

Functions	On-Delay TECO	Off-Delay TDCO	Start-Delta TETCO
Functional Diagram Led On Led Off			
Diagrams			

CWC Series - Miniature Contactors

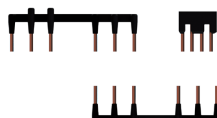
Printed Circuit Board Connector

Easy-Connection Busbar

- Quick and easy assembly for wye-delta and reversing starters
- Allows assemble of overload relay RW17D, manual motor protectors MPW18 & MPW40 and timer

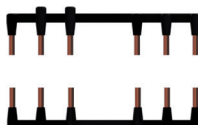
Wye-Delta

Rating (HP)			Contactor	
230V	460V	575V	K1=K2	K3
3	7-1/2	7-1/2	CWC07	CWC07
5	7-1/2	10	CWC09	CWC07
5	10	10	CWC012	CWC07
7-1/2	15	15	CWC016	CWC09



Reversing

Rating (HP)			Contactor
230V	460V	575V	K1=K2
1-1/2	5	5	CWC07
3	5	7-1/2	CWC09
3	7-1/2	7-1/2	CWC012
5	10	10	CWC016



For use with	Catalog Number	List Price	Multiplier
CWC07...16 CWCA0	ECCO-SD	\$34	Z6
	ECCO-R	\$34	

Technical Data

General Data

Catalog Number			CWCA0	CWC07	CWC09	CWC012	CWC016	CWC025
Standards			IEC 60947 / UL 508					
Rated insulation voltage Ui (pollution degree 3)	IEC/EN 60947-4-1, VDE 0660	(V)	690					
	UL, CSA	(V)	600					
Rated impulse withstand voltage Uimp (IEC/EN 60947-1)		(kV)	4					
Rated operational frequency		(Hz)	25...400					
Mechanical lifespan	AC coil Ops x 10"6"		10					3
	DC coil Ops x 10"6"		12					-
Electrical lifespan	le AC-3 Ops x 10"6"		-	1.4	1.3	1.2	1.1	0.6
Degree of protection (VDE 0160)	Main circuits		IP20					
	Control circuits and auxiliary contacts		IP20					
Mounting			Screw or DIN rail 35 mm					
Coil terminals			2					
Vibration resistance	Contact open	(g)	2					
	Contact closed	(g)	4					
Mechanical shock resistance (½ sinusoid = 11ms)	Contact open	(g)	6					
	Contact closed	(g)	10					
Ambient temperature	Operation		-25 °C ...+55 °C					
	Storage		-55 °C ... +80 °C					
Normal values			Up to 3,000 m					
Altitude	90% Ie / 80% Ue		3,000 to 4,000 m					
	80% Ie / 75% Ue		4,000 to 5,000 m					

Control Circuit - Alternating Current (AC)

Catalog Number			CWCA0, CWC07...16		CWC025
Rated insulation voltage U_i (pollution degree 3)	IEC/EN 60947-4-1, VDE 0660	(V)	1,000		1,000
	UL, CSA	(V)	600		600
Coils rated voltage 50 Hz		(V)	10...550		10...550
Coils rated voltage 60 Hz		(V)	12...660		12...660
Coils rated voltage 50/60 Hz		(V)	12...660		12...660
Coils rated voltage					
Coil operating limits		(xUs)	0.85...1.1		
Coil 60 Hz	Pick up	(xUs)	0.4...0.76		0.4...0.76
	Drop out	(xUs)	0.25...0.65		0.25...0.65
Coil 50/60 Hz	Pick up	(xUs)	0.5...0.8		0.5...0.8
	Drop out	(xUs)	0.2...0.6		0.2...0.6
Average consumption			1.0 x Us coil cold state		
Coil 60 Hz	Magnetic circuit closed	(VA)	2.5...3.5		10.8...13.2
	Power factor	(cos φ)	0.28		0.32
	Power dissipation per pole	(W)	2.6		-
	Magnetic circuit closing	(VA)	35		72
	Power factor	(cos φ)	0.85		0.93
Coil 50/60 Hz	Magnetic circuit closed	(VA)	2...3		4.56...5.8
	Magnetic circuit closing	(VA)	30		58
Average time	Closing NO contacts	(ms)	8...20		13...16
	Opening NO contacts	(ms)	6...13		13.5...17

Control Circuit - Direct Current (DC)

Catalog Number			CWCA0, CWC07...16		CWC07...16
Coil type			Conventional	Low consumption	4P (2P/2R)
Rated insulation voltage U_i (pollution degree 3)	IEC/EN 60947-4-1, VDE 0660	(V)	1,000		
	UL, CSA	(V)	600		
Standard voltages		(V)	12...440		
Coil operating limits		(xUs)	0.85...1.1		
	Pick up	(xUs)	0.4...0.7		
	Drop out	(xUs)	0.15...0.4		
Power consumption			1.0 x Us coil cold state		
	Magnetic circuit closed	(W)	2.6...3.7	1.7...2.7	2.9...4
	Magnetic circuit closing	(W)	2.6...3.7	1.7...2.7	2.9...4
Operation time	Closing NO contacts	(ms)	35...45		
	Opening NO contacts	(ms)	7...12		

Contactors

CWC Series - Miniature Contactors

Technical Data

Power Circuit

Catalog Number		CWC07	CWC09	CWC012	CWC016	CWC025
Rated operational current I_e	AC-3 ($U_e \leq 440$ V) (A)	7	9	12	16	22
	AC-4 ($U_e \leq 440$ V) (A)	2.8	3.5	4.5	5	9
	AC-1 ($\theta \leq 55$ °C, $U_e \leq 690$ V) (A)	18	20	22	22	32
Rated operational voltage U_e	IEC/EN 60947-4-1, VDE 0660 (V)	690				
	UL, CSA ¹⁾ (V)	600				
Rated thermal current I_{th} ($\theta \leq 55$ °C) (A)		18	20	22	22	32
Making capacity - IEC/EN 60947 (A)		70	90	120	160	250
Breaking capacity IEC/EN 60947	($U_e \leq 400$ V) (A)	50	72	96	128	200
	($U_e = 500$ V) (A)	50	72	96	128	200
	($U_e = 690$ V) (A)	35	54	72	96	150
Short-time current (no current flowing during recovery time of 10 min and $\theta \leq 40$ °C)	1 seg (A)	250	250	250	250	-
	5 seg (A)	125	125	125	125	-
	10 seg (A)	95	95	95	95	-
	30 seg (A)	70	70	70	70	-
	1 min (A)	50	50	50	50	-
	3 min (A)	40	40	40	40	-
Protection against short-circuits with fuses (gL/gG)	@600 V - UL/CSA ¹⁾ (kA)	5				
	Coordination type 1 (A)	35	35	35	35	50
	Coordination type 2 (A)	20	20	25	25	35
Average impedance per pole (m Ω)		6	6	5	5	6
Average power dissipation per pole (W)	AC-1 (W)	1.9	2.4	2.4	2.4	6.1
	AC-3 (W)	0.3	0.5	0.7	1.3	3.8
Utilization category						
Rated operational current I_e ($\theta \leq 55$ °C)	$U_e \leq 440$ V (A)	7	9	12	16	22
	$U_e \leq 500$ V (A)	6.2	7.5	8.8	13	16
	$U_e \leq 690$ V (A)	4.5	5.5	6.6	10	13
	$U_e \leq 1,000$ V (A)	Not available				
Rated operational power ¹⁾	220 / 230 V (kW)	1.5	2.2	3	3.7	5.5
	(cv)	2	3	4	5	7.5
	380 / V (kW)	3	3.7	5.5	7.5	11
	(cv)	4	5	7.5	10	15
	400 / 415 V (kW)	3	3.7	5.5	7.5	11
	(cv)	4	5	7.5	10	15
	440 V (kW)	3.7	4.5	5.5	7.5	11
	(cv)	5	6	7.5	10	15
	500 V (kW)	3.7	4.5	5.5	7.5	11
	(cv)	5	6	7.5	10	15
	660 / 690 V (kW)	3	3.7	5.5	7.5	11
	(cv)	4	5	7.5	10	15
Max. electrical operational per hour	600 ops./h (%)	100	100	100	100	100
	1,200 ops./h (%)	75	75	75	75	75
	3,000 ops./h (%)	50	50	50	50	50
Utilization category AC-4						
Rated operational power ¹⁾ (200,000 operations)	Rated operational current I_e AC-4 ($U_e \leq 440$ V) (A)	2.8	3.5	4.5	5	9
	220 / 230 V (kW)	0.55	0.75	0.75	1.1	2.2
	(cv)	0.7	1	1	1.5	2.9
	380 / 400 V (kW)	1.1	1.1	1.8	2.2	4
	(cv)	1.5	1.5	2.4	2.9	5.4
	415 V (kW)	1.1	1.5	2.2	2.2	4.5
	(cv)	1.5	2	2.9	2.9	6
	440 V (kW)	1.1	1.5	2.2	2.2	4.5
	(cv)	1.5	2	2.9	2.9	6
	500 V (kW)	1.1	1.5	2.2	2.2	4.5
	(cv)	1.5	2	2.9	2.9	6
	660 / 690 V (kW)	1.1	1.5	2.2	2.2	4.5
	(cv)	1.5	2	2.9	2.9	6

Note: 1) For 50/60 Hz three-phase, 4 poles WEG standard motors. These values are only for reference and may change on the number of poles and motor design.

Technical Data

Power Circuit

Catalog Number			CWC07	CWC09	CWC012	CWC016	CWC025
			Utilization category AC-1				
			3P (NO) or 4P (4NO)				3P (NO)
Rated thermal current I_{th} ($\theta \leq 55\text{ }^{\circ}\text{C}$)		(A)	18	20	22	22	32
Maximum operational current (up to 690 V)	$\theta \leq 40\text{ }^{\circ}\text{C}$	(A)	18	20	22	22	32
	$\theta \leq 55\text{ }^{\circ}\text{C}$	(A)	18	20	22	22	32
	$\theta \leq 70\text{ }^{\circ}\text{C}$	(A)	14.4	16	17.6	17.6	25.6
Maximum operational power $\theta \leq 55\text{ }^{\circ}\text{C}$ 3-phase resistors	220 / 230 V	(kW)	6.8	7.5	8.3	8.3	12
	380 / 400 V	(kW)	11.5	13	14.5	14.5	21
	415 / 440 V	(kW)	13	14.5	16	16	23
	500 V	(kW)	14.8	16.5	18	18	26
	660 / 690 V	(kW)	20	22	25	25	36
Current values for connection of	2 poles in parallel		$I_n \times 1.7$				
	3 poles in parallel		$I_n \times 2.4$				
	4 poles in parallel		$I_n \times 3.2$				
Percentage of the max. operational current at	600 ops./h	(%)	100				
	1,200 ops./h	(%)					
	3,000 ops./h	(%)					
			2P (NO/NC) or 4P (2NO + 2NC)				2P (NO/NC)
Maximum operational power $\theta \leq 55\text{ }^{\circ}\text{C}$ (resistive load)	220 / 230 V	(kW)	3.9	4.4	4.8	4.8	6.6
	380 / 400 V	(kW)	6.8	7.6	8.4	8.4	11.4
	415 / 440 V	(kW)	7.5	8.4	9.2	9.2	12.5
	500 V	(kW)	8.6	9.5	10.5	10.5	14.5
	660 / 690 V	(kW)	11.8	13.1	14.4	14.4	19.5

UL Power Ratings

Catalog Number			CWC07	CWC09	CWC012	CWC016	CWC025
General purpose current			(A)	18	20	22	30
1-phase	110 / 120 V	(HP)	1/3	1/3	1/2	1	1 1/2
	208 V	(HP)	3/4	1/2	1/2	2	3
	220 / 240 V	(HP)	3/4	1/2	2	2	3
3-phase	110 / 120 V	(HP)	3/4	1	1 1/2	2	3
	200 V	(HP)	1 1/2	2	3	3	5
	220 / 240 V	(HP)	1 1/2	3	3	5	7 1/2
	440 / 480 V	(HP)	5	5	7 1/2	10	15
	550 / 600 V	(HP)	5	7 1/2	7 1/2	10	15

Built-In Auxiliary Contacts

Catalog Number			CWC07...16	CWCA0
Standards			IEC 60947-5-1, IEC 60947-4-1	
Rated insulation voltage U _i (pollution degree 3)	IEC, VDE 0660	(V)	690	
	UL, CSA	(V)	600	
Rated operational voltage U _e	IEC, VDE 0660	(V)	690	
	UL, CSA	(V)	600	
Rated thermal current I _{th} (θ ≤ 55 °C)		(A)	10	
Rated operational current I _n				
AC-15 (IEC 60947-5-1)	U _e ≤ 240 V	(A)	10	
	380-400 V	(A)	6	
	415-440 V	(A)	5	
	500 V	(A)	4	
	660-690 V	(A)	2	
UL, CSA			A600	
DC-13 (IEC 60947-5-1)	24 V	(A)	6	
	48 V	(A)	4	
	110 V	(A)	2	
	220 V	(A)	0.7	
UL, CSA			Q600	
Making capacity (rms)	U _e ≤ 400 V 50/60 Hz - AC-15	(A)	10 x I _e (AC-15)	
Breaking capacity (rms)	U _e ≤ 400 V 50/60 Hz - AC-15	(A)	10 x I _e (AC-15)	
Max.fuse class gL-gG without welding (short-circuit protection) gL/gG		(A)	10	
Control circuit reliability	(V / mA)		17 / 5	
Electrical endurance	(millions operations)		1	
Mechanical endurance	(millions operations)		10	

CWC Series - Miniature Contactors

Technical Data

Auxiliary Contacts

Catalog Number			BFC0 / BFC025	
Standards			IEC 60947-5-1, IEC 60947-4-1	
Rated insulation voltage U _i (pollution degree 3)	IEC, VDE 0660	(V)	1,000	
	UL, CSA ¹⁾	(V)	600	
Rated operational voltage U _e	IEC, VDE 0660	(V)	690	
	UL, CSA ¹⁾	(V)	600	
Rated thermal current I _m (θ ≤ 55 °C)		(A)	10	
Rated operational current I _e				
AC-15 (IEC 60947-5-1)	U _e ≤ 240 V	(A)	10	
	380-400 V	(A)	6	
	415-440 V	(A)	6	
	500 V	(A)	4	
	660-690 V	(A)	-	
UL, CSA ¹⁾			A600	
DC-13 (IEC 60947-5-1)	24 V	(A)	1.5	
	60 V	(A)	0.5	
	110 V	(A)	0.4	
	220-240 V	(A)	0.4	
UL, CSA ¹⁾			Q600	
Making capacity (rms)	U _n ≤ 400 V 50/60 Hz - AC-15	(A)	30	
Breaking capacity (rms)	U _n ≤ 400 V 50/60 Hz - AC-15	(A)	3	
Max.fuse class gL-gG without welding (short-circuit protection)		(A)	10	
Control circuit reliability	(V / mA)		17 / 5	
Electrical endurance	(millions operations)		1	
Mechanical endurance	(millions operations)		10	

Timing relay

Rated insulation voltage (U _i)	V	300
Supply voltage (U _e)	1 - 2 terminals	24...240 V dc/ V ac 50/60 Hz (TEC0)
		24...60 V dc/ V ac 50/60 Hz (TDC0)
		100...240 V dc/ V ac 50/60 Hz (TDC0)
		220-240 V ac 50/60 Hz (TETC0)
		110-130 V ac 50/60 Hz (TETC0)
		24-28 V ac 50/60 Hz (TETC0)
Control voltage (U _c) only TDC0 - pag A25	2 - B1 terminals	24...60 V dc/ V ac 50/60 Hz (TDC0)
		100...240 V dc/ V ac 50/60 Hz (TDC0)
Voltage operational limits		0.85...1.1 x U _c (V ac)
		0.8...1.25 x U _c (V dc)
Consumption	mA	≤ 5
Minimum time for reset (recovery time)	ms	650
Minimum control time (only TDC0)	ms	50
Setting accuracy (% of the full scale value)	%	+/-5
Repeat accuracy	%	+/-1
Changeover time Y - Δ	ms	50

Technical Data

Terminal Capacity and Tightening Torque - Power and Built-In Auxiliary Terminals

Catalog Number	CWC07...CWC016 / CWCA0			CWC025		
Screw type	M3x 8 Flat / Phillips			M3.5x 9 Flat / Phillips		
Power terminal and built-in auxiliary terminal ¹⁾	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
mm ²	1x 0.5...2.5 2x 0.5...1.5	1x 0.75...2.5 2x 0.75...2.5	1x 0.5...2.5 2x 0.5...2.5	1x 1...6 2x 1...2.5 2x 2.5...4	1x 1...6 2x 1...2.5 2x 2.5...6	1x 1...6 2x 1...2.5 2x 2.5...6
AWG (UL)	18...12			18...10		
Tightening torque (N.m)	1.1			1.5		
Tightening torque (lb.in) (UL)	10			13		

Note: 1) Built-in auxiliary terminals not available for CWC025.

Terminal Capacity and Tightening Torque - Coil Terminals

Catalog Number	CWC07...CWC025 / CWCA0		
Screw type	M3.5x 8 Flat / Phillips		
Coil terminals	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
mm ²	1x 0.5...2.5 2x 0.5...1.5	1x 0.75...2.5 2x 0.75...2.5	1x 0.5...2.5 2x 0.5...2.5
AWG (UL)	22...12		
Tightening torque (N.m)	1.1		
Tightening torque (lb.in) (UL)	10		

Terminal Capacity and Tightening Torque - Auxiliary Contact Blocks

Catalog Number	BFC0 / BFCA / BFC4 / BFC025		
Screw type	M3.5x9 Flat / Phillips		
Auxiliary contact block	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
mm ²	1x 0.5...2.5 2x 0.5...1.5	1x 0.75...4 2x 0.75...2.5	1x 0.5...4 2x 0.5...2.5
AWG (UL)	22...14		
Tightening torque (N.m)	1.1		
Tightening torque (lb.in) (UL)	10		

Terminal Capacity - Power, Coil and Auxiliary Contact Blocks

Catalog Number	CWC07_S... CWC012_S / CWCA0_S		BFC0_S / BFCA_S / BFC4_S
Terminal type	Spring terminal		
Power terminal	Finely stranded with end sleeve	Solid	
mm ²	2x 1...1.5	2x 1...1.5	
Auxiliary contact block / built-in auxiliary terminal / or coil terminal	Finely stranded with end sleeve	Solid	Solid or finely stranded with end sleeve
mm ²	2x 0.5...1.5	2x 0.5...1.5	2x 0.5...1.5
AWG	18...12		22...16

CWC Series - Miniature Contactors

Technical Data

Utilization Category DC-1, DC-3 and DC-5

DC-1(L/R ≤ 1ms)

	Catalog Number	CWC07	CWC09	CWC012	CWC016	CWC025
U _e	Serie poles	Rated operational current I _e (A)				
≤ 24 V	1	10	10	16	16	18
	2	15	15	20	20	25
	3	15	15	22	22	25
	4	15	15	22	22	-
≤ 48 V	1	10	10	13	13	16
	2	15	15	20	20	25
	3	15	15	22	22	25
	4	15	15	22	22	-
≤ 60 V	1	8	8	10	10	13
	2	15	15	18	18	25
	3	15	15	22	22	25
	4	15	15	22	22	-
≤ 125 V	1	4	4	5	5	6
	2	8	8	10	10	13
	3	12	12	16	16	18
	4	15	15	19	19	-
≤ 220 V	1	0.6	0.6	0.7	0.7	1
	2	5	5	6	6	8
	3	9	9	10	10	14
	4	12	12	15	15	-
≤ 440 V	1	0.2	0.2	0.3	0.3	0.4
	2	0.6	0.6	0.7	0.7	1.5
	3	3.5	3.5	4	4	5
	4	8	8	9	9	-
≤ 600 V	1	-	-	-	-	-
	2	0.2	0.2	0.3	0.3	0.6
	3	1	1	1.5	1.5	2
	4	2	2	4	4	-

DC-3(L/R ≤ 2.5ms)

	Catalog Number	CWC07	CWC09	CWC012	CWC016	CWC025
U _e	Serie poles	Rated operational current I _e (A)				
≤ 24 V	1	9	9	9	9	10
	2	12	12	12	12	15
	3	15	15	15	15	18
	4	15	15	15	15	-
≤ 48 V	1	8	8	8	8	10
	2	12	12	12	12	15
	3	15	15	15	15	18
	4	15	15	15	15	-
≤ 60 V	1	5	5	5	5	8
	2	10	10	10	10	13
	3	14	14	14	14	18
	4	15	15	15	15	-
≤ 125 V	1	1.5	1.5	1.5	1.5	2
	2	5.5	5.5	5.5	5.5	7
	3	10	10	10	10	13
	4	14	14	14	14	-
≤ 220 V	1	0.4	0.4	0.4	0.4	0.6
	2	1.5	1.5	1.5	1.5	2
	3	7	7	7	7	8
	4	11	11	11	11	-
≤ 440 V	1	-	-	-	-	-
	2	0.2	0.2	0.2	0.2	0.3
	3	1	1	1	1	1.5
	4	3	3	3	3	-
≤ 600 V	1	-	-	-	-	-
	2	-	-	-	-	-
	3	0.6	0.6	0.6	0.6	0.8
	4	1.5	1.5	1.5	1.5	-

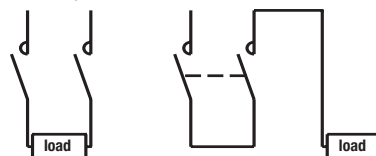
DC-5(L/R ≤ 15ms)

	Catalog Number	CW07	CWC07	CWC09	CWC012	CWC016	CWC025
U _e	Serie poles	Rated operational current I _e (A)					
≤ 24 V	1	1.5	8	8	8	8	10
	2	2.5	12	12	12	12	14
	3	3	15	15	15	15	18
	4	3	15	15	15	15	-
≤ 48 V	1	1.5	8	8	8	8	9
	2	2.5	12	12	12	12	14
	3	3	15	15	15	15	18
	4	3	15	15	15	15	-
≤ 60 V	1	1.2	5	5	5	5	7
	2	2.5	10	10	10	10	12
	3	3	14	14	14	14	18
	4	3	15	15	15	15	-
≤ 125 V	1	0.7	1.5	1.5	1.5	1.5	0.8
	2	1.5	5.5	5.5	5.5	5.5	5
	3	2.5	9	9	9	9	12
	4	3	14	14	14	14	-
≤ 220 V	1	0.1	0.4	0.4	0.4	0.4	-
	2	0.5	0.7	0.7	0.7	0.7	0.8
	3	1.5	2.5	2.5	3	3	3
	4	2.2	9	9	9	9	-
≤ 440 V	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	0.1	0.3	0.3	0.3	0.3	0.5
	4	0.3	0.7	0.7	0.7	0.7	-
≤ 600 V	1	-	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	0.2	0.2	0.2	0.2	-

