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Data sheet for SINAMICS G120X

Article No. :

6SL3220-3YE26-0UB0



Figure simila

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)	24.50 A	21.30 A		
Rated current (HO)	18.25 A	14.00 A		
Output				
Number of phases	3 AC			
Rated voltage	400V IEC	480V NEC ¹⁾		
Rated power (LO)	11.00 kW	15.00 hp		
Rated power (HO)	7.50 kW	10.00 hp		
Rated current (LO)	26.00 A	21.00 A		
Rated current (HO)	18.00 A	14.00 A		
Rated current (IN)	27.00 A			
Max. output current	35.00 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	0.70 0.85	
Offset factor $\cos \phi$	0.96	
Efficiency η	0.98	
Sound pressure level (1m)	67 dB	
Power loss ³⁾	0.344 kW	
Filter class (integrated)	Unfiltered	
EMC category (with accessories)	without	
Safety function "Safe Torque Off"	without	
Communication		

Communication

USS, Modbus RTU, BACnet MS/TP

ltem no. : Consignment no. : Project :

Switching level: 1 → 0 5 Max. inrush current 1 Fail-safe digital inputs 1 Number 1	5 11 V 5 V			
Switching level: 0 → 1 1 Switching level: 1 → 0 5 Max. inrush current 1 Fail-safe digital inputs 1	- 11 V			
Switching level: 1 → 0 5 Max. inrush current 1 Fail-safe digital inputs 1 Number 1				
Max. inrush current 1 Fail-safe digital inputs Number 1	5 V			
Fail-safe digital inputs Number 1				
Number 1	15 mA			
	Fail-safe digital inputs			
Divited externate	l			
Digital outputs	Digital outputs			
Number as relay changeover contact 2	2			
Output (resistive load)	DC 30 V, 5.0 A			
Number as transistor 0)			
Analog / digital inputs				
Number 2	2 (Differential input)			
Resolution 1	I0 bit			
Switching threshold as digital input				
0 → 1 4	1 V			
1 → 0 1	1.6 V			
Analog outputs				
Number 1	I (Non-isolated output)			
PTC/ KTY interface				
1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy $\pm 5~^\circ\mathrm{C}$				

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		
Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002	
Cooling	Air cooling using an integrated fan	
Cooling air requirement	0.018 m³/s (0.653 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	
Con	nections	
Signal cable		
Conductor cross-section	0.15 1.50 mm² (AWG 24 AWG 16)	
Line side		
Version	screw-type terminal	
Conductor cross-section	1.50 16.00 mm² (AWG 16 AWG 6)	
Motor end		
Version	Screw-type terminals	
Conductor cross-section	1.50 16.00 mm² (AWG 16 AWG 6)	
DC link (for braking resistor)		
PE connection	On housing with M4 screw	
Max. motor cable length		
Shielded	150 m (492.13 ft)	
Unshielded	300 m (984.25 ft)	

	Me	echanical data	
Degree of protection		IP20 / UL open	type
Frame	e size	FSC	
Net w	eight	7.14 kg (15.74	4 lb)
Dimer	nsions		
Wid	th	140 mm (5.51	in)
Heig	ght	295 mm (11.6	51 in)
Dep	th	218 mm (8.58	3 in)
		Standards	
Compl	liance with standards	UL, cUL, CE, C SEMI F47, REA	-Tick (RCM), EAC, KCC, CH
CE marking			2004/108/EC, Low- ive 2006/95/EC
	Converter lo	osses to IEC61800-	9-2*
Efficie	Converter lo	usses to IEC61800-	9-2*
Compa			9-2*
Compa	ncy class arison with the reference	IE2	9-2*
Compa convei	ncy class arison with the reference	IE2	9-2* 340.0 W (1.9 %)
Compa convei	ncy class arison with the reference rter (90% / 100%)	IE2 36.4 %	
Compa conver	ncy class arison with the reference rter (90% / 100%)	IE2 36.4 %	
Compa conver	ncy class arison with the reference rter (90% / 100%)	IE2 36.4 % 271.0 W (1.5 %)	340.0 W (1.9 %)
Compa	ncy class arison with the reference rter (90% / 100%)	IE2 36.4 % 271.0 W (1.5 %)	340.0 W (1.9 %)

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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Article No. :

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	Operator pane	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			
Max. operation	95 %		
Approvals			
Certificate of suitability	CE, cULus, EAC, KCC, RCM		