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Data sheet for SINAMICS G120X

Article No. :

6SL3230-3YE42-0AP0



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 %	% -20 %
Line frequency	47 63 Hz	
Rated voltage	400V IEC	480V NEC
Rated current (LO)	140.00 A	120.00 A
Rated current (HO)	117.00 A	102.00 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC ¹⁾
Rated power (LO)	75.00 kW	100.00 hp
Rated power (HO)	55.00 kW	75.00 hp
Rated current (LO)	145.00 A	124.00 A
Rated current (HO)	110.00 A	96.00 A
Rated current (IN)	149.00 A	
Max. output current	196.00 A	
Pulse frequency	4 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 λ	0.90 0.95	
Offset factor $\cos \phi$	0.99	
Efficiency η	0.98	
Sound pressure level (1m)	72 dB	
Power loss ³⁾	2.000 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)	
Comm	nunication	
Communication	PROFIBUS DP	

ltem no. : Consignment no. : Project :

Inputs /	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 ±5 °C	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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Ambie	ent conditions
Standard board coating type	Class 3C3, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.153 m³/s (5.403 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
Co	onnections
Signal cable	
Conductor cross-section	0.15 1.50 mm² (AWG 24 AWG 16)
Line side	
Version	M10 screw
Conductor cross-section	35.00 2 x 120.00 mm² (AWG 1 AWG 2 x 4/0)
Motor end	
Version	M10 screw
Conductor cross-section	35.00 2 x 120.00 mm² (AWG 1 AWG 2 x 4/0)
DC link (for braking resistor)	
PE connection	M10 screw
Max. motor cable length	
Shielded	150 m (492.13 ft)

Me	echanical data	
Degree of protection	IP20 / UL open type	
Frame size	FSF	
Net weight	68 kg (149.91 lb)	
Dimensions		
Width	305 mm (12.01 in)	
Height	709 mm (27.91 in)	
Depth	369 mm (14.53 in)	
	Standards	
Compliance with standards	UL, cUL, CE, C-Tick (RCM), EAC, KC SEMI F47, REACH	C,
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%)	42.6 %	
I ▲ 1,390.0 W (1.4 %)	1,620.0 W (1.6 %) 2,000.0 W (2.0 %	5)
100% •	•	
790.0 W (0.8 %)	873.0 W (0.9 %) 995.0 W (1.0 %)	
585.0 W (0.6 %)	621.0 W (0.6 %)	

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

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 panel: Inte	lligen
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)	
elative humidity at 25°C durin	g	
Max. operation	95 %	
	Approvals	
Certificate of suitability	CE, cULus, EAC, KCC, RCM	