

ETICON

Contactors

4 Pole Motor Contactors

4 pole motor contactors

Type	Code No.	Rated current AC3 [A]	Rated current AC1 [A]		
CEB10.00-230V-50/60HZ*	002462000	10	25	260	1/66
CEB14.00-230V-50/60HZ*	002462001	14	25	260	1/66
CEB18.00-230V-50/60HZ*	002462002	18	32	260	1/66
CEB22.00-230V-50/60HZ*	002462003	22	32	260	1/66
CEB24.00-230V-50/60HZ*	002462004	24	50	610	1/28
CEB32.00-230V-50/60HZ*	002462005	32	65	610	1/28
CEB40.00-230V-50/60HZ*	002462006	40	80	610	1/28
CEB50.00-230V-50/60HZ**	002462007	50	110	1060	1/16
CEB62.00-230V-50/60HZ**	002462008	62	120	1060	1/16
CEB74.00-230V-50/60HZ**	002462009	74	130	1060	1/16

*max 4 additional aux. Contacts top (front) mounted (BCF or BCFE)

**max 6 additional aux. Contacts top (front) mounted (BCF or BCFE) and 2 side mounted BCS

Aux. Contact block - top (front) mounted

Type	Code No.	For use with	AC15 [A]	Wiring diagram		
CEB-BCFE 10	002462100	CEB10...CEB74	3	1NO	111	10/1020
CEB-BCFE 01	002462101	CEB10...CEB74	3	1NC	111	10/1020
CEB-BCF 10	002462102	CEB10...CEB74	6	1NO	180	10/800
CEB-BCF 01	002462103	CEB10...CEB74	6	1NC	180	10/800

Aux. Contact block - side mounted

Type	Code No.	For use with	AC15 [A]	Wiring diagram		
CEB-BCS1 11	002462104	CEB10...CEB22	6	1NO+1NC	330	10/160
CEB-BCS2 11	002462105	CEB24...CEB74	6	1NO+1NC	330	10/160
CEB-BCS2 02	002462106	CEB24...CEB74	6	2NC	310	10/160

Mechanical interlock for mechanical locking of contactors (ATS systems...)

Type	Code No.	For use with		
CEB-MIL 10-40	002462107	CEB10...CEB40	10	10/100
CEB-MIL 50-74	002462108	CEB50...CEB74	23	10/50

Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660

Main Contacts	Type	CEB10.00	CEB14.00	CEB18.00	CEB22.00	CEB24.00	CEB32.00	CEB40.00	CEB50.00	CEB62.00	CEB74.00
Rated insulation voltage U_i ¹⁾	V AC	690	690	690	690	690	690	690	830	830	830
Making capacity I_{eff} at $U_e = 690V$ AC A	A	200	200	200	200	400	500	500	700	900	900
	1000V AC A	-	-	-	-	-	-	-	-	-	-
Breaking capacity I_{eff} 400V	A	180	180	200	200	380	400	400	600	800	800
CEB10 to CEB22 $\cos\phi = 0,65$ 500V AC A	A	150	150	180	180	300	370	370	500	700	700
CEB24 to CEB74 $\cos\phi = 0,35$ 690V AC A	A	100	100	150	150	260	340	340	400	500	500
	1000V AC A	-	-	-	-	-	-	-	-	-	-
Utilization category AC1											
Switching of resistive load											
Rated operational current $I_e (=I_{th})$ at 40°C, open	690V A	25	25	32	32	50	65	80	110	120	130
Rated operational power	220V kW	9,5	9,5	12,2	12,2	19,0	24,7	30,4	41,9	45,7	49,5
of three-phase resistive loads	230V kW	9,9	9,9	12,7	12,7	19,9	25,9	31,8	43,8	47,7	51,7
50-60Hz, $\cos\phi = 1$	240V kW	10,4	10,4	13,3	13,3	20,8	27,0	33,2	45,7	49,8	54,0
	380V kW	16,4	16,4	21,0	21,0	32,9	42,7	52,6	72,3	78,9	85,5
	400V kW	17,3	17,3	22,1	22,1	34,6	45,0	55,4	76,1	83,0	90,0
	415V kW	17,9	17,9	23,0	23,0	35,9	46,7	57,4	79,0	86,2	93,3
	440V kW	19,0	19,0	24,4	24,4	38,1	49,5	60,9	83,7	91,3	99,0
	500V kW	21,6	21,6	27,7	27,7	43,3	56,2	69,2	95,2	103,8	112,5
	660V kW	28,5	28,5	36,5	36,5	57,1	74,2	91,3	125,6	137,0	148,4
	690V kW	29,8	29,8	38,2	38,2	59,7	77,6	95,5	131,3	143,2	155,2
	1000V kW	-	-	-	-	-	-	-	-	-	-
Rated operational current $I_e (=I_{th})$ at 40°C, inside the enclosure 60°C	690V A	25	25	32	32	40	55	65	90	100	110
Rated operational power	220V kW	9,5	9,5	12,2	12,2	15,2	20,9	24,7	34,3	38,1	41,9
of three-phase resistive loads	230V kW	9,9	9,9	12,7	12,7	15,9	21,9	25,9	35,8	39,8	43,8
50-60Hz, $\cos\phi = 1$	240V kW	10,4	10,4	13,3	13,3	16,6	22,8	27,0	37,4	41,5	45,7
	380V kW	16,4	16,4	21,0	21,0	26,3	36,2	42,7	59,2	65,7	72,3
	400V kW	17,3	17,3	22,1	22,1	27,7	38,1	45,0	62,3	69,2	76,1
	415V kW	17,9	17,9	23,0	23,0	28,7	39,5	46,7	64,6	71,8	79,0
	440V kW	19,0	19,0	24,4	24,4	30,4	41,9	49,5	68,5	76,1	83,7
	500V kW	21,6	21,6	27,7	27,7	34,6	47,6	56,2	77,9	86,5	95,2
	660V kW	28,5	28,5	36,5	36,5	45,7	62,8	74,2	102,8	114,2	125,6
	690V kW	29,8	29,8	38,2	38,2	47,7	65,7	77,6	107,4	119,4	131,3
	1000V kW	-	-	-	-	-	-	-	-	-	-
Minimum cross-section of conductor at load with $I_e (=I_{th})$	mm ²	4	4	6	6	10	16	25	35	50	50
Utilization category AC2 and AC3											
Switching of three-phase motors											
Rated operational current I_e open and enclosed	220V A	12	15	18	22	24	32	40	50	63	74
	230V A	11,5	14,5	18	22	24	32	40	50	62	74
	240V A	11	14	18	22	24	32	40	50	62	74
380-400V	A	10	14	18	22	24	32	40	50	62	74
	415V A	9	14	18	22	23	30	40	50	62	74
	440V A	9	14	18	22	23	30	40	50	62	74
	500V A	8,9	11,9	15	15	22,5	28,5	28,5	44	54	64,5
	660-690V A	6,7	9	12	12	17,5	21	21	33	42	49
	1000V A	-	-	-	-	-	-	-	-	-	-
Rated operational power of three-phase motors 50-60Hz	220-230V kW	3	4	5	6	8,5	11	12,5	18,5	22	22
	240V kW	3	4	5	7	9	11,5	13,5	19	23	23
	380-400V kW	4	5,5	7,5	11	11	15	18,5	22	30	37
	415V kW	4,5	6	8,5	12	12	16	20	24	33	40
	440V kW	4,5	6	8,5	12	12	16	20	24	33	40
	500V kW	5,5	7,5	10	10	15	18,5	18,5	30	37	45
	660-690V kW	5,5	7,5	10	10	15	18,5	18,5	30	37	45
	1000V kW	-	-	-	-	-	-	-	-	-	-

1) Suitable at 690V for: earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry): $U_{imp} = 8kV$.
Data for other conditions on request.

