


LITHIUM BATTERY MODULE INFORMATION & APPROVED SUPPLIERS

This document is written for the following area(s) checked below:			
<input checked="" type="checkbox"/> R&D	<input checked="" type="checkbox"/> Production	<input checked="" type="checkbox"/> Repair & Maintenance	<input checked="" type="checkbox"/> Customer

**1.0 PURPOSE**

The purpose of this specification is to provide battery module information and detail approved supplier information for APS customers.

 <p><b>WARNINGS:</b></p> <ul style="list-style-type: none"> <li>• Do not overheat batteries</li> <li>• Do not recharge batteries</li> <li>• Do not completely discharge batteries</li> </ul>
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**2.0 REFERENCE DOCUMENTS**

- P/N 60213      BATTERY MODULE, 10 X ""DD"" CELL  
Battery Module 150° C High Rate
- P/N 60759      BATTERY MODULE, 10X DD CELL - 150 DEG. C, MODERATE RATE  
Battery Module 150° C Moderate Rate
- P/N 61167      BATTERY MODULE, 10X DD - 165 C, MODERATE RATE PACK 10  
CELL  
Battery Module 165° C Moderate Rate
- P/N 60663      BATTERY MODULE, 10X DD - 180 C, HIGH RATE PACK 10 CELL  
Battery Module 180° C High Rate
- SPEC-11151      BATTERY TEST QUALIFICATION, SPECIFICATION
- SPEC-11152      LITHIUM BATTERY MODULE MANUFACTURING AND TECHNICAL  
DATA

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## LITHIUM BATTERY MODULE INFORMATION & APPROVED SUPPLIERS

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### 3.0 APPROVED BATTERY SUPPLIERS

#### 3.1 Southwest Electronic Energy Corp.

823 Buffalo Run  
Missouri City, TX 77489  
800.231.3612 voice  
281.240.4000 voice  
281.240.5672 fax  
[www.swe.com](http://www.swe.com)

Dean Perkins (President)	<a href="mailto:dperkins@swe.com">dperkins@swe.com</a>
David Obanion (Sales)	<a href="mailto:dobanion@swe.com">dobanion@swe.com</a>
Leon Adams (VP Sales)	<a href="mailto:ladams@swe.com">ladams@swe.com</a>
Kellen Blomquist (Sales)	<a href="mailto:kblomquist@swe.com">kblomquist@swe.com</a>
Marlene Stump (Customer Project Admin)	<a href="mailto:mstump@swe.com">mstump@swe.com</a>
Chad Miller (Engineer Associate)	<a href="mailto:cmiller@swe.com">cmiller@swe.com</a>
Alex Marin (QA Supervisor)	<a href="mailto:amarin@swe.com">amarin@swe.com</a>

Southwest Electronics Energy Corp offers 150° C Battery Modules with their Pow-R Left®, Pow-R Minder®, or Pow-R Log SV fuel gauge and fuel/shock and vibe gauge options. (Gauges are not available for 165° C or 180° C packs). Consult with SWE directly if battery modules are to be supplied with any of the Pow-R Gauge options.

#### 3.2 Excell Battery Company

10675 Shadow Wood Drive  
Houston, TX 77043  
713.647.0600 voice  
713.647.8915 fax  
[www.excellbattery.com](http://www.excellbattery.com)

Mark Kroeker (President)	
W.F. Tripicchio (Sales Manager, Houston)	
Bob Fay (Branch Manager)	<a href="mailto:bfay@excellbattery.com">bfay@excellbattery.com</a>
Brian Larson (VP Engineering & Sales)	

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**3.3 Moorfield International Ltd.**

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Douglas Jamard (Engineering and QA Manager)

[douglas@moorfieldint.com](mailto:douglas@moorfieldint.com)**3.4 Universal Power Solutions, Inc.**

Bay 8, 6025 12 Street S.E.

Calgary, AB T2H 2K1

403.207.5607 voice

403.274.9897 fax

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4.0 BATTERY SUMMARY

Battery	APS P/N	Volts	Minimum Operating Temperature	Cell Data	Rated Capacity (Ah)	Replace-able Fuse	Internal Fuse	Recommended Applications
150° C High Rate 10 Cell	60213	36	0°C	Engineered Pwr LIRDD-HTS Exium 32126H150	25 24	4A	5A	Recommended Battery Module for with all SureShot™ tools strings to 150°C
150° C Moderate Rate 10 Cell	60759	36	0°C	Electrochem 33-127-150MR Engineered Pwr LMRDD-DA-HT Tracer 4912ESA-165	26 23 24	4A	Not Supplied	Approved – <i>but not preferred</i> - may not provide optimal life - for SureShot™ MWD Applications to 150°C
165° C Moderate Rate 10 Cell	61167	36	23°C	Electrochem 33-127-165MR Tracer 4912ESA-165	25 23	5A	Not Supplied	Recommended Battery Module for all high temperature applications to 165°C
180° C High Rate 10 Cell	60663	36	50°C	Engineered Pwr LIRDD-180HT	13	5A	7A	Recommended Battery Module for very high temperature applications to 175°C

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### 5.0 DOCUMENT REVISION HISTORY

Rev	Date	Completed By	Description	ECO No.	Checked By
A	04/26/2009	C. Perry	Initial Release	09-147	J. Hickey
B	05/29/2009	C. Perry	Added Universal Power Solutions as a supplier	09-202	J. Hickey
C	07/21/2011	C. Perry	Update to include P/N 61167 165° C Moderate Rate Pack; reformatted for customer procurement	10-283	J. Hickey
D	8/26/13	L. Daley	Added Moorfield International Ltd.( 3.3) And Universal Power Solutions, Inc. (UPSI) (3.4); delete P/N DOC-SPEC-11139 and P/N 61022; revise the BATTERY SUMMARY table	13-297	C. Perry
E	11-20-13	L. Leonhardt	Added E-mails to suppliers and Cell Data to Battery Module Summary. Update Fuse information. Revise part number descriptions to match vantage in reference section and add SPEC-11152	13-368	G. Daigle
F	07/09/2014	M. Pomerleau	Changed Contact Information for Southwest and Universal Power Solutions, Inc.	14-188	C. Perry
G	6/16/2015	M. Pomerleau	Added / Changed Notes for Recommended Battery Types to table in ¶4.0	15-144	C. Perry

**Related Product Lines:** Batteries