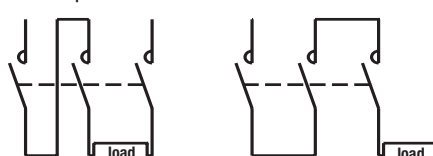
1 serie pole



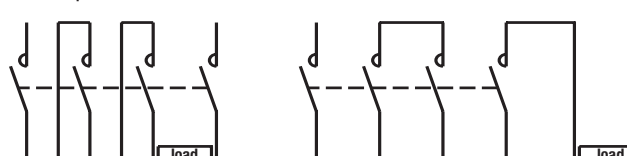
2 serie poles



3 serie poles



4 serie poles

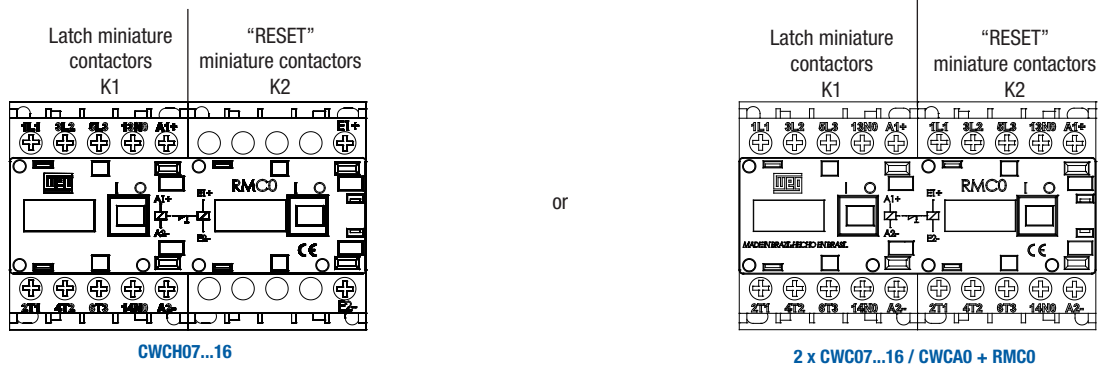


Technical Data

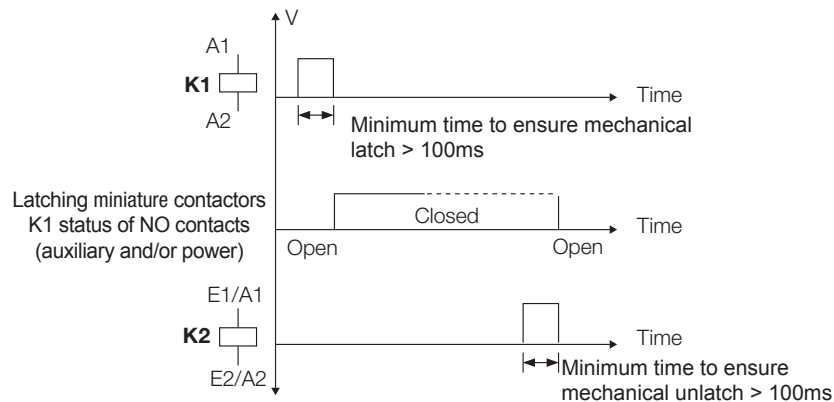
Timing relay

Rated insulation voltage (U_i)	V	300
Supply voltage (U_e)	1 - 2 terminals	24...240 V dc/ V ac 50/60 Hz (TECO)
		24...60 V dc/ V ac 50/60 Hz (TDC0)
		100...240 V dc/ V ac 50/60 Hz (TDC0)
		220-240 V ac 50/60 Hz (TETCO)
		110-130 V ac 50/60 Hz (TETCO)
		24-28 V ac 50/60 Hz (TETCO)
Control voltage (U_c) only TDC0 - pg A25	2 - B1 terminals	24...60 V dc/ V ac 50/60 Hz (TDC0)
		100...240 V dc/ V ac 50/60 Hz (TDC0)
Voltage operational limits		0.85...1.1 x U_c (V ac)
		0.8...1.25 x U_c (V dc)
Consumption	mA	≤ 5
Minimum time for reset (recovery time)	ms	650
Minimum control time (only TDC0)	ms	50
Setting accuracy (% of the full scale value)	%	+/-5
Repeat accuracy	%	+/-1
Changeover time Y - Δ	ms	50

Operation Description of Latch Block RMC0 or Miniature Contactors CWCH0



Functional Diagram



- After a minimum pulse of 100ms on miniature contactors coil (K1), the RMC0 will keep K1 contacts switched on
- The miniature contactors K1 will only return to rest position after miniature contactors coil (K2) be energized by a releasing pulse
- The mechanical latch will always and only happen on miniature contactors (K1).

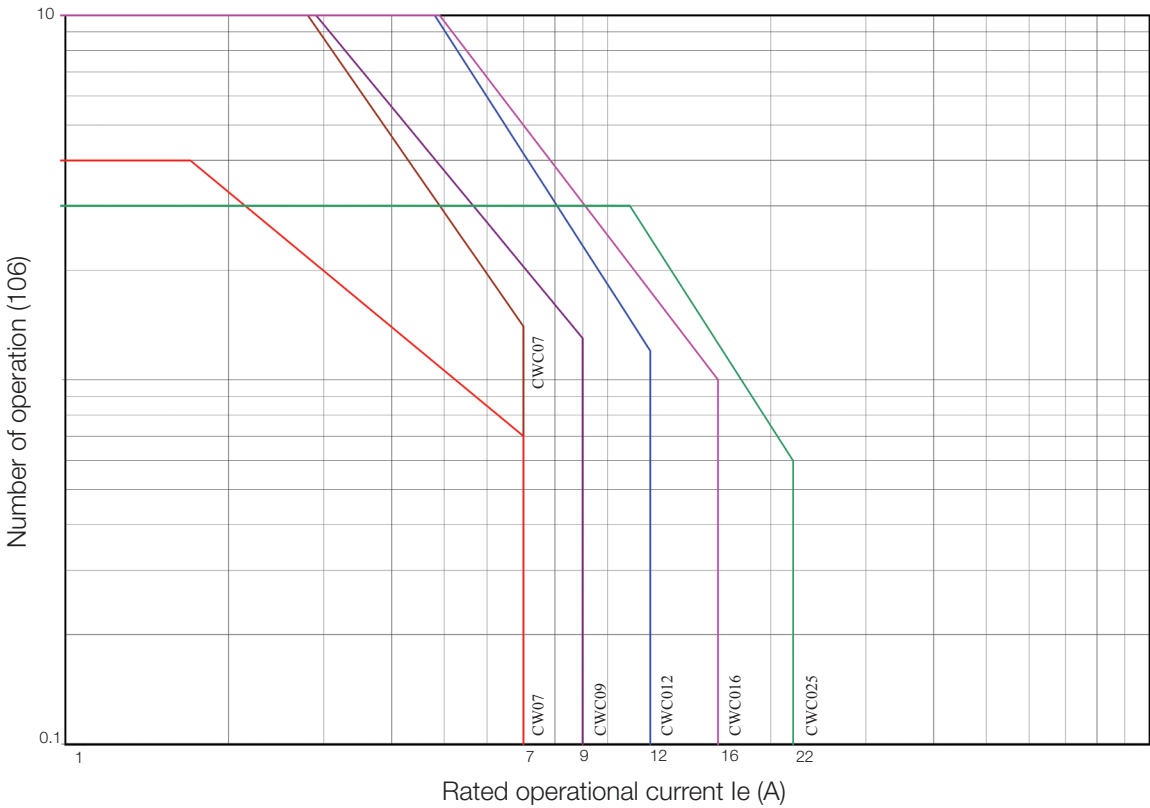
Note: if RESET miniature contactors coil (K2) remains energized, the latching of miniature contactors (K1) is not enabled.

CWC Series - Miniature Contactors

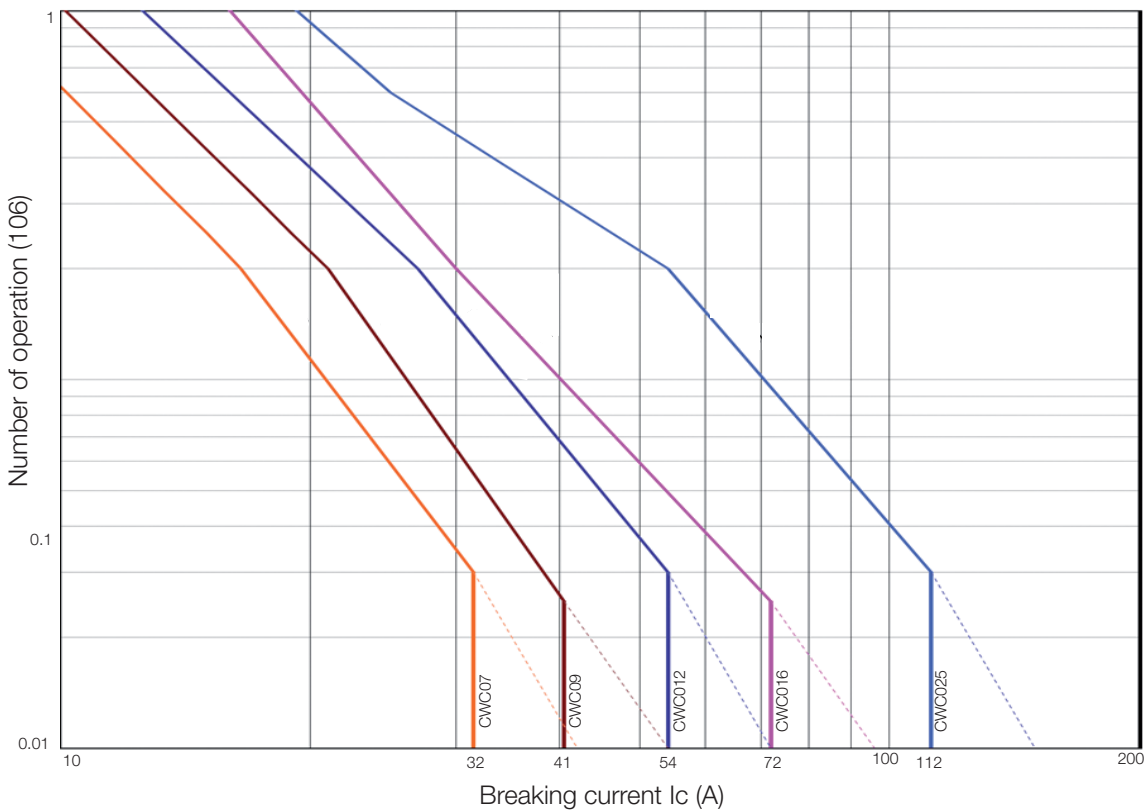
Technical Data

Electrical Lifespan

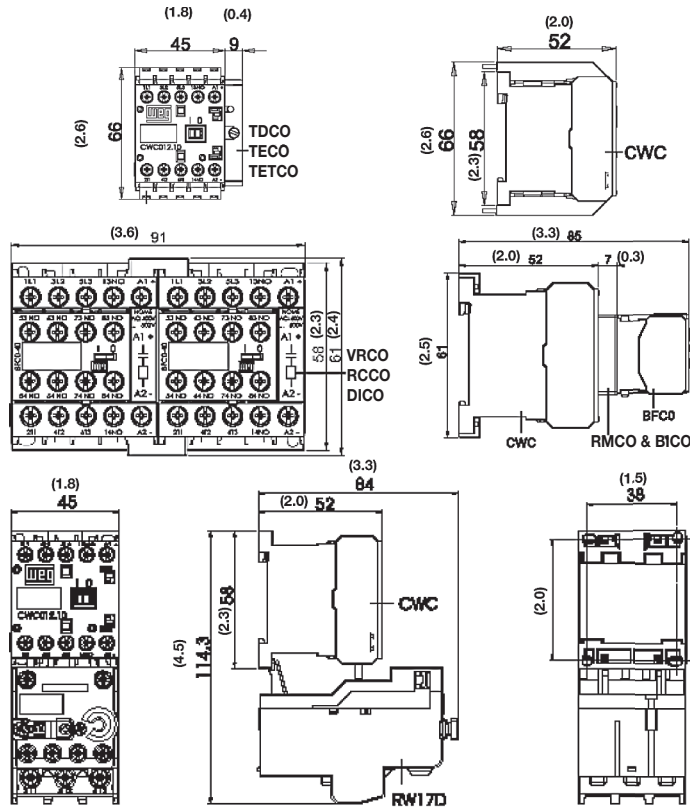
AC-3 ($U_e \leq 415\text{ V ac}$ e $U_e \leq 440\text{ V ac}$)



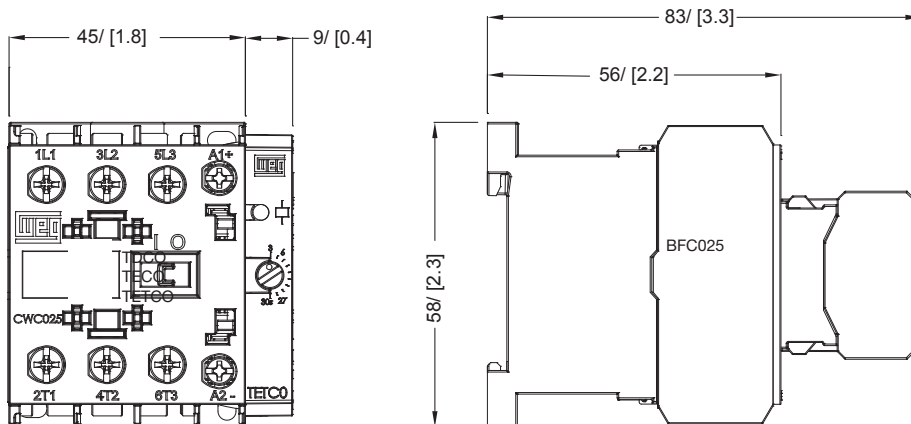
AC-4 ($U_e \leq 440\text{ V ac}$)



Dimensions mm (in) CWC07...016 AND CWCA0



CWC025



General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

Appendix A

Appendix B

CWB Line

Developed according to IEC 60947 and UL 508 international standards, the new WEG CWB line of contactors meets the requirements of a wide range of industrial applications. The CWBs are designed with the visual pattern and identity of WEG, a brand recognized worldwide for its quality.

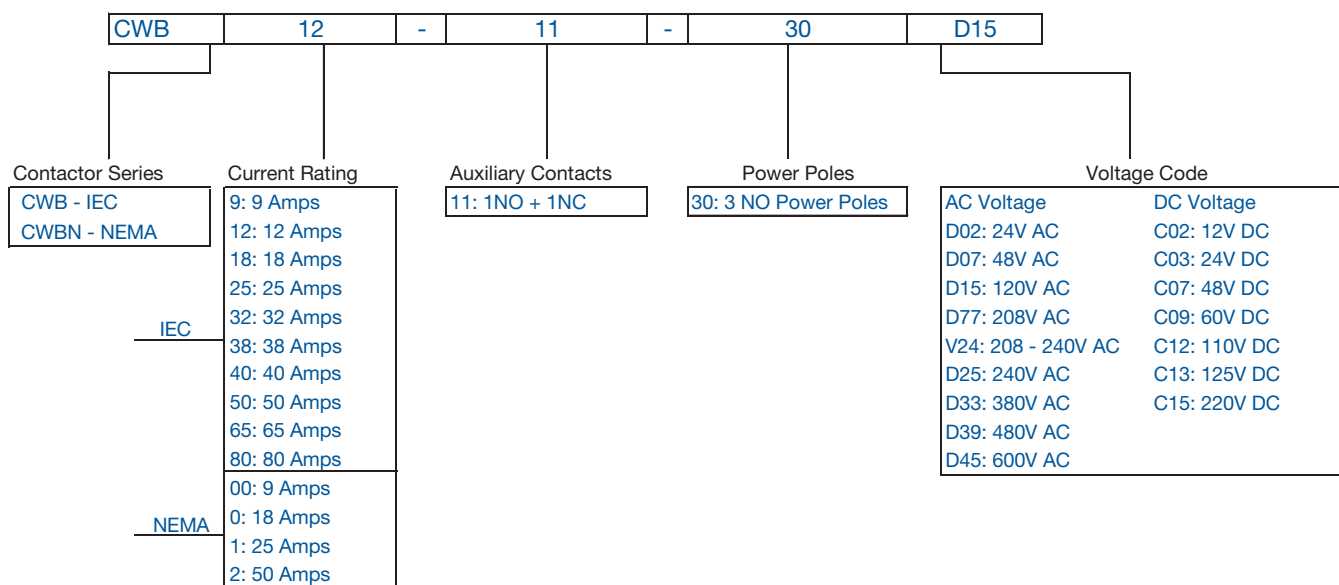
Standard Features:

- “Zero-Width” Mechanical Interlock
- Simple and Compact Mounting of Surge Suppressor Blocks
- Contactor Coil Operated on AC or DC
- Simple and Organized Control Circuits
- Additional Contact Blocks
- Easy Access Power and Control Terminals



UL File No. E202315

CWB Contactor Catalog Number Sequence



Selection Table

Three-Pole CWB Contactors from 9 A to 80 A (AC-3)

le máx. (Ue ≤440 V)	le = Ith (Ue ≤690 V) θ ≤55 °C	Maximum UL Horsepower						Built-in auxiliary contacts per contactor		Catalog Number	List Price AC Coil	List Price DC Coil	Multiplier
AC-3 A	AC-1 A	Single Phase		Three Phase				•3 •4 NO	•1 •2 NC				
		115V	230V	200V	230V	480V	575V						
9	25	3/4	1.5	3	3	5	7 1/2	1	1	CWB9-11-30*	\$72	\$118	Z1
12	25	3/4	2	3	3	7 1/2	10	1	1	CWB12-11-30*	\$89	\$123	
18	32	1	3	5	5	10	15	1	1	CWB18-11-30*	\$103	\$150	
25	40	2	5	7 1/2	7 1/2	15	15	1	1	CWB25-11-30*	\$118	\$177	
32	50	3	5	10	10	20	25	1	1	CWB32-11-30*	\$140	\$220	
38	50	3	7.5	10	10	25	25	1	1	CWB38-11-30*	\$164	\$282	
40	60	3	7 1/2	10	15	30	30	1	1	CWB40-11-30*	\$164	\$282	
50	90	3	10	15	15	40	40	1	1	CWB50-11-30*	\$225	\$310	
65	110	5	10	20	20	50	50	1	1	CWB65-11-30*	\$255	\$350	
80	110	7 1/2	15	20	25	50	60	1	1	CWB80-11-30*	\$270	\$417	

Three-Pole CWB NEMA Rated Sizes 00 - 2

I_e máx. ($U_e \leq 440$ V)	$I_e = I_{th}$ ($U_e \leq 690$ V) $\theta \leq 55$ °C	Maximum UL Horsepower						Built-in auxiliary contacts per contactor		Catalog Number	List Price AC Coil	List Price DC Coil	Multiplier
AC-3 A	AC-1 A	Single Phase		Three Phase				•3 •4 NO	•1 •2 NC				
		115V	230V	200V	230V	480V	575V						
9	25	4-Mar	1 1/2	3	3	5	7 1/2	1	1	CWBN00-11-30*	\$103	\$150	Z1
18	32	1	3	5	5	10	15	1	1	CWBN0-11-30*	\$118	\$177	
25	40	2	5	7 1/2	7 1/2	15	15	1	1	CWBN1-11-30*	\$164	\$220	
50	90	3	10	15	15	40	40	1	1	CWBN2-11-30*	\$233	\$330	

Replace “♦” by the appropriate coil voltage code³⁾.

Alternating Current

Code	D02	D07	D15	D77	D25	D33	D39	D45	V24
V (50/60 Hz)	24	48	120	208	240	380	480	600	208-254v

Direct Current

Code	C03	C07	C09	C12	C13	C15
V dc	24	48	60	110	125	220

Notes: 1) Orientative values.

2) Weight for contactors with control circuit in alternate current. For control circuit in direct current, add 0.121 kg to the alternating-current models.

3) Other voltages on request.

Contactors

CWB Series

Accessories and Spare Parts

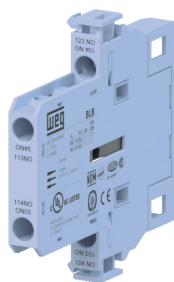
Front Mounted Auxiliary Contact Blocks⁴⁾



.063 kg

For use with	Max. n° of additional contacts / contactor	Auxiliary contacts		Catalog Number	List Price	Multiplier
		NO	NC			
CWB9...38	4 / CWB9...38 4 / CWB40...80 4 / CWB00...2	1	1	BFB-11¹⁾	\$20	Z1
		2	0	BFB-20	\$20	
		0	2	BFB-02¹⁾	\$20	
		2	2	BFB-22¹⁾	\$32	
		2	2	BFB-22 EL³⁾	\$32	
		4	0	BFB-40	\$32	
		0	4	BFB-04¹⁾	\$32	
		3	1	BFB-31¹⁾	\$32	
		1	3	BFB-13¹⁾	\$32	

Side Mounted Auxiliary Contact Blocks⁴⁾



.034 kg

For use with	Max. n° of additional contacts / contactor	Auxiliary contacts		Catalog Number	List Price	Multiplier
		NO	NC			
CWB9...38	4 / CWB9...38 4 / CWB40...80 4 / CWB00...2	1	1	BLB-11¹⁾	\$22	Z1
		2	0	BLB-20		
		0	2	BLB-02¹⁾		
		1	1	BLRB-11¹⁾²⁾		
		2	0	BLRB-20²⁾		
		0	2	BLRB-02¹⁾²⁾		

Plug-In Surge Suppressors



.008 kg

For use with	Voltage	Diagram	Catalog Number	List Price	Multiplier
CWB9...38 CWB40...80 CWB00...2	24...48 V 50/60 Hz		RCB-D53	\$30	Z1
	50...127 V 50/60 Hz		RCB-D55		
	130...250 V 50/60 Hz		RCB-D63		
	12...48 V 50/60 Hz / 12...60 V dc		VRB-E49		
	50...127 V 50/60 Hz / 60...180 V dc		VRB-E34		
	130...250 V 50/60 Hz / 180...300 V dc		VRB-E50		
	277...380 V 50/60 Hz / 300...510 V dc		VRB-E41		
	400...510 V 50/60 Hz		VRB-D73		
	12...600 V dc		DIB-C33		
	12...250 V dc		DIZB-C26		

Notes: 1) The arrangement of the contacts meets IEC 60947-4-1 Annex F (Mirror Contact) and IEC 60947-5-1 Annex L (Mechanically Linked Contact) requirements.

2) For combination of 2 side-mounted auxiliary contact blocks at the same side of the contactor.

3) BFB-22-EL: besides the regular contacts NO and NC, there are two special contacts: early make and late break.

4) The maximum number of auxiliary contacts assembled on the contactor are 4.

