

SINAMICS S120 Vector Control

Load-side power components

Motor reactors

Overview



Motor reactors reduce the stress on the motor windings by reducing the voltage gradients on the motor terminals. At the same time, the capacitive charge/discharge currents that occur at the converter output when long motor cables are used are reduced. The maximum permissible output frequency when a motor reactor is used is 150 Hz.

The motor reactor should be installed as close as possible to the Motor Module.

Selection and ordering data

Rated power of Motor Module	Suitable for Motor Module	Motor reactor Order No.
Line voltage 380 V to 480 V 3 AC		
110 kW (150 HP)	6SL3320-1TE32-1AA0	6SL3000-2BE32-1AA0
132 kW (200 HP)	6SL3320-1TE32-6AA0	6SL3000-2BE32-6AA0
160 kW (250 HP)	6SL3320-1TE33-1AA0	6SL3000-2BE33-2AA0
200 kW (300 HP)	6SL3320-1TE33-8AA0	6SL3000-2BE33-8AA0
250 kW (400 HP)	6SL3320-1TE35-0AA0	6SL3000-2BE35-0AA0
315 kW (500 HP)	6SL3320-1TE36-1AA0	6SL3000-2AE36-1AA0
400 kW (600 HP)	6SL3320-1TE37-5AA0	6SL3000-2AE38-4AA0
450 kW (700 HP)	6SL3320-1TE38-4AA0	6SL3000-2AE38-4AA0
560 kW (800 HP)	6SL3320-1TE41-0AA0	6SL3000-2AE41-0AA0
710 kW (1000 HP)	6SL3320-1TE41-2AA0	6SL3000-2AE41-4AA0
800 kW (1150 HP)	6SL3320-1TE41-4AA0	6SL3000-2AE41-4AA0
Line voltage 660 V to 690 V 3 AC		
75 kW	6SL3320-1TH28-5AA0	6SL3000-2AH31-0AA0
90 kW	6SL3320-1TH31-0AA0	6SL3000-2AH31-0AA0
110 kW	6SL3320-1TH31-2AA0	6SL3000-2AH31-5AA0
132 kW	6SL3320-1TH31-5AA0	6SL3000-2AH31-5AA0
160 kW	6SL3320-1TH31-8AA0	6SL3000-2AH31-8AA0
200 kW	6SL3320-1TH32-2AA0	6SL3000-2AH32-4AA0
250 kW	6SL3320-1TH32-6AA0	6SL3000-2AH32-6AA0
315 kW	6SL3320-1TH33-3AA0	6SL3000-2AH33-6AA0
400 kW	6SL3320-1TH34-1AA0	6SL3000-2AH34-5AA0
450 kW	6SL3320-1TH34-7AA0	6SL3000-2AH34-7AA0
560 kW	6SL3320-1TH35-8AA0	6SL3000-2AH35-8AA0
710 kW	6SL3320-1TH37-4AA0	6SL3000-2AH38-1AA0
800 kW	6SL3320-1TH38-1AA0	6SL3000-2AH38-1AA0
900 kW	6SL3320-1TH38-8AA0	6SL3000-2AH41-0AA0
1000 kW	6SL3320-1TH41-0AA0	6SL3000-2AH41-1AA0
1200 kW	6SL3320-1TH41-3AA0	6SL3000-2AH41-3AA0

Technical data

Line voltage 380 V to 480 V 3 AC		Motor reactor (for pulse frequencies of 2.5 kHz and 1.25 kHz)					
		6SL3000-2BE32-1AA0	6SL3000-2BE32-6AA0	6SL3000-2BE33-2AA0	6SL3000-2BE33-8AA0	6SL3000-2BE35-0AA0	6SL3000-2AE36-1AA0
Suitable for Motor Module	Type	6SL3320-1TE32-1AA0	6SL3320-1TE32-6AA0	6SL3320-1TE33-1AA0	6SL3320-1TE33-8AA0	6SL3320-1TE35-0AA0	6SL3320-1TE36-1AA0
Rated power of Motor Module	kW (HP)	110 (150)	132 (200)	160 (250)	200 (300)	250 (400)	315 (500)
Rated current	A	210	260	310	380	490	605
Power loss	kW	0.486	0.5	0.47	0.5	0.5	0.9
Line/load connection		M10	M10	M10	M10	M12	M12
PE connection		M8	M8	M8	M8	M8	M8
Max. permissible cable length between motor reactor and motor	m (ft)	300 (984) (shielded) 450 (1477) (unshielded)					
Width	mm (inch)	300 (11.81)	300 (11.81)	300 (11.81)	300 (11.81)	300 (11.81)	410 (16.14)
Height	mm (inch)	285 (11.22)	315 (12.4)	285 (11.22)	285 (11.2) ²⁾	365 (14.37)	392 (15.43)
Depth	mm (inch)	257 (10.12)	277 (10.9)	257 (10.12)	277 (10.9)	277 (10.9)	292 (11.5)
Degree of protection		IP00	IP00	IP00	IP00	IP00	IP00
Weight, approx.	kg (lb)	60 (132)	66 (146)	62 (137)	73 (161)	100 (221)	130 (287)

