



AXPERT - OPTI torque

The High Performance Electronic Digital Softstarter

Features

- Three Motor Starting Modes
 1. Voltage Ramp
 2. Current Ramp
 3. Torque Ramp
- Four Motor Stopping Modes
 1. Voltage Ramp
 2. Torque Ramp
 3. Brake Stop
 4. Coast-to-Stop
- Three Control Modes
 1. Local
 2. Terminal
 3. Serial
- Energy Meter Standard in both kWh & MWh
- Electronic Motor Overload & Over current protection
- Inline / Bypass / Inside Delta operating modes
- Standard PID Function
- In-built PLC Function
- Kick Voltage Start / Jog Function
- RS-485 Modbus Communication
- 80-Character, 4-Line LCD Display Backlit with 8-key Keypad
- Full complement of Analog & Digital Inputs & Outputs.
- Stores last 10 Diagnostic Faults with record of 4 key operational values at the time of fault
- Uses three current transformers and provides all Current, Voltage & Power information & protection even in bypass mode
- Global Design  

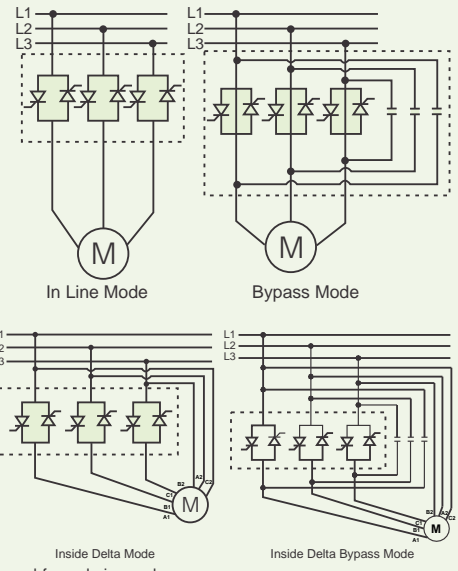
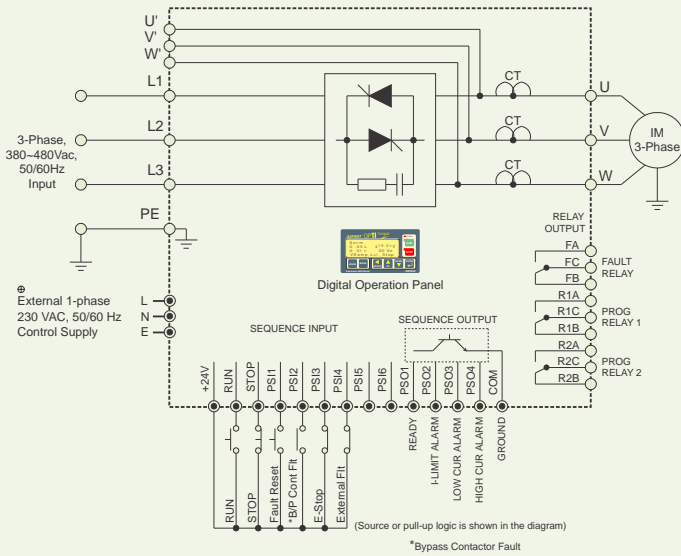
EMC Compliance	IEC 60947 - 4 - 2
IEC 61000 - 4 - 2	IEC 61000 - 4 - 5
IEC 61000 - 4 - 3	IEC 61000 - 4 - 6
IEC 61000 - 4 - 4	EN 55011

200V System, 25Hp (18kW) ~ 600Hp (450kW)
400V System, 40Hp (30kW) ~ 900Hp (630kW)
500V System, 60Hp (45kW) ~ 1000Hp (710kW)
600V System, 75Hp (55kW) ~ 1200Hp (800kW)



