

**Catalog Number Selection**

Table 34-48. XTIEC Contactors & Starters — Catalog Numbering System

<b>XT CE C 007 B 01 AD P16</b>																																																																				
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**Product Selection**  
**Non-reversing Contactors**

34



Frame B



Frame C



Frame D



Frame F – G

**Table 34-49. Full Voltage Non-reversing 3-Pole Contactors, Frame B – Frame G**

I <sub>e</sub> (A)	I <sub>e</sub> = I <sub>th</sub> (A)	Maximum kW Ratings AC-3				Maximum 3-Phase Motor Rating, UL/CSA						Aux. Contacts	Catalog Number — Screw Terminals ①②	Price U.S. \$		
		3-Phase Motors 50 – 60 Hz				1-Phase hp Ratings			3-Phase hp Ratings					AC Coil	DC Coil	
AC-3	AC-1 (60°C)	220/230V	380/400V	415V	660/690V	115V	200V	230V	200V	230V	460V	575V				
<b>Frame B</b>																
7	20	2.2	3	4	3.5	1/4	3/4	1	1-1/2	2	3	5	1NO	XTCE007B10_		
7	20	2.2	3	4	3.5	1/4	3/4	1	1-1/2	2	3	5	1NC	XTCE007B01_		
9	20	2.5	4	5.5	4.5	1/2	1	1-1/2	3	3	5	7-1/2	1NO	XTCE009B10_		
9	20	2.5	4	5.5	4.5	1/2	1	1-1/2	3	3	5	7-1/2	1NC	XTCE009B01_		
12	20	3.5	5.5	7	6.5	1	2	2	3	3	10 <sup>③</sup>	10	1NO	XTCE012B10_		
12	20	3.5	5.5	7	6.5	1	2	2	3	3	10 <sup>③</sup>	10	1NC	XTCE012B01_		
15.5	20	4	7.5	8	7	1	2	3	5	5	10 <sup>③</sup>	10	1NO	XTCE015B10_		
15.5	20	4	7.5	8	7	1	2	3	5	5	10 <sup>③</sup>	10	1NC	XTCE015B01_		
<b>Frame C</b>																
18	35	5	7.5	10	11	2	2	3	5	5	10 <sup>③</sup>	15	1NO	XTCE018C10_		
18	35	5	7.5	10	11	2	2	3	5	5	10 <sup>③</sup>	15	1NC	XTCE018C01_		
25	40	7.5	11	14.5	14	2	3	5	7-1/2	7-1/2	15	20	1NO	XTCE025C10_		
25	40	7.5	11	14.5	14	2	3	5	7-1/2	7-1/2	15	20	1NC	XTCE025C01_		
32	40	10	15	18	17	3	5	5	10	10	20	25	1NO	XTCE032C10_		
32	40	10	15	18	17	3	5	5	10	10	20	25	1NC	XTCE032C01_		
<b>Frame D</b>																
40	50	12.5	18.5	24	23	3	5	7-1/2	10	15	30	40	—	XTCE040D00_		
50	65	15.5	22	30	30	3	7-1/2	10	15	20	40	50	—	XTCE050D00_		
65	80	20	30	39	35	5	10	15	20	25	50	60	—	XTCE065D00_		
<b>Frame F</b>																
80	90	25	37	48	63	7-1/2	15	15	25	30	60	75	—	XTCE080F00_		
95	110	30	45	57	75	7-1/2	15	15	25	40	75	100	—	XTCE095F00_		
<b>Frame G</b>																
115	130	37	55	70	90	10	25	25	40	50	100	125	—	XTCE115G00_		
150	160	48	75	91	96	15	25	30	40	60	125	125	—	XTCE150G00_		

① Underscore ( ) indicates magnet coil suffix required. See Table 34-57, Page 34-38.

② For Spring Cage Terminals, insert C after the fourth digit of the Catalog Number. Example: XTCEC007B10A. For 7 – 12A XTCEC Contactors, the power, auxiliary and coil terminals are spring cage. For 18 – 32A XTCEC Contactors, the auxiliary and coil terminals are spring cage. For 40 – 150A XTCEC Contactors, the coil terminals only are spring cage.

③ For electrical life contactor application data, see Table 34-51, Page 34-35.

**Notes:**

The 7 – 32A XTCE Contactors have positively driven contacts between the integrated auxiliary contact and the auxiliary contact module as well as within the auxiliary contact modules.

The 40 – 65A XTCE Contactors have positively driven contacts within the auxiliary contact module. 6 auxiliary contacts are possible with a combination of side mounted and front mount auxiliary contacts.

DC operated contactors (Frames B – G, 7 – 150A) have a built-in suppressor circuit.

Frame B – C contactors with 1NC built-in auxiliary are mirror contacts (XTCE...B01\_ – XTCE...C01\_).

