

## Contents

<i>Description</i>	<i>Page</i>
<b>Contactors and Starters</b>	
Catalog Number Selection .....	32
Product Selection	
Non-reversing Contactors ....	33
Reversing Contactors .....	36
Non-reversing Starters, Bimetallic Overload .....	38
Reversing Starters, Bimetallic Overload .....	39
Non-reversing Starters, C396 Electronic Overload .....	41
Reversing Starters, C396 Electronic Overload .....	41
Star-Delta (Wye-Delta) Starters .....	43
Accessories .....	48
Renewal Parts .....	58
Technical Data and	
Specifications .....	59
Dimensions .....	83
Reference Data .....	199



*XT Family of Contactors*

## Contactors and Starters

### Product Description

Eaton's new line of **XT** Contactors and Starters includes non-reversing and reversing contactors, overload relays and a variety of related accessories. Because **XT** meets IEC, UL, CSA, CCC and CE standards, it is the perfect product solution for IEC applications all over the world. The compact, space saving, and easy to install **XT** line of IEC contactors and starters is the efficient and effective solution for customer applications from 7A to 2000A.

## Features and Benefits

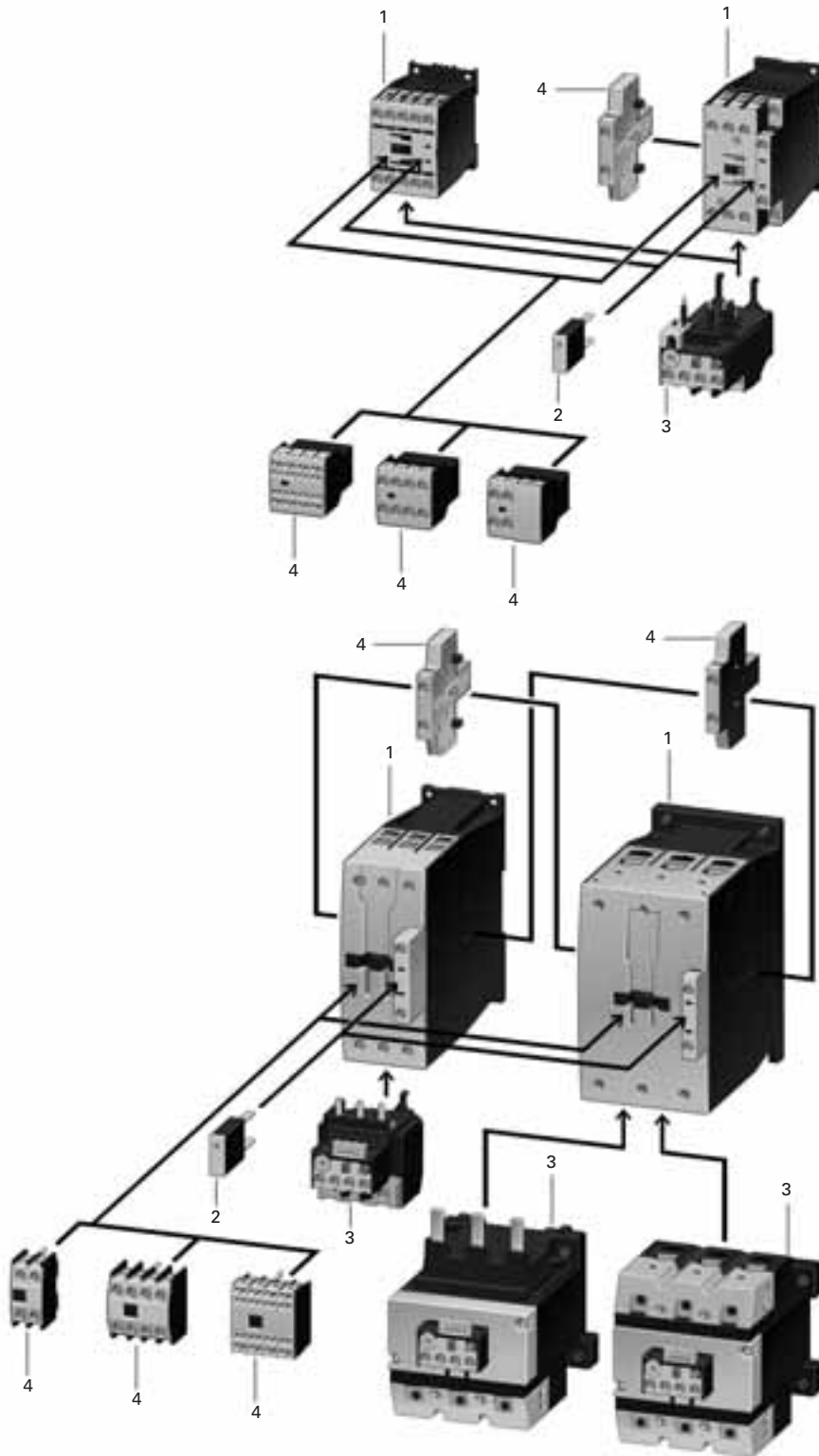
- AC control from 12V to 600V 50/60 Hz
- DC control from 12V to 220V
- Available with screw or spring cage terminals
- Reversing or non-reversing contactors and starters
- AC-3 contactor ratings to 1000A and AC-1 contactor ratings to 2000A
- Non-reversing starters to 650A
- Panel or DIN rail mounting to 65A
- IP20 finger and back-of-hand proof
- Large ambient temperature range, -25 to 50°C [-13 to 122°F]
- AC and DC controlled contactors in the same compact frame
- Low power consumption DC coils
- Built-in NO or NC auxiliary contacts to 32A
- Plug-in accessories for reduced installation time
- Coil replacement on Frames C – N (18 – 820A)
- Contact replacement on Frames D – N (40 – 820A)
- Integrated suppressor 7 – 150A DC operated contactors and 185 – 2000A AC and DC operated contactors

