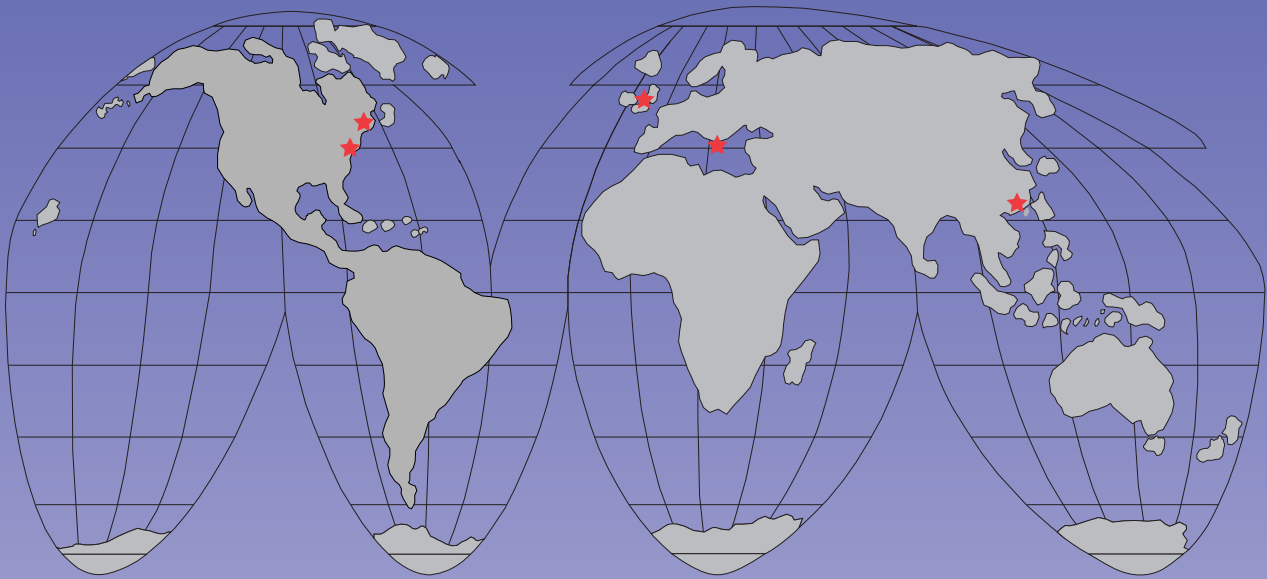


POWER



Power for a World of Applications



the **POWER PROTECTION PRODUCTS**

Working on every continent...

...every day

the COMPANY

PAST

In the early 1940s' our sister Company Atlantic Battery, supplied battery plate components to some of the largest battery manufacturers in the USA. In 1972 the Power Battery Company Inc was then established to manufacture complete battery products utilising this expertise in plate design and manufacture. The Company then enjoyed success in manufacturing flooded Industrial Battery products, supplying customers in the Standby and Emergency lighting markets. In the early 1980's POWER BATTERY was a pioneer of the Valve Regulated Lead Acid Battery, VRLA, otherwise known as sealed types. This type of battery has become the predominant Industry Battery type in use and has largely supplanted the flooded types, given its environmentally friendly application and low maintenance requirements. The Company has grown significantly in size and stature since those days to become one of the world's leading suppliers of VRLA battery products. In 1987 the Company opened a European subsidiary in the UK to service the needs of its growing customer base.



USA

PRESENT

POWER BATTERY now has two manufacturing plants in Iberville, Canada and Paterson, USA:

The Iberville plant is the Group's high volume battery manufacturing plant, which has enjoyed continued high investment to produce sustained capacity growth using state of the art manufacturing methods. Quality leadership initiatives drive our business in order to continuously meet our customers' and the market's expectations for high quality battery products.

The Paterson plant manufactures some of the larger sized battery products and also provides a world beating battery integration and application service to its customers. Paterson is also the home of the Research and Development and the USA Sales and Marketing organisations. Again, Quality leadership is paramount.

The Romsey, UK and Milan, Italy operations distribute battery products and provides the applications and integration services to its customers in Europe, Middle East and Africa. All POWER BATTERY facilities enjoy ISO Quality System approval.



