

Data sheet for SINAMICS G120X

Article No.: 6SL3220-2YE64-0CP0

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

Rated data		
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10 %	-10 %
Line frequency	47 63 Hz	
Rated voltage	400V IEC	480V NEC
Rated current (LO)	924.00 A	751.00 A
Rated current (HO)	756.00 A	614.00 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC 1)
Rated power (LO)	500.00 kW	600.00 hp
Rated power (HO)	400.00 kW	500.00 hp
Rated current (LO)	890.00 A	724.00 A
Rated current (HO)	820.00 A	591.00 A
Rated current (IN)	910.00 A	
Max. output current	1,202.00 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 100 Hz	
Output frequency for V/f control 0 100 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	0.75 0.93	
Offset factor $\cos\phi$	0.96	
Efficiency η	0.98	
Sound pressure level (1m)	74 dB	
Power loss 3)	10.500 kW	
Filter class (integrated)	RFI suppression filter for Category C3	
EMC category (with accessories)	Category C3	
Safety function "Safe Torque Off"	without	

Communication

Communication PROFIBUS DP



Item no. : Consignment no. : Project :

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		
Analog / digital inputs Number	2 (Differential input)	
3 3 .	2 (Differential input) 10 bit	
Number		
Number Resolution		
Number Resolution Switching threshold as digital input	10 bit	
Number Resolution Switching threshold as digital input 0 → 1	10 bit 4 V	
Number Resolution Switching threshold as digital input $0 \rightarrow 1$ $1 \rightarrow 0$	10 bit 4 V	

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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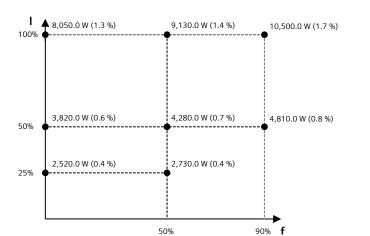
Ambient conditions		
Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002	
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.450 m ³ /s (15.892 ft ³ /s)	
Installation altitude	1,000 m (3,280.84 ft)	
Ambient temperature		
Operation	0 45 °C (32 113 °F)	
Transport	-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 ² (AWG 24 AWG 16)	
Line side		
Version	M12 screw	
Conductor cross-section	6 x 240.00 mm ² (MCM 4 x 500 MCM 6 x 500)	
Motor end		
Motor end Version	M12 screw	
	M12 screw 6 x 240.00 mm ² (MCM 4 x 500 MCM 8 x 500)	
Version	6 x 240.00 mm²	
Version Conductor cross-section	6 x 240.00 mm²	
Version Conductor cross-section DC link (for braking resistor)	6 x 240.00 mm ² (MCM 4 x 500 MCM 8 x 500)	

Mechanical data			
Degree of protection	IP20 / UL open type		
Frame size	FSJ		
Net weight	250 kg (551.16 lb)		
Dimensions			
Width	801 mm (31.54 in)		
Height	1,621 mm (63.82 in)		
Depth	393 mm (15.47 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*

IE2

40.7 %



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

Efficiency class

Comparison with the reference

converter (90% / 100%)

 $^{^{1)}}$ 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	l: 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
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		
Certificate of suitability	CE, cULus, EAC, KCC, RCM	