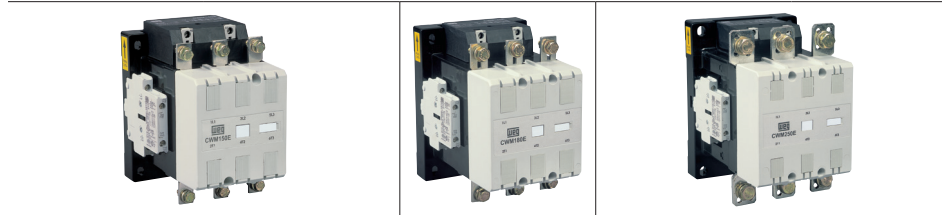






## CWM Series - IEC Standard Contactors

General Information																																																																																																																																																	
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## CWM Series - IEC Standard Contactors



Catalog Number	3 Poles	CWM112	CWM150	CWM180	CWM250	CWM300
<b>Rated operational power</b>						
<b>Single-phase</b>						
115Vac	Hp	-	-	-	-	-
230Vac	Hp	-	-	-	-	-
<b>Three-phase</b>						
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	A	<b>RW117-2D</b>  75...97 90...112		<b>RW317-1D</b>  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
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## CWM Series - IEC Standard Contactors

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	<b>Catalog Number</b>	<b>CWM400</b>	<b>CWM630</b>	<b>CWM800</b>
	<b>Rated Optional Power</b>			
	<b>Single-phase</b>			
	220/230Vac Hp	-	-	-
	380Vac Hp	-	-	-
	<b>Three-phase</b>			
	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			
	Mechanical interlock			
	Surge suppressor	(Built-in with electronic module)		

### 3 pole contactors with AC coil



Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number <sup>1</sup>	List Price	Multiplier
Single Phase		Three Phase				N.O.	N.C.				
115V	230V	200V	230V	460V	575V						
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 163.

**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 <sup>1)</sup>	48V	120V	208-240V	480V	600V
<b>CODE</b>	<b>V04</b>	<b>V10</b>	<b>V18</b>	<b>V24</b>	<b>V47</b>	<b>V56</b>
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.

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## CWM Series - IEC Standard Contactors

### 3 pole contactors with DC coil



Maximum UL Horsepower						Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
Single Phase		Three Phase				N.O.	N.C.				
115V	230V	200V	230V	460V	575V						
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 163.

To complete the selection

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

#### + DC COIL VOLTAGE CODE SELECTION FOR CONTACTORS CWM9...105

##### FOR CONTACTORS CWM32...CWM105

Voltage	24-28V	110-130V
<b>CODE</b>	<b>C34</b>	<b>C40</b>

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### 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	<a href="#">CWM112-22-30#</a>	\$865	Z1
-	-	50	60	125	150	2	2	150	<a href="#">CWM150-22-30#</a>	\$960	
-	-	60	75	150	200	2	2	180	<a href="#">CWM180-22-30#</a>	\$1,350	
-	-	75	100	200	250	2	2	250	<a href="#">CWM250-22-30#</a>	\$1,920	
-	-	100	125	250	300	2	2	300	<a href="#">CWM300-22-30#</a>	\$2,150	
-	-	125	150	300	300	2	2	400	<a href="#">CWM400-22-30^</a>	\$2,950	
-	-	200	250	500	500	2	2	630	<a href="#">CWM630-22-30^</a>	\$4,460	
-	-	200	300	600	600	2	2	800	<a href="#">CWM800-22-30^</a>	\$6,530	

- For different auxiliary contact configurations please refer to page 163.

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
<b>CODE</b>	<b>E02</b>	<b>E10</b>	<b>E13</b>	<b>E21</b>
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
<b>CODE</b>	<b>E36</b>	<b>E35</b>	<b>E39</b>	<b>D82</b>
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.

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## CWM Series - IEC Standard Contactors

### 2 pole contactors with AC coil

Circuit Protection	Maximum UL Horsepower		Auxiliary Contacts		Current Rating Amps	Catalog Number	List Price	Multiplier
	Single Phase		N.O.	N.C.				
	115V	230V						
Disconnect Switches	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	
Motor Protectors	10	20	0	0	105	CWM105-00-20*	\$321	

- For other auxiliary contact configurations please refer to page 163

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
<b>CODE</b>	<b>V04</b>	<b>V18</b>	<b>V24</b>
50 Hz	-	110V	-

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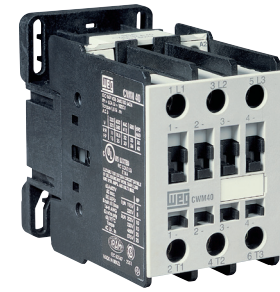
Appendix B

## 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.



### 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

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## CWM-N Series - NEMA Rated Standard Contactor

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Catalog Number	CWM9N	CWM18N	CWM32N	CWM50N	CWM95N
NEMA Size	00	0	1	2	3
<b>Rated operational power <sup>1</sup></b>					
<b>Single-phase</b>					
115Vac Hp	1/3	1	3	3	7 1/2
230Vac Hp	1	3	5	7 1/2	15
<b>Three-phase</b>					
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

### RWM40E



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

### RWM112E



14 ... 56  
28 ... 112

### Overload Relays

### Auxiliary contact blocks

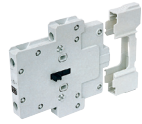


BCXMF10 (1NO)  
BCXMF01 (1NC)



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

### Mechanical interlock



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

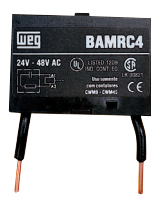
### Electronic Relays



### Timing Relays - RTW Series

(Please refer to page B-291)

### 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

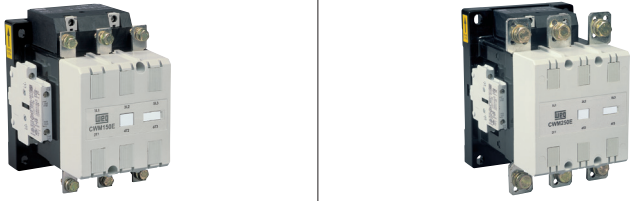



Varistor block:  
BAMV1 D68 270-380 V 50/60Hz  
BAMV2 D73 400-510 V 50/60Hz



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
<b>Rated operational power<sup>1)</sup></b>			
<b>Single-phase</b>			
115Vac	Hp	-	-
230Vac	Hp	-	-
<b>Three Phase</b>			
230Vac	Hp	50	100
460Vac	Hp	100	200
575Vac	Hp	100	200
General Purpose Rating	A	225	410
Solid State Overload relays	A	<p style="text-align: center;"><b>RWM420E</b></p>  <p>50...250 85...420</p>	
Auxiliary contact blocks		 <p>BCXML11 (1NO+1NC) BCXML20 (2NO) BCXMR11 (1NO+1NC) BCXMR20 (2NO)</p>	
Mechanical interlock		 <p>BLIM112-300</p>	
Surge suppressor		built-in with electronic module	

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

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### 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				N.O.	N.C.				
	115V	230V	200V	230V	460V	575V						
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 auxiliary contacts, see page 163.

#### \* AC COIL VOLTAGE CODE SELECTION

FOR CONTACTORS CWM9N...CWM95N

60 Hz	24V	120V	208-240V	480V	600V
<b>CODE</b>	<b>V04</b>	<b>V18</b>	<b>V24</b>	<b>V47</b>	<b>V56</b>
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
<b>CODE</b>	<b>E02</b>	<b>E10</b>	<b>E13</b>	<b>E21</b>

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

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	Auxiliary Contacts		Catalog Number	List Price	Multiplier	
		N.O.	N.C.				
	Side mounted between two contactors	CWM9...105 CWM9N...95N	0	0	<b>BLIM 9-105</b>	<b>\$29</b>	Z1
			0	2	<b>BLIM.02 9-105</b>	<b>\$40</b>	
		CWM112...300 1CWM150N CWM300N	0	0	<b>BLIM 112-300</b>	<b>\$77</b>	
			0	0	<b>BLIM CWM400</b>	<b>\$63</b>	
	Bottom mounted	CWM400	0	0	<b>BLIM CWM400</b>	<b>\$63</b>	
		CWM630...CWM800	0	0	<b>BLIM CWM800</b>	<b>\$1,850</b>	

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	
	Limits switching transients from contactor pick-up	CWM9...40 CWM9N...32N	24...48Vac	<b>BAMRC4 D53</b>	<b>\$30</b>	Z1
			50...127Vac	<b>BAMRC5 D55</b>	<b>\$30</b>	
			130...250Vac	<b>BAMRC6 D63</b>	<b>\$30</b>	
		CWM50...105 CWM50N...95N	24...48Vac	<b>BAMRC7 D53</b>	<b>\$30</b>	
			50...127Vac	<b>BAMRC8 D55</b>	<b>\$30</b>	
			130...250Vac	<b>BAMRC9 D63</b>	<b>\$30</b>	
		CWM9...105 CWM9N...95N	270 - 380Vac	<b>BAMV D68</b>	<b>\$30</b>	
			400 - 510Vac	<b>BAMV2 V73</b>	<b>\$30</b>	


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

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## 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 (3 covers per package)	CWM150	<a href="#">BMP CWM150</a>	\$125	Z1
	CWM180	<a href="#">BMP CWM180</a>	\$125	
	CWM300	<a href="#">BMP CWM300</a>	\$125	
	CWM400	<a href="#">BMP CWM400</a>	\$60	
	CWM630...CWM800	<a href="#">BMP CWM800</a>	\$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	<a href="#">LW1-S300</a>	\$52	Z1
	CWM180	<a href="#">LW2-S300</a>	\$52	
	CWM250...CWM300	<a href="#">LW1-S600</a>	\$110	
	CWM400	<a href="#">BMJ CWM400</a>	\$98	
	CWM630...CWM800	<a href="#">BMJ CWM800</a>	\$158	

