
PS4160 Evaluation Kit

1.0 INTRODUCTION

The PS4160EV Evaluation Kit provides the opportunity to evaluate the PS401 IC quickly and easily. The evaluation kit contains all of the hardware and software necessary to implement a fully functional smart battery and demonstrate all operating modes. The included PS4160 module is a complete smart battery controller subsystem, based on the Microchip PS401 battery manager with patented Accuron™ technology. The module is designed to operate in a battery pack consisting of three (3) and four (4) series connected Li-based cells. The module consists of the Microchip PS401 battery manager IC, with a four LED SOC display, safety circuit, and an optional connection for an external thermistor.

The included PowerTool™ Windows®-based software can be used to modify the programming in the pre-programmed evaluation module. Although many interdependent parameters must be taken into account when programming the battery manager, the process is simplified with the PowerTool configuration wizard.

1.1 Evaluation Kit Contents

The PS4160 Evaluation Kit contains the following hardware, software, and documentation:

- PS4160 Battery Manager Module with LED SOC Display
- PS041 PowerInfo™ Configuration Interface
- PS4160EV CD-ROM
- Power Supply Unit (120/240 VAC input, 15 VDC output)
- RS-232 Cable

The PS4160EV CD-ROM contains:

- PS040 PowerTool Development Software
- PS041 Data Sheet (DS40234)
- PS401 Data Sheet (DS40238)
- PS4160 Data Sheet (DS40235)
- This Product Brief (DS21791)

FIGURE 1-1: BOARD PHOTO

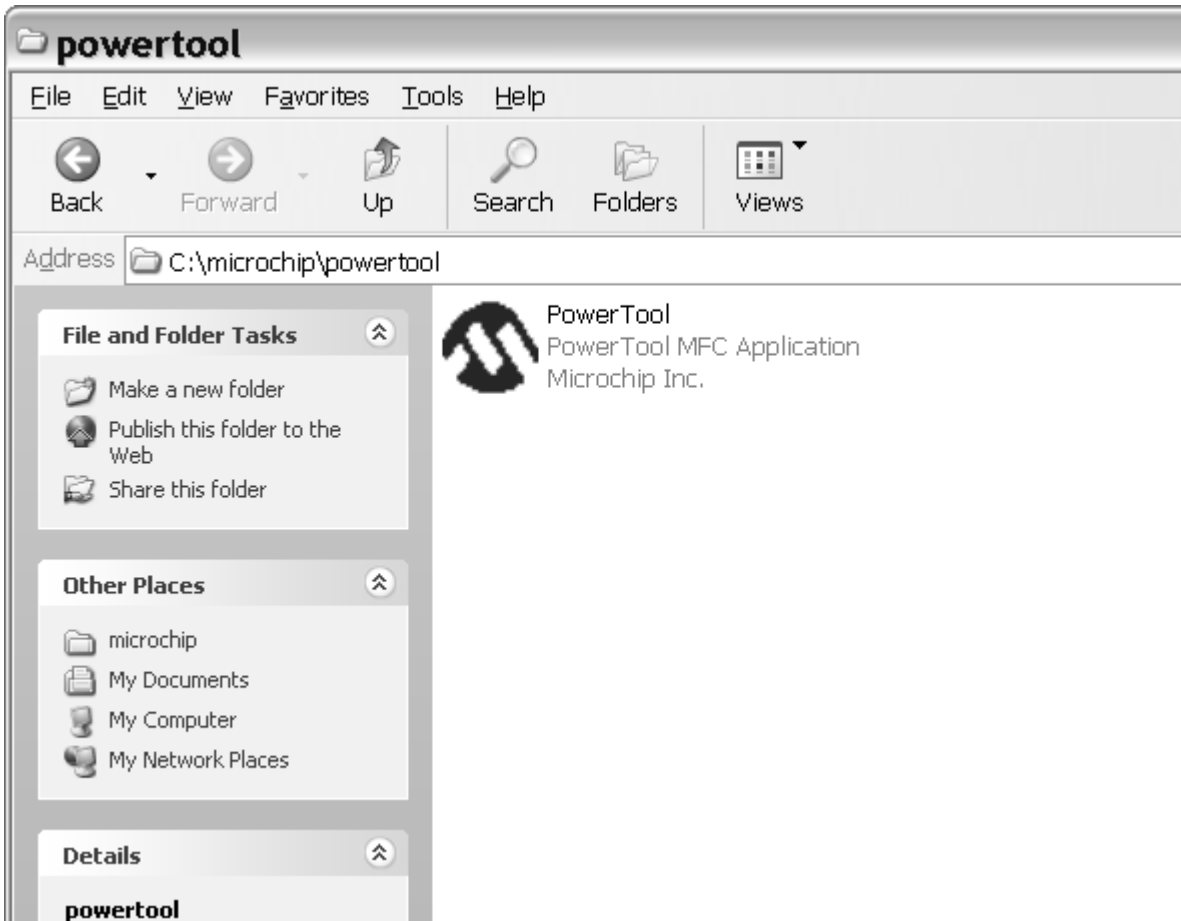


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2.0 INSTALLATION

The PowerTool software provided on the disk is based on the Windows operating system. To install the software, copy the executable from the CD to a directory of choice on a PC hard drive. PowerTool software cannot be run from a CD-ROM or other read-only media.

