an EnerSys® company

MODUPS™ Series

Uninterruptible Power Supply

- Cordex® switched mode battery charger/rectifier
- Pulse-Width Modulation (PWM) inverter with built in modular static switch and internal AC-DC rectifier
- Manual make before break (MBB) bypass switch
- Microprocessor controlled logic and control panel for DC section and AC section
- Input and output circuit breakers

The MODUPS™ Series UPS is a continuous duty, single or three-phase input and one-phase output, double-conversion, solid-state uninterruptible power supply.

Designed specifically as an AC backup power source for critical AC loads, its operational level of greater than 92% power efficiency results in less power usage than typical UPS systems. With optimal system efficiency at 50 to 100% of load, additional inverter and/or rectifier modules may be added to the system with no negative impact on system efficiency.

Modular rectifiers charge the batteries only when necessary and the charging capacity of the system rectifiers are proportional to battery capacity. This optimizes battery recharge time and minimizes the number of rectifiers necessary to support the batteries.

MODUPS Series inverters provide a clean sinewave output power signal to AC loads—with its built-in static switch design, it allows a zero transfer time of the loads to the AC bypass available source in case of AC black out. Also, built-in manual bypass switch takes the system down for maintenance safely without interrupting AC power to loads.

All modules are hot-swappable and each individual module can disconnect itself from the system in the event of failure. Additionally, the scalable architecture of the MODUPS Series allows flexibility for easy future system expansion.

MODUPS™ Series Specifications

Models:	MODUPS-06-1-1	MODUPS-12-1-1	MODUPS-15-1-1
Electrical			
Power Rating:	6kVA	12kVA	15kVA
Input/Phase:	208 to 240VAC/1PH	208 to 240VAC/1PH	208 to 240VAC/1PH
Input Current:	70A	93A	116A
Output/Phase:	120V/1PH	120V/1PH	120V or 240V/1PH
Output Power:	6,000VA	12,000VA	15,000VA
Rated Frequency:	50/60Hz	50/60Hz	50/60Hz
Frequency Range:	45 to 66Hz	45 to 66Hz	45 to 66Hz
Power Factor:	>0.9 at nominal conditions and 50-100% load	>0.9 at nominal conditions and 50-100% load	>0.9 at nominal conditions and 50-100% load
Start Up Delay:	Programmable up to 120 seconds to enable stagger-start of multiple rectifiers and to minimize the effect on a supply source		
Soft Start:	User adjustable to at least 5 seconds (not including start up delay time) and is determined by output current limit ramp-up		
Inrush Current:	≤ full load steady state current of the rectifier within rated limits	≤ full load steady state current of the rectifier within rated limits	≤ full load steady state current of the rectifier within rated limits
Input Current THD:	<5% Total Harmonic Distortion (THD) at 100% load	<5% Total Harmonic Distortion (THD) at 100% load	<5% Total Harmonic Distortion (THD) at 100% load
Input Transient Suppression:	Meets ANSI/IEEE C62.41 category B3	Meets ANSI/IEEE C62.41 category B3	Meets ANSI/IEEE C62.41 category B3
DC Link Voltage Range:	90 to 145VDC	90 to 145VDC	90 to 145VDC
Protection:	In and output circuit breakers	In and output circuit breakers	In and output circuit breakers
Efficiency:	>92% at nominal conditions and 50-100% load	>92% at nominal conditions and 50-100% load	>92% at nominal conditions and 50-100% load
Overload Capacity:	**Inverter**: 100% continuously, 150% for 5 seconds **Bypass**: 1000% for 10ms, 125% for 10 minutes		
Crest Factor:	3.1	3.1	3.1
Harmonic Voltage Distortion:	1.5% THD maximum, 1% maximum for any single harmonic (linear load)	1.5% THD maximum, 1% maximum for any single harmonic (linear load)	1.5% THD maximum, 1% maximum for any single harmonic (linear load)
MTBF:	230,000hrs	230,000hrs	230,000hrs
Communications			
Interface Port:	RS232/RS485/dry alarm contacts	RS232/RS485/dry alarm contacts	RS232/RS485/dry alarm contacts
Built-in SNMP Card:	Optional	Optional	Optional
Alarms/Monitor:	**LCD/LED and audible**: AC fault, DC fault, Inverter fault, Bypass fault, on Inverter, on Bypass		
Mechanical			
Enclosure Dimensions L × D × H (in):	32 × 32 × 84	32 × 32 × 84	32 × 32 × 84
Estimated Weight (lbs):	950	1050	1100
Protection Rating:	NEMA 1/IP20	NEMA 1/IP20	NEMA 1/IP20
Safety and Environment			
Temperature:	**Operating**: 32 to 104°F (0 to 40°C) **Storage**: −4 to 140°F (−20 to 60°C)		
Relative Humidity:	90% non-condensing	90% non-condensing	90% non-condensing
Audible Noise:	65dBA at 1m distance	65dBA at 1m distance	65dBA at 1m distance
Isolation/Gavalnize:	**AC-DC-AC**: 2,000Vrms **DC-GND**: 2,000Vrms **AC-GND**: 2,000Vrms	**AC-DC-AC**: 2,000Vrms **DC-GND**: 2,000Vrms **AC-GND**: 2,000Vrms	**AC-DC-AC**: 2,000Vrms **DC-GND**: 2,000Vrms **AC-GND**: 2,000Vrms
Agency Compliance:	UL 1778/CSA 22.2 107 CE (pending)	UL 1778/CSA 22.2 107 CE (pending)	UL 1778/CSA 22.2 107 CE (pending)
Rectifier Power Module (Cordex® Switch-Mode Rectifier Module, 125VDC/4.4kW Rating Per Module)			
Quantity:	3	4	5
Inverter Power Module (125VDC-120-240VAC/1.6kVA or 1kVA)			
Quantity:	4	8	15
Configuration			
AC Input:	208 to 240VAC/1PH	208 to 240VAC/1PH	208 to 240VAC/1PH
DC Link:	125VDC	125VDC	125VDC
AC Output:	120V/1PH	120V/1PH	120V or 240V/1PH

