

Appendix-A: Standard Specifications Version 1.4

Power		380~460Vac, 3-Phase, 3-Wire, 50/ 60 Hz										
Tolerance		Voltage tolerance: +/-10%, Frequency tolerance: +/-5%										
AXPERT Eazy AMT-□□□ HF		1P5	2P2	4P0	5P5	7P5	011	015	018	022	030	037
Rated Capacity	kW	1.5	2.2	4.0	5.5	7.5	11	15	18	22	30	37
	Hp	2.0	3.0	5.0	7.5	10	15	20	25	30	40	50
Rated Current (A) Note 1		3.6	5.5	8.6	13	17	23	31	37	44	60	73
Applicable Spindle kW Note 2		1.5	2.2	4.0	5.5	7.5	11	15	18	22	30	37
Control Functions	Control Method	Space Vector PWM Control										
	Frequency Range	0.1~1800.0Hz										
	Output Frequency Resolution	0.027 Hz (16-bit)										
	Frequency setting Resolution	0.1Hz (Digital), Max Frequency/ 4096 (Analog)										
	Output Frequency Stability	0.01% (0~45 °C)										
	V/ Hz Characteristics	2-Preprogrammed patterns, 1-Custom 3-point setting pattern										
	Voltage Boost	0~20%										
	Acceleration/ Deceleration Time	0.1~1200 Seconds (2 Ranges) Linear or S-Curve selective										
	Skip Frequency	Three frequencies can be set, band can be set up to 10.0Hz										
	Air Gap Eliminator	Air gap eliminator function for the machine tools industries										
	Switching Frequency Note 3	Default: 10.0 kHz, 2.0~18.0 kHz selectable with 0.1kHz resolution										
	Overload Capacity	150% Overload for 60 seconds at every 10 minutes										
	Operation Specifications	Speed Search Function	When enabled, rotating Spindle can be started at any moment									
Power Loss Carry Through		Up to 5 seconds for smooth operation of the system during power loss										
DC Braking		DC Braking start frequency 0.1~50 Hz, Time: 0~25 seconds, Brake current: 15 to150%										
Frequency Setting Inputs		Digital Input: Digital Operation Panel (Local) or Serial RS485										
		Potentiometer: 2 k Ohm										
		FSV: 0~5Vdc or 0~10Vdc (or Inverse)										
		FSI: 0~20mA or 4~20mA (or Inverse)										
		IIN: 4~20mA										
	Static Pot: Freq Increase/Frequency Decrease using digital I/P											
Programmable Analog Input	Preset Speeds: Using Preset input-0, 1 & 2											
Input Commands	IIN: 4~20mA (or Inverse)											
	Run, Stop, Reverse, Jog, Preset input-0, 1 & 2, Frequency Increase/ Frequency Decrease for static potentiometer, Run command with maintained / momentary facility, Ramp select, Aux drive select (Aux Spindle-1 ~ 15), Emergency stop, Fault reset, Ext Fault, Terminal select, Ref select 0 & 1, Base load input, Enable											

Operation Specifications	Digital inputs	8-Programmable Sequence Inputs, Sink / Source changeable		
		Programmable to 26 different options: Not Used, Jog Select, Ramp Select, Preset i/p-0, Preset i/p-1, Preset i/p-2, Freq Increase, Freq Decrease, Emergency Stop (NO), Fault Reset, Ext Fault (NO), Terminal, Ref Select 0, Ref Select 1, Reverse, Base Ld I/P, Spindle Sel 1, Spindle Sel 2, Spindle Sel 3, Spindle Sel 4, Emergency stop (NC), Ext Fault (NC), RUN, STOP, Enable (NO), Enable (NC)		
	Digital outputs	4-Programmable Sequence Outputs, open collector type		
		Programmable to 24 different options: Not Used, Run, Local, Reverse Run, I-Detection, Freq Attain, Speed Detect1, Speed Detect2, Acceleration, Deceleration, Timer Output, Zero Speed, Fault Alarm, PID Up Limit, PID Lo Limit, Gap Eli Det, Spindle Sel 1, Spindle Sel 2, Spindle Sel 3, Spindle Sel 4, Thermal Trip, Temp Alarm, Ready, Fault		
	Potential Free Contacts	3-Programmable relays	1-NO, 1-NC for 2A @ 240Vac	
			Programmable to 24 different options same as digital outputs	
	Programmable Analog Outputs	2-Programmable analog voltage outputs VO1 & VO2: 0~10Vdc		
		2-Programmable analog current outputs IO1 & IO2: 4~20mA		
		Programmable between 7 different options: Output Frequency, Output Current, Output Power, Output Voltage, DC Bus Volt, PID Output and heatsink temperature		
Network connectivity	RS-485 for PC Interface with Modbus-RTU protocol as standard			
Auto Restart	Adjustable up to 5 times for ten faults			
PID Controller	Inbuilt PID can be used as stand alone			
Display	Display and Keypad unit	20-Character, 4-Line LCD panel with backlit, 8-Key keypad, 3-Status indicating LED for Run, Stop and Fault -Simultaneous display of eight selectable monitor parameters		
Protective Specifications	Protective Function	Current Limit, Over current fault, Timed over current fault, Load side short circuit fault, Under current fault, Over voltage fault, Under voltage fault, Temperature fault, Spindle Hot/Short, Output phase loss fault, Ground fault, External fault, Charging fault, Current sensor fail fault, EEPROM Fault, 4~20mA reference missing fault, Emergency stop, Communication loss fault, Output current unbalance fault.		
	Smooth Operation	Speed Search, Auto Restart and Power Loss Carry Through functions, heat sink over temperature alarm		
	Fault history	Last ten faults with status and operational parameters like output frequency, output current, dc bus voltage, heat sink temperature, input voltage Vry, energy in kWh, energy in MWh and total conduction time.		
	Electronic thermal overload	150% Overload for 60 Seconds		
Environment	Installation location	Indoor		
	Vibration	As per EN 60068-2-6, Acceleration: 1g, Frequency: 10 Hz ~ 150 Hz		
	Ambient temperature	0~50°C (32~122°F)		
	Storage temperature	-20~70°C (-4~158°F)		
	Altitude (above sea level)	1000m (3300ft) without derating, above this derate 5% per 305m (1000ft)		
	Humidity	0~95% maximum non-condensing		
	Enclosure	IP00		

Note1: Indicates the total effective value including the higher harmonics

Note2: The maximum applicable Spindle output is given for a standard 4-pole Spindle.

Note3: If the default carrier frequency is exceeded, derate the output current by 3.5% per 1kHz as the reduced rating in 37 kW model.