Overview (continued)

SINAMICS G120P Power Modules for use in water/wastewater applications and in industrial environments, with degree of protection IP20, 380 to 480 V 3 AC

SINAMICS G120P				
Rated power		Power Module	**Control Unit**	**Operator panel**
400 V	460 V		**CU230P-2**	**IOP-2 or BOP-2**
kW	hp	Type	Article No.	Article No.
22	25	6SL3210-1RE24-5 . L0	**6SL3243-0BB30-1** ■ ■ ■	**6SL3255-0AA00-4** ■ ■ ■
30	30	6SL3210-1RE26-0 . L0		
37	40	6SL3210-1RE27-5 . L0		
45	50	6SL3210-1RE28-8 . L0		
55	60	6SL3210-1RE31-1 . L0		
75	75	6SL3210-1RE31-5 . L0		
90	100	6SL3210-1RE31-8 . L0		
110	125	6SL3210-1RE32-1 . L0		
132	150	6SL3210-1RE32-5 . L0		
160	200	6SL3310-1PE33-0AA0		
200	250	6SL3310-1PE33-7AA0		
250	300	6SL3310-1PE34-6AA0		
315	400	6SL3310-1PE35-8AA0		
355	450	6SL3310-1PE36-6AA0		
400	500	6SL3310-1PE37-4AA0		
450	500	6SL3310-1PE38-4AA0		
500	600	6SL3310-1PE38-8AA0		
560	700	6SL3310-1PE41-0AA0		

SINAMICS G120P Control Unit	Fieldbus protocols			
CU230P-2 HVAC	USS, Modbus RTU, BACnet MS/TP, FLN P1	**H**	**A**	**3**
CU230P-2 DP	PROFIBUS DP	**P**	**A**	**3**
CU230P-2 PN	PROFINET, EtherNet/IP	**F**	**A**	**0**

Operator panel	**Operator Panel**				
IOP-2	Intelligent Operator Panel				
	• German, English, French, Italian, Spanish, Portuguese, Dutch, Swedish, Russian, Czech, Polish, Turkish, Finnish, Chinese (simplified)	NEW	**J**	**A**	**2**
BOP-2	Basic Operator Panel		**C**	**A**	**1**

Overview (continued)

SINAMICS G120P Power Modules for use in water/wastewater applications and in industrial environments, with degree of protection IP20, 380 to 480 V 3 AC

SINAMICS G120P						
Rated power		Power Module	Line-side components			
			Line filter class A (Category C2) Only in combination with Power Modules without integrated line filter	**Line reactor**	**Main contactor**	**Switch disconnector**
400 V	460 V					
kW	hp	Type	Article No.	Article No.	Type	Type
22	25	6SL3210-1RE24-5 . L0	–	–	3RT2027-1AP00	3KL5230-1GB01
30	30	6SL3210-1RE26-0 . L0	–	–	3RT2036-1AP04	3KL5230-1GB01
37	40	6SL3210-1RE27-5 . L0	–	–	3RT2037-1AP00	3KL5230-1GB01
45	50	6SL3210-1RE28-8 . L0	–	–	3RT1044-1AP04	3KL5230-1GB01
55	60	6SL3210-1RE31-1 . L0	–	–	3RT1045-1AP04	3KL5530-1GB01
75	75	6SL3210-1RE31-5 . L0	–	–	3RT1054-6AP36	3KL5530-1GB01
90	100	6SL3210-1RE31-8 . L0	–	–	3RT1056-6AP36	3KL5530-1GB01
110	125	6SL3210-1RE32-1 . L0	–	–	3RT1064-6AP36	3KL5730-1GB01
132	150	6SL3210-1RE32-5 . L0	–	–	3RT1064-6AP36	3KL5730-1GB01
160	200	6SL3310-1PE33-0AA0	**6SL3000-0BE33-1AA0**	**6SL3000-0CE33-3AA0**	3RT1456 (2 units)	3KL5730
200	250	6SL3310-1PE33-7AA0	**6SL3000-0BE33-1AA0**	**6SL3000-0CE35-1AA0**	3RT1456 (2 units)	3KL5730
250	300	6SL3310-1PE34-6AA0	**6SL3000-0BE35-0AA0**	**6SL3000-0CE35-1AA0**	3RT1456 (3 units)	3KL6130
315	400	6SL3310-1PE35-8AA0	**6SL3760-0MR00-0AA0**	**6SL3000-0CE36-3AA0**	3RT1456 (3 units)	3KL6130
355	450	6SL3310-1PE36-6AA0	**6SL3760-0MR00-0AA0**	**6SL3000-0CE37-7AA0**	3RT1466 (2 units)	3KL6230
400	500	6SL3310-1PE37-4AA0	**6SL3760-0MR00-0AA0**	**6SL3000-0CE37-7AA0**	3RT1466 (3 units)	3KL6230
450	500	6SL3310-1PE38-4AA0	**6SL3760-0MR00-0AA0**	**6SL3000-0CE38-7AA0**	3RT1466 (3 units)	3KD5034
500	600	6SL3310-1PE38-8AA0	**6SL3760-0MR00-0AA0**	**6SL3000-0CE41-0AA0**	3RT1466 (3 units)	3KD5034
560	700	6SL3310-1PE41-0AA0	**6SL3760-0MR00-0AA0**	**6SL3000-0CE41-0AA0**	3RT1476 (2 units)	3KD5234