CANADA

FUTURE

Vertical growth and technological advancements in the Data Processing and Telecommunications markets have determined the pace and direction of standby power developments, including battery technologies. POWER BATTERY continues to react to this stimulus, with the on-going development of new and improved battery products. Our committed attention to Quality advancements and continual investment in manufacturing processes and capacity growth keeps POWER BATTERY as a leading battery supplier. Additionally, we position ourselves to remain world leaders in providing application and integration services of VRLA batteries to our customers. Our mission remains to provide reliable and competitive products, coupled with technical expertise, to serve an increasingly demanding market place.



UK

Although great care has been taken with the accuracy of the information contained within this product brochure, the details are for information purposes only. POWER BATTERIES Limited do not accept any liability for any inaccuracies, errors or omissions contained herein. POWER BATTERY Inc, POWER BATTERIES Limited and their subsidiary companies operate a policy of continuous development of products and services therefore the details contained herein are subject to change without notice.

the PRODUCTS

INTRODUCTION

POWER BATTERY manufactures high reliability 10 year design life Valve Regulated Lead Acid batteries to provide emergency power in situations where the AC utility supply is lost or disturbed. Usually these types of batteries are incorporated into back up or standby power systems which are themselves used either in a data processing or telecommunications application to provide power if the AC supply fails. Typical applications are with Uninterruptible Power Supplies (UPS) and with 48V Telecom Rectifiers. Other applications include Cable Television Back Up Supplies (CATV) and Emergency Lighting Systems (EL).



PRC-12120S



EZ-48340



SLF-12250

POWER BATTERY also manufacture Racks and Cabinets and provides Assembly and Site Services to its customers for integrated battery power solutions.

POWER BATTERY has a specific range available to suit each application. Please refer to the following pages for outline specification details of each range. For additional pages please refer to our websites.

www.powbat.com

&

www.powbat.co.uk

GENERAL OPERATING SPECIFICATIONS

- Operating Temperature Range
 - Discharge -40°C to +60°C
 - Charge -20°C to +50°C
- Ideal Operating Temperature +20°C to +25°C
- Float Charging Voltage @ 25°C
 - 2 Volt types 2.25 to 2.30 Volts
 - 6 Volt types 6.75 to 6.90 Volts
 - 12 Volt types 13.50 to 13.80 Volts
- Float Charge Temperature Compensation -0.003VPC per °C for rising temp limited to the Charging Voltage Range
- Charge Current Range
 - Nominal: C20/10
 - Minimum: C20/30
 - Maximum: C20/4
- AC ripple from charger source 1.5% peak to peak of float charge voltage
- Storage Typical fully charged batteries may be stored for up to 6 months at 25°C before freshening charge. Storage time is reduced at higher temperatures

the HIGH RATE SERIES

INTRODUCTION

The POWER HIGH RATE PRC Series of Valve Regulated Lead Acid (VRLA) batteries have been developed and refined by POWER BATTERY since 1982. It has been the battery of choice for many of the original equipment manufacturers throughout the world. Our state of the art VRLA design utilises an absorbed glass mat (AGM) separator technology to immobilise the battery electrolyte. During the battery's charge cycle, the cell undergoes a series of oxygen recombination reactions that virtually eliminates water loss. There is never any need to add water to the cells and in fact all vents are factory sealed. These batteries are the ideal choice for UPS, Emergency Lighting, Switchgear and other Standby applications which need reliable, high rate power. Since these batteries are low-gassing they require no special ventilation. Additionally, a compact design makes them perfect for low maintenance and space restricted applications.



PRC-1225S



PRC-12150C



TC-12120S

FEATURES

- Ten year design life
- A recognised component of UL
- Valve Regulated Lead Acid battery (VRLA)
- Absorbed glass mat technology (AGM) with gas recombination greater than 99%
- Operates at a low internal pressure
- Never needs watering, minimal maintenance
- 99.7% pure lead calcium grids
- Shock absorbent thick wall polypropylene cases
- Flame retardant cases are optional (TC and SLF models)
- Stud terminals (most types)
- PRC models meet UL 94 HB requirements
- TC models meet UL 94 V0 requirements and have an oxygen index greater than 28%
- Cold forged non-porous terminal bushings eliminate post leakage
- Thermally welded cover to case bond eliminates both acid and electrical leaks
- Over-sized, through the partition inter-cell welds provide low resistance connections, with minimal power loss
- Each cell has a low pressure safety release venting system, recognised per UL 924
- Measured high vacuum acid fill, reduces electrical variability between cells
- No transport restrictions:
 - Surface transport. Classified as non-hazardous material as relates to DOT-CFR Title 49 part 171-189
 - Water transport. Per IMDG amendment 27
 - Air transport. Complies with IATA / ICAO, special provision A67
- 100% recyclable materials

