

J1000 – Technical Specification

Control Characteristics	
Product	J1000
Type	Versatile Compact V/f Control Drive
Rated Output Voltage (dependent on input)	Three Ph 200V Class : 200 to 240VAC Three Ph 400V Class : 380 to 480VAC Single Ph 200V Class : 200 to 240VAC
Motor Types	Induction Motor
Control Methods	V/f Control (V/f)
Speed Control Range	1:20 to 1:40
Starting Torque	150% @3Hz for V/f
Frequency Range	0 to 400Hz
Frequency Accuracy	Digital reference: within $\pm 0.01\%$ of the max. output frequency (-10 to +50°C) Analog reference: within $\pm 0.1\%$ of the max. output frequency (25 \pm 10°C)
Frequency Setting Resolution	Digital reference: 0.01 Hz Analog reference: 1/1000 of the maximum frequency
Output Frequency Resolution	20 bit resolution at maximum output frequency
Accel/Decel time	0.0 to 6000.0 s (2 selectable combinations of independent acceleration and deceleration settings)
Environmental Factors	
Ambient Temperature	-10 to +50°C (open chassis), -10 to +40°C (enclosure)
Altitude	Up to 1000 meters
Humidity	95 RH% or less (no condensation)
Shock	10 to less than 20 Hz (9.8 m/s ²) max., 20 to 55 Hz (5.9 m/s ²) max.
Area of Use	Indoors
Protection Features	
Motor Protection	Motor overheat protection based on output current

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Momentary Overcurrent Protection	Drive stops when output current exceeds 200% of Heavy Duty Rating
Overload Protection	Drive stops after 60 s at 150% of rated output current (Heavy Duty Rating)
Overvoltage Protection	200 V class: Stops when the DC bus voltage is more than approximately 410 V 400 V class: Stops when the DC bus voltage is more than approximately 820 V (approx. 740 V when the power supply voltage is less than 400 V)
Undervoltage Protection	Three Phase 200 V class: Stops when the DC bus voltage decreases to less than approximately 190 V Single-phase 200 V class: Stops when DC bus exceeds approx. 160 V Three Phase 400 V class: Stops when the DC bus voltage decreases to less than approximately 380 V (approx. 350 V when the power supply voltage is less than 400 V)
Momentary Power Loss Ride-Thru	Stops when power loss is longer than 15 ms.
Heatsink Overheat Protection	Thermistor
Stall Prevention	Separate settings allowed during acceleration and during run. Enable/disable only during deceleration
Ground Fault Protection	Protection by electronic circuit
Charge LED	Charge LED illuminates when DC bus voltage is less than 50 V.
Standards Compliance	<ul style="list-style-type: none"> • UL508C • EN61800-3 • EN61800-5-1
Power Specifications	
Rated input Voltage/Frequency	400V Class: <ul style="list-style-type: none"> • Three-phase AC power supply 380 V to 480 V 50/60 Hz • DC power supply 510 V to 680 V 200V Class : <ul style="list-style-type: none"> • Single-phase or Three-phase AC power supply 200 V to 240 V 50/60 Hz • DC power supply 270 V to 340 V
Allowable Voltage Fluctuation	-15% to 10%

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Allowable Frequency Fluctuation	±5%
Common Specifications	
Multi Function Digital Inputs	5 Digital Inputs (NPN or PNP) , 24VDC.
Multi Function Digital Outputs	1 Programmable Relay with MA-MB-MC (250 Vac, 10 mA to 1 A;30 Vdc, 10 mA to 1 A)
Multi Function Analog Inputs	1 Multi Function Analog input A1 (0 – 10 V (20 kΩ), 4 – 20 mA (250 Ω)/0 – 20 mA (250 Ω))
Multi Function Analog Output	1 Multi function Analog output AM-AC (0 – 10 V, 2 mA)
Optional communication Protocols	RS232C, RS422/485
Additional Functions	Momentary power loss ride-thru, Speed search, 9-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Cooling fan on/off switch, Slip compensation, Torque compensation, Frequency jump, Upper/lower limits for frequency reference, DC injection braking at start and stop, Overexcitation braking, Fault restart