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# Data sheet for SINAMICS G120C

Figure similar

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

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 (IN)** | 43.00 A |
| **Rated current (LO)** | 43.00 A |
| **Rated current (HO)** | 37.00 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 |

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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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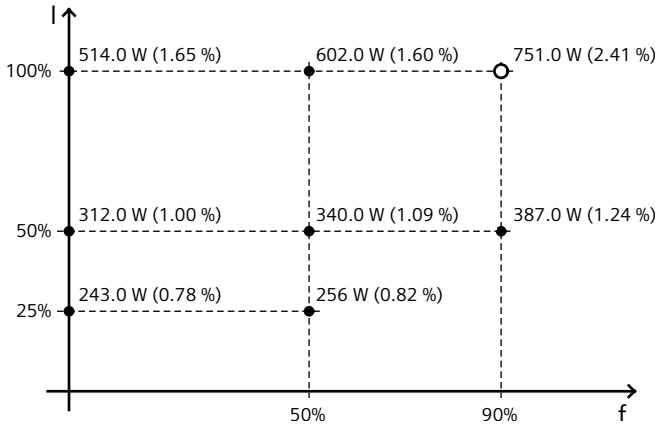
## Converter losses to EN 50598-2*

| | |
|---|---|
| Efficiency class | IE2 |
| Comparison with the reference converter (90% / 100%) | -51.51 % |




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 EN 50598) 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