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### Replacement Coil

Description		Mounting on Contactors	Catalog Number	List Price	Multiplier	
	<b>Coil voltage code is required to complete part number</b>	<b>AC COIL</b>				
		CWM9...25 CWM9N...18N	<b>BCA4-25*</b>	<b>\$28</b>	Z1	
		CWM32...40 CWM32N	<b>BCA4-40*</b>	<b>\$35</b>		
		CWM50...105 CWM50N...95N	<b>BCA-105*</b>	<b>\$44</b>		
		<b>DC COIL<sup>2</sup></b>				
		CWM32...40	<b>BECC4-40+</b>	<b>\$100</b>	Z1	
		CWM50...105	<b>BECC-105+</b>	<b>\$60</b>		
		<b>AC/DC ELECTRONIC MODULE &amp; COIL<sup>1</sup></b>				
		CWM112...150 CWM150N	<b>BCE-150#</b> <b>ME-300#</b>	<b>\$90</b> <b>\$215</b>	Z1	
		CWM180	<b>BCE-215#</b> <b>ME-300#</b>	<b>\$118</b> <b>\$260</b>		
		CWM250...300 CWM300N	<b>BCE-300#</b> <b>ME-300#</b>	<b>\$146</b> <b>\$260</b>		
		CWM400	<b>BCE-400 ^</b>	<b>\$700</b>		
		CWM630...800	<b>BCE-800 ^</b>	<b>\$850</b>		

-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
<b>CODE</b>	<b>V04</b>	<b>V10</b>	<b>V18</b>	<b>V24</b>	<b>V37</b>	<b>V47</b>	<b>V56</b>
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
<b>CODE</b>	<b>C34</b>	<b>C40</b>

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

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

<b>Voltage</b>	<b>24-28Vac/Vdc</b>	<b>110-130Vac/Vdc</b>	<b>208-250Vac/Vdc</b>	<b>430-500Vac/Vdc</b>
<b>CODE</b>	<b>E02</b>	<b>E10</b>	<b>E13</b>	<b>E21</b>
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
<b>CODE</b>	<b>E36</b>	<b>E35</b>	<b>E39</b>	<b>D82</b>
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. \*\*See pg. B-36 for 3 pole contactors w/ DC Coil

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### Control circuit ratings - AC Coil

TYPE	CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105	
<b>Rated Insulation Voltage Ui</b>												
Acc. IEC; VDE 0660 [V]						1000						
Acc. UL; CSA [V]						600						
<b>Rated Operating Voltage Ue</b>												
Acc. IEC; VDE 0660 [V]						690						
Acc. UL; CSA [V]						600						
<b>Standard Voltages 60Hz</b> [V]						24...600						
<b>Coil Operating limits</b>												
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				
<b>Operating Time</b>												
Coil energization - N.O. [ms]	8...20					10...19		15...30				
Coil de-energization - N.O. [ms]	6...13					5...25		9...15				
<b>Coil Consumption</b>												
Single coils												
Sealed [VA]	4...7.2					6.6...12.5		13.1...19.1				
Inrush [VA]	70					98		255				
<b>Thermal Power Dissipation</b>												
60Hz [W]	2.6					4.3		8.0				
<b>Power Factor</b>												
Closed Cos phi	0.28					0.34		0.32				
Opened Cos phi	0.85					0.69		0.54				
<b>Stranded / Solid [AWG] (UL / CSA)</b>	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	
<b>Rated Insulation Voltage Ui</b>												
Acc. IEC; VDE 0660 [V]						1000						
Acc. UL; CSA [V]						600						
<b>Standard Voltages</b> [V]	12...440				24...240			24...240				
<b>Coil Operating limits</b>												
Pick-up xUc [V]						0.85...1.1						
Drop-out xUc [V]	0.4...0.7					0.45...0.75		0.7...0.8				
	0.15...0.4					0.15...0.45		0.4...0.6				
<b>Operating Time</b>												
Coil energization - N.O. [ms]	35...45					40...55		50...60				
Coil de-energization - N.O. [ms]	7...12					30...65		55...60				
<b>Coil Consumption</b>												
Sealed [W]	3.8...9.0					6		6.5				
Inrush [W]	3.8...9.0					240		340				
<b>Stranded / Solid [AWG] (UL / CSA)</b>	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
<b>Rated Insulation Voltage Ui</b>									
Acc. IEC; VDE 0660	[V]				1000				
Acc. UL; CSA	[V]				600				
<b>Rated Operating Voltage Ue</b>									
Acc. IEC; VDE 0660	[V]				690				
Acc. UL; CSA	[V]				600				
Standard Voltages 50Hz; 60Hz; DC	[V]				24...600				
<b>Coil Operating limits</b>									
xUc	[V]	0.65...1.1			0.85...1.1				
Pick-up xUc	[V]	0.70...0.85			0.77...0.83				
Drop-out xUc	[V]	0.40...0.60			0.48...0.53				
<b>Operating Time</b>									
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
<b>Coil Consumption</b>									
Sealed AC	[VA]	14.8	14.8	14.1	14.1	14.1	14	17	29
Inrush AC	[VA]	213	213	214	229	229	571	1000	1000
Sealed DC	[VA]	2.4	2.4	2.4	2.5	2.5	14	17	29
Inrush DC	[VA]	166	166	154	171	171	571	1000	1000
<b>Thermal Power Dissipation</b>									
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

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### Power Contacts

TYPE		CWM9	CWM12	CWM18	CWM25	CWM32	CWM40	CWM50	CWM65	CWM80	CWM95	CWM105	
<b>Standard UL/CSA Ratings</b>													
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	
<b>Standard IEC Ratings (IEC EN 60947)</b>													
Rated Operating Voltage	[V]	690						1000					
Rated Thermal Current I <sub>th</sub>	[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	
<b>Maximum Switching Rate</b>													
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	9,000	5,000	5,000	5,000	5,000	
<b>AC-4</b>													
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

### 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
<b>Power Dissipation per Pole</b>													
	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
<b>Short Time Current Icw</b>													
	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
<b>Short Circuit Coordination</b>													
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
<b>Rated Insulation Voltage Ui</b>				
Acc. IEC; VDE 0660		[V]	1000	
Acc. UL; CSA		[V]	600	
<b>Rated Operating Voltage Ue</b>				
Acc. IEC; VDE 0660		[V]	690	
Acc. UL; CSA		[V]	600	
Rated Thermal Current Ith <=55°C		[A]	20	
<b>Rated Operating Current Ie</b>				
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	
<b>Rated Operating Current Ie</b>				
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	
<b>Making Capacity Im</b>				
AC-15 / AC-11	Ue <= 690V 50/60Hz	[A]	250	
DC-13 / DC-11	Ue <= 440Vdc	[A]	250	
<b>Breaking Capacity Icb</b>				
AC-15 / AC-11	Ue <= 400V 50/60Hz	[A]	250	
DC-13 / DC-11	Ue <=220Vdc	[A]	2	
<b>Short Circuit Protection with Fuses</b>				
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
<b>NEMA Ratings</b>										
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
<b>Standard IEC Ratings (IEC/EN 60947)</b>										
Rated Operating Voltage		[V]	1000							
Rated Thermal Current I <sub>th</sub>		[A]	180	225	225	350	350	450	660	900
Switching Motor Loads										
<b>AC-3 - 50/60Hz</b>										
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
<b>Maximum Switching Rate</b>										
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

### Power Contact cont.

TYPE			CWM112	CWM150	CWM180	CWM250	CWM300	CWM400	CWM500	CWM630	CWM800
<b>AC-4</b>	<b>Voltage</b>	<b>Units</b>									
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	-	-	-	-
660-690V	[kW]	45	50	55	90	100	-	-	-	-	
	[HP]	600	67	75	121	133	-	-	-	-	
Maximum Switching Rate		[ops/hr]	150	150	150	150	150	-	-	-	-
Making Capacity		[A]	1430	1820	2100	2600	3000	-	-	-	-
<b>Breaking Capacity</b>											
	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	-	-	-	-
<b>Power Dissipation per Pole</b>											
	AC-1	[W]	16	25	21.6	35	45.7	-	-	-	-
	AC-3	[W]	6.2	11.1	13.8	17.9	25.7	-	-	-	-
<b>Short Time Current Icw</b>											
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	-	-	-	-
<b>Short Circuit Coordination</b>											
<b>Acc. to IEC</b>											
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

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- Motor Protectors
- Contactors
- Overloads
- Enclosed Starters
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## 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												
<b>Rated Insulation Voltage Ui</b>													
Acc. IEC; VDE 0660	[V]	1000											
Acc. UL; CSA	[V]	600											
<b>Rated Impulse Voltage Uimp</b>													
Acc. IEC60947-1	[kV]	6								8			
Rated Operating Frequency	[Hz]	25...400											
<b>Degree of Protection</b>													
Main terminals		IP20					Protection against direct contact Acc. VDE 0160 - Part. 100						
Coil terminals		IP10											
Auxiliary terminals													
<b>Ambient Temperature</b>													
Storage		-55 to +80oC (-67 to +176oF)											
Operating		-25 to +55oC (-13 to +131oF)											
<b>Altitude</b>													
Up to 1,500m		Nominal values											
		See graphic on page 174											
Pollution Degree		3											
Climatic Withstand		According to IEC 60680-2											
Mounting		35mm rail Acc. DIN EN 50 022											
<b>Vibration Resistance (5 to 200 Hz)</b>													
Contactor open	[g]	3	3	3	7.5	8	8	4.5	4.5	4.5	5	5	
Contactor closed at Uc	[g]	6	6	6	8	12	12	9	9	9	7	7	
<b>Mechanical Endurance</b>													
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	
<b>Shock Resistance (1/2 sin wave = 11ms)</b>													
Contactor open	[g]	8	8	8	8	7	7	6	6	6	6	6	
Contactor 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	
<b>Terminal Capacity</b>													
		<b>Cross/Slotted Combination</b>						<b>Allen Head</b>					
Fine - Stranded with sleeve	Top [mm2]												
	Bottom [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	
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	lb-in (Nm)	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)	

