

## PBM STANDARD SERIES

The PowerBack™ Standard Series UPS is a proven workhorse, designed to provide reliable emergency power to intersections worldwide. The PBM Standard Series will seamlessly operate a traffic signal intersection to your requirements - whether in flashing mode or normal operation. Ease of use and sturdy construction means years of dependable performance.

- ▶ LED Status Monitor - displays current status, battery and load conditions, and fault status.
- ▶ LCD Event Counter and Timer - indicates number and duration of battery backup events.
- ▶ Six Dry Contacts - energize upon condition.
- ▶ Programmable Battery Percentage Contact - select duration of full function operation prior to flash mode.



PowerBack™ PBM Standard Series

## ADVANCED DISPLAY READOUT

PowerBack provides you with the tools to monitor and maintain your system at peak performance. The ITS Series utilizes a bright LCD display and touch keys to provide real time information including input/output status, battery percentages, online and load status, time/date stamp of events, and more. Easy-to-read scrolling menus assist you with maintenance and programming of functions. The PowerBack Standard Series utilizes LCD counters for monitoring events and event duration.

Standard Series Displays



ITS Series Displays

## STANDARD FEATURES

- ▶ Backs up traffic light intersections.
- ▶ Fits in all types of traffic enclosures or can be mounted in an electrical service or custom pedestal.
- ▶ Low harmonic AC sinewave output.
- ▶ Fully programmable AC threshold voltages; ie, NEMA, Caltrans or Custom.
- ▶ Transient voltage protection from damaging line spikes.
- ▶ External connections are front panel accessible.
- ▶ Form C dry relay contacts close on low battery.
- ▶ LED indicator for online, on battery, low battery, overload & fault.
- ▶ RS-232 serial interface for easy programmability.
- ▶ Intelligent Boost Operation for brownout protection available.
- ▶ Optional power conditioning insures reliable power.
- ▶ Back up power provided by sealed battery modules.
- ▶ Temperature-compensated charging maximizes battery life in harsh, outside environments.
- ▶ Noise suppression, FCC Class A.
- ▶ Meets Caltrans BBS specifications.

## TWO BASIC MODES OF BACK-UP POWER ARE AVAILABLE:

### PowerBack - Normal Operation

- ▶ Normal Operation supporting full functions for intersections not exceeding module's specified output.\*

### PowerBack - Flash Operation

- ▶ Red/Amber flash operations for intersections that exceed module's specified output for Normal Operation.\*

### PowerBack - Normal/Flash Combo

- ▶ Provides normal operation then reverts to flash after 2 hours or when 40% battery capacity is reached (factory default), thereby prolonging operating time.\* Standard Series offers programmable battery percentage. ITS Series is fully programmable including duration, percentage, and dry contact assignment.

*\*Total load cannot exceed unit's maximum output for any operation.*

## OPTIONS

- ▶ Manual Bypass Assembly.
- ▶ Generator Kit: bypass switch, receptacle w/cover.
- ▶ Separate battery enclosures.
- ▶ Battery heater mats.

## GENERAL SPECIFICATIONS

Input / output	Voltage (VAC) nominal	120
	Frequency (Hz) nominal	60
Input current	12 / 20** (A) maximum	
Input voltage variation	-23% to +17%	
Voltage waveform	sine	
Typical line efficiency	95-97%	
Typical output voltage	<3% THD %	
Max charge current	6 / 10** (ADC)	
Max transfer time	60 (ms)	
Audible noise	<32 at 1m (dBA)	
Unit operating temp	-37°C to +74°C	
Battery operating temp	-25°C to +74°C	
Lightning / surge protection	Passes ANSI/IEEE C.62.41/C.62.45 Cat A & B	

\*\* PBM-1250 / PBM-2000

## OUTPUT RATINGS

PBM-2000 ITS	Output Power (VA)	2000
	Active Output Power (watts)	1500
PBM-1250 ITS or standard	Output Power (VA)	1250
	Active Output Power (watts)	875