an EnerSys® company

Alpha Technologies Services, Inc. USA: 3767 Alpha Way, Bellingham, WA 98226 Canada: 7700 Riverfront Gate, Burnaby, BC V5J 5M4
Toll Free North America: +1 800 322 5742 Outside US: +1 360 647 2360 Technical Support: +1 800 863 3364
For more information visit **www.alpha.com**

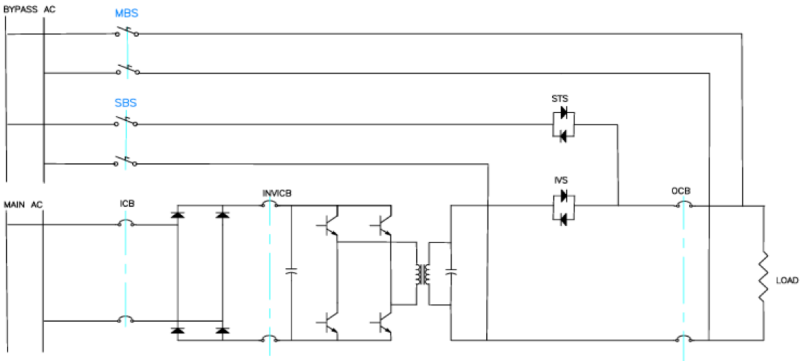
MODUPS™ Series Specifications

Models:	MODUPS-06-3-1	MODUPS-12-3-1	MODUPS-15-3-1	MODUPS-20-3-1	MODUPS-30-3-1
Electrical					
Power Rating:	6kVA	12kVA	15kVA	20kVA	30kVA
Input/Phase:	208VAC/3PH	208VAC/3PH	208VAC/3PH	208VAC/3PH	208VAC/3PH
Input Current:	40A	54A	67A	81A	108A
Output/Phase:	120V/1PH	120V/1PH	120V or 240V/1PH	120V or 240V/1PH	120V or 240V/1PH
Output Power:	6,000VA	12,000VA	15,000VA	20,000VA	30,000VA
Rated Frequency:	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Frequency Range:	45 to 66Hz	45 to 66Hz	45 to 66Hz	45 to 66Hz	45 to 66Hz
Power Factor:	>0.9 at nominal conditions and 50-100% load				
Start Up Delay:	Programmable up to 120 seconds to enable stagger-start of multiple rectifiers and to minimize the effect on a supply source				
Soft Start:	User adjustable to at least 5 seconds (not including start up delay time) and is determined by output current limit ramp-up				
Inrush Current:	≤ full load steady state current of the rectifier within rated limits				
Input Current THD:	<5% Total Harmonic Distortion (THD) at 100% load				
Input Transient Suppression:	Meets ANSI/IEEE C62.41 category B3	Meets ANSI/IEEE C62.41 category B3	Meets ANSI/IEEE C62.41 category B3	Meets ANSI/IEEE C62.41 category B3	Meets ANSI/IEEE C62.41 category B3
DC Link Voltage Range:	90 to 145VDC	90 to 145VDC	90 to 145VDC	90 to 145VDC	90 to 145VDC
Protection:	In and output circuit breakers	In and output circuit breakers	In and output circuit breakers	In and output circuit breakers	In and output circuit breakers
Efficiency:	>92% at nominal conditions and 50-100% load				