Overview (continued)

SINAMICS G120P Power Modules for use in water/wastewater applications and in industrial environments, with degree of protection IP20, 380 to 480 V 3 AC

SINAMICS G120P					
Rated power		Power Module	Recommended line-side overcurrent protection devices IEC-compliant		DC link components
			Fuse	Circuit breaker	Braking Module / braking resistor
400 V	460 V		Type 3NE1 (UL)		
kW	hp	Type	Article No.	Article No.	Article No.
22	25	6SL3210-1RE24-5 . L0	3NE1820-0	1)	–
30	30	6SL3210-1RE26-0 . L0	3NE1021-0	1)	–
37	40	6SL3210-1RE27-5 . L0	3NE1021-0	1)	–
45	50	6SL3210-1RE28-8 . L0	3NE1022-0	1)	–
55	60	6SL3210-1RE31-1 . L0	3NE1224-0	1)	–
75	75	6SL3210-1RE31-5 . L0	3NE1225-0	1)	–
90	100	6SL3210-1RE31-8 . L0	3NE1227-0	1)	–
110	125	6SL3210-1RE32-1 . L0	3NE1230-0	1)	–
132	150	6SL3210-1RE32-5 . L0	3NE1331-0	1)	–
160	200	6SL3310-1PE33-0AA0	3NE1333-2	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
200	250	6SL3310-1PE33-7AA0	3NE1334-2	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
250	300	6SL3310-1PE34-6AA0	3NE1435-2	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
315	400	6SL3310-1PE35-8AA0	3NE1437-2	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
355	450	6SL3310-1PE36-6AA0	3NE1438-2	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
400	500	6SL3310-1PE37-4AA0	3NE1448-2	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
450	500	6SL3310-1PE38-4AA0	3NE1334-3 (2 units)	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
500	600	6SL3310-1PE38-8AA0	3NE1435-3 (2 units)	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0
560	700	6SL3310-1PE41-0AA0	3NE1436-3 (2 units)	–	6SL3760-1AE32-6AA0 6SE3760-5FS87-2DC0

SINAMICS G120P					
Rated power		Power Module	Load-side power components		
400 V	460 V		Output reactor	dv/dt filter plus VPL	dv/dt filter compact plus VPL
kW	hp	Type	Article No.	Article No.	Article No.
22	25	6SL3210-1RE24-5 . L0	6SE6400-3TC07-5ED0	–	–
30	30	6SL3210-1RE26-0 . L0	6SE6400-3TC07-5ED0	–	–
37	40	6SL3210-1RE27-5 . L0	6SE6400-3TC07-5ED0	–	–
45	50	6SL3210-1RE28-8 . L0	6SE6400-3TC14-5FD0	–	–
55	60	6SL3210-1RE31-1 . L0	6SE6400-3TC14-5FD0	–	–
75	75	6SL3210-1RE31-5 . L0	6SE6400-3TC14-5FD0	–	–
90	100	6SL3210-1RE31-8 . L0	6SE6400-3TC14-5FD0	–	–
110	125	6SL3210-1RE32-1 . L0	6SL3000-2BE32-1AA0	–	–
132	150	6SL3210-1RE32-5 . L0	6SL3000-2BE32-6AA0	–	–
160	200	6SL3310-1PE33-0AA0	6SL3000-2BE33-2AA0	6SL3000-2DE35-0AA0	6SL3000-2DE35-0EA0
200	250	6SL3310-1PE33-7AA0	6SL3000-2BE33-8AA0	6SL3000-2DE35-0AA0	6SL3000-2DE35-0EA0
250	300	6SL3310-1PE34-6AA0	6SL3000-2BE35-0AA0	6SL3000-2DE35-0AA0	6SL3000-2DE35-0EA0
315	400	6SL3310-1PE35-8AA0	6SL3000-2AE36-1AA0	6SL3000-2DE38-4AA0	6SL3000-2DE38-4EA0
355	450	6SL3310-1PE36-6AA0	6SL3000-2AE38-4AA0	6SL3000-2DE38-4AA0	6SL3000-2DE38-4EA0
400	500	6SL3310-1PE37-4AA0	6SL3000-2AE38-4AA0	6SL3000-2DE38-4AA0	6SL3000-2DE38-4EA0
450	500	6SL3310-1PE38-4AA0	6SL3000-2AE41-0AA0	6SL3000-2DE41-4AA0	6SL3000-2DE41-4EA0
500	600	6SL3310-1PE38-8AA0	6SL3000-2AE41-0AA0	6SL3000-2DE41-4AA0	6SL3000-2DE41-4EA0
560	700	6SL3310-1PE41-0AA0	6SL3000-2AE41-4AA0	6SL3000-2DE41-4AA0	6SL3000-2DE41-4EA0

