

Data sheet for SINAMICS G120X

Article No.: 6SL3230-3YE14-0AB0

Client order no. : Order no.: Offer no. : Remarks:

Rated data		
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10	% -20 %
Line frequency	47 63 Hz	
Rated voltage	400V IEC	480V NEC
Rated current (LO)	3.60 A	3.00 A
Rated current (HO)	2.80 A	2.70 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC 1)
Rated power (LO)	1.50 kW	2.00 hp
Rated power (HO)	1.10 kW	1.50 hp
Rated current (LO)	4.10 A	3.40 A
Rated current (HO)	3.10 A	3.00 A
Rated current (IN)	4.30 A	
Max. output current	4.80 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 200 Hz	
Output frequency for V/f control	0 550 Hz	
Overload capability		

Overload	capability
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Low Overload (LO)

110% base load current IL for 60 s in a 300 s cycle time

High Overload (HO)

150% x base load current IH for 60 s within a 600 s cycle time

General tech. specifications	
Power factor λ	0.70 0.85
Offset factor $\cos\phi$	0.96
Efficiency η	0.97
Sound pressure level (1m)	55 dB
Power loss 3)	0.072 kW
Filter class (integrated)	RFI suppression filter for Category C2
EMC category (with accessories)	Category C2
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7- 1500F)

Communication

CommunicationUSS, Modbus RTU, BACnet MS/TP



Item no.: Consignment no. : Project :

Innute / cutoute		
Inputs / outputs Standard digital inputs		
Number	6	
Switching level: 0 → 1	11 V	
Switching level: 1 → 0	5 V	
Max. inrush current	15 mA	
Fail-safe digital inputs		
Number	1	
Digital outputs		
Number as relay changeover contact	2	
Output (resistive load)	DC 30 V, 5.0 A	
Number as transistor	0	
Analog / digital inputs		
Number	2 (Differential input)	
Resolution	10 bit	
Switching threshold as digital input		
0 → 1	4 V	
1 → 0	1.6 V	
Analog outputs		
Number	1 (Non-isolated output)	

PTC/ KTY interface

1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy $\pm 5~^\circ\text{C}$

Closed-loop control techniques	
V/f linear / square-law / parameterizable	Yes
V/f with flux current control (FCC)	Yes
V/f ECO linear / square-law	Yes
Sensorless vector control	Yes
Vector control, with sensor	No
Encoderless torque control	No
Torque control, with encoder	No



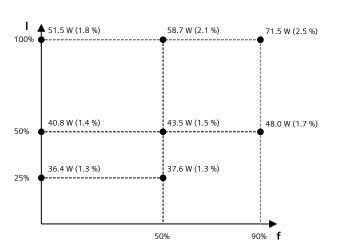
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Ambie	Ambient conditions	
Standard board coating type	Class 3C3, according to IEC 60721-3-3: 2002	
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.005 m ³ /s (0.177 ft ³ /s)	
Installation altitude	1,000 m (3,280.84 ft)	
Ambient temperature		
Operation	-20 45 °C (-4 113 °F)	
Transport	-40 70 °C (-40 158 °F)	
Storage	-25 55 °C (-13 131 °F)	
Relative humidity		
Max. operation	95 % At 40 °C (104 °F), condensation and icing not permissible	
Co	nnections	
Signal cable		
Conductor cross-section	0.15 1.50 mm ² (AWG 24 AWG 16)	
Line side		
Version	screw-type terminal	
Conductor cross-section	1.50 2.50 mm ² (AWG 16 AWG 14)	
Motor end		
Version	Screw-type terminals	
	4.50 0.50 3	
Conductor cross-section	1.50 2.50 mm² (AWG 16 AWG 14)	
Conductor cross-section DC link (for braking resistor)		
DC link (for braking resistor)	(AWG 16 AWG 14)	
DC link (for braking resistor) PE connection	(AWG 16 AWG 14)	

Mechanical data	
Degree of protection	IP20 / UL open type
Frame size	FSA
Net weight	3.4 kg (7.50 lb)
Dimensions	
Width	73 mm (2.87 in)
Height	232 mm (9.13 in)
Depth	218 mm (8.58 in)
Standards	
Compliance with standards	UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH
CE marking	EMC Directive 2004/108/EC, Low- Voltage Directive 2006/95/EC

Converter losses to IEC61800-9-2*	
Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	35.0 %



The percentage values show the losses in relation to the rated apparent power of the converter.

The diagram shows the losses for the points (as per standard IEC61800-9-2) of the relative torque generating current (I) over the relative motor stator frequency (f). The values are valid for the basic version of the converter without options/components.

*converted values

 $^{^{1)}}$ The output current and HP ratings are valid for the voltage range 440V-480V

³⁾Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.



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	Operator panel: I	ntelligent Operator Panel (IOP-2)
	Screen	
Display design	LCD color	Ambient temperature
Screen resolution	320 x 240 Pixel	Operation
	Mechanical data	Storage
Degree of protection	IP55 / UL type 12	Transport
Net weight	0.134 kg (0.30 lb)	Relative humidity at 25°C
Dimensions		Max. operation
Width	70.00 mm (2.76 in)	operation
Height	106.85 mm (4.21 in)	
Depth	19.65 mm (0.77 in)	Certificate of suitability

Ambient conditions Ambient temperature	
	55 °C only with door installation kit
Storage	-40 70 °C (-40 158 °F)
Transport	-40 70 °C (-40 158 °F)
elative humidity at 25°C durir	ng
Max. operation	95 %
	Approvals
ertificate of suitability	CE, cULus, EAC, KCC, RCM

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6SL32303YE140AB0