

**VS1STS  
600V Starter Style  
AC Micro Drive**

**1 thru 60 Hp**

**500-600 VAC**

**3 Phase - 50/60 Hz**



**Product Highlights:** The VS1STS is a feature rich V/Hz & Sensorless Vector product targeted at the 600V market and equipment manufacturing applications.

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

**Features:** V/Hz and Sensorless Vector Control with peak overload capacity of 175% and PID capability. Flexible mounting options with IP20 enclosure as standard and DIN rail capability. Integral keypad, operator interface and local speed control. Basic setup parameter list and advanced software settings. Built-in braking transistor allows connection to remote braking resistor for enhanced performance needs. Power ratings up to 60 Hp at 600V, pluggable I/O terminal strip.

<b>Performance Features</b>	Control Modes	V/Hz & Sensorless Vector Control
	Operator Interface Module	Integral Drive Mounted; basic start/stop, forward/reverse and speed control
	Display Lines	6-Character LED Display
	Programmable Preset Speeds	Eight
	Analog Output: One	0-10VDC or 20mA
	Auto Restart	Yes -- Up to 5 attempts
	Frequency Avoidance	One Band
	Fault Indicators	16 Fault Codes
	Digital Inputs: Four	Two programmable digital inputs, two user selectable analog/digital inputs
Digital Inputs Type	Pull-Up	
<b>Drive Specifications</b>	Analog Inputs: Two	One bi-polar and one 0-10VDC, 0 to 20mA or 4 to 20mA
	Relay Output: One	Built-in Form C Relay, normally open contact
	Analog Output/Digital: One	0-10 VDC: One Analog Usable for Meter (Freq., Current, Voltage) or Digital Output
	Maximum Load:	60 HP @ 600 VAC
	Overload Capacity	Drive Output 150% for one minute and 175% for 2 seconds
	Input Voltage Ranges:	500 - 600VAC
	Input Voltage Tolerance	10% / -10%
	Rated Input Frequency	50-60Hz (±5%)
	Carrier Frequency:	4-32 kHz (8 kHz default)
	Operating Temperature:	-10° to 50°C
	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 Energy Optimization Function
	Sensorless Vector	Full Sensorless Vector Control with Autotune and motor model
	Frequency Control Range:	0 - 2000Hz
	Accel/Decel:	Independently adjustable accel. & decel. ramps
Keypad Speed Control	Yes	
Sink/Source Inputs	Selectable, 24 VDC Logic	
Electronic Overload Trip	Electronic Motor Overload Inverse 150% for 1 minute or 175% for 2 seconds	
<b>Protective Features</b>	Under Voltage	Level Depends on Voltage Class (600V)
	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 or 175% for 2 seconds
	Over Current	Over-current/short-Circuit protection
	Output Phase	Trips on open Output Phase
	Loss of Reference	Trips on Loss of Speed Command Signal
Communication Error	Detects a communication error (fault)	
<b>Agency Certifications</b>	UL, cUL, CE, CCC, C-tick	
<b>Service Conditions</b>	Altitude:	1,000 m (3,300 ft.) Maximum
	Ambient Temperature:	IP20: -10°C to 50°C
	Storage Temperature:	-20°C to 60°C
	Relative Humidity:	10% to 90%, non-condensing
	Intermittent Overload:	150% overload capacity for up to 1 minute 175% overload capacity for up to 2 seconds

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

**VS1STS – 500-600V ±10% 3-Phase Input**

Catalog Number	Frame	Hp	kW	Output Current	List Price	Mult. Sym.
VS1STS51-0T	B	1	0.75	1.7	899	EA
VS1STS52-0T	B	2	1.5	3.1	1,011	EA
VS1STS53-0T	B	3	2.2	4.1	1,124	EA
VS1STS55-0T	B	5	4	6.1	1,349	EA
VS1STS57-0T	B	7.5	5.5	9	1,686	EA
VS1STS510-0T	C	10	7.5	14	2,023	EA
VS1STS515-0T	C	15	11	18	2,472	EA
VS1STS520-0T	C	20	15	24	3,147	EA
VS1STS530-0T	D	30	22	39	4,945	EA
VS1STS540-0T	D	40	30	46	5,619	EA
VS1STS560-0T	D	60	45	62	6,743	EA

**Mounting Dimensions**

Frame	Height Inches (mm)	Width Inches (mm)	Depth Inches (mm)
<b>A</b>	10.24 (260)	3.94 (100)	6.89 (175)
<b>B</b>	10.24 (260)	6.73 (171)	6.89 (175)
<b>C</b>	20.47 (520)	13.39 (340)	8.66 (220)

**Remote Keypad for the VS1STS**

Catalog Number	Description	List Price	Mult. Sym.
VS1STS-RKEY3	VS1STS Remote Keypad with 3m cable	90	EA

The VS1STS-RKEY3 Remote Keypad can be panel mounted for remote control or display of drive parameters. The kit comes standard with a 9 foot (3 meter) cable and is suitable for IP54 mounting. This keypad can be used with either the VS1STS or the VS1MXS. Depending on the requirement of the application, VS1STS-RKEY3 can be used point to point or with multiple drives.

**Cable Kits for the VS1STS**

To support a basic serial network, option cable assemblies and splitters are available.

Catalog Number	Description	List Price	Mult. Sym.
VS1STS-J11SP	RJ45 Cable Splitter	23	EA
VS1STS-CBL0P3	1 ft. (0.3m) RJ11 Cable	5	EA
VS1STS-CBL1	3 ft. (1m) RJ11 Cable	7	EA
VS1STS-CBL3	9 ft. (3m) RJ11 Cable	11	EA

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