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 Coil Voltage Chart ..... Page 34-38  
 Accessories ..... Page 34-49  
 Dimensions ..... Page 34-84  
 Overload Relays ..... Page 34-95  
 Discount Symbol ..... 1CD7

**Non-reversing Contactors**



Frame L



Frame M



Frame N



Frame P



Frame R

**Table 34-50. Full Voltage Non-reversing 3-Pole Contactors, Frame L – Frame R**

I <sub>e</sub> (A)	I <sub>e</sub> = I <sub>th</sub> (A)	Maximum kW Ratings AC-3					Maximum 3-Phase Motor Rating, UL/CSA								Aux. Contacts	Catalog Number — Screw Terminals ①	Price U.S. \$	
		3-Phase Motors 50 – 60 Hz					1-Phase hp Ratings			3-Phase hp Ratings				AC Coil			DC Coil	
AC-3	AC-1 (60°C)	220/230V	380/400V	415V	660/690V ②	1000V ②	115V	200V	230V	200V	230V	460V	575V					
<b>Frame L — Standard Coil (110/120V, 230/240V AC Coil Only)</b>																		
185	275	55	90	110	175	108	—	—	—	50	60	125	150	2NO-2NC	XTCS185L22_			
225	315	70	110	132	215	108	—	—	—	60	75	150	200	2NO-2NC	XTCS225L22_			
250	330	75	132	148	240	108	—	—	—	75	100	200	250	2NO-2NC	XTCS250L22_			
<b>Frame L — Electronic Coil</b>																		
185	275	55	90	110	175	108	—	—	—	50	60	125	150	2NO-2NC	XTCE185L22_			
225	315	70	110	132	215	108	—	—	—	60	75	150	200	2NO-2NC	XTCE225L22_			
250	350	75	132	148	240	108	—	—	—	75	100	200	250	2NO-2NC	XTCE250L22_			
<b>Frame M — Standard Coil (110/120V, 230/240V AC Coil Only)</b>																		
300	400	90	160	180	286	132	—	—	—	100	125	250	300	2NO-2NC	XTCS300M22_			
400	500	125	200	240	344	132	—	—	—	125	150	300	400	2NO-2NC	XTCS400M22_			
500	700	155	250	300	344	132	—	—	—	150	200	400	500	2NO-2NC	XTCS500M22_			
<b>Frame M — Electronic Coil</b>																		
300	400	90	160	180	286	132	—	—	—	100	125	250	300	2NO-2NC	XTCE300M22_			
400	500	125	200	240	344	132	—	—	—	125	150	300	400	2NO-2NC	XTCE400M22_			
500	700	155	250	300	344	132	—	—	—	150	200	400	500	2NO-2NC	XTCE500M22_			
<b>Frame N — Electronic Coil</b>																		
580	800	185	315	348	560	600	—	—	—	200	200	400	600	2NO-2NC	XTCE580N22_ ③			
650	850	205	355	390	630	600	—	—	—	200	250	500	600	2NO-2NC	XTCE650N22_ ③			
750	900	240	400	455	720	800	—	—	—	250	300	600	700	2NO-2NC	XTCE750N22_ ③			
820	1000	260	450	500	750	800	—	—	—	290	350	700	860	2NO-2NC	XTCE820N22_ ③			
1000	1000	315	560	610	1000	1000	—	—	—	350	420	850	980	2NO-2NC	XTCEC10N22_ ③			
<b>Frame P — Electronic Coil</b>																		
—	1400	—	—	—	—	—	—	—	—	—	—	—	—	2NO-2NC	XTCEC14P22_ ③			
<b>Frame R — Electronic Coil</b>																		
1600	1800	500	900	1600	1700	—	—	—	—	560	640	1200	1300	2NO-2NC	XTCEC16R22_ ③			
—	2000	—	—	—	—	—	—	—	—	—	—	—	—	2NO-2NC	XTCEC20R22_ ③			

① Underscore ( \_ ) indicates magnet coil suffix required. See Table 34-57, Page 34-38.  
 ② For 185 – 500A Contactors at 660/690V or 1000V: Do not reverse directly.  
 ③ When operating the 580 – 2000A XTCE contactors with frequency inverters, the suppressor on the load side must be removed. The load side suppressor must also be removed when performing a high-voltage test — see Pub51204, Pub51209.

**Table 34-51. Contactor Application Data ④**

Catalog Prefix	AC-3	Electrical Life (Operations)
XTCE012B	12A	1 million
XTCE015B	15A	1.2 million
XTCE018C	18A	2 million

④ See Page 34-82 for Electrical Life Curves.

**Note:**

AC and DC operated contactors have a built-in suppressor circuit (Frames L – R, 185 – 2000A).

