



SINAMICS G120C 数据表

Data sheet for SINAMICS G120C

订货号：6SL3210-1KE13-2AF2

Article No.：



图像类似  
Figure similar

客户订单号：  
Client order no.：  
西门子订单号：  
Order no.：  
报价号：  
Offer no.：  
注释：  
Remarks：

物品号：  
Item no.：  
托运号：  
Consignment no.：  
项目：  
Project：

|      |            |
|------|------------|
| 额定数据 | Rated data |
|------|------------|

输入

Input

|                    |                           |
|--------------------|---------------------------|
| 相位数                | 3 AC                      |
| Number of phases   |                           |
| 电源电压               | 380 ... 480 V +10 % -20 % |
| Line voltage       |                           |
| 电源频率               | 47 ... 63 Hz              |
| Line frequency     |                           |
| 额定电流 (LO)          | 4.10 A                    |
| Rated current (LO) |                           |
| 额定电流 (HO)          | 3.20 A                    |
| Rated current (HO) |                           |

输出

Output

|                                     |              |                        |
|-------------------------------------|--------------|------------------------|
| 相位数                                 | 3 AC         |                        |
| Number of phases                    |              |                        |
| 额定电压                                | 400V IEC     | 480V NEC <sup>1)</sup> |
| Rated voltage                       |              |                        |
| 额定功率 (LO)                           | 1.10 kW      | 1.50 hp                |
| Rated power (LO)                    |              |                        |
| 额定功率 (HO)                           | 0.75 kW      | 1.00 hp                |
| Rated power (HO)                    |              |                        |
| 额定电流 (LO)                           | 3.10 A       |                        |
| Rated current (LO)                  |              |                        |
| 额定电流 (HO)                           | 2.20 A       |                        |
| Rated current (HO)                  |              |                        |
| 额定电流 (IN)                           | 3.20 A       |                        |
| Rated current (IN)                  |              |                        |
| 最大输出电流                              | 4.40 A       |                        |
| Max. output current                 |              |                        |
| 脉冲频率                                | 4 kHz        |                        |
| Pulse frequency                     |              |                        |
| 矢量控制时的输出频率                          | 0 ... 240 Hz |                        |
| Output frequency for vector control |              |                        |
| V/f控制时的输出频率                         | 0 ... 550 Hz |                        |
| Output frequency for V/f control    |              |                        |

过载能力

Overload capability

|                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 低过载 (LO)                                                                                                                                              |
| Low Overload (LO)                                                                                                                                     |
| 3 秒的 150 % 基本负载电流 IL，接下来在一个 300 秒的循环时间中有 57秒的110 % 基本负载电流 IL                                                                                          |
| 150 % base load current IL for 3 s, followed by 110 % base load current IL for 57 s in a 300 s cycle time                                             |
| 高过载 (HO)                                                                                                                                              |
| High Overload (HO)                                                                                                                                    |
| 振动测试（根据 IEC 60068-2-6 的测试 Fc；正弦；9 至 29 Hz（振幅 0.3mm）；29 至 200 Hz（加速度 1g）；10 个频率周期（每轴））；冲击测试（根据IEC 60068-2-27 的测试 Ea；半正弦；5g 峰值加速；持续时间 30 ms（每个方向3 次冲击）） |
| 200% base load current IH for 3 s, followed by 150% base load current IH for 57 s in a 300 s cycle time                                               |

|        |                              |
|--------|------------------------------|
| 通用技术参数 | General tech. specifications |
|--------|------------------------------|

|                           |               |
|---------------------------|---------------|
| 功率系数 λ                    | 0.70 ... 0.85 |
| Power factor λ            |               |
| 偏移角 cos φ                 | 0.95          |
| Offset factor cos φ       |               |
| 效率 η                      | 0.97          |
| Efficiency η              |               |
| 声压级 LpA(1m)               | 49 dB         |
| Sound pressure level (1m) |               |
| 损耗功率                      | 49.0 W        |
| Power loss                |               |
| 滤波器等级（集成式）                | A 级           |
| Filter class (integrated) | Class A       |

|    |               |
|----|---------------|
| 通讯 | Communication |
|----|---------------|

