



Orion

Three Phase 600VAC // 125VDC Rectifier / DC UPS System / Battery Charger



Three Phase Input to DC Output UPS

Always On's new Three Phase DC Rectifier enables the controlling and monitoring of the DC output of the UPS system. This new system compliments our product line with the addition of the DC output option to our current Three Phase UPS systems.

The versatile Rectifier is designed specifically for:

Utility & Communications:

- Power Generation
- Substations
- Microwave Relay Sites
- Switchgear

Manufacturing:

- Emergency DC Power
- DC Operated Breakers
- Alarm Systems

Commercial:

- Alarm Systems
- Uninterruptible Power Systems
- DC Control Systems

Transportation:

- Signal Systems
- Switchgear
- Alarm Systems.

Control Panel Features:

The Status Menu Displays:

- The input, output and battery functionality
- The status of the breakers and contactors
- The current statuses of operation mode, phase, output and input
- The metering of input / output voltages and current, plus battery capacity.

The Key Information Menu Displays:

- The product manufacturer, serial number and part number
- The Input / Output voltage ratings
- The Unit Power Rating.

The Logged Events and Alarms Menu:

- Displays the currently active alarm events and the details
- Displays all logged alarm events and the details
- Silence Alarm – turns off the alarm (Note: the alarm will sound again if a new alarm occurs)
- Upload - all alarm events are uploaded to a PC.

Battery Equalization / Battery Testing:

- Controls the running of the battery equalization function
- Controls the running of the battery testing function.

DC Output:

- This function controls the enabling and disabling of the DC Output.

Configuration Menu:

- Set Points:
 - High / low voltage limits of output
 - High / low current limits of output
 - Output voltage.
- Set battery equalization level, run frequency and duration.
- Set system clock.
- Set password for configuration menu access.
- Set display brightness and contrast.

Product Hardware Features:

Input:

- 3 phase power input at 45 to 65 Hz.
- Configuration: 600Vac - 3 phase, 3 wire (208 - 480 Vac and other voltages available)
- Frequency: 45-65Hz, power factor: 0.80-0.90, THD: 3%.
- Input Voltage Range: -10% to +10%.
- Monitoring voltages and currents of the DC Rectifier input.
- 20 second Walk-in to output enabled.

Output:

- Output voltage 125VDC (other models available up to 600VDC)
- Overload 150% for up to 60 seconds.
- Software adjustment of output voltage.
- Current limiting.
- Monitoring voltages and currents of the DC Rectifier output.
- Zero transfer time.
- Parallel for redundancy and capacity.

Environment:

- Monitors operating temperature of unit.
- Multiple fans – forced air cooling – variable speed with failure alarm.

Display:

- LCD Display & keypad for menu navigation and data entry.
- Software menu for UPS control and monitoring.
- Logging of alarms and events.

Connectivity:

- Remote monitoring of DC rectifier UPS system via SNMP or web browser.
- 8 user Relay output.
- Optional connections to Modbus, industrial Ethernet, Profibus or other industrial Networks.

Battery:

- Automatic and programmable Battery Equalization.
- Automatic and programmable Battery Test.
- Monitor voltages and currents of the DC Rectifier battery bank.
- The Battery recharge time is approximately 5 times the discharge time.
- Variable backup time.
- Each battery string is protected by a circuit breaker.
- Temperature compensated charging.

Additional Features:

- Audible and visual failure alarm.
- DSP (Digital Signal Processor) based monitoring and control system.

DC Rectifier Specifications:

GENERAL DATA		
True galvanic isolation from input to output		Yes
Operating temperature range	UPS	-40°C to 40°C
Storage temperature range	UPS	-15°C to +50°C (5°F to 122°F)
	Battery	0°C to 40°C (32°F to 104°F)
	(VRLA)	Storage time is 6 months at 25°C (77°F) Higher temperatures reduce battery storage time
Relative Humidity		0% to 95%, non-condensing
Maximum Altitude	Without Derating	<1,500m (5,000ft) No derating
Enclosure	Type	Indoor (NEMA 1) [Optional drip shield available] [other configurations available]
	Safety	Internal front construction
	Cooling	Forced air (bottom to top)
	Colour	Manufacturer Colour (Ivory)
Installation	Rigging	Suitable for handling by forklift / overhead eyehooks
	Mounting	Casters and Floor mounting brackets / earthquake standard available
Installation and maintenance access		Front access required for maintenance
	Conduit access	Bottom entry standard / top entry available
Standards		CSA 107.1, UL 1778, IEC 62040, FCC Class A, EN5009-1, -2
Electrostatic discharge immunity		6kV contact / 8 kV air discharge
Configuration	Standard	Stand-alone
	Optional	Multiple units may be paralleled for redundancy or capacity

DC Rectifier Specifications:

RECTIFIER		
Configuration		
Input	Voltage	Standard 208 / 480 / 600 VAC, 3 phase, 3 wire + ground (-10% to +15%)
	Frequency	45 to 65 Hz
	Power Factor	0.80 to 0.90
	Inrush Current	Limited by soft-start circuit
	Power walk-in	0 to 100% within 20 seconds
Output	Output Voltage	125VDC (Other voltages available up to 600 VDC)
	Output Current	25 / 50 / 100 / 150 / 200 A (Up to 600A)
	Output Voltage tolerance	+/- 1%
	DC ripple voltage	+/- 2%
	DC Ripple Current	Maximum 5% of battery capacity expressed in amps
Protection		
Fuses / Breakers Internally Current Limited		

Specifications are subject to change without notice to reflect upgrades and improvement in technology.

BATTERY		
Battery Compatibility	Maintenance Free Sealed Lead-acid [Optional NiCD or flooded]	
Number of cells	Varies with size	
Voltage range for Equalization		
Programmable		
Float voltage at 20°C (68°F)	13.5V per battery (programmable)	
Low voltage level (Stop Voltage)	10.0V per battery (programmable)	
Recharge time to 90% capacity	5 times the discharge time	
Battery ground fault detection	Standard	
Automatic and manual battery test	Standard	
Programmable Temperature Compensated Charging	Standard	

DC Rectifier Specifications:

EXTERNAL INTERFACE		
Alarm contacts	Standard	8 form C contacts (user configurable)
Serial communication		RS-232/ RS485
Ethernet communications (options)		SNMP, Modbus, Profibus, other industrial networks available
Input control signals		8 x 0 to 15VDC optoisolated inputs (user configurable)
Emergency Power Off contacts provided (optional switch)		

FRONT PANEL CONTROLS, SIGNALS & ALARMS	
Active mimic Diagram	Represents the operational status of the UPS, with integrated LED's and power flow indicators.
LED Display	Displays operational and fault conditions
Audible Alarm	Audible signal active when any alarm condition is present
LCD Display	Display of UPS metering functions and event history
Keypad	Menu navigation and data entry

OPTIONAL FEATURES	
Parallel Redundant Operation for redundancy and capacity	
Remote status panel	Active mimic diagram w/ Stop Operation and Summary Alarms.
Sprinkler protection	Drip Shield
Dust protection	Air Filters
Battery Cabinets	Extend runtimes

Contact Always On

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