HIGH RATE SERIES 10 YEAR DESIGN LIFE SPECIFICATIONS

MODEL			VOLTS	CAPACITY TO 1.75 VOLTS PER CELL @ 25°C				DIMENSIONS (MM)			WEIGHT (KG)	TERMINAL AVAILABLE *
STANDARD	FLAME RETARDANT			3 HOURS	8 HOURS	10 HOURS	20 HOURS	L	W	H		
PRC	TC	1225	12	18	21	22	24	165	173	125	9.7	F
PRC	TC	1235L	12	26	29	30	32	196	132	183	12.1	L
PRC	TC	1250S	12	40	45	46	50	219	134	223	16.0	S
* PRC	TC	1255S	12	42	47	48	55	229	140	229	16.8	S
PRC	TC	1265S	12	47	54	57	63	259	169	225	23.0	S
PRC	TC	1290S	12	60	69	70	76	259	169	225	27.5	S
PRC	TC	12100S	12	72	82	84	91	305	170	225	32.7	S
PRC	TC	12120S	12	85	96	98	110	344	172	235	37.2	S
PRC	TC	12150C	12	103	128	140	136	344	172	276	45.5	C
PRC	TC	6200S	6	156	182	188	208	272	187	295	35.1	S
PRC	TC	6225S	6	167	193	199	220	272	187	295	37.4	S

*Preliminary rates

* TERMINAL: C = Copper - S = Stud - L = L Shaped - F = Flag

the PREMIUM HIGH RATE SERIES

INTRODUCTION

The POWER HIGH RATE PREMIUM TCXC and SLF are the ideal choice in applications where additional specification features and options and adherence to national standards is required. This range is an ideal choice for exacting UPS, Emergency Lighting and Switchgear applications. The range has a 10 year design life which also comes with all the pedigree, features and design characteristics of the PRC/TC range, providing a compact design ideal for low maintenance and space restricted applications.



† TC-2600XC



† SLF-12250



† TC-12150XC

STANDARD FEATURES ARE AS THE HIGH RATE SERIES

- Ten year life design
- Valve Regulated Lead Acid Battery VRLA
- Flame retardant case and cover compliant to UL 94VO and UL94V2 for SLF Models

ADDITIONAL FEATURES OF THE HIGH RATE PREMIUM TCXC SERIES

- Copper inserted terminals - Single tool use
- Product Range is compliant with UL924, BS6290 Part 4 and IEC896-2
- Warranty extension options are available
- Additional SLF versions with Front Terminals
- Additional High Ampere Hour 2V Sizes

HIGH RATE PREMIUM SERIES 10 YEAR DESIGN LIFE SPECIFICATIONS

MODEL	VOLTS	CAPACITY TO 1.75 VOLTS PER CELL @ 25°C				DIMENSIONS (MM)			WEIGHT (KG)	TERMINAL AVAILABLE *
		3 HOURS	8 HOURS	10 HOURS	20 HOURS	L	W	H		
TC-1250XC	12	40	45	46	50	219	137	208	16.0	C
* TC-1255XC	12	42	47	48	55	229	140	229	16.8	C
TC-1290XC	12	60	68	70	76	259	169	229	27.5	C
TC-12100XC	12	72	82	84	91	305	169	231	32.7	C
TC-12120XC	12	85	96	98	110	343	173	215	36.7	C
TC-12150XC	12	103	128	140	136	343	173	273	45.2	C
TC-6200XC	6	156	182	188	208	272	187	278	34.6	C
TC-6225XC	6	167	193	199	220	272	187	278	37.0	C
TC-2550XC	2	410	443	460	510	272	187	278	37.1	C
TC-2600XC	2	443	480	498	552	272	187	278	39.5	C
SLF-12105	12	72	82	84	91	534	109	245	33.6	C
SLF-12205	12	147	170	174	184	536	215	256	69.0	C
SLF-12250	12	180	200	205	220	536	215	256	73.4	C

*Preliminary rates

* TERMINAL: C = Copper insert

†Product colour supplied may differ from that shown

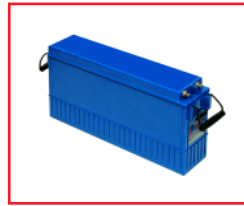
the TELECOM SERIES

INTRODUCTION

The POWER "TELECOM" TL and CSL Batteries are the ideal choice for Telecommunication applications which require a reliable, compact and affordable solution. Since these batteries are low-gassing they require no special ventilation. Additionally, a compact design makes them perfect for low maintenance and space restricted applications.