## Standards and Certifications

- IEC EN 60947
- CE Approved
- UL
- CSA
- CCC
- ATEX
- RoHS



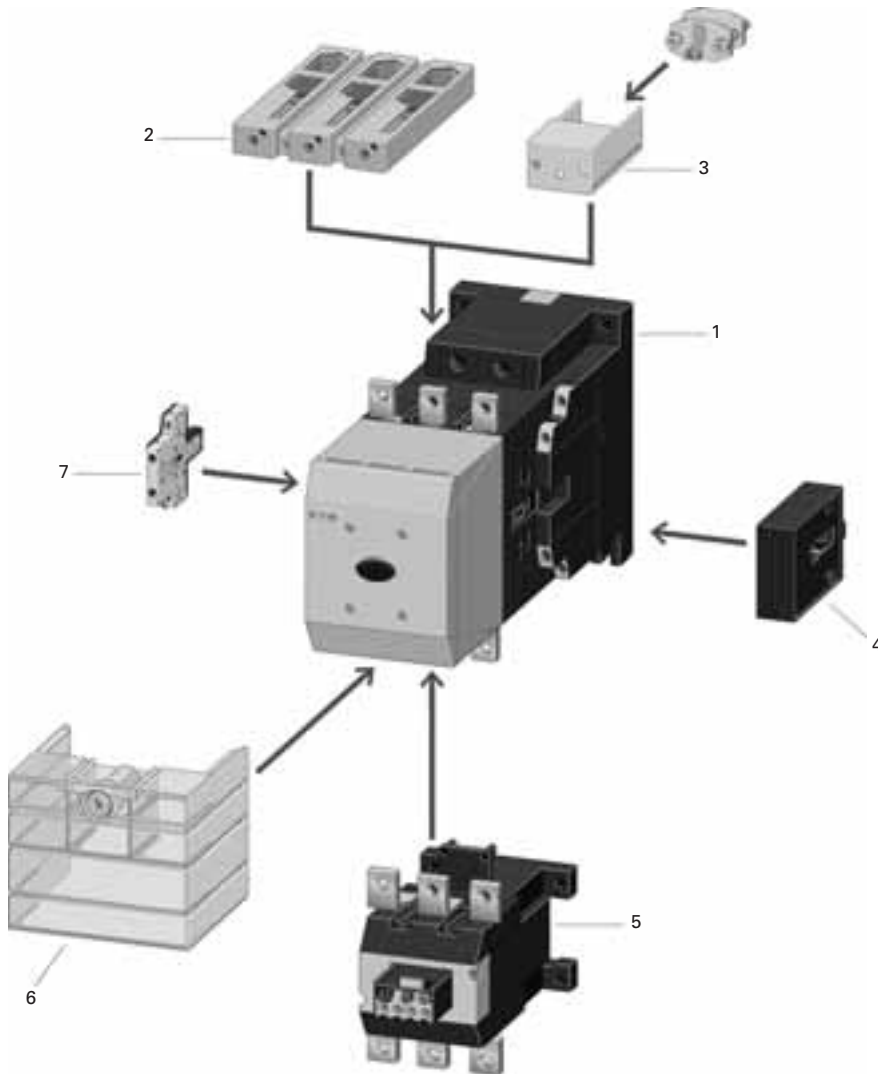
**Note:** For Type 2 Coordination, see Page 199.