Contactors

Data according to IEC 947-4-1, EN 60947-4-1, VDE 0660

Main Contacts	Type	CEB10.00	CEB14.00	CEB18.00	CEB22.00	CEB24.00	CEB32.00	CEB40.00	CEB50.00	CEB62.00	CEB74.00
Utilization category AC4											
Switching of squirrel cage motors, inching											
Rated operational current I_e	220V A	12	15	18	18	24	30	40	50	63	63
open and enclosed	230V A	11,5	14,5	18	18	24	30	40	50	62	62
	240V A	11	14	18	18	24	32	40	50	62	62
380-400V A		10	14	18	18	24	32	40	50	62	62
	415V A	9	14	18	18	23	30	37	45	60	60
	440V A	9	14	18	18	23	30	37	45	55	55
	500V A	9	12	16	16	17,5	21	21	33	42	42
	660V A	7	9	9	9	17	20	20	31	40	40
	690V A	6,5	8,5	8,5	8,5	17	20	20	31	40	40
	1000V A	-	-	-	-	-	-	-	-	-	-
Rated operational power of three-phase motors 50-60Hz	220-230V kW	3	4	5	5	6	8,5	11	12,5	18,5	18,5
	240V kW	3	4	5	5	7	9	11,5	13,5	19	19
	380-400V kW	4	5,5	7,5	7,5	11	15	18,5	22	30	30
	415V kW	4,5	6	8,5	8,5	12	16	20	24	33	33
	440V kW	4,5	6	8,5	8,5	12	16	20	24	33	33
	500V kW	5,5	7,5	10	10	15	18,5	18,5	30	37	37
	660-690V kW	5,5	7,5	10	10	15	18,5	18,5	30	37	37
	1000V kW	-	-	-	-	-	-	-	-	-	-
Utilization category AC5a											
Switching of gas discharge lamps											
Rated operational current I_e per pole at 220/230V											
Fluorescent lamps, uncompensated and serial compensated	A	20	20	25	25	40	52	64	88	96	104
parallel compensated	A	7	9	9	9	18	22	22	30	40	40
dual-connection	A	22,5	22,5	28	28	45	58	72	98	108	117
Metal halide lamps ¹⁾ , uncompensated	A	12	15	19	19	30	39	48	66	72	78
parallel compensated	A	7	9	9	9	18	22	22	30	40	40
Mercury-vapour lamps ²⁾ , uncompensated	A	22,5	25	28	28	45	58	72	99	108	117
parallel compensated	A	7	9	9	9	18	22	22	30	40	40
Mixed light lamps ³⁾	A	20	20	25	25	40	52	64	88	96	104
LED-Lamps											
consider the inrush current of the lamp ballast and $\cos\phi$ of the lamp.		$\text{max. lamps per pole } (I_{rLED} \leq I_{rn}) = \frac{\text{inrush current of contactor}}{\text{inrush current of lamp/EVG}}$									
max inrush current of contactor	A	282	282	282	282	564	705	705	987	1269	1268
Utilization category AC5b											
Switching of incandescent lamps⁴⁾											
Rated operational current I_e per pole at 220/230V	A	12,5	12,5	12,5	12,5	25	31	31	43	56	56

1) Metal halide lamps and sodium-vapour lamps (high- and low-pressure lamps)

2) High-pressure lamps

3) Blended lamps, containing a mercury high-pressure unit and a tungsten helix in a fluorescent glass bulb (daylight lamps)

4) Current inrush approx. $16 \times I_e$

Utilization category DC1 Switching of resistive load			CEB10.00	CEB14.00	CEB18.00	CEB22.00	CEB24.00	CEB32.00	CEB40.00	CEB50.00	CEB62.00	CEB74.00
Time constant L/R ≤ 1ms												
Rated operational current I _g 1 pole	24V - 60V	A	20	25	32	32	50	65	80	110	120	130
	110V	A	6	6	6	6	10	10	10	12	12	12
	220V	A	0,8	0,8	0,8	0,8	1,4	1,4	1,4	1,4	1,4	1,4
2 poles in series	24V - 110V	A	20	25	32	32	50	65	80	110	120	130
	110V	A	6	6	6	6	10	10	10	12	12	12
	220V	A										
3 poles in series	24V - 110V	A	20	25	32	32	50	65	80	110	120	130
	110V	A	16	20	20	20	30	35	35	63	80	80
	220V	A										
Utilization category DC3 and DC5 Switching of shunt motors and series motors												
Time constant L/R ≤ 15ms												
Rated operational current I _g 1 pole	24V	A	20	25	32	32	50	65	80	110	120	130
	60V	A	6	6	6	6	30	30	30	60	60	60
	110V	A	1,2	1,2	1,2	1,2	1,8	1,8	1,8	1,8	1,8	1,8
	220V	A	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,25	0,25	0,25
2 poles in series	24V - 60V	A	20	25	32	32	50	65	80	110	120	130
	110V	A	6	6	6	6	30	30	30	60	60	60
	220V	A	1,2	1,2	1,2	1,2	1,8	1,8	1,8	1,8	1,8	1,8
3 poles in series	24V	A	20	25	32	32	50	65	80	110	120	130
	60V	A	20	25	32	32	40	40	40	80	80	80
	110V	A	20	20	20	20	40	40	40	80	80	80
	220V	A	2,5	2,5	2,5	2,5	4	4	4	5	5	5