**Table 34-52. Full Voltage Non-reversing 3-Pole Contactors — Contact Sequence (Circuit Symbols) — Standard Offering**

Contact Frame	Auxiliary Contacts	Contact Sequence
B – C	1NO	
B – C	1NC	
D – G	—	
L – R	2NO-2NC	

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**Table 34-53. Full Voltage 4-Pole Non-reversing Contactors with Screw Terminals**

$I_e$ (A)		Maximum kW Ratings AC-3					Maximum 3-Phase Motor Rating					Contact Sequence	Catalog Number ①	Price U.S. \$		
AC-3	AC-1 (60°C)	3-Phase Motors 50 – 60 Hz					1-Phase hp Ratings		3-Phase hp Ratings					AC Coil	DC Coil	
		220/230V	380/400V	415V	660/690V	1000V	115V	230V	200V	230V	460V	575V				
12	20	3.5	5.5		6.5	—	1/2	1-1/2	3	3	5	7-1/2		XTCF020B00_		

① Underscore ( \_ ) indicates magnet coil suffix required. See Table 34-58.

**Table 34-54. Controlling XTCS and XTCE Contactors Frame L – R (185 – 2000A)**

Description	XTCS185L – XTCS500M	XTCEC16R, XTCEC20R	XTCE185L – XTCEC14P
<b>Conventional</b> A1/A2 are applied to voltage in the usual manner.			
<b>Direct from the PLC</b> A 24V output from the PLC can be connected directly to connections A3/A4.			
<b>From Low-Consumption Command Devices</b> Command devices which can only be subject to minimal loads such as circuit board relays, control circuit devices or position switches can be connected directly to A10/A11.			

② Standstill in an emergency (Emergency-Stop).  
 ③ Command device connection.

### Reversing Contactors



Frame B



Frame C



Frame D



Frame F and G

**Table 34-55. Full Voltage Reversing Contactors with Screw Terminals**

I <sub>e</sub> (A)	Maximum kW Ratings AC-3				Maximum 3-Phase Motor Rating						Spare Auxiliary Contacts		Catalog Number ①	Price U.S. \$	
	3-Phase Motors 50 – 60 Hz				1-Phase hp Ratings		3-Phase hp Ratings				K1M	K2M		AC Coil	DC Coil
AC-3	220/ 230V	380/ 400V	415V	660/ 690V	115V	230V	200V	230V	460V	575V					
<b>Frame B</b>															
7	2.2	3	4	3.5	1/4	1	1-1/2	2	3	5	163 64	163 64	XTCR007B21_		
9	2.5	4	5.5	4.5	1/2	1-1/2	2	3	5	7-1/2	163 64	163 64	XTCR009B21_		
12	3.5	5.5	7	6.5	1/2	2	3	3	7-1/2	10	163 64	163 64	XTCR012B21_		
<b>Frame C</b>															
18	5	7.5	8	11	2	3	5	5	10	15	163 64	163 64	XTCR018C21_		
25	7.5	11	14.5	14	2	5	7-1/2	7-1/2	15	20	163 64	163 64	XTCR025C21_		
32	10	15	18	17	3	5	10	10	20	25	163 64	163 64	XTCR032C21_		
<b>Frame D</b>															
40	12.5	18.5	24	23	3	7-1/2	10	15	30	40	—	—	XTCR040D11_		
50	15.5	22	30	30	3	10	15	20	40	50	—	—	XTCR050D11_		
65	20	30	39	35	5	15	20	25	50	60	—	—	XTCR065D11_		
<b>Frame F</b>															
80	25	37	48	63	7-1/2	15	25	30	60	75	—	—	XTCR080F11_		
95	30	45	57	75	7-1/2	15	25	40	75	100	—	—	XTCR095F11_		
<b>Frame G</b>															
115	37	55	70	90	10	25	40	50	100	100	—	—	XTCR115G11_		
150	48	75	91	96	15	30	40	60	100	100	—	—	XTCR150G11_		

① Underscore ( \_ ) indicates magnet coil suffix required. See Table 34-57.

**Table 34-56. XTCR Reversing Contactor Components**

Qty	Frame	B	C	D	F	G
2	Contactors	XTCE...B01_	XTCE...B01_	XTCE...D00_	XTCE...F00_	XTCE...G00_
2	Auxiliary Contact	XTCEXFAC20	XTCEXFAC20	XTCEXFBG11	XTCEXFBG11	XTCEXFBG11
1	Mechanical Interlock	XTCEXMLB	XTCEXMLC	XTCEXMLD	XTCEXMLG	XTCEXMLG
1	Reversing Link Kit	XTCEXRLB	XTCEXRLC	XTCEXRLD	XTCEXRLG	XTCEXRLG