**Table 46. Product Identification**

No.	Description	Page
<b>Contactor Up to 150A AC-3</b>		
1	AC: ■ 12 – 600V, 50, 60, 50/60 Hz ■ $0.8 - 1.1 \times U_C$ DC: ■ 12 – 250V ■ XTCE...B_ (7 – 15A): $0.8 - 1.1 \times U_C$ ■ XTCE...C_ – XTCE...G_ (18 – 150A): $0.7 - 1.2 \times U_C$ ■ 24V: $0.7 - 1.3 \times U_C$ at 40°C without additional auxiliary contacts Coils for Special Voltages “Safe Isolation” to IEC 536 between coil and contacts	33
<b>Suppressors</b>		
2	■ RC suppressor ■ Varistor suppressor ■ Free-wheel diode suppressor	53
<b>Overload Relays</b>		
3	■ Can be mounted directly ■ Separate mounting, possible ■ Protection of EE e motors	94
<b>Auxiliary Contact Modules</b>		
4	■ 2-pole, plug-in type ■ 4-pole, plug-in type ■ Overlapping contacts ■ 2-pole, side mounting	48

### Product Family Overview



**Table 47. XTCE185 – XTCEC20 Contactors**

No.	Description	Page
<b>XTCE Contactors for 185 – 2000A (AC-3)</b>		
1	<b>Multi-Voltage Coils:</b> <ul style="list-style-type: none"> <li>■ 24 – 48V DC</li> <li>■ 48 – 110V AC/DC</li> <li>■ 110 – 250V AC/DC</li> <li>■ 250 – 500V AC</li> <li>■ 0.7 – 1.15 x U<sub>C</sub></li> </ul> <b>Actuation Options:</b> <ul style="list-style-type: none"> <li>■ Directly</li> <li>■ From the PLC</li> <li>■ With low-consumption contact</li> </ul> Minimized pick-up and seal-ing power.	33
<b>XTCS Contactors for 185 – 500A (AC-3)</b>		
1	<b>Control Voltages:</b> <ul style="list-style-type: none"> <li>■ 110 – 120V 50/60 Hz</li> <li>■ 220 – 240V 50/60 Hz</li> </ul> Conventional operation.	34
<b>Cable Terminal Block</b>		
2	<ul style="list-style-type: none"> <li>■ 1 or 2 conductors per phase</li> <li>■ Round and flat conductor connectable</li> <li>■ Finger-proof</li> </ul>	57
<b>Flat Strip Conductor Terminals</b>		
3	<ul style="list-style-type: none"> <li>■ 1 or 2 strips per phase</li> <li>■ Control circuit terminal</li> <li>■ Cover for fingerproofing</li> </ul>	57
<b>Mechanical Interlock</b>		
4	<ul style="list-style-type: none"> <li>■ Fits between contactors</li> </ul>	55
<b>Overload Relays</b>		
5	<ul style="list-style-type: none"> <li>■ Can be mounted directly</li> <li>■ Separate mounting, possible</li> <li>■ Protection of EEx e motors</li> <li>■ PTB certificate</li> </ul>	94
<b>Terminal Shroud</b>		
6	<ul style="list-style-type: none"> <li>■ Finger-proof</li> </ul>	57
<b>Auxiliary Contact Modules</b>		
7	<ul style="list-style-type: none"> <li>■ 2-pole, side mounting</li> </ul>	48