Overload Capacity:	**Inverter**: 100% continuously, 150% for 5 seconds **Bypass**: 1000% for 10ms, 125% for 10 minutes				
Crest Factor:	3.1	3.1	3.1	3.1	3.1
Harmonic Voltage Distortion:	1.5% THD maximum, 1% maximum for any single harmonic (linear load)				
MTBF:	230,000hrs	230,000hrs	230,000hrs	230,000hrs	230,000hrs
Communications					
Interface Port:	RS232/RS485/dry alarm contacts	RS232/RS485/dry alarm contacts	RS232/RS485/dry alarm contacts	RS232/RS485/dry alarm contacts	RS232/RS485/dry alarm contacts
Built-in SNMP Card:	Optional	Optional	Optional	Optional	Optional
Alarms/Monitor:	**LCD/LED and audible**: AC fault, DC fault, Inverter fault, Bypass fault, on Inverter, on Bypass				
Mechanical					
Enclosure Dimensions L × D × H (in):	32 × 32 × 84	32 × 32 × 84	32 × 32 × 84	(2×) 32 × 32 × 84	(2×) 32 × 32 × 84
Estimated Weight (lbs):	1100	1250	1350	1450	1650
Protection Rating:	NEMA 1/IP20	NEMA 1/IP20	NEMA 1/IP20	NEMA 1/IP20	NEMA 1/IP20
Safety and Environment					
Temperature:	**Operating**: 32 to 104°F (0 to 40°C) **Storage**: −4 to 140°F (−20 to 60°C)				
Relative Humidity:	90% non-condensing	90% non-condensing	90% non-condensing	90% non-condensing	90% non-condensing
Audible Noise:	65dBA at 1m distance	65dBA at 1m distance	65dBA at 1m distance	65dBA at 1m distance	65dBA at 1m distance
Isolation/Gavalnize:	**AC-DC-AC**: 2,000Vrms **DC-GND**: 2,000Vrms **AC-GND**: 2,000Vrms				
Agency Compliance:	UL 1778/CSA 22.2 107 CE (pending)	UL 1778/CSA 22.2 107 CE (pending)	UL 1778/CSA 22.2 107 CE (pending)	UL 1778/CSA 22.2 107 CE (pending)	UL 1778/CSA 22.2 107 CE (pending)
Rectifier Power Module (Cordex® Switch-Mode Rectifier Module, 125VDC/4.4kW Rating Per Module)					
Quantity:	3	4	5	6	8
Inverter Power Module	125VDC-120-240VAC/1.6kVA or 1kVA		125VDC-120-240VAC/1kVA		
Quantity:	4	8	15	20	30
Configuration					
AC Input:	208VAC/3PH	208VAC/3PH	208VAC/3PH	208VAC/3PH	208VAC/3PH
DC Link:	125VDC	125VDC	125VDC	125VDC	125VDC
AC Output:	120V/1PH	120V/1PH	120V or 240V/1PH	120V or 240V/1PH	120V or 240V/1PH