1) Recommendations on further overcurrent protection devices are available at:
https://support.industry.siemens.com/cs/document/109750825

Integration (continued)

Power components that are available depending on the Power Module used

The following line-side power components, DC link components and load-side power components can be ordered additionally in the appropriate frames size for the Power Modules:

PM330 Power Module	Frame sizes GX to JX
Line-side power components	
Line filter	✓
Line reactor	✓
DC link components	
Braking Module with braking resistor	✓ 1)
Load-side power components	
Output reactor	✓
dv/dt filter plus VPL	✓
dv/dt filter compact plus VPL	✓

Selection and ordering data

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

- **the base-load current I_L for applications with low overload (LO)**
- **the base-load current I_H for applications with high overload (HO)**

The modules support at least 2-pole and 4-pole low-voltage motors depending on the rated output current. The rated power is merely a guide value. For a description of the overload performance, please refer to the section containing the Power Module characteristics.

Rated power 2)		Rated output current I_{rated}	Base-load current I_L 3)	Power based on the base-load current I_H 4)		Base-load current I_H 4)	Frame size	PM330 Power Module Degree of protection IP20
400 V/690 V	460 V/575 V	400 V/690 V	400 V/690 V	400 V/690 V	460 V/575 V	400 V/690 V		
kW	hp	A	A	**kW**	hp	A		Article No.
380 ... 480 V 3 AC								
160	200	300	290	**132**	150	240	GX	**6SL3310-1PE33-0AA0**
200	250	370	360	**160**	200	296	GX	**6SL3310-1PE33-7AA0**
250	300	460	450	**200**	200	368	GX	**6SL3310-1PE34-6AA0**
315	400	585	570	**250**	300	468	HX	**6SL3310-1PE35-8AA0**
355	450	655	640	**250**	300	491	HX	**6SL3310-1PE36-6AA0**
400	500	735	720	**315**	350	551	HX	**6SL3310-1PE37-4AA0**
450	500	840	820	**355**	450	672	JX	**6SL3310-1PE38-4AA0**
500	600	910	890	**400**	500	728	JX	**6SL3310-1PE38-8AA0**
560	700	1021	1000	**450**	500	786	JX	**6SL3310-1PE41-0AA0**
500 ... 690 V 3 AC								
315	350	340	330	**250**	250	272	HX	**6SL3310-1PG33-7AA0**
355	400	393	385	**315**	300	314	HX	**6SL3310-1PG34-0AA0**
400	450	430	420	**355**	350	348	HX	**6SL3310-1PG34-5AA0**
450	450	480	470	**400**	450	394	HX	**6SL3310-1PG35-2AA0**
500	500	535	520	**450**	450	444	JX	**6SL3310-1PG35-8AA0**
560	600	595	580	**500**	500	476	JX	**6SL3310-1PG36-5AA0**
630	700	665	650	**560**	500	532	JX	**6SL3310-1PG37-2AA0**

Recommended SIRIUS 3SK1 Safety Relays

Designation	Article No.
SIRIUS Safety Relay for STO	**3SK1111-2AB30**
SIRIUS Safety Relay for SS1	**3SK1121-2CB42**

1) Available for Power Modules with line voltage from 380 V to 480 V.
2) Rated power based on the base-load current I_L.
3) The base-load current I_L is based on the duty cycle for low overload (LO).
4) The base-load current I_H is based on the duty cycle for high overload (HO).

Technical specifications

General technical specifications

	PM330 Power Modules
Input data	
Line voltages and power ranges	380 ... 480 V 3 AC ±10 %, 160 ... 560 kW 500 ... 690 V 3 AC ±10 %, 315 ... 630 kW
Starting current	< rated input current (refer to power-dependent data)
Input frequency	47 ... 63 Hz
Grid requirement **Short-circuit power R_{SC}**	>33 line reactor required
Output data	
Output voltage	0 V 3 AC … ≤ (line voltage × 0.97)
Output current	(refer to power-dependent data)
Output frequency	0 ... 150 Hz
Pulse frequency	Self-adjusting up to 4 kHz
Power factor λ	0.75 ... 0.93
Offset factor cos φ	0.96
Further technical specifications	
Overvoltage category to IEC 61800-5-1	• Overvoltage category III: Supply circuits • Overvoltage category II: Non-supply circuits
Braking methods	• DC braking • Dynamic braking with external Braking Module with braking resistor
Type of cooling	Forced air cooling AF to EN 60146
Protection functions	• Undervoltage • Overvoltage • Overcurrent/overload • Overtemperature • Ground fault • Short-circuit • Stall protection • Motor blocking protection • Motor overtemperature • Converter overtemperature/fan failure • Parameter locking • Detection of single-phase motor cable break • Line phase failure
Standards	
Compliance with standards	cULus, CE, RCM, EAC, KC, SEMI F47[1)]
CE marking	According to EMC Directive 2014/30/EU, Low Voltage Directive 2014/35/EU
RI suppression	According to EMC product standard for variable-speed drives EN 61800-3, "second environment". Can be operated in the "first environment" if line filters are installed.