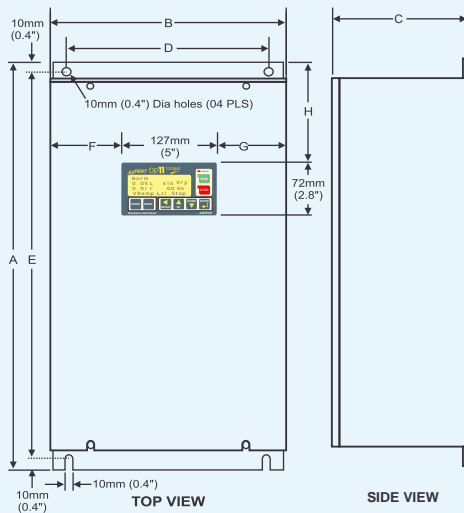
Amtech
DRIVES

Power Source		380 ~ 480VAC, 3-Phase, 3-Wire, 50/60Hz (Also available in 200V, 500V & 600V series)																	
Tolerance		Voltage tolerance: ±10%, Frequency tolerance: ±5%																	
AMT-OT-XXX-4-X		030	037	045	055	075	090	110	132	160	200	250	315	400	450	500	585	630	
Inline Rating	Max Applicable motor (Hp)	40	50	60	75	100	125	150	200	250	300	400	500	600	700	750	800	900	
	Max applicable motor line current (A)	60	72	87	110	147	175	215	245	320	360	470	590	720	800	880	950	1065	
Inside Delta	Max Applicable motor (Hp)	45	55	75	90	132	132	200	200	250	315	450	585	710	800	875	940	1060	
	Max applicable motor line current (A)	104	124	150	190	254	303	372	424	554	623	814	1021	1247	1385	1524	1645	1844	
Control	Control system Standard digital inputs +24V supply Serial port Control Supply	Digital 32-bit Digital Signal Processor Programmable Inputs 1 ~ 8 Max. +24VDC supply current is 100mA Supports RS-485 External 230VAC (115VAC for UL), 1-phase supply to be provided by the user. Capacity varies as per the rating. Refer Instruction Manual for detail information.																	
Operation Specifications	Current feed back & Thermal OLR	Motor current : Adjustable down to 30% of Unit Current Rating I-Low Level : 0 ~ 100% of full load motor current I-Low Time : 0 ~ 20minutes I-Limit Level : 100 ~ 500% of full load motor current I-Limit Time : 10 ~ 60 seconds I-Trip Level : 100 ~ 550% of full load motor current																	
	Input Signals (Analog)	0 ~ 10V programmable analog inputs (02, 12-bit) 4 ~ 20mA programmable analog inputs (02, 12-bit)																	
	Digital Input Signals	8 programmable digital inputs, sink or source logic selectable (max. 5mA)																	
	Output Signals (Form C Relay output contacts)	Programmable Relay 1: 1 NO, 1 NC rated 2A @ 240VAC Programmable Relay 2: 1 NO, 1 NC rated 2A @ 240VAC Programmable Fault Relay: 1 NO, 1 NC rated 2A @ 240VAC																	
	Output Signals (Open collector type)	Programmable Sequence Output 1 ~ 4 (max. 50mA / 30VDC each)																	
	Output Signals (Analog)	0 ~ 10V programmable analog outputs (02, 12-bit) 4 ~ 20mA programmable analog outputs (02, 12-bit)																	
	Start Mode	V-Ramp Start	Dual Ramp Selection Pedestal-1: 25 ~ 90% Kick start voltage: 0 ~ 90%					V-Ramp Up Time 1: 1 ~ 240sec Kick start Time: 0 ~ 2.0sec Target Voltage : 25 ~ 100%											
		I-Ramp Start	I-Ramp Up Time: 1 ~ 60sec I-Proportional Gain: 0.01 ~ 2.00					Initial Current: 100 ~ 300%. I-Integral Time: 0.01 ~ 100.00											
		T-Ramp Start	T-Ramp Up Time: 1 ~ 240sec Torque Limit: 1 ~ 250% T-Integral Time: 0.01 ~ 100.00					Initial Torque: 1 ~ 250% T-Proportional Gain: 0.1 ~ 2.0											
	Stop Mode	V-Ramp Stop	V-Ramp Down Time: 1 ~ 240sec Final voltage: 70 ~ 25%					Initial Voltage: 100 ~ 20%											
Brake Stop		Brake Ramp Time: 0.1 ~ 20.0sec Brake Time: 1 ~ 240 sec					Brake Voltage: 25 ~ 100%												
T-Ramp stop		T- Ramp Down Time: 1 ~ 240sec					End Torque: 1 ~ 100%												
Coast-to-stop																			
Control Mode	Local (Digital Operation Panel) • Terminal • Serial interface with RS-485 Modbus Communication																		
Start Duty	Ten equally spaced starts per hour at 300% current, each of 30 seconds duration, separated by periods of 100% current, or one start at 300% current of 60 seconds duration, followed by 100% current indefinitely (for models 400 ~ 710kW, 6 equal starts).																		
Display	Display and Keypad module	• 80-Character, 4-Line backlit LCD panel, 8-Key keypad • 3-Status indicating LED (for Run, Stop and Fault)				• Input Frequency • Motor Current (each phase) • Reactive Power • Energy Meter-kWH/MWH				• Input Voltage • Active Power • Power Factor • Peak Current				• Motor Voltage • Motor Torque					
Protection	Diagnostic Fault Protection	• Over current fault • Over load fault • Ground fault • Phase Loss fault • Over voltage fault				• Under voltage fault • Temperature fault • Phase direction fault • I-Unbalance fault • Firing fault				• Over frequency fault • Under frequency fault • Emergency Stop • Main Contactor fault • Bypass Contactor fault				• Communication loss • External fault • EEPROM fault • Under current fault					
Environment	Installation Location Ambient Temperature Storage Temperature Altitude (above sea level) Humidity Enclosure	Indoor 0 ~ 50°C (122°F) -20°C (-4°F) ~ 70°C (158°F) 1000m (3300ft) without derating, above this derate 3% per 305m (1000ft) 0 ~ 95% max non condensing IP00 as standard, other can be provided on demand																	
Other	Complete I/O Interface	• 4 Analog Input • 4 Analog Output				• 8 Digital Input • 7 Digital Output				• RS-485 Modbus Communication									



