MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6SL3210-1SE16-0AA0

2.2 KW PM340 POWER MODULE

Used with the applicable SINAMICS PM340 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens SINAMICS S110 Manual 6SL3097-4AC10-0BP2, January 2011; PM340 FSB dimensions and exact 1SE16-0AA0 table column.

3.1.5 Dimension drawings

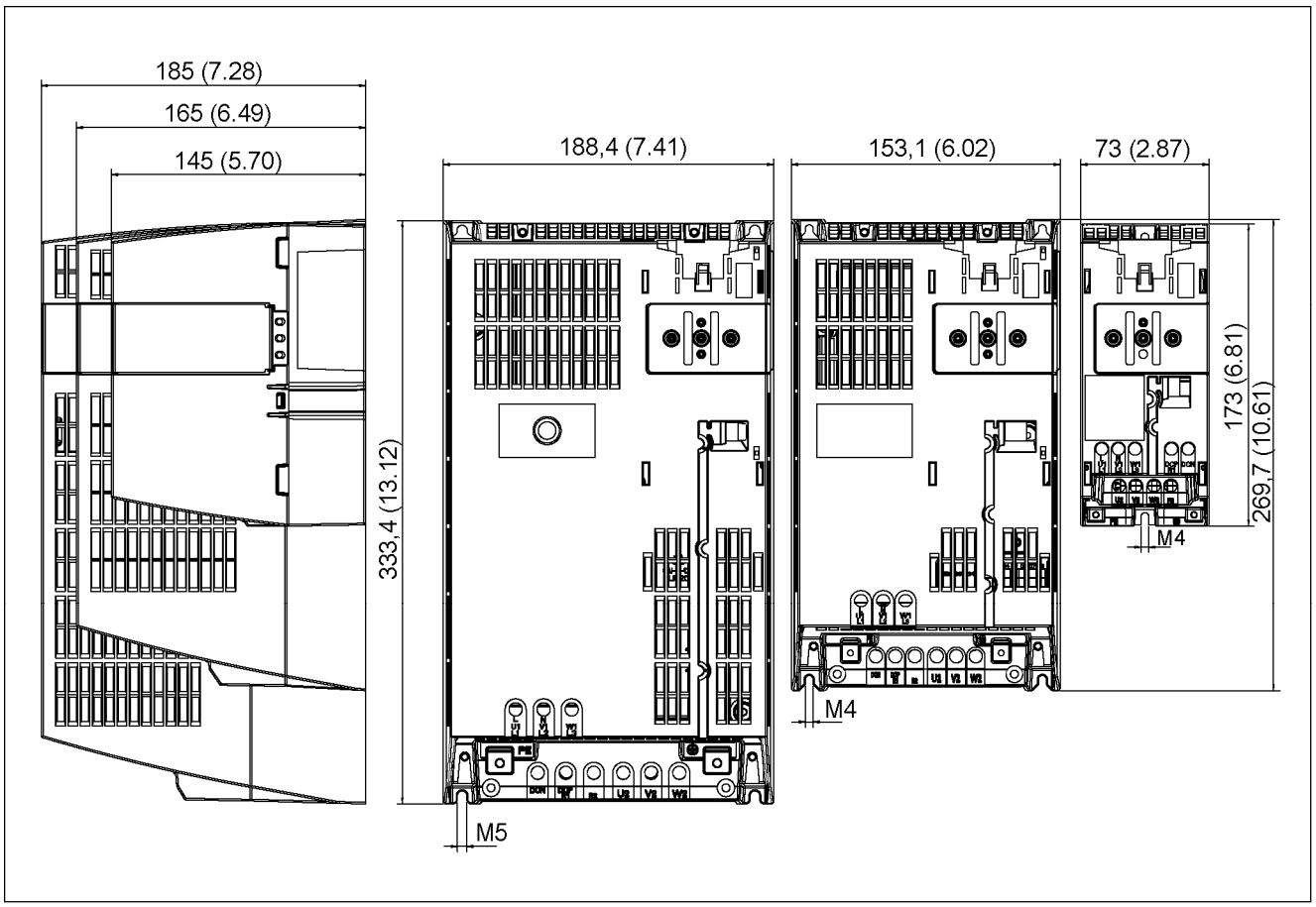


Figure 3-10 Dimension drawings, Power Module PM340

Frame size FSC Frame size FSB Frame size FSA

3.1.6.2 Mounting dimensions and tightening torques

The mounting dimensions and the tightening torques for fixing the Power Modules are specified in the following table.