Catalog Number Selection

**Catalog Number Selection**

Table 48. XT IEC Contactors & Starters — Catalog Numbering System

<b>XT CE C 007 B 01 AD P16</b>																																									
<p><b>Designation</b> XT = XT Line of IEC Control</p>		<p>XTAE, XTAS and XTAR Starters Only — Maximum Overload Relay</p> <p><b>XTOB Maximum Overload Rating</b></p> <table border="1"> <tr> <td> <p><i>Frame B</i></p> <p>P16 = 0.1 – 0.16A P24 = 0.16 – 0.24A P40 = 0.24 – 0.4A P60 = 0.4 – 0.6A 001 = 0.6 – 1A 1P6 = 1.0 – 1.6A 2P4 = 1.6 – 2.4A 004 = 2.4 – 4A 006 = 4 – 6A 010 = 6 – 10A 012 = 9 – 12A 016 = 12 – 16A</p> </td> <td> <p><i>Frame D</i></p> <p>010 = 6 – 10A 016 = 10 – 16A 024 = 16 – 24A 040 = 24 – 40A 057 = 40 – 57A 065 = 50 – 65A</p> </td> </tr> <tr> <td> <p><i>Frame C</i></p> <p>P16 = 0.1 – 0.16A P24 = 0.16 – 0.24A P40 = 0.24 – 0.4A P60 = 0.4 – 0.6A 001 = 0.6 – 1A 1P6 = 1.0 – 1.6A 2P4 = 1.6 – 2.4A 004 = 2.4 – 4A 006 = 4 – 6A 010 = 6 – 10A 016 = 10 – 16A 024 = 16 – 24A 032 = 24 – 32A</p> </td> <td> <p><i>Frame F</i></p> <p>035 = 25 – 35A 050 = 35 – 50A 070 = 50 – 70A 100 = 70 – 100A</p> </td> </tr> <tr> <td> <p><i>Frame L</i></p> <p>070 = 50 – 70A 100 = 70 – 100A 125 = 95 – 125A 220 = 160 – 220A 250 = 200 – 250A</p> </td> <td> <p><i>Frame G</i></p> <p>035 = 25 – 35A 050 = 35 – 50A 070 = 50 – 70A 100 = 70 – 100A 125 = 95 – 125A 150 = 120 – 150A</p> </td> </tr> </table>	<p><i>Frame B</i></p> <p>P16 = 0.1 – 0.16A P24 = 0.16 – 0.24A P40 = 0.24 – 0.4A P60 = 0.4 – 0.6A 001 = 0.6 – 1A 1P6 = 1.0 – 1.6A 2P4 = 1.6 – 2.4A 004 = 2.4 – 4A 006 = 4 – 6A 010 = 6 – 10A 012 = 9 – 12A 016 = 12 – 16A</p>	<p><i>Frame D</i></p> <p>010 = 6 – 10A 016 = 10 – 16A 024 = 16 – 24A 040 = 24 – 40A 057 = 40 – 57A 065 = 50 – 65A</p>	<p><i>Frame C</i></p> <p>P16 = 0.1 – 0.16A P24 = 0.16 – 0.24A P40 = 0.24 – 0.4A P60 = 0.4 – 0.6A 001 = 0.6 – 1A 1P6 = 1.0 – 1.6A 2P4 = 1.6 – 2.4A 004 = 2.4 – 4A 006 = 4 – 6A 010 = 6 – 10A 016 = 10 – 16A 024 = 16 – 24A 032 = 24 – 32A</p>	<p><i>Frame F</i></p> <p>035 = 25 – 35A 050 = 35 – 50A 070 = 50 – 70A 100 = 70 – 100A</p>	<p><i>Frame L</i></p> <p>070 = 50 – 70A 100 = 70 – 100A 125 = 95 – 125A 220 = 160 – 220A 250 = 200 – 250A</p>	<p><i>Frame G</i></p> <p>035 = 25 – 35A 050 = 35 – 50A 070 = 50 – 70A 100 = 70 – 100A 125 = 95 – 125A 150 = 120 – 150A</p>																																	
<p><i>Frame B</i></p> <p>P16 = 0.1 – 0.16A P24 = 0.16 – 0.24A P40 = 0.24 – 0.4A P60 = 0.4 – 0.6A 001 = 0.6 – 1A 1P6 = 1.0 – 1.6A 2P4 = 1.6 – 2.4A 004 = 2.4 – 4A 006 = 4 – 6A 010 = 6 – 10A 012 = 9 – 12A 016 = 12 – 16A</p>	<p><i>Frame D</i></p> <p>010 = 6 – 10A 016 = 10 – 16A 024 = 16 – 24A 040 = 24 – 40A 057 = 40 – 57A 065 = 50 – 65A</p>																																								
