

Data sheet for SINAMICS G120X

Article No.: 6SL3220-3YE54-0CF0

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

Rated data Input 3 АС Number of phases 380 ... 480 V +10 % -20 % Line voltage Line frequency 47 ... 63 Hz Rated voltage 400V IEC **480V NEC** Rated current (LO) 471.00 A 471.00 A 400.00 A 392.00 A Rated current (HO) Output Number of phases 3 AC Rated voltage **400V IEC** 480V NEC 1) Rated power (LO) 250.00 kW 400.00 hp Rated power (HO) 200.00 kW 300.00 hp Rated current (LO) 477.00 A 477.00 A Rated current (HO) 370.00 A 361.00 A Rated current (IN) 488.00 A Max. output current 644.00 A Pulse frequency 2 kHz Output frequency for vector control 0 ... 200 Hz Output frequency for V/f control 0 ... 550 Hz Overload capability

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	0.90 0.95
Offset factor $\cos\phi$	0.99
Efficiency η	0.98
Sound pressure level (1m)	74 dB
Power loss 3)	6.170 kW
Filter class (integrated)	RFI suppression filter for Category C3
EMC category (with accessories)	Category C3
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7- 1500F)
Communication	

Communication PROFINET, EtherNet/IP

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Item no. : Consignment no. : Project :

Inputs / outputs		
<u> </u>		
Standard digital inputs		
Number	6	
Switching level: $0 \rightarrow 1$	11 V	
Switching level: $1 \rightarrow 0$	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		

PTC/ KTY interface

Number

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

1 (Non-isolated output)

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	



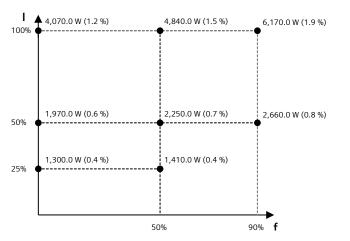
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Ambie	ent conditions
Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.210 m ³ /s (7.416 ft ³ /s)
Installation altitude	1,000 m (3,280.84 ft)
Ambient temperature	
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	onnections
Signal cable	
Conductor cross-section	0.15 1.50 mm ² (AWG 24 AWG 16)
Line side	
Version	M10 screw
Conductor cross-section	35.00 2 x 185.00 mm ² (AWG 1 MCM 2 x 350)
Motor end	
Version	M10 screw
Conductor cross-section	35.00 2 x 185.00 mm ² (AWG 1 MCM 2 x 350)
DC link (for braking resistor)	
PE connection	M10 screw
Max. motor cable length	
Shielded	200 m (656.17 ft)

Mechanical data		
Degree of protection	IP20 / UL open type	
Frame size	FSG	
Net weight	120 kg (264.56 lb)	
Dimensions		
Width	305 mm (12.01 in)	
Height	999 mm (39.33 in)	
Depth	369 mm (14.53 in)	
Sta	andards	
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	





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°0
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 $^{\circ}\text{C}$ 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	