# SIEMENS

Data sheet for SINAMICS G120X

#### Article No. :

#### 6SL3220-3YE34-0UF0



Figure similar

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

Rate	ed 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)	57.00 A	49.00 A
Rated current (HO)	47.00 A	41.00 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC <sup>1)</sup>
Rated power (LO)	30.00 kW	40.00 hp
Rated power (HO)	22.00 kW	30.00 hp
Rated current (LO)	60.00 A	52.00 A
Rated current (HO)	45.00 A	40.00 A
Rated current (IN)	62.00 A	
Max. output current	81.00 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 200 Hz	
Output frequency for V/f control	0 550 Hz	
Over the end of the set of little		

#### **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 tec	h. specifications
Power factor $\lambda$	0.90 0.95
Offset factor $\cos \phi$	0.99
Efficiency η	0.97
Sound pressure level (1m)	70 dB
Power loss 3)	0.841 kW
Filter class (integrated)	Unfiltered
EMC category (with accessories)	without
Safety function "Safe Torque Off"	without
Communication	

Communication

PROFINET, EtherNet/IP

ltem 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	
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, ser Thermo-Click, accuracy ±5 ℃	nsors that can be connected PTC, KTY and

Closed-loop cor	ntrol 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	0.055 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 mm² (AWG 24 AWG 16)
Line side	
Version	screw-type terminal
Conductor cross-section	10.00 35.00 mm² (AWG 8 AWG 2)
Motor end	
Version	Screw-type terminals
Conductor cross-section	10.00 35.00 mm² (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)

Me	chanical data
Degree of protection	IP20 / UL open type
Frame size	FSD
Net weight	17 kg (37.48 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 lo	osses to IEC61800-9-2*
Efficiency class	IE2
Comparison with the reference converter (90% / 100%)	41.9 %
↓ 594.0 W (1.4 %)	688.0 W (1.7 %) 834.0 W (2.0 %)
	688.0 W (1.7 %) 834.0 W (2.0 %)
	688.0 W (1.7 %) 834.0 W (2.0 %)
	688.0 W (1.7 %) 834.0 W (2.0 %)
100% •	688.0 W (1.7 %) 834.0 W (2.0 %) 391.0 W (0.9 %) 440.0 W (1.1 %)
100%	•

50% 90%  ${\rm f}$  The percentage values show the losses in relation to the rated apparent power of the converter.

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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

25%

<sup>1)</sup>The output current and HP ratings are valid for the voltage range 440V-480V

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

## **SIEMENS**

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Screen         Display design       LCD color         Screen resolution       320 x 240 Pixel         Mechanical data	Ambient temperature
Screen resolution 320 x 240 Pixel Mechanical data	Ambient temperature
Mechanical data	
	Operation
	Storage
Degree of protection IP55 / UL type 12	Transport
Net weight 0.134 kg (0.30 lb)	Relative humidity at 25°C o
Dimensions	Max. operation
Width         70.00 mm (2.76 in)	
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)	
Relative humidity at 25°C durir	ng	
Max. operation	95 %	
Approvals		
Certificate of suitability	CE, cULus, EAC, KCC, RCM	

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