

DEFENDER 1



SPECIFICATIONS

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/ industrial environments in a small footprint.

POWER RATING

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

INPUT

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

OUTPUT

- 120V, 240V, 277V, 480V, 120/240 or 120/277VAC
True "on-line" design is $\geq 92\%$ efficient at 100% linear load

BATTERIES

- Sealed, maintenance-free, lead calcium (AGM) batteries
- 10-Year prorated warranty
- DSP Smart Battery Monitoring System is **TEMPERATURE COMPENSATED** maintaining maximum runtime and battery life
- Microprocessor controlled recharge and DSP overcharge protection standard

LAMPS AND LOADS

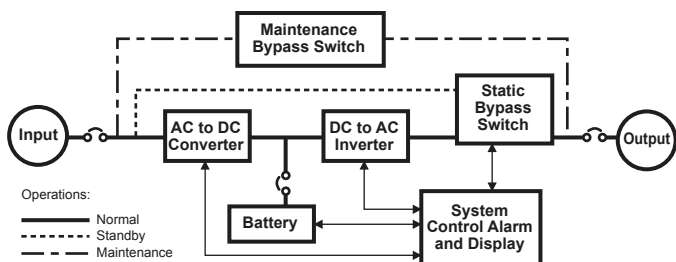
- Emergency power provides **FULL LIGHT OUTPUT** from all lamps and fixtures for the entire runtime
- Operates fluorescent, compact fluorescent, incandescent,

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

- UL 924, UL 1778, meets NFPA 101, NFPA 70, NEC and OSHA standards
- Cities of Chicago and New York approved
- Complies with the Buy American Act



4.7 KW - 21 KW

Single Phase

Uninterrupted
Emergency
Lighting and
Power
Systems



PROTECTION

- Provides overload, surge and undercurrent protection using DSP/PWM "Watchdog" Monitoring Protection System performance and reliability features
- Surge protection against load surges as defined in
- ANSI/IEEE C62.45 category A and B

DIAGNOSTICS AND MAINTENANCE

- DSP/PWM Watchdog Monitoring System provides complete self diagnostic capabilities and LED Monitor
- Informative advanced DSP 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 14 KW are self contained; larger systems require external battery cabinet(s)

INSTALLATION

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

SPECIAL APPLICATIONS

- LSL 24/7 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: _____

Defender 1 Series	Power Rating	UPS			Battery			Weight (combined)	British Thermal Unit	Battery Type	Voltage (VAC)		Output Protection	Safety Approvals
		Cabinet Dimensions			Cabinet Dimensions						Input	Output		
DE1	KVA/KW	W	H	D	W	H	D	(lbs)	BTU's	Sealed, Maintenance free (AGM) lead calcium	<i>Select</i>	<i>Select</i>	Input and output circuit breakers standard	UL924 UL1778 NFPA 101 NFPA 70 NEC
	4.7	42"	71"	22.5"	not required			1200	1278.4		120,	120,		
	5.25	42"	71"	22.5"	not required			1200	1428		208,	277,		
	7.0	42"	71"	22.5"	not required			1450	1904		240,	480,		
	8.0	42"	71"	22.5"	not required			1450	2176		277	120/240		
	10.0	42"	71"	22.5"	not required			1820	2720		or	or		
	12.0	42"	71"	22.5"	not required			2210	3264		480	120/277		
	14.0	42"	71"	22.5"	not required			2550	3808					
	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 DE1 to the emergency circuit(s) and everything is backed up...”reliability”...during a power outage. All lighting connected to the DE1 will simply continue to operate at “full light output”. The 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. Equipment and lamp life are maximized.

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 from **LSL 24/7** 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:

DE1 - 8.0 - 120/277 - ECM277/3 OCB/277/3/20/1 - 30

Description of example:

(8.0 KW, 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)

DE1		POWER RATING		VOLTAGE ¹		OPTIONS		TIME ³
FAMILY		<u>KW</u>		<u>Input/Output</u>	<u>Input/Output</u>	ECM120 - 120V Environmental control module ² /qty		<u>Minutes</u>
		4.7		120/120	240/120-240	ECM277 - 277V Environmental control module ² /qty		5
		5.25		120/277	240/120-277	NOF - Normally OFF output circuit/voltage ² /qty/pole		10
		7.0		120/480	277/120	NOH - Normally OFF "Hold ON"/voltage/qty/pole		15
		8.0		120/120-240	277/277	OCB - Output circuit breakers / voltage / quantity/amps/pole		20
		10.0		120/120-277	277/480	EPO - Emergency power off		25
		12.0		208/120	277/120-240	RSSP - Remote Indicator Panel		30
		14.0		208/120-120	277/120-277	SNMP - SNMP Card		45
		18.0		208/277	480/120	FC - Form C Contacts		60
		21.0		208/480	480/277	SRB - Seismic rated bracket		90 (Standard)
				208/120-240	480/480	STU1 - Onsite start-up		120
				208/120-277	480/120-240	IDB - Internal dimmer bypass		180
				240/120	480/120-277	EMB - External maintenance bypass switch		240
				240/277		EW - Extended warranty		
				240/480				

NOTES:

1-Consult factory for other voltage requirements.

Special voltages may effect the weight, size and number of cabinets.

2-One ECM is used per switching device or circuit.

3-Consult factory for other run times.