

3-pole contactors CTX³

130 A to 800 A industrial contactors



Technical characteristics **p. 188**
 Dimensions and coordination with circuit breakers **see e-catalogue**

Conform to IEC 60947-1, IEC 60947-4-1
 Can be equipped with RTX³ thermal relays (p. 184-185) add-on auxiliary contact blocks, time delay blocks (except CTX³ 225/400/800) and CTX³ interlocking (p. 186)


Pack	Cat.Nos		CTX³ 150		
			With integrated auxiliary contacts		
			130 A (AC3) - 160 A (AC1)		
	Screw terminals	Cage terminals	3-phase motor 400/415 V	Control Voltage	Integrated auxiliary contacts
1	4 162 40	4 162 50	60 kW	24 V~	2 NO + 2 NC
1	4 162 41	4 162 51	60 kW	24 V=	2 NO + 2 NC
1	4 162 46	4 162 56	60 kW	100-240 V~/=	2 NO + 2 NC
1	4 162 49	4 162 59	60 kW	400-440 V~	2 NO + 2 NC
			150 A (AC3) - 210 A (AC1)		
1	4 162 60	4 162 70	75 kW	24 V~	2 NO + 2 NC
1	4 162 61	4 162 71	75 kW	24 V=	2 NO + 2 NC
1	4 162 66	4 162 76	75 kW	100-240 V~/=	2 NO + 2 NC
1	4 162 69	4 162 79	75 kW	400-440 V~	2 NO + 2 NC

Pack	Cat.Nos		CTX³ 800		
			With integrated auxiliary contacts		
			500 A (AC3) - 580 A (AC1)		
	Screw terminals		3-phase motor 400/415 V	Control Voltage	Integrated auxiliary contacts
1	4 163 36		265 kW	200-240 V~/=	2 NO + 2 NC
1	4 163 39		265 kW	380-450 V~	2 NO + 2 NC
			630 A (AC3) - 660 A (AC1)		
1	4 163 46		330 kW	200-240 V~/=	2 NO + 2 NC
1	4 163 49		330 kW	380-450 V~	2 NO + 2 NC
			800 A (AC3) - 900 A (AC1)		
1	4 163 56		440 kW	200-240 V~/=	2 NO + 2 NC
1	4 163 59		440 kW	380-450 V~	2 NO + 2 NC

		CTX³ 225		
		With integrated auxiliary contacts		
		185 A (AC3) - 230 A (AC1)		
	Screw terminals	3-phase motor 400/415 V	Control Voltage	Integrated auxiliary contacts
1	4 162 80	90 kW	24 V~/=	2 NO + 2 NC
1	4 162 86	90 kW	100-240 V~/=	2 NO + 2 NC
1	4 162 89	90 kW	380-450 V~	2 NO + 2 NC
			225 A (AC3) - 275 A (AC1)	
1	4 162 90	132 kW	24 V~/=	2 NO + 2 NC
1	4 162 96	132 kW	100-240 V~/=	2 NO + 2 NC
1	4 162 99	132 kW	380-450 V~	2 NO + 2 NC

		CTX³ 400		
		With integrated auxiliary contacts		
		265 A (AC3) - 300 A (AC1)		
	Screw terminals	3-phase motor 400/415 V	Control Voltage	Integrated auxiliary contacts
1	4 163 06	147 kW	100-240 V~/=	2 NO + 2 NC
1	4 163 09	147 kW	380-450 V~	2 NO + 2 NC
			330 A (AC3) - 350 A (AC1)	
1	4 163 16	160 kW	100-240 V~/=	2 NO + 2 NC
1	4 163 19	160 kW	380-450 V~	2 NO + 2 NC
			400 A (AC3) - 450 A (AC1)	
1	4 163 26	200 kW	100-240 V~/=	2 NO + 2 NC
1	4 163 29	200 kW	380-450 V~	2 NO + 2 NC

Add-on auxiliary contact blocks **p. 186**



Other control voltage, spare coils for CTX³ 3-pole contactors, **please, consult us**

