

Motor contactor CEM

Application

Contactors are used to remotely control and protect (in combination with overload relays) electric motors and other electric loads with nominal power up to 160kW (at 400V AC3 duty).

Advantages

- Mounting on DIN rail and mounting plates
- High technical performance
- Low power loss (current heat loss)
- Protection against direct contact from front (IEC 536) IP20
- Wide range of accessories
- Surge suppressor (as option)
- Control voltage 24VAC, 48VAC, 110VAC, 230VAC, 400VAC



Ordering:

CEM9.01-230V-50/60Hz

I(AC3)[A] Coil voltage

No. of NO No. of NC - Number and Type of auxiliary contacts

Contactors CEM up to 132 kW Technical Data

type	CEM 9	CEM 12	CEM 18	CEM 25	CEM 32	CEM 40	CEM 50	CEM 65	CEM 80	CEM 95	CEM 105	CEM 112E	CEM 150E	CEM 180E	CEM 250E	CEM 300E
Standards	IEC/EN 60 947, DIN VDE 0660															
Rated insulation voltage Ui (V) to IEC/EN 60 947, DIN VDE 0660	1000 V															
Rated impulse withstand voltage Uimp	6 kV								8 kV							
Rated operational frequency	25 - 400 Hz															
Degree of protection	Protection against direct contact from the front when actuated by a perpendicular test finger (IEC 536)															
Main circuits	IP20								IP00							
Control circuits and auxiliary contacts	IP20															
Ambient temperature	-25 to +55 °C															
Operating temperature																
Storage temperature	-55 to +80 °C															
Altitude																
Normal values	up to 3000 m															
90 % Ie/80 % Ue	3000 to 4000 m															
80 % Ie/75 % Ue	4000 to 5000 m															
Overvoltage category/Pollution degree	III/3															
Climatic proofing	acc. IEC 60721-2															
Main circuits																
Number of poles	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Rated operation voltage Ue	690 V								1000V							
Conv. thermal current Ith at ≤ 55°C																
Rated operational current Ie/AC-1	25 A	25 A	32 A	45 A	60 A	60 A	90 A	110 A	110 A	140 A	140 A	180 A	225 A	225 A	350A	410A
AC-3 Duty																
Rated operational power																
230 V kW	2,2	3	4	6,5	9	11	15	18,5	22	25	30	30	45	55	75	90
400 V kW	4	5,5	7,5	11	15	18,5	22	30	37	45	55	55	75	90	132	160
415-440 V kW	4,5	5,5	9	12,5	15	22	30	37	45	55	55	55	90	110	150	185
500 V kW	5,5	7,5	10	15	18,5	25	30	40	45	55	65	75	90	110	160	200
690 V kW	5,5	7,5	10	15	18,5	30	33	45	45	55	65	80	80	132	200	200
Short circuit rating max. fuse gG (A)	25	35	35	50	63	80	100	125	125	160	200	224	250	250	400	500
max. electrical operating frequency																
AC-1 Ops/h	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	600	600	600	600
AC-3 Ops/h	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	600	600	600	600	600	600
AC-4 Ops/h	360	360	360	360	360	360	200	200	200	200	200	150	150	150	150	150
no load Ops/h	9000	9000	9000	9000	9000	9000	5000	5000	5000	5000	5000	4000	4000	4000	4000	4000
Mechanical life span Ops x 10 ⁶	10															
Electrical life span Ops x 10 ⁶	1,6	1,8	1,2				1,1				1,0					
Control circuit																
Rated insulation voltage Ui (V)	1000 V															
Nominal voltages Us 50 Hz (V)	24 - 690 V															
Nominal voltages Us 60 Hz (V)	24 - 690 V															
Nominal voltages Us DC (V)	12 - 440 V															
Pick-up and drop-out values																
Pick-up x Us (V)	0,8 - 1,1				0,8 - 1,1				0,8 - 1,1				0,8 - 1,1			
Drop-out x Us (V)	0,35 - 0,55				0,4 - 0,6				0,4 - 0,6				0,3 - 0,5			
Power consumption of the coil 50/60 Hz																
Pick-up (VA)	70				98				255				213, 214, 229			
(cos φ)	0,85				0,69				0,32				0,71, 0,68, 0,73			
Sealing (VA)	4...7,2				6,6...12,3				13,1...19,1				14,8, 14,5, 14,1			
(cos φ)	0,28				0,34				0,54				0,26, 0,27, 0,26			
Power consumption of the coil, DC coils																
Pick-up (W)	3,8...7,5				240				340				166, 154, 171			
Sealing (W)	3,8...7,5				6				6,5				2,4, 2,4, 2,5			