Line voltage 380 V to 480 V 3 AC		Motor reactor (for pulse frequencies of 2.5 kHz and 1.25 kHz)				
		6SL3000-2AE38-4AA0	6SL3000-2AE38-4AA0	6SL3000-2AE41-0AA0	6SL3000-2AE41-4AA0	6SL3000-2AE41-4AA0
Suitable for Motor Module	Type	6SL3320-1TE37-5AA0	6SL3320-1TE38-4AA0	6SL3320-1TE41-0AA0	6SL3320-1TE41-2AA0	6SL3320-1TE41-4AA0
Rated power of Motor Module	kW (HP)	400 (600)	450 (700)	560 (800)	710 (1000)	800 (1150)
Rated current	A	745	840	985	1260	1405
Power loss	kW	0.83	0.943	1.062	0.962	1.054
Line/load connection		M12	M12	M12	2 x M12	2 x M12
PE connection		M10	M10	M10	M10	M10
Max. permissible cable length between motor reactor and motor	m (ft)	300 (984) (shielded) 450 (1477) (unshielded)				
Width	mm (inch)	410 (16.14)	410 (16.14)	410 (16.14)	460 (18.11)	460 (18.11)
Height	mm (inch)	392 (15.43)	392 (15.43)	392 (15.43)	392 (15.43)	392 (15.43)
Depth	mm (inch)	292 (11.5)	292 (11.5)	302 (11.89)	326 (12.83)	326 (12.83)
Degree of protection		IP00	IP00	IP00	IP00	IP00
Weight, approx.	kg (lb)	140 (309)	140 (309)	146 (322)	179 (395)	179 (395)

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Technical data (continued)

Line voltage 660 V to 690 V 3 AC		Motor reactor (for pulse frequencies of 2.5 kHz and 1.25 kHz)					
		6SL3000-2AH31-0AA0	6SL3000-2AH31-0AA0	6SL3000-2AH31-5AA0	6SL3000-2AH31-5AA0	6SL3000-2AH31-8AA0	6SL3000-2AH32-4AA0
Suitable for Motor Module	Type	6SL3320-1TH28-5AA0	6SL3320-1TH31-0AA0	6SL3320-1TH31-2AA0	6SL3320-1TH31-5AA0	6SL3320-1TH31-8AA0	6SL3320-1TH32-2AA0
Rated power of Motor Module	kW	75	90	110	132	160	200
Rated current	A	85	100	120	150	175	215
Power loss	kW	0.257	0.3	0.318	0.335	0.4	0.425
Line/load connection		M10	M10	M10	M10	M10	M10
PE connection		M6	M6	M6	M6	M6	M6
Max. permissible cable length between motor reactor and motor	m (ft)	200 (656) (shielded) 300 (984) (unshielded)					
Width	mm (inch)	270 (10.63)	270 (10.63)	270 (10.63)	270 (10.63)	300 (11.81)	300 (11.81)
Height	mm (inch)	248 (9.76)	248 (9.76)	248 (9.76)	248 (9.76)	285 (11.22)	285 (11.22)
Depth	mm (inch)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	212 (8.35)	212 (8.35)
Degree of protection		IP00	IP00	IP00	IP00	IP00	IP00
Weight, approx.	kg (lb)	25 (55)	25 (55)	25 (55)	25 (55)	33 (73)	35 (77)

Line voltage 660 V to 690 V 3 AC		Motor reactor (for pulse frequencies of 2.5 kHz and 1.25 kHz)					
		6SL3000-2AH32-6AA0	6SL3000-2AH33-6AA0	6SL3000-2AH34-5AA0	6SL3000-2AH34-7AA0	6SL3000-2AH35-8AA0	6SL3000-2AH38-1AA0
Suitable for Motor Module	Type	6SL3320-1TH32-6AA0	6SL3320-1TH33-3AA0	6SL3320-1TH34-1AA0	6SL3320-1TH34-7AA0	6SL3320-1TH35-8AA0	6SL3320-1TH37-4AA0
Rated power of Motor Module	kW	250	315	400	450	560	710
Rated current	A	260	330	410	465	575	735
Power loss	kW	0.44	0.45	0.545	0.62	0.8	0.96
Line/load connection		M10	M10	M12	M12	M12	M12
PE connection		M6	M6	M8	M8	M8	M8
Max. permissible cable length between motor reactor and motor	m (ft)	200 (656) (shielded) 300 (984) (unshielded)					
Width	mm (inch)	300 (11.81)	300 (11.81)	350 (13.78)	410 (16.14)	410 (16.14)	410 (16.14)
Height	mm (inch)	285 (11.22)	285 (11.22)	330 (12.99)	392 (15.43)	392 (15.43)	392 (15.43)
Depth	mm (inch)	212 (8.35)	212 (8.35)	215 (8.46)	292 (11.5)	292 (11.5)	279 (10.98)
Degree of protection		IP00	IP00	IP00	IP00	IP00	IP00
Weight, approx.	kg (lb)	40 (88)	43 (95)	56 (124)	80 (176)	80 (176)	146 (322)

Line voltage 660 V to 690 V 3 AC		Motor reactor (for pulse frequencies of 2.5 kHz and 1.25 kHz)			
		6SL3000-2AH38-1AA0	6SL3000-2AH41-0AA0	6SL3000-2AH41-1AA0	6SL3000-2AH41-3AA0
Suitable for Motor Module	Type	6SL3320-1TH38-1AA0	6SL3320-1TH38-8AA0	6SL3320-1TH41-0AA0	6SL3320-1TH41-3AA0
Rated power of Motor Module	kW	800	900	1000	1200
Rated current	A	810	910	1025	1270
Power loss	kW	1.0	0.97	1.05	0.95
Line/load connection		M12	M12	M12	M12
PE connection		M8	M8	M8	M8
Max. permissible cable length between motor reactor and motor	m (ft)	200 (656) (shielded) 300 (984) (unshielded)			
Width	mm (inch)	410 (16.14)	410 (16.14)	410 (16.14)	460 (18.11)
Height	mm (inch)	392 (15.43)	392 (15.43)	392 (15.43)	392 (15.43)
Depth	mm (inch)	279 (10.98)	279 (10.98)	317 (12.48)	296 (11.65)
Degree of protection		IP00	IP00	IP00	IP00
Weight, approx.	kg (lb)	146 (322)	150 (331)	163 (360)	166 (366)