# SIEMENS

Data sheet for SINAMICS G120X

#### Article No. :

#### 6SL3230-3YH36-0AP0



Figure similar

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

Rated data		
Input		
Number of phases	3 AC	
Line voltage	500 690 V +10	% -20 %
Line frequency	47 63 Hz	
Rated voltage	690V IEC	600V NEC
Rated current (LO)	40.00 A	40.00 A
Rated current (HO)	36.60 A	36.60 A
Output		
Number of phases	3 AC	
Rated voltage	690V IEC	600V NEC <sup>1)</sup>
Rated power (LO)	37.00 kW	40.00 hp
Rated power (HO)	30.00 kW	30.00 hp
Rated current (LO)	42.00 A	42.00 A
Rated current (HO)	35.00 A	35.00 A
Rated current (IN)	43.00 A	
Max. output current	57.00 A	
Pulse frequency	2 kHz	
Output frequency for vector control	0 200 Hz	
Output frequency for V/f control	0 550 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 $\lambda$	0.90 0.95	
Offset factor $\cos \phi$	0.99	
Efficiency η	0.98	
Sound pressure level (1m)	70 dB	
Power loss <sup>3)</sup>	0.980 kW	
Filter class (integrated)	RFI suppression filter for Category C2	
EMC category (with accessories)	Category C2	
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7- 1500F)	
Communication		
Communication	PROFIBUS DP	

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
$1 \rightarrow 0$	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 co	ntrol techniques

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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Ambier	nt 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
Cor	nections
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	100 m (328.08 ft)

Me	chanical data	
Degree of protection	IP20 / UL open	type
Frame size	FSD	
Net weight	19.5 kg (42.99	lb)
Dimensions		
Width	200 mm (7.87	in)
Height	472 mm (18.5	8 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 Voltage Directi	2004/108/EC, Low- ve 2006/95/EC
Converter lo	osses to IEC61800-	9-2*
Efficiency class	IE2	
Comparison with the reference converter (90% / 100%)	41.1 %	
I ↑ 734.0 W (1.5 %)	823.0 W (1.6 %)	980.0 W (2.0 %)
474.0 W (0.9 %)	504.0 W (1.0 %)	552.0 W (1.1 %)
381.0 W (0.8 %)	394.0 W (0.8 %)	

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

50%

90% **f** 

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 550V-600V

<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	l: Intelligen
	Screen	
Display design	LCD color	
Screen resolution	320 x 240 Pixel	
	Mechanical data	
Degree of protection	IP55 / UL type 12	
Net weight	0.134 kg (0.30 lb)	
Dimensions		
Width	70.00 mm (2.76 in)	
Height	106.85 mm (4.21 in)	
Depth	19.65 mm (0.77 in)	

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 durin	ng	
Max. operation	95 %	
	Approvals	
Certificate of suitability	CE, cULus, EAC, KCC, RCM	