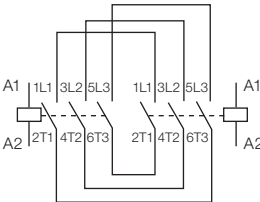
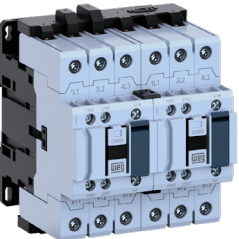
Accessories and Spare Parts

Mechanical Interlock

Image	For use with	Description	Catalog Number	List Price	Multiplier
	CWB9...38 CWB00...1	Mounting set for interlocking two contactors with the same frame type. Fitting through snaps without tools.	IM1	\$12	Z1
	CWB40...80 CWB2		IM2	\$15	

Easy-Connection Setting of the Power Terminals for Reversing Starters

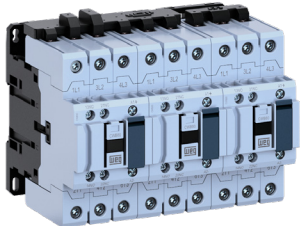
Image	For use with	Orientative rated operational power for reversing starters (AC-4 duty) for three-phase 4-pole motors - 60 Hz - 1,800 rpm		Catalog Number	List Price	Multiplier
	K1=K2	230 V kW / cv	400 V kW / cv			
 	CWB9/CWB00	1.5 / 2.0	2.2 / 2.9	EC-R1	\$60	Z1
	CWB12	1.5 / 2.0	3.7 / 5.0			
	CWB18/CWB0	2.2 / 2.9	4 / 5.4			
	CWB25/CWB1	3 / 4.0	5.5 / 7.4			
	CWB32	4 / 5.4	7.5 / 10.1			
	CWB38	4 / 5.4	7.5 / 10.1	EC-R2	\$75	
	CWB40	4.5 / 6.0	9.2 / 12.3			
	CWB50/CWB2	5.5 / 7.4	11 / 14.7			
	CWB65	7.5 / 10.1	15 / 20.1			
	CWB80	11 / 14.7	18.5 / 24.8			

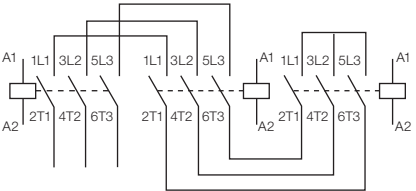


Electric diagram

Power Terminal Easy-Connection Set for Star-Delta Starters

Image	For use with		Orientative rated operational power in AC-3 Three-phase motor - IV poles - 1,800 rpm		Catalog Number	List Price	Multiplier
	K1=K2	K3	230 V kW / cv	400 V kW / cv			
 	CWB9	CWB9	4 / 5.4	7.5 / 10	EC-SD1	\$75	Z1
	CWB12	CWB9	5.5 / 7.5	11 / 15			
	CWB18	CWB12	9.2 / 12.5	15 / 20			
	CWB25	CWB18	11 / 15	22 / 30			
	CWB32	CWB18	15 / 20	-			
	CWB38	CWB25	18.5 / 25	30 / 40	EC-SD2	\$90	
	CWB50	CWB40	22 / 30	45 / 61			
	CWB65	CWB40	30 / 40	55 / 75			
	CWB80	CWB50	45 / 61	75 / 102			



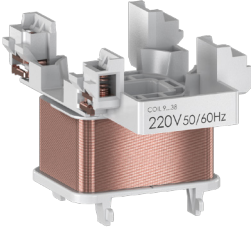
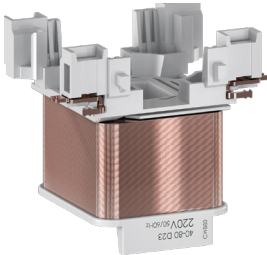
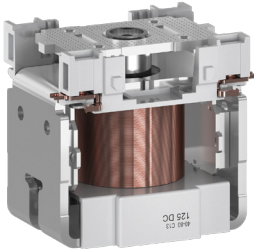


Electric diagram

CWB Series

Accessories and Spare Parts

Spare Coils for Contactors¹⁾

Image	For use with	Control type	Reference to fill in with the control voltage	List Price	Multiplier
	CWB9...38 CWB00...1	AC	BRB-38 ♦	\$22	Z1
	CWB40...80 CWB2	AC	BRB-80 ♦	\$40	
	CWB40...80 CWB2	DC	BRB-80 ♦	\$110	

Replace “♦” by the appropriate coil voltage code.

To complete the Part Number, replace “♦” by the appropriate coil voltage code.

Alternating Current

Coil voltage code	D02	D07	D13	D15	D17	D77	D23	D24	D25	D33	D34	D35	D36	D39	D45
V (50/60 Hz)	24	48	110	120	127	208	220	230	240	380	400	415	440	480	600

Note: other coil voltages available upon request.

Direct Current

Code	C03	C07	C09	C12	C13	C15
V dc	24	48	60	110	125	220

Note: 1) Spare coil in direct current (DC) only for CWB40...80 A.

Technical Data

Terminal Markings According to IEC/EN 60947

Diagram	Configuration	Auxiliary contacts		Reference code
		NO	NC	
3-poles contactors with built-in auxiliary contacts				
	11	1	1	CWB9-11-30◆ CWB12-11-30◆ CWB18-11-30◆ CWB25-11-30◆ CWB32-11-30◆ CWB38-11-30◆ CWB40-11-30◆ CWB50-11-30◆ CWB65-11-30◆ CWB80-11-30◆
Front mounted auxiliary contact blocks				
	20	2	0	BFB-20
	11	1	1	BFB-11
	02	0	2	BFB-02
	40	4	0	BFB-40
	22	2	2	BFB-22
	22	2	2	BFB-22 EL
	04	0	4	BFB-04
	31	3	1	BFB-31
	13	1	3	BFB-13
Side mounted auxiliary contact blocks				
	11	1	1	BLB11
	20	2	0	BLB20
	02	2	0	BLB02
	11	1	1	BLRB11
	20	2	0	BLRB20
	02	2	0	BLRB02

Terminal Markings According to EN 50012

Diagram	Configuration	Auxiliary contacts		Reference code
		NO	NC	
Front mounting auxiliary contact blocks				
	20	2	0	BFB-20 EN
	11	1	1	BFB-11 EN
	02	0	2	BFB-02 EN
	40	4	0	BFB-40 EN
	22	2	2	BFB-22 EN
	04	0	4	BFB-04 EN
	31	3	1	BFB-31EN
	13	1	3	BFB-13 EN

Technical Data

General Data

Reference code			CWB9	CWB12	CWB18	CWB25	CWB32	CWB38	CWB40	CWB50	CWB65	CWB80
Compliance with the standards			IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508									
Rated insulation voltage U _i (pollution degree 3)	IEC/EN 60947-4-1	(V)	690 V					1,000 V				
	UL, CSA	(V)	600 V									
Rated impulse-withstand voltage U _{imp}	IEC/EN 60947-1	(kV)	6 kV									
Frequency limits		(Hz)	25...400									
Mechanical lifespan	AC coil (million cycles)		10					6				
	DC coil (million cycles)		10					6				
Electrical lifespan	I _e AC-3 (million cycles)		2.0	2.0	1.8	1.6	1.6	1.2	1.6	1.6	1.6	1.2
Degree of protection (IEC/EN 60529)	Main terminals		IP10 (front)									
	Coil and auxiliary contacts		IP20 (front)									
Mounting			By screws or DIN 35 mm rail (EN 50022)									
Coil connection points	Contactors with AC coil		2									
	Contactors with DC coil		2									
Vibration resistance (IEC/EN 60068-2-6)	Open contactor	(g)	4									
	Closed contactor	(g)	4									
Resistance to mechanical shocks (½ sine wave = 11 ms - IEC/EN 60068-2-27)	Open contactor	(g)	10									
	Closed contactor	(g)	15									
Ambient temperature	Operating		-25 °C...+55 °C									
	Storage		-55 °C...+80 °C									
Maximum operation altitude without modification in the rated values ¹⁾			3,000 m									

Control Circuit - Alternating Current (AC)

Reference code			CWB9...38		CWB40...80	
Rated insulation voltage U _i (pollution degree 3)	IEC/EN 60947-4-1	(V)	690		1,000	
	UL, CSA	(V)	600		600	
Standard voltages at 50/60 Hz		(V)	12...600		24...600	
Coil operating limits		(xUs)	0.8...1.1		0.8...1.1	
Coil 50/60 Hz	Pick up	(xUs)	0.5...0.8		0.5...0.8	
	Drop out	(xUs)	0.2...0.6		0.2...0.6	
Average consumption			Operating at 60 Hz	Operating at 50 Hz	Operating at 60 Hz	Operating at 50 Hz
Coil 50/60 Hz	Magnetic circuit closed	(VA)	7.5	9	17.2	27
	Power factor switching on	(cos φ)	0.7	0.8	0.55	0.56
	Power factor switched on		0.27	0.24	0.28	0.25
	Thermal power dissipation	(W)	5...7	5...7	3.7...6.3	3.7...6.3
	Closing of the magnetic circuit	(VA)	75	90	185	202
Operation average time	Closing of the NO contacts	(ms)	15...25		10...15	
	Opening of the NO contacts	(ms)	8...12			

Control Circuit - Direct Current (DC)

Reference code			CWB9...38				CWB40...80			
Rated insulation voltage U_i (pollution degree 3)	IEC/EN 60947-4-1	(V)	690				1,000			
	UL, CSA	(V)	600				600			
Standard voltages		(V)	12...500				12...500			
Coil operating limits		(xUs)	0.8...1.1				0.8...1.1			
	Pick up	(xUs)	0.5...0.8				0.5...0.8			
	Drop out	(xUs)	0.1...0.4				0.1...0.4			
Average consumption			1.0 x use the coil cold				1.0 x use the coil cold			
	Magnetic circuit closed	(W)	5.8				14.5			
	Closing of the magnetic circuit	(W)	5.8				105			
Operation average time	Closing of the NO contacts	(ms)	35...45				20...30			
	Opening of the NO contacts	(ms)	8...12				4...8			
Thermal power dissipation		(W)	5...7				12...16			

Note: 1) For altitudes of 3,000...4,000 m ($0.90 \times I_e$ and $0.80 \times U_i$) and of 4,000...5,000 m ($0.80 \times I_e$ and $0.75 \times U_i$).

CWB Series

Technical Data

Main Contacts

Reference code			CWB9	CWB12	CWB18	CWB25	CWB32	CWB38	CWB40	CWB50	CWB65	CWB80
Rated operational current I _e	AC-3 (U _e ≤440 V)	(A)	9	12	18	25	32	38	40	50	65	80
	AC-4 (U _e ≤440 V)	(A)	4.4	5.8	8.5	10.4	13.7	13.7	18.5	18.5	26	32
	AC-1 (θ ≤55 °C, U _e ≤690 V)	(A)	25	25	32	40	50	50	60	90	110	110
Rated operational voltage U _e	IEC/EN 60947-4-1	(V)	690 V						1,000 V			
	UL, CSA	(V)	600 V									
Conventional thermal current I _m (θ ≤55 °C)		(A)	25	25	32	40	50	50	60	90	110	110
Making capacity - IEC/EN 60947		(A)	250	250	300	450	550	550	550	1,000	1,000	1,000
Breaking capacity IEC/EN 60947	(U _e ≤400 V)	(A)	250	250	300	450	550	550	550	1,000	1,000	1,000
	(U _e = 500 V)	(A)	220	220	250	350	450	450	480	880	880	880
	(U _e = 690 V)	(A)	150	150	180	250	350	350	350	640	640	640
Acceptable short-time current (no current flowing during re- covery time of 15min and θ ≤40 °C)	1s	(A)	210	210	240	380	400	430	720	820	900	900
	10s	(A)	105	105	145	240	260	310	320	400	520	640
	1min	(A)	60	60	80	120	130	150	165	230	340	360
	10min	(A)	30	30	40	50	60	60	85	110	130	130
Short circuit protection of the main contacts	@600 V - UL/CSA	(kA)	5									
	Coordination type 1	(A)	25	40	50	63	63	63	80	100	125	160
	Coordination type 2	(A)	20	20	25	35	50	50	63	80	100	125
Fuse (gL/gG)												
Impedance per pole		(mΩ2)	2.5	2.5	2.5	2	2	2	1.6	1.6	1.6	1.6
Average power dissipation per pole	AC-1	(W)	1.5	1.5	2.5	3.2	5	5	6	13	19	19
	AC-3	(W)	0.2	0.4	0.8	1.2	2	3	3	4	7	10
Utilization category AC-3												
Rated operational current I _e (θ ≤55 °C)	U _e ≤440 V	(A)	9	12	18	25	32	38	40	50	65	80
	U _e ≤500 V	(A)	9	12	15.8	23	28.5	28.5	35	45	55	75
	U _e ≤690 V	(A)	7	9	12.8	16.5	21	21	32	35	40	50
Orientative rated operational power Three-phase induction motors (50/60 Hz) IV poles - 1,800 rpm	220/240 V	(kW)	2.2	3	4.5	6.5	7.5	9.2	11	15	18.5	22
		(cv)	3	4	6	8.7	10	12.5	15	20	25	29
	380/400 V	(kW)	4	5.5	7.5	12.5	15	18.5	18.5	22	30	37
		(cv)	5.5	7.5	10	16.8	20	25	25	29	40	50
	415/440 V	(kW)	4.5	6.5	9.2	12.5	15	18.5	22	30	37	45
		(cv)	6	8.7	12.5	16.8	20	25	29	40	50	60
	500 V	(kW)	5.5	7.5	10	15	18.5	18.5	22	30	37	55
		(cv)	7.5	10	13.4	20	25	25	29	40	50	74
	660/690 V	(kW)	5.5	7.5	11	15	18.5	18.5	30	33	37	45
		(cv)	7.5	10	15	20	25	25	40	44	50	60
Maximum percentage	600 ops./h	(%)	100	100	100	100	100	100	100	100	100	100
Utilization category AC-4												
Rated operational current I _e	(U _e ≤440 V)	(A)	4.4	5.8	8.5	10.4	13.7	13.7	18.5	18.5	26	32
	(U _e ≤500 V)	(A)	3.9	5.1	7.5	12	13.9	13.9	17.5	23.5	28.5	33
	(U _e ≤690 V)	(A)	2.8	3.7	5.4	12	12.8	12.8	14	18	22	26
Orientative rated operational power Three-phase induction motors (50/60 Hz) IV poles - 1,800 rpm (200,000 operations)	220/240 V	(kW)	1.5	1.5	2.2	3	4	4	4.5	5.5	7.5	11
		(cv)	2.0	2.0	2.9	4.0	5.4	5.4	6.0	7.4	10.1	14.7
	380/400 V	(kW)	2.2	3.7	4	5.5	7.5	7.5	9.2	11	15	18.5
		(cv)	2.9	5.0	5.4	7.4	10.1	10.1	12.3	14.7	20.1	24.8
	415/440 V	(kW)	2.2	3	3.7	5.5	7.5	7.5	11	11	15	22
		(cv)	2.9	4.0	5.0	7.4	10.1	10.1	14.7	14.7	20.1	29.5
	500 V	(kW)	2.2	3	5	7.5	9	9	11	15	18.5	22
		(cv)	2.9	4.0	6.7	10.1	12.1	12.1	14.7	20.1	24.8	29.5
	660/690 V	(kW)	2.2	3	5	10	11	11	12.5	15	20	25
		(cv)	2.9	4.0	6.7	13.4	14.7	14.7	16.8	20.1	26.8	33.5

Technical Data

Main Contacts

Reference code		CWB9	CWB12	CWB18	CWB25	CWB32	CWB38	CWB40	CWB50	CWB65	CWB80
		Utilization category AC-1									
		3P (NO)									
Conventional thermal current I _{th} (θ ≤ 55 °C)	(A)	25	25	32	40	50	50	60	90	110	110
Maximum orientative operational current according to the ambient temperature	θ ≤ 60 °C (U _e ≤ 690 V) (A)	25	25	32	40	50	50	60	90	110	110
Max. operational power θ ≤ 55 °C (three-phase resistors)	220/230 V	(kW)	9.5	9.5	12	15	19	19	22.5	34	42
	380/400 V	(kW)	16.5	16.5	21	26	33	33	39.5	59	72.5
	415/440 V	(kW)	19	19	24.5	30.5	38	38	45.5	68.5	84
	500 V	(kW)	21.5	21.5	27.5	34.5	43	43	52	77	95
	660/690 V	(kW)	28.5	28.5	36.5	45.5	57	57	66	100	125
Current values for connection	2 poles in parallel		I _b x 1.7								
	3 poles in parallel		I _b x 2.4								
	4 poles in parallel		-								
Percentage of maximum operational current	600 ops./h (%)		100	100	100	100	100	100	100	100	100

Auxiliary Contacts

Reference code			CWB9...38 (built-in)	BFB (front mounted)	BLB (side mounted)
Compliance with the standards			IEC/EN 60947-5-1		
Rated insulation voltage U _i (pollution degree 3)	IEC/EN 60947-4-1, VDE 0660	(V)	690		
	UL, CSA	(V)	600		
Rated operational voltage U _e	IEC/EN 60947-4-1, VDE 0660	(V)	690		
	UL, CSA	(V)	600		
Conventional thermal current I _{th} (θ ≤ 55 °C)	(A)		10		
Rated operational current I _b					
AC-15 (IEC/EN 60947-5-1)	220/230 V	(A)	10		
	380/440 V	(A)	4		
	500 V	(A)	2.5		
	660/690 V	(A)	1.5		
DC-13 (IEC/EN 60947-5-1)	24 V	(A)	4		
	48 V	(A)	2		
	110 V	(A)	0.7		
	220 V	(A)	0.3		
	440 V	(A)	0.15		
Making capacity	U _e ≤ 690 V 50/60 Hz - AC-15	(A)	10 x I _b		
Breaking capacity	U _e ≤ 400 V 50/60 Hz - AC-15	(A)	1 x I _b		
Short circuit protection with fuse (gL/gG)	(A)		10		
Control circuit reliability	(V / mA)		17 / 5		
Electrical lifespan	(million cycles)		1		
Mechanical lifespan	(million cycles)		10		
Non-overlapping time between NO and NC contacts	(ms)		1.5		
Impedance of the contacts	(mΩ)		2.5		

CWB Series

Technical Data

Terminal Capacity and Tightening Torque

			Conductor cross-section		
			Power circuit		
Model			CWB9...18	CWB25...38	CWB40...80
Mounting system screw type			Phillips number 2	Phillips number 2	ALLEN 4 mm
Flexible conductor without terminal	AWG		1 x 16-10 2 x 16-10	1 x 16-10 2 x 16-10	1 x 14-3 2 x 14-3
Flexible conductor with terminal	AWG		1 x 16-10 2 x 16-12	1 x 16-8 2 x 16-10	1 x 14-3 2 x 14-3
Solid wire	AWG		1 x 16-10 2 x 16-10	1 x 14-18 2 x 14-18	1 x 14-3 2 x 14-3
Tightening torque	(Nm)		1.7	2.5	5.0
Control and auxiliary circuit					
Models			CWB9...38	CWB40...80	
Mounting system screw type			Phillips number 2	Phillips number 2	
Flexible conductor without terminal	AWG		1 x 16-12 2 x 16-12	1 x 16-12 2 x 16-12	
Flexible conductor with terminal	AWG		1 x 16-12 2 x 16-14	1 x 16-12 2 x 16-14	
Solid wire	AWG		1 x 16-12 2 x 16-12	1 x 16-12 2 x 16-12	
Tightening torque	(Nm)		1.0	1.0	
Auxiliary contact blocks					
Models			BFB (front)	BLB (side)	
Mounting system screw type			Phillips number 2		
Conductor cross-section					
Flexible conductor without terminal	AWG		1 x 16-14 2 x 16-14		
Flexible conductor with terminal	AWG		1 x 16-14 2 x 16-14		
Solid wire	AWG		1 x 16-14 2 x 16-14		
Tightening torque	(Nm)		1.0		

Technical Data

CWBN

General Data

Reference code			CWBN00	CWBN0	CWBN1	CWBN2
Compliance with the standards			IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508			
Rated insulation voltage Ui (pollution degree 3)	IEC/EN 60947-4-1	(V)	690 V			1,000 V
	UL, CSA	(V)	600 V			
Rated impulse-withstand voltage Uimp	IEC/EN 60947-1	(kV)	6 kV			
Frequency limits		(Hz)	25...400			
Mechanical lifespan	AC coil	(million cycles)	10			6
	DC coil	(million cycles)	10			6
Electrical lifespan	Ie AC-3	(million cycles)	2.0	1.8	1.6	1.6
Degree of protection (IEC/EN 60529)	Main terminals		IP10 (front)			
	Coil and auxiliary contacts		IP20 (front)			
Mounting			By screws or DIN 35 mm rail (EN 50022)			
Coil connection points	Contactors with AC coil		2			
	Contactors with DC coil		2			
Vibration resistance (IEC/EN 60068-2-6)	Open contactor	(g)	4			
	Closed contactor	(g)	4			
Resistance to mechanical shocks (½ sine wave = 11ms - IEC/EN 60068-2-27)	Open contactor	(g)	10			
	Closed contactor	(g)	15			
Ambient temperature	Operating		-25 °C...+55 °C			
	Storage		-55 °C...+80 °C			
Maximum operation altitude without modification in the rated values1)			3,000 m			

Control Circuit - Alternating Current (AC)

Reference code			CWBNO0...1		CWBNO2	
Rated insulation voltage Ui (pollution degree 3)	IEC/EN 60947-4-1	(V)	690		1,000	
	UL, CSA	(V)	600		600	
Standard voltages at 50/60 Hz		(V)	12...600		24...600	
Coil operating limits		(xUs)	0.8...1.1		0.8...1.1	
Coil 50/60 Hz	Pick up	(xUs)	0.5...0.8		0.5...0.8	
	Drop out	(xUs)	0.2...0.6		0.2...0.6	
Average consumption			Operating at 60 Hz	Operating at 50 Hz	Operating at 60 Hz	Operating at 50 Hz
Coil 50/60 Hz	Magnetic circuit closed	(VA)	7.5	9	17.2	27
	Power factor switching on	(cos φ)	0.7	0.8	0.55	0.56
	Power factor switched on		0.27	0.24	0.28	0.25
	Thermal power dissipation	(W)	5...7	5...7	3.7...6.3	3.7...6.3
	Closing of the magnetic circuit	(VA)	75	90	185	202
Operation average time	Closing of the NO contacts	(ms)	15...25		10...15	
	Opening of the NO contacts	(ms)	8...12			

Control Circuit - Direct Current (DC)

Reference code			CWBN00...1		CWBN2	
Rated insulation voltage U_i (pollution degree 3)	IEC/EN 60947-4-1	(V)	690		1,000	
	UL, CSA	(V)	600		600	
Standard voltages		(V)	12...500		12...500	
Coil operating limits		(xUs)	0.8...1.1		0.8...1.1	
	Pick up	(xUs)	0.5...0.8		0.5...0.8	
	Drop out	(xUs)	0.1...0.4		0.1...0.4	
Average consumption			1.0 x use the coil cold		1.0 x use the coil cold	
	Magnetic circuit closed	(W)	5.8		14.5	
	Closing of the magnetic circuit	(W)	5.8		105	
	Opening of the magnetic circuit	(W)	5.8		105	
Operation average time	Closing of the NO contacts	(ms)	35...45		20...30	
	Opening of the NO contacts	(ms)	8...12		4...8	
Thermal power dissipation		(W)	5...7		12...16	

Note: 1) For altitudes of 3,000...4,000 m (0.90 x I_e and 0.80 x U_i) and of 4,000...5,000 m (0.80 x I_e and 0.75 x U_i).