### 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									
<b>Rated Insulation Voltage Ui</b>										
Acc. IEC; VDE 0660	[V]	1000								
Acc. UL; CSA	[V]	600								
<b>Rated Impulse Voltage Uimp</b>										
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								
<b>Ambient Temperature</b>										
Storage		-55 to +80°C (-67 to +176°F)								
Operating		-25 to +55°C (-13 to +131°F)								
<b>Altitude</b>										
Up to 1,500m		Nominal values								
Other altitudes		See graphic on page 174						up to 2000m		
Pollution Degree		3								
Climatic withstand		According to IEC 68-2								
Mounting		Screw to panel								
<b>Vibration Resistance (5 to 200 Hz)</b>										
Contactors open	[g]	4								
Contactors closed at Uc	[g]	4								
<b>Mechanical Endurance</b>										
AC Coil	Million ops.	10					5			
Electrical Endurance AC-3	Million ops.	1.1	1.1	1.0	1.0	1.0	0.5			
<b>Shock Resistance (1/2 sin wave = 11ms)</b>										
Contactors open	[g]	3								
Contactors closed at Uc	[g]	3								
<b>Weight</b>										
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	
<b>Terminal Capacity</b>										
Fine - Stranded with sleeve	[mm <sup>2</sup> ]	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)

General Information

Circuit Protection

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Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

Appendix A

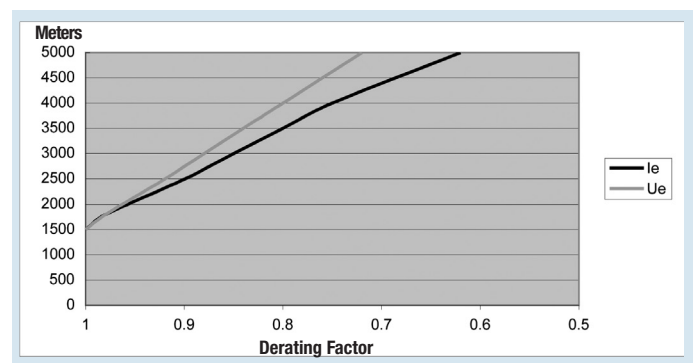
Appendix B

# Contactors

## CWM Series - IEC Standard Contactors Auxiliary contact block ratings

TYPE	BCXMF	BCXML	BCXMRL	BLIM.02
<b>Rated Insulation Voltage Ui</b>				
Acc. IEC; VDE 0660	[V]			1000
Acc. UL; CSA	[V]			600
<b>Rated Operating Voltage Ue</b>				
Acc. IEC; VDE 0660	[V]			690
Acc. UL; CSA	[V]			600
Rated Thermal Current I <sub>th</sub> <=55°C	[A]			10
<b>Rated Operating Current Ie</b>				
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
<b>Rated Operating Current Ie</b>				
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
<b>Making Capacity Im</b>				
AC-15 / AC-11	Ue <= 400V 50/60Hz	[A]		90
DC-13 / DC-11	Ue <= 220Vdc	[A]		90
<b>Breaking Capacity Ic</b>				
AC-15 / AC-11	Ue <= 400V 50/60Hz	[A]		60
DC-13 / DC-11	Ue <= 220Vdc	[A]		0.95
<b>Short Circuit Protection with Fuses</b>				
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		[MΩ]		>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:

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

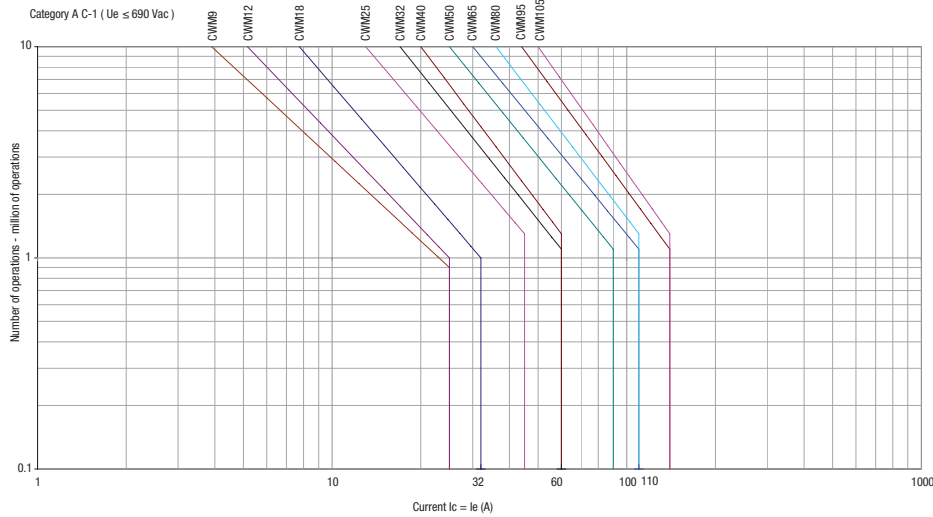
Example: Altitude: 3,000 m (10,000 ft):

Derating current K1 = 0.85

Derating voltage K2 = 0.88

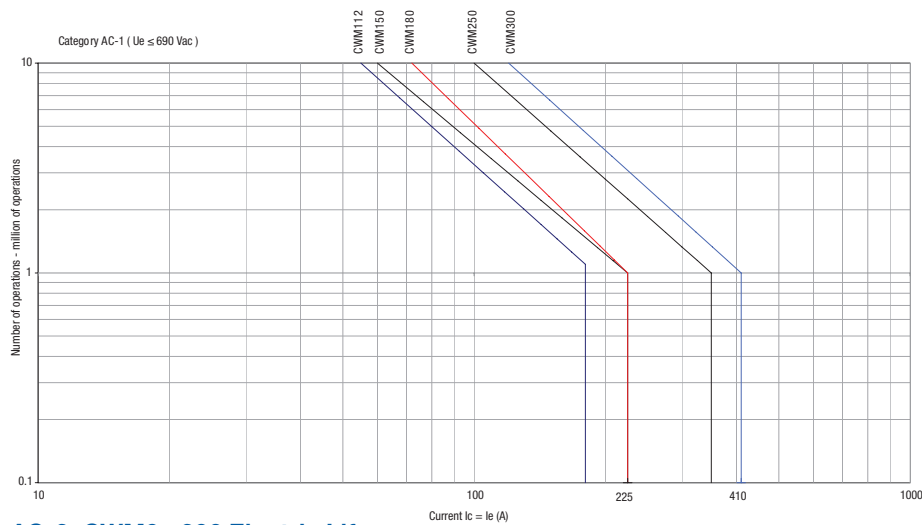
$$\text{Total derating} = 0.85 \times 0.88 = 0.75 \times \text{HP}$$

### AC-1: CWM9...105 Electric Lifespan



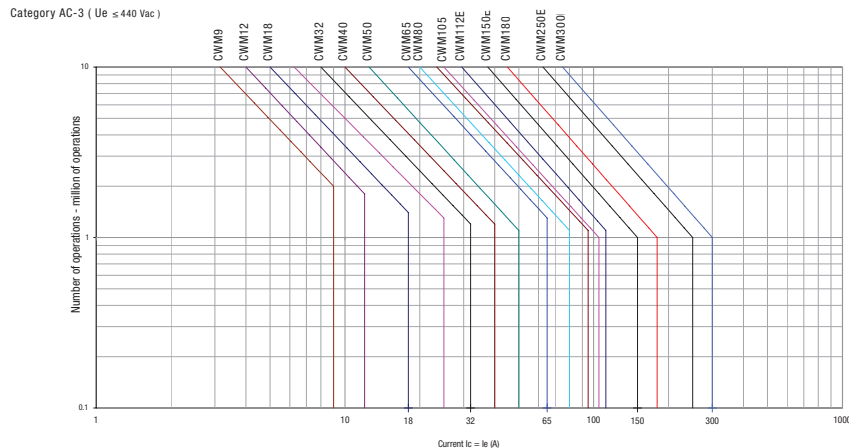
Control of resistive circuits (power factor  $\geq 0.95$ )  
The current broken ( $I_c$ ) in category AC-1 is equal to the current ( $I_e$ ) drawn by the load.

### AC-1: CWM112...300 Electric Lifespan



Control of resistive circuits (power factor  $\geq 0.95$ )  
The current broken ( $I_c$ ) in category AC-1 is equal to the current ( $I_e$ ) drawn by the load.

### AC-3: CWM9...300 Electric Lifespan



Control of 3-phase asynchronous squirrel cage motors with breaking while running. The current broken ( $I_c$ ) in category AC-3 is equal to the operational current of the motor ( $I_e$ ).

