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## Data sheet 6AG1210-1PE32-2UL0



SIPLUS G120 PM240-2 IP20-FSF-U-400V 132 kW based on 6SL3210-1PE32-5UL0 with conformal coating, -20…+50 °C, unfiltered with integrated braking chopper 380-480 V 3 AC +10/-20% 47-63 Hz power high overload: 110 kW at 200% 3 s,150% 57 s,100% 240 s power rating low overload: 132 kW at 150% 3 s,110% 57 s,100% 240 s 708x 305x 357 (HxWxD), FSF design, degree of protection IP20 without CU and operating unit released as of CU FW version V4.7 HF8

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| **General information** | |
| Product type designation | PM240-2 |
| Product version | FSF 132 kW |
| Design of the converter | FSF |
| based on | 6SL3210-1PE32-5UL0 |
| Protection function | |
| ● Undervoltage protection | Yes |
| ● Overvoltage protection | Yes |
| ● Overload protection | Yes |
| ● Ground-fault protection | Yes |
| ● short-circuit protection | Yes |
| ● Stall protection | Yes |
| ● With blocked rotor | Yes |
| ● Temperature monitor for motor | Yes |
| ● Temperature monitor for converter | Yes |
| ● Parameter locking | Yes |
| **Input voltage** | |
| Type of input voltage | AC |
| Mains filter | |
| ● present | No |
| **Input current** | |
| Input current with low overload | 242 A |
| Input current with high overload | 218 A |
| **Output voltage** | |
| Output voltage in relation to input voltage, min. | 0 % |
| Output voltage in relation to input voltage, max. | 95 % |
| Pulse frequency | 2 kHz |
| **Output current** | |
| Output current, max. | 410 A |
| Output current without overload | 250 A |
| Output current with low overload | 250 A |
| Output current with high overload | 205 A |
| **Power loss** | |
| Power loss, max. | 2.809 kW |
| Power loss of the CDM in standby mode | 48.1 W |
| Power loss of the CDM at the operating point (0/25) | 747.1 W |
| Power loss of the CDM at the operating point (0/50) | 1 054.9 W |
| Power loss of the CDM at the operating point (0/100) | 2 010.4 W |
| Power loss of the CDM at the operating point (50/25) | 810.2 W |


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| Power loss of the CDM at the operating point (50/50) | 1 202.7 W |
| Power loss of the CDM at the operating point (50/100) | 2 411.6 W |
| Power loss of the CDM at the operating point (90/50) | 1 421.4 W |
| Power loss of the CDM at the operating point (90/100) | 3 090.2 W |
| Relative power loss of the CDM at the operating point (0/25) | 0.43 % |
| Relative power loss of the CDM at the operating point (0/50) | 0.61 % |
| Relative power loss of the CDM at the operating point (0/100) | 1.16 % |
| Relative power loss of the CDM at the operating point (50/25) | 0.47 % |
| Relative power loss of the CDM at the operating point (50/50) | 0.69 % |
| Relative power loss of the CDM at the operating point (50/100) | 1.39 % |
| Relative power loss of the CDM at the operating point (90/50) | 0.82 % |
| Relative power loss of the CDM at the operating point (90/100) | 1.78 % |
| Ratio of converter losses / reference converter losses at the operating point (90/100) | 0.44 |
| IE class of the CDM | IE2 |
| **Power electronics** | |
| emitted active power with low overload | 132 kW |
| emitted active power with high overload | 110 kW |
| active power output with low overload [hp] | 200 hp |
| active power output with high overload [hp] | 150 hp |
| apparent power output | 173.21 kVA |
| Efficiency | 0.98 |
| Type of duty cycle duration with low overload | 1.1x rated output current (i.e. 110 % overload) for 57 s with a cycle time of 300 s; 1.5x rated output current (i.e. 150 % overload) for 3 s with a cycle time of 300 s |
| Type of duty cycle duration with high overload | 1.5x output current rating (i.e. 150 % overload) for 57 s with a cycle time of 300 s; 2x output current rating (i.e. 200 % overload) for 3 s with a cycle time of 300 s |
| Cooling method | Internal air cooling |
| Cooling air flow | 0.153 m³/s |
| Short-time withstand current (SCCR) of the entire control cabinet in accordance with UL 508A | 65 kA |
| **Isolation** | |
| Degree of pollution | 2 according to EN 61800-5-1 |
| **Degree and class of protection** | |
| IP degree of protection | IP20 |
| Equipment protection class according to EN 61800-5-1 | Class I (with protective bonding circuit) and Class III (PELV) |
| Touch protection according to EN 61800-5-1 | Assuming use as prescribed |
| **Standards, approvals, certificates** | |
| Certificate of suitability | CE / TÜV |
| Standard for EMC according to EN 61800-3 | the EMC product standard EN 61800-3 does not apply directly to a frequency inverter but to a PDS (Power Drive System), which comprises the complete circuitry, motor and cables in addition to the inverter |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● min. | -20 °C; = Tmin |
| ● max. | 50 °C; = Tmax |
| Ambient temperature during storage/transportation | |
| ● Storage, min. | -25 °C |
| ● Storage, max. | 55 °C |
| ● Storage, min. [°F] | -13 °F |
| ● Storage, max. [°F] | 131 °F; Class 1K3 acc. to EN 60721-3-1 |
| ● Transportation, min. | -40 °C |
| ● Transportation, max. | 70 °C |
| ● Transport, min. [°F] | -40 °F |
| ● Transport, max. [°F] | 158 °F; Class 2K3 according to EN 60721-3-2 |
| Altitude during operation relating to sea level | |
| ● Installation altitude above sea level without derating, max. | 1 000 m |
| Relative humidity | |
| ● Operation, max. | 98 % |
| ● Condensation permissible | No |


