MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6SL3223-0DE21-1AG1

PM230 1.1 KW POWER MODULE

Used with the applicable SINAMICS G120P configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens Catalog D 35, PM230 selection and technical data

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Selection and ordering data

To ensure that a suitable Power Module is selected, the following currents should be used for applications:

- **Rated output current for applications with low overload (LO)**
- **Base-load current for applications with high overload (HO)**

With reference to the rated output current, the modules support at least 2-pole to 6-pole low-voltage motors, e.g. the SIMOTICS GP and SIMOTICS SD 1LE1 motor series. The rated power is merely a guide value. For a description of the overload performance, please refer to the general technical specifications of the Power Modules.

PM230 Power Modules degree of protection IP55/UL Type 12

Rated power [1]		Rated output current I_{rated} [2]	Power based on the base-load current [3]		Base-load current I_H [3]	Frame size	PM230 Power Module degree of protection IP55/ UL Type 12 [4] with integrated line filter class A		PM230 Power Module degree of protection IP55/ UL Type 12 [4] with integrated line filter class B	
400 V	460 V		400 V	460 V			Article No.		Article No.	
kW	hp	A	**kW**	hp	A					
380 ... 480 V 3 AC										
0.37	0.5	1.3	**0.25**	0.33	0.9	FSA	NEW	**6SL3223-0DE13-7AG1**	NEW	**6SL3223-0DE13-7BG1**
0.55	0.5	1.7	**0.37**	0.33	1.3	FSA	NEW	**6SL3223-0DE15-5AG1**	NEW	**6SL3223-0DE15-5BG1**
0.75	0.75	2.2	**0.55**	0.5	1.7	FSA	NEW	**6SL3223-0DE17-5AG1**	NEW	**6SL3223-0DE17-5BG1**
1.1	1	3.1	**0.75**	0.75	2.2	FSA	NEW	**6SL3223-0DE21-1AG1**	NEW	**6SL3223-0DE21-1BG1**
1.5	2	4.1	**1.1**	1	3.1	FSA	NEW	**6SL3223-0DE21-5AG1**	NEW	**6SL3223-0DE21-5BG1**
2.2	3	5.9	**1.5**	1.5	4.1	FSA	NEW	**6SL3223-0DE22-2AG1**	NEW	**6SL3223-0DE22-2BG1**
3	3	7.7	**2.2**	3	5.9	FSA	NEW	**6SL3223-0DE23-0AG1**	NEW	**6SL3223-0DE23-0BG1**
4	5	10.2	**3**	3	7.7	FSB	NEW	**6SL3223-0DE24-0AG1**	NEW	**6SL3223-0DE24-0BG1**
5.5	7.5	13.2	**4**	5	10.2	FSB	NEW	**6SL3223-0DE25-5AG1**	NEW	**6SL3223-0DE25-5BG1**
7.5	10	18	**5.5**	5	13.2	FSB	NEW	**6SL3223-0DE27-5AG1**	NEW	**6SL3223-0DE27-5BG1**
11	15	26	**7.5**	10	18	FSC	NEW	**6SL3223-0DE31-1AG1**	NEW	**6SL3223-0DE31-1BG1**
15	15	32	**11**	15	26	FSC	NEW	**6SL3223-0DE31-5AG1**	NEW	**6SL3223-0DE31-5BG1**
18.5	20	38	**15**	15	32	FSC	NEW	**6SL3223-0DE31-8AG1**		–
						FSD		–		**6SL3223-0DE31-8BA0**
22	25	45	**18.5**	20	38	FSD		**6SL3223-0DE32-2AA0**		**6SL3223-0DE32-2BA0**
30	30	60	**22**	25	45	FSD		**6SL3223-0DE33-0AA0**		**6SL3223-0DE33-0BA0**
37	40	75	**30**	30	60	FSE		**6SL3223-0DE33-7AA0**		**6SL3223-0DE33-7BA0**
45	50	90	**37**	40	75	FSE		**6SL3223-0DE34-5AA0**		**6SL3223-0DE34-5BA0**
55	60	110	**45**	50	90	FSF		**6SL3223-0DE35-5AA0**		**6SL3223-0DE35-5BA0**
75	75	145	**55**	60	110	FSF		**6SL3223-0DE37-5AA0**		**6SL3223-0DE37-5BA0**
90	100	178	**75**	75	145	FSF		**6SL3223-0DE38-8AA0**		**6SL3223-0DE38-8BA0**

It is essential to plug on an operator panel or the blanking cover in order to achieve degree of protection IP54/IP55/ UL Type 12.
For more information, see Operator panels and Blanking cover for PM230 Power Modules in section Supplementary system components.

Note:

The power data in hp units are based on the NEC/CEC standards for the North American market.

[1] Rated power based on the rated output current I_{rated}. The rated output current I_{rated} is based on the duty cycle for low overload (LO).

[2] The rated output current I_{rated} is based on the duty cycle for low overload (LO). These current values are valid for 400 V and are specified on the rating plate of the Power Module.