Contactors CTX³

technical characteristics

Environmental conditions

- Storage temperature: -50 °C to +40 °C
- Operating temperature: -5 °C to +40 °C
- Operating altitude: 3000 m
- Protection degree: IP 20
- Shock resistance: open 8 G / closed 10 G
- Vibration resistance (5-300 Hz): open 2 G / closed 4 G

Type 2 coordination with MPCBs MPX³

According to IEC 60947-4-1
Short circuit current I_q = 50 kA Voltage 400/415 V~ 50/60 Hz

Standard motors AC-3 at 400/415 V 1500 rpm	Manual motor starter				Contactor		
	Rated Power (kW)	Current (A)	MPCB type	Thermal overload release setting range (A)	Magnetic release response current (A)	Type	Rating (A)
-	-	MPX ³ 32S	0.16	0.1 - 0.16	2.08	CTX ³ 22	9
0.06	0.20	MPX ³ 32S	0.25	0.16 - 0.25	3.25	CTX ³ 22	9
0.09	0.30	MPX ³ 32S	0.40	0.25 - 0.4	5.2	CTX ³ 22	9
0.12	0.40	MPX ³ 32S	0.63	0.4 - 0.63	8.19	CTX ³ 22	9
0.18	0.60	MPX ³ 32S	0.63	0.4 - 0.63	8.19	CTX ³ 22	9
0.25	0.80	MPX ³ 32S	1	0.63 - 1	13	CTX ³ 22	9
0.37	1.1	MPX ³ 32S	1.6	1 - 1.6	20.8	CTX ³ 22	9
0.55	1.5	MPX ³ 32S	1.6	1 - 1.6	20.8	CTX ³ 22	9
0.75	1.9	MPX ³ 32S	2.5	1.6 - 2.5	32.5	CTX ³ 22	12
1.1	2.7	MPX ³ 32S	4	2.5 - 4	52	CTX ³ 22	18
1.5	3.6	MPX ³ 32S	4	2.5 - 4	52	CTX ³ 22	18
2.2	5.2	MPX ³ 32S	6	4 - 6	78	CTX ³ 22	18
3	6.8	MPX ³ 32S	8	5 - 8	104	CTX ³ 22	18
4	9	MPX ³ 32S	10	6 - 10	130	CTX ³ 22	18
5.5	11.5	MPX ³ 32H	13	9 - 13	169	CTX ³ 22	22
7.5	15.5	MPX ³ 32H	17	11 - 17	221	CTX ³ 22	22
10	20	MPX ³ 32H	22	14 - 22	286	CTX ³ 40	32
11	22	MPX ³ 32H	25	18 - 26	338	CTX ³ 40	32
15	29	MPX ³ 32H	32	22 - 32	416	CTX ³ 40	32
18.5	35	MPX ³ 63H	40	28 - 40	520	CTX ³ 65	50
22	41	MPX ³ 63H	50	34 - 50	650	CTX ³ 65	50
30	55	MPX ³ 63H	63	45 - 63	819	CTX ³ 65	65
37	67	MPX ³ 100H	75	55 - 75	975	CTX ³ 100	75
-	-	MPX ³ 100H	90	70 - 90	1170	CTX ³ 100	85
45	80	MPX ³ 100H	100	80 - 100	1300	CTX ³ 100	85

Definition type 2 coordination according to IEC 947-4-1:

- The contactor or the starter must not endanger persons or systems in the event of a short-circuit.
- The contactor or the starter must be suitable for further use.
- No damage to the overload relay or other parts may occur with the exception of welding of the contactor or starter contacts provided that these can be easily separated without significant deformation (such as with a screwdriver).