Technical Data
Main Contacts

Reference code			CWBN00	CWBN0	CWBN1	CWBN2
Rated operational current Ie	AC-3 (Ue ≤440 V)	(A)	9	18	25	50
	AC-4 (Ue ≤440 V)	(A)	4.4	8.5	10.4	18.5
	AC-1 (0 ≤55 °C, Ue ≤690 V)	(A)	25	32	40	90
Rated operational voltage Ue	IEC/EN 60947-4-1	(V)	690 V			1,000 V
	UL, CSA	(V)	600 V			
Conventional thermal current Ith (0≤55 °C)			25	32	40	90
Making capacity - IEC/EN 60947			250	300	450	1,000
Breaking capacity IEC/EN 60947	(Ue ≤400 V)	(A)	250	300	450	1,000
	(Ue = 500 V)	(A)	220	250	350	880
	(Ue = 690 V)	(A)	150	180	250	640
Acceptable short-time current (no current flowing during recovery time of 15min and 0 ≤40 °C)	1s	(A)	210	240	380	820
	10s	(A)	105	145	240	400
	1min	(A)	60	80	120	230
	10min	(A)	30	40	50	110
Short circuit protection of the main contacts Fuse (gL/gG)	@600 V - UL/CSA	(kA)	5			
	Coordination type 1	(A)	25	50	63	100
	Coordination type 2	(A)	20	25	35	80
Impedance per pole (m)			2.5	2.5	2	1.6
Average power dissipation per pole	AC-1	(W)	1.5	2.5	3.2	13
	AC-3	(W)	0.2	0.8	1.2	4
Utilization category AC-3						
Rated operational current Ie (0 ≤55 °C)	Ue ≤440 V	(A)	9	18	25	50
	Ue ≤500 V	(A)	9	15.8	23	45
	Ue ≤690 V	(A)	7	12.8	16.5	35
Orientative rated operational power Three-phase induction motors (50/60 Hz) IV poles - 1,800 rpm	220/240 V	(kW)	2.2	4.5	6.5	15
		(cv)	3	6	8.7	20
	380/400 V	(kW)	4	7.5	12.5	22
		(cv)	5.5	10	16.8	29
	415/440 V	(kW)	4.5	9.2	12.5	30
		(cv)	6	12.5	16.8	40
	500 V	(kW)	5.5	10	15	30
		(cv)	7.5	13.4	20	40
	660/690 V	(kW)	5.5	11	15	33
		(cv)	7.5	15	20	44
Maximum percentage 600 ops./h (%)			100	100	100	100
Utilization category AC-4						
Rated operational current Ie	(Ue ≤440 V)	(A)	4.4	8.5	10.4	18.5
	(Ue ≤500 V)	(A)	3.9	7.5	12	23.5
	(Ue ≤690 V)	(A)	2.8	5.4	12	18
Orientative rated operational power Three-phase induction motors (50/60 Hz) IV poles - 1,800 rpm (200,000 operations)	220/240 V	(kW)	1.5	2.2	3	5.5
		(cv)	2.0	2.9	4.0	7.4
	380/400 V	(kW)	2.2	4	5.5	11
		(cv)	2.9	5.4	7.4	14.7
	415/440 V	(kW)	2.2	3.7	5.5	11
		(cv)	2.9	5.0	7.4	14.7
	500 V	(kW)	2.2	5	7.5	15
		(cv)	2.9	6.7	10.1	20.1
	660/690 V	(kW)	2.2	5	10	15
		(cv)	2.9	6.7	13.4	20.1

Technical Data

Main Contacts

Reference code			CWBN00	CWBN0	CWBN1	CWBN2
			Utilization category AC-1			
			3P (NO)			
Conventional thermal current I _{th} (0 ≤55 °C)	(A)		25	32	40	90
Maximum orientative operational current according to the ambient temperature 0≤60 °C (U _e ≤690 V)	(A)		25	32	40	90
Max. operational power 0 ≤55 °C (three-phase resistors)	220/230 V	(kW)	9.5	12	15	34
	380/400 V	(kW)	16.5	21	26	59
	415/440 V	(kW)	19	24.5	30.5	68.5
	500 V	(kW)	21.5	27.5	34.5	77
	660/690 V	(kW)	28.5	36.5	45.5	100
Current values for connection	2 poles in parallel		I _e x 1.7			
	3 poles in parallel		I _e x 2.4			
	4 poles in parallel		-			
Percentage of maximum current	600 ops./h operational	(%)	100	100	100	100

Auxiliary Contacts

Reference code			CWBN00 (built-in)	BFB (front mounted)	BLB (side mounted)
Compliance with the standards			IEC/EN 60947-5-1		
Rated insulation voltage U _i (pollution degree 3)	IEC/EN 60947-4-1, VDE 0660	(V)	690		
	UL, CSA	(V)	600		
Rated operational voltage U _e	IEC/EN 60947-4-1, VDE 0660	(V)	690		
	UL, CSA	(V)	600		
Conventional thermal current I _{th} (0≤55 °C)			(A)		

Rated operational current I_e

AC-15 (IEC/EN 60947-5-1)	220/230 V	(A)	10		
	380/440 V	(A)	4		
	500 V	(A)	2.5		
	660/690 V	(A)	1.5		
DC-13 (IEC/EN 60947-5-1)	24 V	(A)	4		
	48 V	(A)	2		
	110 V	(A)	0.7		
	220 V	(A)	0.3		
	440 V	(A)	0.15		
Making capacity	U _e ≤690 V 50/60 Hz - AC-15	(A)	10 x I _e		
Breaking capacity	U _e ≤400 V 50/60 Hz - AC-15	(A)	1 x I _e		
Short circuit protection with fuse (gL/gG)			(A)		
Control circuit reliability (V / mA)			17 / 5		
Electrical lifespan (million cycles)			1		
Mechanical lifespan (million cycles)			10		
Non-overlapping time between NO and NC contacts		(ms)	1.5		
Impedance of the contacts		(mΩ)	2.5		

Terminal Capacity and Tightening Torque

		Conductor cross-section		
Power circuit				
Model		CWBN00/CWBN0	CWBN1	CWBN2
Mounting system screw type		Phillips number 2	Phillips number 2	ALLEN 4 mm
Flexible conductor without terminal		1 x 1...6 mm2 / 16...10 AWG 2 x 1...6 mm2 / 16...10 AWG	1 x 2.5...10 mm2 / 14...8 AWG 2 x 2.5...10 mm2 / 14...8 AWG	1 x 2.5...35 mm2 / 14...2 AWG 2 x 2.5...35 mm2 / 14...2 AWG
Flexible conductor with terminal		1 x 1...6 mm2 / 16...10 AWG 2 x 1...4 mm2 / 16...12 AWG	1 x 1.5...10 mm2 / 16...8 AWG 2 x 1.5...6 mm2 / 16...10 AWG	1 x 2.5...35 mm2 / 14...2 AWG 2 x 2.5...35 mm2 / 14...2 AWG
Solid wire		1 x 1...6 mm2 / 16...10 AWG 2 x 1...6 mm2 / 16...10 AWG	1 x 2.5...10 mm2 / 14...8 AWG 2 x 2.5...10 mm2 / 14...8 AWG	1 x 2.5...35 mm2 / 14...2 AWG 2 x 2.5...35 mm2 / 14...2 AWG
Tightening torque		1.7 Nm / 15 lb.in	2.5 Nm / 22 lb.in	5.0 Nm / 60 lb.in

Control and auxiliary circuit

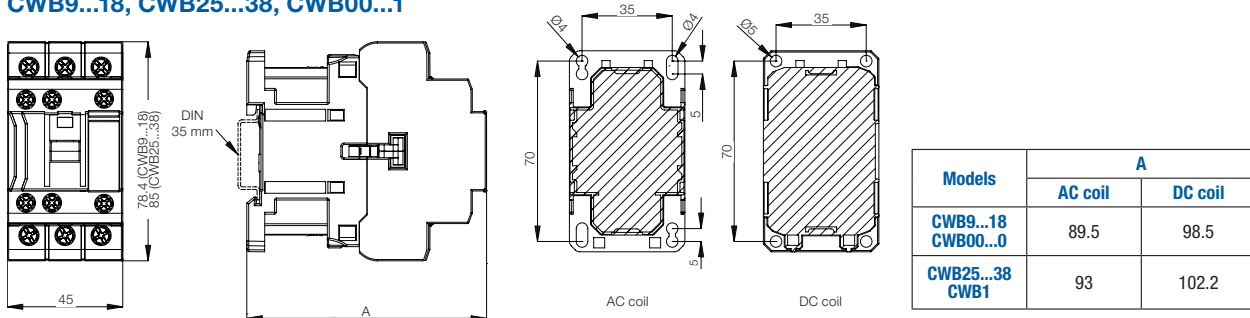
Models		CWBN00..1	CWBN2
Mounting system screw type		Phillips number 2	Phillips number 2
Flexible conductor without terminal		1 x 1...4 mm ² / 16...12 AWG 2 x 1...4 mm ² / 16...12 AWG	1 x 1...4 mm ² / 16...12 AWG 2 x 1...4 mm ² / 16...12 AWG
Flexible conductor with terminal		1 x 1...4 mm ² / 16...12 AWG 2 x 1...2.5 mm ² / 16...14 AWG	1 x 1...4 mm ² / 16...12 AWG 2 x 1...2.5 mm ² / 16...14 AWG
Solid wire		1 x 1...4 mm ² / 16...12 AWG 2 x 1...4 mm ² / 16...12 AWG	1 x 1...4 mm ² / 16...12 AWG 2 x 1...4 mm ² / 16...12 AWG
Tightening torque		1.0 Nm / 8.8 lb.in	1.0 Nm / 8.8 lb.in

Auxiliary contact blocks

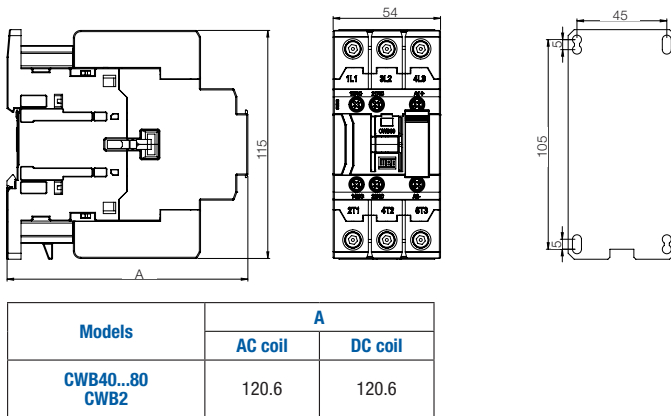
Models		BFB (front)	BLB (side)
Mounting system screw type		Phillips number 2	
		Conductor cross-section	
Flexible conductor without terminal		1 x 1...2.5 mm ² / 16...14 AWG 2 x 1...2.5 mm ² / 16...14 AWG	1 x 1...2.5 mm ² / 16...14 AWG 2 x 1...2.5 mm ² / 16...14 AWG
Flexible conductor with terminal		1 x 1...2.5 mm ² / 16...14 AWG 2 x 1...2.5 mm ² / 16...14 AWG	1 x 1...2.5 mm ² / 16...14 AWG 2 x 1...2.5 mm ² / 16...14 AWG
Solid wire		1 x 1...2.5 mm ² / 16...14 AWG 2 x 1...2.5 mm ² / 16...14 AWG	1 x 1...2.5 mm ² / 16...14 AWG 2 x 1...2.5 mm ² / 1...1.5/16 AWG
Tightening torque		1.0 Nm / 8.8 lb.in	

Dimensions (mm)

CWB9...18, CWB25...38, CWB00...1

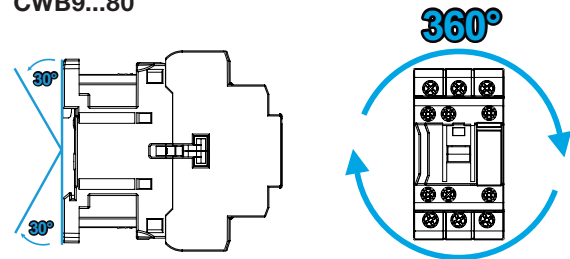


CWB40...80, CWB2

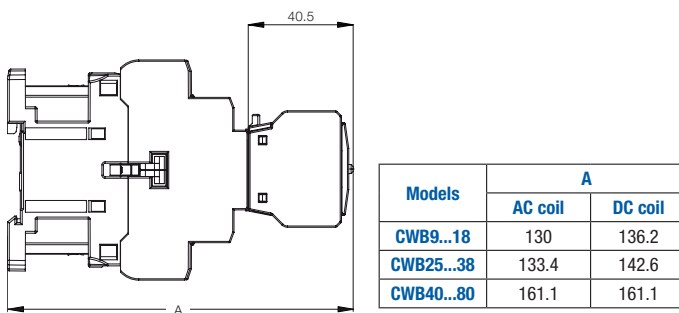


Mounting Position

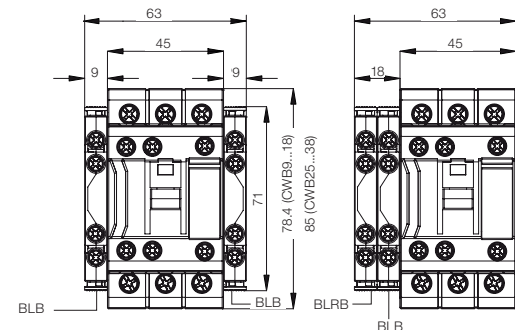
CWB9...80



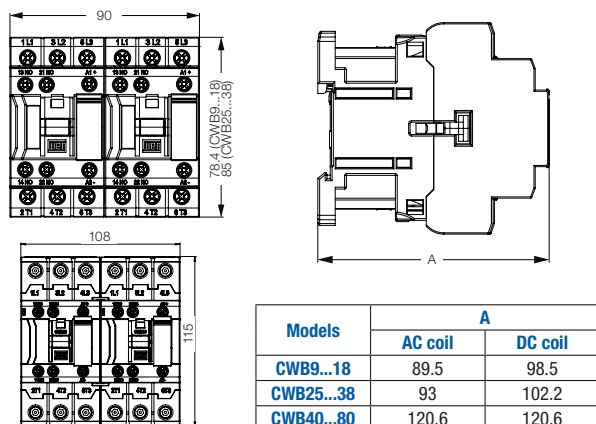
CWB9...18, CWB25...38, CWB40...80 + BFB (Front Mounted Auxiliary Contact Block)



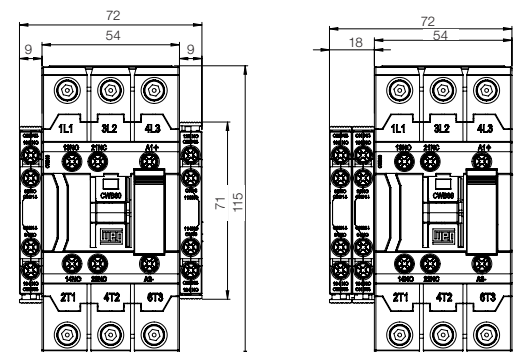
CWB9...18, CWB25...38 + BLB (Side Mounted Auxiliary Contact Block)



2 x CWB9...38 + IM1 (Mechanical Interlock) 2 x CWB40...80 + IM2 (Mechanical Interlock)



CWB40...80 + BLB (Side-Mounted Contact Block)

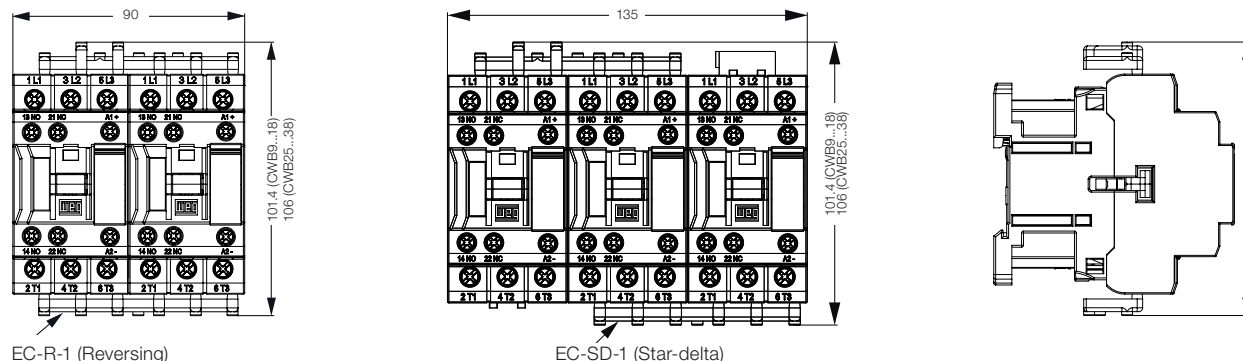


Contactors

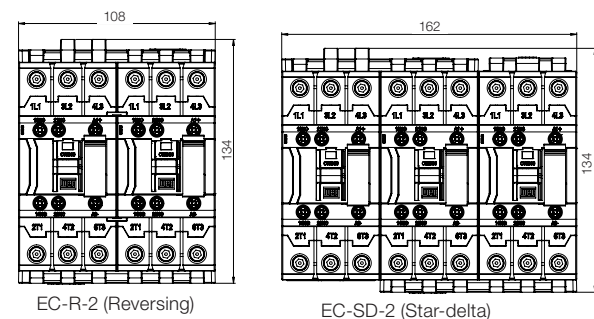
CWB Series

Dimensions (mm)

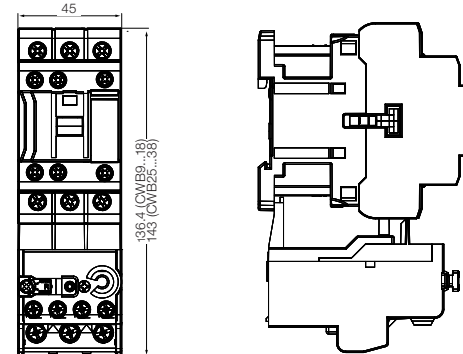
CWB9...38 + Easy Connection Busbars



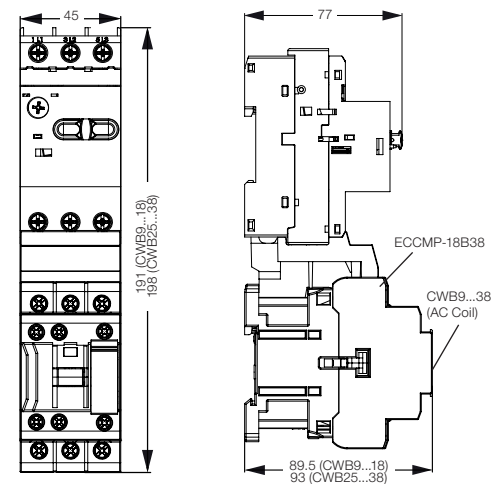
CWB40...80 + Easy Connection Busbars



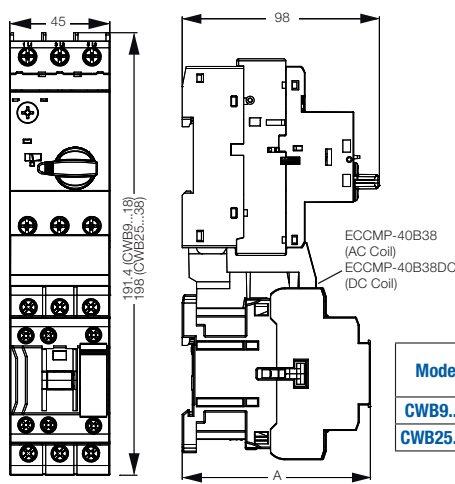
CWB9...38 + RW27-2D (Overload Relay)



CWB9...38 + MPW16/18 (Manual Motor Protector)

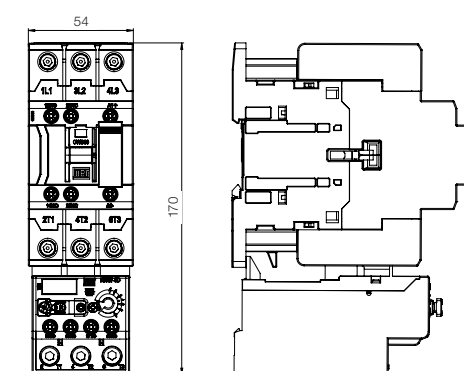


CWB9...38 + MPW25/40 (Manual Motor Protector)

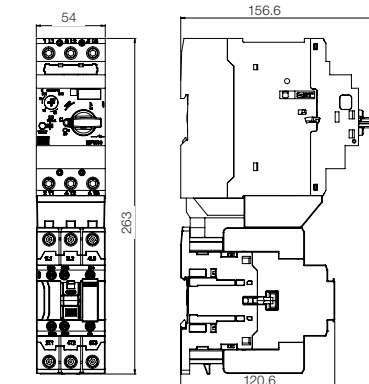


Models	A	
	AC coil	DC coil
CWB9...18	89.5	98.5
CWB25...38	93	102.2

CWB40 + RW67-5D (Overload Relay)



CWB40...80 + MPW80 (Manual Motor Protector)



CWM Series

The CWM Series IEC Contactor was designed as a general purpose contactor taking into consideration the heavy demands and need for high reliability in modern industry. They are rated for inductive loads up to 800 AMPS @ 460V. CWM Contactors are compact in frame size allowing for optimization of valuable internal space within electrical enclosures. Reducing inventory is a “Snap” away with the CWM Series’ common accessories.