<p><i>Frame C</i></p> <p>P16 = 0.1 – 0.16A P24 = 0.16 – 0.24A P40 = 0.24 – 0.4A P60 = 0.4 – 0.6A 001 = 0.6 – 1A 1P6 = 1.0 – 1.6A 2P4 = 1.6 – 2.4A 004 = 2.4 – 4A 006 = 4 – 6A 010 = 6 – 10A 016 = 10 – 16A 024 = 16 – 24A 032 = 24 – 32A</p>	<p><i>Frame F</i></p> <p>035 = 25 – 35A 050 = 35 – 50A 070 = 50 – 70A 100 = 70 – 100A</p>																																								
<p><i>Frame L</i></p> <p>070 = 50 – 70A 100 = 70 – 100A 125 = 95 – 125A 220 = 160 – 220A 250 = 200 – 250A</p>	<p><i>Frame G</i></p> <p>035 = 25 – 35A 050 = 35 – 50A 070 = 50 – 70A 100 = 70 – 100A 125 = 95 – 125A 150 = 120 – 150A</p>																																								
<p><b>Type</b></p> <p>CE = 3-Pole FVNR IEC Contactor CS = 3-Pole FVNR S Series IEC Contactor CF = 4-Pole FVNR IEC Contactor CR = 3-Pole FVR IEC Contactor CC = IEC Capacitor Contactor AE = FVNR IEC Starter AS = FVNR S-Series IEC Starter AR = FVR IEC Starter</p>																																									
<p><b>Terminations</b></p> <p>Blank = Screw Terminals (6 – 65A); 5 mm (80 – 150A); No Lugs (185 – 2000A) C = Spring Cage Terminals (6 – 32A); Spring Cage Coil Terminals Only (185 – 500A)</p>																																									
<p><b>Current Ratings, AC-3</b></p> <table border="1"> <tr> <td>007 = 7A 009 = 9A 012 = 12A 015 = 15A</td> <td>B = 45 mm</td> <td>01 = 1NC 10 = 1NO</td> </tr> <tr> <td>018 = 18A 025 = 25A 032 = 32A</td> <td>C = 45 mm</td> <td></td> </tr> <tr> <td>040 = 40A 050 = 50A 065 = 65A</td> <td>D = 55 mm</td> <td>00 = 0NO-0NC</td> </tr> <tr> <td>080 = 80A 095 = 95A</td> <td>F = 90 mm</td> <td></td> </tr> <tr> <td>115 = 115A 150 = 150A</td> <td>G = 90 mm</td> <td></td> </tr> <tr> <td>185 = 185A 225 = 225A 250 = 250A</td> <td>L = 140 mm</td> <td>22 = 2NO-2NC</td> </tr> <tr> <td>300 = 300A 400 = 400A 500 = 500A</td> <td>M = 160 mm</td> <td></td> </tr> <tr> <td>580 = 580A 650 = 650A 750 = 750A 820 = 820A C10 = 1000A</td> <td>N = 250 mm</td> <td></td> </tr> <tr> <td>C14 = 1400A, AC-1</td> <td>P = 260 mm</td> <td></td> </tr> <tr> <td>C16 = 1600A, AC-3 C20 = 2000A, AC-1</td> <td>R = 515 mm</td> <td></td> </tr> </table>	007 = 7A 009 = 9A 012 = 12A 015 = 15A	B = 45 mm	01 = 1NC 10 = 1NO	018 = 18A 025 = 25A 032 = 32A	C = 45 mm		040 = 40A 050 = 50A 065 = 65A	D = 55 mm	00 = 0NO-0NC	080 = 80A 095 = 95A	F = 90 mm		115 = 115A 150 = 150A	G = 90 mm		185 = 185A 225 = 225A 250 = 250A	L = 140 mm	22 = 2NO-2NC	300 = 300A 400 = 400A 500 = 500A	M = 160 mm		580 = 580A 