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Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

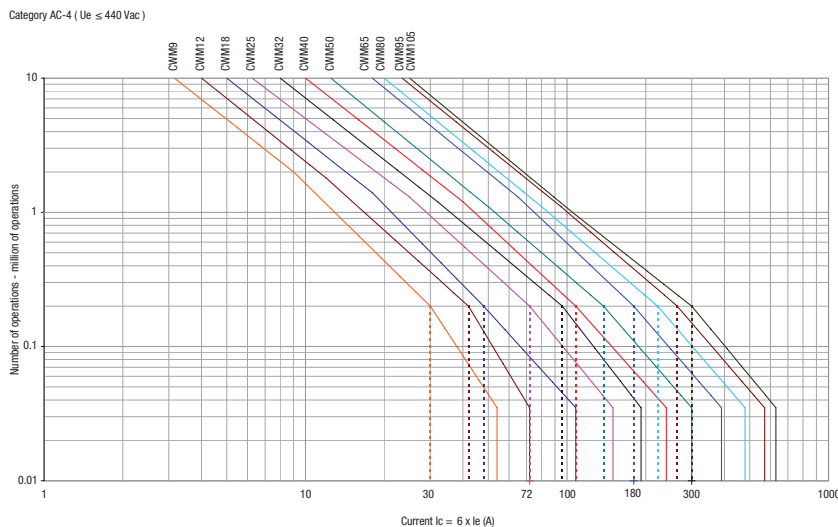
Appendix A

Appendix B



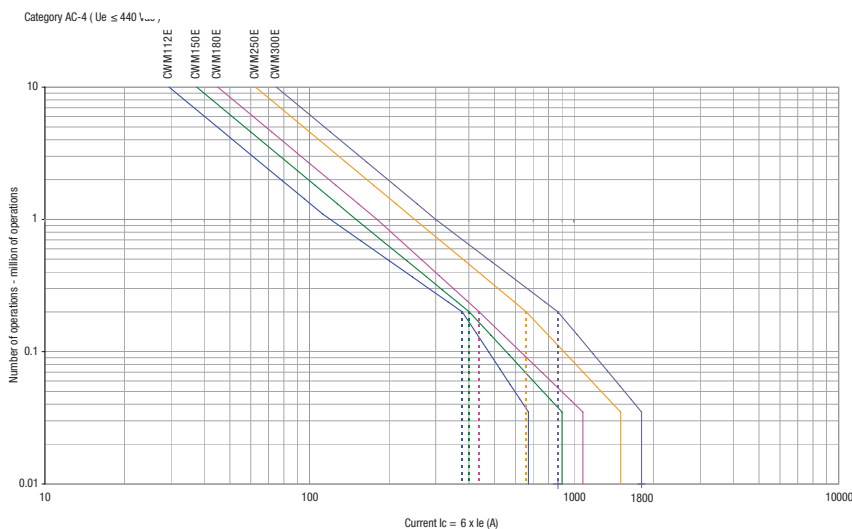
## CWM Series - IEC Standard Contactors

### AC-4: CWM9...105 Electric Lifespan



Control of 3-phase asynchronous squirrel cage motors with breaking while motor stalled. The current broken (Ic) in category AC-4 is equal to 6 times the operational current of the motor (Ie).

### AC-4: CWM112...300 Electric Lifespan



Control of 3-phase asynchronous squirrel cage motors with breaking while motor stalled. The current broken (Ic) in category AC-4 is equal to 6 times the operational current of the motor (Ie).

In many applications there is a mixture of AC-3 and AC-4 duty. For these applications the electric lifespan of a particular contactor can be estimated using the formula:

$$E = \frac{AC3}{1 - \left(\frac{P}{100}\right) + \left(\frac{P}{100} \times \frac{AC3}{AC4}\right)}$$

E= Estimated electric lifespan for mixed duty application.

AC-3= Number of electrical operations taken from the AC-3 Duty life curve.

AC-4= Number of electrical operations taken from the AC-4 Duty life curve.

P= Proportion of AC-4 operations to total operations for the application, expressed as a percentage.

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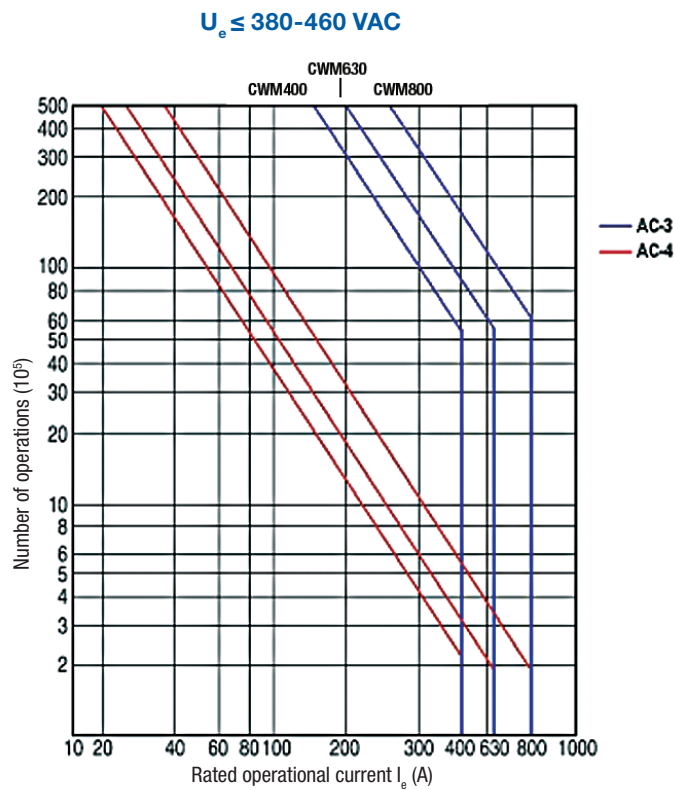
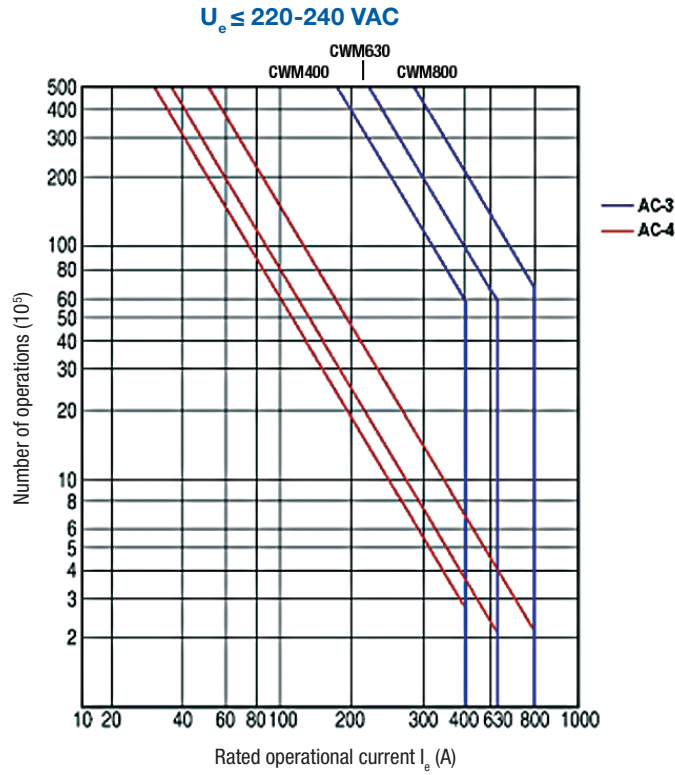
Terminal Blocks

Power Factor Correction

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### Electrical Lifespan

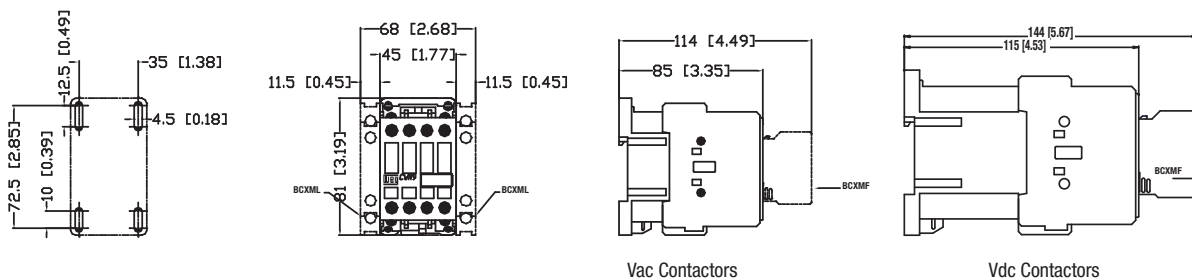


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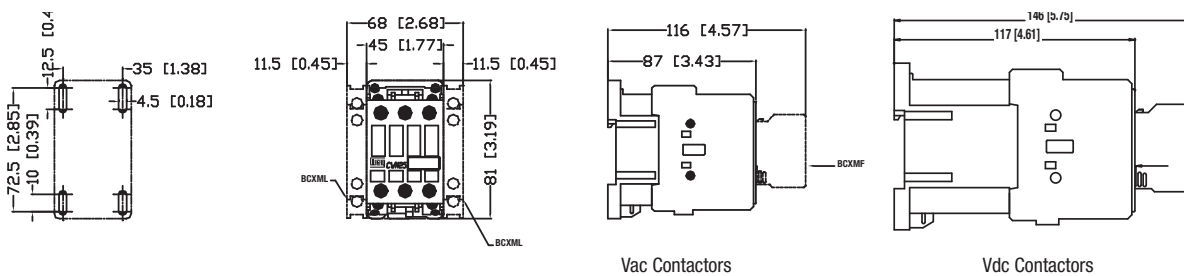
## CWM-N Series - NEMA Rated Standard Contactor

### Mechanical Drawings mm (in)

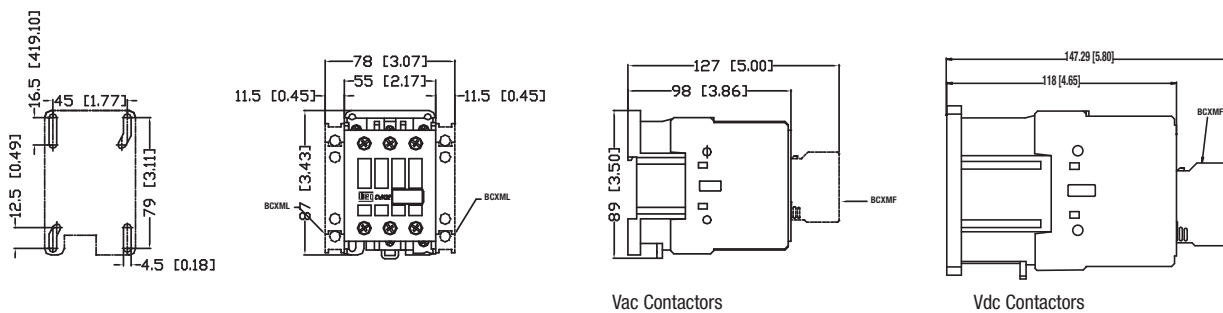
#### CWM9, CWM9N, CWM12, CWM18, and CWM18N



