

# Contactors CTX<sup>3</sup>

## technical characteristics

### Environmental conditions

- Storage temperature: -50 °C to +40 °C
- Operating temperature: -40 °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 MPX<sup>3</sup>

According to IEC 60947-4-1  
Short circuit current I<sub>q</sub> = 50 kA  
Voltage 400/415 V~ 50/60 Hz

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

### CTX<sup>3</sup> 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 <sup>3</sup> 22	9 A	5	9.7	14	560
	CTX <sup>3</sup> 22	12 A	6.7	12.5	18	560
	CTX <sup>3</sup> 22	18 A	8.5	16.7	24	850
	CTX <sup>3</sup> 22	22 A	10	18	26	1250
	CTX <sup>3</sup> 40	32 A	15	25	36	1900
4 168 75/76	CTX <sup>3</sup> 40	40 A	20	33.3	48	2160
	CTX <sup>3</sup> 65	50 A	20	40	58	2160
4 168 76/77	CTX <sup>3</sup> 65	65 A	25	45.7	66	3040
	CTX <sup>3</sup> 100	75 A	29.7	54	78	3040
	CTX <sup>3</sup> 100	85 A	35	60	92	3040
	CTX <sup>3</sup> 100	100 A	37	62	94	3040

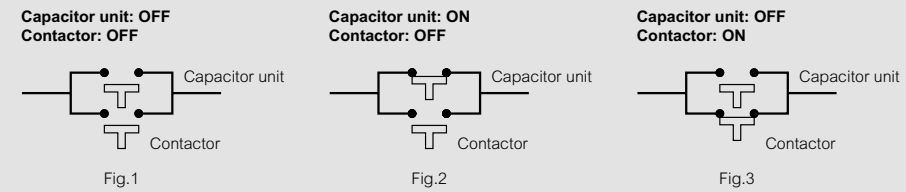
Note: - When the switch is closed capacitor must be discharged before recharged. (Maximum residual voltage at terminals ≤ 50 V)  
- To prevent short current, gG type fuse must be 1.5 - 2 times than rated current

### CTX<sup>3</sup> 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<sub>n</sub> 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 CTX<sup>3</sup> switching units

