# SIEMENS

Data sheet for SINAMICS G120X

### Article No. :

## 6SL3220-1YE28-0AF0



Figure similar

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)	29.50 A	26.00 A		
Rated current (HO)	24.50 A	21.30 A		
Output				
Number of phases	3 AC			
Rated voltage	400V IEC	480V NEC <sup>1)</sup>		
Rated power (LO)	15.00 kW	20.00 hp		
Rated power (HO)	11.00 kW	15.00 hp		
Rated current (LO)	32.00 A	27.00 A		
Rated current (HO)	26.00 A	21.00 A		
Rated current (IN)	33.00 A			
Max. output current	43.00 A			
Pulse frequency	4 kHz			
Output frequency for vector control	0 200 Hz			
Output frequency for V/f control	0 550 Hz			
Overlaged equability				

### **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 $\lambda$	0.70 0.85	
Offset factor $\cos \phi$	0.96	
Efficiency η	0.98	
Sound pressure level (1m)	67 dB	
Power loss <sup>3)</sup>	0.438 kW	
Filter class (integrated)	RFI suppression filter for Category C2	
EMC category (with accessories)	Category C2	
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, sen Thermo-Click, accuracy $\pm 5~^\circ\mathrm{C}$	nsors that can be connected PTC, KTY and		

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			
Class 3C2, according to IEC 60721-3-3: 2002			
Air cooling using an integrated fan			
0.018 m³/s (0.653 ft³/s)			
1,000 m (3,280.84 ft)			
-20 45 °C (-4 113 °F)			
-40 70 °C (-40 158 °F)			
-25 55 °C (-13 131 °F)			
95 % At 40 °C (104 °F), condensation and icing not permissible			
ections			
0.15 1.50 mm² (AWG 24 AWG 16)			
screw-type terminal			
screw-type terminal 1.50 16.00 mm² (AWG 16 AWG 6)			
1.50 16.00 mm <sup>2</sup>			
1.50 16.00 mm <sup>2</sup>			
1.50 16.00 mm² (AWG 16 AWG 6)			
1.50 16.00 mm <sup>2</sup> (AWG 16 AWG 6) Screw-type terminals 1.50 16.00 mm <sup>2</sup>			
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IP20 / UL open type	
FSC	
7.66 kg (16.89 lb)	
140 mm (5.51 in)	
295 mm (11.61 in)	
218 mm (8.58 in)	
andards	
UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH	
EMC Directive 2004/108/EC, Low- Voltage Directive 2006/95/EC	
ses to IEC61800-9-2	2*
IE2	
39.1 %	
338.0 W (1.5 %)	438.0 W (2.0 %) ●
195.0 W (0.9 %)	227.0 W (1.0 %)
,	· •
147.0 W (0.7 %)	
)	
	FSC 7.66 kg (16.89 lb 140 mm (5.51 in 295 mm (11.61 i 218 mm (8.58 in 218 mm (

The percentage values show the losses in relation to the rated apparent power of the converter.

90% **f** 

50%

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 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.