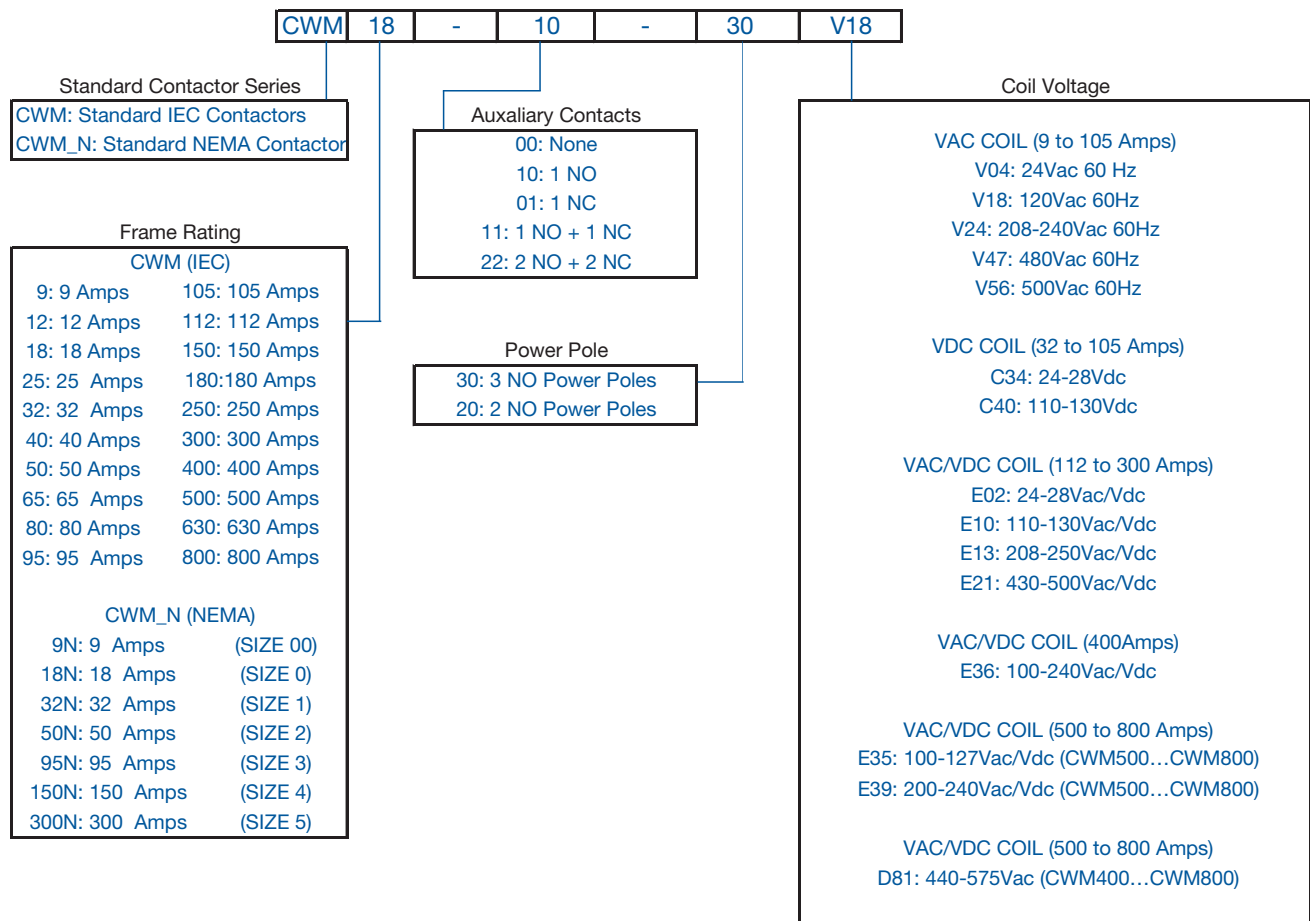
Standard Features

- Panel mountable or 35mm DIN Rail up to the CWM105 Series
- Front and Side Mounting Auxiliary Contacts
- Finger-Touch IP20 Protection
- Wide Coil Voltage Protection AC or DC
- Mirror Contacts for “Safety-Related” Applications
- Mechanically linked Auxiliary Contacts



UL File No. E202315

CWM Catalog Number Sequence



Contactors

CWM Series - IEC Standard Contactors



Catalog Number	CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105
----------------	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	--------

Rated operational power Single-phase

115Vac	Hp	1/2	3/4	1	2	3	3	3	5	7 1/2	7 1/2	10
230Vac	Hp	1 1/2	2	3	5	5	5	7 1/2	10	15	15	20

Three-phase

230Vac	Hp	3	3	5	7 1/2	10	15	15	20	25	30	40
460Vac	Hp	5	7 1/2	10	15	20	30	40	50	50	60	75
575Vac	Hp	7 1/2	10	15	15	25	25	40	50	60	75	75

General Purpose A Rating (AC-1)	25	25	32	45	60	60	90	110	110	140	140
---------------------------------	----	----	----	----	----	----	----	-----	-----	-----	-----

Inductive Motor Switching (AC-3)	9	12	18	25	32	40	50	65	80	95	105
----------------------------------	---	----	----	----	----	----	----	----	----	----	-----

Overload relays	RW27-1D	0.28...0.4 0.4...0.63 0.56...0.8 0.8...1.2 1.2...1.8 1.8...2.8 2.8...4 4...6.3	5.6...8 7...10 8...12.5 10...15 11...17 15...23 22...32	RW67-1D	25...40 32...50	RW67-2D	40...57 50...63 57...70 63...80	RW117-1D	63...80 75...97 90...112
-----------------	---------	---	---	---------	--------------------	---------	--	----------	--------------------------------

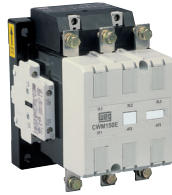
Auxiliary contact blocks		BCXMF10 (1NO) BCXMF01 (1NC)		BCXML 11 (1NO+1NC) BCXML 20 (2NO) BCXMRL 11 (1NO+1NC) BCXMRL 20 (2NO)
--------------------------	--	--------------------------------	--	--

Mechanical interlock		BLIM9-105 BLIM.02 9-105 (2NC)
----------------------	--	----------------------------------

Electronic Relays		Timing Relays - RTW Series (Please refer to Electronic Relays Section)
-------------------	--	---

Surge Suppressor		RC block: BAMRC4 D53 24-48 V 50/60Hz BAMRC5 D55 50-127 V 50/60Hz BAMRC6 D63 130-250 V 50/60Hz Varistor block: BAMV1 D68 270-380 V 50/60Hz BAMV2 D73 400-510 V 50/60Hz		RC block: BAMRC7 D53 24-48 V 50/60Hz BAMRC8 D55 50-127 V 50/60Hz BAMRC9 D63 130-250 V 50/60Hz Varistor block: BAMV1 D68 270-380 V 50/60Hz BAMV2 D73 400-510 V 50/60Hz
------------------	--	---	--	---

CWM Series - IEC Standard Contactors

						
Catalog Number	3 Poles	CWM112	CWM150	CWM180	CWM250	CWM300
Rated operational power						
Single-phase						
115Vac	Hp	-	-	-	-	-
230Vac	Hp	-	-	-	-	-
Three-phase						
230Vac	Hp	50	60	75	100	125
460Vac	Hp	100	125	150	200	250
575Vac	Hp	100	150	200	250	350
General Purpose Rating	A	180	225	225	350	410
Inductive/Motor Switching (AC3)		112	150	180	250	300
Overload relays	RW117-2D 			RW317-1D 		
	75...97 90...112			100...150 140...215 200...310 275...420		
Auxiliary contact blocks	 BCXML11 (1NO+1NC) BCXML20 (2NO) BCXMRL11 (1NO+1NC) BCXMRL20 (2NO)					
Mechanical interlock	 BLIM112-300					
Surge suppressor	built-in with electronic module					

General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

Appendix A

Appendix B

CWM Series - IEC Standard Contactors

General Information			
Circuit Protection			
Disconnect Switches			
Motor Protectors			
Contactors			
Overloads			
Enclosed Starters			
Relays			
Pushbuttons and Pilot Lights			
Terminal Blocks			
Power Factor Correction			
Appendix A			
Appendix B			

Catalog Number		CWM400	CWM630	CWM800
Rated Optional Power				
Single-phase				
220/230Vac Hp		-	-	-
380Vac Hp		-	-	-
Three-phase				
230Vac Hp		150	250	300
460Vac Hp		300	500	600
575Vac Hp		300	500	600
General Purpose Rating A		450	660	900
Inductive/Motor Switching AC-3		400	630	800
Overload relays A		 400...600 560...840		
Auxiliary contact blocks		 BCXML11 CWM800 (1NO+1NC) BCXMRL11 CWM800 (1NO+1NC)		
Mechanical interlock		 BLIM CWM400	 BLIM CWM800	
Surge suppressor		(Built-in with electronic module)		

CWM Series - IEC Standard Contactors

3 pole contactors with AC coil



Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number¹	List Price	Multiplier
Single Phase		Three Phase									
115V	230V	200V	230V	460V	575V	N.O.	N.C.				
1/2	1 1/2	3	3	5	7 1/2	1	0	9	CWM9-10-30*	\$72	Z1
						0	1		CWM9-01-30*		
3/4	2	3	3	7 1/2	10	1	0	12	CWM12-10-30*	\$89	
						0	1		CWM12-01-30*		
1	3	5	5	10	15	1	0	18	CWM18-10-30*	\$103	
						0	1		CWM18-01-30*		
2	5	7 1/2	7 1/2	15	15	0	0	25	CWM25-00-30*	\$118	
3	5	10	10	20	25	0	0	32	CWM32-00-30*	\$140	
3	7 1/2	10	15	30	25	0	0	40	CWM40-00-30*	\$164	
3	10	15	15	40	40	0	0	50	CWM50-00-30*	\$225	
5	10	20	20	50	50	0	0	65	CWM65-00-30*	\$255	
7 1/2	15	20	25	50	60	0	0	80	CWM80-00-30*	\$270	
7 1/2	15	25	30	60	75	0	0	95	CWM95-00-30*	\$365	
10	20	30	40	75	75	0	0	105	CWM105-00-30*	\$393	

Note:

1) For other auxiliary contact configurations, please refer to page 183.

To complete the selection

- Replace “*” with desired coil voltage from Coil Voltage Code Table

* AC COIL VOLTAGE CODE SELECTION FOR CONTACTORS CWM9...CWM105						
60 Hz	24V ¹⁾	48V	120V	208-240V	480V	600V
CODE	V04	V10	V18	V24	V47	V56
50 Hz	-	42V	110V	-	400-415V	500V

- Other coil voltages available upon request

The Flexible Line from 5 to 75HP

The 5 to 75HP @ 460V range is differentiated by five frame sizes and only 4 varying widths, with the choice of either screw or DIN rail mounting. WEG offers one of the most compact 75HP @ 460V contactors in the market.

Coil Technology

WEG Contactor AC coils have 4 terminals up to 30HP @ 460V, which allows an easy connection no matter the complexity of the application and wiring. From 32A up to 105A the contactors are equipped with an electronic circuit that provides an unmatched space saving solution, making the 50A through 105A contactors depth the same size.

Contactors



CWM Series - IEC Standard Contactors

3 pole contactors with DC coil



Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
115V	230V	200V	230V	460V	575V	N.O.	N.C.				
3	5	10	10	20	25	0	0	32	CWM32-00-30+	\$220	Z1
3	7 1/2	10	15	30	25	0	0	40	CWM40-00-30+	\$282	
3	10	15	15	40	40	0	0	50	CWM50-00-30+	\$310	
5	10	20	20	50	50	0	0	65	CWM65-00-30+	\$350	
7 1/2	15	20	25	50	60	0	0	80	CWM80-00-30+	\$417	
7 1/2	15	25	30	60	75	0	0	95	CWM95-00-30+	\$450	
10	20	30	40	75	75	0	0	105	CWM105-00-30+	\$540	

- For other auxiliary contact configurations please refer to page 183.

To complete the selection

- Replace "+" with desired coil voltage from Coil Voltage Code Table

+ DC COIL VOLTAGE CODE SELECTION FOR CONTACTORS CWM32...105		
FOR CONTACTORS CWM32...CWM105		
Voltage	24-28V	110-130V

CWM Series - IEC Standard Contactors

3 pole contactors with AC/DC electronic module coil



Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
Single Phase		Three Phase									
115V	230V	200V	230V	460V	575V	N.O.	N.C.				
-	-	40	50	100	100	2	2	112	CWM112-22-30#	\$865	Z1
-	-	50	60	125	150	2	2	150	CWM150-22-30#	\$960	
-	-	60	75	150	200	2	2	180	CWM180-22-30#	\$1,350	
-	-	75	100	200	250	2	2	250	CWM250-22-30#	\$1,920	
-	-	100	125	250	300	2	2	300	CWM300-22-30#	\$2,150	
-	-	125	150	300	300	2	2	400	CWM400-22-30^	\$2,950	
-	-	200	250	500	500	2	2	630	CWM630-22-30^	\$4,460	
-	-	200	300	600	600	2	2	800	CWM800-22-30^	\$6,530	

- For different auxiliary contact configurations please refer to page 183.

To complete the selection

- Replace “#” or “^” with desired coil voltage from Coil Voltage Code Table

AC/DC COIL VOLTAGE CODE SELECTION FOR CONTACTORS CWM112, 150, 180, 250, 300

Voltage	24-28Vac/Vdc	110-130Vac/Vdc	208-250Vac/Vdc	430-500Vac/Vdc
CODE	E02	E10	E13	E21
Mounting on	CWM112-CWM300	CWM112-CWM300	CWM112-CWM300	CWM112-CWM300

^ AC/DC COIL VOLTAGE CODE SELECTION FOR CONTACTORS CWM400...800

Voltage	100-240Vac/100-220Vdc	100-127Vac/100-110Vdc	200-240Vac/200-220Vdc	440-575Vac
CODE	E36	E35	E39	D82
Mounting on	CWM400	CWM630-CWM800	CWM630-CWM800	CWM400-CWM800

The Tough Line from 100 to 600HP

With reliability as our goal, WEG contactors are modern and very compact, but they are also one of the most rugged line of contactors in the range from 100 to 600HP, assuring an extended life under the most challenging conditions of today's industry.

Accessories

Side mounted auxiliary contact blocks are common for all CWM contactors, from 5 to 250HP @ 460V.

Electronic Module

From 100 to 600HP @ 460V, WEG offers contactors with electronic module for AC/DC Coil Applications. Such coils provide a smoother switching, therefore enhancing contactor's performance. Built-in surge suppressor is also standard.

CWM Series - IEC Standard Contactors

2 pole contactors with AC coil

Maximum UL Horsepower		Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
Single Phase							
115V	230V	N.O.	N.C.				
1/2	1 1/2	0	0	9	CWM9-00-20*	\$65	Z1
3/4	2	0	0	12	CWM12-00-20*	\$68	
1	3	0	0	18	CWM18-00-20*	\$73	
2	5	0	0	25	CWM25-00-20*	\$99	
3	5	0	0	32	CWM32-00-20*	\$126	
3	7 1/2	0	0	40	CWM40-00-20*	\$160	
3	10	0	0	50	CWM50-00-20*	\$174	
5	10	0	0	65	CWM65-00-20*	\$200	
7 1/2	15	0	0	80	CWM80-00-20*	\$231	
7 1/2	15	0	0	95	CWM95-00-20*	\$300	
10	20	0	0	105	CWM105-00-20*	\$321	

- For other auxiliary contact configurations please refer to page 183

To complete the selection

- Replace "***" with desired coil voltage from Coil Voltage Code Table

FOR CONTACTORS CWM9...CWM105

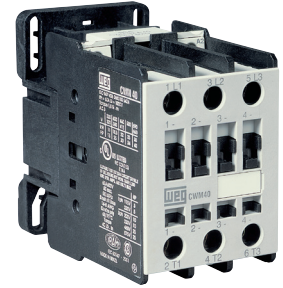
* AC COIL VOLTAGE CODE SELECTION			
60 Hz	24V	120V	208-240V
CODE	V04	V18	V24
50 Hz	-	110V	-

CWM-N Series - NEMA Rated Standard Contactor

The WEG CWM_N series NEMA rated contactor line has been designed for industrial duty and with reliability in mind. Rated for inductive loads up to 300 Amps or 200 Hp @ 460V, WEG can offer the suitable contactor for your application.

Customers who are used to specifying contactors (and starters), by a particular NEMA Size (size 00, 0, 1, 2, 3, 4, 5), now can use the WEG CWM_N series, NEMA rated contactors. Customers get the ease of choosing the product, the reliability of WEG quality, and still get the sophisticated arc quenching techniques to reduce excess heat on the contacts.

Given their compact footprints, CWM_N contactors allow total panel space optimization, with only a few compact frame sizes from 5 to 200 Hp @ 460 V. Reducing inventory is a “snap” with CWM’s common accessories. For example, side mounted auxiliary contact blocks are the same from 5 to 200 Hp @ 460 V.



UL File No. E202315

Standard Features:

- Ease of choosing product
- Compact footprint
- Arc Quenching technique
- Reduced inventory with common accessories
- Adjustable thermal overload relay for motor protection
- Reliable WEG Quality

NEMA Size	NEMA Continuous Amp rating	WEG Continuous Amp rating	HP @ 230 V	HP @ 460 V
00	9	9	1.5	2
0	18	18	3	5
1	27	32	7.5	10
2	45	50	15	25
3	90	95	30	50
4	135	150	50	100
5	270	300	100	200

Contactors



CWM-N Series - NEMA Rated Standard Contactor



Catalog Number	CWM9N	CWM18N	CWM32N	CWM50N	CWM95N
NEMA Size	00	0	1	2	3
Rated operational power ¹					
Single-phase					
115Vac Hp	1/3	1	3	3	7 1/2
230Vac Hp	1	3	5	7 1/2	15
Three-phase					
230Vac Hp	1 1/2	3	7 1/2	15	30
460Vac Hp	2	5	10	25	50
575Vac Hp	2	5	10	25	50
General Purpose A Rating	25	32	60	90	140

Overload Relays

RWM40E



0.4 ... 2.0
1.6 ... 8.0
5 ... 25
8 ... 40

RWM112E



14 ... 56
28 ... 112

Auxiliary contact blocks



BCXMF10 (1NO)
BCXMF01 (1NC)



BCXML 11 (1NO+1NC)
BCXML 20 (2NO)
BCXMR 11 (1NO+1NC)
BCXMR 20 (2NO)

Mechanical interlock



BLIM9-105
BLIM.02 9-105 (2NC)

Electronic Relays



Timing Relays - RTW Series

(Please refer to page 264)

Surge suppressor



RC block:
BAMRC4 D53 24-48 V 50/60Hz
BAMRC5 D55 50-127 V 50/60Hz
BAMRC6 D63 130-250 V 50/60Hz

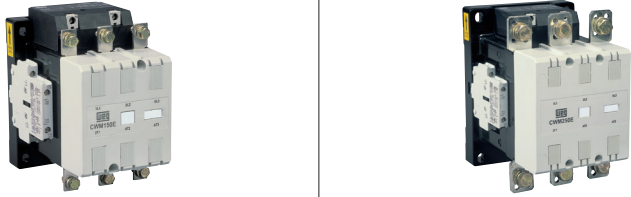
Varistor block:
BAMV1 D68 270-380 V 50/60Hz
BAMV2 D73 400-510 V 50/60Hz



RC block:
BAMRC7 D53 24-48 V 50/60Hz
BAMRC8 D55 50-127 V 50/60Hz
BAMRC9 D63 130-250 V 50/60Hz

Varistor block:
BAMV1 D68 270-380 V 50/60Hz
BAMV2 D73 400-510 V 50/60Hz

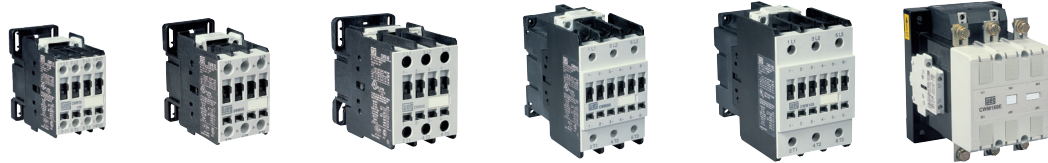
CWM-N Series - NEMA Rated Standard Contactor

			
Catalog Number	3 Poles	CWM150N	CWM300N
NEMA Sizes		4	5
Rated operational power ¹⁾			
Single-phase			
115Vac	Hp	-	-
230Vac	Hp	-	-
Three Phase			
230Vac	Hp	50	100
460Vac	Hp	100	200
575Vac	Hp	100	200
General Purpose Rating	A	225	410
Solid State Overload relays	A	RWM420E  50...250 85...420	
Auxiliary contact blocks		 BCXML11 (1NO+1NC) BCXML20 (2NO) BCXMRL11 (1NO+1NC) BCXMRL20 (2NO)	
Mechanical interlock		 BLIM112-300	
Surge suppressor		built-in with electronic module	

1) Note: Some motors characteristics may vary according to each manufacturer.

CWM-N Series - NEMA Rated Standard Contactor

3 POLE NEMA CONTACTORS WITH AC COIL



NEMA Size	Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
	Single Phase		Three Phase									
	115V	230V	200V	230V	460V	575V	N.O.	N.C.				
00	1/3	1	1.5	1.5	2	2	1	0	9	CWM9N-10-30*	\$103	Z1
							0	1		CWM9N-01-30*		
0	1	2	3	3	5	5	1	0	18	CWM18N-10-30*	\$118	
							0	1		CWM18N-01-30*		
1	2	3	7.5	7.5	10	10	0	0	32	CWM32N-00-30*	\$164	
2	3	7.5	10	15	25	25	0	0	50	CWM50N-00-30*	\$233	
3	7.5	15	25	30	50	50	0	0	95	CWM95N-00-30*	\$384	
4	-	-	40	50	100	100	2	2	150	CWM150N-22-30#	\$1,350	
5	-	-	75	100	200	200	2	2	300	CWM300N-22-30#	\$2,300	

- For additional auxilliary contacts, see page 183.

* AC COIL VOLTAGE CODE SELECTION

FOR CONTACTORS CWM9N...CWM95N

60 Hz	24V	120V	208-240V	480V	600V
CODE	V04	V18	V24	V47	V56
50 Hz	-	110V	-	400-415V	500V

AC / DC COIL VOLTAGE CODE SELECTION

FOR CONTACTORS: CWM150N, CWM300N

Voltage	24-28 Vac/Vdc	110-130 Vac/Vdc	208-250 Vac/Vdc	430-500 VAC/VDC
CODE	E02	E10	E13	E21

Notes:

- 1) CWM_N Series - 9 to 95 A - AC COIL
- 2) CWM_N Series - 150 to 300 A - AC/DC Coil with Electronic Module

CWM-N Series - NEMA Rated Standard Contactor

Accessories

Auxiliary Contacts Block							
Location/Description		Mounting on Contactors	AuxiliaryContacts		Catalog Number	List Price	Multiplier
			N.O.	N.C.			
	Front Mounting	CWM9...105	1	0	BCXMF10	\$10	Z1
		CWM9N...95N	0	1	BCXMF01	\$10	
	Side Mounting	CWM9...CWM300 CWM9N...300N	1	1	BCXML11	\$22	
			2	0	BCXML20	\$22	
	Side Mounting, Second Block		1	1	BCXMRL11	\$22	
			2	0	BCXMRL20	\$22	
	Side Mounting	CWM400...CWM800	1	1	BCXML11 CWM800	\$65	
	Side Mounting, Second Block		1	1	BCXMRL11 CWM800	\$65	

Maximum # of added auxiliary contacts per contactor frame size: Note that side mountable version has 2 aux. contacts per block. CWM9...25 = 4 aux. contacts; CWM32...40 = 6 aux. contacts; CWM50...300E = 8 aux. contacts.

Mechanical Interlock Block							
Location/Description		Mounting on Contactors	AuxiliaryContacts		Catalog Number	List Price	Multiplier
			N.O.	N.C.			
	Side mounted between two contactors	CWM9...105 CWM9N...95N	0	0	BLIM 9-105	\$29	Z1
			0	2	BLIM.02 9-105	\$40	
 		CWM112...300 1CWM150N CWM300N	0	0	BLIM 112-300	\$77	
		CWM400	0	0	BLIM CWM400	\$63	
	Bottom mounted	CWM630...CWM800	0	0	BLIM CWM800	\$1,850	

Notes: For CWM9...CWM105 the mechanical interlock can be used to interlock different frame sizes. For CWM112...CWM300, the mechanical interlock has to be used with contactors that have the same mechanical frame size.

For BLIM CWM800, a metal mount base is provided with this accessory for an accurate assembling of the contactors.