Note:- * Bypass contactor is optional. [®] Control supply 230VAC to be provided by customer. 115VAC for UL model. Refer instruction manual for ordering code

Outline Dimensions



Model: AMT-OT- XXX-4-X	Dimensions in mm (inch)								Weight in kg (lb)
	A	B	C	D	E	F	G	H	
030									
037	445 (17.5)	213 (8.4)	260 (10.2)	170 (6.7)	423 (16.7)	43 (1.7)	43 (1.7)	77 (3.0)	13 (28.7)
045									
055									
075	460 (18.1)	213 (8.4)	277 (10.9)	170 (6.7)	438 (17.2)	43 (1.7)	43 (1.7)	92 (3.6)	20 (44.1)
090									
110									
132	420 (16.5)	328 (12.9)	315 (12.4)	224 (8.8)	400 (15.8)	102 (4.0)	98 (3.9)	227 (8.9)	29 (64)
160									
200	600 (23.6)	547 (21.5)	326 (12.8)	442 (17.4)	570 (22.4)	210 (8.27)	210 (8.27)	358 (15.2)	60 (132.3)
250									
315									
400									
450									
500	740 (29.1)	597 (23.5)	326 (12.8)	492 (19.4)	710 (28)	235 (9.3)	235 (9.3)	525 (20.7)	78 (172)
585									
630									

Traditional Methods of Starting AC Induction Motors

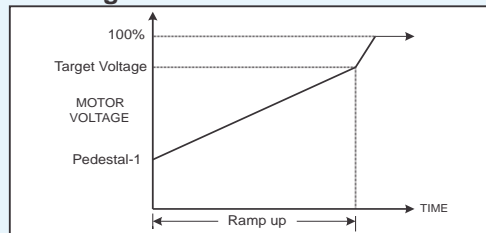
	STARTING METHOD				
	DIRECT ON-LINE (DOL)	STAR-DELTA	AUTO-TRANSFORMER	SWITCHED ROTOR RESISTANCE	SOLID STATE SOFT-STARTING
MOTOR CONNECTION					
CURRENT SPEED CHARACTERISTIC					
TORQUE SPEED CHARACTERISTIC					

