



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

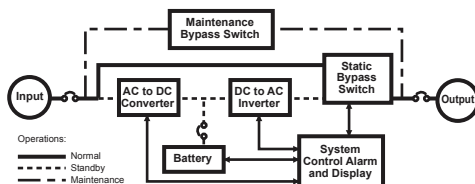
- Sealed, maintenance-free, lead calcium (AGM) batteries
- 10-Year pro-rated warranty
- Smart Battery Monitoring System is **Temperature Compensated** maintaining maximum runtime and battery life
- Microprocessor controlled recharge and DSP/PWM overcharge protection standard

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

| 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 | | |
| DE1 | KVA/KW | W | H | D | W | H | D | (LBS) | BTUs | SEALED, MAINTENANCE FREE (AGM) LEAD CALCIUM | Select | Select | INPUT & OUTPUT CIRCUIT BREAKERS STANDARD | UL924 UL1778 NFPA101 NFPA70 NEC |
| | 4.7 | 42" | 71" | 22.5" | not required | | | 1200 | 1278.4 | | | | | |
| | 5.25 | 42" | 71" | 22.5" | | | | 1200 | 1428 | | | | | |
| | 7.0 | 42" | 71" | 22.5" | | | | 1450 | 1904 | | | | | |
| | 8.0 | 42" | 71" | 22.5" | | | | 1450 | 2176 | | | | | |
| | 10.0 | 42" | 71" | 22.5" | | | | 1820 | 2720 | | | | | |
| | 12.0 | 42" | 71" | 22.5" | | | | 2210 | 3264 | | | | | |
| | 14.0 | 42" | 71" | 22.5" | | | | 2550 | 3808 | | | | | |
| | 18.0 | 42" | 71" | 22.5" | | | | 3750 | 4896 | | | | | |
| | 21.0 | 42" | 71" | 22.5" | | | | 4375 | 5712 | | | | | |
| | | | | 42" 71" 22.5" | | | | | | 240, 208, 240, 277, 277 or 480 | 120, 277, 480, 120/240 or 120/277 | | | |

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:

DE1-8.0-120/277-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)

| DE1 | | VOLTAGE ¹ | | OPTIONS | | TIME ³ |
|--------|--------------|----------------------|--------------|--|--|-------------------|
| FAMILY | POWER RATING | INPUT/OUTPUT | INPUT/OUTPUT | | | Minutes |
| | KW | 120/120 | 240/120-240 | ECM120 – 120V Environmental Control Module ² /qty | | 5 |
| | 4.7 | 120/277 | 240/120-277 | ECM277 – 277V Environmental Control Module ² /qty | | 10 |
| | 5.25 | 120/480 | 277/120 | NOF – Normally "OFF" output circuit/voltage/qty/pole | | 15 |
| | 7.0 | 120/120-240 | 277/277 | NOH – Normally OFF "HOLD ON"/voltage/qty/pole | | 20 |
| | 8.0 | 120/120-277 | 277/480 | OCB – Output Circuit Breakers/voltage/qty/amps/pole | | 25 |
| | 10.0 | 208/120 | 277/120-240 | EPO – Emergency Power Off | | 30 |
| | 12.0 | 208/120-120 | 277/120-277 | RSSP – Remote Indicator Panel | | 45 |
| | 14.0 | 208/277 | 480/120 | SNMP – SNMP Card | | 60 |
| | 18.0 | 208/480 | 480/277 | FC – Form "C" Contacts | | 90 (Standard) |
| | 21.0 | 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 effect the weight, size and number of cabinets
³ One ECM is used per switching device or circuit
⁴ Consult factory for other run times