			CEB10.00	CEB14.00	CEB18.00	CEB22.00	CEB24.00	CEB32.00	CEB40.00	CEB50.00	CEB62.00	CEB74.00
Control Circuit												
Power consumption of coils												
AC operated	inrush	VA	33-45				90-115				140-165	
	sealed	VA	7-10				9-13				13-18	
		W	2,6-3				2,7-4				5,4-7	
Operation range of coils												
in multiples of control voltage U _s												
	AC operated		0,85-1,1 0,8-1,1				0,85-1,1 0,8-1,1				0,85-1,1 0,8-1,1	
Switching time at control voltage U _s ±10% ^{2) 3)}												
AC operated	make time	ms	8-16				10-25				12-28	
	release time	ms	5-13				8-15				8-15	
	arc duration	ms	10-15				10-15				10-15	
Cable cross-section												
Magnet coil	solid	mm ²	0,75-2,5				0,75-2,5				0,75-2,5	
	flexible	mm ²	0,5-2,5				0,5-2,5				0,5-2,5	
	flexible with multicore cable end	mm ²	0,5-1,5				0,5-1,5				0,5-1,5	
Clamps per pole			2				2				2	

Accessories

Data according to IEC 947-5-1, EN 60947-5-1, VDE 0660

Type		CEB-BCFE	CEB-BCF	CEB-BCS
Rated insulation voltage U_i ¹⁾	V AC	690	690	690
Thermal rated current I_{th} to bis 690V				
Ambient temperature max. 40°C	A	10	25	10
max. 60°C	A	6	20	6
Frequency of operations z	1/h	3000	-	3000
Mechanical life	$S \times 10^6$	10	10	10
Power loss per pole at $I_e/AC1$	W	0,5	1,5	0,5
Utilization category AC15				
Rated operational current I_e 220-240V	A	3	6	3
380-400V	A	2	3	2
440V	A	1,6	2	1,6
500V	A	1,2	2	1,2
660-690V	A	0,6	1	0,6
Utilization category DC13				
Rated operational current I_e 24V	A	2	8	2
48V	A	2	8	2
60V	A	2	8	2
110V	A	0,4	1	0,4
220V	A	0,1	0,1	0,1
Short circuit protection short-circuit current 1kA, contact welding not accepted max. fuse size	gL (gG) A	20	25	20
For contactors with thermal overload relay or auxiliary contacts the device with the smaller admissible control fuse (contactor or thermal overload relay) determines the fuse size.				
Cable cross-sections				
solid or stranded	mm ²	0,75-2,5	0,75-2,5	0,75-2,5
flexible	mm ²	0,75-2,5	0,75-2,5	0,75-2,5
flexible with multicore cable end	mm ²	0,5-1,5	0,5-1,5	0,5-1,5
solid	AWG	14 - 12	14 - 12	14 - 12
flexible	AWG	18 - 12	18 - 12	18 - 12
Cables per clamp		2	2	2

1) Suitable for: earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry): $U_{imp} = 8kV$. Data for other conditions on request.

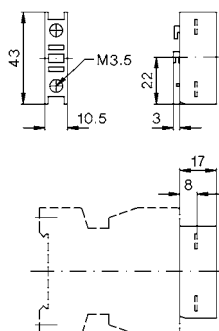
2) Command duration min. 30ms, 10% duty cycle, max. 30 sec.