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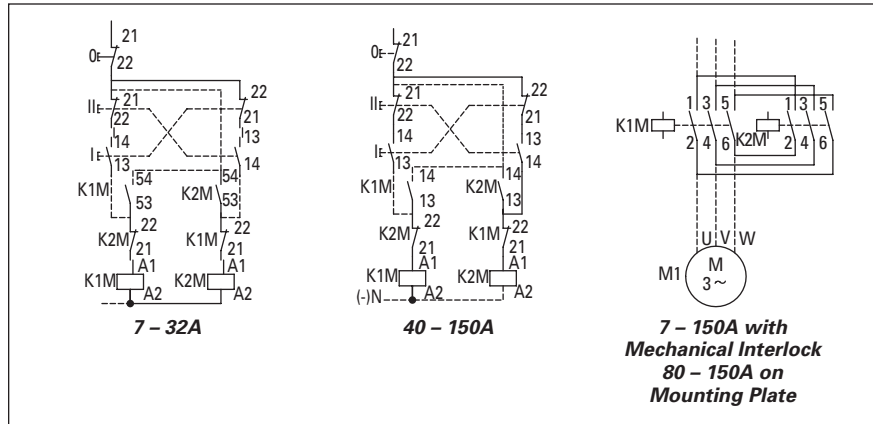
**Table 34-57. Magnet Coil Suffix**

Coil Voltage	Suffix Code
<b>Frame A – B</b>	
110V 50 Hz, 120V 60 Hz	<b>A</b>
220V 50 Hz, 240V 60 Hz	<b>B</b>
230V 50 Hz	<b>F</b>
24V 50/60 Hz	<b>T</b>
24V DC	<b>TD</b>
415V 50 Hz, 480V 60 Hz	<b>C</b>
550V 50 Hz, 600V 60 Hz	<b>D</b>
208V 60 Hz	<b>E</b>
190V 50 Hz, 220V 60 Hz	<b>G</b>
240V 50 Hz, 277V 60 Hz	<b>H</b>
380V 50 Hz, 440V 60 Hz	<b>L</b>
400V 50 Hz	<b>N</b>
380V 60 Hz	<b>P</b>
12V 50/60 Hz	<b>R</b>
24V 50 Hz	<b>U</b>
42V 50 Hz, 48V 60 Hz	<b>W</b>
48V 50 Hz	<b>Y</b>
120V DC	<b>AD</b>
220V DC	<b>BD</b>
12V DC	<b>RD</b> <sup>①</sup>
48V DC	<b>WD</b>

Coil Voltage	Suffix Code
<b>Frame C – F</b>	
110V 50 Hz, 120V 60 Hz	<b>A</b>
220V 50 Hz, 240V 60 Hz	<b>B</b>
230V 50 Hz	<b>F</b>
24V 50/60 Hz	<b>T</b>
24 – 27V DC	<b>TD</b>
415V 50 Hz, 480V 60 Hz	<b>C</b>
550V 50 Hz, 600V 60 Hz	<b>D</b>
208V 60 Hz	<b>E</b>
190V 50 Hz, 220V 60 Hz	<b>G</b>
240V 50 Hz, 277V 60 Hz	<b>H</b>
380V 50 Hz, 440V 60 Hz	<b>L</b>
400V 50 Hz	<b>N</b>
380V 60 Hz	<b>P</b>
12V 50/60 Hz	<b>R</b>
24V 50 Hz	<b>U</b>
42V 50 Hz, 48V 60 Hz	<b>W</b>
48V 50 Hz	<b>Y</b>
110 – 130V DC	<b>AD</b>
200 – 240V DC	<b>BD</b>
12 – 14V DC	<b>RD</b> <sup>①</sup>
48 – 60V DC	<b>WD</b>

Coil Voltage	Suffix Code
<b>Frame G</b>	
100 – 120V 50/60 Hz	<b>A</b>
190 – 240V 50/60 Hz	<b>B</b>
24V 50/60 Hz	<b>T</b>
24 – 27V DC	<b>TD</b>
480 – 500V 50/60 Hz	<b>C</b>
380 – 440V 50/60 Hz	<b>L</b>
42 – 48V 50/60 Hz	<b>W</b>
110 – 130V DC	<b>AD</b>
200 – 240V DC	<b>BD</b>
48 – 60V DC	<b>WD</b>
<b>Frame L – N</b>	
110 – 250V 40 – 60 Hz/DC	<b>A</b>
250 – 500V 40 – 60 Hz	<b>C</b>
48 – 110V 40 – 60 Hz/DC	<b>Y</b>
24 – 48V DC	<b>TD</b> <sup>②</sup>
<b>Frame L – M, S-Series</b>	
110 – 120V 50/60 Hz	<b>A</b>
220 – 240V 50/60 Hz	<b>B</b>
<b>Frame P – R</b>	
220 – 250V 50 – 60 Hz/DC	<b>B</b>

① Frame C – D only.  
② Frame L – M only.



**Figure 34-34. 7 – 150A XTCR Reversing Contactor Wiring Diagram**

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