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

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| 输入/输出<br>Inputs / outputs                                                                                                                                              |                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 数字量输入 - 标准<br>Standard digital inputs                                                                                                                                  |                                        |
| 数量<br>Number                                                                                                                                                           | 6                                      |
| 开关电平: 0→1<br>Switching level: 0→1                                                                                                                                      | 11 V                                   |
| 开关电平: 1→0<br>Switching level: 1→0                                                                                                                                      | 5 V                                    |
| 最大接通电流<br>Max. inrush current                                                                                                                                          | 15 mA                                  |
| 故障安全数字量输入<br>Fail-safe digital inputs                                                                                                                                  |                                        |
| 数量<br>Number                                                                                                                                                           | 1                                      |
| 数字量输出<br>Digital outputs                                                                                                                                               |                                        |
| 作为继电器转换器的数量<br>Number as relay changeover contact                                                                                                                      | 1                                      |
| 输出 (欧姆负载)<br>Output (resistive load)                                                                                                                                   | DC 30 V, 0.5 A                         |
| 作为晶体管的数量<br>Number as transistor                                                                                                                                       | 1                                      |
| 输出 (欧姆负载)<br>Output (resistive load)                                                                                                                                   | DC 30 V, 0.5 A                         |
| 模拟量/数字量输入<br>Analog / digital inputs                                                                                                                                   |                                        |
| 数量<br>Number                                                                                                                                                           | 1 (压差输入端)<br>1 (Differential input)    |
| 分辨率<br>Resolution                                                                                                                                                      | 10 位                                   |
| 作为数字量输入的接通阈值<br>Switching threshold as digital input                                                                                                                   |                                        |
| 0→1                                                                                                                                                                    | 4 V                                    |
| 1→0                                                                                                                                                                    | 1.6 V                                  |
| 模拟量输出<br>Analog outputs                                                                                                                                                |                                        |
| 数量<br>Number                                                                                                                                                           | 1 (电位相关输出端)<br>1 (Non-isolated output) |
| PTC/ KTY接口<br>PTC/ KTY interface                                                                                                                                       |                                        |
| 1 个电机温度传感器输入端，可连接的 PTC 传感器，KTY 和Thermo-Click，准确度在 ±5 °C 内<br>1 motor temperature sensor input, sensors that can be connected PTC, KTY and Thermo-Click, accuracy ±5 °C |                                        |

| 闭环控制方式<br>Closed-loop control techniques                    |                                                                                                   |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| V/f线性/平方/可参数设置<br>V/f linear / square-law / parameterizable | 是<br>Yes                                                                                          |
| V/f，带磁通电流控制（FCC）<br>V/f with flux current control (FCC)     | 是<br>Yes                                                                                          |
| V/f ECO 线性/平方<br>V/f ECO linear / square-law                | 是<br>Yes                                                                                          |
| 矢量控制，无编码器<br>Sensorless vector control                      | 是<br>Yes                                                                                          |
| 矢量控制，带编码器<br>Vector control, with sensor                    | 否<br>No                                                                                           |
| 转矩控制，无编码器<br>Encoderless torque control                     | 否<br>No                                                                                           |
| 转矩控制，带编码器<br>Torque control, with encoder                   | 否<br>No                                                                                           |
| 环境条件<br>Ambient conditions                                  |                                                                                                   |
| 冷却<br>Cooling                                               | 通过集成的风扇进行空气冷却<br>Air cooling using an integrated fan                                              |
| 冷却空气需求<br>Cooling air requirement                           | 0.005 m³/s (0.177 ft³/s)                                                                          |
| 安装高度<br>Installation altitude                               | 1,000 米 (3,280.84 ft)                                                                             |
| 环境温度<br>Ambient temperature                                 |                                                                                                   |
| 运行<br>Operation                                             | -10 ... 40 °C (14 ... 104 °F)                                                                     |
| 运输<br>Transport                                             | -40 ... 70 °C (-40 ... 158 °F)                                                                    |
| 存放温度<br>Storage                                             | -40 ... 70 °C (-40 ... 158 °F)                                                                    |
| 相对空气湿度<br>Relative humidity                                 |                                                                                                   |
| 运行，最大<br>Max. operation                                     | 95 % 40 °C (104 °F) 时，禁止发生凝露和结冰<br>95 % At 40 °C (104 °F), condensation and icing not permissible |

