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Data sheet for SINAMICS G120X

Article No. :

6SL3220-2YE32-0UB0



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)	42.00 A	37.00 A
Rated current (HO)	38.00 A	35.00 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC ¹⁾
Rated power (LO)	22.00 kW	30.00 hp
Rated power (HO)	18.50 kW	25.00 hp
Rated current (LO)	45.00 A	40.00 A
Rated current (HO)	38.00 A	34.00 A
Rated current (IN)	47.00 A	
Max. output current	61.00 A	
Pulse frequency	4 kHz	
Output frequency for vector control	0 200 Hz	
Output frequency for V/f control	0 550 Hz	
Overland comphility		

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	0.97
Sound pressure level (1m)	70 dB
Power loss ³⁾	0.732 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 :

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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		
$0 \rightarrow 1$	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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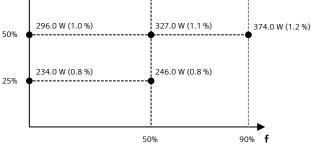
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Ambi	ent conditions
Standard board coating type	Class 3C2, according to IEC 60721-3-3: 2002
Cooling	Air cooling using an integrated fan
Cooling air requirement	0.055 m³/s (1.942 ft³/s)
Installation altitude	1,000 m (3,280.84 ft)
Ambient temperature	
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
Co	onnections
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	200 m (656.17 ft)
Unshielded	300 m (984.25 ft)

Me	echanical data	
Degree of protection	IP20 / UL open	n type
Frame size	FSD	
Net weight	17 kg (37.48 l	b)
Dimensions		
Width	200 mm (7.87	' in)
Height	472 mm (18.5	58 in)
Depth	248 mm (9.76	5 in)
	Standards	
Compliance with standards	UL, cUL, CE, C SEMI F47, REA	-Tick (RCM), EAC, KCC, ICH
CE marking		2004/108/EC, Low- ive 2006/95/EC
Converter le	osses to IEC61800-	9-2*
Efficiency class	IE2	
Comparison with the reference converter (90% / 100%)	47.6 %	
↓ 483.0 W (1.6 %)	570.0 W (1.8 %)	723.0 W (2.3 %)
296.0 W (1.0 %)	327.0 W (1.1 %)	374.0 W (1.2 %)



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

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: Basic Operator Panel (BOP-2)

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Screen		
Display design	LCD, monochrome	
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Mechanical data		
Degree of protection	IP55 / UL type 12	
Net weight	0.140 kg (0.31 lb)	
Dimensions		
Width	70.00 mm (2.76 in)	
Height	106.85 mm (4.21 in)	
Depth	19.60 mm (0.77 in)	

Ambient conditions		
Ambient temperature		
Operation	0 50 °C (32 122 °F)	
Storage	-40 70 °C (-40 158 °F)	
Transport	-40 70 °C (-40 158 °F)	
Relative humidity at 25°C during	3	
Max. operation	95 %	
Approvals		
Certificate of suitability	CE, cULus, EAC, KCC, RCM	