AXPERT-OPTI torque

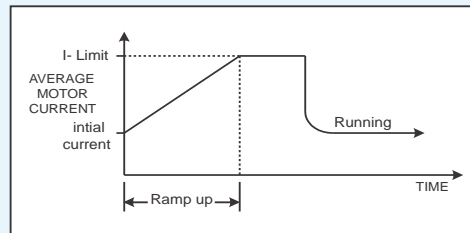
STARTING INDUCTION MOTORS

Three Starting Modes

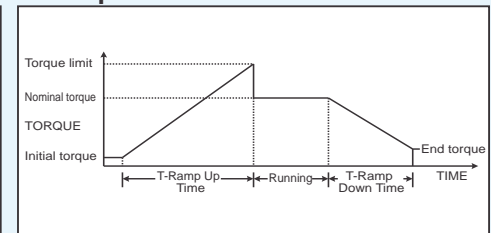
1. Voltage Control



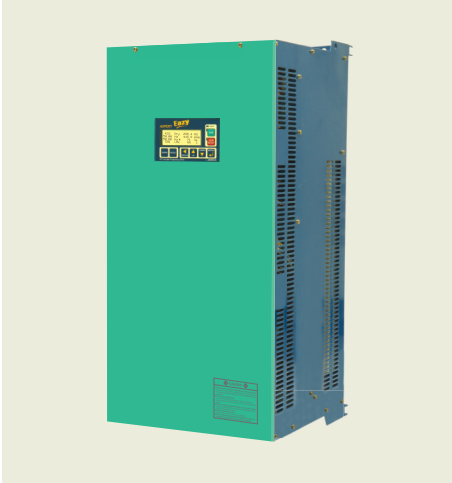
2. Current Control



3. Torque Control



Our Other Offerings



AXPERT-Eazy AC DRIVE

AXPERT-EAZY is a high performance AC drive and very competitive when it comes to price-performance ratio. Eazy also provides excellent dynamic motor response.

Models:

400V : 60Hp to 2200Hp (45kW to 1550kW)
500V : 60Hp to 2200Hp (45kW to 1550kW)
600V : 60Hp to 2500Hp (45kW to 1800kW)

Features :

- Fifth generation IGBT power inverter
- Control strategy - SVPWM
- Power-loss ride through
- Built-in energy meter
- Slip compensation
- True Overload & Ground Fault protection
- PID feature for process control applications
- Customized software solutions like; pattern run, ring frame, multipump
- User friendly 80-Character, 4-Line Backlit LCD display & 8-key keypad
- RS-485 Modbus Communication (Standard)

Applications :

- Pumps & Fans
- Agitators
- Centrifuge
- Paper & Pulp
- Air Compressors
- Rayon Spinning



ADAPT SYSTEM PUMP JACK SOLUTION

Amtech Drives offers the ultimate solution in SRP (Sucker Rod Pump) control. SRP (Sucker Rod Pump) is one of the most common forms of reciprocating artificial lift system employed by Oil and Gas companies worldwide.

Amtech offers solutions in all the processes of Upstream, Midstream and Downstream in Oil & Gas industry.

Models :

400V : 5Hp to 100Hp (3.7kW to 75kW)

Features :

- Factory-tested Integration
- Simplified setup
- Smooth starting & operation of system
- Optional bypass contactors
- Vector Control mode improves the operation of pumpjack.

Applications :

- Oil well pumpjack



AXPERT-VT240S AC DRIVE

AXPERT-VT240S is an advanced Universal AC Drive having multi mode operations like,

- V/f variable torque control
- V/f constant torque control
- Sensorless vector control
- Closed-loop vector control
- Closed-loop PM motor control

Models :

200V : 1Hp to 50Hp (0.75kW to 37kW)
400V : 1Hp to 60Hp (0.75kW to 45kW)

Features :

- Multi pump control
- Traverse control for fiber
- Spinning frame function
- Elevator function, Ratio Interlock
- Dynamic braking chopper built-in up to 30Hp
- 122°F Ambient temperature
- PID feature standard for process control applications
- High efficiency operations
- RS-485 Modbus Communication (Standard)

Applications :

- Extruders, Blower, Pump, HVAC
- Lifts, Elevators, Cranes
- Printing, Packing
- Knitting, Ring Spinning
- Calender, Paper machine
- Air compressors, Centrifuge

Specifications in this catalog are subject to change without notice.

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