650 = 650A 750 = 750A 820 = 820A C10 = 1000A	N = 250 mm		C14 = 1400A, AC-1	P = 260 mm		C16 = 1600A, AC-3 C20 = 2000A, AC-1	R = 515 mm		<p><b>C396 Maximum Overload Rating</b></p> <p><b>Suffix</b></p> <p><b>Std. Class 5/10/20/30</b></p> <table border="1"> <tr> <td><i>Frame B</i></td> <td>0.1 – 0.5A = 3EP05 0.4 – 2.0A = 3E002 1 – 5A = 3E005 1.6 – 8A = 3E008 6.4 – 32 = 3E032</td> </tr> <tr> <td><i>Frame C</i></td> <td>0.1 – 0.5A = 3EP05 0.4 – 2.0A = 3E002 1 – 5A = 3E005 1.6 – 8A = 3E008 6.4 – 32A = 3E032</td> </tr> <tr> <td><i>Frame D</i></td> <td>6.4 – 32A = 3E032 9 – 45A = 3E045 15 – 75A = 3E075</td> </tr> <tr> <td><i>Frame F</i></td> <td>22 – 110A = 3E110</td> </tr> <tr> <td><i>Frame G</i></td> <td>30 – 150A = 3E150</td> </tr> </table>	<i>Frame B</i>	0.1 – 0.5A = 3EP05 0.4 – 2.0A = 3E002 1 – 5A = 3E005 1.6 – 8A = 3E008 6.4 – 32 = 3E032	<i>Frame C</i>	0.1 – 0.5A = 3EP05 0.4 – 2.0A = 3E002 1 – 5A = 3E005 1.6 – 8A = 3E008 6.4 – 32A = 3E032	<i>Frame D</i>	6.4 – 32A = 3E032 9 – 45A = 3E045 15 – 75A = 3E075	<i>Frame F</i>	22 – 110A = 3E110	<i>Frame G</i>	30 – 150A = 3E150
007 = 7A 009 = 9A 012 = 12A 015 = 15A	B = 45 mm	01 = 1NC 10 = 1NO																																							
018 = 18A 025 = 25A 032 = 32A	C = 45 mm																																								
040 = 40A 050 = 50A 065 = 65A	D = 55 mm	00 = 0NO-0NC																																							
080 = 80A 095 = 95A	F = 90 mm																																								
115 = 115A 150 = 150A	G = 90 mm																																								
185 = 185A 225 = 225A 250 = 250A	L = 140 mm	22 = 2NO-2NC																																							
300 = 300A 400 = 400A 500 = 500A	M = 160 mm																																								
580 = 580A 650 = 650A 750 = 750A 820 = 820A C10 = 1000A	N = 250 mm																																								
C14 = 1400A, AC-1	P = 260 mm																																								
C16 = 1600A, AC-3 C20 = 2000A, AC-1	R = 515 mm																																								
<i>Frame B</i>	0.1 – 0.5A = 3EP05 0.4 – 2.0A = 3E002 1 – 5A = 3E005 1.6 – 8A = 3E008 6.4 – 32 = 3E032																																								
<i>Frame C</i>	0.1 – 0.5A = 3EP05 0.4 – 2.0A = 3E002 1 – 5A = 3E005 1.6 – 8A = 3E008 6.4 – 32A = 3E032																																								
<i>Frame D</i>	6.4 – 32A = 3E032 9 – 45A = 3E045 15 – 75A = 3E075																																								
<i>Frame F</i>	22 – 110A = 3E110																																								
<i>Frame G</i>	30 – 150A = 3E150																																								
<p><b>Coil Codes</b> See Table 57.</p>																																									

