

# SINGLE PHASE BATTERY BACKUP SYSTEM

## PULSE WIDTH MODULATED, HIGH FREQUENCY UPS...

COMPUTER ROOM • PRODUCTION FACILITY • TESTING LAB • TELECOMMUNICATIONS  
RETAIL SALES / POS • INDUSTRIAL • GOVERNMENT • PUBLIC BUILDING • SCHOOLS  
LIBRARY • HEALTHCARE • CRUISE LINE • BANKING / CREDIT • PRINTING FACILITY

# PROTECTOR 1

## 3 TO 20 KVA



### State of Art Technology

High Frequency PWM double conversion use Digital Signal Processing for control, measurement to protect the load. The PROTECTOR is always on-line, eliminating noise, spikes, sags, and brownouts. Should utility power fail, the inverter provides uninterrupted output power to the critical load. This high frequency PWM unit is CSA listed to UL1778 and 924A.

### Latest Technology for Switch-Mode Power Supplies

The PROTECTOR is designed for switch mode power supplies, computer loads, with no derating, drawing sine-wave input current that is power factor corrected.

### Display (local and remote)

The PROTECTOR provides one of the most comprehensive monitoring packages. Its 4 line X 20 character backlit LCD panel continuously display and monitor vital power line conditions and status of the unit.

### Global Monitoring System (GMS)

The PROTECTOR can communicate with computers, and serial devices via its local RS232/RS485 ports standard on every model making PROTECTOR compatible with today's most popular devices. Optional dry contacts are also available for remote monitoring and annunciation. GMS options includes dial-up modem, fax, alpha pager, beeper, email, and internet web page for monitoring or retrieving event logs and system status information.

### Alarms

The PROTECTOR offers local alarm and optional remote display with sound alert (including unit status). It also offers most extensive method of remote alarm notification via pager, email, fax, voice annunciation and website. The system can advise multiple recipients.

### Small Footprint Cabinet

The PROTECTOR requires less floorspace than most other UPS system. Its 18" x 32" caster based compact lightweight design saves overall space, facilitates handling and keeps shipping costs to a minimum.

### Input Power Factor Correction

The PROTECTOR pays for itself by correcting input current draw to reduce your utility bill without compromising power quality.

### Isolation, Including Output Neutral To Ground Bonding

The PROTECTOR provides the galvanic electrical isolation required by FIPS PUB 94 (Federal Information Processing Standard) and it qualifies as a true, separately derived power source as defined by the National Electrical Code, Article 250. This isolation allows the PROTECTOR to offer excellent RF noise filtering and single point grounding for sensitive electronic equipment (standard on all models with different input/output voltages). Optional harmonic tolerant transformer (up to K-50) for today's switching equipment is available.

### Distribution (optional)

Normally On and OFF Output breakers are available with optional trip alarm as well as customer selectable time delay.

### Safeguard™ Battery Management System

OnLine Power has designed (patent pending) a process for the real time ability to charge and monitor the battery system. This system utilizes a micro-processor technology to monitor the batteries critical levels and apply charging cycles in a method substantially increasing battery life.

Listed to  
**UL1778 and UL924A by CSA**

Advanced, High Frequency  
Technology for Non-Linear  
Loads

Built-in Load Distribution

90% Efficiency (typ.)

Built-in Input Power Factor  
Correction

Pulse Width Modulated (PWM)  
Sinusoidal

Generator Compatible with  
Automatic Governor  
max 2Hz per second

Global Monitoring System  
(GMS)

Double Conversion Technology

Casters Based Small Foot Print

1 Year Warranty

# PROTECTOR 1 SPECIFICATIONS

**Power Rating:** 3, 5, 7.5, 10, 12.5, 15, 20 KVA

**Input Voltage:**

3 & 5 KVA; 120, 208, 240, or 277 VAC  
(-20% to +15%)

7.5 - 20 KVA; 208, 240, or 277 VAC  
(-15% to +15%)

**Input Frequency:** Slew rate of 2Hz/sec

**Output Voltages:**

3 - 20 KVA; 120, 208, 240, or 277VAC

**Output Frequency (Inverter Operation):** 60 Hz  $\pm$ 0.5 Hz

**Voltage Regulation:**  $\pm$ 3%

**Output Wave Form:** Sine-Wave

**Optional Input Protection:** Input circuit breaker provided protection to the unit, load. Input Circuit Breaker will be higher interruption rated (10, 42, and 65 KAIC)

**Optional Output Protection:** Internal electronic overload protection. Circuit breaker provides inherent over-load protection. Factory selectable voltage 120, 208, 240, or 277 for input or output voltages.