#### CWM25



#### CWM32, CWM32N and CWM40



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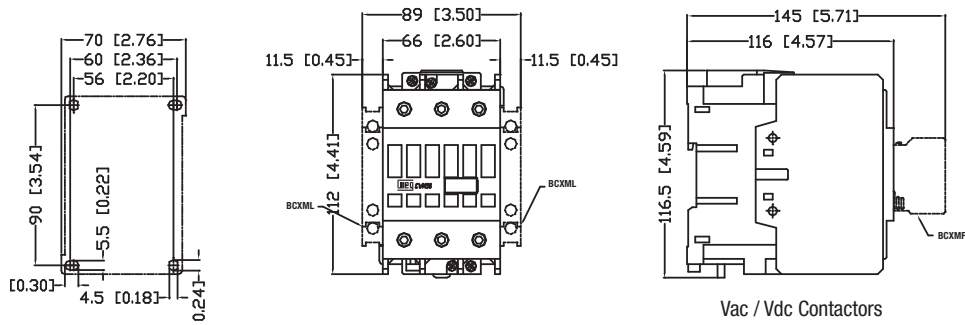
Power Factor Correction

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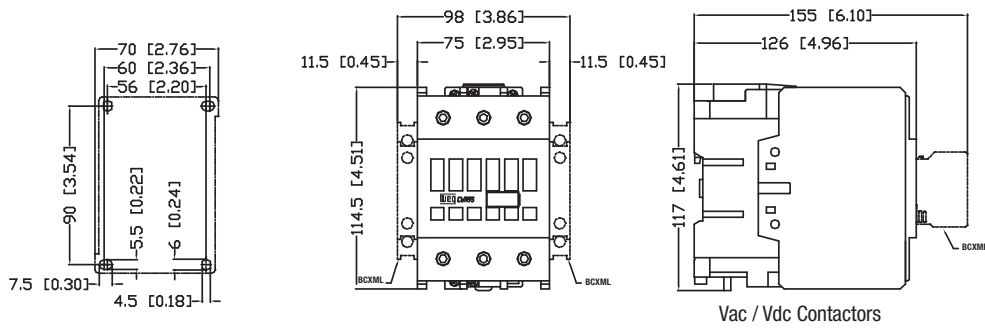
Appendix B

### Mechanical Drawings mm (in)

#### CWM50, CWM50N, CWM65 and CWM80



#### CWM95, CWM95N, and CWM105



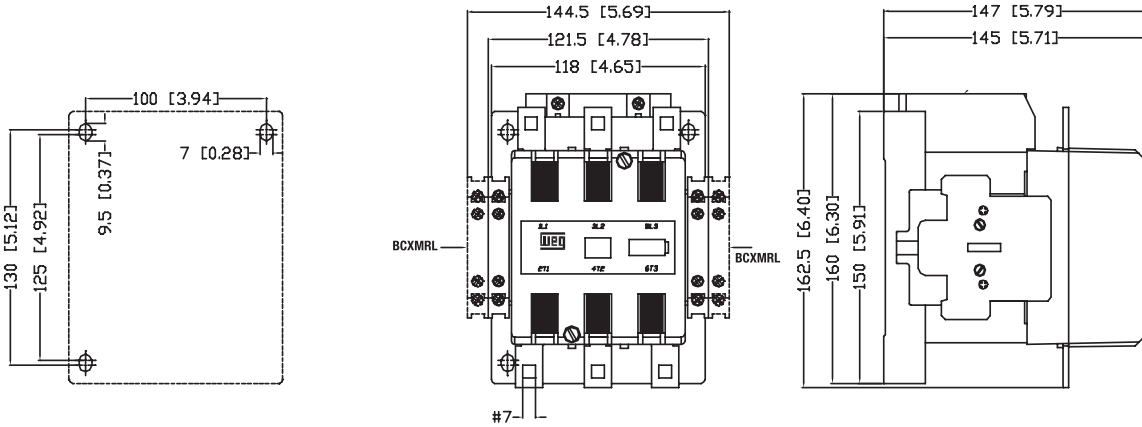
- General Information
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# Contactors

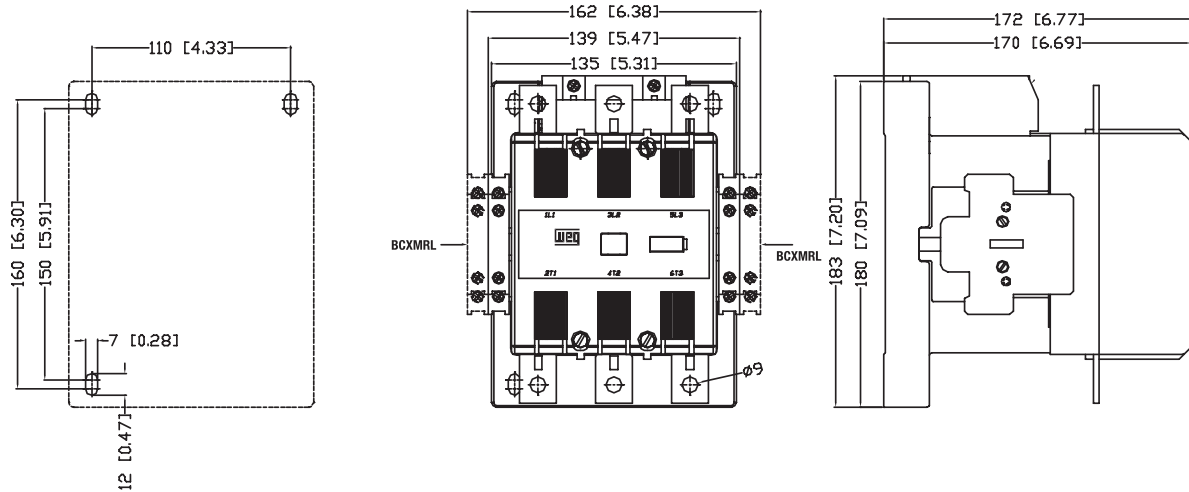
## CWM-N Series - NEMA Rated Standard Contactor

### Mechanical Drawings mm (in)

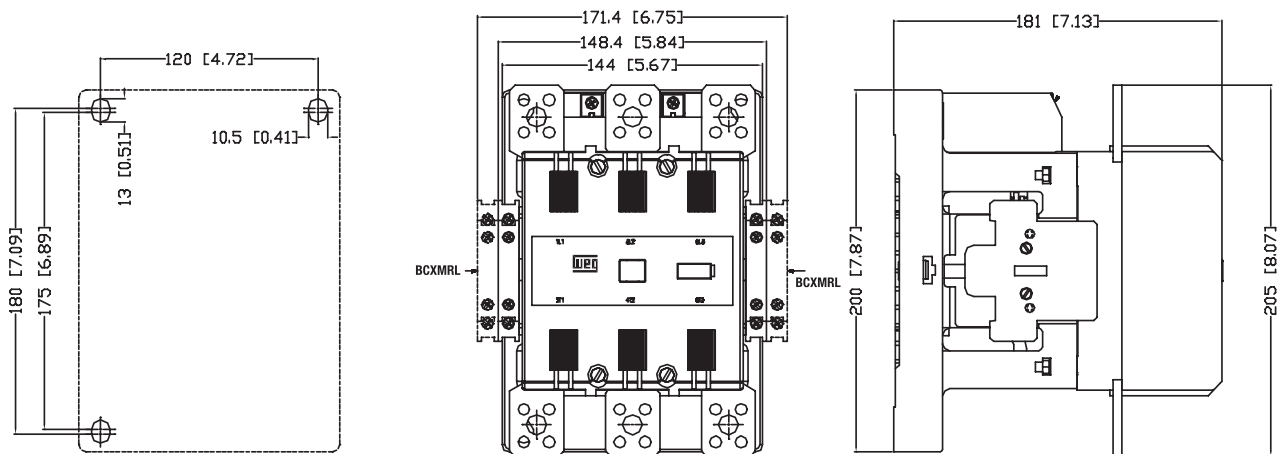
#### CWM112, CWM150 and CWM150N



#### CWM180



#### CWM250, CWM300 and CWM300N



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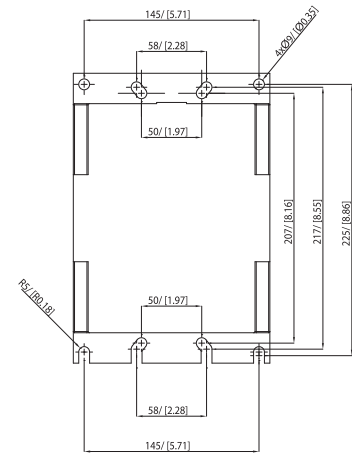
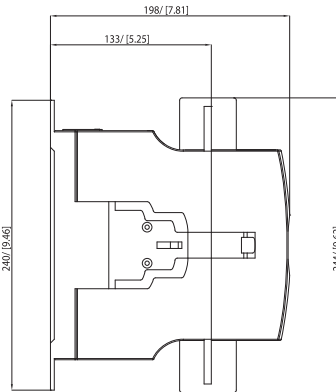
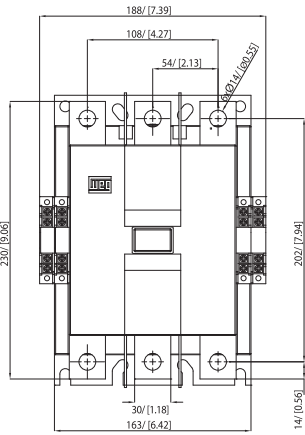
Power Factor Correction

