# SIEMENS

## Data sheet for SINAMICS G120C

**MLFB-Ordering data**    **6SL3210-1KE24-4AF1**

Figure similar

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

Item no. :
Consignment no. :
Project :

## Rated data

### Input

| | |
|---|---|
| Number of phases | 3 AC |
| Line voltage | 380 ... 480 V +10 % -20 % |
| Line frequency | 47 ... 63 Hz |
| Rated current (LO) | 41.00 A |
| Rated current (HO) | 39.00 A |

### Output

| | |
|---|---|
| Number of phases | 3 AC |
| Rated voltage | 400 V |
| Rated power IEC 400V (LO) | 22.00 kW |
| Rated power NEC 480V (LO) | 25.00 hp |
| Rated power IEC 400V (HO) | 18.50 kW |
| Rated power NEC 480V (HO) | 20.00 hp |
| Rated current (LO) | 43.00 A |
| Rated current (HO) | 37.00 A |
| Rated current (IN) | 43.00 A |
| Max. output current | 74.00 A |
| Pulse frequency | 4 kHz |
| Output frequency for vector control | 0 ... 240 Hz |
| Output frequency for V/f control | 0 ... 550 Hz |

### Overload capability

**Low Overload (LO)**

150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time

**High Overload (HO)**

200 % base load current IH for 3 s, followed by 150 % base load current IH for 57 s in a 300 s cycle time

## General tech. specifications

| | |
|---|---|
| Power factor λ | 0.90 ... 0.95 |
| Offset factor cos φ | 0.99 |
| Efficiency η | 0.98 |
| Sound pressure level (1m) | 72 dB |
| Power loss | 0.68 kW |
| Filter class (integrated) | Class A |

## Ambient conditions

| | |
|---|---|
| Cooling | Air cooling using an integrated fan |
| Cooling air requirement | 0.055 m³/s (1.942 ft³/s) |
| Installation altitude | 1000 m (3280.84 ft) |

### Ambient temperature

| | |
|---|---|
| Operation | -20 ... 40 °C (-4 ... 104 °F) |
| Transport | -40 ... 70 °C (-40 ... 158 °F) |
| Storage | -40 ... 70 °C (-40 ... 158 °F) |

### Relative humidity

| | |
|---|---|
| Max. operation | 95 % RH, condensation not permitted |

## 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 |

Technical data are subject to change! There may be discrepancies between calculated and rating plate values.

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### Mechanical data

| | |
|---|---|
| **Degree of protection** | IP20 / UL open type |
| **Size** | FSD |
| **Net weight** | 18.80 kg (41.45 lb) |
| **Width** | 200 mm (7.87 in) |
| **Height** | 472 mm (18.58 in) |
| **Depth** | 237 mm (9.33 in) |

### 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** | 1 |
| **Output (resistive load)** | DC 30 V, 0.5 A |
| **Number as transistor** | 1 |
| **Output (resistive load)** | DC 30 V, 0.5 A |

#### Analog / digital inputs

| | |
|---|---|
| **Number** | 1 (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

### Communication

| | |
|---|---|
| **Communication** | PROFINET, EtherNet/IP |

### 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)

| | |
|---|---|
| **Version** | Screw-type terminals |
| **Conductor cross-section** | 10.00 ... 35.00 mm² (AWG 8 ... AWG 2) |
| **Line length, max.** | 10 m (32.81 ft) |
| **PE connection** | Screw-type terminals |

#### Max. motor cable length

| | |
|---|---|
| **Shielded** | 200 m (656.17 ft) |
| **Unshielded** | 300 m (984.25 ft) |

### Standards

| | |
|---|---|
| **Compliance with standards** | UL, cUL, CE, C-Tick (RCM) |
| **CE marking** | EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC |

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## Data sheet for SINAMICS G120C

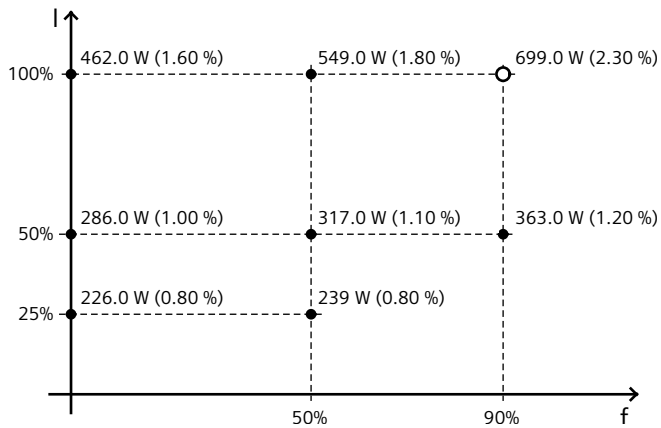**MLFB-Ordering data**

**6SL3210-1KE24-4AF1**

### Converter losses to IEC61800-9-2*

| Efficiency class | IE2 |
|---|---|
| Comparison with the reference converter (90% / 100%) | 48.20 % |



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