[3] The base-load current I_H is based on the duty cycle for high overload (HO).

[4] UL Type 12 only for frame sizes FSA to FSC

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Technical specifications (continued)

PM230 Power Modules, degree of protection IP55

Line voltage 380 ... 480 V 3 AC		PM230 Power Modules, degree of protection IP55/UL Type 12				
With integrated line filter class A		6SL3223-0DE13-7AG1	6SL3223-0DE15-5AG1	6SL3223-0DE17-5AG1	6SL3223-0DE21-1AG1	6SL3223-0DE21-5AG1
With integrated line filter class B		6SL3223-0DE13-7BG1	6SL3223-0DE15-5BG1	6SL3223-0DE17-5BG1	6SL3223-0DE21-1BG1	6SL3223-0DE21-5BG1
Output current at 50 Hz 400 V 3 AC						
• Rated current I_{rated} [1]	A	1.3	1.7	2.2	3.1	4.1
• Base-load current I_L [1]	A	1.3	1.7	2.2	3.1	4.1
• Base-load current I_H [2]	A	0.9	1.3	1.7	2.2	3.1
• Maximum current I_{max}	A	2	2.6	3.4	4.7	6.2
Rated power						
• Based on I_L	kW	0.37	0.55	0.75	1.1	1.5
• Based on I_H	kW	0.25	0.37	0.55	0.75	1.1
Rated pulse frequency	kHz	4	4	4	4	4
Efficiency η	%	86	90	92	94	95
Power loss [3] at rated current	kW	0.04	0.043	0.047	0.055	0.064
Cooling air requirement	m^3/s (ft^3/s)	0.007 (0.25)	0.007 (0.25)	0.007 (0.25)	0.007 (0.25)	0.007 (0.25)
Sound pressure level L_{pA} (1 m)	dB	61.9	61.9	61.9	61.9	61.9
24 V DC power supply for Control Unit	A	1	1	1	1	1
Input current [4]						
• Rated current	A	1.3	1.8	2.3	3.2	4.2
• Based on I_H	A	0.9	1.3	1.8	2.3	3.2
Line supply connection U1/L1, V1/L2, W1/L3		Screw-type terminals, plug-in	Screw-type terminals, plug-in	Screw-type terminals, plug-in	Screw-type terminals, plug-in	Screw-type terminals, plug-in
• Conductor cross-section	mm^2	1 ... 2.5	1 ... 2.5	1 ... 2.5	1 ... 2.5	1 ... 2.5
Motor connection U2, V2, W2		Screw-type terminals, plug-in	Screw-type terminals, plug-in	Screw-type terminals, plug-in	Screw-type terminals, plug-in	Screw-type terminals, plug-in
• Conductor cross-section	mm^2	1 ... 2.5	1 ... 2.5	1 ... 2.5	1 ... 2.5	1 ... 2.5
Motor cable length, max. [5]						
• Shielded	m (ft)	25 (82)	25 (82)	25 (82)	25 (82)	25 (82)
• Unshielded	m (ft)	100 (328)	100 (328)	100 (328)	100 (328)	100 (328)
Degree of protection [6]		IP55/UL Type 12	IP55/UL Type 12	IP55/UL Type 12	IP55/UL Type 12	IP55/UL Type 12
Dimensions						
• Width	mm (in)	154 (6.06)	154 (6.06)	154 (6.06)	154 (6.06)	154 (6.06)
• Height	mm (in)	460 (18.11)	460 (18.11)	460 (18.1)	460 (18.11)	460 (18.1)
• Depth						
- Without operator panel	mm (in)	249 (9.80)	249 (9.80)	249 (9.80)	249 (9.80)	249 (9.80)
- With operator panel, max.	mm (in)	266 (10.47)	266 (10.47)	266 (10.47)	266 (10.47)	266 (10.47)
Frame size		FSA	FSA	FSA	FSA	FSA
Weight, approx.	kg (lb)	4.3 (9.48)	4.3 (9.48)	4.3 (9.48)	4.3 (9.48)	4.3 (9.48)

[1] The rated output current I_{rated} and the base-load current I_L are based on the duty cycle for low overload (LO).

[2] The base-load current I_H is based on the duty cycle for high overload (HO).

[3] Typical values. You can find more information on the Internet at https://support.industry.siemens.com/cs/document/94059311

[4] The input current depends on the motor load and line impedance and applies for a line impedance corresponding to u_K = 1 %. The rated input currents apply for a load at rated power (based on I_{rated}) – these current values are specified on the rating plate.

[5] Max. motor cable length 25 m (82 ft) (shielded) for PM230 Power Modules with integrated line filter to maintain the limit values of EN 61800-3 Category C2 (filter A) or C1 table 14 (filter B). With unshielded cables, Categories C2 and C1 are not achieved.

[6] It is essential to plug on an operator panel or the blanking cover in order to achieve degree of protection IP54/IP55/UL Type 12.
For more information, see Operator panels and blanking cover for PM230 Power Modules in section Supplementary system components.