Surge Suppressors					
Description	Mounting on Contactors	Voltage Range	Catalog Number	List Price	Multiplier
	CWM9...40 CWM9N...32N	24...48Vac	BAMRC4 D53	\$30	Z1
		50...127Vac	BAMRC5 D55	\$30	
		130...250Vac	BAMRC6 D63	\$30	
	CWM50...105 CWM50N...95N	24...48Vac	BAMRC7 D53	\$30	
		50...127Vac	BAMRC8 D55	\$30	
		130...250Vac	BAMRC9 D63	\$30	
	CWM9...105 CWM9N...95N	270 - 380Vac	BAMV D68	\$30	
		400 - 510Vac	BAMV2 V73	\$30	

Note: CWM112...300 with Electronic Module and CWM400...800 already have the surge suppressor built-in on the electronic module

General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

Appendix A

Appendix B

Contactors



CWM Series - IEC Standard Contactors

Accessories

Terminal Cover for CWM_E Contactor Series

Location/Description	Mounting on Contactors	Catalog Number	List Price	Multiplier
 Protection for contactor terminals (2 covers per package)	CWM150	BMP CWM150	\$125	Z1
	CWM180	BMP CWM180	\$125	
	CWM300	BMP CWM300	\$125	
	CWM400	BMP CWM400	\$60	
	CWM630...CWM800	BMP CWM800	\$110	

Lugs for CWM Contactor Series (3 units per package)

Description / Wire Range	Mounting on Contactors	Catalog Number	List Price	Multiplier
 300 MCM...6 AWG 300 MCM...6 AWG 600 MCM...4 AWG (2) 3-4/0 AWG (2) 3/0-600 MCM	CWM112...150	LW1-S300	\$52	Z1
	CWM180	LW2-S300	\$52	
	CWM250...CWM300	LW1-S600	\$110	
	CWM400	BMJ CWM400	\$98	
	CWM630...CWM800	BMJ CWM800	\$158	

Connector links (3 per package)

Description	Contactor	Overload Relay	Catalog Number	List Price	Multiplier
 Link connectors for easier CWM contactors and RW overload relays assembly	CWM112	RW117-2D3	GA117D	\$41	Z2
	CWM150	RW317-1D3	GA317-1D	\$68	
	CWM180	RW317-1D3	GA317-2D	\$70	
	CWM250 / CWM300	RW317-1D3	GA317-3D	\$118	
	CWM400	RW317-1D3	GA317-10D	\$118	

CWM Series - IEC Standard Contactors

Replacement Coil

Description		Mounting on Contactors	Catalog Number	List Price	Multiplier
	Coil voltage code is required to complete part number	AC COIL			
		CWM9... 25 CWM9N... 18N	BCA4-25*	\$28	Z1
		CWM32...40 CWM32N	BCA4-40*	\$35	
		CWM50...105 CWM50N... 95N	BCA-105*	\$44	
		DC COIL²			
		CWM32...40	BECC4-40+	\$100	Z1
		CWM50...105	BECC-105+	\$60	
		AC/DC ELECTRONIC MODULE & COIL¹			
		CWM112...150 CWM150N	BCE-150# ME-300#	\$90 \$215	Z1
		CWM180	BCE-215# ME-300#	\$118 \$260	
			BCE-300# ME-300#	\$146 \$260	
		CWM250...300 CWM300N	BCE-400 ^ BCE-800 ^	\$700 \$850	
		CWM400			
		CWM630...800			

-1) Module (ME-) & Coil (BCE-) must be used together for a proper contactor operation.

-2) DC Option does not include NEMA Rated Contactors

*** AC COIL VOLTAGE CODE SELECTION FOR CONTACTORS CWM9...CWM105, CWM150N, CWM300N, CWM9N...95**

60 Hz	24V	48V	120V	208-240V	277V	480V	600V
CODE	V04	V10	V18	V24	V37	V47	V56
50 Hz	-	42V	110V	-	230-240V	400-415V	500V

1) Stock available only for contactor version ...-10-30... and ...-00-30.... Example CWM9-10-30V24 or CWM50-00-30V24

+ DC COIL VOLTAGE CODE SELECTION 1)

FOR CONTACTORS CWM32...CWM105

Voltage	24-28V	110-130V
CODE	C34	C40

AC/DC COIL VOLTAGE CODE SELECTION - Electronic Contactor Required

FOR CONTACTORS CWM112, 150, 180, 250, 300, CWM150N, CWM300N

Voltage	24-28Vac/Vdc	110-130Vac/Vdc	208-250Vac/Vdc	430-500Vac/Vdc
CODE	E02	E10	E13	E21
Mounting on	CWM112-CWM300	CWM112-CWM300	CWM112-CWM300	CWM112-CWM300

^ AC/DC COIL VOLTAGE CODE SELECTION - Electronic Contactor Required

FOR CONTACTORS CWM400, 630, 800

Voltage	100-240Vac/100-220Vdc	100-127Vac/100-110Vdc	200-240Vac/200-220Vdc	440-575Vac
CODE	E36	E35	E39	D82
Mounting on	CWM400	CWM630-CWM800	CWM630-CWM800	CWM400-CWM800

1) DC coils cannot be used in AC coil contactors due to difference in size of coil housing.

General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

Appendix A

Appendix B

CWM Series - IEC Standard Contactors

Control circuit ratings - AC Coil

TYPE		CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105
Rated Insulation Voltage Ui												
Acc. IEC; VDE 0660	[V]	1000										
Acc. UL; CSA	[V]	600										
Rated Operating Voltage Ue												
Acc. IEC; VDE 0660	[V]	690										
Acc. UL; CSA	[V]	600										
Standard Voltages 60Hz	[V]	24...600										
Coil Operating limits												
Monofrequency coils xUc	[V]						0.85...1.1					-
Pick-up xUc	[V]	0.4...0.76					0.5...0.76	0.5...0.76				-
Drop-out xUc	[V]	0.25...0.65					0.3...0.65	0.25...0.6				-
Operating Time												
Coil energization - N.O.	[ms]	8...20					10...19	15...30				-
Coil de-energization - N.O.	[ms]	6...13					5...25	9...15				-
Coil Consumption												
Single coils												
Sealed	[VA]	4...7.2					6.6...12.5	13.1....19.1				-
Inrush	[VA]	70					98	255				-
Thermal Power Dissipation												
60Hz	[W]	2.6					4.3	8.0				-
Power Factor												
Closed	Cos phi	0.28					0.34	0.32				-
Opened	Cos phi	0.85					0.69	0.54				-
Stranded / Solid (UL / CSA)	[AWG]	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10	2x12-10
												

Control circuit ratings - DC Coil

TYPE		CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105
Rated Insulation Voltage Ui Acc. IEC; VDE 0660 Acc. UL; CSA	[V] [V]							1000 600				
Standard Voltages	[V]	12...440				24...240		24...240				
Coil Operating limits Pick-up xUc Drop-out xUc	[V] [V]	0.4...0.7 0.15...0.4				0.85...1.1		0.7...0.8 0.4...0.6				
						0.45...0.75 0.15...0.45						
Operating Time Coil energization - N.O. Coil de-energization - N.O.	[ms] [ms]	35...45 7...12				40...55 30...65		50...60 55...60				
Coil Consumption Sealed Inrush	[W] [W]	3.8...9.0 3.8...9.0				6 240		6.5 340				
Stranded / Solid (UL / CSA)	[AWG]	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 	2x12-10 

CWM Series - IEC Standard Contactors

IEC Contactors - CWM Series

TYPE		CWM112	CWM150	CWM180	CWM250	CWM300	CWM400	CWM630	CWM800
Rated Insulation Voltage Ui									
Acc. IEC; VDE 0660	[V]	1000							
Acc. UL; CSA	[V]	600							
Rated Operating Voltage Ue									
Acc. IEC; VDE 0660	[V]	690							
Acc. UL; CSA	[V]	600							
Standard Voltages 50Hz; 60Hz; DC	[V]	24...600							
Coil Operating limits									
xUc	[V]	0.8...1.1				0.85...1.1			
Pick-up xUc	[V]	0.6...0.75				0.77...0.83			
Drop-out xUc	[V]	0.40...0.60				0.48...0.53			
Operating Time									
Coil energization - N.O.	[ms]	60...70	60...70	60...70	60...70	60...70	64...68	66...70	66...70
Coil de-energization - N.O.	[ms]	13...17	13...17	13...17	13...17	13...17	43...47	45...49	45...49
Coil Consumption									
Sealed AC	[VA]	16.3	16.3	21.5	35.2	35.2	14	17	29
Inrush AC	[VA]	322	322	426	518	518	571	1000	1000
Sealed DC	[VA]	11.0	11.0	14.3	24.2	24.2	14	17	29
Inrush DC	[VA]	403	403	529	644	644	571	1000	1000
Thermal Power Dissipation									
AC	[W]	3.9	3.9	3.8	3.7	3.7	4.7	4.9	5.3
DC	[W]	2.4	2.4	2.4	2.5	2.5	5.0	6.3	7.8

General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

Appendix A

Appendix B

CWM Series - IEC Standard Contactors

Power Contacts

TYPE			CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105
Standard UL/CSA Ratings													
Rated Operating Voltage		[V]	600										
AC-1 (General Purpose)		[A]	25	25	32	32	60	60	90	110	110	140	140
Switching Motor Loads													
Full Voltage - 50/60Hz													
1-phase	115V	[A]	9.8	13.8	16	24	34	34	56	56	80	80	100
	230V	[A]	10	12	17	28	28	28	40	50	68	68	88
	115V	[HP]	1/2	3/4	1	2	3	3	5	5	7-1/2	7-1/2	10
	230V	[HP]	1-1/2	2	3	5	5	7 1/2	10	10	15	15	20
3-phase	200V	[A]	11	11	17.5	25	32.2	32.2	48.3	62.1	62.1	78.2	92
	230V	[A]	9.6	9.6	15.2	22	28	42	42	54	68	80	104
	460V	[A]	7.6	11	14	21	27	40	52	65	65	77	96
	575V	[A]	9	11	17	17	27	27	41	52	62	77	77
	200V	[HP]	3	3	5	7-1/2	10	10	15	20	20	25	30
	230V	[HP]	3	3	5	7-1/2	10	15	15	20	25	30	40
	460V	[HP]	5	7-1/2	10	15	20	30	40	50	50	60	75
	575V	[HP]	7-1/2	10	15	15	25	25	40	50	60	75	75
Short Circuit Rating		600V [kA]	5	5	5	5	5	5	10	10	10	10	10
Standard IEC Ratings (IEC EN 60947)													
Rated Operating Voltage		[V]	690						1000				
Rated Thermal Current I _{th}		[A]	25	25	32	45	60	60	90	110	110	140	140
Switching Motor Loads													
AC-3 - 50/60Hz													
3-phase	220-240V	[A]	9	12	18	25	32	40	50	65	80	95	105
	380-400V	[A]	9	12	18	25	32	40	50	65	80	95	105
	415-440V	[A]	9	12	18	25	32	40	50	65	80	95	105
	500V	[A]	7.5	10.5	14	19	24	32	38	55	63	79	85
	660-690V	[A]	7	9	13	15	22	25	34	44	48	60	80
	220-240V	[kW]	2.2	3	4	7.5	9	11	15	18.5	22	25	30
	380-400V	[kW]	4	5.5	7.5	11	15	18.5	22	30	37	45	55
	415-440V	[kW]	4	5.5	7.5	11	15	22	25	37	45	50	55
	500V	[kW]	5.5	7.5	10	15	18.5	25	30	40	45	55	65
	660-690V	[kW]	5.5	7.5	10	15	18.5	30	35	45	45	55	65
Maximum Switching Rate													
	AC-1	[ops/hr]	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
	AC-3	[ops/hr]	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	600	600
	no load	[ops/hr]	9,000	9,000	9,000	9,000	9,000	9,000	5,000	5,000	5,000	5,000	5,000
AC-4													
200,000 operations; 50/60Hz		<= 690V [A]	5	7	8	12	16	18.5	23	30	37	44	50
	220-230V	[kW]	1.1	1.5	1.5	3	4	4.5	5.5	7.5	9.2	11	12.5
		[HP]	1.5	2	2	4	5.4	6	7.5	10	12.5	15	17
	380-400V	[kW]	2.2	3	3.7	5.5	7.5	9.2	11	15	18.5	22	22
		[HP]	3	4	5	7.5	10	12.5	15	20	25	30	30
	415-440V	[kW]	2.2	3.7	4.5	5.5	9.2	11	11	15	22	22	30
		[HP]	3	5	6	7.5	12.5	15	15	20	30	30	40
	500V	[kW]	3	4	5.5	7.5	10	11	15	18.5	22	25	30
		[HP]	4	5.4	7.5	10	13	15	20	25	30	33	40
	660-690V	[kW]	3	4.5	5.5	7.5	11	12.5	15	20	25	30	33
		[HP]	4	6	7.5	10	15	17	20	27	33	40	45

Power Contacts continued

CWM Series - IEC Standard Contactors

Power Contacts cont.

Type			CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105
Breaking Capacity	Ue=400V	[A]	250	250	250	450	450	920	920	920	920	1050	1050
	Ue=500V	[A]	250	250	250	320	450	920	920	920	920	1050	1050
	Ue=690V	[A]	130	130	130	170	205	780	780	780	780	950	950
Impedance per Pole		[mW]	2.41	2.41	2.35	1.65	1.28	0.95	0.85	0.86	0.86	0.76	0.76
Power Dissipation per Pole													
	AC-1	[W]	1.47	1.47	2.46	3.34	4.6	3.42	6.86	10.40	10.40	14.89	14.89
	AC-3	[W]	0.19	0.34	0.78	1.03	1.31	1.52	2.12	3.63	5.5	6.86	8.37
Short Time Current Icw													
	1 sec.	[A]	455	455	570	630	1010	1265	1580	2530	2530	3300	3300
	5 sec.	[A]	205	205	254	280	450	450	710	1130	1130	1485	1485
	10 sec.	[A]	144	144	180	200	320	400	500	800	800	1050	1050
	30 sec.	[A]	85	85	104	115	185	230	290	460	460	600	600
	1 min.	[A]	60	60	74	80	130	165	205	325	325	430	430
	3 min.	[A]	35	35	46	50	90	100	120	185	185	250	250
	Rec. time	[min.]	10	10	10	10	10	10	10	10	10	10	10
Short Circuit Coordination													
Acc. to IEC													
Coordination Type "1"	gL/gG	[A]	50	50	63	63	100	125	200	200	200	250	250
Coordination Type "2"	gL/gG	[A]	25	35	35	50	63	80	100	125	125	160	200
Acc. to UL/CSA	J Type	[A]	25	35	40	45	60	70	100	125	125	150	200

Built-in Auxiliary Contacts

TYPE		CWM9		CWM12		CWM18	
Rated Insulation Voltage Ui							
Acc. IEC; VDE 0660			[V]	1000			
Acc. UL; CSA			[V]	600			
Rated Operating Voltage Ue							
Acc. IEC; VDE 0660			[V]	690			
Acc. UL; CSA			[V]	600			
Rated Thermal Current Ith <=55°C			[A]	20			
Rated Operating Current Ie							
Acc. IEC 60947-5-1 / AC-15	110-127V		[A]	10			
	220-240V		[A]	10			
	380-400V		[A]	6			
	415-450V		[A]	5			
	500V		[A]	4			
	660-690V		[A]	2			
Acc. UL; CSA			A600				
Rated Operating Current Ie							
Acc. IEC 60947-5-1 / DC-13	24V		[A]	6			
	48V		[A]	4			
	110V		[A]	2			
	220V		[A]	0.7			
	440V		[A]	0.7			
Acc. UL; CSA			P600				
Making Capacity Im							
AC-15 / AC-11		Ue <= 690V 50/60Hz		[A]	250		
DC-13 / DC-11		Ue <= 440Vdc		[A]	250		
Breaking Capacity Ic							
AC-15 / AC-11		Ue <= 400V 50/60Hz		[A]	250		
DC-13 / DC-11		Ue <=220Vdc		[A]	2		
Short Circuit Protection with Fuses							
Acc. IEC 60947-5-1 - gL/gG				[A]	10		
Minimum Switching Capacity				[V/mA]	17/5		
Electrical Endurance				Million ops.	1		
Mechanical Endurance				Million ops.	10		
Guaranteed Non-Overlap Time				[ms]	1.5		
Insulation Resistance				[MOhm]	>10		

CWM Series - IEC Standard Contactors

Power Contacts cont.

TYPE	Units		CWM112	CWM150	CWM180	CWM250	CWM300	CWM400	CWM630	CWM800
NEMA Ratings										
Rated Operating Voltage		[V]	600							
AC-1 (General Purpose)		[A]	170	170	200	300	400	450	660	900
Switching Motor Loads										
Full Voltage - 50/60Hz										
1-phase	115V	[A]	-	-	-	-	-	-	-	-
	230V	[A]	-	-	-	-	-	-	-	-
	115V	[HP]	-	-	-	-	-	-	-	-
	230V	[HP]	-	-	-	-	-	-	-	-
3-phase	200V	[A]	120	150	177	221	285	359	414	552
	230V	[A]	130	154	192	248	312	360	480	772
	460V	[A]	124	156	180	240	302	361	477	-
	575V	[A]	99	144	192	242	336	289	382	-
	200V	[HP]	40	50	60	75	100	125	150	200
	230V	[HP]	50	60	75	100	125	150	200	300
	460V	[HP]	100	125	150	200	250	300	400	600
	575V	[HP]	100	150	200	250	350	300	400	600
Short Circuit Rating	600V	[kA]	10	10	10	18	18	18	30	30
Standard IEC Ratings (IEC/EN 60947)										
Rated Operating Voltage		[V]	1000							
Rated Thermal Current I _{th}		[A]	180	225	225	350	350	450	660	900
Switching Motor Loads										
AC-3 - 50/60Hz										
3-phase	220-240V	[A]	112	150	180	250	300	400	630	800
	380-400V	[A]	112	150	180	250	300	400	630	800
	415-440V	[A]	112	150	180	250	300	400	630	800
	500V	[A]	95	130	155	220	265	350	500	720
	660-690V	[A]	82	110	135	185	220	300	420	630
	220-240V	[kW]	30	45	55	75	90	110	185	220
	380-400V	[kW]	55	75	90	132	160	220	330	450
	415-440V	[kW]	55	90	110	150	185	220	370	500
	500V	[kW]	55	90	110	160	200	220	330	500
	660-690V	[kW]	75	110	110	160	200	260	400	560
Maximum Switching Rate										
	AC-1	[ops/hr]	600	600	600	600	600	500	500	500
	AC-3	[ops/hr]	600	600	600	600	600	500	500	500
	no load	[ops/hr]	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

CWM Series - IEC Standard Contactors

Power Contact cont.

TYPE			CWM112	CWM150	CWM180	CWM250	CWM300	CWM400	CWM500	CWM630	CWM800
AC-4	Voltage	Units									
200,000 operations; 50/60Hz	<= 690V	[A]	50	55	58	100	130	-	-	-	-
	220-230V	[kW]	18.5	20	22	37	45	90	-	110	185
		[HP]	25	27	30	50	60	125	-	150	250
	380-400V	[kW]	30	33	37	55	75	150	-	220	330
		[HP]	40	44	50	75	100	200	-	300	450
	415-440V	[kW]	37	40	45	63	80	185	-	220	370
		[HP]	50	54	60	84	107	250	-	300	500
	500V	[kW]	40	45	50	75	90	-	-	-	-
		[HP]	54	60	67	100	121	-	-	-	-
Maximum Switching Rate	660-690V	[kW]	45	50	55	90	100	-	-	-	-
		[HP]	600	67	75	121	133	-	-	-	-
Making Capacity		[ops/hr]	150	150	150	150	150	-	-	-	-
		[A]	1430	1820	2100	2600	3000	-	-	-	-
Breaking Capacity											
	Ue<=400V	[A]	1290	1350	1400	2000	-	4000	-	6300	8000
	Ue=500V	[A]	1290	1350	1400	2000	-	4000		6300	8000
Impedance per pole		[mW]	0.5	0.5	0.45	0.3	0.3	-	-	-	-
Power Dissipation per Pole											
	AC-1	[W]	16	25	21.6	35	45.7	-	-	-	-
	AC-3	[W]	6.2	11.1	13.8	17.9	25.7	-	-	-	-
Short Time Current Icw											
0° ≤ 104°F	1 sec.	[A]	3165	3763	4649	4427	-	-	-	-	-
	5 sec.	[A]	1820	2164	2673	2546	-	-	-	-	-
	10 sec.	[A]	1430	1700	2100	2000	-	-	-	-	-
	30 sec.	[A]	826	980	1212	1155	-	-	-	-	-
	1 min.	[A]	584	694	857	816	-	-	-	-	-
	3 min.	[A]	337	401	495	471	-	-	-	-	-
	Recovery time	[min.]	10	10	10	10	10	-	-	-	-
Short Circuit Coordination											
Acc. to IEC											
Coordination type "1"	gL/gG	[A]	315	355	355	500	630	630	-	800	1000
Coordination type "2"	gL/gG	[A]	224	250	250	400	500	-	-	-	-
Acc. to UL/CSA	J Type	[A]	250	350	400	500	700	700	-	900	1100

CWM Series - IEC Standard Contactors

General Ratings

TYPE		CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105
Standards	Units	Devices according to International Standards IEC 60947-1 / 60947-4-1, European Standards EN 60947-1 / 60947-4-1, Underwriters Laboratories - UL 508; CSA C.22.2/14; VDE 0660/102										
Rated Insulation Voltage Ui												
Acc. IEC; VDE 0660	[V]	1000										
Acc. UL; CSA	[V]	600										
Rated Impulse Voltage Uimp												
Acc. IEC60947-1	[kV]	6							8			
Rated Operating Frequency		25...400										
Degree of Protection		IP20				Protection against direct contact Acc. VDE 0160 - Part. 100						
Main terminals						IP10						
Coil terminals												
Auxiliary terminals												
Ambient Temperature												
Storage		-55 to +80oC (-67 to +176oF)										
Operating		-25 to +55oC (-13 to +131oF)										
Altitude												
Up to 1,500m		Nominal values										
		See graphic on page 194										
Pollution Degree		3										
Climatic Withstand		According to IEC 60680-2										
Mounting		35mm rail Acc. DIN EN 50 022										
Vibration Resistance (5 to 200 Hz)												
Contact or open	[g]	3	3	3	7.5	8	8	4.5	4.5	4.5	5	5
Contact or closed at Uc	[g]	6	6	6	8	12	12	9	9	9	7	7
Mechanical Endurance												
AC Coil	Million ops.	10										
Electrical Endurance AC-3	Million ops.	1.8	1.6	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1
Shock Resistance (1/2 sin wave = 11ms)												
Contact or open	[g]	8	8	8	8	7	7	6	6	6	6	6
Contact or closed at Uc	[g]	12	12	12	12	12	12	10	10	10	10	10
Weight	[kg]	0.30	0.30	0.30	0.30	0.52	0.54	1.11	1.12	1.13	1.45	1.47
AC Coil	[lb]	0.65	0.65	0.65	0.65	1.15	1.19	2.44	2.47	2.49	3.20	3.24
Terminal Capacity		Cross/Slotted Combination							Allen Head			
Fine - Stranded with sleeve	Top [mm2]											
		2x0.5-2.5	2x0.5-2.5	2x0.5-2.5	2x1-2.5	0.75-16	0.75-16	1-35	1-35	1-35	1.5-50	1.5-50
	Bottom [mm2]	or 2x2.5-6	or 2x2.5-6	or 2x2.5-6	or 2x2.5-10	1.0-16	1.0-16	2.5-35	2.5-35	2.5-35	4-35	4-35
Coarse - Stranded / Solid	Top [mm2]	2x1-2.5	2x1-2.5	2x1-2.5	2x1-2.5	1-16	1-16	1.5-35	1.5-35	1.5-35	2.5-50	2.5-50
	Bottom [mm2]	or 2x2.5-6	or 2x2.5-6	or 2x2.5-6	or 2x2.5-10	1.5-16	1.5-16	6-35	6-35	6-35	6-35	6-35
Stranded / Solid (UL / CSA)	Top [AWG]	2x20-12	2x20-12	2x20-12	2x18-12	18-6	18-6	16-2	16-2	16-2	16-1	16-1
	Bottom [AWG]	or 2x12-10	or 2x12-10	or 2x12-10	or 2x12-8	16-6	16-6	14-2	14-2	14-2	10-2	10-2
Drive Size		Screwdriver - Philips #2							5/32" (4mm.)			
Tightening Torque		8.9...15 (1...1.7)	8.9...15 (1...1.7)	8.9...15 (1...1.7)	14.2...26.6 (1.6...3)	22.1...35.4 (2.5...4)	22.1...35.4 (2.5...4)	35.4...53.1 (4...6)	35.4...53.1 (4...6)	35.4...53.1 (4...6)	44.3...57.5 (5...6.5)	44.3...57.5 (5...6.5)