1) SEMI F47 for frame sizes HX (500 V to 690 V) and JX available soon.

Technical specifications

PM330 Power Modules

Line voltage 380 ... 480 V 3 AC		PM330 Power Modules					
		6SL3310-1PE33-0AA0	6SL3310-1PE33-7AA0	6SL3310-1PE34-6AA0	6SL3310-1PE35-8AA0	6SL3310-1PE36-6AA0	6SL3310-1PE37-4AA0
Rated power [1]							
• Based on the base-load current I_L							
- At 400 V/50 Hz	kW	**160**	**200**	**250**	**315**	**355**	**400**
- At 460 V/60 Hz	hp	200	250	300	400	450	500
• Based on the base-load current I_H							
- At 400 V/50 Hz	kW	132	160	200	250	250	315
- At 460 V/60 Hz	hp	150	200	200	300	300	350
Output current at 50 Hz 3 AC							
• Rated current I_{rated} (400 V ±10 %)	A	300	370	460	585	655	735
• Rated current I_{rated} (480 V ±10 %)	A	245	308	369	487	526	602
• Base-load current I_L (400 V ±10 %) [2]	A	290	360	450	570	640	720
• Base-load current I_L (480 V ±10 %) [2]	A	240	302	361	477	515	590
• Base-load current I_H (400 V ±10 %) [3]	A	240	296	368	468	491	551
• Base-load current I_H (480 V ±10 %) [3]	A	196	247	295	390	394	452
• Max. output current I_{max}	A	392	486	608	770	864	972
Rated pulse frequency	kHz	2	2	2	2	2	2
Input current [4]							
• Rated current I_{rated} (400 V ±10 %)	A	317	375	469	597	668	750
• Rated current I_{rated} (480 V ±10 %)	A	262	314	376	497	536	614
• Base-load current I_L (400 V ±10 %) [2]	A	307	365	459	585	654	735
• Base-load current I_L (480 V ±10 %) [2]	A	257	308	368	486	525	602
• Base-load current I_H (400 V ±10 %) [3]	A	254	300	375	477	501	562
• Base-load current I_H (480 V ±10 %) [3]	A	210	251	301	397	402	461
• Max. input current	A	415	493	620	785	881	992
Short-circuit current rating ICC according to IEC in conjunction with the specified fuses	kA	100	100	100	100	100	100
Rated short-circuit current SCCR (Short-Circuit Current Rating) in accordance with UL508C (up to 600 V) in conjunction with the specified fuses	kA	100	100	100	100	100	100
Minimum short-circuit current [5]							
• For 3NE1 fuses	A	3500	4500	7000	10000	11000	13000
• For 3NA3 fuses	A	9500	14000	20000	20000	30000	30000
Efficiency η At rated current I_{rated} (400 V/45 °C (113 °F))	%	98	98	98.1	98.1	98	98.1
Power loss At rated current I_{rated} (400 V/45 °C (113 °F))	kW	3.642	4.414	5.125	6.791	7.687	8.385
Coolant requirements	m^3/s (ft^3/s)	0.21 (7.42)	0.21 (7.42)	0.21 (7.42)	0.36 (12.7)	0.36 (12.7)	0.36 (12.7)
Coolant		Air	Air	Air	Air	Air	Air
Sound pressure level L_{pA} (1 m)	dB	74	74	74	74	74	74
Power requirement 24 V DC supply	A	0.5	0.5	0.5	0.5	0.5	0.5

[1] Rated power of a typical 4-pole standard induction motor based on the base-load current I_L or I_H at 400 V 3 AC/50 Hz (kW) or 460 V 3 AC/60 Hz (hp).

[2] The base-load current I_L is based on the duty cycle for low overload (LO).

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

[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] 10 ms value from current-time characteristic for reliable tripping of installed protection devices. If the minimum short-circuit current is not reached, the tripping time of the fuses is increased, which can lead to damage.

Technical specifications (continued)

