

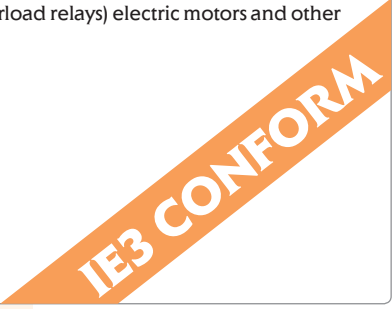
## Motor contactor CEM

### 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

Nr. of NO    Nr. of NC - Number and type of auxiliary contacts

Advantages



→ The possibility of replacing the coil to other rated voltage. (AC coil compatible only with AC contactor. DC coil compatible only with DC contactor)



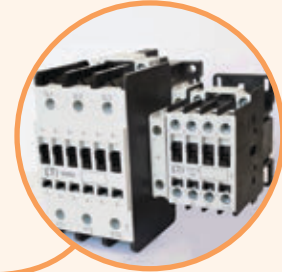
→ Surge suppressors can be mounted as close as possible to source (coil).



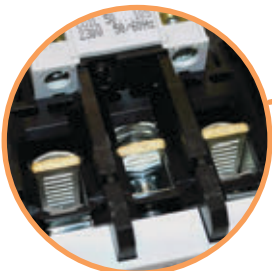
→ Lateral (side mounting) of auxiliary contacts.



→ Front mounted auxiliary contacts



→ Mechanical interlock can lock two different size contactors



→ Special designed terminals provide reliable contact with cables.



→ Up to CEM105 possible to mount on DIN rail TH35 or directly on panel.



→ Overload relay (bimetal) can be mounted directly on contactor or on DIN rail TH35 by using an adapter

Motor contactor CEM9.10; 25A(AC1); 9A; 4kW(AC3)*				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM9.10-24V-50/60Hz	004642120		295	1
CEM9.10-48V-50/60Hz	004642121		295	1
CEM9.10-110V-50/60Hz	004642122		295	1
CEM9.10-230V-50/60Hz	004642123		295	1
CEM9.10-400V-50/60Hz	004642124		295	1
CEM9.10-24V DC	004642220		510	1
CEM9.10-220V DC	004642221		510	1

\* Auxiliary contact 1NO integrated

Motor contactor CEM9.01; 25A(AC1); 9A; 4kW(AC3)*				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM9.01-24V-50/60Hz	004642110		295	1
CEM9.01-48V-50/60Hz	004642111		295	1
CEM9.01-110V-50/60Hz	004642112		295	1
CEM9.01-230V-50/60Hz	004642113		295	1
CEM9.01-400V-50/60Hz	004642114		295	1
CEM9.01-24V DC	004642210		510	1
CEM9.01-220V DC	004642211		510	1

\* Auxiliary contact 1NC integrated

Motor contactor CEM12.10; 25A(AC1); 12A; 5.5kW(AC3)*				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM12.10-24V-50/60Hz	004643120		295	1
CEM12.10-48V-50/60Hz	004643121		295	1
CEM12.10-110V-50/60Hz	004643122		295	1
CEM12.10-230V-50/60Hz	004643123		295	1
CEM12.10-400V-50/60Hz	004643124		295	1
CEM12.10-24V DC	004643220		510	1
CEM12.10-220V DC	004643221		510	1

\* Auxiliary contact 1NO integrated

Motor contactor CEM12.01; 25A(AC1); 12A; 5.5kW(AC3)*				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM12.01-24V-50/60Hz	004643110		295	1
CEM12.01-48V-50/60Hz	004643111		295	1
CEM12.01-110V-50/60Hz	004643112		295	1
CEM12.01-230V-50/60Hz	004643113		295	1
CEM12.01-400V-50/60Hz	004643114		295	1
CEM12.01-24V DC	004643210		510	1
CEM12.01-220V DC	004643211		510	1

\* Auxiliary contact 1NC integrated



For auxiliary contact blocks, see page 230





Motor contactor CEM95.00; 140A(AC1); 95A; 45kW(AC3)				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM95.00-24V-50/60Hz	004651100		1450	1
CEM95.00-48V-50/60Hz	004651101		1450	1
CEM95.00-110V-50/60Hz	004651102		1450	1
CEM95.00-230V-50/60Hz	004651103		1450	1
CEM95.00-400V-50/60Hz	004651104		1450	1
CEM95.00-24V DC **	004651200		1500	1
CEM95.00-220V DC **	004651201		1500	1

For different configurations of auxiliary contacts up to 6 auxiliary contacts can be added to contactor and must be ordered separately.

\*\* 24V DC (24...28 V DC), 220V DC (208...240V DC)

For auxiliary contact blocks, see page 230



Motor contactor CEM105.00; 140A(AC1); 105A; 55kW(AC3)				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM105.00-24V-50/60Hz	004652100		1470	1
CEM105.00-48V-50/60Hz	004652101		1470	1
CEM105.00-110V-50/60Hz	004652102		1470	1
CEM105.00-230V-50/60Hz	004652103		1470	1
CEM105.00-400V-50/60Hz	004652104		1470	1
CEM105.00-24V DC **	004652200		1500	1
CEM105.00-220V DC **	004652201		1500	1

For different configurations of auxiliary contacts up to 6 auxiliary contacts can be added to contactor and must be ordered separately.