## DIMENSIONS

PBM ITS series	Width (inches/mm)	17 / 432
	Height (inches/mm)	5.25 / 133
	Depth (inches/mm)	11 / 279
	Weight (lbs/kg)	46.2 / 21
PBM standard series	Width (inches/mm)	17 / 432
	Height (inches/mm)	5.25 / 133
	Depth (inches/mm)	10 / 254
	Weight (lbs/kg)	35 / 16
PTS (Power Transfer Switch)	Width (inches/mm)	4.75 / 121
	Height (inches/mm)	4.6 / 117
	Depth (inches/mm)	6.5 / 165
	Weight (lbs/kg)	7 / 3



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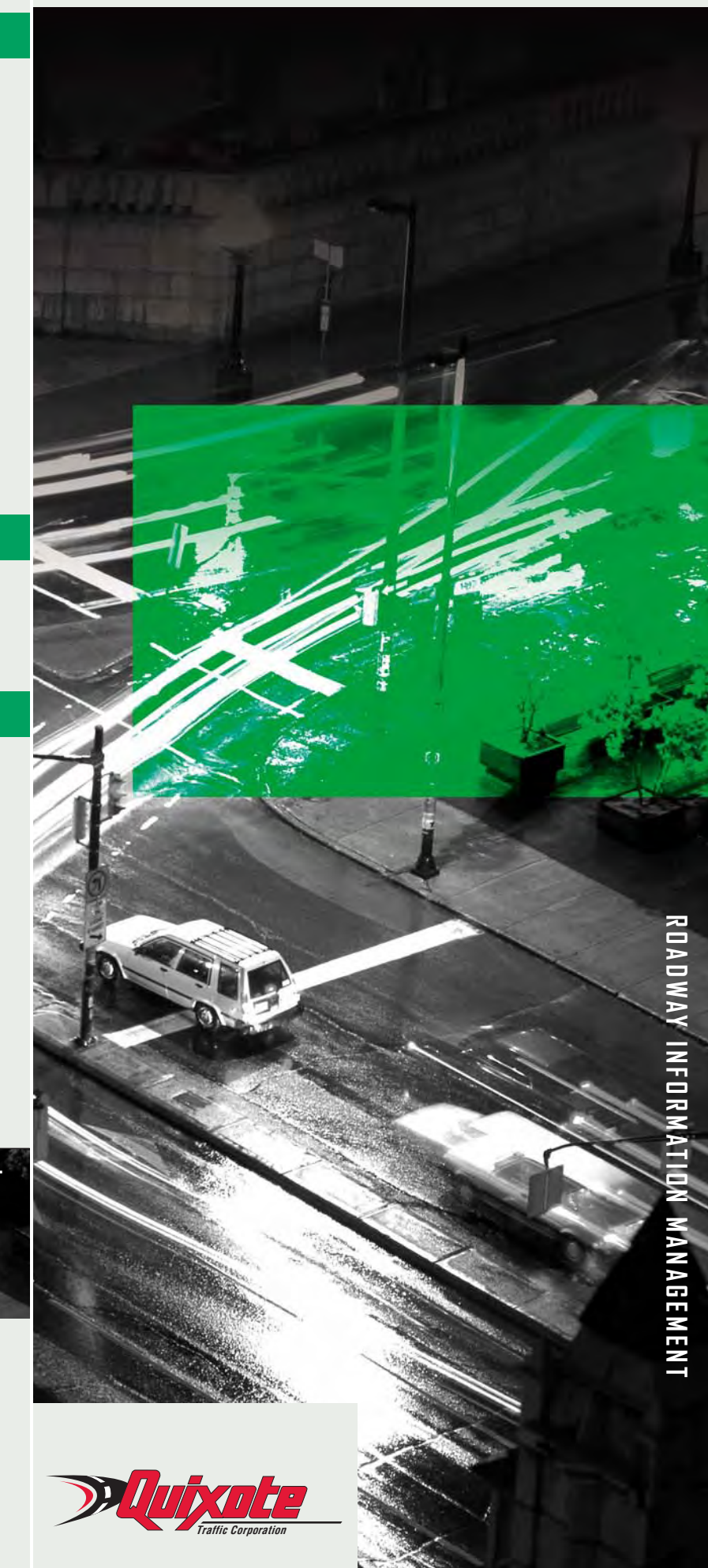
## ROADWAY INFORMATION MANAGEMENT



ISO 9001: 2000 Certified Manufacturer



Specifications are subject to change without notice to reflect improvements and upgrades.



