

### **Data sheet for SINAMICS G120X**

Article No.: 6SL3230-2YC24-0UB0

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

Rated data			
Input			
Number of phases	3 AC		
Line voltage	200 240 V +10 %	5 -20 %	
Line frequency	47 63 Hz		
Rated voltage	200V IEC	240V NEC	
Rated current (LO)	26.30 A	26.30 A	
Rated current (HO)	20.80 A	20.80 A	
Output			
Number of phases	3 AC		
Rated voltage	200V IEC	240V NEC 1)	
Rated power (LO)	7.50 kW	10.00 hp	
Rated power (HO)	5.50 kW	7.50 hp	
Rated current (LO)	28.00 A	28.00 A	
Rated current (HO)	22.00 A	22.00 A	
Rated current (IN)	29.00 A		
Max. output current	37.80 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	capabi	lity
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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 $\lambda$	0.70 0.85	
Offset factor $\cos\phi$	0.96	
Efficiency η	0.96	
Sound pressure level (1m)	67 dB	
Power loss 3)	0.365 kW	
Filter class (integrated)	Unfiltered	
EMC category (with accessories)	without	
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 :

Inputs I	outputs	
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		
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	



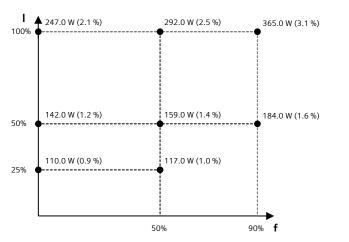
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Ambient conditions		
Standard board coating type	Class 3C3, according to IEC 60721-3-3: 2002	
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.018 m³/s (0.653 ft³/s)	
Installation altitude	1,000 m (3,280.84 ft)	
Ambient temperature		
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	
Connections		
Signal cable		
Conductor cross-section	0.15 1.50 mm <sup>2</sup> (AWG 24 AWG 16)	
Line side		
Version	screw-type terminal	
Conductor cross-section	1.50 16.00 mm <sup>2</sup> (AWG 16 AWG 6)	
Motor end		
Version	Screw-type terminals	
Conductor cross-section	1.50 16.00 mm <sup>2</sup> (AWG 16 AWG 6)	
DC link (for braking resistor)		
PE connection	On housing with M4 screw	
Max. motor cable length		
Shielded	150 m (492.13 ft)	
Unshielded	300 m (984.25 ft)	
onsmelueu	300 III (904.23 II <i>)</i>	

	Mechanical data		
D	egree of protection	IP20 / UL open type	
F	rame size	FSC	
Ν	let weight	7.1 kg (15.65 lb)	
Dimensions			
	Width	140 mm (5.51 in)	
	Height	295 mm (11.61 in)	
	Depth	218 mm (8.58 in)	
Standards			
Compliance with standards		UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH	
C	E 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%)	57.8 %



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

<sup>1)</sup> The output current and HP ratings are valid for the voltage range 220V-240V

<sup>&</sup>lt;sup>3)</sup>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 pane	el: Basic Operator Panel (BOP-2)
	Screen	
Display design	LCD, monochrome	Ambient temperature
	Mechanical data	Operation
	Wiechanical data	Storage
Degree of protection	IP55 / UL type 12	Transport
Net weight	0.140 kg (0.31 lb)	·
Dimensions		Relative humidity at 25
Width	70.00 mm (2.76 in)	Max. operation
Height	106.85 mm (4.21 in)	
Depth	19.60 mm (0.77 in)	Certificate of suitability

Ambient conditions		
Ambient temperature		
Operation	0 50 °C (32 122 °F)	
Storage	-40 70 °C (-40 158 °F)	
Transport	-40 70 °C (-40 158 °F)	
Relative humidity at 25°C during		
Max. operation	95 %	
Approvals		
ertificate of suitability	CE, cULus, EAC, KCC, RCM	

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6SL32302YC240UB0