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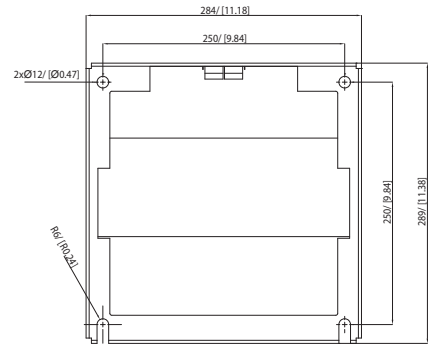
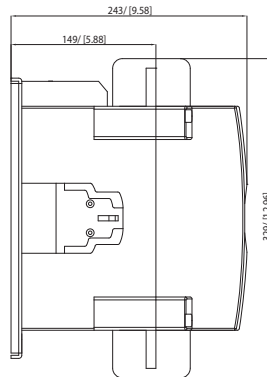
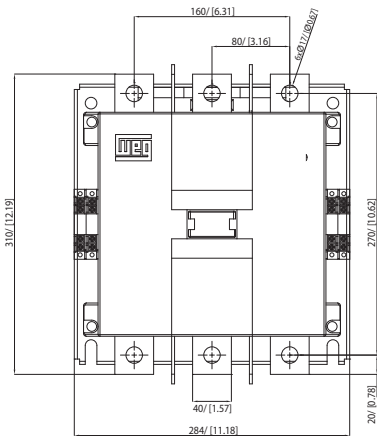
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### Mechanical Drawings mm (in)

#### CWM400



#### CWM630 and CWM800



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# Contactors

CWM Series - IEC Standard Contactors

## Mechanical Drawings mm (in)

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

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Relays

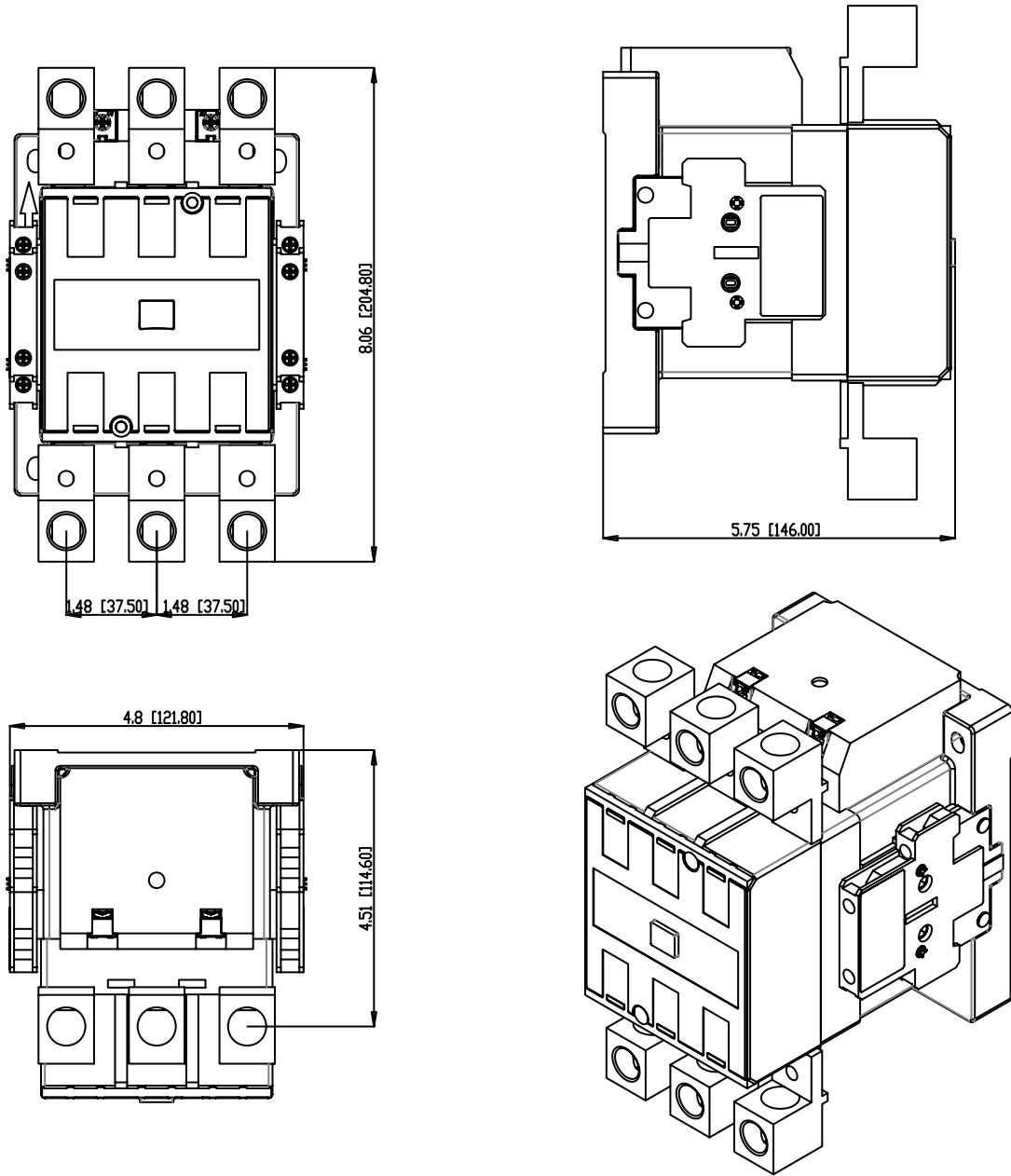
Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

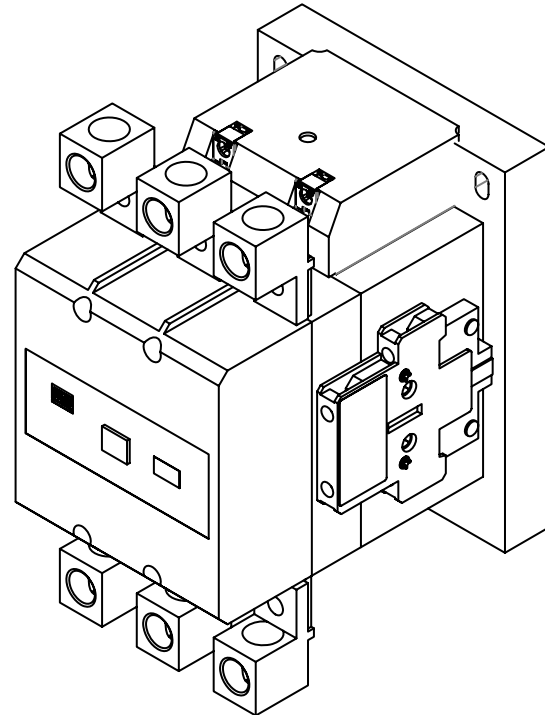
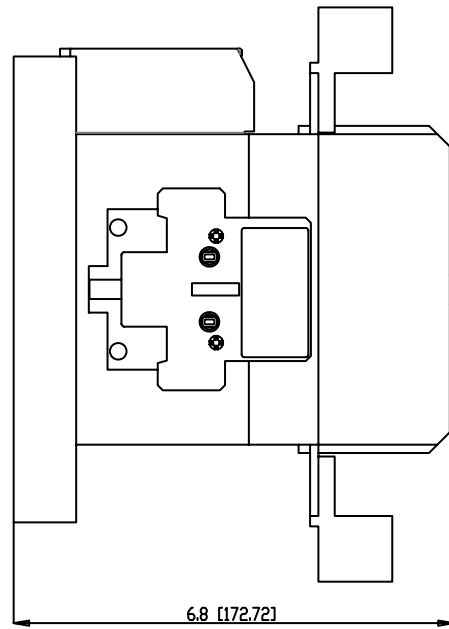
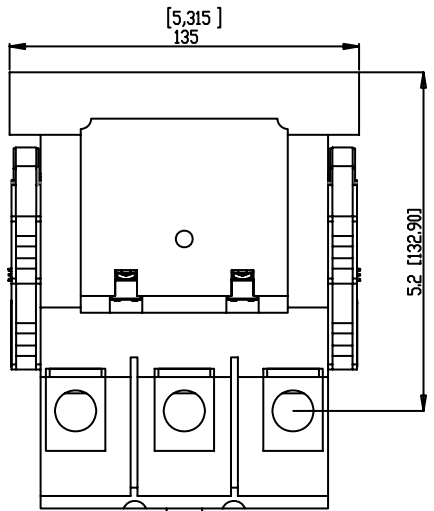
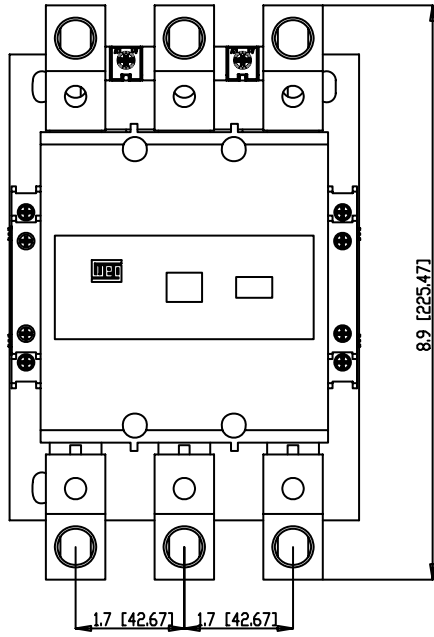
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### Mechanical Drawings mm (in)

