Siemens 6SL3120-1TE24-5AA3

SINAMICS S120 Motor Module

VERIFIED ENGINEERING FACTS / 23 distinct technical points

Rated output current
45 A

Peak output current
85 A

Pulse frequency
4 kHz without derating; higher frequency requires the applicable derating data

Connection
M6 motor terminals; X11 brake output is 24 V, 2 A

Thermal design
Use the published 460 W loss and 0.031 cubic metres per second cooling requirement in enclosure calculations. Keep intake and discharge routes clear.

Preparation
Record the order label, line-up position, DRIVE-CLiQ connection, motor cable, brake wiring and fuse arrangement before removal.

Pre-power inspection
Verify de-energization, DC-link discharge, protective earth, busbar covers, cable clamps, coolant airflow and the full order label.

Motion checks
Commission at the approved current limits and observe temperature, output-current peaks, brake function and fault history under the real duty cycle.

Base-load current
38 A

DC-link input
510 to 720 V DC in the NC82 catalog entry

24 V electronics current
1.2 A maximum

Required cooling air
0.031 cubic metres per second

DC-link coordination
Check the shared DC-link and 24 V busbar against the actual line module and cabinet design. The catalog lists 54 A DC-link current and 200 A DC-link busbar capability.

Cable boundary
The NC82 entry lists 100 m maximum shielded and 150 m maximum unshielded motor cable; the installed EMC, motor and cabinet design can impose a lower limit.

Power-up checks
Confirm 24 V electronics supply and line module readiness; then review diagnostics before axis enable.

Handover record
Store the complete order code, cabinet photos, cooling assessment, motor plate, cable details, drive parameter backup and test results.

S6 current at 40% duty
60 A

Typical motor power
24 kW at 600 V DC and 4 kHz

Total power loss
460 W

Protection
IP20

Load profile
Size for continuous current, S6 loading and peak current separately; a nominal 45 A label alone is insufficient for a transient load.

Brake circuit
Confirm whether the motor brake uses X11 and validate the 24 V, 2 A limit before transferring wiring.

Commissioning
Follow the equipment manual for torque, clearances, wiring and DC-link discharge. Compare feedback and drive parameters against the installed axis before enabling power.

Manufacturer references: Siemens SINAMICS S120 Catalog NC82, 2017 | Siemens SINAMICS S120 Equipment Manual GH2, 03/2006

Technical enquiry

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