

## Technical Specifications

Input Ratings	Supply Voltage	100 – 115V ± 10% 200 – 240V ± 10% 380 – 480V ± 10%	
	Supply Frequency	48 – 62Hz	
	Displacement Power Factor	> 0.98	
	Phase Imbalance	3% Maximum allowed	
	Inrush Current	< rated current	
	Power Cycles	120 per hour maximum, evenly spaced	
Output Ratings	Output Power	110V 1 Ph Input: 0.5–1.5HP (230V 3 Ph Output) 230V 1 Ph Input: 0.37–4kW (0.5–5HP) 230V 3 Ph Input: 0.37–11kW (0.5–15HP) 400V 3 Ph Input: 0.75–22kW 460V 3 Ph Input: 1–30HP	
	Overload Capacity	150% for 60 Seconds 175% for 2.5 seconds	
	Output Frequency	0 – 500Hz, 0.1Hz resolution	
	Typical Efficiency	> 98%	
Ambient Conditions	Temperature	Storage: -40 to 60°C Operating: -10 to 50°C	
	Altitude	Up to 1000m ASL without derating Up to 2000m maximum UL approved Up to 4000m maximum (non UL)	
	Humidity	95% Max, non condensing	
	Vibration	Conforms to EN61800-5-1	
Enclosure	Ingress Protection	IP20, IP66	
Programming	Keypad	Built-in keypad as standard Optional remote mountable keypad	
	Display	7 Segment LED	
	PC	OptiTools Studio	
Control Specification	Control Method	Sensorless Vector Speed Control PM Vector Control BLDC Control Synchronous Reluctance	
	PWM Frequency	4 – 32kHz Effective	
	Stopping Mode	Ramp to stop: User Adjustable 0.1 – 600 secs Coast to stop	
	Braking	Motor Flux Braking Built-in braking transistor (not frame size 1)	
	Skip Frequency	Single point, user adjustable	
	Setpoint Control	Analog Signal	0 to 10 Volts 10 to 0 Volts 0 to 20mA 20 to 0mA 4 to 20mA 20 to 4mA
		Digital	Motorised Potentiometer (Keypad) Modbus RTU CANopen
Fieldbus Connectivity	Built in	CANopen 125–1000 kbps Modbus RTU 9.6–115.2 kbps selectable	

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	I/O Specification	Power Supply 24 Volt DC, 100mA, Short Circuit Protected 10 Volt DC, 10mA for Potentiometer
I/O Specification	Programmable Inputs	4 Total 2 Digital 2 Analog / Digital Selectable
	Digital Inputs	8 – 30 Volt DC, internal or external supply Response time < 4ms
	Analog Inputs	Resolution: 12 bits Response time: < 4ms Accuracy: ± 2% full scale Parameter adjustable scaling and offset
	Programmable Outputs	2 Total 1 Analog / Digital 1 Relay
	Relay Outputs	Maximum Voltage: 250 VAC, 30 VDC Switching Current Capacity : 6A AC, 5A DC
	Analog Outputs	0 to 10 Volt
Application Features	Fire Mode	Bidirectional Selectable Speed Setpoint (Fixed / PI / Analog / Fieldbus)
	PI Control	Internal PI Controller Standby / Sleep Function
Maintenance & Diagnostics	Fault Memory	Last 4 Trips stored with time stamp
	Data Logging	Logging of data prior to trip for diagnostic purposes: Output Current Drive Temperature DC Bus Voltage
	Monitoring	Hours Run Meter
Standards Compliance	Low Voltage Directive	Adjustable speed electrical power drive systems. EMC requirements
	EMC Directive	2014/30/EU Cat C1 according to EN61800-3:2004
	Machinery Directive	2006/42/EC
	Conformance	CE, UL, RCM