

IEC Technical data

A/AE9 – A/AE/AF/TAE110

Across the line
contactors

1

Main Pole - Utilization Characteristics

Contactor types:	A..., AE...	9	12	16	26	30	40	45	50	63	75	95	110	
	AF..., TAE...	–	–	–	–	–	–	45	50	63	75	95	110	
Rated operational voltage U_e max.	V	690						1000 (690 for AF... contactors)						
Rated frequency limits	Hz	25-400												
Conventional free-air thermal current I_{th} acc. to IEC 60947-4-1, open contactors $\sigma \leq 40^\circ\text{C}$	A	26	28	30	45	65	65	100	100	125	125	145	160	
with conductor cross-sectional area mm^2	4	4	4	6	16	16	35	35	50	50	50	70	70	
Rated operational current I_e / AC-1 for air temperature close to contactor	A	25	27	30	45	55	60	70	100	115	125	145	160	
U_e max. 690 V	$\sigma \leq 40^\circ\text{C}$	A	22	25	27	40	55	60	85	95	105	135	145	
	$\sigma \leq 55^\circ\text{C}$	A	18	20	23	32	39	42	50	70	80	85	115	
	$\sigma \leq 70^\circ\text{C}$ ③	A	2.5	4	4	6	10	16	25	35	50	50	70	
with conductor cross-sectional area mm^2		2.5	4	4	6	10	16	25	35	50	50	70	70	
Utilization categorie AC-3														
for air temperature close to contactor $\leq 55^\circ\text{C}$														
Rated operational current I_e AC-3 ①														
3-phase motors	220-230-240 V	A	9	12	17	26	33	40	40	53	65	75	96	110
	380-400 V	A	9	12	17	26	32	37	37	50	65	75	96	110
	415 V	A	9	12	17	26	32	37	37	50	65	72	96	110
	440 V	A	9	12	16	26	32	37	37	45	65	70	93	100
	500 V	A	9	12	14	22	28	33	33	45	55	65	80	100
	690 V	A	7	9	10	17	21	25	25	35	43	46	65	82
	1000 V	A	–	–	–	–	–	–	–	23 ②	25 ②	28 ②	30 ②	30 ②
Rated operational power AC-3 ①														
1500 r.p.m. 50 Hz 1800 r.p.m. 60 Hz 3-phase motors	220-230-240 V	kW	2.2	3	4	6.5	9	11	11	15	18.5	22	25	30
	380-400 V	kW	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45	55
	415 V	kW	4	5.5	9	11	15	18.5	18.5	25	37	40	55	59
	440 V	kW	4	5.5	9	15	18.5	22	22	25	37	40	55	59
	500 V	kW	5.5	7.5	9	15	18.5	22	22	30	37	45	55	59
	690 V	kW	5.5	7.5	9	15	18.5	22	22	30	37	40	55	75
	1000 V	kW	–	–	–	–	–	–	–	30 ②	33 ②	37 ②	40 ②	40 ②
Rated making capacity AC-3 according to IEC 60947-4-1														
10 x I_e AC-3														
Rated breaking capacity AC-3 according to IEC 60947-4-1														
8 x I_e AC-3														
Short-circuit protection for contactors without thermal O/L relay - Motor protection excluded														
$U_e \leq 500$ V a.c. - gG type fuse	A	25	32	32	50	63	80	100	125	160	160	200	200	
Rated short-time withstand current I_{cw} at 40°C ambient temp., in free air, from a cold state														
1 s	A	250	280	300	400	600	1000	1320	1320	1320	1320	1320	1320	
10 s	A	100	120	140	210	400	650	800	800	800	800	800	800	
30 s	A	60	70	80	110	225	370	500	500	500	500	500	500	
1 min	A	50	55	60	90	150	250	350	350	350	350	350	350	
15 min	A	26	28	30	45	65	110	110	135	135	160	175	175	
Maximum breaking capacity $\cos \phi = 0.45$ ($\cos \phi = 0.35$ for $I_e > 100$ A)														
at 440 V	A	250	420	820	900	1300	1160	1160	1160	1160	1160	1160	1160	
at 690 V	A	90	170	340	490	630	800	800	800	800	800	800	800	
Heat dissipation per pole	I_e / AC-1	W	0.8	1	1.2	1.8	2.5	3	2.5	5	6.5	7	6.5	7.5
	I_e / AC-3	W	0.1	0.2	0.35	0.6	0.9	1.3	0.65	1.3	1.5	2	2.7	3.6
Max. electrical switching frequency														
– for AC-1	cycles/h	600						600 (300 for AF..., AE... TAE...)					300	
– for AC-3	cycles/h	1200 (600 for AE...)						600 (300 for AF..., AE... TAE...)					300	
– for AC-2, AC-4	cycles/h	300						150					150	
Electrical durability														
see pages 1.70 - 1.73														
Mechanical durability														
– millions of operating cycles		10 (5 for AE... and TAE... contactors)												
– max. mechanical switching frequency	cycles/h	3600 (300 for AF... contactors)												

① For the corresponding hp/A values of 1500 r.p.m., 50Hz, 3-phase motors, see page 1.76.

② AF... contactors excluded

③ Unauthorized for TAE... contactors.