CWM180 + LW2-S300 (contactor with lugs)



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# Contactors

CWM Series - IEC Standard Contactors

## Mechanical Drawings mm (in)

CWM250 + LW1-S600 (contactor with lugs)

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**Contactors**

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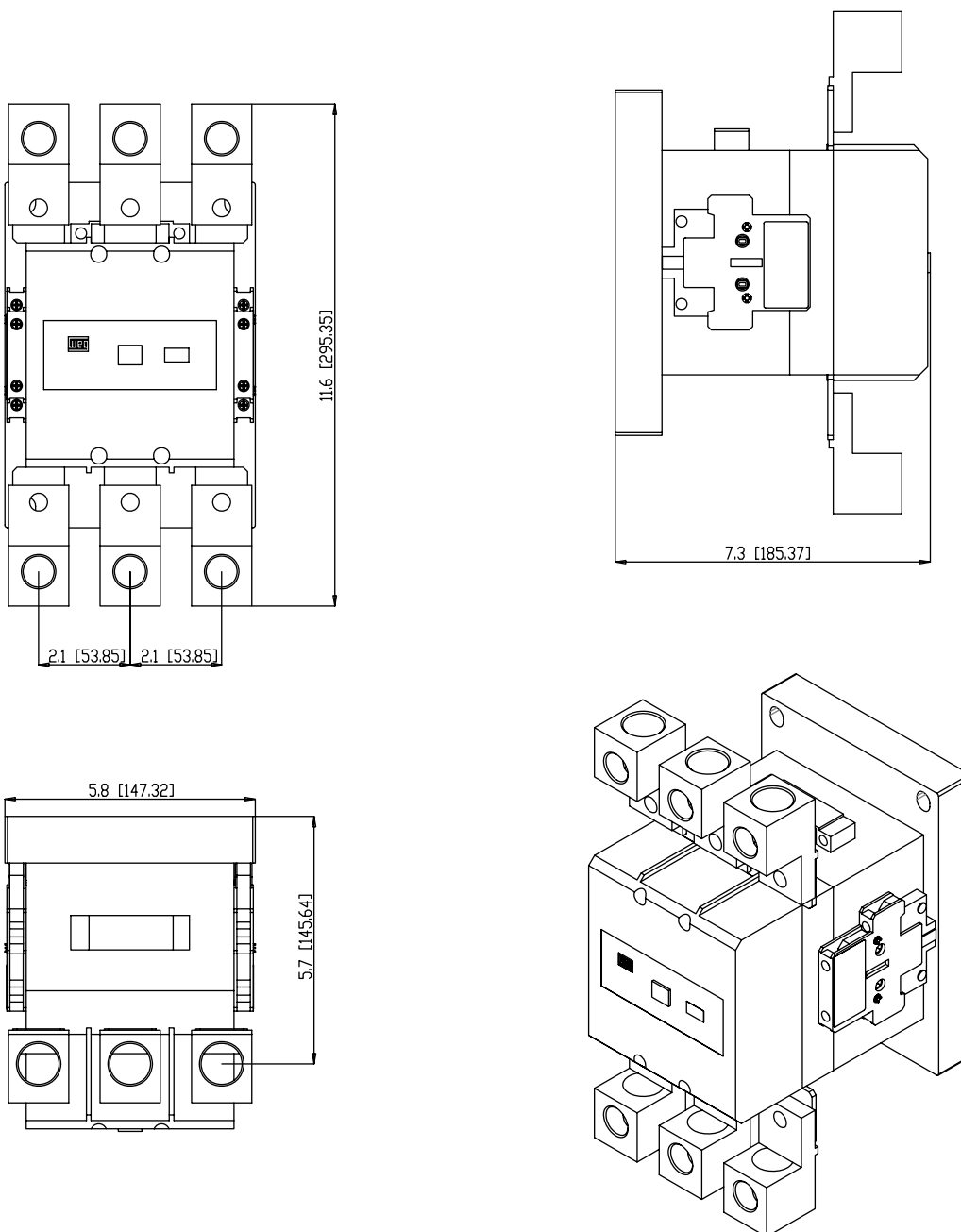
Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

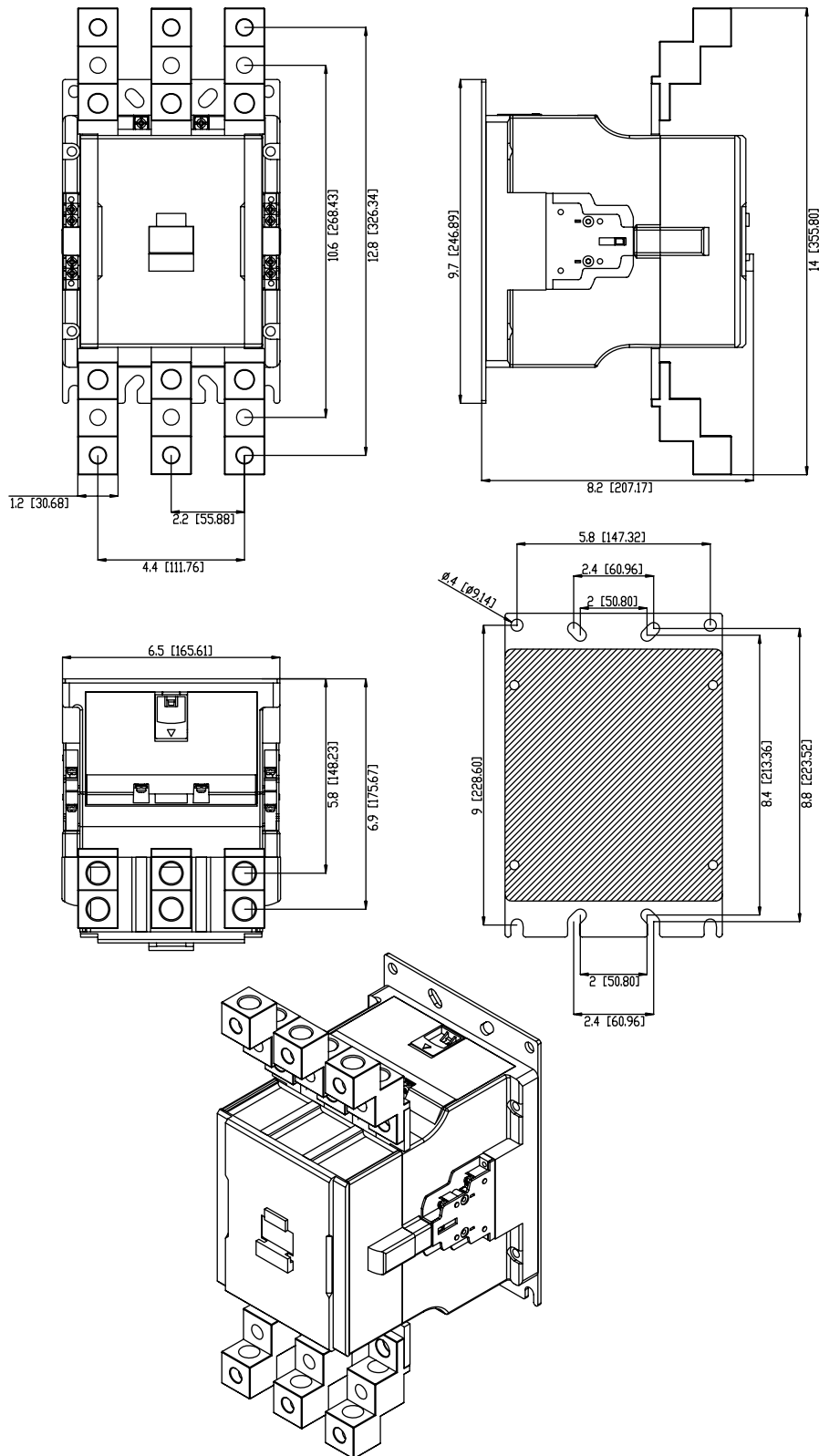
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### Mechanical Drawings mm (in)

