# SIEMENS

Data sheet for SINAMICS G120X

#### Article No. :

#### 6SL3230-3YE34-0AB0



Figure similar

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

Rate	d data	
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10 9	% -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	
Overlead canability		

#### **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	0.97	
Sound pressure level (1m)	70 dB	
Power loss <sup>3)</sup>	0.841 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

USS, Modbus RTU, BACnet MS/TP

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, sensors that can be connected PTC, KTY and Thermo-Click, accuracy $\pm 5~^\circ\text{C}$		
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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litions
ss 3C3, according to IEC 60721-3-3: )2
cooling using an integrated fan
55 m³/s (1.942 ft³/s)
00 m (3,280.84 ft)
45 °C (-4 113 °F)
70 °C (-40 158 °F)
55 °C (-13 131 °F)
% At 40 °C (104 °F), condensation l icing not permissible
ons
ons
<b>5</b> 1.50 mm <sup>2</sup> VG 24 AWG 16)
5 1.50 mm²
5 1.50 mm²
5 1.50 mm² /G 24 AWG 16)
5 1.50 mm <sup>2</sup> VG 24 AWG 16) ew-type terminal 00 35.00 mm <sup>2</sup>
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5 1.50 mm <sup>2</sup> VG 24 AWG 16) ew-type terminal 00 35.00 mm <sup>2</sup> VG 8 AWG 2)
5 1.50 mm <sup>2</sup> VG 24 AWG 16) ew-type terminal 00 35.00 mm <sup>2</sup> VG 8 AWG 2) ew-type terminals 00 35.00 mm <sup>2</sup>
5 1.50 mm <sup>2</sup> VG 24 AWG 16) ew-type terminal 00 35.00 mm <sup>2</sup> VG 8 AWG 2) ew-type terminals 00 35.00 mm <sup>2</sup>
5 1.50 mm <sup>2</sup> VG 24 AWG 16) ew-type terminal 00 35.00 mm <sup>2</sup> VG 8 AWG 2) ew-type terminals 00 35.00 mm <sup>2</sup> VG 8 AWG 2)

Frame size FSD   Net weight 18 kg (39.68 lb)   Dimensions 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   Converter losses to IEC61800-9-2*   Efficiency class   IE2   Comparison with the reference converter (90% / 100%)   690.0 W (1.7 %)   841.0 W (2.0 %)   442.0 W (1.1 %)   50%   275.0 W (0.7 %)	Me	chanical data	
Net weight 18 kg (39.68 lb)   Dimensions 200 mm (7.87 in)   Height 472 mm (18.58 in)   Depth 248 mm (9.76 in)   Standards   Compliance with standards   Converter losses   Converter losses   Converter losses   Efficiency class   IE2   Converter losses   S94.0 W (1.4 %)   690.0 W (1.7 %) 841.0 W (2.0 %)   50% 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %)	Degree of protection IP20 / UL open type		
Dimensions   Width 200 mm (7.87 in)   Height 472 mm (18.58 in)   Depth 248 mm (9.76 in)   Standards   Compliance with standards   COnverter losses   Converter losses to IEC61800-9-2*   Efficiency class   IE2   Comparison with the reference converter (90% / 100%)   690.0 W (1.7 %) 841.0 W (2.0 %)   50% 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %)	Frame size	FSD	
Width 200 mm (7.87 in)   Height 472 mm (18.58 in)   Depth 248 mm (9.76 in)   Standards   UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH   Compliance with standards   UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH   Converter losses to IEC61800-9-2*   Efficiency class   IE2   Comparison with the reference converter (90% / 100%)   690.0 W (1.7 %) 841.0 W (2.0 %)   50% 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %)	Net weight	18 kg (39.68 lb)	
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   COnverter losses to IEC61800-9-2*   Efficiency class   IE2   Comparison with the reference converter (90% / 100%)   42.2 %   100% 594.0 W (1.4 %) 690.0 W (1.7 %) 841.0 W (2.0 %)   50% 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %)	Dimensions		
Depth 248 mm (9.76 in)   Standards   Compliance with standards   UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH   CE marking   COnverter losses to IEC61800-9-2*   Efficiency class   IE2   Comparison with the reference converter (90% / 100%)   42.2 %   100%   594.0 W (1.4 %)   690.0 W (1.7 %)   841.0 W (2.0 %)   50%   355.0 W (0.9 %)   392.0 W (0.9 %)   442.0 W (1.1 %)	Width	200 mm (7.87 in)	
Standards     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%)   42.2 %     1   594.0 W (1.4 %)   690.0 W (1.7 %)   841.0 W (2.0 %)     50%   355.0 W (0.9 %)   392.0 W (0.9 %)   442.0 W (1.1 %)	Height	472 mm (18.58 in)	
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%) 42.2 %   \$594.0 W (1.4 %) 690.0 W (1.7 %)   \$594.0 W (0.9 %) 392.0 W (0.9 %)   \$50% 355.0 W (0.9 %)   \$275.0 W (0.7 %) 291.0 W (0.7 %)	Depth	248 mm (9.76 in)	
Compliance with standards 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%) 42.2 %   I 00% 594.0 W (1.4 %) 690.0 W (1.7 %)   841.0 W (2.0 %) 392.0 W (0.9 %) 442.0 W (1.1 %)   50% 275.0 W (0.7 %) 291.0 W (0.7 %)		Standards	
Cc marking   Voltage Directive 2006/95/EC     Converter losses to IEC61800-9-2*     Efficiency class   IE2     Comparison with the reference converter (90% / 100%)   42.2 %     100%   594.0 W (1.4 %)   690.0 W (1.7 %)     841.0 W (2.0 %)   841.0 W (2.0 %)     50%   355.0 W (0.9 %)   392.0 W (0.9 %)     442.0 W (1.1 %)   442.0 W (1.1 %)	Compliance with standards		-,
Efficiency class IE2 Comparison with the reference 42.2 % 100% 594.0 W (1.4 %) 690.0 W (1.7 %) 841.0 W (2.0 %) 100% 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %) 275.0 W (0.7 %) 291.0 W (0.7 %)	CE marking		
Comparison with the reference 42.2 % 42.2 % 594.0 W (1.4 %) 690.0 W (1.7 %) 841.0 W (2.0 %) 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %) 275.0 W (0.7 %) 291.0 W (0.7 %)	Converter lo	osses to IEC61800-9-2*	
1 594.0 W (1.4 %) 690.0 W (1.7 %) 841.0 W (2.0 %)   100%   841.0 W (2.0 %)   50% 355.0 W (0.9 %) 392.0 W (0.9 %) 442.0 W (1.1 %)   275.0 W (0.7 %) 291.0 W (0.7 %) 442.0 W (1.1 %)	Efficiency class	IE2	
100% 355.0 W (0.9 %) 275.0 W (0.7 %) 291.0 W (0.7 %) 291.0 W (0.7 %)		42.2 %	
50% •		690.0 W (1.7 %) • • • • • • • • • • • • • • • • • • •	
		392.0 W (0.9 %) 442.0 W (1.1 %)	
		291.0 W (0.7 %)	

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

<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.

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#### Article No. :

#### 6SL3230-3YE34-0AB0

	Operator pan	el: Intelligent
	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)	

Operator Panel (IOP-2)		
Ambient conditions		
Ambient temperature		
Operation	0 50 °C (32 122 °F)	
	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 during	g	
Max. operation	95 %	
	Approvals	
Certificate of suitability	CE, cULus, EAC, KCC, RCM	

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