

IEC Technical data

EK110 – EK1000

Across the line
contactors

1

Main Pole - Utilization Characteristics

Contactor types: EK...		110	150	175	210	370	550	1000	
Rated operational voltage U_e max.	V	1000						690	
Rated frequency limits	Hz	25 ... 400							
Conventional free-air thermal current I_{th} acc. to IEC 60947-4-1, open contactors $\vartheta \leq 40^\circ\text{C}$	A	200	250	300	350	550	800	1000	
with conductor cross-sectional area	mm ²	95	150	185	240	2 x 185	2 x 240	2 x 300	
Rated operational current I_e / AC-1 for air temperature close to contactor									
U_e max. 690 V	$\left\{ \begin{array}{l} \vartheta \leq 40^\circ\text{C} \\ \vartheta \leq 55^\circ\text{C} \\ \vartheta \leq 70^\circ\text{C} \end{array} \right.$	A	200	250	300	350	550	800	1000
		A	180	230	270	310	470	650	800
		A	155	200	215	250	400	575	720
		mm ²	95	150	185	240	2 x 185	2 x 240	2 x 300
Utilization categorie AC-3									
for air temperature close to contactor $\leq 55^\circ\text{C}$									
Rated operational current I_e AC-3									
3-phase motors	220-230-240 V	A	120	145	210	400	550	–	
	380-400 V	A	120	145	210	400	550	–	
	415 V	A	120	145	210	400	550	–	
	440 V	A	120	145	210	370	550	–	
	500 V	A	120	145	210	370	550	–	
	690 V	A	120	120	210	370	550	–	
	1000 V	A	64	80	113	155	175	–	
Rated operational power AC-3									
1500 r.p.m. 50 Hz	220-230-240 V	kW	30	45	59	110	160	–	
1800 r.p.m. 60 Hz	380-400 V	kW	55	75	110	200	280	–	
3-phase motors	415 V	kW	55	75	110	220	315	–	
	440 V	kW	59	75	110	220	315	–	
	500 V	kW	75	90	132	250	400	–	
	690 V	kW	110	110	160	355	500	–	
	1000 V	kW	90	110	160	220	250	–	
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	250		355		630	800	1000	
Rated short-time withstand current I_{cw} at 40 °C ambient temp., in free air, from a cold state									
	1 s	A	1700	1800	2300	5500		6800	
	10 s	A	900	1200	1680	5300		6400	
	30 s	A	600	700	1000	3700		4400	
	1 min	A	450	550	800	3000		3400	
	15 min	A	210	250	320	1000		1200	
Maximum breaking capacity									
cos $\varphi = 0.45$ (cos $\varphi = 0.35$ for $I_e > 100$ A)									
	at 440 V	A	1400	1500	2000	5000	5400	–	
	at 690 V	A	1100	1200	1700	5000	5400	–	
Heat dissipation per pole									
	I_e / AC-1	W	10	13	18	40	60	80	
	I_e / AC-3	W	3	5	9	15	25	–	
Max. electrical switching frequency									
– for AC-1		cycles/h	300					300	
– for AC-3		cycles/h	300					–	
– for AC-2, AC-4		cycles/h	150					120	
Electrical durability									
see pages 1.75									
Mechanical durability									
– millions of operating cycles			10			5			
– max. mechanical switching frequency		cycles/h	3600			3600			