

**BALDOR • RELIANCE**

**VS1SM  
AC Micro Drive**

**1/2 thru 3 Hp 230 VAC 1 Phase - 50/60 Hz Input / 3 Phase Output**



**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. 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 3 Hp 230V Single Phase. Available with or without built in CE Filters. Built-in braking transistor allows connection to remote braking resistor for enhanced performance needs.

<b>Performance Features</b>	Control Modes	V/Hz or Sensorless Vector
	Operator Interface Module	Integral Drive Mounted
	Display Lines	3-Character LED Display
	Programmable Preset Speeds	Eight
	Analog Outputs	One (0-10 VDC)
	Local Speed Control	Built-in Speed Potentiometer
	Auto Restart	Yes – Up to 10 attempts
	Frequency Avoidance	Three Bands
	Fault History	Last Five Faults
	Digital Inputs	Five Completely Configurable Inputs
<b>Drive Specifications</b>	Digital Inputs Type	Pull-up or Pull-down
	Analog Inputs: Two Total	One: 0-10VDC; One: 4-20mADC
	Digital Outputs: Two Total	One Opto-coupled (Configurable); Form C Relay
	Meter Outputs	0-10 VDC; One Analog Usable for Meter (Freq., Current, Voltage, DC Voltage)
	Maximum Load	3 Hp @ 230VAC
	Overload Capacity	Drive Output 150% for One Minute
	Frequency Accuracy	Digital Command: 0.01% of Max. Output Frequency; Analog Command: 0.1% of Max. Output Frequency
	Input Voltage Ranges	190-253VAC - 1-Phase
	Rated Input Frequency	50-60Hz (±5%)
	Carrier Frequency	1-15 kHz (3 kHz default)
	Operating Temperature	-10° to 50°C (IP20)
	Snubber (Dynamic Braking)	Use External Braking Unit
	Dynamic Braking External	Dynamic Braking via External Braking Unit connected to DC bus.
	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 6000 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 program warning level
	Communications	Built-in MODBUS-RTU (RS-485) Communications
	PID Control	Built-in
	<b>Protective Features Under Voltage</b>	Ground Fault Protection
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
<b>Agency Certifications</b>	Cooling Fan	Detects an inverter fan failure (replace fan)
	Listings	UL, cUL, CE
<b>Service Conditions</b>	Altitude	1,000 m (3,300 ft.), derate by 1% per 100 m up to 2,000m 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