CTX³ capacitor switching units Cat.Nos 4 168 74/75/76/77

Capacitor unit is connected to the terminals of the contactor to reduce the high inrush current.
IEC 60947-4-1 AC 6b

Type	Contactor	Maximum operating power (kvar)			Max. Peak current (A)	
		220 - 240 V	400 - 440 V	500 - 550 V		
4 168 74	CTX ³ 22	9 A	5	9.7	14	560
	CTX ³ 22	12 A	6.7	12.5	18	560
	CTX ³ 22	18 A	8.5	16.7	24	850
	CTX ³ 22	22 A	10	18	26	1250
	CTX ³ 40	32 A	15	25	36	1900
4 168 75/76	CTX ³ 40	40 A	20	33.3	48	2160
	CTX ³ 65	50 A	20	40	58	2160
4 168 76/77	CTX ³ 65	65 A	25	45.7	66	3040
	CTX ³ 100	75 A	29.7	54	78	3040
	CTX ³ 100	85 A	35	60	92	3040
	CTX ³ 100	100 A	37	62	94	3040

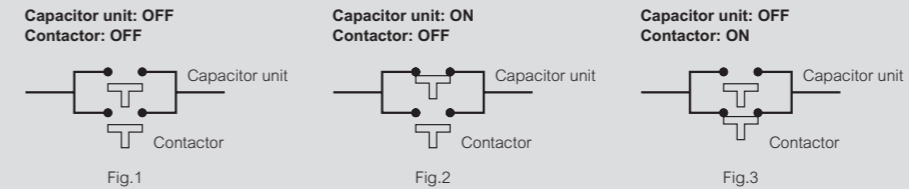
Note: - When the switch is closed capacitor must be discharged before recharged. (Maximum residual voltage at terminals ≤ 50 V)
- To prevent short current, gG type fuse must be 1.5 - 2 times than rated current

CTX³ capacitor switching units Cat.Nos 4 168 74/75/76/77 (continued)

Features of capacitor unit (Pre-loading resistor)

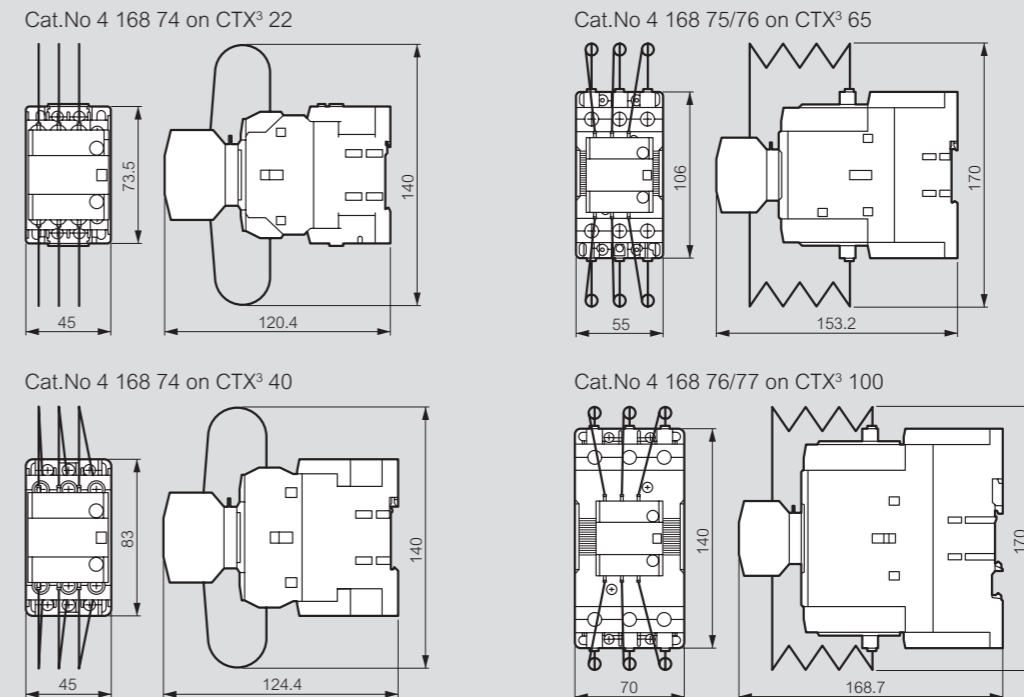
- Damping resistor that can limit the inrush current up to 60 x I_n by closing earlier than the main contacts of the contactor
- No heat loss by the serial resistor
- Eliminates the switching surge
- Improves the performance of the capacitor system