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# PowerBack™ SYSTEMS

## ITS & STANDARD SERIES

## OVERVIEW

U.S. Traffic Corporation, the leader in emergency power for the traffic industry, continues to deliver high performance, advanced uninterruptible power supplies (UPS) for traffic applications. PowerBack™ systems will seamlessly operate a traffic signal intersection to your complete specification - whether in flashing mode or normal operation. When dealing with power interruptions of any kind, PowerBack ensures that YOU have the choice of programming, YOU have the choice of data needed to make valuable decisions, and YOU have the confidence that comes from knowing traffic control will not compromise public safety.

## PBM-ITS SERIES

The PowerBack ITS Series represents the next generation in UPS/battery backup design for traffic applications. New features include advanced logging/programming capability, real-time status reporting, and fully programmable dry contacts. Add to that the ability to upgrade power output in the field and it's easy to see why the PowerBack ITS Series is the most versatile emergency power product in the traffic industry.

- ▶ Local Keypad Programmability - including status monitoring, setting/testing of various parameters, dry contact programming, and more. No laptop necessary.
- ▶ Backlit LCD Display - easily readable in all light conditions.
- ▶ Six Fully Programmable Dry Contacts - provides greater control of system components and functions.
- ▶ Remote Access via RS-232 Serial Interface.
- ▶ Provides fully interactive program and status reporting using built-in, Windows™-compatible software.
- ▶ Time/Date Stamp of Events and Alarms - up to 100 events with download and print capability.



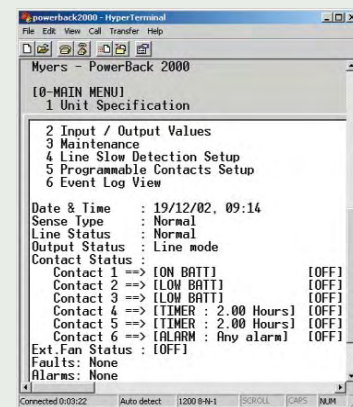
PowerBack™ PBM-ITS Series

# PowerBack™ SYSTEMS

## ITS & STANDARD SERIES

### STATUS & EVENT REPORTING

The PowerBack™ ITS Series provides fully interactive program and status reporting capabilities via built-in, Windows™- compatible software and serial cable (included). Whether using this feature for set-up, maintenance, or as a link to your traffic control command center, the ability to view moment-by-moment operations will enhance your traffic engineering and supervisory control capabilities.



### CONNECTIVITY

Effective system integration and communications depends on connectivity. In addition to AC input/output connectors, PowerBack provides NC/NO dry contacts (fully programmable with the ITS Series), giving you greater versatility in powering external system components during normal or battery backup operations. An RS-232 serial port allows for complete remote communications. PTS (Power Transfer Switch) and manual relay switching provides total isolation of the unit, allowing for ease of maintenance without interrupting power to the intersection.

#### Rack Mount Bypass Assembly



FEATURES	PBM-1250 STD.	PBM-1250 ITS	PBM-2000 ITS
Transient voltage protection from damaging line spikes	•	•	•
Low harmonic AC sine wave output	•	•	•
Intelligent Boost Operation for brownout protection available	•	•	•
Noise suppression, FCC Class A	•	•	•
Multiple mounting configurations	•	•	•
6 Fixed dry contacts for control and reporting functionality	•		
6 Fully programmable dry contacts for control and reporting functionality		•	•
Backlit LCD panel		•	•
Display of real time values (input/output, voltages)		•	•
Time/Date stamp of events and alarms		•	•
Intelligent remote capabilities (NTCIP ready)		•	•

### BATTERY OPTIONS

PowerBack batteries are specifically designed for UPS applications and are completely sealed and maintenance-free. These absorbed glass mat, valve regulated lead acid (AGM/VRLA) batteries can withstand extreme temperatures, are rated non-spillable by ICAO/IATA/DOT and available in a variety of ampere-hour ratings. Battery harnesses with "quick-connect" cables are included. Sample run times are listed below based on a single string (4 batteries) at 25°C.