Line voltage 380 ... 480 V 3 AC		PM330 Power Modules					
		6SL3310-1PE33-0AA0	6SL3310-1PE33-7AA0	6SL3310-1PE34-6AA0	6SL3310-1PE35-8AA0	6SL3310-1PE36-6AA0	6SL3310-1PE37-4AA0
Line supply connection U1/L1, V1/L2, W1/L3		M12 screw	M12 screw	M12 screw	M12 screw	M12 screw	M12 screw
• Conductor cross section, max. (IEC)	mm^2	2 × 240	2 × 240	2 × 240	4 × 240	4 × 240	4 × 240
Motor connection U2, V2, W2		M12 screw	M12 screw	M12 screw	M12 screw	M12 screw	M12 screw
• Conductor cross section, max. (IEC)	mm^2	2 × 240	2 × 240	2 × 240	4 × 240	4 × 240	4 × 240
DC link connection DCP, DCN		M12 screw	M12 screw	M12 screw	M12 screw	M12 screw	M12 screw
• Conductor cross section, max. (IEC)	mm^2	2 × 240	2 × 240	2 × 240	4 × 240	4 × 240	4 × 240
PE/GND connection		M12 screw	M12 screw	M12 screw	M12 screw	M12 screw	M12 screw
• Conductor cross section, max. (IEC)	mm^2	3 × 240	3 × 240	3 × 240	(4+6) × 240	(4+6) × 240	(4+6) × 240
Cable length, max. between Power Module and motor							
• When compliant with Categories C2 and C3 according to EN 61800-3 shielded	m (ft)	150 (492)	150 (492)	150 (492)	150 (492)	150 (492)	150 (492)
• When non-compliant with the limit values for RI suppression and without output reactor or dv/dt filter unshielded	m (ft)	200 (656)	200 (656)	200 (656)	200 (656)	200 (656)	200 (656)
• When non-compliant with the limit values for RI suppression with output reactor or dv/dt filter shielded/unshielded	m (ft)	300/450 (984/1476)	300/450 (984/1476)	300/450 (984/1476)	300/450 (984/1476)	300/450 (984/1476)	300/450 (984/1476)
Degree of protection		IP20	IP20	IP20	IP20	IP20	IP20
Dimensions							
• Width	mm (in)	452 (17.8)	452 (17.8)	452 (17.8)	548 (21.6)	548 (21.6)	548 (21.6)
• Height	mm (in)	1447 (57.0)	1447 (57.0)	1447 (57.0)	1696 (66.8)	1696 (66.8)	1696 (66.8)
• Depth	mm (in)	327.5 (12.9)	327.5 (12.9)	327.5 (12.9)	393 (15.5)	393 (15.5)	393 (15.5)
Frame size		GX	GX	GX	HX	HX	HX
Weight, approx.	kg (lb)	98 (216)	104 (229)	109 (240)	151 (333)	157 (346)	159 (351)
Minimum size of control cabinet for installation of a Power Module							
• Width	mm (in)	No specifications	No specifications	No specifications	800 (31.5)	800 (31.5)	800 (31.5)
• Height	mm (in)	No specifications	No specifications	No specifications	2000 (78.7)	2000 (78.7)	2000 (78.7)
• Depth	mm (in)	No specifications	No specifications	No specifications	600 (23.6)	600 (23.6)	600 (23.6)

Technical specifications

Line voltage 380 ... 480 V 3 AC		**Line filter**		
		6SL3000-0BE33-1AA0	6SL3000-0BE35-0AA0	6SL3760-0MR00-0AA0
Rated current	A	400	600	1200
Power loss	kW	0.047	0.06	0.106
Line supply connection L1, L2, L3		Connecting lugs for M10, provided for busbar connection	Connecting lugs for M10, provided for busbar connection	Connecting lugs for M12, provided for busbar connection
Load connection L1', L2', L3'		Connecting lugs for M10, provided for busbar connection	Connecting lugs for M10, provided for busbar connection	Connecting lugs for M12, provided for busbar connection
PE connection		Hole for M8	Hole for M10	Hole for M12
Degree of protection		IP00	IP00	IP00
Dimensions				
• Width	mm (in)	360 (14.2)	390 (15.4)	425 (16.7)
• Height	mm (in)	240 (9.45)	265 (10.4)	265 (10.4)
• Depth	mm (in)	116 (4.57)	140 (5.51)	148 (5.83)
Weight, approx.	kg (lb)	12.7 (28.0)	19.9 (43.9)	25 (55.1)
Suitable for PM330 Power Module		6SL3310-1PE33-0AA0 6SL3310-1PE33-7AA0	6SL3310-1PE34-6AA0	HX: 6SL3310-1PE35-8AA0 6SL3310-1PE36-6AA0 6SL3310-1PE37-4AA0 JX: 6SL3310-1PE38-4AA0 6SL3310-1PE38-8AA0 6SL3310-1PE41-0AA0
• Frame size		GX	GX	HX/JX

Line voltage 500 ... 690 V 3 AC		**Line filter**
		6SL3760-0MS00-0AA0
Rated current	A	1200
Power loss	kW	0.112
Line supply connection L1, L2, L3		Connecting lugs for M12, provided for busbar connection
Load connection L1', L2', L3'		Connecting lugs for M12, provided for busbar connection
PE connection		Hole for M12
Degree of protection		IP00
Dimensions		
• Width	mm (in)	425 (16.7)
• Height	mm (in)	265 (10.4)
• Depth	mm (in)	154 (6.06)
Weight, approx.	kg (lb)	25 (55.1)
Suitable for PM330 Power Module		HX: 6SL3310-1PG33-7AA0 6SL3310-1PG34-0AA0 6SL3310-1PG34-5AA0 6SL3310-1PG35-2AA0 JX: 6SL3310-1PG35-8AA0 6SL3310-1PG36-5AA0 6SL3310-1PG37-2AA0
• Frame size		HX/JX

