

Motor contactor CES

ETICON CES SERIES

IEC 60947-4-1

Contact reliability

Contactors are used to remotely control and protect (in combination with overload relays) electric motors and other electric loads with nominal power up to 200kW (at 400V AC3 duty)

Auxiliary contacts

CES 6 to CES 45:

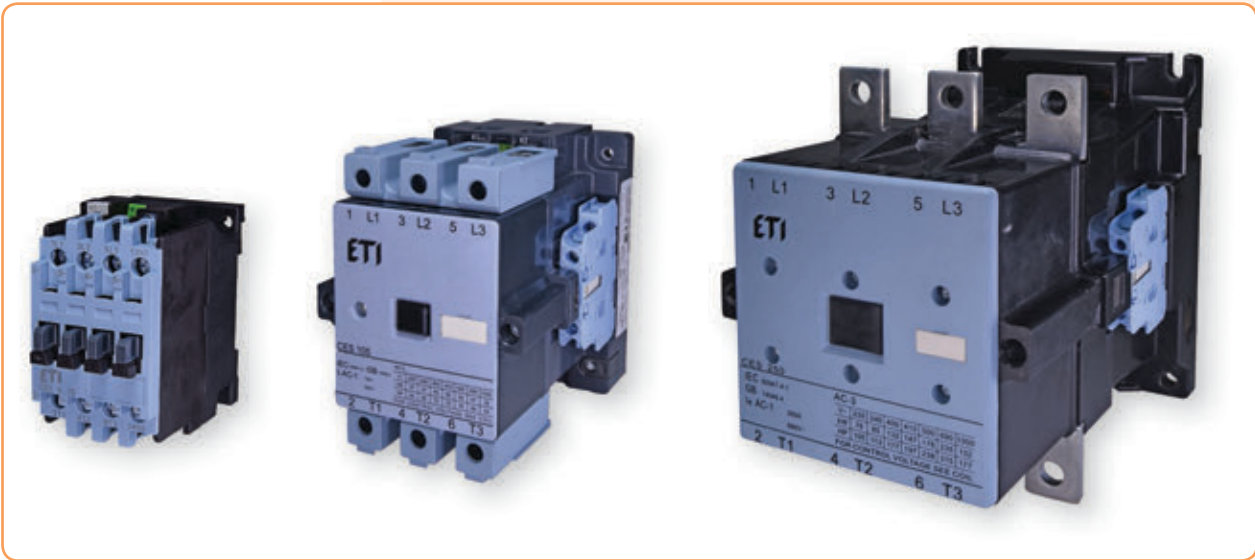
Up to 4 auxiliary contact blocks with 1 NO or 1 NC contact can be snapped onto the basic units (front).

CES 65 to CES 105:

Maximum 4 auxiliary contact blocks with 1 NO + 1 NC contacts (lateral) assembled.

When the contactors are energized, the NC contacts open before the NO contacts close.

CES 65..400 NOT POSSIBLE TO MOUNT ON DIN RAIL



Ordering:

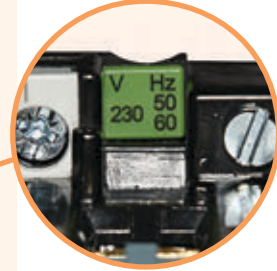
CES 9 . 0 1 - 230V - 50/60Hz
 1 2 3 4 5 6

- 1 - Contactor type
- 2 - Rated operational current I_e (AC3)
- 3 - Number and type NO auxiliary contacts
- 4 - Number and type NC auxiliary contacts
- 5 - Coil voltage
- 6 - Frequency

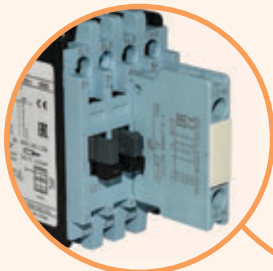
Advantages



→ Terminal clamps allow connection of different cross section cables.



→ Different voltage range of control circuit (coils).



