



DEFENDER 1

4.7- 21KW SINGLE PHASE UNINTERRUPTED EMERGENCY LIGHTING & POWER SYSTEM

The Defender 1 maintains efficient AC Emergency Power to operate all emergency lighting fixtures at “full-light” output, providing superior dependability and security to commercial and industrial environments in a small footprint.

POWER RATING

- 4.7KW – 21KW (or 4,700W – 21,000W) single phase output unit uses the latest DSP/PWM technology to provide the most advanced performance and reliability features

INPUT

- 120, 208, 240, 277 or 480V AC input 60Hz

OUTPUT

- 120, 240, 277, 480, 120/240, 120/277 V AC
True “on-line” design is $\geq 92\%$ efficient at 100% linear load

BATTERIES

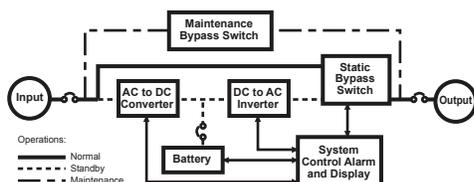
- Sealed, maintenance-free, lead calcium (AGM) batteries
- 10-Year pro-rated warranty
- Smart Battery Monitoring System is **Temperature Compensated** maintaining maximum runtime and battery life
- Microprocessor controlled recharge and DSP/PWM overcharge protection standard

LAMPS & LOADS

- Emergency power provides **Full Light Output** from all lamps and fixtures for the entire runtime
- Operates fluorescent, compact fluorescent, incandescent, quartz, H.I.D., LED and other lamp types
- Standard or electronic ballasts, dimming devices or panels, sensors and most control equipment
- Standard or LED Exits and other safety equipment

CODES

- UL924, UL1778, NFPA101, NFPA70, NEC & OSHA standards
- Cities of Chicago and New York approved
- Complies with the Buy American Act



PROTECTION

- Provides overload, surge and undercurrent protection using DSP/PWM technology and Watchdog Software to protect system performance and reliability
- Surge protection against load surges as defined in ANSI/IEEE C62.45 category A and B

DIAGNOSTICS & MAINTENANCE

- DSP/PWM technology and Watchdog Software provides complete self-diagnostic capabilities and LED monitoring
- Informative advanced Display and Alarms keep you in control of your emergency lighting environment 24/7
- Automatically performs periodic self-tests ensuring a safely lighted environment *prior* to an emergency
- Single point of testing instead of multiple testing points with battery packs

CABINET

- Modular design enables flexible installation
- Forced air cooling for maximum reliability
- Systems up to 14KW are self-contained; large systems require external battery cabinet(s)

INSTALLATION

- Modular design and small footprint allow easy installation in electrical closets or other convenient locations
- Phone assisted factory start-up standard for all systems
- Extended warranty available

SPECIAL APPLICATIONS

- Offers numerous UL924 optional devices to meet unusual or difficult application parameters
- ECM - Environmental Circuit Module allows fixtures and lamps on the emergency circuit(s) to be operated by normal switching and/or dimming devices in NON-emergency conditions
- Dimming Panel Interface allows use with emergency lights controlled by common dimmer panel

WARRANTY

- 1-Year full warranty on system electronics
- Battery warranty 1-Year with 9-Years pro-rated
- System 1-Year on-site warranty labor with Mfg. phone assisted start-up
- 5-Year powertrain warranty
- Maintenance contracts available



JOB NAME: _____
 TYPE: _____
 PART #: _____
 NOTES: _____

DEFENDER1 SERIES	POWER RATING	UPS			BATTERY			WEIGHT (COMBINED)	BRITISH THERMAL UNITS	BATTERY TYPE	VOLTAGE (VAC)		OUTPUT PROTECTION	SAFETY APPROVALS
		CABINET DIMENSIONS			CABINET DIMENSIONS						INPUT	OUTPUT		
USADE1	KVA/KW	W	H	D	W	H	D	(LBS)	BTUs	SEALED, MAINTENANCE FREE (AGM) LEAD CALCIUM	INPUT	OUTPUT	INPUT & OUTPUT CIRCUIT BREAKERS STANDARD	UL924 UL1778 NFPA101 NFPA70 NEC
	4.7	42"	71"	22.5"	not required	not required	not required	1200	1278.4		Select	Select		
	5.25	42"	71"	22.5"				1200	1428		120,	120,		
	7.0	42"	71"	22.5"				1450	1904		208,	277,		
	8.0	42"	71"	22.5"				1450	2176		240,	480,		
	10.0	42"	71"	22.5"				1820	2720		277	120/240		
	12.0	42"	71"	22.5"				2210	3264		or	or		
	14.0	42"	71"	22.5"				2550	3808		480	120/277		
	18.0	42"	71"	22.5"				42" 71" 22.5"	3750		4896			
	21.0	42"	71"	22.5"	42" 71" 22.5"	4375	5712							

The Defender 1 provides the simplicity and reliability that is critical when providing an alternative source of power to any environment. Easy installation... "simplicity" ...connect the Defender 1 to the emergency circuit(s) and everything is backed up... "reliability" ...during a power outage. All lighting connections to the Defender 1 will simply continue to operate at "FULL LIGHT OUTPUT" once the transfer is complete. Watchdog Software keeps your environment safe while self-diagnostics help maintain equipment to a high standard. Superior surge suppression assures the highest quality of power being delivered to all loads, all the time.

We sincerely hope you never experience a real emergency, but if you do, you deserve the **SECURITY, SAFETY AND PEACE OF MIND** that the Defender 1 ensures.

ORDERING INFORMATION

- Choose the bold face catalog nomenclature that best suites your needs
- Write them on the appropriate line
- Order accessories as separate catalog number

Example:

USADE1-8.0-120/277-ECM277/3 OCB/277/3/20/1-30

Description of Example:

(8.0KW, 120 Voltage In, 277 Voltage Out, 3 277V Environmental Control Modules, 3 Output 277 Voltage Circuit Breakers at 20amps, 2 pole, 30 minute run time)

USADE1 -					
FAMILY	POWER RATING	VOLTAGE ¹		OPTIONS	TIME ³
	KW	INPUT/OUTPUT	INPUT/OUTPUT		Minutes
	4.7	120/120	240/120-240	ECM120 – 120V Environmental Control Module ² /qty	5
	5.25	120/277	240/120-277	ECM277 – 277V Environmental Control Module ² /qty	10
	7.0	120/480	277/120	NOF – Normally "OFF" output circuit/voltage/qty/pole	15
	8.0	120/120-240	277/277	NOH – Normally OFF "HOLD ON"/voltage/qty/pole	20
	10.0	120/120-277	277/480	OCB – Output Circuit Breakers/voltage/qty/amps/pole	25
	12.0	208/120	277/120-240	EPO – Emergency Power Off	30
	14.0	208/120-120	277/120-277	RSSP – Remote Indicator Panel	45
	18.0	208/277	480/120	SNMP – SNMP Card	60
	21.0	208/480	480/277	FC – Form "C" Contacts	90 (Standard)
		208/120-240	480/480	SRB – Seismic Rated Bracket	120
		208/120-277	480/120-240	STU1 – Onsite Start-up	180
		240/120	480/120-277	IDB – Internal Dimmer Bypass	240
		240/277		EMB – External Maintenance Bypass Switch	
		240/480		EW – Extended Warranty	

¹ Consult factory for other voltage requirements
² Special voltages may affect the weight, size and number of cabinets
³ One ECM is used per switching device or circuit
⁴ Consult factory for other run times