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Error: No CAD-Data available for this configuration.

Figure similar

Data sheet for SINAMICS G120X

Article No. :

6SL3220-1YH36-0UP0

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 ¹⁾
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 λ	0.90 0.95	
Offset factor $\cos \phi$	0.99	
Efficiency η	0.98	
Sound pressure level (1m)	70 dB	
Power loss 3)	0.980 kW	
Filter class (integrated)	Unfiltered	
EMC category (with accessories)	without	
Safety function "Safe Torque Off"	without SIRIUS device (e.g. via S7- 1500F)	
Comm	unication	
Communication	PROFIBUS DP	

Item 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, se	nsors that can be connected PTC, KTY and	

1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy $\pm 5~^\circ\text{C}$

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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Data sheet for SINAMICS G120X

Article No. :

6SL3220-1YH36-0UP0

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	0.055 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 $^\circ C$ (104 $^\circ F), condensation and icing not permissible$	
Cor	nnections	
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	300 m (984.25 ft)	
Unshielded	450 m (1,476.38 ft)	

Frame size FSD Net weight 18.8 kg (41.45 lb) Dimensions Width Width 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, KG SEMI F47, REACH Converter losses to IEC61800-9-2* Efficiency class IE2 Converter losses to IEC61800-9-2* Efficiency class I00% 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	Mee	chanical data		
Net weight 18.8 kg (41.45 lb) Dimensions 200 mm (7.87 in) Height 472 mm (18.58 in) Depth 248 mm (9.76 in) Depth 248 mm (9.76 in) Standards UL, cUL, CE, C-Tick (RCM), EAC, KG SEMI F47, REACH Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KG SEMI F47, REACH Converter losses to IEC61800-9-2* Efficiency class IE2 Comparison with the reference converter (90% / 100%) 40.7 % 971.0 W (1.5 %) S0.0 W (1.6 %) 971.0 W (1.9 %)	Degree of protection	IP20 / UL open type		
Dimensions Width 200 mm (7.87 in) Height 472 mm (18.58 in) Depth Depth 248 mm (9.76 in) Standards Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KC SEMI F47, REACH Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KC SEMI F47, REACH Competition of the standards 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%) \$20.0 W (1.6 %) 971.0 W (1.9 %) 100% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 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 Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KG SEMI F47, REACH Comverter losses to IEC61800-9-2* Efficiency class IE2 Comparison with the reference converter (90% / 100%) 473.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	Net weight	18.8 kg (41.45 lb)		
Height 472 mm (18.58 in) Depth 248 mm (9.76 in) Standards Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KG SEMI F47, REACH Comperison with standards Converter losses to IEC61800-9-2* Efficiency class IE2 Comparison with the reference converter (90% / 100%) 40.7 % 100% 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	Dimensions			
Depth 248 mm (9.76 in) Standards Compliance with standards UL, CUL, CE, C-Tick (RCM), EAC, KG SEMI F47, REACH Comperiation with standards 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%) 40.7 % 100% 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	Width	200 mm (7.87 in)		
Standards Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KG 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%) 40.7 % 100% 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	Height	472 mm (18.58 in)		
Compliance with standards UL, cUL, CE, C-Tick (RCM), EAC, KG 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%) 40.7 % 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	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%) 40.7 % 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)		Standards		
Converter losses to IEC61800-9-2* Efficiency class IE2 Comparison with the reference converter (90% / 100%) 40.7 % 100% 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 50% 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	Compliance with standards		UL, cUL, CE, C-Tick (RCM), EAC, KCC, SEMI F47, REACH	
Efficiency class IE2 Comparison with the reference 40.7 % 734.0 W (1.5 %) 820.0 W (1.6 %) 971.0 W (1.9 %) 473.0 W (0.9 %) 504.0 W (1.0 %) 550.0 W (1.1 %)	CE marking			
Comparison with the reference 40.7 %	Converter lo	sses to IEC61800-9-2*		
converter (90% / 100%)	Efficiency class	IE2		
100% 473.0 W (0.9 %) 50% 504.0 W (1.0 %) 550.0 W (1.1 %)		40.7 %		
100% 473.0 W (0.9 %) 50% 504.0 W (1.0 %) 550.0 W (1.1 %)				
50%		820.0 W (1.6 %) 971.0 W (1.9	9%)	
50%				
50%				
50%				
		504.0 W (1.0 %) 550.0 W (1.7	1%)	
		▼▼		
381.0 W (0.8 %) 394.0 W (0.8 %) 25% ●	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.

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 550V-600V

³⁾ Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.