→ Possible to mount auxiliary contacts on top



→ Design allows to mount contactor on DIN rail TH 35 or directly on panel



→ Overload relays (bimetal) tripping class 10



→ Possible to mount overload relay directly on contactor or DIN rail TH 35 with mounting adapter



CES 6

Motor contactor CES 6; 25A(AC1); 6A/2,2kW(AC3, 400V)

Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CES 6.10-24V-50/60Hz	004646500		370	1
CES 6.10-110V-50/60Hz	004646503		370	1
CES 6.10-230V-50/60Hz	004646501		370	1
CES 6.10-400V-50Hz	004646502		370	1
CES 6.10-24V DC	004646504		0,58	1
CES 6.01-24V-50/60Hz	004646505		370	1
CES 6.01-110V-50/60Hz	004646508		370	1
CES 6.01-230V-50/60Hz	004646506		370	1
CES 6.01-400V-50Hz	004646507		370	1
CES 6.01-24V DC	004646509		580	1

CES 6.10 - Integrated auxiliary contact 1xNO; CES 6.01 - Integrated auxiliary contact 1xNC



CES 9

Motor contactor CES 9; 25A(AC1); 9A/4kW(AC3, 400V)

Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CES 9.10-24V-50/60Hz	004646510		370	1
CES 9.10-110V-50/60Hz	004646511		370	1
CES 9.10-230V-50/60Hz	004646512		370	1
CES 9.10-400V-50Hz	004646513		370	1
CES 9.10-24V DC	004646514		580	1
CES 9.01-24V-50/60Hz	004646515		370	1
CES 9.01-110V-50/60Hz	004646516		370	1
CES 9.01-230V-50/60Hz	004646517		370	1
CES 9.01-400V-50Hz	004646518		370	1
CES 9.01-24V DC	004646519		580	1

CES 9.10 - Integrated auxiliary contact 1xNO; CES 9.01 - Integrated auxiliary contact 1xNC



CES 12

Motor contactor CES 12; 25A(AC1); 12A/5,5kW(AC3, 400V)

Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CES 12.10-24V-50/60Hz	004646520		370	1
CES 12.10-110V-50/60Hz	004646521		370	1
CES 12.10-230V-50/60Hz	004646522		370	1
CES 12.10-400V-50Hz	004646523		370	1
CES 12.10-24V DC	004646524		580	1
CES 12.01-24V-50/60Hz	004646525		370	1
CES 12.01-110V-50/60Hz	004646527		370	1
CES 12.01-230V-50/60Hz	004646528		370	1
CES 12.01-400V-50Hz	004646529		370	1
CES 12.01-24V DC	004646530		580	1

CES 12.10 - Integrated auxiliary contact 1xNO; CES 12.01 - Integrated auxiliary contact 1xNC



CES 18

Motor contactor CES 18; 25A(AC1); 18A/7,5kW(AC3, 400V)

Type	Code No.	Wiring diagram	Weight [g]	Packaging [pcs]
CES 18.10-24V-50/60Hz	004646531		370	1
CES 18.10-110V-50/60Hz	004646532		370	1
CES 18.10-230V-50/60Hz	004646533		370	1
CES 18.10-400V-50Hz	004646534		370	1
CES 18.10-24V DC	004646535		580	1
CES 18.01-24V-50/60Hz	004646536		370	1
CES 18.01-110V-50/60Hz	004646537		370	1
CES 18.01-230V-50/60Hz	004646538		370	1
CES 18.01-400V-50Hz	004646539		370	1
CES 18.01-24V DC	004646540		580	1

CES 18.10 - Integrated auxiliary contact 1xNO; CES 18.01 - Integrated auxiliary contact 1xNC

