



# Stellar Tech C-H VFD SPECIFICATIONS

Description	Specification
<b>Power Connections</b>	
Input Voltage ( $V_{in}$ )	208 – 240V +10%/-15% 380 – 500V +10%/-15% 525 – 690V +10%/-15%
Input Frequency ( $f_{in}$ )	50/60 Hz (variation up to 45 – 66 Hz)
Connection to Utility Power	Once per minute or less (typical operation)
Maximum Symmetrical Supply Current	208 – 240V, 100 kAIC 380 – 500V, 100 kAIC 525 – 690V, 100 kAIC
<b>Motor Connections</b>	
Output Voltage	0 to $V_{in}$
Continuous Output Current	Ambient temperature max. +122°F (+50°C), overload 1.5 x $I_L$ (1 min. out of 10 min.)
Starting Current	200% for 2 seconds
Output Frequency	0 to 320 Hz
Frequency Resolution	0.01 Hz

Basic System contains the following I/O:  
 (3) Programmable Analog Outputs  
 (1) Programmable Digital Open Collector Output  
 (2) Programmable Digital Relay Output  
 (6) Programmable Digital Inputs  
 (3) Programmable Analog Inputs

Description	Specification
<b>Control Connections (Continued)</b>	
Analog Output	0(4) to 20 mA; $R_L$ max. 500 $\Omega$ ; Resolution 10 bit; Accuracy $\pm 2\%$ or 0 to 10 V, $R_L$ 1 k $\Omega$ , select with jumper
Digital Outputs	Open collector output, 50 mA/48V
Relay Outputs	3 programmable change-over relay outputs Switching capacity: 24V DC / 8A, 250V AC / 8A, 125V DC / 0.4A Minimum switching load: 5V/10 mA Continuous capacity: < 2 $A_{rms}$
<b>Protections</b>	
Overcurrent Protection	Yes
Undervoltage Protection	Yes
Ground (Earth) Fault	In case of a ground fault in the motor or motor cables, only the SVX9000 is protected
Input Phase Supervision	Trips if any of the input phases are missing
Motor Phase Supervision	Trips if any of the output phases are missing
Overtemperature Protection	Yes
Motor Overload Protection	Yes
Motor Stall Protection	Yes
Motor Underload Protection	Yes
Short Circuit Protection of the +24V and +10V Reference Voltages	Yes

Description	Specification
<b>Control Characteristics</b>	
Control Method	Frequency Control (V/f) Open Loop Sensorless Vector Control
Switching Frequency	Adjustable with Parameter 2.6.9 208 – 230V: 3/4 – 15 hp: 1 to 16 kHz; default 10 kHz 20 – 30 hp: 1 to 10 kHz; default 3.6 kHz 380 – 500V: 1 – 30 hp: 1 to 16 kHz; default 10 kHz 40 – 200 hp: 1 to 10 kHz; default 3.6 kHz 525 – 690V All Sizes: 1 to 6 kHz; default 1.5 kHz
Frequency Reference	Analog Input: Resolution 0.1% (10-bit), accuracy $\pm 1\%$ Panel Reference: Resolution 0.01 Hz
Field Weakening Point	30 to 320 Hz
Acceleration Time	0.1 to 3000 sec.
Deceleration Time	0.1 to 3000 sec.
Braking Torque	DC brake: 15% to 150% x $T_N$ (without brake option)
<b>Environment</b>	
Ambient Operating Temperature	14°F (-10°C), no frost to 122°F (+50°C)
Storage Temperature	-40°F (-40°C) to 158°F (70°C)
Relative Humidity	0 to 95% RH, non-condensing, non-corrosive, no dripping water
Air Quality	Chemical vapors: IEC 60721-3-3, unit in operation, class 3C2 Mechanical particles: IEC 60721-3-3, unit in operation, class 3S2
Altitude	100% load capacity (no derating) up to 3300 ft. (1000m); 1% derating for each 330 ft. (100m) above 3300 ft. (1000m); max. 10000 ft. (3000m)
Vibration	EN 50178, EN 60068-2-6 5 to 50 Hz, displacement amplitude 1 mm (peak) at 3 to 15.8 Hz, Max. acceleration amplitude 1 G at 15.8 to 150 Hz
Shock	EN 50178, EN 60068-2-27 UPS Drop test (for applicable UPS weights) Storage and shipping: max. 15 G, 11 mS (in package)
Enclosure Class	NEMA 1/IP21 available all ratings NEMA 12/IP54 available all ratings
<b>Standards</b>	
EMC (at default settings)	Immunity: Fulfills all EMC immunity requirements Emissions: EN 61800-3
Safety	UL 508C
Product	IEC 61800-2
<b>Control Connections</b>	
Analog Input Voltage	0 to 10V, R – 200 k $\Omega$ differential (-10 to 10V joystick control) Resolution 0.1%; accuracy $\pm 1\%$
Analog Input Current	0(4) to 20 mA; $R_i$ – 250 $\Omega$ differential
Digital Inputs (6)	Positive or negative logic; 18 to 24V DC
Auxiliary Voltage	+24V $\pm 15\%$ , max. 250 mA
Output Reference Voltage	+10V +3%, max. load 10 mA



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