an EnerSys® company

Alpha Technologies Services, Inc. USA: 3767 Alpha Way, Bellingham, WA 98226 Canada: 7700 Riverfront Gate, Burnaby, BC V5J 5M4
Toll Free North America: +1 800 322 5742 Outside US: +1 360 647 2360 Technical Support: +1 800 863 3364
For more information visit **www.alpha.com**

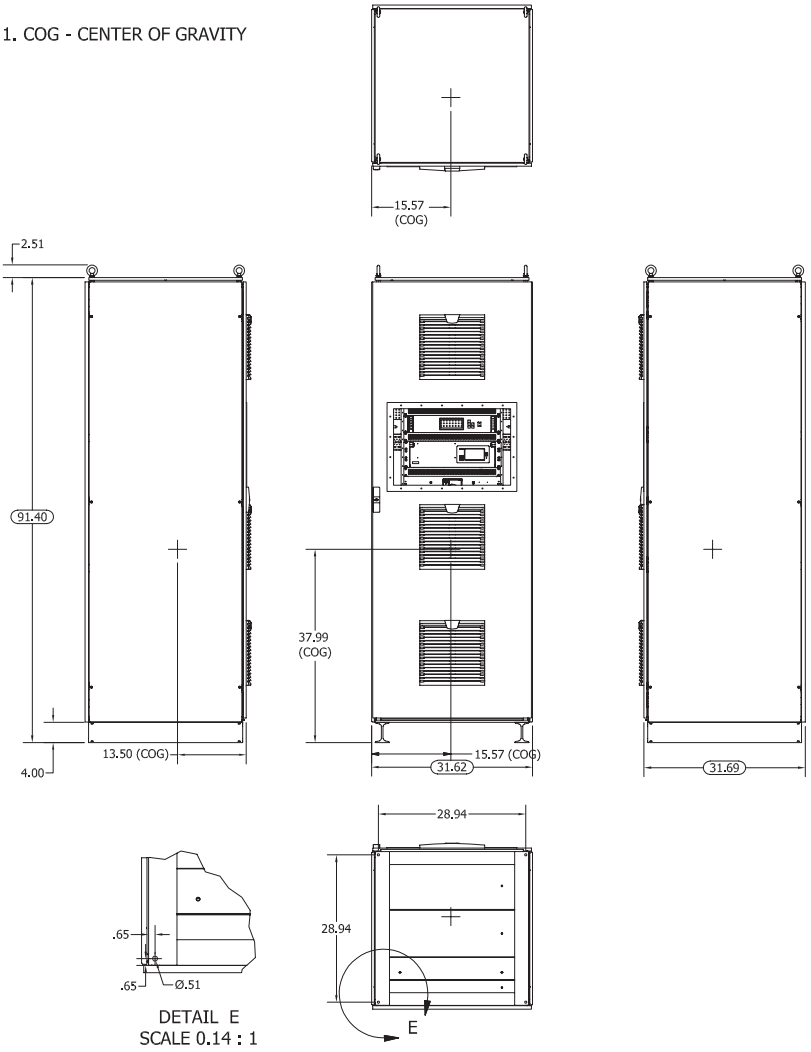
MODUPS Series Line Drawing



MODUPS Cabinet Drawing

NOTES:

1. COG - CENTER OF GRAVITY



DETAIL E
SCALE 0.14 : 1