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| Vibrations | |
| ● Vibration frequency with constant acceleration during operation according to EN 60068-2-6, min. | 10 Hz |
| ● Vibration frequency with constant acceleration during operation according to EN 60068-2-6, max. | 200 Hz; Constant acceleration = 9.81 m/s² (1 g) |
| ● Vibration frequency with constant deflection during operation according to EN 60068-2-6, min. | 13 Hz |
| ● Vibration frequency with constant deflection during operation according to EN 60068-2-6, max. | 58 Hz; Constant deflection 0.075 mm |
| ● Oscillation frequency during transport in accordance with EN 60721-3-2 | Class 2M3 |
| Shock testing | |
| ● Shock load during operation | (15x g)/11 ms |
| ● Shock acceleration during operation according to EN 60068-2-27 | 147 m/s² |
| ● Shock acceleration during transport according to EN 60721-3-2 | Class 2M3 |
| Resistance | |
| Use in stationary industrial systems | |
| — to biologically active substances according to EN 60721-3-3 | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request |
| — to chemically active substances according to EN 60721-3-3 | Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * |
| — to mechanically active substances according to EN 60721-3-3 | No |
| Usage in industrial process technology | |
| — Against chemically active substances acc. to EN 60654-4 | Yes; Class 3 (excluding trichlorethylene) |
| — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 | Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil) |
| Remark | |
| — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 | * The supplied plug covers must remain in place over the unused interfaces during operation! |
| Conformal coating | |
| ● Coatings for printed circuit board assemblies acc. to EN 61086 | Yes; Class 2 for high reliability |
| ● Military testing according to MIL-I-46058C, Amendment 7 | Yes; Discoloration of coating possible during service life |
| ● Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A | Yes; Conformal coating, Class A |
| **Cables** | |
| Cable length for motor, shielded, max. | 300 m |
| Cable length for braking resistor, max. | 10 m |
| **Connection method** | |
| Design of electrical connection of motor | M10 screw stud |
| ● connectable cable cross-section for motor supply line, min. | 35 mm² |
| ● connectable cable cross-section for motor supply line, max. | 120 mm² |
| ● Connectable conductor cross-section for AWG cables, min. | 2 |
| Type of electrical connection for mains supply line | M10 screw stud |
| ● connectable cable cross-section for mains supply line, min. | 35 mm² |
| ● connectable cable cross-section for mains supply line, max. | 120 mm² |
| ● Connectable conductor cross-section for AWG cables, min. | 2 |
| Type of electrical connection for supply cable to braking resistor | Screw terminals |
| ● Connectable cable cross-section for supply cable to braking resistor, min. | 25 mm² |
| ● Connectable cable cross-section for supply cable to braking resistor, max. | 70 mm² |
| ● Connectable conductor cross-section for AWG cables, min. | 4 |


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| Design of electrical connection for the PE conductor | M10 screw stud |
| **Dimensions** | |
| Width | 305 mm |
| Height | 708 mm |
| Depth | 357 mm |
| **Weights** | |
| Weight (without packaging) | 61 kg |
| **Other** | |
| Sound pressure level (1 m), max. | 67.7 dB |
| Brake design | DC braking, compound braking, resistance braking with integrated brake chopper (for size FSGX optional) |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-02-31-01 |
| eClass | 14 | 27-02-31-01 |
| eClass | 12 | 27-02-31-01 |
| eClass | 9.1 | 27-02-31-01 |
| eClass | 9 | 27-02-31-01 |
| eClass | 8 | 27-02-31-01 |
| eClass | 7.1 | 27-02-31-01 |
| eClass | 6 | 27-02-31-01 |
| ETIM | 10 | EC001857 |
| ETIM | 9 | EC001857 |
| ETIM | 8 | EC001857 |
| ETIM | 7 | EC001857 |
| IDEA | 4 | 4139 |
| UNSPSC | 15 | 39-12-10-07 |

**Approvals / Certificates**

**General Product Approval**

Manufacturer Declaration | China RoHS | China RoHS

| General Product Approval | Functional Saftey | Test Certificates |
|---|---|---|
| UKCA | TUEV | TUEV |

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