Technical data									
Contactor		Type		CES 6	CES 9	CES 12	CES 18	CES 25	CES 32
Load ratings of the contactors with AC									
Thermal load	10 s current ¹⁾		A	90	90	96	96	176	176
Power loss per conducting path	at I _e /AC-3		W	0.6	0.6	1.1	1.1	1.6	1.6
AC-1 duty, switching resistive load²⁾									
Rated operational currents I _e	at 40 °C to	690 V	A	25	25	25	25	38	38
	at 55 °C to	690 V	A	20	20	20	20	32	32
Minimum conductor cross-section at I _e load	at 40 °C		mm ²	4	4	4	4	10	10
	at 55 °C		mm ²	4	4	4	4	10	10
AC-2 and AC-3 duty									
Rated operational currents I _e	up to	400 V	A	6	9	12	18	25	32
		500 V	A	6	9	12	16	17	32
		690 V	A	6	6.6	8.8	12.2	12.2	27
Max. rating of slipping or squirrel-cage motors at 50 and 60 Hz	at	230 V	kW	1.5	2.4	3.3	4	5.5	8.5
		400 V	kW	2.2	4	5.5	7.5	11	15
		500 V	kW	3	5.5	7.5	9	11	21
		690 V	kW	4	5.5	7.5	11	11	23
AC-4 duty (contact endurance approx. 200.000 operating cycles I_a = 6 x I_e)									
Rated operational currents I _e	up to	400 V	A	3.1	3.3	4.3	7.7	8.5	15.6
		690 V	A	3.1	3.3	4.3	7.7	8.5	15.6
Ratings of squirrel-cage motors at 50 and 60 Hz	at	230 V	kW	0.8	0.85	1.15	2	2.2	4.3
Max. permitted rated operational current I _e /AC-4 = ^ I _e /AC-3 up to 500 V with endurance and operating frequency		400 V	kW	1.15	1.4	1.9	3.5	4	7.5
		690 V	kW	1.9	2.4	3.3	6	6.6	13
Contactor									
		Type		CES 40	CES 45	CES 65	CES 75	CES 85	CES 105
Load ratings of the contactors with AC									
Thermal load	10 s current ¹⁾		A	400	400	360	500	800	800
Power loss per conducting path	at I _e /AC-3		W	2.0	2.5	3.5	6	7.5	10
AC-1 duty, switching resistive load²⁾									
Rated operational currents I _e	at 40 °C to	690 V	A	65	65	90	100	105	105
	at 55 °C to	690 V	A	55	55	80	90	100	105
Minimum conductor cross-section at I _e load	at 40 °C		mm ²	16	16	35	35	50	50
	at 55 °C		mm ²	16	16	25	35	35	35
AC-2 and AC-3 duty									
Rated operational currents I _e	up to	400 V	A	40	45	65	75	85	105
		500 V	A	32	38	40	63	75	85
		690 V	A	27	27	40	63	75	75
		1000 V	A	--	--	6	6	30	30
Max. rating of slipping or squirrel-cage motors at 50 and 60 Hz	at	230 V	kW	11	15	18.5	22	26	37
		400 V	kW	18.5	22	30	37	45	55
		500 V	kW	21	25	30	41	50	59
		690 V	kW	23	23	39	56	67	67
1000 V	A	--	--	--	--	39	39		
AC-4 duty (contact endurance approx. 200.000 operating cycles I_a = 6 x I_e)									
Rated operational currents I _e	up to	400 V	A	18.5	24	28	34	42	54
		690 V	A	18.5	24	28	34	42	54
		1000 V	A	--	--	--	23	23	34
Ratings of squirrel-cage motors at 50 and 60 Hz	at	230 V	kW	5.2	7.3	8.5	10.3	12	16.3
Max. permitted rated operational current I _e /AC-4 = ^ I _e /AC-3 up to 500 V with endurance and operating frequency		400 V	kW	9	12.6	14.7	17.9	22	28.4
		690 V	kW	15.5	20.8	24.3	29.5	38	49
		1000 V	kW	--	--	--	30	30	45
Contactor									
		Type		CES 140	CES 170	CES 205	CES 250	CES 300	CES 400
Load ratings of the contactors with AC									
Thermal load	10 s current ¹⁾		A	1140	1360	1640	2500	2500	3400
Power loss per conducting path	at I _e /AC-3		W	14	14	20	16	23	40
AC-1 duty, switching resistive load²⁾									
Rated operational currents I _e	at 40 °C to	690 V	A	170	230	240	325	325	425
	at 55 °C to	690 V	A	160	210	220	300	300	400
Minimum conductor cross-section at I _e load	at 40 °C		mm ²	70	120	120	185	185	2x150
	at 55 °C		mm ²	70	95	120	185	185	240
AC-2 and AC-3 duty									
Rated operational currents I _e	up to	500 V	A	140	170	205	250	300	400
		690 V	A	110	170	170	250	250	400
		1000 V	A	42	68	68	95	95	180
Max. rating of slipping or squirrel-cage motors at 50 and 60 Hz	at	230 V	kW	45	56	66	82	96	131
		400 V	kW	75	95	115	142	168	232
		500 V	kW	98	118	145	178	210	289
		690 V	kW	105	163	163	245	245	397
1000 V	A	65	90	90	132	132	250		
AC-4 duty (contact endurance approx. 200.000 operating cycles I_a = 6 x I_e)									
Rated operational currents I _e	up to	690 V	A	68	75	96	110	125	150
		1000 V	A	34	42	42	57	57	80
Ratings of squirrel-cage motors at 50 and 60 Hz	at	230 V	kW	21	23	30	35	40	49
Max. permitted rated operational current I _e /AC-4 = ^ I _e /AC-3 up to 500 V with endurance and operating frequency		400 V	kW	36	40	52	61	69	85
		690 V	kW	63	69	90	105	119	147
		1000 V	kW	45	55	55	75	75	110

¹⁾ Acc. to IEC 60947-4-1.

²⁾ Industrial furnaces and electric heaters with resistance heating for example (higher current during heating-up allowed for).