CB 71 1250 to 2000 A

2 types for each calibre:

AC poles
CBA 71 1250,
CBA 71 1600,
CBA 71 2000.

DC poles
CBC 71 1250,
CBC 71 1600,
CBC 71 2000.

CBA 71 2000 4.0

Standard versions

■ 1 to 4 single pin main poles with copper contacts for calibre 1250 A (silver pad contact on request) and silver contacts for calibres 1600 and 2000 A.
Arc-blowout coil operates only during opening.

■ Closing electromagnet mounted on the right side of the poles (on request, it can be mounted on the left), solid iron magnetic circuit with 2 coils.
- control circuit supplied from an AC source via a rectifier and power-saved coils (device mounted and cabled on the contactor).
- control circuit supplied from a DC source with power-saved coils (device mounted and cabled on the contactor).

■ Auxiliary contacts
- two M type contact blocks with 3 contacts 3 NO + 3 NC, instant contacts or form to be specified when you order.
- number of M type contact blocks can be increased to reach 6 blocks.

■ Mechanical locking
- vertical type.

Options

■ Silver pad contact pins for calibre 1250 A.

■ NO or NC delayed block TP 86 type (this one also includes 4 free instant contacts, i.e. 3 NO + 1 NF).

■ More than 6 M type contact blocks can be mounted on the contactor by mounting them below the contactor to reduce its total dimensions.

■ Device to hold the contactor closed in case of untimely micro-cuts for contactors that are not equipped with a mechanical latching.

■ Mechanical latching with single or double electrical release (does not change the total dimensions of the contactor).

■ Self-protective device for the release coil(s).

■ Metallic support for «Ronis type» lock (lock not supplied).

■ Horizontal or back-to-back mechanical locking.

■ Poles of different calibres and supplied with different currents.

■ Poles without magnetic blowout.

■ Reinforced insulation.

■ Double insulation for specific applications.

■ Tropical treatment n° 2.

Technical features CBA 71 1250 to 2000 A

AC contactors
Ue up to 1000 V 50/60 Hz

Alternating current			CBA Type 71								
			1250			1600			2000		
Thermal nominal current(1) AC_1		A	1250			1600			2000		
connecting section		mm²	1000			1400			1600		
Nominal insulating voltage		V	1000			1000			1000		
Nominal operating voltage 40 to 60 Hz(5)		V	660	1000		660	1000		660	1000	
Maximum controlled powers											
voltage		V	220	380	500	220	380	500	220	380	500
AC'2 - AC_3 duty cycles		kW	370	630	630	470	700	700	600	1000	1000
AC_23 duty cycles		kVA	490	840		620	930		800	1330	
Maximum operating current											
continuous duty		A	1250			1600			2000		
Short-time current t ⩽ 40°C											
	1 s	kA	41			30			65		
	5 s	kA	20			15			30		
	10 s	kA	13.5			10.9			21		
	15 s	kA	11.8			8.7			17.9		
	30 s	kA	7.9			6			12		
	1 min	kA	5.5			4.5			8.5		
	3 min	kA	3.3			3			5		
	10 min	kA	2			2.2			3.2		
Thermal nominal current under 400 Hz		A	938			1200			1500		
Allowable overcurrent / time		kA eff/s	25/3			25/1.6			25/7		
Current switch-off rating(2)	voltage	V	220/380/440		**1100**	220/380/440		**1100**	220/380/440		**1100**
	cos φ = 0.3	kA eff	25		**12**	25		**12**	25		**12**
Current-switch-on rating	cos φ = 0.3	kA eff	23		**12**	23		**12**	23		**12**
CBA poles inductance		H	2.94^{10-7}			2.38^{10-7}			2.82^{10-7}		
CBA poles resistance	cold	Ω	5.25^{10-5}			7.19^{10-5}			4.01^{10-5}		
	hot	Ω	5.96^{10-5}			7.55^{10-5}			4.72^{10-5}		
Number of openings on load at nominal current			50000			100000			50000		
Number of openings on load under 380 V before contact replacement:	for *I* = 1250 A		50000			150000			150000		
	for *I* = 1600 A		35000			100000			100000		
	for *I* = 2000 A					50000			50000		
Mechanical endurance	millions of operations		1			1			1		

Control circuit					
Nominal voltage	AC 50 Hz	V	24 - 48 - 110 - 127 - 220 - 380 - 500(4)		
	DC	V	24 - 48 - 110 - 127 - 220 - 380 - 500(4)		
Maximum consumptions	inrush/hold				
AC*	1P	VA	180/14	180/14	180/14
	2P	VA	380/24	380/24	380/24
	3P	VA	860/50	860/50	860/50
	4P	VA	1700/88	1700/88	1700/88
DC	1P	W	165/17.5	165/17.5	165/17.5
	2P	W	360/35	360/35	360/35
	3P	W	836/55	836/55	836/55
	4P	W	1600/110	1600/110	1600/110
Constant L/R rate of electromagnet open/closed		ms	118/41	118/41	118/41
Closing time(6)	at Un	ms	180	180	180
	at 0.85 Un	ms	215	215	215
Opening time(6)	at Un	ms			
between command and					
- separation of contacts		ms	60	60	60
- total opening of electromagnet		ms	82	82	82
- complete opening		ms	300	300	300

(1) in open air.
(2) arcing time < 15 ms.
(3) diodes are warranted up to an overload of 3 Un efficient.
(4) for other voltages, please consult us.
(5) if nominal operation voltage >1000 V, please consult us.
(6) closing time is measured from the supply of the closing coil until contact of main poles. Opening time is measured from the supply of the tripping coil until the separation of main poles.
* control circuit:
Equipments commanded with alternating current are rectified(3) and power-saved.