Table 3- 7 PM340, dimensions and tightening torques for mounting

Frame size	Height, width, depth		Dimensions (with Control Unit)	Retaining type	Tightening torques
FSA	HxWxD	mm	173 x 73 x 145	2 x M4 studs, 2 x M4 nuts, 2 x M4 washers	2.5 Nm with washers
		Inches	6.81 x 2.87 x 5.71		
FSB	HxWxD	mm	270 x 153 x 165	4 x M4 studs, 4 x M4 nuts, 4 x M4 washers	
		Inches	10.63 x 6.02 x 6.50		
FSC	HxWxD	mm	334 x 189 x 185	4 x M5 studs, 4 x M5 nuts, 4 x M5 washers	
		Inches	13.1 x 7.41 x 7.28		
FSD without line filter	HxWxD	mm	419 x 275 x 204	4 x M6 studs, 4 x M6nuts, 4 x M6 washers	6 Nm with washers
		Inches	16.3 x 10.8 x 8.0		
FSD with integrated line filter	HxWxD	mm	512 x 275 x 204		
		Inches	20.1 x 10.8 x 8.0		
FSE without line filter	HxWxD	mm	499 x 275 x 204		
		Inches	19.6 x 10.8 x 8.0		
FSE with integrated line filter	HxWxD	mm	635 x 275 x 204		
		Inches	25 x 10.8 x 8.0		
FSF without line filter	HxWxD	mm	635 x 350 x 316	4 x M8 studs, 4 x M8 nuts, 4 x M8 washers	13 Nm with washers
		Inches	25.0 x 13.8 x 12.4		
FSF with integrated line filter	HxWxD	mm	934 x 350 x 316		
		Inches	36.8 x 13.8 x 12.4		

Table 3- 8 PM340, load terminals - Tightening torques

Frame size	Tightening torques	
FSA	Nm	1.1
FSB	Nm	1.5
FSC	Nm	2.25
FSD	Nm	6
FSE	Nm	6
FSF	Nm	13

Table 3- 11 Technical data PM340, 3-ph. AC, Part 2

Line supply voltage 3-ph. 380 V to 480 V AC ±10%						
PM340	**6SL3210-**	**1SE16-0UA0**	**1SE17-7UA0**	**1SE21-0UA0**	**1SE21-8UA0**	**1SE22-5UA0**
PM340 with integrated line filter	**6SL3210-**	**1SE16-0AA0**	**1SE17-7AA0**	**1SE21-0AA0**	**1SE21-8AA0**	**1SE22-5AA0**
Frame size		FSB	FSB	FSB	FSC	FSC
Output current Rated current I_n Base-load current I_H for S6 operation (40%) I_{S6} Peak current I_{max}	 A A A A	 5.9 5.2 6.4 11.8	 7.7 6.8 8.3 15.4	 10.2 9.1 10.8 20.4	 18 14 19.6 26.4	 25 21 27.8 38
Unit rating [1] on basis of I_n on basis of I_H	 kW kW	 2.2 2.2	 3 3	 4 4	 7.5 5.5	 11 7.5
Rated pulse frequency	kHz	4	4	4	4	4
Power loss	kW	0.14	0.16	0.18	0.24	0.30
Cooling air requirement	m^3/s	0.009	0.009	0.009	0.038	0.038
Sound pressure level L_{pA} (1 m)	dB	< 50	< 50	< 50	< 60	< 60
24 V DC supply for the Control Unit	A	1.0	1.0	1.0	1.0	1.0
Rated input current [2] without/with integrated line reactor	A	5.6 / 6.7	7.5 / 8.9	9.8 / 12.4	17.1 / 23.1	24.6 / 32.6
Class J UL safety fuses Rated current Rated short-circuit current SCCR	 A kA	 10 65	 12 65	 15 65	 25 65	 35 65
Safety fuses NH Rated current	 A	3NA3 803 10	3NA3 805 16	3NA3 805 16	3NA3 810 25	3NA3 814 35
Circuit breaker type designation EN 60947 Rated current	 A	3RV1021-1KA10 9 - 12.5	3RV1021-4AA10 11 - 16	3RV1021-4BA10 14 - 20	3RV1031-4EA10 22 - 32	3RV1031-4FA10 28 - 40
Resistance value of the external braking resistor	Ω	> 160	> 160	> 160	> 56	> 56
Max. cable length to braking resistor	m	15	15	15	15	15
Line supply connection L1, L2, L3		Screw terminals for cable cross-sections 1.0 to 6 mm^2			Screw terminals for cable cross-sections 2.5 to 10 mm^2	
Motor connection U2, V2, W2						
DC link connection, connection for braking resistor DCP/R1, DCN, R2						
PE connection		at the housing with M 5 screw				
Max. motor cable length [3] shielded/unshielded	m	50 / 75				