TL-12120



FT-12160



CSL-12200

FEATURES

- Ten year design life
- Compliance with BS6290 Part 4, IEC896-2 and UL924
- Valve regulated lead acid battery (VRLA)
- CSL & FT Models are fitted with Front Terminals
- New FT range of Front Terminals types
- Absorbed glass mat technology (AGM) with gas recombination greater than 99%
- Operates at a low internal pressure
- Never needs watering, minimal maintenance
- 99.7% pure lead calcium grids
- Shock absorbent thick wall polypropylene cases for all types except FT which are ABS
- Cases are flame retardant, meet UL 94 V0 requirements and have an oxygen index greater than 28%
- Cold forged non-porous copper inserted terminal bushings eliminate post leakage. Except TL-1230 which has an 'L' terminal
- Thermally welded cover to case bond, eliminates both acid and electrical leaks
- Over-sized, through the partition inter-cell welds provide low resistance connections, with minimal power loss
- Measured high vacuum acid fill, reduces electrical variability between cells
- 100% recyclable materials

OPTIONS

- Terminal covers and custom inter-connecting battery cables (Terminal covers are standard on the CSL & FT models)

TELECOM SERIES

10 YEAR DESIGN LIFE SPECIFICATIONS

- No transport restrictions:
 - Surface transport. Classified as non-hazardous material as relates to DOT-CFR Title 49 part 171-189.
 - Water transport. Classified as non-hazardous materials as per IMDG amendment 27.
 - Air transport. Complies with IATA / ICAO, special provision A67.

MODEL	VOLTS	CAPACITY TO 1.75 VOLTS PER CELL @ 25°C				DIMENSIONS (MM)			WEIGHT (KG)	TERMINAL AVAILABLE *
		3 HOURS	8 HOURS	10 HOURS	24 HOURS	L	W	H		
TL-1230	12	26	29	30	33	196	132	183	12.0	L
TL-1245	12	40	45	46	51	219	137	208	16.0	C
* TL-1250	12	42	47	48	56	220	140	229	16.8	C
TL-1270	12	60	68	70	76	259	169	229	27.5	C
TL-1280	12	72	82	84	93	305	169	231	32.7	C
TL-1295	12	85	96	98	108	343	173	215	36.6	C
TL-12120	12	103	118	120	132	343	173	273	45.2	C
TL-6195	6	167	193	199	226	272	187	278	37.0	C
TL-2480	2	443	480	498	564	272	187	278	39.5	C
CSL-1280	12	72	82	84	93	534	109	245	33.6	C
CSL-12100	12	87	100	102	113	534	109	245	38.2	C
CSL-12170	12	146	170	174	182	536	226	256	69.1	C
CSL-12200	12	180	200	205	220	536	215	256	73.7	C
		CAPACITY TO 1.75 VOLTS PER CELL @ 25°C								
		1 HOURS	4 HOURS	6 HOURS	8 HOURS					
* FT-12105	12	65	95	101	105	558	123	227	41	C
* FT-12160	12	104	140	148	155	558	123	300	61.2	C

*Preliminary rates

the **BROADBAND SERIES**

INTRODUCTION

The Power Broadband Series of Valve Regulated Lead Acid (VRLA) batteries has been specifically designed for the rigorous requirements of Broadband Power. This line of batteries is offered in both standard versions in AGM technology and also premium versions in Advanced GEL technology to cover a wide range of requirements. Advanced GEL is a unique innovation of Power Battery combining attributes of high power and superior thermal performance to provide long life in demanding environments. The Standard Power Broadband Series is designed for CATV requirements. The Premium Power Broadband Series is designed to provide advanced protection for CATV/Telephony requirements where superior performance and battery life are required.