Contactors CEM up to 132 kW Technical Data

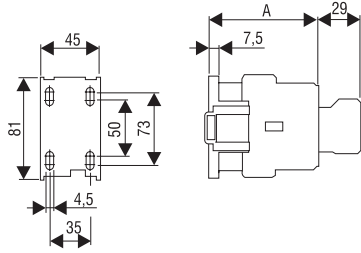
Type	CEM 9 to CEM 18	CEM25	CEM32 and CEM40	CEM50 and CEM80	CEM95 and CEM105	CEM112E and CEM 150E	CEM180E	CEM250E and CEM300E	
Main terminal capacity (mm²)									
Solid, stranded and finely stranded without end sleeve		2x (1...2,5) 2x (2,5...6)	2x (1...2,5) 2x (2,5... 10)						
Finely stranded with end sleeve		2x (0,25...2,5) 2x (2,5...6) 2x (13...16)	2x (1...2,5) 2x (2,5...10) 2x (13...17)						
One conductor on top									
Stranded				0,75...16	1...35	1,5...50			
Stranded with end sleeve				0,75...16	1...35	1,5...50			
Stranded without end sleeve				1...16	1,5...35	2,5...50			
Finely stranded				1...16	1,5...35	2,5...50			
One conductor on bottom									
Solid				1...16	2,5...35	4...35			
Stranded with end sleeve				1... 16	2,5...35	4...35			
Stranded without end sleeve				1,5...16	6...35	6...35			
Finely stranded				1,5...16	6...35	6...35			
Two conductors on top									
Solid				0,75...16	1...35	1,5...50			
Stranded with end sleeve				0,75...16	1...35	1,5...50			
Stranded without end sleeve				1...16	1,5...35	2,5...50			
Finely stranded				1...16	1,5...35	2,5...50			
Two conductors on bottom									
Solid				1...16	2,5...35	4...35			
Stranded with end sleeve				1...16	2,5...35	4...35			
Stranded without end sleeve				1,5...16	6...35	6...35			
Finely stranded				1,5...16	6...35	6...35			
Solid and stranded with end sleeve Bar							2 x (25...70) 2 x (15x3)	2 x (50...120) 2 x (20x3)	2 x (50...150) 2 x (30x5)
Tightening torque (N.m)		1...1,9	1,6...3	2,5...4	4...6	5...6,5	10	13	17

Auxiliary contacts

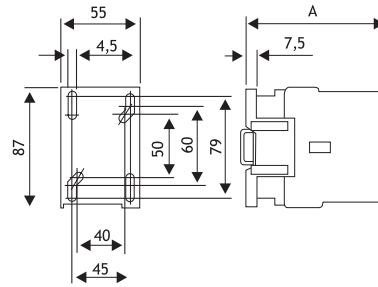
Type		CEM9	CEM12	CEM18	BCXMF...	BCXMLE ...
Rated insulation voltage Ui						
acc. IEC/EN 60 947	(V)		1000			1000
Rated operational voltage Ue						
	(V)		690			690
Conv. thermal current Ith						
	(A)		20			10
Rated operational current Ie						
AC-15	220 - 240 V	(A)	10			6
	380 - 400 V	(A)	6			4
	415 V	(A)	5			3,5
	500 V	(A)	4			2,5
DC-13	24 V	(A)	6			6
	48 V	(A)	4			4
	110 V	(A)	2			2
	220 V	(A)	0,7			0,7
Making capacity Im						
AC-15/AC-11	Ue ≤ 400 V 50/60 Hz	(A)	250			90
DC-13/DC-11	Ue ≤ 220 V DC	(A)	250			90
Breaking capacity Ic						
AC-15/AC-11	Ue ≤ 400 V 50/60 Hz	(A)	250			60
DC-13/DC-11	Ue ≤ 220 V DC	(A)	2			0,95
Short circuit protection						
max. fuse gG	(A)		16			10
Control circuit reliability						
			Ie min = 5 mA, Ue min = 17 V			
Electrical life span	Ops		10 ⁶			
Mechanical life span	Ops		15 x 10 ⁶			

Dimensions

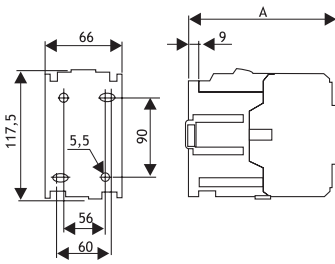
	AC	DC
CAEM4	A=85	A=115
CEM9	A=85	A=115
CEM12	A=85	A=115
CEM18	A=85	A=115
CEM25	A=87	A=117



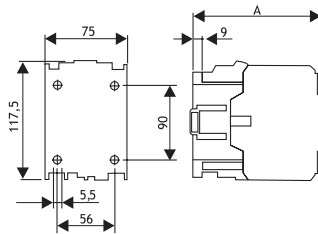
	AC	DC
CEM32	A=98	A=134
CEM40	A=98	A=134



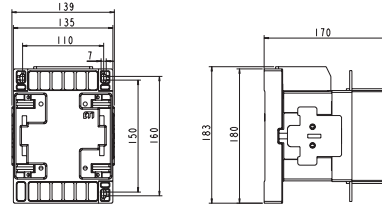
	AC	DC
CEM50	A=116	A=144
CEM65	A=116	A=144
CEM80	A=116	A=144



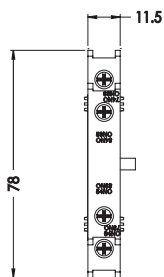
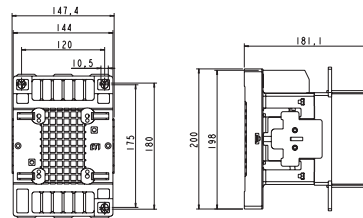
	AC	DC
CEM95	A=126	A=154
CEM105	A=126	A=154



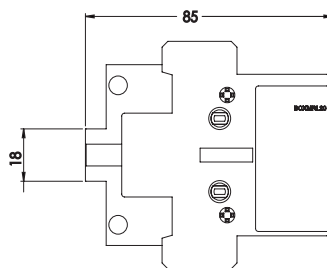
CEM180(E)



CEM250(E)
CEM300(E)



BCXMF



BCXMLE