\*\* 24V DC (24...28 V DC), 220V DC (208...240V DC)

Motor contactor CEM112.22(E); 180A(AC1); 112A; 55kW(AC3)*				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM112.22-24V-50/60Hz	004653140		2400	1
CEM112.22-48V-50/60Hz	004653141			
CEM112.22-110V-50/60Hz	004653142			
CEM112.22-230V-50/60Hz	004653143			
CEM112.22-400V-50/60Hz	004653144			
CEM112E.22-28V AC/DC **	004646018			
CEM112E.22-130V AC/DC **	004646019			
CEM112E.22-250V AC/DC **	004646020			
CEM112E.22-415V AC/DC **	004646021			

\* Integrated auxiliary contacts: two side mounted auxiliary contact blocks 2 X (1NO + 1 NC)

\*\*28V AC/DC (24...28V), 130V AC/DC (110...130V), 250V AC/DC (208...250V), 415V AC/DC (360...415V)

Surge suppressor is already integrated



Motor contactor CEM150E.22; 225A(AC1); 150A; 75kW(AC3)*				
Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CEM150E.22-28V AC/DC **	004654240		2400	1
CEM150E.22-130V AC/DC **	004646023			
CEM150E.22-250V AC/DC **	004654241			
CEM150E.22-415V AC/DC **	004646025			

\* Integrated auxiliary contacts: two side mounted auxiliary contact blocks 2 X (1NO + 1 NC)

\*\*28V AC/DC (24...28V), 130V AC/DC (110...130V), 250V AC/DC (208...250V), 415V AC/DC (360...415V)

Surge suppressor is already integrated

## Motor contactor CEM

### 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		
<b>Standards</b>	IEC/EN 60 947, DIN VDE 0660																	
Rated insulation voltage $U_i$ (V) to IEC/EN 60 947, DIN VDE 0660	1000 V																	
Rated impulse withstand voltage $U_{imp}$	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				IP10						IP00							
Control circuits and auxiliary contacts	IP20																	
Ambient temperature	-25 ... +55 °C																	
Operating temperature																		
Storage temperature	-55 ... +80 °C																	
<b>Altitude</b>																		
Normal values	≤ 3000 m																	
90 % $I_e$ /80 % $U_e$	3000 ... 4000 m																	
80 % $I_e$ /75 % $U_e$	4000 ... 5000 m																	
Overvoltage category/Pollution degree	III/3																	
Climatic proofing	IEC 68-2																	
<b>Main circuits</b>																		
Number of poles	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Rated operation voltage $U_e$	690 V						1000 V											
<b>Conv. thermal current <math>I_{th}</math> at ≤ 55 °C</b>																		
Rated operational current $I_e$ /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	350 A	410 A		
<b>AC-3 Duty</b>																		
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		
<b>400 V kW</b>	<b>4</b>	<b>5,5</b>	<b>7,5</b>	<b>11</b>	<b>15</b>	<b>18,5</b>	<b>22</b>	<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>	<b>55</b>	<b>75</b>	<b>90</b>	<b>132</b>	<b>160</b>		
415-440 V kW	4,5	5,5	9	12,5	15	22	30	37	45	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		
<b>max. electrical operating frequency</b>																		
AC-1 Ops/h	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	600	600	600	600	600		
AC-3 Ops/h	1200	1200	1200	1200	1200	1200	1200	1200	1200	600	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 <sup>6</sup>	10																	
Electrical life span Ops x 10 <sup>6</sup>	1,6	1,8		1,2				1,1						1,0				
<b>Control circuit</b>																		
Rated insulation voltage <b><math>U_i</math> (V)</b>	1000 V																	
Nominal voltages <b><math>U_s</math> 50 Hz (V)</b>	24 - 690 V																	
Nominal voltages <b><math>U_s</math> 60 Hz (V)</b>	24 - 690 V																	
Nominal voltages <b><math>U_s</math> DC (V)</b>	12 - 440 V																	
<b>Pick-up and drop-out values</b>																		
Pick-up x <b><math>U_s</math> (V)</b>	0,8 - 1,1			0,8 - 1,1			0,8 - 1,1			0,8 - 1,1			0,8 - 1,1					
Drop-out x <b><math>U_s</math> (V)</b>	0,35 - 0,55			0,4 - 0,6			0,4 - 0,6			0,4 - 0,6			0,3 - 0,5					
<b>Power consumption of the coil 50/60 Hz</b>																		
Pick-up <b>(VA)</b>	70			98			255			213			214			229		
<b>(cos <math>\phi</math>)</b>	0,85			0,69			0,32			0,71			0,68			0,73		
Sealing <b>(VA)</b>	4...7,2			6,6...12,3			13,1...19,1			14,8			14,5			14,1		
<b>(cos <math>\phi</math>)</b>	0,28			0,34			0,54			0,26			0,27			0,26		
<b>Power consumption of the coil, DC coils</b>																		
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		
<b>Power dissipations</b>																		
PD per pole @ $I_e$ AC-3 (W)	0,2	0,3	0,8	1	1,3	1,5	2,1	3,6	5,5	6,9	8,4	6,2	11,1	13,8	17,9	25,7		
PD of coils, AC coils (W)	2,0	2,0	2,0	2,0	4,2	4,2	10,3	10,3	10,3	10,3	10,3	3,9	3,9	3,9	3,7	3,7		
PD of coils, DC coils (W)	7,5	7,5	7,5	7,5	6	6	6,5	6,5	6,5	6,5	6,5	2,4	2,4	2,4	2,5	2,5		