

SINAMICS S120 AC Drive

Modular drive system for demanding single/multi-axis applications

Blocksize design

Chassis design



Drive type	AC/AC unit, modular	
Degree of protection	IP20	
Supply voltages V_{supply} /Power ratings • 230 V 1 AC • 380 – 480 V 3 AC	0.25 – 1.1 kW (0.3 – 1.5 HP) 0.37 – 90 kW (0.5 – 121 HP)	– 110 – 250 kW (147 – 335 HP)
Technological functions	Flying restart, restart, kinetic buffering, positioning, BICO technology, Motion Control (in connection with SIMOTION)	
Safety functions	Safe standstill (SH), Safe brake control (SBC)	Safe standstill (SH)
Tools	SIZER for configuring, STARTER for commissioning	
Typical application technologies	High-performance single drives Continuous motion control; continuous material webs; setpoint cascades; positioning; coordinated, highly dynamic motion control of several axes via position; cross-axis motion control functionality using SIMOTION (synchronism, electronic cam disks, ...) Numerical control in machine tools in conjunction with SINUMERIK solution line	
Communication interface	PROFIBUS DP, PROFINET ¹⁾	
Line frequency	47 – 63 Hz	
Output voltage	0 ... V_{supply}	
Output frequency	Vector control: 0 – 300 Hz, Servo control: 0 – 650 Hz	
Control principle • V/f control • Vector Control with/without encoder • Servo Control with/without encoder	Yes Yes Yes	
Motors • Asynchronous • Synchronous • Torque • Linear	Yes Yes Yes Yes	
Control dynamics • Rise time of speed control • Rise time of torque control	Vector Control: 25 ms without encoder, 11 – 15 ms with encoder or 2.1 ms with int. acceleration pre-control, Servo Control: 1.1 ms (with 125 μ s current controller clock cycle) Vector Control: approx. 1 ms, Servo control: approx. 0.6 ms	