

AXPERT OPTI torque

The High Performance
Electronic Digital Soft Starter -
Internal Bypass Series



15...1065 A, 3.7...1000 kW (5...1340 HP)
200...690 V Supply Voltage



Features

- 3-Phase control
- Universal control supply 90...270V AC 50/60Hz
- Most advanced integrated electronic motor over load and over current protections
- Wide range class 2 to 30 electronic overload
- In-built Energy Meter, displays kWh & MWh
- In-line (3-wire) / Inside Delta (6-wire) operating modes
- Motor PTC connection for motor over temperature protection
- Conformal coating on all circuit boards (PCBs) as standard to protect against 3C3 environment
- Commissioning mode for easy commissioning
- RS-485 Modbus Communication with Axpert-Communicator software for remote monitoring
- Fully Configurable Analog and Digital Inputs / Outputs
- Stores last 20 Diagnostic faults with of 8 key operational parameter values and status at the time of fault
- Senses current in all three phases and provides Current, Voltage & Power information; protection even in bypass mode
- Energy efficient design - Cooling fan control as per heat-sink temperature. This will increase fan life and also reduce the power consumption
- Digital Operation Panel 5 digit, 7-segment LED display (IP65) with 2 decimal points, Unit indication, Start Mode, Start control, Bypass and Starter's status LEDs display, 9-Key Keypad, 3-LED for Run, Stop, Fault
- In-built PLC Function for logical operations and interlocking, with Axpert-Drive logic programming tool for easy programming

Standard SPECIFICATIONS

Digital 32-bit Digital Signal Controller

Supports RS-485 Modbus as standard, Profibus-DP (slave), DeviceNet, CANopen, Ethernet, ControlNet are optional.

Motor current: Adjustable up to 30 % of unit current rating	I-Trip Level: 100...800% of full load motor current	I-Limit Level: 100...600% of full load motor current
Low Level: 0...100% of full load motor current	I-Low Time: 0...20 minutes	I-Limit Time: 10...60 sec

4-Programmable Sequence Inputs, Sink / Source changeable, max 5 mA each

Programmable between 17 different options: Not Used, Terminal, Jogging, External Fault, Fault Reset, Bypass Contactor, Main Contactor, E-Stop, Ramp Hold, Reverse Contactor, Run, Stop, Motor PTC, PLC I/P 1...4

3-Programmable relays:	1-Relay: 1-NO for 5 A @ 240 VAC
	2-Relay: 1-NO, 1-NC for 5 A @ 240 VAC

Programmable between 41 different options: Not Used, Ready, Run, Top of Ramp, Fault Alarm, I-Limit Alarm, Low Current Alarm, High Current Alarm, Temp Alarm, Reverse Contactor, Main Contactor, External Fan Control, Over Current Fault, Under Current Fault, I-Unbalance Fault, Overload Fault, Over Voltage Fault, Mains Off Fault, Phase Loss Fault, External Fault, Emergency Fault, Motor PTC Short Fault, Motor PTC Over Temperature, Power Not OK, Bypass Relay Fault, EEPROM Fault, Ground Fault, Phase Direction Fault, Over Freq Fault, Under Freq Fault, Thermistor OT Fault, Thermistor NC Fault, Thermostat NC Fault, Firing Fault, Thermistor Short Fault, SCR Short Fault, Watchdog Fault, PLC O/P 1...3

2-Programmable analog current outputs AO1 & AO2: 4...20 mA with settable gain, bias, minimum and maximum scaling, 12-bit

Programmable between 7 different options: Output Current, Active Power, Reactive Power, Power factor, Motor torque, Heat sink temperature, Motor PTC, PLC Analog output 1 and 2

One or three Motor PTC can be connected for motor over temperature protection

V-Ramp Start	Dual Ramp Selection	V-Ramp Up Time: 1:1...240 sec	Pedestal-1: 25...90%
	Kick Time: 0. 2.0 sec	Kick Voltage: 0...90%	Target: 25...100%
I-Ramp Start	I-Ramp Up Time: 1...60	Initial Current: 100...300%	I-Proportional Gain: 0.01...2.00
	I-Integral Time: 0.01...100.00		
T-Ramp Start	T-Ramp Up Time: 1...240 sec	Initial Torque: 1...250%	Torque Limit: 1...250%
	T-Proportional Gain: 0.1...2.0		
V-Ramp Stop	V-Ramp Down Time: 1...240 sec	Initial Voltage: 100...25%	Final voltage: 70...25%
Brake Stop	Brake Ramp Time: 0.1...20.0 sec	Brake Voltage: 25...100%	Brake Time: 1...240 sec
T-Ramp Stop	T-Ramp Down Time: 1...240 sec	T-Integral Time: 0.01...100.00	

Coast to stop

Local (Digital Operation Panel), Terminal, Serial

Digital Operation Panel 5 digit seven segment LED display with 2 decimal points, Unit indication, Start Mode, Start control, Bypass and Starter's status LEDs display, 9-Key Keypad, 3-LED for Run, Stop, Fault. 13 predefined normal parameter display;
Can be mounted on panel door with optional extension cable.

