



IEC Technical data  
A/AF145 – AF750

## Main Pole - Utilization Characteristics

Contactor types:	A...	145	185	210	260	300	–	–	–	–	
	AF...	145	185	210	260	300	400	460	580	750	
Rated operational voltage $U_e$ max.	V	690									
Rated frequency limits	Hz	25 ... 400									
Conventional free-air thermal current $I_{th}$ acc. to IEC 60947-4-1, open contactors $\varnothing \leq 40$ °C	A	250	275	350	400	500	600	700	800	1050	
with conductor cross-sectional area ①	mm <sup>2</sup>	120	150	185	240	300 ③	2 x 185	2 x 240	2 x 240	2 x 80 x 5 ②	
Rated operational current $I_e$ / AC-1 for air temperature close to contactor											
$U_e$ max. 690 V	$\left\{ \begin{array}{l} \varnothing \leq 40$ °C $\varnothing \leq 55$ °C $\varnothing \leq 70$ °C	A	250	275	350	400	500	600	700	800	1050
		A	230	250	300	350	400	500	600	700	800
		A	180	180	240	290	325	400	480	580	720
with conductor cross-sectional area	mm <sup>2</sup>	120	150	185	240	300 ③	2 x 185	2 x 240	2 x 240	2 x 80 x 5 ②	
<b>Utilization categorie AC-3</b>											
for air temperature close to contactor $\leq 55$ °C											
Rated operational current $I_e$ AC-3											
3-phase motors 	220-230-240 V	A	145	185	210	260	305	400	460	580	750
	380-400 V	A	145	185	210	260	305	400	460	580	750
	415 V	A	145	185	210	260	300	400	460	580	750
	440 V	A	145	185	210	240	280	400	460	580	750
	500 V	A	145	170	210	240	280	400	460	580	750
	690 V	A	120	170	210	220	280	350	400	500	650
	1000 V	A	–	–	–	–	–	–	–	–	–
Rated operational power AC-3											
1500 r.p.m. 50 Hz 1800 r.p.m. 60 Hz 3-phase motors 	220-230-240 V	kW	45	55	59	80	90	110	132	160	220
	380-400 V	kW	75	90	110	140	160	200	250	315	400
	415 V	kW	75	90	110	140	160	220	250	355	425
	440 V	kW	75	90	110	140	160	220	250	355	450
	500 V	kW	90	110	132	180	200	250	315	400	520
	690 V	kW	110	132	160	200	250	315	355	500	600
	1000 V	kW	–	–	–	–	–	–	–	–	–
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		315	355	400	500	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	1800	2000	2500	3500	4600	7000			
	10 s	A	1200	1500	1700	2400	4400	6400			
	30 s	A	800	1000	1200	1500	3100	4500			
	1 min	A	600	800	1000	1100	2500	3500			
	15 min	A	280	320	400	500	840	1300			
Maximum breaking capacity $\cos \varphi = 0.45$ ( $\cos \varphi = 0.35$ for $I_e > 100$ A)											
	at 440 V	A	1500	2000	2300	2600	3000	4000	5000	6000	7500
	at 690 V	A	1200	1600	2000	2400	2500	3500	4500	5000	7000
Heat dissipation per pole											
	$I_e$ / AC-1	W	13	16	18	25	32	30	42	32	50
	$I_e$ / AC-3	W	5	8	9	14	18	16	21	17	28
Max. electrical switching frequency											
– for AC-1		cycles/h	300			300			300		
– for AC-3		cycles/h	300			300			300		
– for AC-2, AC-4		cycles/h	150			150			60		
Electrical durability											
see pages 1.69 ... 1.73											
Mechanical durability											
– millions of operating cycles			5			3					
– max. mechanical switching frequency		cycles/h	3600 (300 for AF... contactors)			300					

① Conductors with preparation.

② Dimensions of the bars (in mm).

③ For currents above 450A, use terminal extension / enlargement pieces LX 300 / LW 300 see page 1.31).