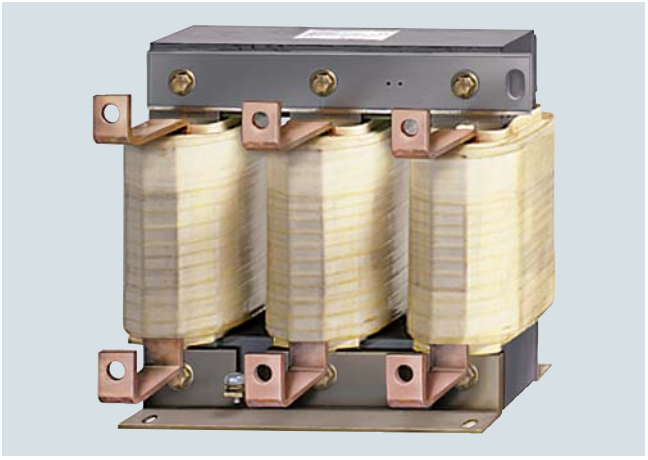
Selection and ordering data

Rated power		SINAMICS G120P, PM330 Power Modules		Line reactor
400 V/690 V	460 V/575 V			
kW	hp	Type 6SL3310-...	Frame size	Article No.
380 ... 480 V 3 AC				
160	200	1PE33-0AA0	GX	**6SL3000-0CE33-3AA0**
200	250	1PE33-7AA0		**6SL3000-0CE35-1AA0**
250	300	1PE34-6AA0		
315	400	1PE35-8AA0	HX	**6SL3000-0CE36-3AA0**
355	450	1PE36-6AA0		**6SL3000-0CE37-7AA0**
400	500	1PE37-4AA0		
450	500	1PE38-4AA0	JX	**6SL3000-0CE38-7AA0**
500	600	1PE38-8AA0		**6SL3000-0CE41-0AA0**
560	700	1PE41-0AA0		
500 ... 690 V 3 AC				
315	350	1PG33-7AA0	HX	**6SL3000-0CH34-8AA0**
355	400	1PG34-0AA0		
400	450	1PG34-5AA0		
450	450	1PG35-2AA0	HX	**6SL3000-0CH36-0AA0**
500	500	1PG35-8AA0	JX	**6SL3000-0CH36-0AA0**
560	600	1PG36-5AA0		**6SL3000-0CH38-4AA0**
630	700	1PG37-2AA0		

Technical specifications

Line voltage 380 ... 480 V 3 AC		**Line reactor**			
		6SL3000-0CE33-3AA0	6SL3000-0CE35-1AA0	6SL3000-0CE36-3AA0	6SL3000-0CE37-7AA0
$I_{th\ max}$	A	331	508	628	773
Nominal inductance L_{rated}	µH	52	42	27	22
Power loss	kW	0.267	0.365	0.368	0.351
Line supply connection 1U1, 1V1, 1W1		1 × hole for M10, provided for busbar connection	1 × hole for M12, provided for busbar connection	1 × hole for M12, provided for busbar connection	1 × hole for M12, provided for busbar connection
Load connection 1U2, 1V2, 1W2		1 × hole for M10, provided for busbar connection	1 × hole for M12, provided for busbar connection	1 × hole for M12, provided for busbar connection	1 × hole for M12, provided for busbar connection
PE connection		M6 screw	M6 screw	M6 screw	M6 screw
Degree of protection		IP00	IP00	IP00	IP00
Dimensions					
• Width	mm (in)	270 (10.6)	300 (11.8)	300 (11.8)	300 (11.8)
• Height	mm (in)	248 (9.76)	269 (10.6)	269 (10.6)	269 (10.6)
• Depth	mm (in)	200 (7.87)	212 (8.35)	212 (8.35)	212 (8.35)
Weight, approx.	kg (lb)	27.8 (61.3)	38 (83.8)	41.4 (91.3)	51.3 (113)
Suitable for PM330 Power Module	Type	6SL3310-1PE33-0AA0	6SL3310-1PE33-7AA0 6SL3310-1PE34-6AA0	6SL3310-1PE35-8AA0	6SL3310-1PE36-6AA0 6SL3310-1PE37-4AA0
• Frame size		GX	GX	HX	HX

Overview



Output reactor

Output reactors reduce the rate of voltage rise (*dv/dt*) and the height of the current peaks, and enable longer motor cables to be connected.

Owing to the high rates of voltage rise of the fast-switching IGBTs, the capacitance of long motor cables reverses polarity very quickly with every switching operation in the converter. As a result, the motor is loaded with additional current peaks of substantial magnitude.

Output reactors reduce the magnitude of these additional peaks because the cable capacitance reverses polarity more slowly across the reactor inductance, thereby attenuating the amplitudes of the current peaks.

When using output reactors, the following should be observed:

- The output reactor must be installed as close as possible to the Power Module.