**Product Selection**

**Product Selection  
Non-reversing Contactors**



Frame B



Frame C



Frame D



Frame F – G

**Table 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_	97.	126.	
7	20	2.2	3	4	3.5	1/4	3/4	1	1-1/2	2	3	5	1NC	XTCE007B01_	97.	126.	
9	20	2.5	4	5.5	4.5	1/2	1	1-1/2	3	3	5	7-1/2	1NO	XTCE009B10_	105.	135.	
9	20	2.5	4	5.5	4.5	1/2	1	1-1/2	3	3	5	7-1/2	1NC	XTCE009B01_	105.	135.	
12	20	3.5	5.5	7	6.5	1	2	2	3	3	10 <sup>③</sup>	10	1NO	XTCE012B10_	129.	165.	
12	20	3.5	5.5	7	6.5	1	2	2	3	3	10 <sup>③</sup>	10	1NC	XTCE012B01_	129.	165.	
15.5	20	4	7.5	8	7	1	2	3	5	5	10 <sup>③</sup>	10	1NO	XTCE015B10_	143.	172.	
15.5	20	4	7.5	8	7	1	2	3	5	5	10 <sup>③</sup>	10	1NC	XTCE015B01_	143.	172.	
<b>Frame C</b>																	
18	35	5	7.5	10	11	2	2	3	5	5	10 <sup>③</sup>	15	1NO	XTCE018C10_	149.	180.	
18	35	5	7.5	10	11	2	2	3	5	5	10 <sup>③</sup>	15	1NC	XTCE018C01_	149.	180.	
25	40	7.5	11	14.5	14	2	3	5	7-1/2	7-1/2	15	20	1NO	XTCE025C10_	179.	208.	
25	40	7.5	11	14.5	14	2	3	5	7-1/2	7-1/2	15	20	1NC	XTCE025C01_	179.	208.	
32	40	10	15	18	17	3	5	5	10	10	20	25	1NO	XTCE032C10_	223.	259.	
32	40	10	15	18	17	3	5	5	10	10	20	25	1NC	XTCE032C01_	223.	259.	
<b>Frame D</b>																	
40	50	12.5	18.5	24	23	3	5	7-1/2	10	15	30	40	—	XTCE040D00_	259.	301.	
50	65	15.5	22	30	30	3	7-1/2	10	15	20	40	50	—	XTCE050D00_	285.	357.	
65	80	20	30	39	35	5	10	15	20	25	50	60	—	XTCE065D00_	302.	373.	
<b>Frame F</b>																	
80	90	25	37	48	63	7-1/2	15	15	25	30	60	75	—	XTCE080F00_	388.	485.	
95	110	30	45	57	75	7-1/2	15	15	25	40	75	100	—	XTCE095F00_	468.	590.	
<b>Frame G</b>																	
115	130	37	55	70	90	10	25	25	40	50	100	125	—	XTCE115G00_	585.	720.	
150	160	48	75	91	96	15	25	30	40	60	125	125	—	XTCE150G00_	940.	1,125.	

① Underscore ( ) indicates magnet coil suffix required. See Table 57, Page 37.  
 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 51, Page 34.