Digital Operation Panel 128x64 Graphical LCD with white back light LED, 9-Key Keypad, 3-Status indicating LED for Run, Stop, Fault | Real Time Clock
Simultaneous display of 8 selectable monitor parameters
Two graph screens with selectable graph signal and resolution
Auto rotation of screens with settable time interval
Can be mounted on panel door with optional extension cable

10 equally spaced starts per hour at 350% current, each of 30 seconds duration, i.e. 30 seconds on time and 330 second off time. For models -0720A to -1065A, 6 equal start.

10 equally spaced starts per hour at 500% current, each of 15 seconds duration, i.e. 15 seconds on time and 345 second off time. For models -0720A to -1065A, 6 equal start.

10 equally spaced starts per hour at 500% current, each of 30 seconds duration, i.e. 30 seconds on time and 340 second off time. For models -0720A to -1065A, 6 equal start. Contact AMTECH for derating information.

AC53a or AC53b

Over current fault	Over voltage fault	Temperature fault	Reverse contactor fault
Over load fault	SCR Short fault	Phase direction fault	Main contactor fault
Ground fault	Over frequency fault	I-Unbalance fault	Bypass contactor fault
Phase Loss fault	Under frequency fault	Firing fault	
Mains off fault	Motor PTC fault	Watchdog fault	

Indoor

-15...50 °C (5...122 °F)

-20...70 °C (-4...158 °F)

1000 m (3300 ft) without derating, above this derate 3% per 305 m (1000 ft) up to 4000 m

0...95% max non condensing

IP20 up to 110A model, after that IP00 (other can be provided on demand)

UL 508, UL 60947-4-2, CSA C22.2 60947-4-2, IEC 60947-4-2, IEC 60947-1, CE (EN 60947-4-2), IEC 60529

OUR OTHER OFFERINGS

MOTOR CONTROL



“DRIVE FOR SUCCESS”

We provide complete motor control system solutions or individual system components to address industry specific requirements and optimize your process.

Our solutions are simple, compatible and environment friendly, resulting in efficient production, cost optimization and minimizing human intervention. It even leads to energy conservation especially in typical Fan, Blower, Pump applications.

Flagship Solutions

- Apxert-Eazy+ Series VFD
- Apxert-VT240S Series VFD
- Apxert-Hivert Series Medium Voltage Drive
- Apxert-Opti torque Series Soft Starter
- Apxert-Eazy HF Series High Frequency Drive

Applications

- Fans, Blowers, Pumps
- Compressors, Centrifuges
- Agitators & Conveyors
- Crane, Hoist & Elevator
- Rolling Mill, Sugar Mill, Pulp Mill, Coal/Raw Mill

AUTOMATION



“Automation Made Easy” is our philosophy to simplify the increasing complexity of modern production systems through our Amtech-Jetter PROCESS PLC technology platform.

Over 30 years experience in Machine, Line, Plant and Networking Automation has helped us to find the best solution in terms of functionality, sustainability and efficiency.

Flagship Solutions

Jet Control series PLC Controllers, Expansion Modules, Jet view Soft SCADA, HMIs, Jet Move series Servo and Axes Control System.

Applications

- Paper Machine Automation
- Textiles Manufacturing
- Packaging
- Winder Machine
- Crane & Material Handling Equipment
- CNC Machines
- Semiconductor Assembly Line
- Retrofit solutions

POWER QUALITY



Amtech's Power Quality Solutions offer you the synergy of multiple benefits - energy conservation, enhanced operational efficiency and reliability through a dedicated range of products and services.

Products

- Apxert-i-Sine Series Active Front-end Converter
- Apxert-i-Sine Series Active Harmonic Filter (AHF)
- Apxert-i-Sine Series Active Static VAR Compensator (STATCON)
- Harmonic Reactor
- Sinus Filter
- EMI/RFI Filter

Services

- Harmonic Audit and Solutions to comply with IEEE-519 standard
- System design, optimization & payback analysis
- Consultancy for Power Quality improvement
- Training on Power Quality Management
- Energy Audit and solutions by experienced BEE certified professionals

INDUSTRIAL ELECTRONICS



Amtech's Power Electronics Engineering Services offer technology solutions to independent R&D labs, industrial segments like Traction, Oil & Gas, Automotive and Renewable Energy for wind to reduce your time to market.

Products

- Traction Drive
- High Voltage Power Supply
- Battery back-up drive & systems for critical loads
- Wind Power Converter
- Digital Heater Controller
- Battery Charger
- Drive Train

Services

- Power Electronics Engineering Services
- Customized solutions for industry specific applications
- Solution for Oil, Gas & Mining
- Power Electronics product development & testing
- Product verification & validation
- Retrofit Solutions



AMTECH ELECTRONICS

DRIVE FOR SUCCESS

Specifications in this catalog are subject to change without notice