Selection and ordering data

Rated power		SINAMICS G120 PM330 Power Modules		Output reactor
400 V/ 690 V	460 V/ 575 V			
kW	hp	Type 6SL3310-...	Frame size	Article No.
380 ... 480 V 3 AC				
160	200	1PE33-0AA0	GX	**6SL3000-2BE33-2AA0**
200	250	1PE33-7AA0	GX	**6SL3000-2BE33-8AA0**
250	300	1PE34-6AA0	GX	**6SL3000-2BE35-0AA0**
315	400	1PE35-8AA0	HX	**6SL3000-2AE36-1AA0**
355	450	1PE36-6AA0	HX	**6SL3000-2AE38-4AA0**
400	500	1PE37-4AA0		
450	500	1PE38-4AA0	JX	**6SL3000-2AE41-0AA0**
500	600	1PE38-8AA0		
560	700	1PE41-0AA0		**6SL3000-2AE41-4AA0**
500 ... 690 V 3 AC				
315	350	1PG33-7AA0	HX	**6SL3000-2AH34-7AA0**
355	400	1PG34-0AA0		
400	450	1PG34-5AA0	HX	**6SL3000-2AH35-8AA0**
450	450	1PG35-2AA0	HX	**6SL3000-2AH38-1AA0**
500	500	1PG35-8AA0	JX	**6SL3000-2AH38-1AA0**
560	600	1PG36-5AA0		
630	700	1PG37-2AA0		

Technical specifications

Line voltage 380 ... 480 V 3 AC		**Output reactor**				
		6SL3000-2BE33-2AA0	6SL3000-2BE33-8AA0	6SL3000-2BE35-0AA0	6SL3000-2AE36-1AA0	6SL3000-2AE38-4AA0
Rated current	A	310	380	490	605	840
Power loss	kW	0.422	0.447	0.448	0.798	0.834
Connection						
• To Power Module		1 × hole for M10	1 × hole for M10	1 × hole for M12	1 × hole for M12	1 × hole for M12
• To load		1 × hole for M10	1 × hole for M10	1 × hole for M12	1 × hole for M12	1 × hole for M12
• PE		M8 screw	M8 screw	M8 screw	M10 screw	M10 screw
Cable length, max. between output reactor and motor						
• Shielded	m (ft)	300 (984)	300 (984)	300 (984)	300 (984)	300 (984)
• Unshielded	m (ft)	450 (1476)	450 (1476)	450 (1476)	450 (1476)	450 (1476)
Dimensions						
• Width	mm (in)	300 (11.8)	300 (11.8)	300 (11.8)	410 (16.1)	410 (16.1)
• Height	mm (in)	285 (11.2)	285 (11.2)	365 (14.4)	392 (15.4)	392 (15.4)
• Depth	mm (in)	257 (10.1)	277 (10.9)	277 (10.9)	292 (11.5)	292 (11.5)
Degree of protection		IP00	IP00	IP00	IP00	IP00
Weight, approx.	kg (lb)	62 (137)	73 (161)	100 (220)	130 (287)	140 (309)
Suitable for PM330 Power Module	Type	6SL3310-1PE33-0AA0	6SL3310-1PE33-7AA0	6SL3310-1PE34-6AA0	6SL3310-1PE35-8AA0	6SL3310-1PE36-6AA0 6SL3310-1PE37-4AA0
• Frame size		GX	GX	GX	HX	HX

dv/dt filters plus VPL

Technical specifications

Line voltage 380 ... 480 V 3 AC		dv/dt filter plus VPL		
		6SL3000-2DE35-0AA0	6SL3000-2DE38-4AA0	6SL3000-2DE41-4AA0 [1]
$I_{th\ max}$	A	490	840	1450
Degree of protection		IP00	IP00	IP00
Cable length, max. between dv/dt filter and motor				
• Shielded	m (ft)	300 (984)	300 (984)	300 (984)
• Unshielded	m (ft)	450 (1476)	450 (1476)	450 (1476)
Conformity		CE	CE	CE
Certificates of suitability, according to		cURus	cURus	cURus
dv/dt reactor				
Power loss, max.				
• At 50 Hz	kW	0.874	1.106	1.111
• At 60 Hz	kW	0.904	1.115	1.154
Connections				
• To Power Module		1 × hole for M12	1 × hole for M12	1 × hole for M12
• To load		1 × hole for M12	1 × hole for M12	1 × hole for M12
• PE		M6 screw	M6 screw	M6 screw
Dimensions				
• Width	mm (in)	460 (18.1)	460 (18.1)	445 (17.5)
• Height	mm (in)	370 (14.6)	385 (15.2)	385 (15.2)
• Depth	mm (in)	275 (10.8)	312 (12.3)	312 (12.3)
Weight, approx.	kg (lb)	122 (269)	149 (328)	158 (348)
Voltage Peak Limiter (VPL)				
Power loss, max.				
• At 50 Hz	kW	0.042	0.077	0.134
• At 60 Hz	kW	0.039	0.072	0.125
Connections				
• To dv/dt reactor		70 mm^2 terminals	1 x hole for M8	1 × hole for M10
• To DC link		70 mm^2 terminals	1 x hole for M8	1 × hole for M10
• PE		35 mm^2 terminals	M8 stud	M8 stud
Dimensions				
• Width	mm (in)	392 (15.4)	309 (12.2)	309 (12.2)
• Height	mm (in)	285 (11.2)	1312.5 (51.7)	1312.5 (51.7)
• Depth	mm (in)	210 (8.27)	400 (15.7)	400 (15.7)
Weight, approx.	kg (lb)	16 (35.3)	48 (106)	72 (159)
Suitable for PM330 Power Module		6SL3310-1PE33-0AA0 6SL3310-1PE33-7AA0 6SL3310-1PE34-6AA0	6SL3310-1PE35-8AA0 6SL3310-1PE36-6AA0 6SL3310-1PE37-4AA0	6SL3310-1PE38-4AA0 6SL3310-1PE38-8AA0 6SL3310-1PE41-0AA0
• Frame size		GX	HX	JX