MC-120P



MCG-100P

FEATURES

- Non-Spillable Valve Regulated Lead Acid (VRLA) design
- Advanced Absorbed Glass Matt (AGM) technology and Advanced GEL technology
- Robust high purity 99.7% lead calcium grids
- Standard carrying handle
- Low porosity polypropylene cases
- UL recognised component
- State of the art manufacturing process
- Standard series designed for Broadband telephony applications, features re-inforced thick wall case and copper insert terminals which require no re-torque
- Premium series also features Advanced Gel electrolyte for superior thermal/life performance
- Complies with IATA/ICAO Special Provision A67
- Not restricted for surface transport. Classified as non-hazardous material as related to DOT-CFR Title 49 part 171-189
- 100% recyclable

BROADBAND SERIES SPECIFICATION

STANDARD AGM SERIES

MODEL	VOLTS	DIMENSIONS MM			WEIGHT KG	TERMINAL TYPE	8HR AH TO 1.75	DISCHARGE RATE IN AMPS TO 1.75 V.P.C @ 25°C									
		L	W	H				60 MIN	90 MIN	2 HR	3 HR	4 HR	6 HR	8 HR	9 HR	10 HR	
MC-90	12	277	172	231	27.6	COPPER INSERT	68.8	47.6	34.7	27.7	20.1	15.8	11.1	8.6	7.7	7.0	
MC-100	12	323	172	231	32.6	COPPER INSERT	82.4	57.1	41.6	33.2	24.1	19.0	13.3	10.3	9.3	8.4	
MC-120	12	343	173	216	37.2	COPPER INSERT	96.0	66.7	48.6	38.8	28.2	22.1	15.5	12.0	10.8	9.8	
MC-150	12	343	173	274	45.4	COPPER INSERT	117.6	81.3	59.2	47.2	34.4	27.0	18.9	14.7	13.1	12.0	

PREMIUM ADVANCED GEL SERIES

MODEL	VOLTS	DIMENSIONS MM			WEIGHT KG	TERMINAL TYPE	8HR AH TO 1.75	DISCHARGE RATE IN AMPS TO 1.75 V.P.C @ 25°C									
		L	W	H				60 MIN	90 MIN	2 HR	3 HR	4 HR	6 HR	8 HR	9 HR	10 HR	
MCG-90P	12	283	167	212	27.5	COPPER INSERT	68.8	47.6	34.7	27.7	20.1	15.8	11.1	8.6	7.7	7.0	
MCG-100P	12	330	167	212	32.7	COPPER INSERT	82.4	57.1	41.6	33.2	24.1	19.0	13.3	10.3	9.3	8.4	
MCG-120P	12	343	172	221	37.2	COPPER INSERT	96.0	66.7	48.6	38.8	28.2	22.1	15.5	12.2	10.8	9.8	

the **BATTERY SYSTEMS**

INTRODUCTION

POWER BATTERY has a leading position in providing mounting and packaging solutions for its VRLA battery ranges. In recognising the need to efficiently and economically mount batteries into systems POWER BATTERY has developed a wide range of battery package solutions which it offers to its customers.



KS-3



EZ-48340



BMOS-2000

STANDARD OPEN RACK SYSTEMS

This is the traditional open arrangement for mounting batteries in secure plant room locations. Standard Arrangements and Special Configurations are available to accommodate any number of battery blocks to be arranged in a system. Typical standard arrangements are 3 tiers or 4 tiers with 2 rows on each tier. Special arrangements allow up to 6 tiers and 4 rows. Options include extended legs to provide mounting above raised flooring and equipment panels to allow for the mounting of electrical control components and switchgear. Other options allow for anti seismic and ship mounted applications.

CLADDED RACK SYSTEMS

This system takes the standard open rack mounting arrangement with all its flexibility and options and adds panelling to make a fully enclosed system. This allows battery systems to be safely mounted in any location. Although similar in appearance to a cabinet this system can offer improved efficiency in terms of build density and access and is particularly economic for larger battery systems

MODULAR TELECOM RACKS

POWER BATTERY have developed a unique range of "EZ" mounting racks for the SLF and CSL Front Terminal Battery types for Telecom customers. This includes Stackable Modules with options to fit electrical control gear, relay rack configuration and mobile castor mounts.

CABINETS

A number of sizes are available to accommodate different quantities of battery blocks. Typical heights are 1400mm and 1800mm and 800mm deep. Options are available to mount control gear internally and a service to mount and wire the batteries in the warehouse prior to shipment. Inbuilt battery chargers for extended run time battery applications can also be provided.