•Temperature factor to be applied to the poles or the current controlled according to the ambient temperature (around the contactor):

1.04	40 < t < 45°C
1.08	45 < t ⩽ 50°C
1.12	50 < t ⩽ 55°C
1.19	55 < t ⩽ 60°C

•Factor to be applied to the contactor for poles connected in parallel, this factor already includes a safety margin:

	2 poles in parallel	3 poles in parallel
AC	*I*.th 1 pole x 2 x 0.7	*I*.th 1 pole x 3 x 0.66

•The current switch-off rating of poles connected in parallel remains the same as for a single pole.

Technical features CBC 71 1250 to 2000 A

DC contactors
Ue: 600 and up to 2000 V⎓

Direct current			CBC Type 71								
			1250			1600			2000		
Thermal nominal current(1) DC_1		A	1250			1600			2000		
connecting section		mm²	1000			1400			1600		
Nominal insulating voltage(7)		V	1000			1000			1000		
Nominal operating voltage(5)		V	600	700(2)	**1000(2)**	600	700(2)	**1000(2)**	600	700(2)	**1000(2)**
Maximum operating current											
permanent duty		A	1250			1600			2000		
8 hours duty		A	1250			1600			2000		
temporary duty without openings on load	10 minutes	A	2000			2400			3500		
	30 minutes	A	1400			1700			2500		
	60 minutes	A	1250			1600			2000		
temporary duty with openings on load	10 minutes	A	2400			2400			3500		
	30 minutes	A	1700			1700			2500		
	60 minutes	A	1500			1600			2000		
continuous duty		A	1250			1600			2000		
Short-time current t ⩽ 40°C											
	1 s	kA	41			30			65		
	5 s	kA	20			15			30		
	10 s	kA	13.5			10.9			21		
	15 s	kA	11.8			8.7			17.9		
	30 s	kA	7.9			6			12		
	1 min	kA	5.5			4.5			8.5		
	3 min	kA	3.3			3			5		
	10 min	kA	2			2.2			3.2		
Allowable overcurrent / time		kA /s	25/3			25/1.6			25/7		
Current switch-off rating	voltage	V	550	700	**1000**	550	700	**1000**	550	700	**1000**
	one-pole	kA	23	18		23	18		23	18	
	bipolar(2)	kA		23	19		23	19		23	19
	voltage	V	1500		2000	1500		2000	1500		2000
	tripolar(2)	kA	19		8	19		8	19		8
	tetrapolar(2)	kA			19			19			19
Current switch-on rating	L/R = 15 ms	kA	25/550 V			25/550 V			25/550 V		
Poles inductance		H	$2.94\ 10^{-7}$			$2.38\ 10^{-7}$			$2.82\ 10^{-7}$		
Poles resistance	cold	Ω	$5.25\ 10^{-5}$			$7.19\ 10^{-5}$			$4.01\ 10^{-5}$		
	hot	Ω	$5.96\ 10^{-5}$			$7.55\ 10^{-5}$			$4.72\ 10^{-5}$		
Number of openings on load at nominal current			50000			100000			50000		
Number of openings on load under 440 V before contact replacement	for *I* = 1250 A		50000			150000			150000		
	for *I* = 1600 A		35000			100000			100000		
	for *I* = 2000 A					50000			50000		
Mechanical endurance	millions of operations		1			1			1		

Control circuit

Nominal voltage	AC 50 Hz		V	24 - 48 - 110 - 127 - 220 - 380 - 500(4)		
	DC		V	24 - 48 - 110 - 127 - 220 - 440 - 500(4)		
Maximum consumptions		inrush/hold				
AC*		1P	VA	180/14	180/14	180/14
		2P	VA	380/24	380/24	380/24
		3P	VA	860/50	860/50	860/50
		4P	VA	1700/88	1700/88	1700/88
DC		1P	W	165/17.5	165/17.5	165/17.5
		2P	W	360/35	360/35	360/35
		3P	W	836/55	836/55	836/55
		4P	W	1600/110	1600/110	1600/110
Constant L/R rate of electromagnet open/closed			ms	118/41	118/41	118/41
Closing time(6)		at Un	ms	180	180	180
		at 0.85 Un	ms	215	215	215
Opening time(6)		at Un	ms			
between command and						
- separation of contacts			ms	60	60	60
- total opening of electromagnet			ms	82	82	82
- complete opening			ms	300	300	300

(1) in open air.
(2) for applications under voltages > 600 Vdc, please consult our technical department.
(3) diodes are warranted up to an overload of 3 Un efficient.
(4) for other voltages, please consult us.
(5) if nominal operating voltage > 1000 V, please consult us.
(6) closing time is measured from the supply of the closing until the contact of main poles. Opening time is measured from the supply of the tripping coil until the separation of main poles.
(7) dielectric testing voltage related to a given insulation voltage can reach 8 kV for specific applications.
* control circuit:
Equipments commanded with alternating current are rectified(3) and power-saved.
• The current switch-off rating of poles connected in parallel remains the same as for a single pole.

• Temperature factor to be applied to the poles or the current controlled according to the ambient temperature (around the contactor):

1.04	40 < t < 45°C
1.08	45 < t ⩽ 50°C
1.12	50 < t ⩽ 55°C
1.19	55 < t ⩽ 60°C

• Factor to be applied to the contactor for poles connected in parallel, this factor already includes a safety margin:

	2 poles in parallel	3 poles in parallel
DC	*I*.th 1 pole x 2 x 0.8	*I*.th 1 pole x 3 x 0.75

For technical features of opening poles, see p. 70.