**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\_).

Contact Sequence (Circuit Symbols) ..... Page 34  
 Coil Voltage Chart ..... Page 37  
 Accessories ..... Page 48  
 Dimensions ..... Page 83  
 Overload Relays ..... Page 94  
 Discount Symbol ..... 1CD7

Product Selection

**Non-reversing Contactors**



**Table 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_	1,310.	—
225	315	70	110	132	215	108	—	—	—	60	75	150	200	2NO-2NC	XTCS225L22_	1,585.	—
250	330	75	132	148	240	108	—	—	—	75	100	200	250	2NO-2NC	XTCS250L22_	2,020.	—
<b>Frame L — Electronic Coil</b>																	
185	275	55	90	110	175	108	—	—	—	50	60	125	150	2NO-2NC	XTCE185L22_	1,455.	1,455.
225	315	70	110	132	215	108	—	—	—	60	75	150	200	2NO-2NC	XTCE225L22_	1,690.	1,690.
250	350	75	132	148	240	108	—	—	—	75	100	200	250	2NO-2NC	XTCE250L22_	2,250.	2,250.
<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_	2,140.	—
400	500	125	200	240	344	132	—	—	—	125	150	300	400	2NO-2NC	XTCS400M22_	2,685.	—
500	700	155	250	300	344	132	—	—	—	150	200	400	500	2NO-2NC	XTCS500M22_	4,690.	—
<b>Frame M — Electronic Coil</b>																	
300	400	90	160	180	286	132	—	—	—	100	125	250	300	2NO-2NC	XTCE300M22_	2,305.	2,305.
400	500	125	200	240	344	132	—	—	—	125	150	300	400	2NO-2NC	XTCE400M22_	2,925.	2,925.
500	700	155	250	300	344	132	—	—	—	150	200	400	500	2NO-2NC	XTCE500M22_	5,210.	5,210.
<b>Frame N — Electronic Coil</b>																	
580	800	185	315	348	560	600	—	—	—	200	200	400	600	2NO-2NC	XTCE580N22_ ③	7,290.	—
650	850	205	355	390	630	600	—	—	—	200	250	500	600	2NO-2NC	XTCE650N22_ ③	7,620.	—
750	900	240	400	455	720	800	—	—	—	250	300	600	700	2NO-2NC	XTCE750N22_ ③	8,460.	—
820	1000	260	450	500	750	800	—	—	—	290	350	700	860	2NO-2NC	XTCE820N22_ ③	10,150.	—
1000	1000	315	560	610	1000	1000	—	—	—	350	420	850	980	2NO-2NC	XTCEC10N22_ ③	12,130.	—
<b>Frame P — Electronic Coil</b>																	
—	1400	—	—	—	—	—	—	—	—	—	—	—	—	2NO-2NC	XTCEC14P22_ ③	15,020.	—
<b>Frame R — Electronic Coil</b>																	
1600	1800	500	900	900	1600	1700	—	—	—	560	640	1200	1300	2NO-2NC	XTCEC16R22_ ③	26,415.	—
—	2000	—	—	—	—	—	—	—	—	—	—	—	—	2NO-2NC	XTCEC20R22_ ③	22,530.	—

① Underscore ( ) indicates magnet coil suffix required. See Table 57, Page 37.  
 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 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 81 for Electrical Life Curves.

**Note:**

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

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

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

Coil Voltage Chart ..... Page 37  
 Accessories ..... Page 48  
 Dimensions ..... Page 83  
 Overload Relays ..... Page 94  
 Discount Symbol ..... 1CD7

**Product Selection**

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

I <sub>e</sub> (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_	134.	169.

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

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

Description	XTCS185L – XTCS500M	XTCEC16R, XTCEC20R	XTCE185L – XTCEC14P
<p><b>Conventional</b> A1/A2 are applied to voltage in the usual manner.</p>			
<p><b>Direct from the PLC</b> A 24V output from the PLC can be connected directly to connections A3/A4.</p>	—		
<p><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.</p>	—		

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