

## **Data sheet for SINAMICS G120X**

Article No.: 6SL3220-1YE54-0AP0

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

Rated data		
Input		
Number of phases	3 AC	
Line voltage	380 480 V +10 %	o -20 %
Line frequency	47 63 Hz	
Rated voltage	400V IEC	480V NEC
Rated current (LO)	471.00 A	471.00 A
Rated current (HO)	400.00 A	392.00 A
Output		
Number of phases	3 AC	
Rated voltage	400V IEC	480V NEC 1)
Rated power (LO)	250.00 kW	400.00 hp
Rated power (HO)	200.00 kW	300.00 hp
Rated current (LO)	477.00 A	477.00 A
Rated current (HO)	370.00 A	361.00 A
Rated current (IN)	488.00 A	
Max. output current	644.00 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)	74 dB	
Power loss 3)	6.170 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		

CommunicationPROFIBUS 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 → 0	1.6 V
Analog outputs	
Number	1 (Non-isolated output)
DTC/VTV interface	

## PTC/ KTY interface

1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy ±5 °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



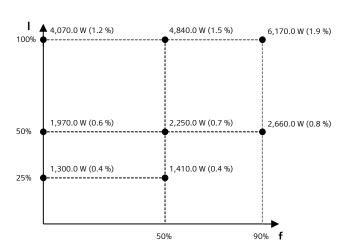
## **Data sheet for SINAMICS G120X**

Article No.: 6SL3220-1YE54-0AP0

Ambie	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	0.210 m <sup>3</sup> /s (7.416 ft <sup>3</sup> /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 mm <sup>2</sup> (AWG 24 AWG 16)	
Line side		
Version	M10 screw	
Conductor cross-section	35.00 2 x 185.00 mm <sup>2</sup> (AWG 1 MCM 2 x 350)	
Motor end		
Version	M10 screw	
Conductor cross-section	35.00 2 x 185.00 mm <sup>2</sup> (AWG 1 MCM 2 x 350)	
DC link (for braking resistor)		
PE connection	M10 screw	
Max. motor cable length		
Shielded	150 m (492.13 ft)	

Mechanical data		
Degree of protection	IP20 / UL open type	
Frame size	FSG	
Net weight	120 kg (264.56 lb)	
Dimensions		
Width	305 mm (12.01 in)	
Height	999 mm (39.33 in)	
Depth	369 mm (14.53 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%)	45.7 %	



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 440V-480V

<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.