Line supply voltage 3-ph. 380 V to 480 V AC ±10%						
PM340	**6SL3210-**	**1SE16-0UA0**	**1SE17-7UA0**	**1SE21-0UA0**	**1SE21-8UA0**	**1SE22-5UA0**
PM340 with integrated line filter	**6SL3210-**	**1SE16-0AA0**	**1SE17-7AA0**	**1SE21-0AA0**	**1SE21-8AA0**	**1SE22-5AA0**
Degree of protection		IP20 or IPXXB				
Weight	kg	4.0	4.0	4.0	6.5	6.5

1) Rated output of a typical standard induction motor at 400 V 3-ph. AC.

2) The input current depends on the motor load and line impedance. The input currents apply for unit rating loading (based on I_{rated}) for a line impedance corresponding to u_k = 1%.

3) Max. motor cable length 25 m (shielded) for PM340 Power Modules with integrated line filter to comply with the limit values of EN 61800-3 Category C2.

Table 3- 12 Technical data PM340, 3-ph. AC, Part 3

Line supply voltage 3-ph. 380 V to 480 V AC ±10%						
PM340	**6SL3210-**	**1SE23-2UA0**	**1SE23-8UA0**	**1SE24-5UA0**	**1SE26-0UA0**	**1SE27-5UA0**
PM340 with integrated line filter	**6SL3210-**	**1SE23-2AA0**	**1SE23-8AA0**	**1SE24-5AA0**	**1SE26-0AA0**	**1SE27-5AA0**
Frame size		FSC	FSD	FSD	FSD	FSE
Output current Rated current I_n Base-load current I_H for S6 operation (40%) I_{s6} Peak current I_{max}	 A A A A	 32 27 37.1 52	 38 33 49 64	 45 40 58 76	 60 48 78 90	 75 65 98 124
Unit rating 1) on basis of I_n on basis of I_H	 kW kW	 15 11	 18.5 15	 22 18.5	 30 22	 37 30
Rated pulse frequency	kHz	4	4	4	4	4
Power loss	kW	0.40	0.38	0.51	0.69	0.99
Cooling air requirement	l/s	54.9	54.9	54.9	54.9	2 x 54.9
Sound pressure level L_{pA} (1 m)	dB(A)	< 60	< 60	< 60	< 60	< 60
24 V DC supply for the Control Unit	A	1.0	1.0	1.0	1.0	1.0
Rated input current2) without/with integrated line reactor	 A	 33 / 39	 40 / 46	 47 / 53	 63 / 72	 78 / 88
Class J UL safety fuses Rated current Rated short-circuit current SCCR	 A kA	 45 65	 50 65	 60 65	 90 65	 100 65
Safety fuses NH Rated current	 A	3NA3 817 40	3NA3 820 50	3NA3 822 63	3NA3 824 80	3NA3 830 100
Circuit breaker type designation EN 60947 Rated current	 A	3RV1031-4HA10 40 - 50	3RV1042-4JA10 45 - 63	3RV1042-4KA10 57 - 75	3RV1042-4MA10 80 - 100	3VL1712-1DD33-0AA0 100 - 125