

Article No. : 6SL3220-1YE12-0UF0

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

Item no. :  
Consignment no. :  
Project :



Figure similar

| 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)   | 2.80 A                                    | 2.70 A                 |
| Rated current (HO)   | 2.10 A                                    | 2.00 A                 |
| Output   |   |                        |
| Number of phases   | 3 AC                                      |                        |
| Rated voltage  | 400V IEC                                  | 480V NEC <sup>1)</sup> |
| Rated power (LO)   | 1.10 kW                                   | 1.50 hp                |
| Rated power (HO)   | 0.75 kW                                   | 1.00 hp                |
| Rated current (LO)   | 3.10 A                                    | 3.00 A                 |
| Rated current (HO)   | 2.20 A                                    | 2.10 A                 |
| Rated current (IN)   | 3.20 A                                    |                        |
| Max. output current  | 3.40 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 φ  | 0.96                                      |                        |
| Efficiency η   | 0.97                                      |                        |
| Sound pressure level (1m)                                      | 55 dB                                     |                        |
| Power loss <sup>3)</sup>                                       | 0.055 kW                                  |                        |
| Filter class (integrated)                                      | Unfiltered                                |                        |
| EMC category (with accessories)                                | without                                   |                        |
| Safety function "Safe Torque Off"                              | without SIRIUS device (e.g. via S7-1500F) |                        |
| Communication  |   |                        |
| Communication  | PROFINET, EtherNet/IP                     |                        |

| Inputs / outputs  |                         |
|---|-------------------------|
| Standard digital inputs   |                         |
| Number  | 6                       |
| Switching level: 0 → 1  | 11 V                    |
| Switching level: 1 → 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 ±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

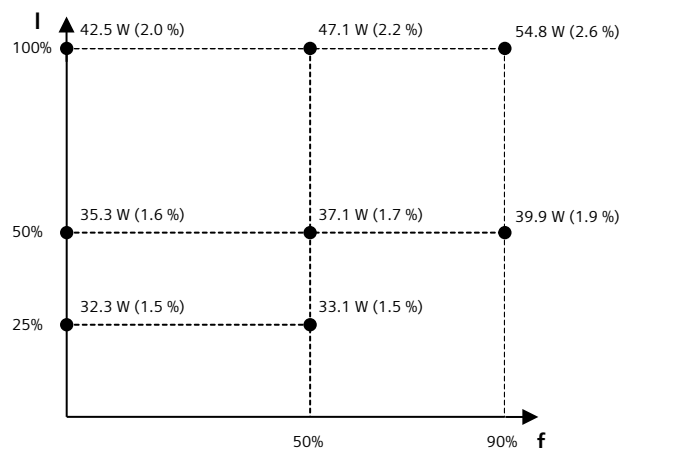
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| Ambient conditions          |  |
|-----------------------------|--|
| Standard board coating type | Class 3C2, according to IEC 60721-3-3: 2002                    |
| Cooling                     | Air cooling using an integrated fan                            |
| Cooling air requirement     | 0.005 m³/s (0.177 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        | 1.50 ... 2.50 mm² (AWG 16 ... AWG 14) |
| Motor end                      |                                       |
| Version                        | Screw-type terminals                  |
| Conductor cross-section        | 1.50 ... 2.50 mm² (AWG 16 ... AWG 14) |
| 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)                     |

| Mechanical data           |   |
|---------------------------|---|
| Degree of protection      | IP20 / UL open type   |
| Frame size                | FSA   |
| Net weight                | 3.2 kg (7.05 lb)  |
| Dimensions                |   |
| Width                     | 73 mm (2.87 in)   |
| Height                    | 232 mm (9.13 in)  |
| Depth                     | 218 mm (8.58 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%) | 31.1 % |



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