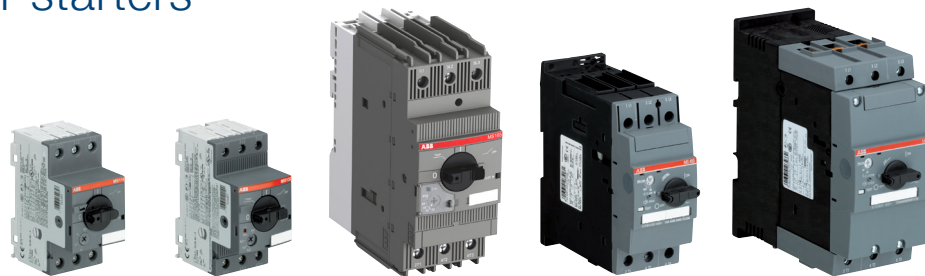


Manual motor starters

Overview



Type	MS116	MS132	MS165	MS450	MS495	MS497
Thermal and electromagnetic protection	Yes	Yes	Yes	Yes	Yes	
Electromagnetic protection	-	-	-	-	-	
Phase loss sensitivity	Yes	Yes	Yes	Yes	Yes	
Switch position	ON/OFF	ON/OFF/TRIP	ON/OFF/TRIP	ON/OFF/TRIP	ON/OFF/TRIP	
Magnetic trip indication	-	Yes	Yes	-	-	
Lockable handle without accessories	-	Yes	Yes	Yes	Yes	
Disconnecting feature	Yes	Yes	Yes	Yes	Yes	
Width	45 mm	45 mm	55 mm	55 mm	70 mm	
Rated operational current I_e	0.16 ... 32 A	0.16 ... 32 A	16 ... 65 A	40 ... 50 A	63 ... 100 A	32 ... 100 A
Setting range	0.1 ... 32 A	0.1 ... 32 A	10 ... 65 A	28 ... 50 A	45 ... 100 A	22 ... 100 A
Ambient air temperature	-25 ... +55 °C *)	-25 ... +60 °C *)	-20 ... +60 °C *)	-20 ... +60 °C *)	-20 ... +60 °C *)	

*) Compensated

Table for short-circuit ratings for 400/415 V

	Standard range MS116, MS450, MS495	Performance range MS132, MS165, MS497
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Selection parameters

Rated operational power	Setting range for thermal release	Type	Short-circuit breaking capacity		Type	Short-circuit breaking capacity	
			I_{cu}	I_{cs}		I_{cu}	I_{cs}
0.03 kW ¹⁾	0.1 ... 0.16 A	MS116-0.16	50 kA	50 kA	MS132-0.16	100 kA	100 kA
0.06 kW	0.16 ... 0.25 A	MS116-0.25	50 kA	50 kA	MS132-0.25	100 kA	100 kA
0.09 kW	0.25 ... 0.4 A	MS116-0.4	50 kA	50 kA	MS132-0.4	100 kA	100 kA
0.18 kW	0.4 ... 0.63 A	MS116-0.63	50 kA	50 kA	MS132-0.63	100 kA	100 kA
0.25 kW	0.63 ... 1.0 A	MS116-1.0	50 kA	50 kA	MS132-1.0	100 kA	100 kA
0.55 kW	1.0 ... 1.6 A	MS116-1.6	50 kA	50 kA	MS132-1.6	100 kA	100 kA
0.75 kW	1.6 ... 2.5 A	MS116-2.5	50 kA	50 kA	MS132-2.5	100 kA	100 kA
1.5 kW	2.5 ... 4.0 A	MS116-4.0	50 kA	50 kA	MS132-4.0	100 kA	100 kA
2.2 kW	4.0 ... 6.3 A	MS116-6.3	50 kA	50 kA	MS132-6.3	100 kA	100 kA
4.0 kW	6.3 ... 10 A	MS116-10	50 kA	50 kA	MS132-10	100 kA	100 kA
5.5 kW	8 ... 12 A	MS116-12	25 kA	25 kA	MS132-12	100 kA	100 kA
7.5 kW	10 ... 16 A	MS116-16	16 kA	16 kA	MS132-16 / MS165-16	100 kA	100 kA
7.5 kW	14 ... 20 A				MS165-20	100 kA	100 kA
7.5 kW	16 ... 20 A	MS116-20	15 kA	10 kA	MS132-20	100 kA	100 kA
11 kW	18 ... 25 A				MS165-25	100 kA	100 kA
11 kW	20 ... 25 A	MS116-25	15 kA	10 kA	MS132-25	50 kA	50 kA
15 kW	25 ... 32 A	MS116-32	10 kA	10 kA	MS132-32	50 kA	25 kA
15 kW	22 ... 32 A				MS497-32	100 kA	50 kA
15 kW	23 ... 32 A				MS165-32	100 kA	75 kA
18.5 kW	28 ... 40 A	MS450-40	50 kA	25 kA	MS497-40	100 kA	50 kA
22 kW	30 ... 42 A				MS165-42	50 kA	25 kA
22 kW	36 ... 45 A	MS450-45	50 kA	25 kA			
22 kW	40 ... 50 A	MS450-50	50 kA	25 kA	MS497-50	100 kA	50 kA
22 kW	40 ... 54 A				MS165-54	50 kA	25 kA
30 kW	45 ... 63 A	MS495-63	50 kA	25 kA	MS497-63	100 kA	50 kA
30 kW	52 ... 65 A				MS165-65	50 kA	25 kA
37 kW	57 ... 75 A	MS495-75	50 kA	25 kA	MS497-75	100 kA	50 kA
45 kW	70 ... 90 A	MS495-90	50 kA	25 kA	MS497-90	100 kA	50 kA
55 kW	80 ... 100 A	MS495-100	50 kA	25 kA	MS497-100	100 kA	50 kA