**Output Power Factor:** 0.7

**Efficiency:** 90% typical

**Isolation:** Complete from line. Output neutral bonded to ground

**Noise Isolation:** -120 dB Common-Mode; -60 dB Transverse-Mode

**Battery:** Sealed maintenance-free (AGM) battery

**Recharge Time:** Conforms UL Standards

**External Battery:** Provisions for hardware connection of optional external battery cabinets or DC source.

**Environmental:**

**Humidity:** 0 - 95% RH w/ no condensation

**Operating Temperature:**

UPS: 0° to 40°C. (32°-104°F)

Battery: 20° to 25°C. (68°-77°F)

**Storage Temperature (Electronic Only):** -20° to 60°C. (-4° - 140°F)

**Altitude:** Up to 10,000 ft

**Cabinet Size:**

3-12.5 KVA; 18"W x 35"H x 32"D

15-20 KVA; 39"W x 68"H x 18"D

## STANDARD FEATURES

- Back-lit LCD Display for monitoring
- RS 232 & RS 485 ports for metering, measuring, and diagnostic.
- System pre-wired for optional Global Monitoring System (GMS)
- High Frequency PWM with Digital Signal Processing Technology
- Generator Compatible with Automatic Governor (Slew Rate 2Hz/sec.)
- Built-in Input Power Factor Correction
- Battery Breaker

## OPTIONS

- Secondary Auxiliary Circuit Breakers: Normally On, Normally Off, Normally Off w/ Delay, Trip Alarm
- Form 'C' Contacts (5 N.O.)
- Secondary Normally On/Off Terminal Block selection
- Remote Status Display with Audio Alarm and Silence Switch
- Local Audio Alarm w/ Silence Switch
- Make Before Break Internal Maintenance Bypass Switch
- External Maintenance Bypass Switch (wrap around type)
- Main Input and/or Output Circuit Breaker (with custom KAIC)
- EMI Filter
- Input Transient Voltage Surge Suppressor (TVSS)
- Harmonic Tolerance (up to K-50)
- Output Distribution
- Spare Part Kits Available
- Extended Warranty and Service Plans
- Long Life Battery
- **Global Monitoring System (GMS)**

### LOCAL

- Local PC via RS232 and RS485
- Event logging up to 500

### REMOTE

#### ● Dial-up

- Voice (10 event logging), numeric pager
- Voice, data, fax, pager, PC, e-mail, event logging up to 500
- Voice, data, fax, pager, PC, e-mail, and measurement (500 event logging plus graphic)

#### ● Web/SNMP:

System status, measurement, alarm notification, event logging and password protected configuration.

Consult Factory for more features and choices of remote communication.

KVA/ KW	Input/Output Voltages	*Model Numbers	BTU/ Hr	*** Battery Back-Up Time	*** Cab. Weight (lbs)	*** Cabinet Dimension (W"xH"xD")
3.0/ 2.1	120/120 208/208 240/240 277/277 120, 208, 240, or 277	PT3.0A0100NI-VA PT3.0B1300NI-VA PT3.0D0400NI-VA PT3.0R2500NI-VA **PT3.0X5800TI-VA	859 859 859 859 1166	5 - 45 minutes	512 512 512 512 582	18 x 35 x 32
5.0/ 3.5	120/120 208/208 240/240 277/277 120, 208, 240, or 277	PT5.0A0100NI-VA PT5.0B1300NI-VA PT5.0D0400NI-VA PT5.0R2500NI-VA **PT5.0X5800TI-VA	1314 1314 1314 1314 1433	8 - 31 minutes	635 635 635 635 705	18 x 35 x 32
7.5/ 5.2	208/208 240/240 277/277 208, 240, or 277	PT7.5B1300NI-VA PT7.5D0400NI-VA PT7.5R2500NI-VA **PT7.5X5800TI-VA	1973 1973 1973 2150	7 - 18 minutes	640 640 640 800	18 x 35 x 32
10/ 7.0	208/208 240/240 277/277 208, 240, or 277	PT010B1300NI-VA PT010D0400NI-VA PT010R2500NI-VA **PT010X5800TI-VA	2629 2629 2629 2866	10 minutes	624 624 624 799	18 x 35 x 32
12.5/ 8.8	208/208 240/240 277/277 208, 240, or 277	PT012B1300NI-VA PT012D0400NI-VA PT012R2500NI-VA **PT012X5800TI-VA	3287 3287 3287 3583	7 minutes	624 624 624 844	18 x 35 x 32
15/ 10.5	208/208 240/240 277/277 208, 240, or 277	PT015B1300NI-VA PT015D0400NI-VA PT015R2500NI-VA **PT015X5800TI-VA	3926 3926 3926 4299	8 - 31 minutes	1295 1295 1295 1605	39 x 68 x 18
20/ 14	208/208 240/240 277/277 208, 240, or 277	PT020B1300NI-VA PT020D0400NI-VA PT020R2500NI-VA **PT020X5800TI-VA	5257 5257 5257 5732	8 - 31 minutes	1295 1295 1295 1605	39 x 68 x 18

\* KVA unit model numbers, For KW units, consult factory.

\*\* Input Voltage "X": A=120 (3 & 5 KVA only), B=208, D=240, R=277 VAC; Output Voltage "58": 120, 208, 240, and 277 VAC

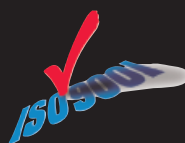
\*\*\* Standard with longest battery run-time batteries.

Recommend Power Wave model for 15 and 20 KVA models or for longer battery run times. Contact Factory for other Power Rating, Voltages, Frequencies, and Back-Up Times.

Specifications are subject to change without prior notification.

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