Operation sequence




















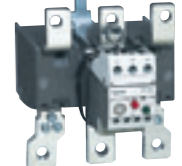
Note - Closing sequence: Fig.1 => Fig.2 => Fig.3
Opening sequence: Fig.3 => Fig.1

Overall dimensions of contactors equipped with CTX³ switching units



3-pole contactors CTX³ and thermal overload relays RTX³

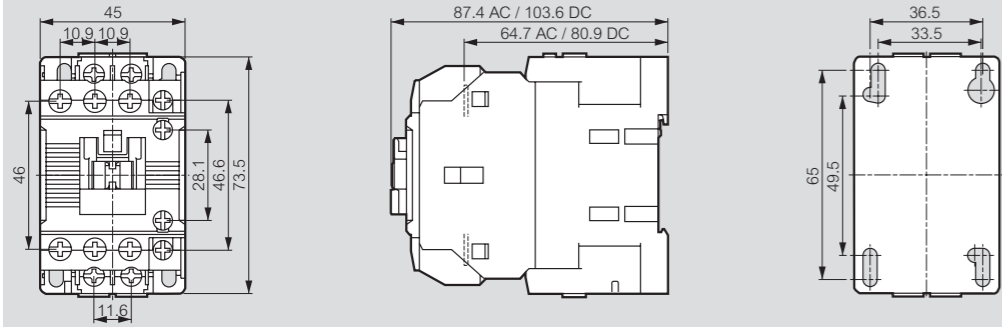
technical characteristics

																												
Contactor		CTX ³ mini	CTX ³ 22	CTX ³ 40	CTX ³ 65	CTX ³ 100	CTX ³ 150	CTX ³ 225	CTX ³ 400	CTX ³ 800																		
Size		-	2	3	4	5	6	7	8	9																		
Terminals type		screw	screw	screw	screw or cage	screw or cage	screw or cage	screw	screw	screw																		
Rated operational voltage, U _e		690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V																		
Rated insulation voltage, U _i		690 V	690 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V																		
Rated frequency		50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz																		
Rated impulse withstand voltage, U _{imp}		6 kV	6 kV	8 kV	8 kV	8 kV	8 kV	8 kV	8 kV	8 kV																		
Max. operating rate in operation cycle per hour (AC-3)		1800	1800	1800	1800	1800	1200	1200	1200	1200																		
Durability in millions of operations	Mechanical	12	15	12	12	12	5	5	5	2.5																		
	Electrical	1	2.5	2	2	2	1	1	1	0.5																		
Type		6 A	9 A	12 A	16 A	9 A	12 A	18 A	22 A	32 A	40 A	50 A	65 A	75 A	85 A	100 A	130 A	150 A	185 A	225 A	265 A	330 A	400 A	500 A	630 A	800 A		
Current and power	AC-1	Thermal current (A)	20	20	20	20	25	25	40	40	50	60	70	100	110	135	160	160	210	230	275	300	350	450	580	660	900	
		200/240 V (kW)	1.5	2.2	3	4	2.5	3.5	4.5	5.5	7.5	11	15	18.5	22	25	30	37	45	55	75	80	90	125	147	190	220	
	AC-3	(A)	7	9	12	15	11	13	18	22	32	40	55	65	75	85	105	130	150	185	225	265	330	400	500	630	800	
		380/440 V (kW)	2.2	4	5.5	7.5	4	5.5	7.5	11	15	18.5	22	30	37	45	55	60	75	90	132	147	160	200	265	330	440	
	500/550 V (kW)	(A)	3	3.7	4	5.5	4	7.5	7.5	15	18.5	22	30	33	37	45	55	60	70	110	132	147	160	225	265	330	500	
		690 V (kW)	3	4	4	4	4	7.5	7.5	15	18.5	22	30	33	37	45	55	55	55	110	140	160	200	250	300	400	500	
	1000 V (kW)	(A)	4	5	5	5	5	9	9	18	20	23	28	35	42	45	65	60	60	120	150	185	225	300	380	420	630	
		(A)	-	-	-	-	-	-	-	-	22	22	30	30	37	27	37	75	75	132	132	147	147	147	220	220	220	
	UL rating 50/60 Hz	Continuous current (A)		20	20	20	20	25	25	40	40	50	60	70	100	110	135	160	160	210	230	275	300	350	450	580	660	900
		Single phase	110/220 V (HP)	1/2	1/2	1	-	0.5	0.75	1	2	2	3	3	5	5	7.5	10	10	15	15	15	15	-	-	-	-	-