¹⁾ 690 V



	MO132	MO165	MO450	MO495	MO496	MS132-T
	-	-	-	-	-	Yes
	Yes	Yes	Yes	Yes	-	-
	-	-	-	-	-	Yes
	ON/OFF/TRIP	ON/OFF/TRIP	ON/OFF/TRIP	ON/OFF/TRIP	-	ON/OFF/TRIP
	-	-	-	-	-	Yes
	Yes	Yes	Yes	Yes	-	Yes
	Yes	Yes	Yes	Yes	-	Yes
	45 mm	55 mm	55 mm	70 mm	-	45 mm
	0.16 ... 32 A	16 ... 65 A	40 ... 50 A	63 ... 100 A	32 ... 100 A	0.16 ... 32 A
	-	-	-	-	-	0.1 ... 25 A
	-25 ... +60 °C	-25 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-	-25 ... +60 °C *)

Standard range MO132, MO450, MO495	Performance range MO132, MO165, MO496	Transformer protection MS132-T
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Type	Short-circuit breaking capacity		Type	Short-circuit breaking capacity		Type	Short-circuit breaking capacity
	I_{cu}	I_{cs}		I_{cu}	I_{cs}		
MO132-0.16	100 kA	100 kA	MO132-0.16	100 kA	100 kA	MS132-0.16T	100 kA
MO132-0.25	100 kA	100 kA	MO132-0.25	100 kA	100 kA	MS132-0.25T	100 kA
MO132-0.4	100 kA	100 kA	MO132-0.4	100 kA	100 kA	MS132-0.4T	100 kA
MO132-0.63	100 kA	100 kA	MO132-0.63	100 kA	100 kA	MS132-0.63T	100 kA
MO132-1.0	100 kA	100 kA	MO132-1.0	100 kA	100 kA	MS132-1.0T	100 kA
MO132-1.6	100 kA	100 kA	MO132-1.6	100 kA	100 kA	MS132-1.6T	100 kA
MO132-2.5	100 kA	100 kA	MO132-2.5	100 kA	100 kA	MS132-2.5T	100 kA
MO132-4.0	100 kA	100 kA	MO132-4.0	100 kA	100 kA	MS132-4.0T	100 kA
MO132-6.3	100 kA	100 kA	MO132-6.3	100 kA	100 kA	MS132-6.3T	100 kA
MO132-10	100 kA	100 kA	MO132-10	100 kA	100 kA	MS132-10T	100 kA
MO132-12	100 kA	100 kA	MO132-12	100 kA	100 kA	MS132-12T	100 kA
MO132-16	100 kA	100 kA	MO132-16 / MO165-16	100 kA	100 kA	MS132-16T	100 kA
			MO165-20	100 kA	100 kA		
MO132-20	100 kA	100 kA	MO132-20	100 kA	100 kA	MS132-20T	100 kA
MO132-25	50 kA	50 kA	MO132-25 / MO165-25	50 kA / 100 kA	50 kA / 100 kA	MS132-25T	50 kA
MO132-32	50 kA	25 kA	MO132-32	50 kA	25 kA	Transformer protection: The instantaneous short-circuit current setting is 20 times the rated operational current.	
			MO496-32	100 kA	50 kA		
			MO165-32	100 kA	50 kA		
			MO496-40	100 kA	50 kA		
MO450-40	50 kA	25 kA	MO165-42	50 kA	25 kA		
MO450-45	50 kA	25 kA					
MO450-50	50 kA	25 kA	MO496-50	100 kA	50 kA		
			MO165-54	50 kA	25 kA		
MO495-63	50 kA	25 kA	MO496-63	100 kA	50 kA		
			MO165-65	50 kA	25 kA		
MO495-75	50 kA	25 kA	MO496-75	100 kA	50 kA		
MO495-90	50 kA	25 kA	MO496-90	100 kA	50 kA		
MO495-100	50 kA	25 kA	MO496-100	100 kA	50 kA		