CWM Series - IEC Standard Contactors

General Ratings

TYPE		CWM112	CWM150	CWM180	CWM250	CWM300	CWM400	CWM630	CWM800	
Standards Units		Devices according to International Standards IEC 60947-1 / 60947-4-1, European Standards EN 60947-1 / 60947-4-1, Underwriters Laboratories - UL 508; CSA C.22.2/14; VDE 0660/102								
Rated Insulation Voltage Ui										
Acc. IEC; VDE 0660	[V]	1000								
Acc. UL; CSA	[V]	600								
Rated Impulse Voltage Uimp										
Acc. IEC60947-1	[kV]	8								
Rated Operating Frequency	[Hz]	25...400								
Degree of protection		Protection against direct contact acc. VDE 0160 - Part. 100								
Main terminals		IP00								
Coil terminals		IP20								
Auxiliary terminals		IP20								
Ambient Temperature										
Storage		-55 to +80°C (-67 to +176°F)								
Operating		-25 to +55°C (-13 to +131°F)								
Altitude										
Up to 1,500m		Nominal values								
Other altitudes		See graphic on page 194					up to 2000m			
Pollution Degree		3								
Climatic withstand		According to IEC 68-2								
Mounting		Screw to panel								
Vibration Resistance (5 to 200 Hz)										
Contactor open	[g]	4								
Contactor closed at Uc	[g]	4								
Mechanical Endurance										
AC Coil	Million ops.	10					5			
Electrical Endurance AC-3	Million ops.	1.1	1.1	1.0	1.0	1.0	0.5			
Shock Resistance (1/2 sin wave = 11ms)										
Contactor open	[g]	3								
Contactor closed at Uc	[g]	3								
Weight										
AC/DC Coil	[kg]	2.54	2.54	4.04	6.14	6.14	9.2	22.4	22.4	
	[lb]	5.60	5.60	8.91	13.54	13.54	20	49	49	
Terminal Capacity										
Fine - Stranded with sleeve	[mm2]	2 x (25-70)		2 x (50-120)		2 x (50-150)		1 x 150	1 x 240	1 x 240
AWG wires with end sleeve		1 x 300 or 2 x 107			1 x 500 or 2 x 300		Nº2 30x5	Nº2 50x5	Nº2 60x5	
Busbars	[mm]	2 x (15 x 3)		2 x (20 x 3)		2 x (30 x 5)		-	-	-
Tightening Torque	lb-in (Nm)	47.8-53.1(5.4-6)		123.9-141.6 (14-16)		203.6-230.1 (23-26)		203.6 (23)	504.5 (57)	504.5 (57)

Contactors

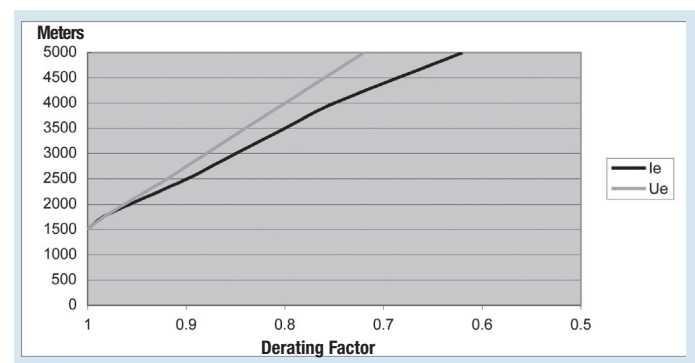


CWM Series - IEC Standard Contactors

Auxiliary contact block ratings

TYPE		BCXMF		BCXML	BCXMRL	BLIM.02
Rated Insulation Voltage Ui						
Acc. IEC; VDE 0660		[V]	1000			
Acc. UL; CSA		[V]	600			
Rated Operating Voltage Ue						
Acc. IEC; VDE 0660		[V]	690			
Acc. UL; CSA		[V]	600			
Rated Thermal Current Ith <=55°C		[A]	10			
Rated Operating Current Ie						
Acc. IEC 60947-5-1 / AC-15	110-127V	[A]	6			
	220-240V	[A]	6			
	380-400V	[A]	4			
	415-450V	[A]	3.5			
	500V	[A]	2.5			
	660-690V	[A]	1.5			
Acc. UL; CSA			A600			
Rated Operating Current Ie						
Acc. IEC 60947-5-1 / DC-13	24V	[A]	4			
	48V	[A]	2			
	110V	[A]	0.7			
	220V	[A]	0.3			
	440V	[A]	0.15			
Acc. UL; CSA			Q600			
Making Capacity Im						
AC-15 / AC-11		Ue <= 400V 50/60Hz	[A]	90		
DC-13 / DC-11		Ue <= 220Vdc	[A]	90		
Breaking Capacity Ic						
AC-15 / AC-11		Ue <= 400V 50/60Hz	[A]	60		
DC-13 / DC-11		Ue <= 220Vdc	[A]	0.95		
Short Circuit Protection with Fuses						
Acc. IEC 60947-5-1 - gL/gG		[A]	10			
Minimum Switching Capacity		[V/mA]	17/5			
Electrical Endurance		Million ops.	1			
Mechanical Endurance		Million ops.	10			
Guaranteed Non-Overlap Time		[ms]	1.5			
Insulation Resistance		[MΩm]	>10			

Graphic Altitude



NOTE:

Altitude compensation in CWM Series contactors, considers a factor according to which the rated power must be reduced.

The derating of the permissible operating power for installation altitudes above 1,500 m (5,000 ft) is calculated according to:

$$\text{Total derating} = \text{Derating}_{\text{current}} \times \text{Derating}_{\text{voltage}}$$

Example: Altitude: 3,000 m (10,000 ft):

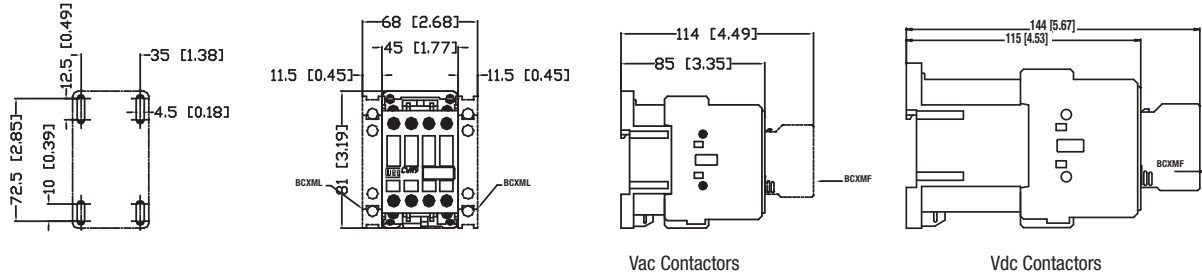
Derating current K1 = 0.85

Derating voltage K2 = 0.88

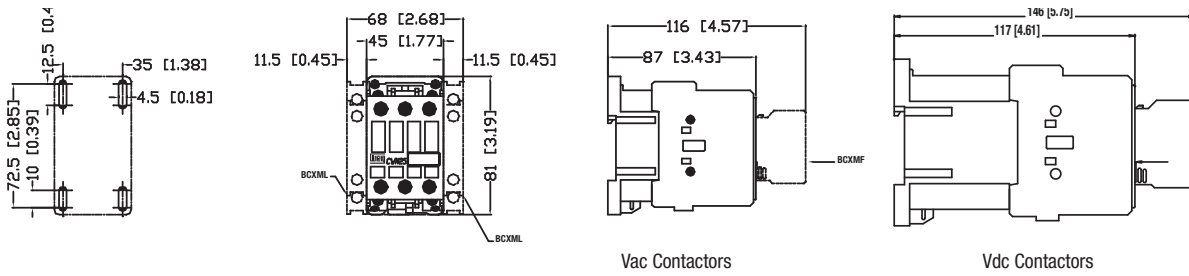
$$\text{Total derating} = 0.85 \times 0.88 = 0.75 \times \text{HP}$$

Mechanical Drawings mm (in)

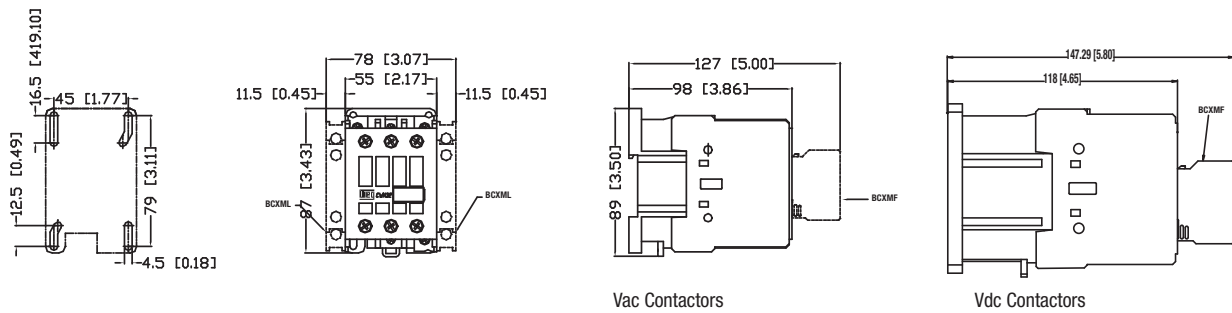
CWM9, CWM9N, CWM12, CWM18, and CWM18N



CWM25



CWM32, CWM32N and CWM40



General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

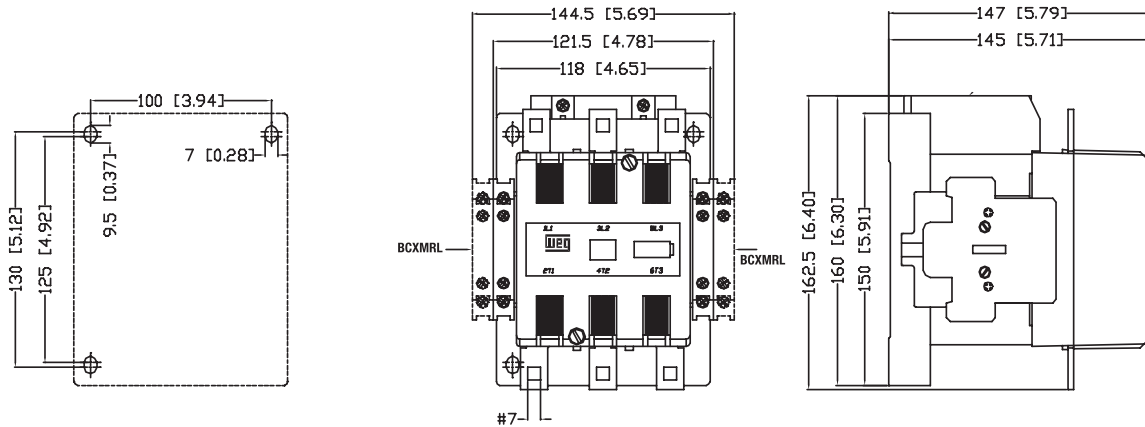
Power Factor Correction

Appendix A

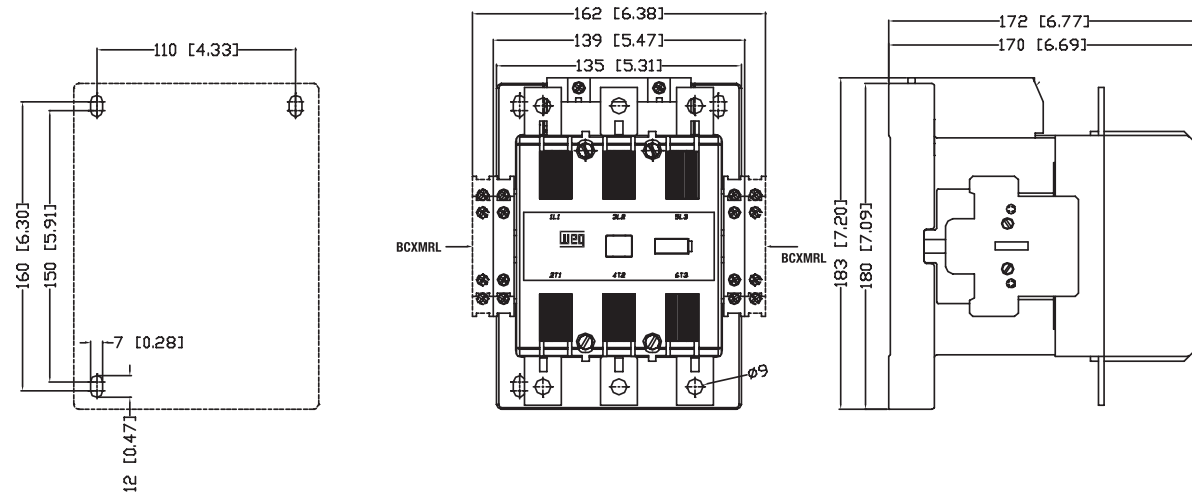
Appendix B

Mechanical Drawings mm (in)

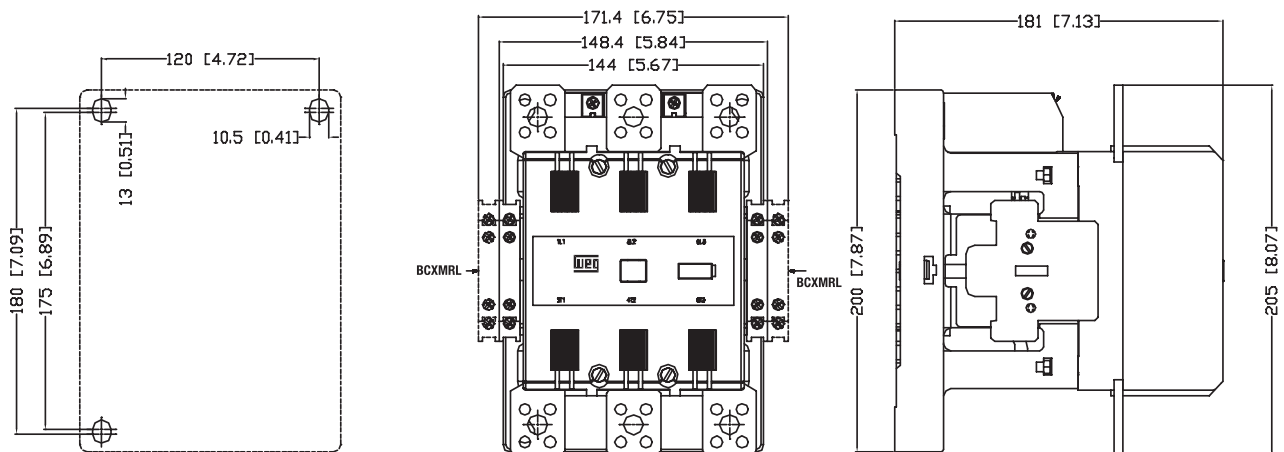
CWM112, CWM150 and CWM150N



CWM180



CWM250, CWM300 and CWM300N



General
Information

Circuit
Protection

Disconnect
Switches

Motor
Protectors

Contactors

Overloads

Enclosed
Starters

Relays

Pushbuttons
and Pilot
Lights

Terminal
Blocks

Power
Factor
Correction

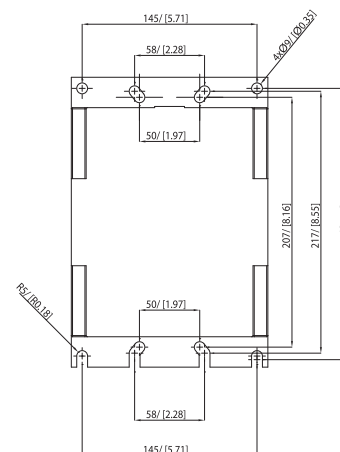
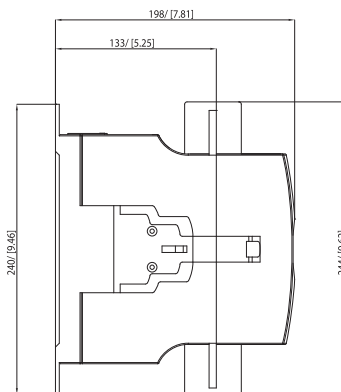
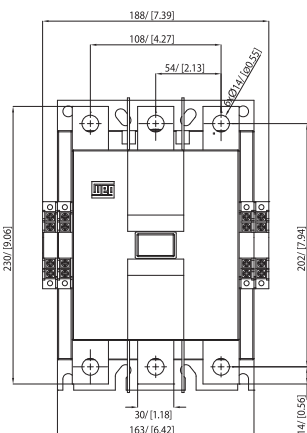
Appendix
A

Appendix
B

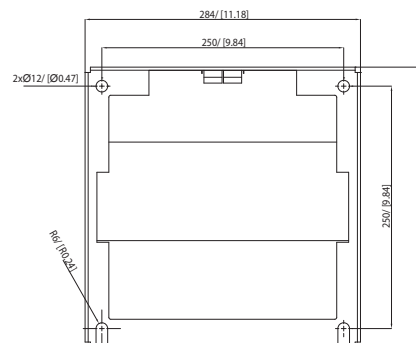
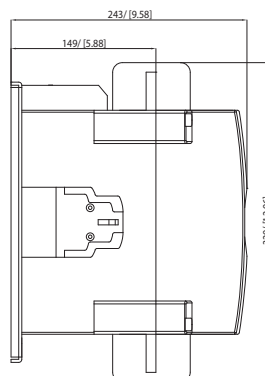
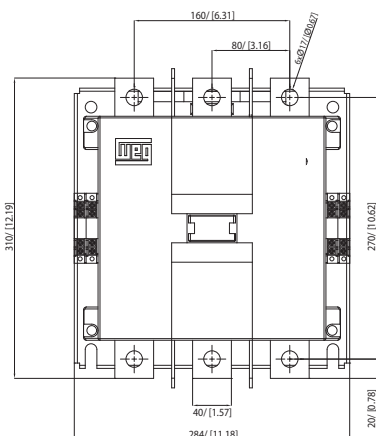
CWM Series - IEC Standard Contactors

Mechanical Drawings mm (in)

CWM400

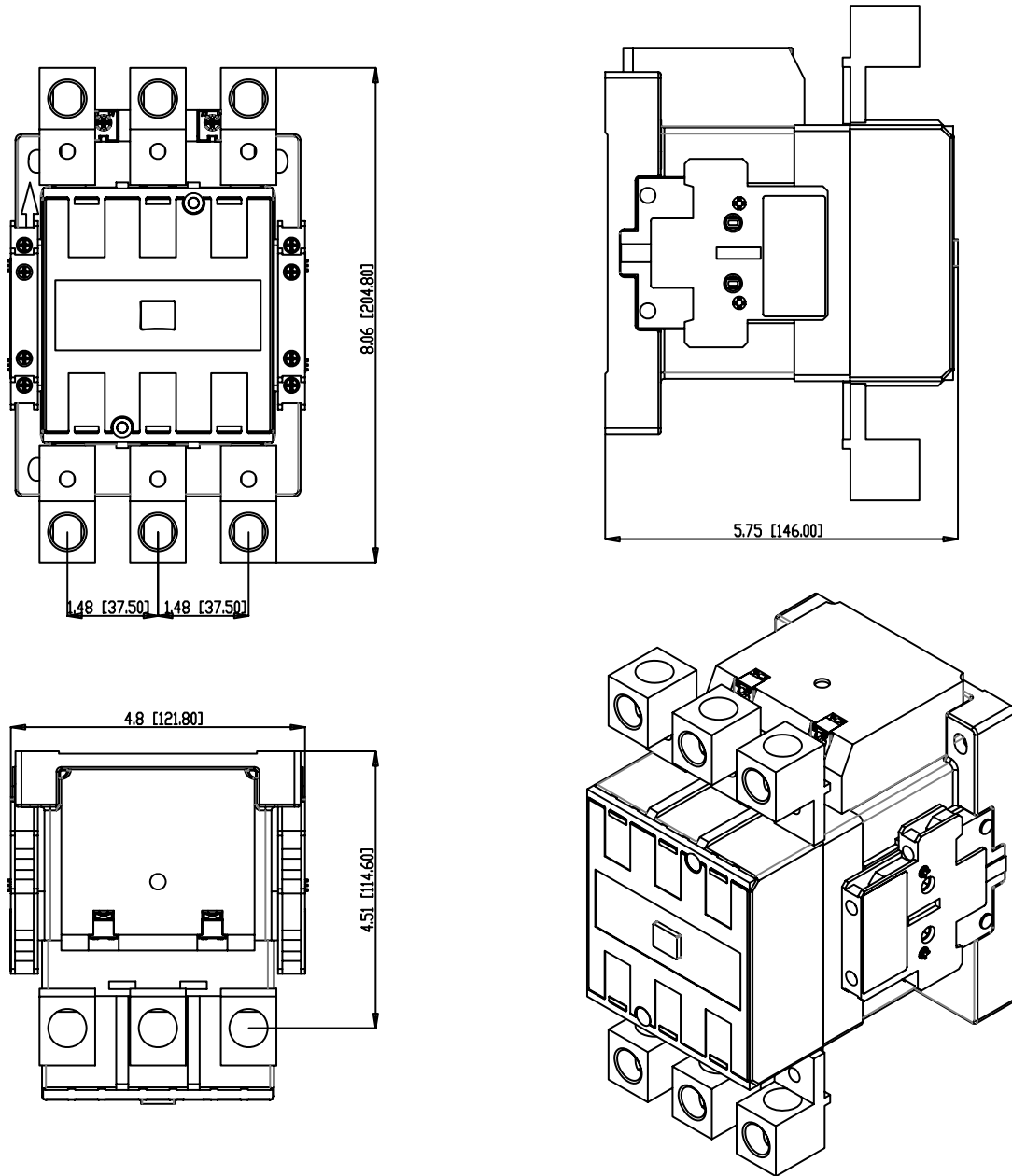


CWM630 and CWM800



Mechanical Drawings mm (in)

CWM112 - CWM150 + LW1-S300 (contactor with lugs)