220/240 V (HP)			1	1.5	2	-	1.5	2	3	3	5	7.5	10	15	15	15	20	20	25	30	40	40	-	-	-	-	-	
Three phase		200/208 V (HP)	-	-	-	-	2	3	5	7.5	7.5	15	20	25	25	30	30	40	40	60	60	75	100	125	150	200	200	
		220/240 V (HP)	1.5	3	3	-	3	5	7.5	10	10	15	25	30	30	40	40	40	50	60	75	100	125	150	200	250	300	
		440/480 V (HP)	3	5	7.5	-	5	7.5	10	15	20	30	40	50	50	60	75	75	100	125	150	200	250	300	400	500	600	
		550/600 V (HP)	3	5	7.5	-	7.5	10	15	20	25	30	50	60	60	75	75	75	75	125	150	200	250	300	400	500	600	
NEMA size		00	00	00	0	00	00	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	7		
Weight and size	AC control	Weight (kg)	0.17				0.34				0.4		0.9			1.6			2.4		5.4		9.2			22.4		
		Size (W x H x D) (mm)	45 x 58 x 57				45 x 73.5 x 87.4				45 x 83 x 90		55 x 106 x 119			70 x 140 x 135.8			95 x 158 x 130.3		138 x 203 x 185.1		163 x 243 x 204.4			285 x 312 x 245.3		
	DC control	Weight (kg)	0.23				0.41				0.6		1.2			2.6			2.4		5.4		9.2			22.4		
		Size (W x H x D) (mm)	45 x 58 x 69				45 x 73.5 x 103.6				45 x 83 x 117.1		55 x 106 x 146.4			70 x 140 x 172.3			95 x 158 x 130.3		138 x 203 x 185.1		163 x 243 x 204.4			285 x 312 x 245.3		
Integrated auxiliary contacts		1 NO or 1 NC				1 NO + 1 NC				2 NO + 2 NC		2 NO + 2 NC			2 NO + 2 NC			2 NO + 2 NC		2 NO + 2 NC		2 NO + 2 NC		2 NO + 2 NC				
Add on auxiliary block	Side mounting	Yes				Yes				Yes		Yes			Yes			Yes		Yes		Yes		Yes				
	Front mounting	Yes				Yes				Yes		Yes			Yes			Yes		No		No		No				
Thermal overload relay		RTX ³ mini	RTX ³ 40	RTX ³ 40	RTX ³ 65	RTX ³ 100	RTX ³ 150	RTX ³ 225	RTX ³ 400	RTX ³ 800																		
																												
Standard RTX ³		-	screw	screw	screw	screw	screw	-	-	-																		
Differential RTX ³		screw	screw	screw	cage	cage	screw	screw	screw	screw																		
Rated operational voltage, U _e		690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V																		
Rated insulation voltage, U _i		690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V	690 V																		
Rated impulse withstand voltage, U _{imp}		6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV																		
Trip class		10 A	10 A	10 A	10 A	10 A	10 A	10 A	10 A	10 A																		
Setting		0.1 to 16 A	0.1 to 40 A	0.1 to 40 A	9 to 65 A	18 to 100 A	45 to 150 A	65 to 240 A	85 to 400 A	200 to 800 A																		
Weight and size	Weight (kg)	0.1	0.17	0.17	0.31/0.33	0.48/0.5	0.67	2.5	2.6	11.5																		
	Size (W x H x D) (mm)	45 x 73 x 63	45 x 75 x 90	45 x 75 x 90	55 x 81 x 100	70 x 97 x 110	95 x 109 x 113	147 x 141 x 184	151 x 171 x 198	360 x 530 x 212																		

