

Data sheet for SINAMICS G120X

Article No.: 6SL3230-2YE36-0UB0

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)	70.00 A	61.00 A
	Rated current (HO)	62.00 A	54.00 A
Output			
	Number of phases	3 AC	
	Rated voltage	400V IEC	480V NEC 1)
	Rated power (LO)	37.00 kW	50.00 hp
	Rated power (HO)	30.00 kW	40.00 hp
	Rated current (LO)	75.00 A	65.00 A
	Rated current (HO)	60.00 A	52.00 A
	Rated current (IN)	77.00 A	
	Max. output current	102.00 A	
Pulse frequency		4 kHz	
Output frequency for vector control		0 200 Hz	
Output frequency for V/f control		0 550 Hz	
Overload capability			
Low Overload (LO)			

Low Overload (LO)

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

High Overload (HO)

Communication

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	0.97	
Sound pressure level (1m)	70 dB	
Power loss 3)	1.110 kW	
Filter class (integrated)	Unfiltered	
EMC category (with accessories)	without	
Safety function "Safe Torque Off"	without	
_		

Communication

Consignment no. : Project :

Item no. :



Inputs / 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)	
DTC/ VTV interface		

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	

USS, Modbus RTU, BACnet MS/TP



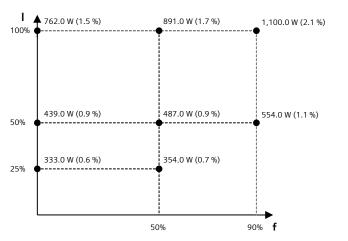
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Ambient conditions		
Standard board coating type	Class 3C3, according to IEC 60721-3-3: 2002	
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.055 m³/s (1.942 ft³/s)	
Installation altitude	1,000 m (3,280.84 ft)	
Ambient temperature		
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	
Conn	ections	
Signal cable		
Conductor cross-section	0.15 1.50 mm ² (AWG 24 AWG 16)	
Line side		
Version	screw-type terminal	
Conductor cross-section	10.00 35.00 mm ² (AWG 8 AWG 2)	
Motor end		
Version	Screw-type terminals	
Conductor cross-section	10.00 35.00 mm ² (AWG 8 AWG 2)	
DC link (for braking resistor)		
PE connection	Screw-type terminals	
Max. motor cable length		
Shielded	200 m (656.17 ft)	
Unshielded	300 m (984.25 ft)	

Mechanical data		
Degree of protection	IP20 / UL open type	
Frame size	FSD	
Net weight	19 kg (41.89 lb)	
Dimensions		
Width	200 mm (7.87 in)	
Height	472 mm (18.58 in)	
Depth	248 mm (9.76 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%)	44.4 %



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 pane	el: Basic Operator Panel (BOP-2)
	Screen	
Display design	LCD, monochrome	Ambient temperature
	Mechanical data	Operation
Degree of protection	IP55 / UL type 12	Storage
Net weight	0.140 kg (0.31 lb)	Transport Relative humidity at 25
Dimensions		Max. operation
Width	70.00 mm (2.76 in)	iviax. 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		
Certificate of suitability	CE, cULus, EAC, KCC, RCM	