General
Information

Circuit
Protection

Disconnect
Switches

Motor
Protectors

Contactors

Overloads

Enclosed
Starters

Relays

Pushbuttons
and Pilot
Lights

Terminal
Blocks

Power
Factor
Correction

Appendix
A

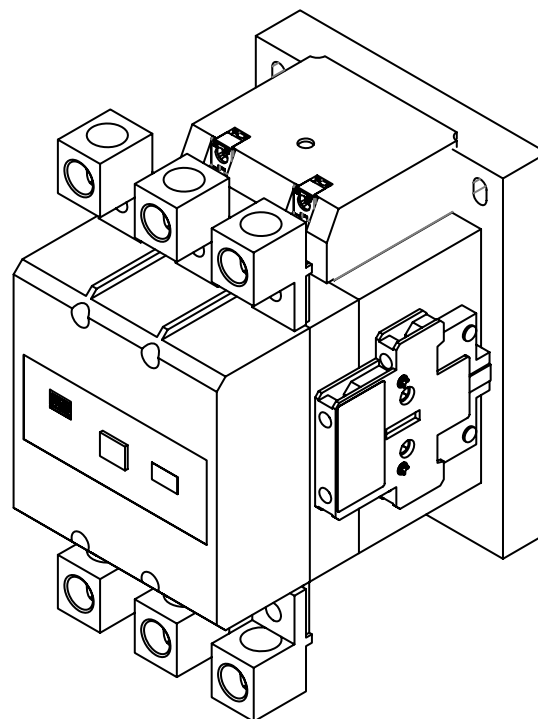
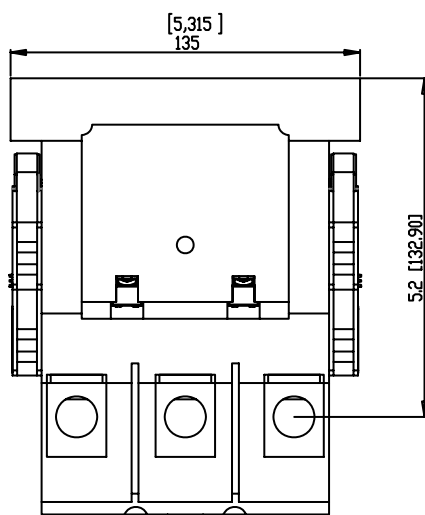
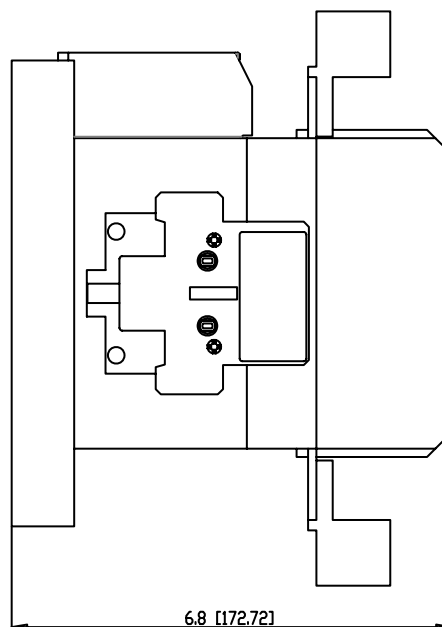
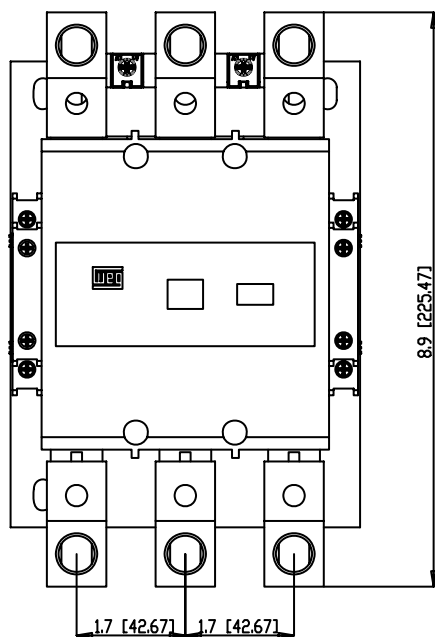
Appendix
B

Contactors

CWM Series - IEC Standard Contactors

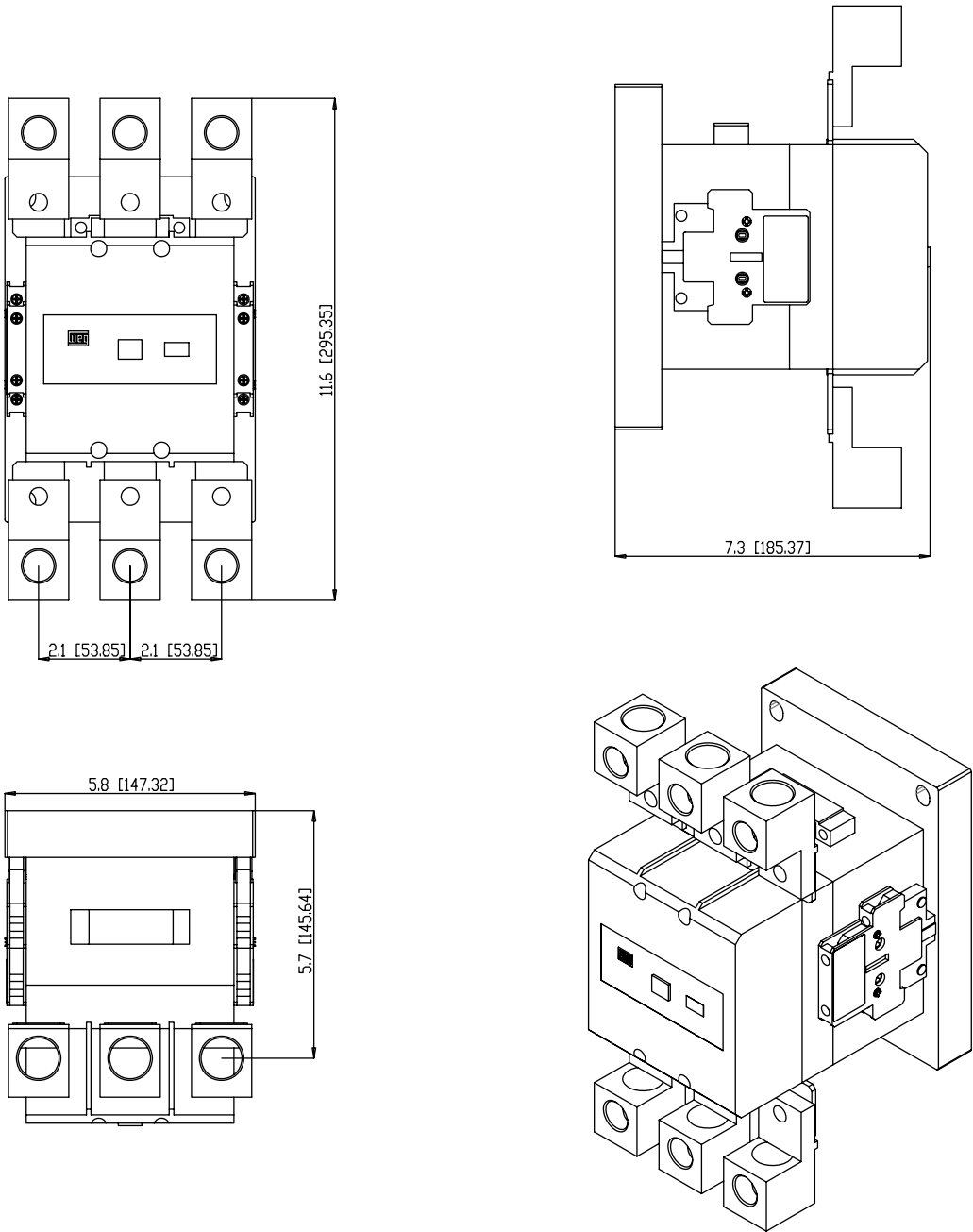
Mechanical Drawings mm (in)

CWM180 + LW2-S300 (contactor with lugs)



Mechanical Drawings mm (in)

CWM250 + LW1-S600 (contactor with lugs)



General
Information

Circuit
Protection

Disconnect
Switches

Motor
Protectors

Contactors

Overloads

Enclosed
Starters

Relays

Pushbuttons
and Pilot
Lights

Terminal
Blocks

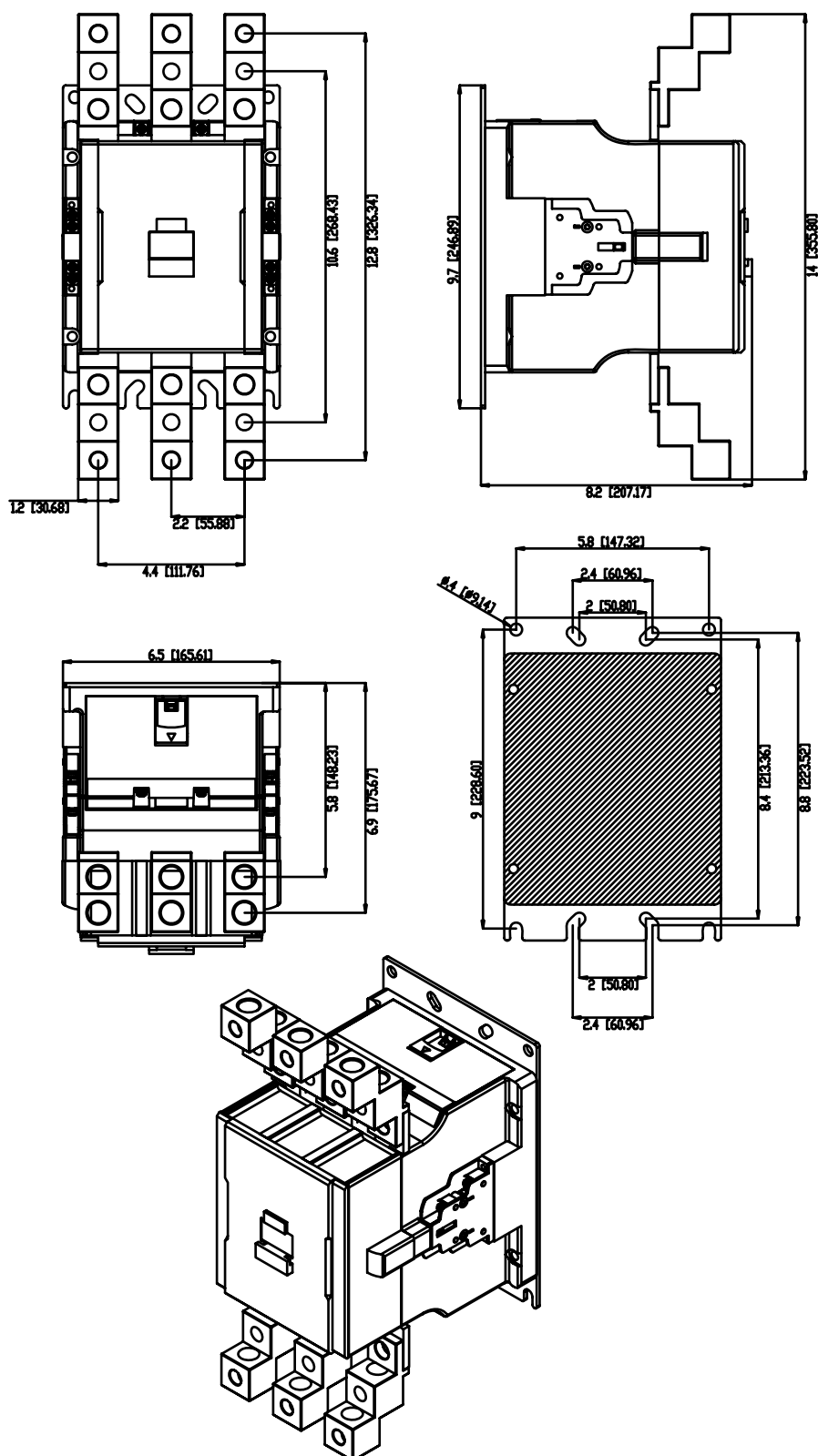
Power
Factor
Correction

Appendix
A

Appendix
B

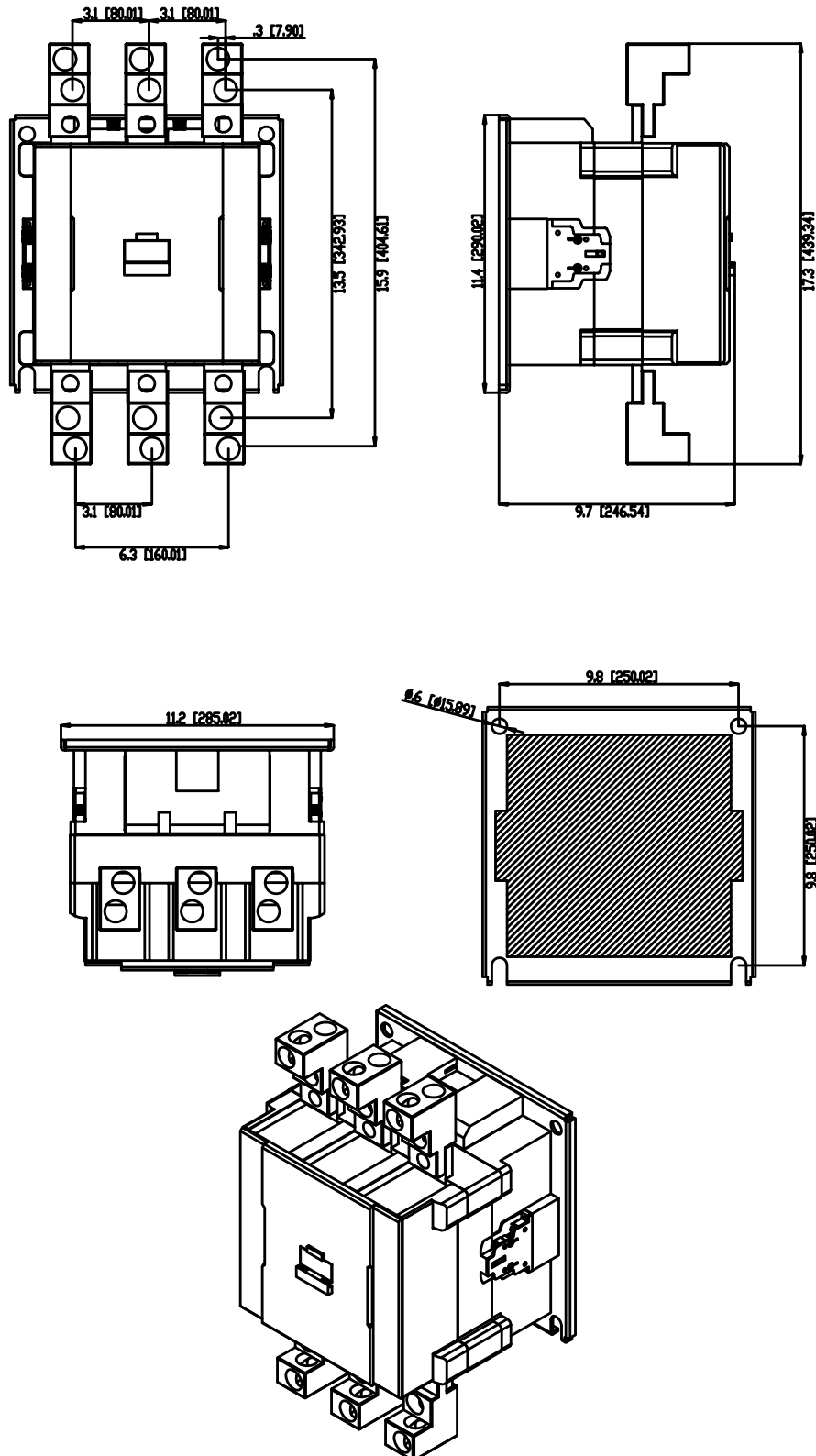
Mechanical Drawings mm (in)

CWM400 + BMJ (contactor with lugs)



Mechanical Drawings mm (in)

CWM630-CWM800 + BMJ (contactor with lugs)



General
Information

Circuit
Protection

Disconnect
Switches

Motor
Protectors

Contactors

Overloads

Enclosed
Starters

Relays

Pushbuttons
and Pilot
Lights

Terminal
Blocks

Power
Factor
Correction

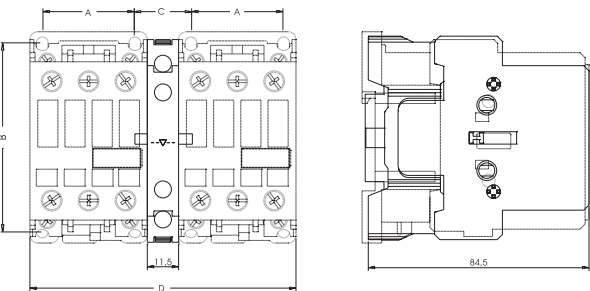
Appendix
A

Appendix
B

CWM Series - IEC Standard Contactors

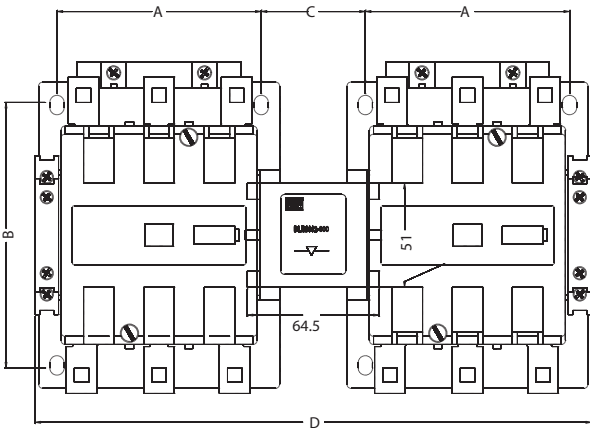
Reversing Contactors mm (in)

BLIM9-105



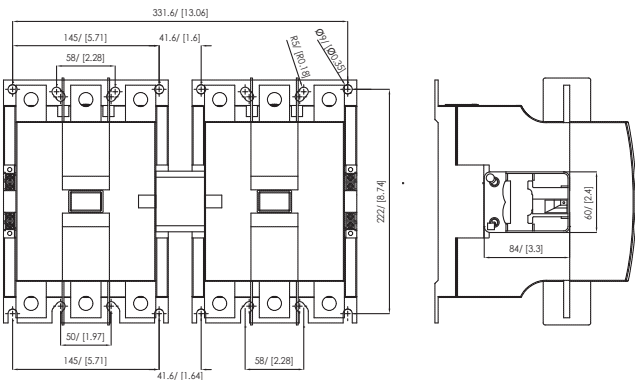
Models	A	B	C	D
CWM9...25	35 (1,4)	72,5 (2,9)	22 (0,9)	102 (4)
CWM32...40	45 (1,8)	79 (3,1)	22 (0,9)	122 (4,8)
CWM50...80	57 (2,2)	90 (3,5)	21 (0,8)	144 (5,7)
CWM95...105	57 (2,2)	90 (3,5)	29,8 (1,2)	153 (6)

BLIM112-300

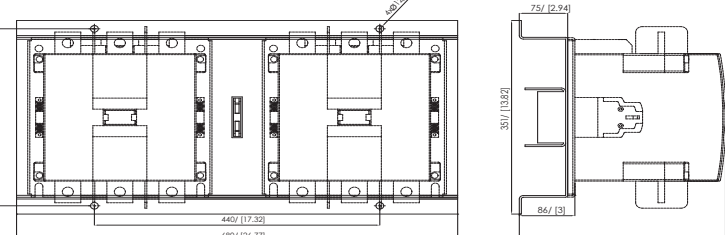


Models	A	B	C	D
CWM112...150	100 (3,9)	130 (5,1)	51 (2)	272,5 (10,7)
CWM180	110 (4,3)	160 (6,3)	58,5 (2,3)	303,5 (11,9)
CWM250...300	120 (4,7)	180 (7,1)	57 (2,2)	325,4 (12,8)

BLIM CWM400

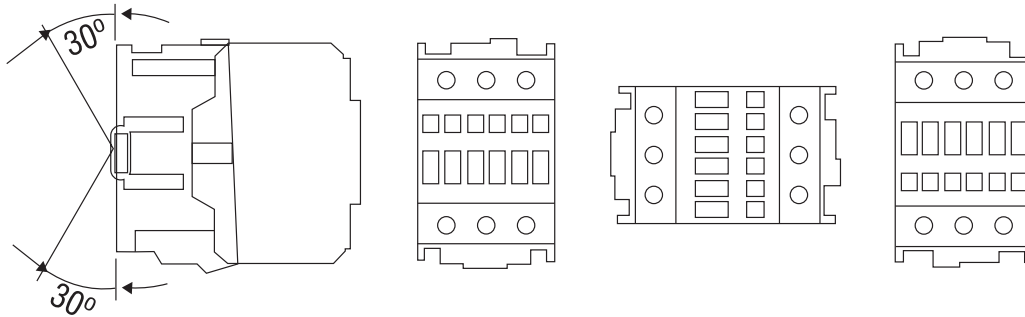


BLIM CWM800

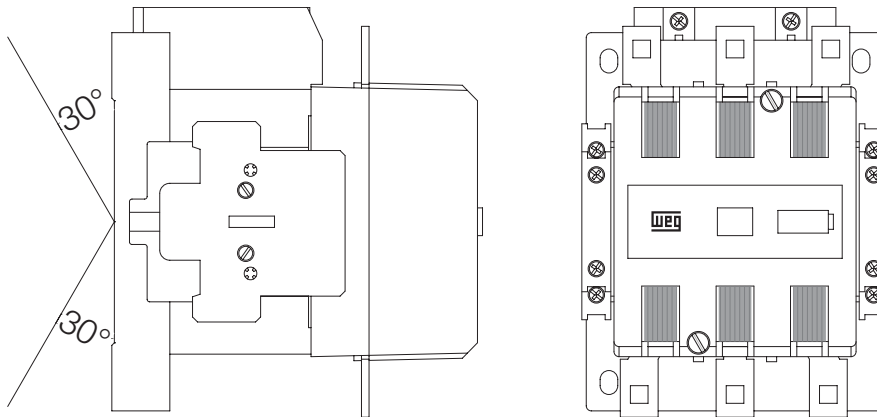


Mounting position¹

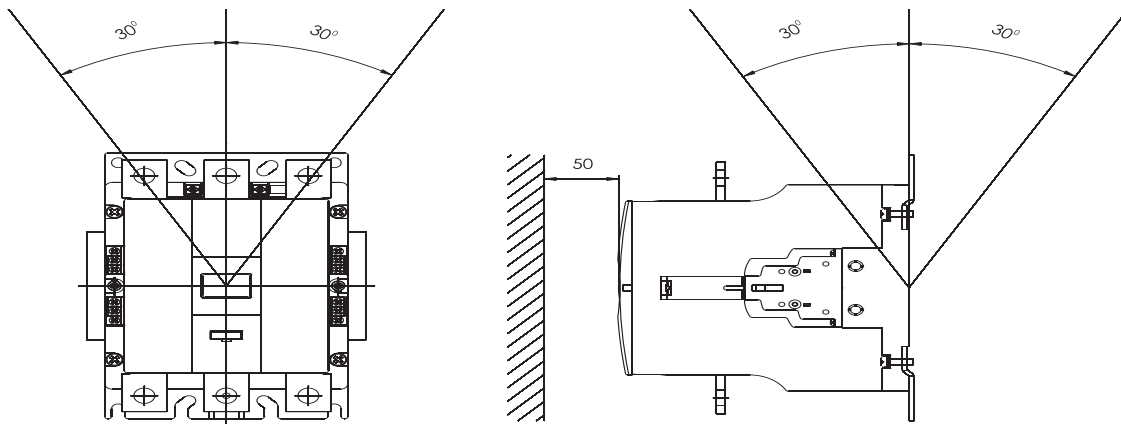
CWM9...105



CWM112...300



CWM400...800



Note: 1) Consult WEG if application requires a different mounting position

General
Information

Circuit
Protection

Disconnect
Switches

Motor
Protectors

Contactors

Overloads

Enclosed
Starters

Relays

Pushbuttons
and Pilot
Lights

Terminal
Blocks

Power
Factor
Correction

Appendix
A

Appendix
B