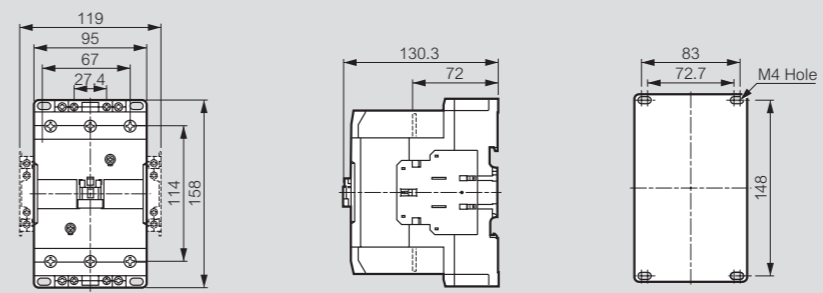
3-pole contactors CTX³

dimensions

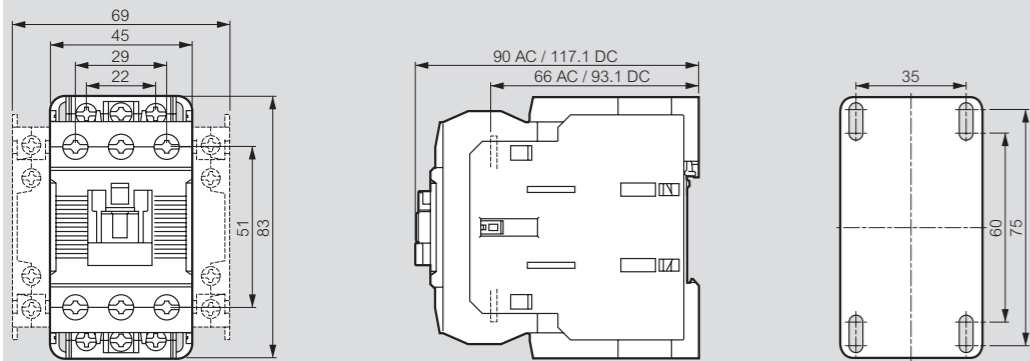
CTX³ 22



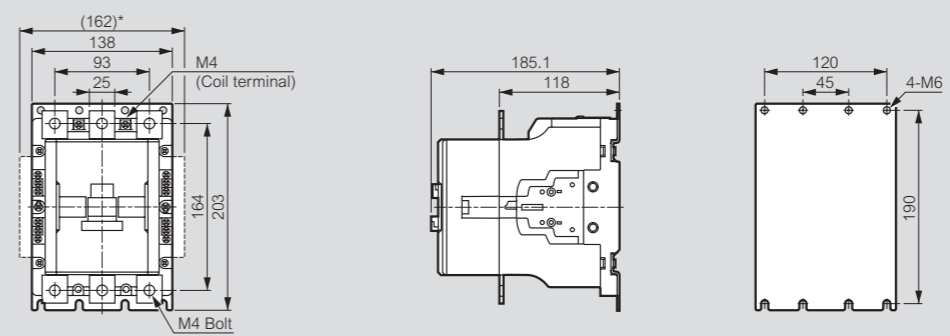
CTX³ 150