#### CWM400 + BMJ (contactor with lugs)



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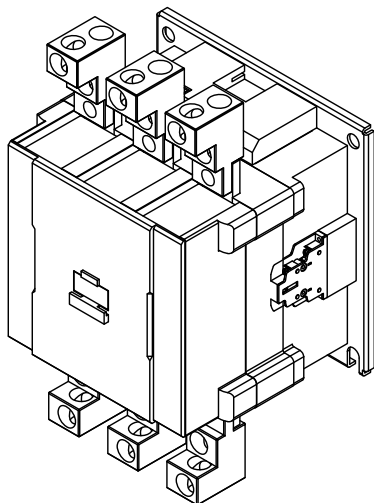
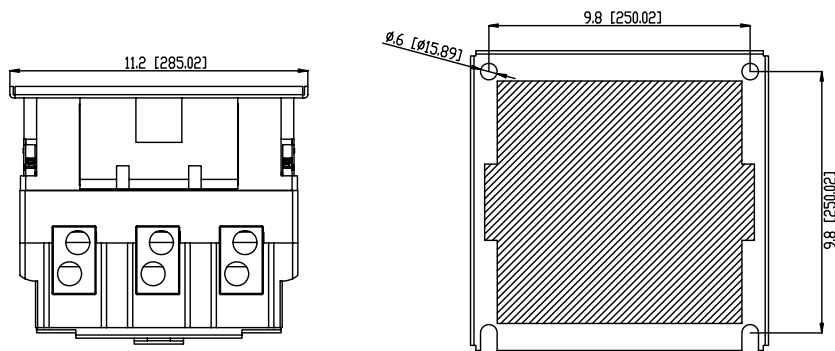
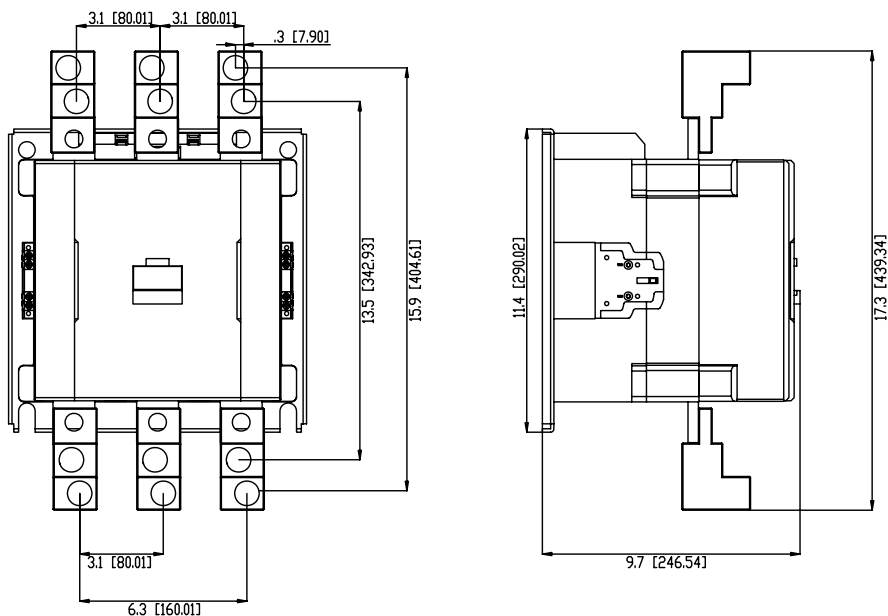
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## CWM Series - IEC Standard Contactors

### Mechanical Drawings mm (in)

CWM630-CWM800 + BMJ (contactor with lugs)



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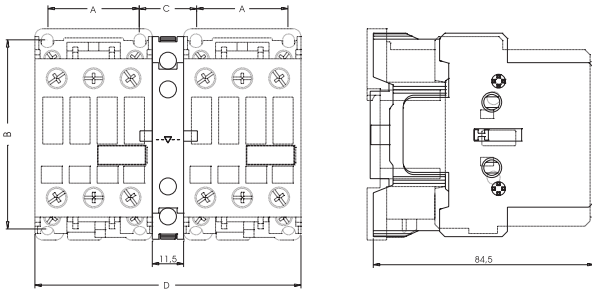
Power Factor Correction

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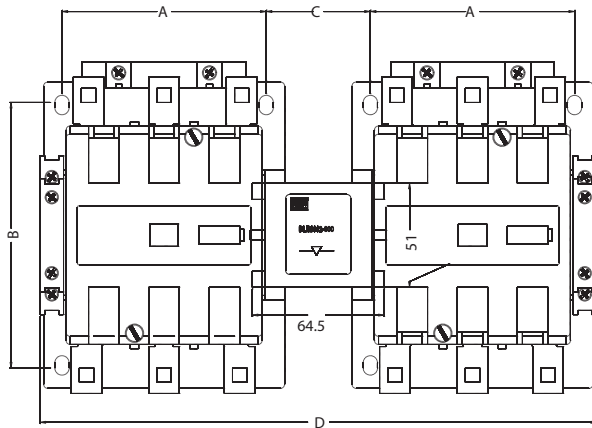
### Reversing Contactors mm (in)

#### BLIM9-105



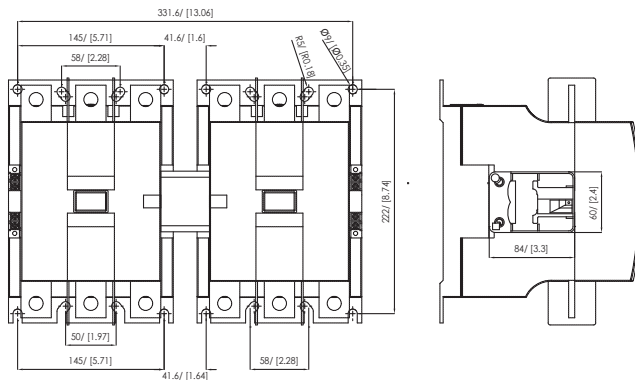
Models	A	B	C	D
CWM9...25	35 (1,4)	72,5 (2,9)	22 (0,9)	102 (4)
CWM32...40	45 (1,8)	79 (3,1)	22 (0,9)	122 (4,8)
CWM50...80	57 (2,2)	90 (3,5)	21 (0,8)	144 (5,7)
CWM95...105	57 (2,2)	90 (3,5)	29,8 (1,2)	153 (6)

#### BLIM112-300

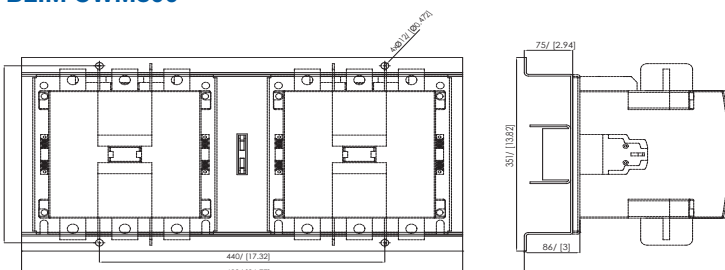


Models	A	B	C	D
CWM112...150	100 (3,9)	130 (5,1)	51 (2)	272,5 (10,7)
CWM180	110 (4,3)	160 (6,3)	58,5 (2,3)	303,5 (11,9)
CWM250...300	120 (4,7)	180 (7,1)	57 (2,2)	325,4 (12,8)

#### BLIM CWM400



#### BLIM CWM800



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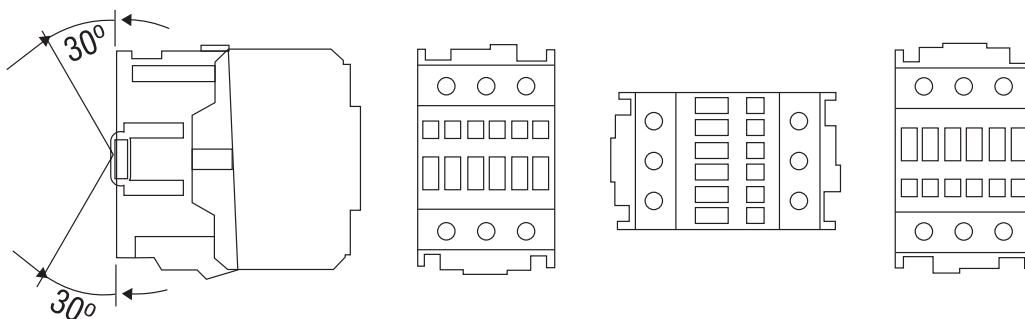
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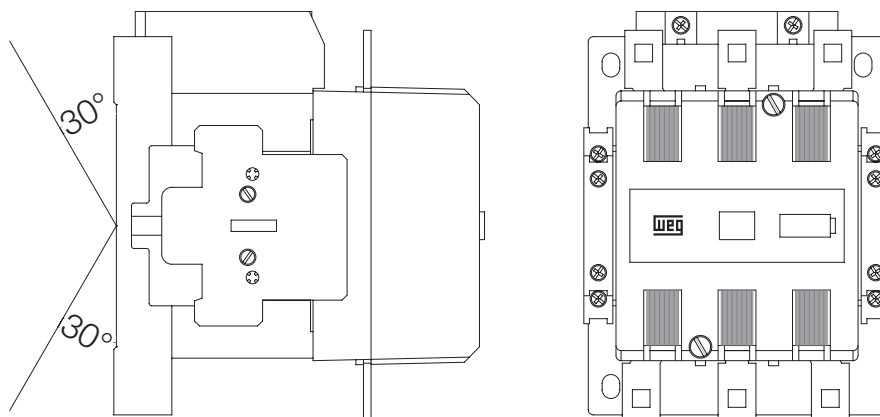
## CWM Series - IEC Standard Contactors

### Mounting position<sup>1</sup>

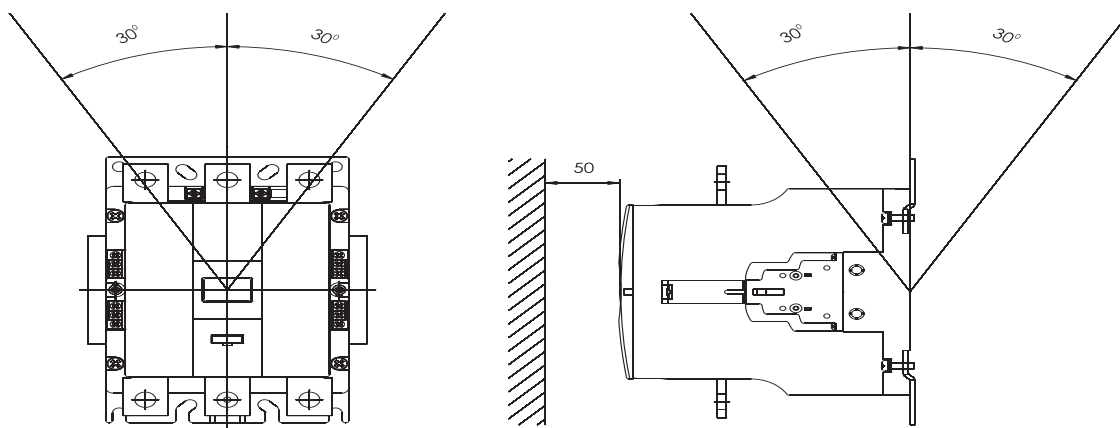
#### CWM9...105



#### CWM112...300



#### CWM400...800



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

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