☹ Mandatory programmes can also be undertaken.

BATTERY MONITORING SYSTEMS

Probably the safest, easiest to install and most cost effective Battery Conditioning Monitoring system available for the condition monitoring of Critical Battery Systems. Supplied with free battery warranty extension when supplied with a Power Battery System.

BATTERY CHARGERS

Options are available to supply "switch mode technology" battery chargers. These are typically used to provide additional battery charging capacity for extended run time battery configurations. Ratings, applications and options are very flexible and models come complete with input power factor correction as standard. Typical sizes are 1 and 2kW with DC outputs of 48, 120 and 240 volts

the **EUROPEAN SERVICE**

INTRODUCTION

POWER BATTERIES Limited was incorporated in 1987 to provide the primary distribution channel for Power Battery Inc battery products into Europe, Middle East and Africa EMEA. The mission was to provide the same high quality of service, delivery and support services into EMEA as was being provided in North America. During this period the size of the market for VRLA battery products has grown and continues to do so significantly year after year. Dramatic sustained growth in Data Processing and Telecommunications technology usage drives the demand for protected power systems which often utilise VRLA batteries as energy storage components. Service expectations from these markets is high and demands not only the battery product itself but also the means to mount, connect and install. POWER BATTERIES' goal is to continuously meet and exceed its customer expectations.



Romsey Location



Battery Testing



CZ1



K14094

STOCKHOLDING

POWER BATTERIES receives battery products from the Canadian and American manufacturing plants into its European Distribution Centre in Romsey, UK and Milan, Italy. Here the battery products are stored and then prepared and packed for onward shipment to customers throughout EMEA. Great emphasis is placed on product quality with batteries being 100% subjected to additional quality checks prior to shipment over and above those rigorously conducted at the manufacturing plants. Facilities are also available for recharging, testing, analysis of batteries and mounting into cabinets. The Company also enjoys ISO9000 accreditation. As the Company expands its operations, new stockholdings are being created in other countries.

OTHER POWER BATTERY PRODUCTS

Power Batteries also manufacture:

- CV Series high capacity AGM 20 year class modular batteries 210 - 5040AH
- PM Series general purpose AGM 5 year class batteries 4.5 - 44AH
- PL Series Flooded Calcium 10 year class batteries 36 - 148AH
- RV Series Advanced Gel Marine batteries 31 - 220AH
- PSG and HPF Advanced Gel and Flooded solar batteries 31 - 100AH
- WCG Series Advanced Gel wheelchair/small traction batteries 33 - 208AH
- Power Plus Flooded traction batteries 170 - 1360AH

BATTERY MOUNTING SYSTEMS

POWER BATTERIES supplies all the Racks and Cabinet systems previously mentioned. The flexibility of what is offered cannot be over emphasised. The Company also undertakes special customised packaging projects for its customers using its UK application support group.

ELECTRICAL COMPONENTS

POWER BATTERIES specialises in supplying all the interconnections, components and electrical control gear required to complete a battery system build. This includes cables, insulators, connecting devices, fusible devices and circuit breakers.

INSTALLATION AND SITE SERVICES

POWER BATTERIES undertakes factory battery builds, site installations and servicing of its supplied batteries systems in the UK and European countries. Site survey and consultancy can also be undertaken.

Presented by:



EUROPE • UK • PREMIER WAY • ABBEY PARK • ROMSEY • HANTS • SO51 9AQ
TELEPHONE:- +44 (0) 1794 835900 • FACSIMILE:- +44 (0) 1794 835910
SALES@POWBAT.CO.UK

•
ITALY • VIA LOCATELLI 105 • 20046 BIASSONO MI • ITALY
TELEPHONE:- +39 039 2324571 • FACSIMILE:- +39 039 2499200
SALES@POWBAT.IT

•
USA • 25 McLEAN BOULEVARD • PATERSON • NEW JERSEY • 07514 • USA
TELEPHONE:- +1 (973) 523-8630 • FACSIMILE:- +1 (973) 523-9553

•
CANADA • 770 THOMAS AVE • IBERVILLE • QUEBEC • J2X 5E7
TELEPHONE:- +1 (450) 346-3273 • FACSIMILE:- +1 (450) 346-8703

•
www.powbat.com
www.powbat.co.uk
www.powbat.it



Certificate No 7407