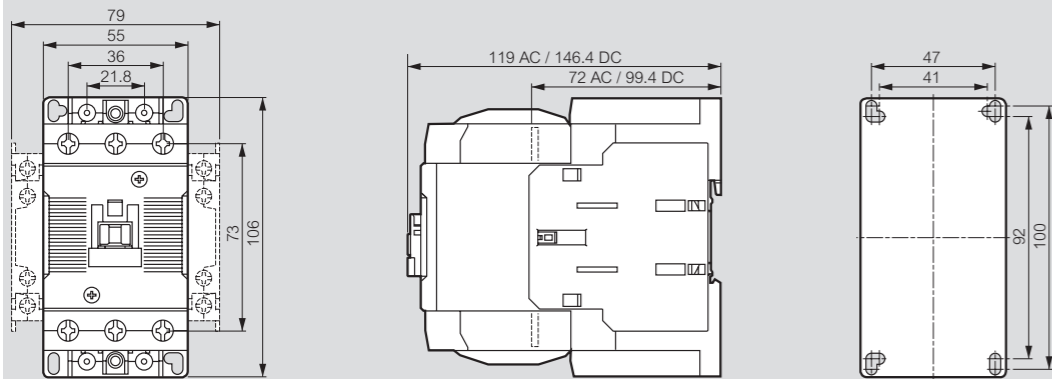
CTX³ 40



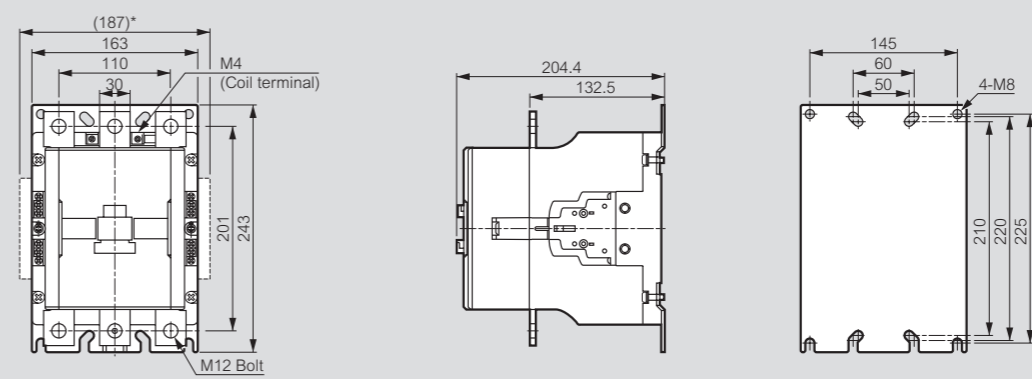
CTX³ 225



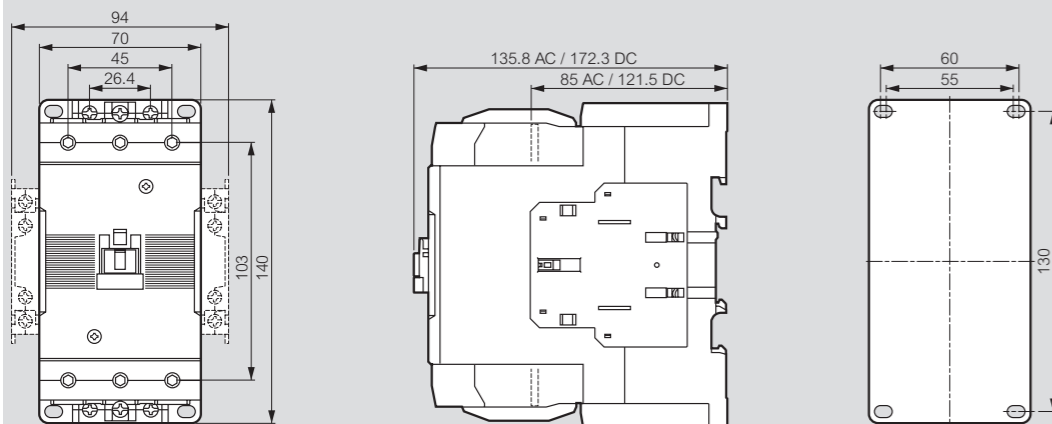
CTX³ 65



CTX³ 400



CTX³ 100



CTX³ 800