[1] Two dv/dt reactors are required for these dv/dt filters. The listed technical data refers to one dv/dt reactor.

Technical specifications

Line voltage 380 ... 480 V 3 AC		**dv/dt filter compact plus VPL**		
		6SL3000-2DE35-0EA0	6SL3000-2DE38-4EA0	6SL3000-2DE41-4EA0
$I_{th\ max}$	A	490	840	1405
Power loss, max.				
• At 50 Hz	kW	0.29	0.518	1.154
• At 60 Hz	kW	0.296	0.529	1.197
Connections				
• To Power Module		1 × hole for M10, provided for busbar connection	1 × hole for M12, provided for busbar connection	2 × hole for M12, provided for busbar connection
• To load		1 × hole for M10, provided for busbar connection	1 × hole for M12, provided for busbar connection	2 × hole for M12, provided for busbar connection
• PE		Threaded socket M6	Threaded socket M6	Threaded socket M6 (reactor and VPL)
DC link connection, DCPS, DCNS		Threaded socket M8	Hole for M8	Hole for M8
• Conductor cross section, max. (IEC)	mm^2	25	50	95
Cable length, max. between dv/dt filter and motor				
• Shielded	m (ft)	100 (328)	100 (328)	100 (328)
• Unshielded	m (ft)	150 (492)	150 (492)	150 (492)
Degree of protection		IP00	IP00	IP00
Dimensions				
• Width	mm (in)	350 (13.8)	440 (17.3)	Reactor: 430 (16.9) / VPL: 277 (10.9)
• Height	mm (in)	317 (12.5)	369 (14.5)	Reactor: 385 (15.2) / VPL: 360 (14.17)
• Depth	mm (in)	260 (10.2)	311 (12.2)	Reactor: 323 (12.7) / VPL: 291 (11.5)
Weight, approx.	kg (lb)	61 (134)	103 (227)	Reactor: 168.8 (372) / VPL: 19.2 (42.3)
Suitable for PM330 Power Module		6SL3310-1PE33-0AA0 6SL3310-1PE33-7AA0 6SL3310-1PE34-6AA0	6SL3310-1PE35-8AA0 6SL3310-1PE36-6AA0 6SL3310-1PE37-7AA0	6SL3310-1PE38-4AA0 6SL3310-1PE38-8AA0 6SL3310-1PE41-0AA0
• Frame size		GX	HX	JX

Line voltage 500 ... 690 V 3 AC		**dv/dt filter compact plus VPL**	
		6SL3000-2DG35-8EA0	6SL3000-2DG38-1EA0
$I_{th\ max}$	A	575	810
Power loss, max.			
• At 50 Hz	kW	0.571	0.964
• At 60 Hz	kW	0.586	0.998
Connections			
• To Power Module		2 × hole for M12, provided for busbar connection	2 × hole for M12, provided for busbar connection
• To load		2 × hole for M12, provided for busbar connection	2 × hole for M12, provided for busbar connection
• PE		Threaded socket M6	Threaded socket M6
DC link connection, DCPS, DCNS		Hole for M8	Hole for M8
• Conductor cross section, max. (IEC)	mm^2	95	95
Cable length, max. between dv/dt filter and motor			
• Shielded	m (ft)	100 (328)	100 (328)
• Unshielded	m (ft)	150 (492)	150 (492)
Degree of protection		IP00	IP00
Dimensions			
• Width	mm (in)	440 (17.3)	Reactor: 430 (16.9) / VPL: 277 (10.9)
• Height	mm (in)	369 (14.5)	Reactor: 385 (15.2) / VPL: 360 (14.2)
• Depth	mm (in)	311 (12.2)	Reactor: 323 (12.7) / VPL: 291 (11.5)
Weight, approx.	kg (lb)	100 (220)	Reactor: 171.2 (377) / VPL: 18.8 (41.4)
Suitable for PM330 Power Module		6SL3310-1PG33-7AA0 6SL3310-1PG34-0AA0 6SL3310-1PG34-5AA0	HX: 6SL3310-1PG35-2AA0 JX: 6SL3310-1PG35-8AA0 6SL3310-1PG36-5AA0 6SL3310-1PG37-2AA0
• Frame size		HX	HX/JX