

### **Data sheet for SINAMICS G120X**

Article No.: 6SL3230-2YH34-0AB0

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

Rated data			
Inp	out		
١	Number of phases	3 AC	
L	ine voltage	500 690 V +10 % -20 %	
L	ine frequency	47 63 Hz	
F	Rated voltage	690V IEC	600V NEC
	Rated current (LO)	33.00 A	33.00 A
	Rated current (HO)	28.00 A	28.00 A
Output			
١	Number of phases	3 AC	
F	Rated voltage	690V IEC	600V NEC 1)
	Rated power (LO)	30.00 kW	30.00 hp
	Rated power (HO)	22.00 kW	25.00 hp
	Rated current (LO)	35.00 A	35.00 A
	Rated current (HO)	27.00 A	27.00 A
	Rated current (IN)	36.00 A	
	Max. output current	48.00 A	
Pulse frequency		2 kHz	
Output frequency for vector control		0 200 Hz	
Output frequency for V/f control		0 550 Hz	
Overload capability			

Overload	capabil	lity
----------	---------	------

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	0.98	
Sound pressure level (1m)	70 dB	
Power loss 3)	0.802 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

CommunicationUSS, Modbus RTU, BACnet MS/TP



Item no.: Consignment no. : Project :

Inputs /	outputs	
Standard digital inputs		
Number	6	
Switching level: 0 → 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, 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	



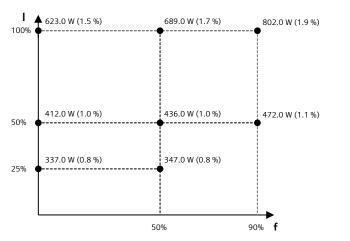
#### **Data sheet for SINAMICS G120X**

Article No.: 6SL3230-2YH34-0AB0

Class 3C3, according to IEC 60721-3-3: 2002  Cooling Air cooling using an integrated fan 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  Connections  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	Ambient conditions			
Cooling air requirement  Installation altitude  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  Connections  Signal cable  Conductor cross-section  Conductor cross-section  0.15 1.50 mm² (AWG 24 AWG 16)  Line side  Version  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)  Motor end  Version  Screw-type terminals  Conductor cross-section  Screw-type terminals  Conductor cross-section  Conductor cross-section  Screw-type terminals  Conductor cross-section  Screw-type terminals  Conductor cross-section  Screw-type terminals	Standard board coating type			
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  Connections  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	Cooling	Air cooling using an integrated fan		
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  Connections  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	Cooling air requirement	0.055 m <sup>3</sup> /s (1.942 ft <sup>3</sup> /s)		
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  Connections  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	Installation altitude	1,000 m (3,280.84 ft)		
Transport  Storage  -25 55 °C (-40 158 °F)  Relative humidity  Max. operation  95 % At 40 °C (104 °F), condensation and icing not permissible  Connections  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	Ambient temperature			
Storage -25 55 °C (-13 131 °F)  Relative humidity  Max. operation 95 % At 40 °C (104 °F), condensation and icing not permissible  Connections  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	Operation	-20 45 °C (-4 113 °F)		
Relative humidity  Max. operation  95 % At 40 °C (104 °F), condensation and icing not permissible  Connections  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	Transport	-40 70 °C (-40 158 °F)		
Max. operation  95 % At 40 °C (104 °F), condensation and icing not permissible  Connections  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	Storage	-25 55 °C (-13 131 °F)		
Connections  Signal cable  Conductor cross-section  Line side  Version  Conductor cross-section  Motor end  Version  Screw-type terminal  Version  Screw-type terminals  Conductor cross-section  Motor end  Version  Screw-type terminals  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	Relative humidity			
Signal cable  Conductor cross-section  Conductor cross-section  Conductor cross-section  Conductor cross-section  Conductor cross-section  Conductor cross-section  Version  Screw-type terminals  Conductor cross-section  Screw-type terminals  Conductor cross-section  Conductor cross-section  Conductor cross-section  Conductor cross-section  Conductor cross-section  Screw-type terminals  Conductor cross-section  Conductor cross-section  Screw-type terminals  PE connection  Screw-type terminals	Max. operation			
Conductor cross-section  O.15 1.50 mm² (AWG 24 AWG 16)  Line side  Version  Screw-type terminal  Conductor cross-section  Motor end  Version  Screw-type terminals  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	Connections			
Conductor cross-section (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	Signal cable			
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	Conductor cross-section			
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	Line side			
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	Version	screw-type terminal		
Version  Screw-type terminals  10.00 35.00 mm² (AWG 8 AWG 2)  DC link (for braking resistor)  PE connection  Screw-type terminals	Conductor cross-section			
Conductor cross-section  10.00 35.00 mm² (AWG 8 AWG 2)  DC link (for braking resistor)  PE connection  Screw-type terminals	Motor end			
Conductor cross-section (AWG 8 AWG 2)  DC link (for braking resistor)  PE connection Screw-type terminals	Version	Screw-type terminals		
PE connection Screw-type terminals	Conductor cross-section			
	DC link (for braking resistor)			
Max. motor cable length	PE connection	Screw-type terminals		
	Max. motor cable length			
Shielded 100 m (328.08 ft)	Shielded	100 m (328.08 ft)		

Mech	anical data		
Degree of protection	IP20 / UL open type		
Frame size	FSD		
Net weight	18.3 kg (40.34 lb)		
Dimensions			
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, 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%)	40.0 %	



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 550V-600V

<sup>&</sup>lt;sup>3)</sup>Typical value. More information can be found in the element group "Converter losses to IEC 61800-9-2" in this datasheet.



## **Data sheet for SINAMICS G120X**

Article No.: 6SL3230-2YH34-0AB0

	Operator pane	el: Basic Operator Panel (BOP-2)
	Screen	
Display design	LCD, monochrome	Ambient temperature
	Mechanical data	Operation
Degree of protection	IP55 / UL type 12	Storage
Net weight	0.140 kg (0.31 lb)	Transport  Relative humidity at 25
Dimensions		Max. operation
Width	70.00 mm (2.76 in)	iviax. operation
Height	106.85 mm (4.21 in)	
Depth	19.60 mm (0.77 in)	Certificate of suitability

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

# **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Siemens:

6SL32302YH340AB0