# AXPERT - OPTI power

## The High Performance Digital AC Power Controller

## Features

- Also known as Heater Controller
- Fully Digital Control
- Firing Modes
  1. Phase Angle Firing 2. Burst Firing
- Three Operation Modes
  1. Voltage Regulation 2. Current Regulation
  3. Power Regulation
- Three Control Modes
  1. Local 2. Terminal 3. Serial
- Energy Meter Standard in both kWH & MWH
- Inline / Wye / Inside Delta operation modes
- Standard PID Function
- In-built PLC Function
- Total 8 selectable Firing References
- 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 transformer, provides protection and all current, voltage & power information
- Global Design CE

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

## Ratings: 60 ~ 2400 A, 200 ~ 690 V


CE

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AN ISO 9001 : 2008 COMPANY

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|---|---|---|---|
| Control | Control system | Digital, 32-bit Digital Signal Processor | |
| | Standard digital inputs | Programmable Inputs 1 ~ 8 | |
| | +24V supply | Max. +24 VDC supply, current is 100 mA | |
| | Serial port | Supports RS-485 | |
| | Control Supply | External 230 VAC (115 VAC), 1-phase supply to be provided by the user. Capacity varies as per the rating. Refer Instruction Manual for detailed information. Note 1: Last digit indicates voltage rating of control supply. 1 = 115 VAC, 50/60 Hz, 2 = 230 VAC, 50/60 Hz | |
| Operation Specifications | Current feed back | Motor current: Adjustable down to 30% of Unit Current Rating<br>• I-Low Level : 0 ~ 100% • I-Limit Level: 50 ~ 150%<br>• I-Trip Level : 100 ~ 250% of full load motor current | |
| | Input Signals (Analog) | 0 ~ 10 V programmable analog inputs (02, 12-bit)<br>4 ~ 20 mA programmable analog inputs (02, 12-bit) | |
| | Digital Input Signals | 8 programmable digital inputs, sink or source logic selectable (max. 5 mA) | |
| | Output Signals (Form C Relay output contacts) | Programmable Relay 1: 1 NO, 1 NC rated 5 A @ 240 VAC<br>Programmable Relay 2: 1 NO, 1 NC rated 5 A @ 240 VAC<br>Programmable Fault Relay: 1 NO, 1 NC rated 5 A @ 240 VAC | |
| | Output Signals (Open collector type) | Programmable Sequence Output 1~4 (max. 50 mA / 30 VDC each) | |
| | Output Signals (Analog) | 0~10 V programmable analog outputs (02, 12-bit)<br>4~20 mA programmable analog outputs (02, 12-bit) | |
| | Firing Mode | Phase Angle Firing | Firing Reference: (0.0 ~ 100.0 %)<br>• FSV 0-10 V • FSI 4-20 mA • Vin 0-10 V • Iin 4-20 mA<br>• PID output • Local • Serial • Static Potentiometer |
| | | | Ramp up time: 0.0 ~ 100.0 sec |
| | | | Ramp down time: 0.1 ~ 100.0 sec |
| | | Burst Firing | Total Time: 0.01 ~ 20.00 sec<br>On Time: 0.01 ~ 20.00 sec |
| | Operation Mode | Voltage Regulation | |
| | | Current Regulation | |
| | | Power Regulation | |
| | Control Mode | • Local (Digital Operation Panel) • Terminal • Serial interface with RS-485 Modbus Communication | |
| Display | Display and Keypad module | • 80-Character, 4-Line backlit LCD panel, 8-Key keypad<br>• 3-Status indicating LED (for Run, Stop and Fault) | • Input Frequency • Input Voltage • Output Voltage<br>• Phase Current • Active Power<br>• Reactive Power • Power Factor<br>• Energy Meter-kWH/MWH • Peak Current |
| Protection | Diagnostic Fault Protection | • Over current fault • Temperature fault • Under frequency fault<br>• Over load fault • Phase direction fault • Emergency Stop<br>• Ground fault • I-Unbalance fault • Communication loss<br>• Phase Loss fault • Firing fault • External fault<br>• Over voltage fault • Over frequency fault • EEPROM fault | |
| Environment | Installation Location | Indoor | |
| | Ambient Temperature | 0~50 °C (122 °F) | |
| | Storage Temperature | -20 °C (-4 °F) ~70 °C (158 °F) | |
| | Altitude (above sea level) | 1000 m (3300 ft) without derating, above this derate 5% per 305 m (1000 ft) | |
| | Humidity | 0~95% max non condensing | |
| | Enclosure | IP00 as standard, other can be provided on demand | |
| Other | Complete I/O Interface | • 4 Analog Input • 8 Digital Input • RS-485 Modbus Communication<br>• 4 Analog Output • 7 Digital Output | |

## Industry / Applications

- Paper
- Heaters
- Glass
- Plastic
- Heat Treatment
- Oil and Gas
- Paint
- Metalurgy
- Electrolysis
- Semiconductor Equipments
- Heating Ventilating and Air-Conditioning
- Various resistive and inductive loads

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