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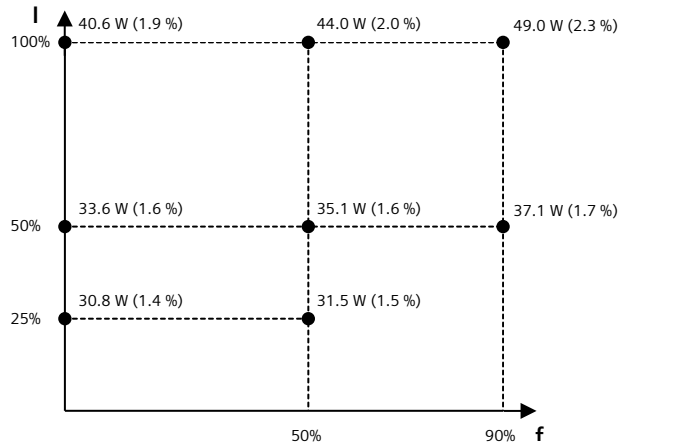
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| 接口                             |                          |
|--------------------------------|--------------------------|
| Connections                    |                          |
| 信号电缆                           |                          |
| Signal cable                   |                          |
| 接口横截面                          | 0.15 ... 1.50 mm²        |
| Conductor cross-section        | (AWG 24 ... AWG 16)      |
| 电源侧                            |                          |
| Line side                      |                          |
| 规格                             | 插接式螺钉型端子                 |
| Version                        | Plug-in screw terminals  |
| 接口横截面                          | 1.00 ... 2.50 mm²        |
| Conductor cross-section        | (AWG 18 ... AWG 14)      |
| 电机侧                            |                          |
| Motor end                      |                          |
| 规格                             | 插接式螺钉型端子                 |
| Version                        | Plug-in screw terminals  |
| 接口横截面                          | 1.00 ... 2.50 mm²        |
| Conductor cross-section        | (AWG 18 ... AWG 14)      |
| 直流母线（用于制动电阻）                   |                          |
| DC link (for braking resistor) |                          |
| 规格                             | 插接式螺钉型端子                 |
| Version                        | Plug-in screw terminals  |
| 接口横截面                          | 1.00 ... 2.50 mm²        |
| Conductor cross-section        | (AWG 18 ... AWG 14)      |
| 最大电缆长度                         | 15 米 (49.21 ft)          |
| Line length, max.              |                          |
| PE 端子                          | 在带有 M4 螺丝的外壳上            |
| PE connection                  | On housing with M4 screw |
| 最大电机电缆长度                       |                          |
| Max. motor cable length        |                          |
| 屏蔽                             | 50 米 (164.04 ft)         |
| Shielded                       |                          |
| 非屏蔽                            | 100 米 (328.08 ft)        |
| Unshielded                     |                          |

| 机械数据                 |                     |
|----------------------|---------------------|
| Mechanical data      |                     |
| 防护等级                 | IP20 / UL 开放式       |
| Degree of protection | IP20 / UL open type |
| 外形尺寸                 | FSAA                |
| Frame size           |                     |
| 净重                   | 1.40 kg (3.09 lb)   |
| Net weight           |                     |
| 外形尺寸                 |                     |
| Dimensions           |                     |
| 宽度                   | 73 mm (2.87 in)     |
| Width                |                     |
| 高度                   | 173 mm (6.81 in)    |
| Height               |                     |
| 深度                   | 178 mm (7.01 in)    |
| Depth                |                     |

| 标准                                                   |                                                             |
|------------------------------------------------------|-------------------------------------------------------------|
| Standards                                            |                                                             |
| 符合标准                                                 | UL, cUL, CE, C-Tick (RCM)                                   |
| Compliance with standards                            | UL, cUL, CE, C-Tick (RCM)                                   |
| CE 标志                                                | EMV 准则 2004 / 108/EG, 低压准则 2006/95/EG                       |
| CE marking                                           | EMC Directive 2004/108/EC, Low-Voltage Directive 2006/95/EC |
| 符合IEC61800-9-2的变频器损耗*                                |                                                             |
| Converter losses to IEC61800-9-2*                    |                                                             |
| 效率等级                                                 | IE2                                                         |
| Efficiency class                                     |                                                             |
| 对比参考变频器（90% / 100%）                                  | 27.8 %                                                      |
| Comparison with the reference converter (90% / 100%) |                                                             |



百分比值给定了以变频器额定视在功率为基准的损耗。  
The percentage values show the losses in relation to the rated apparent power of the converter.

该图显示了相对转矩电流（I）超过相对电机定子频率（f）时间点（根据标准 IEC61800-9-2）上的损耗。这些值适用于不带选件/附件的基本型变频器。  
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.

\* 计算值  
\*calculated values

<sup>1)</sup> 输出电流和功率数据适用于电压范围 440 V 到 480 V  
The output current and HP ratings are valid for the voltage range 440V-480V