TOTAL POWER REQUIRED (WATTS)	1 STRING 17AH @ 25° C	1 STRING 33AH @ 25° C	1 STRING 55AH @ 25° C	1 STRING 65AH @ 25° C	1 STRING 79AH @ 25° C	1 STRING 92AH @ 25° C	1 STRING 105AH @ 25° C
1500*	N/A	0 hr. 30 min.	0 hr. 50 min.	1 hr. 5 min.	1 hr. 20 min.	1 hr. 45 min.	2 hr. 00 min.
1200*	N/A	0 hr. 40 min.	1 hr. 05 min.	1 hr. 20 min.	1 hr. 40 min.	2 hr. 15 min.	2 hr. 30 min.
1000*	N/A	0 hr. 55 min.	1 hr. 20 min.	1 hr. 40 min.	2 hr. 00 min.	2 hr. 40 min.	3 hr. 05 min.
875	0 hr. 28 min.	1 hr. 11 min.	1 hr. 50 min.	2 hr. 15 min.	2 hr. 40 min.	3 hr. 30 min.	4 hr. 00 min.
750	0 hr. 32 min.	1 hr. 17 min.	2 hr. 05 min.	2 hr. 35 min.	3 hr. 05 min.	3 hr. 55 min.	4 hr. 30 min.
650	0 hr. 32 min.	1 hr. 27 min.	2 hr. 25 min.	2 hr. 50 min.	3 hr. 20 min.	4 hr. 35 min.	5 hr. 10 min.
550	0 hr. 48 min.	1 hr. 40 min.	3 hr. 00 min.	3 hr. 20 min.	3 hr. 40 min.	5 hr. 10 min.	5 hr. 55 min.
450	0 hr. 58 min.	1 hr. 55 min.	3 hr. 30 min.	3 hr. 45 min.	4 hr. 05 min.	5 hr. 45 min.	6 hr. 45 min.
350	1 hr. 09 min.	2 hr. 10 min.	4 hr. 05 min.	4 hr. 10 min.	4 hr. 30 min.	6 hr. 25 min.	7 hr. 25 min.
250	1 hr. 20 min.	2 hr. 25 min.	4 hr. 40 min.	4 hr. 47 min.	4 hr. 55 min.	7 hr. 05 min.	8 hr. 05 min.
100	2 hr. 30 min.	6 hr. 00 min.	9 hr. 10 min.	12 hr. 30 min.	15 hr. 50 min.	20 hr. 00 min.	24 hr. 10 min.

\*PBM-2000 only. For more details, refer to U.S. Traffic publications battery options and run time calculations.

### BATTERY RUN TIME

Battery run time and recharging depends on load requirements and battery configurations. Refer to enclosed Battery Options and Run Time Calculations for more details. Configurations of four or eight 12V batteries with varying amperage capacities available. For custom configurations, contact U.S. Traffic Corporation.

Designed for rugged applications.  
Sealed and maintenance-free.  
Secure connectors for safe operation. (17 Ah battery shown)



### INSTALLATION CONFIGURATIONS

With PowerBack™ you not only get the right UPS components, you also benefit from U.S. Traffic Corporation's years of experience in cabinet design to ensure your entire battery backup system is configured to precisely meet your needs. Custom configurations are available for Type 170/332, NEMA, MEUG service pedestals, and more.

Complete systems can be packaged for internal installation into an existing cabinet, as an external add-on, or as a separate free-standing cabinet. Call to speak to a U.S. Traffic engineer for more information.



Type 170 Traffic Control Cabinet

PTS & Relay

Swing-out Battery Tray

PowerBack UPS

MEUG35-PB-D

Electrical Service

PowerBack UPS Relay Switch

Batteries

Roll-out Battery Tray

BC-100G

### ROADWAY INFORMATION MANAGEMENT