Dimensions Accessories

Aux. cont. blocks, terminal blocks

CEB-BCFE 10

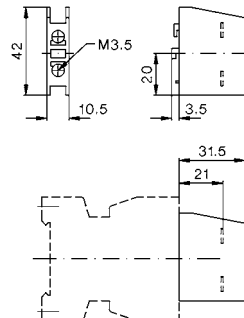
CEB-BCFE 01



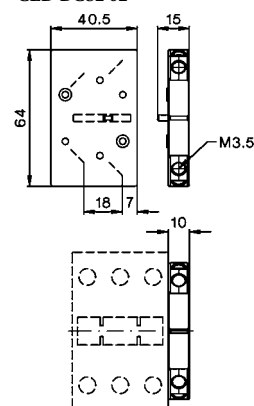
Auxiliary contact blocks

CEB-BCF 10

CEB-BCF 01

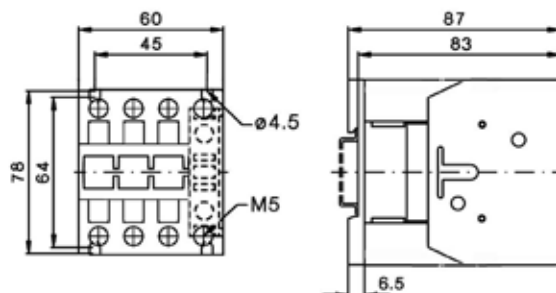
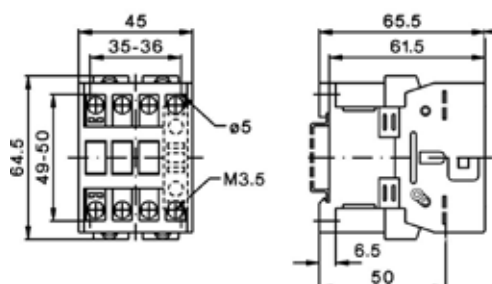


CEB-BCS1 11 CEB-BCS2 11
CEB-BCS2 02

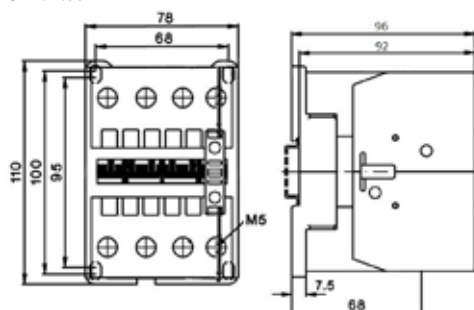


CEB10.00
CEB14.00
CEB18.00
CEB22.00

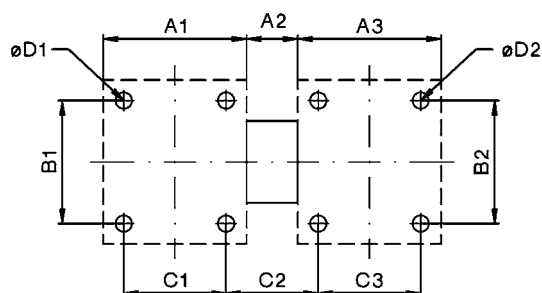
CEB24.00
CEB32.00
CEB40.00



CEB50.00
CEB62.00
CEB74.00



Mechanical interlocks



Type	Contactor 1	Contactor 2	A1	A2	A3	B1	B2	C1	C2	C3	D1	D2
CEB-MIL 10-40	CEB10.00 to CEB40.00	CEB10.00 to CEB40.00	45	7	45	50	50	35	17	35	4,5	4,5
	CEB10.00 to CEB22.00	CEB10.00 to CEB22.00	45	7	45	80	50	35	17	35	4,5	4,5
	CEB24.00 to CEB40.00	CEB22.00 to CEB40.00	45	7	45	80	50	35	17	35	4,5	4,5
CEB-MIL 50-74	CEB50.00 to CEB74.00	CEB24.00 to CEB40.00	60	12	55	100	65	50	22	45	5,5	4,5
	CEB50.00 to CEB74.00	CEB50.00 to CEB74.00	60	12	60	100	100	50	22	50	5,5	5,5