



BALDOR • RELIANCE

Inverter/Vector Motors & Controls

**VS1MD
AC Micro Drive**

1/4 thru 5 Hp	230 VAC	1 Phase - 50/60 Hz
1/2 thru 10 Hp	230 VAC	3 Phase - 50/60 Hz
1/2 thru 15 Hp	460 VAC	3 Phase - 50/60 Hz



Applications: Variable torque, constant torque or constant horsepower applications. New installations, replacements and original equipment manufactures (OEM).

Features: Volts per Hertz or Sensorless Vector Control with peak overload capacity of 200% and PID capability. Flexible mounting options with IP20 enclosure as standard and NEMA 1 kit option. Integral keypad, operator interface and local speed control. Programming by Groups makes it easy to navigate and find parameters. Basic Program Group contains the most common application related parameters. Power ratings up to 15 Hp in both 230V and 460V versions. Built-in braking transistor allows connection to remote braking resistor for enhanced performance needs.

Performance Features	Control Modes	V/Hz or Sensorless Vector
	Operator Interface Module	Integral Drive Mounted
	Display Lines	4-Character LED Display
	Programmable Preset Speeds	-Eight
	Analog Outputs	One (0-10 VDC)
	Auto Restart	Yes -- Up to 10 attempts
	Frequency Avoidance	Three Bands
	Fault History	Last Five Faults
Drive Specifications	Digital Inputs	Eight Completely Configurable Inputs
	Digital Inputs Type	Pull-up or Pull-down
	Analog Inputs: Two Total	One: 0-10VDC or -10 to 10VDC, One: 4-20mA DC
	Digital Outputs: Two Total	One Opto-coupled (Configurable), Form C Relay
	Meter Outputs	0-10 VDC: One Analog Usable for Meter (Proportional to Frequency, Output Current, AC Output Voltage, or DC Output Voltage)
	Maximum Load	15 Hp @ 460 VAC
	Overload Capacity	Drive Output 150% for One Minute, 200% for Twelve Seconds
	Frequency Accuracy	Digital Command: 0.01% of Max. Output Frequency, Analog Command: 0.1% of Max. Output Frequency
	Input Voltage Ranges	230 VAC (170-253); 460 VAC (323-528)
	Rated Input Frequency	50-60Hz (±5%)
	Carrier Frequency	1-15 kHz (3 kHz default)
	Operating Temperature	-10° to 50°C (IP20)
	Snubber (Dynamic Braking)	Built-in Transistor
	Dynamic Braking External	Up to 150% Dynamic Braking with appropriately sized resistor
	DC Injection Braking	Included
	Volts/Hz	Linear V/Hz, Quadratic V/Hz, Custom 4-Point V/Hz Curve
	Sensorless Vector	Full Sensorless Vector Control with Autotune Function and motor model
	Frequency Control Range	0-400 Hz
	Accel/Decel	Eight independently adjustable sets of ramps
	Time Range	0.1 to 600 Seconds
S Curve Accel. & Decel.	Yes, with adjustable rounding percentage	
Keypad Speed Control	Yes	
Sink/Source Inputs	Selectable, 24 VDC Logic	
Electronic Overload Trip	Electronic Motor Overload Inverse Time calculation with Programmable Warning Level	
Communications	Built-in MODBUS-RTU (RS-485) Communications	
PID Control	Built-in	
Protective Features	Under Voltage	Level Depends on Voltage Class (240, 480)
	Ground Fault Protection	Ground Fault protection active during run
	Output Short Circuit	Phase-to-Phase on Drive Output
	Over Temperature	Heatsink Monitor
	DC Bus Overvoltage	DC Bus Level Trip
	Drive Overload	Exceed Drive rating of 150% for One Minute
	Over Current	Over-current/short-Circuit protection
	Output Phase	Trips on open Output Phase
	Loss of Reference	Trips on Loss of Speed Command Signal
	Cooling Fan	Detects an inverter fan failure (replace fan)
	Comm. Error	Detects a communication error (fault)
	Agency Certifications	UL, cUL, CE
Service Conditions	Altitude	1,000 m (3,300 ft.), derate by 1% per 100 m up to 2,000 m maximum.
	Ambient Temperature	IP20: -10°C (14°F) to 50°C (122°F)
	Storage Temperature	-20°C (-2°F) to 65°C (149°F)
	Relative Humidity	10% to 95%, non-condensing

- Farm Duty Motors
- Definite Purpose Motors
- Unit Handling
- Brake Motors
- 200 & 575 Volt Motors
- IEC Frame Motors
- 50 Hertz Motors
- Inverter/Vector Motors & Controls
- DC Motors and Controls
- Soft Starters & Dynamic Brakes