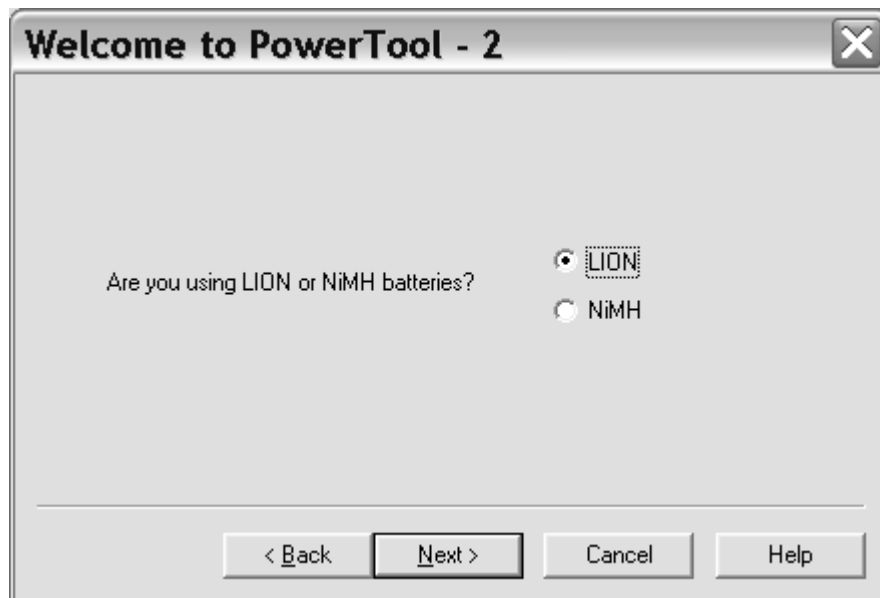
- Double click the PowerTool software executable icon to start the software.



- A dialog box appears to start the pack configuration wizard. Click Next.



- Choose LION and click Next.



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- Choose Default Values and click Next.



- Click Finish. The wizard will begin.



- Follow instructions in the wizard to complete the configuration of a PS4160 pack.

3.0 DEVELOPMENT TOOL SUMMARY

Microchip provides all the necessary hardware and software to enable easy tailoring of battery control algorithm parameters and cell performance models, to meet

specific application requirements and attain the highest accuracy available anywhere. Table 3-1 summarizes the development tool offering from Microchip to support the PS4160. Please refer to the Microchip web site for ordering information and design documentation (including schematics) at www.microchip.com.

TABLE 3-1: MICROCHIP DEVELOPMENT TOOL SUMMARY

Development Tool	Use
PowerInfo™ hardware with PowerTool™ software (PS041)	Read and write Smart Battery data values, EEPROM programming, OTP EPROM programming
PowerCal™ hardware with PowerTool software (PS042)	Read and write Smart Battery data values, EEPROM programming, OTP EPROM programming, pack calibration, pack test

3.1 Reference Documents

This data sheet provides an overview of the PS4160 Battery Manager Module. For further information on the PS401 and development tool operations, please refer to the following documents available for download at www.microchip.com.

TABLE 3-2: MICROCHIP REFERENCE DOCUMENTS

Document Number	Documents Available
DS40238	PS401 Single Chip Battery Manager - Lithium Chemistries Data Sheet (IC Products)
DS40234	PS041 PowerInfo Configuration Interface Product Brief
DS40237	PS042 PowerCal Calibration Platform Data Sheet

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NOTES:

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WORLDWIDE SALES AND SERVICE

AMERICAS

Corporate Office

2355 West Chandler Blvd.
Chandler, AZ 85224-6199
Tel: 480-792-7200 Fax: 480-792-7277
Technical Support: 480-792-7627
Web Address: <http://www.microchip.com>

Atlanta

3780 Mansell Road, Suite 130
Alpharetta, GA 30022
Tel: 770-640-0034 Fax: 770-640-0307

Boston

2 Lan Drive, Suite 120
Westford, MA 01886
Tel: 978-692-3848 Fax: 978-692-3821

Chicago

333 Pierce Road, Suite 180
Itasca, IL 60143
Tel: 630-285-0071 Fax: 630-285-0075

Dallas

4570 Westgrove Drive, Suite 160
Addison, TX 75001
Tel: 972-818-7423 Fax: 972-818-2924

Detroit

Tri-Atria Office Building
32255 Northwestern Highway, Suite 190
Farmington Hills, MI 48334
Tel: 248-538-2250 Fax: 248-538-2260

Kokomo

2767 S. Albright Road
Kokomo, Indiana 46902
Tel: 765-864-8360 Fax: 765-864-8387

Los Angeles

18201 Von Karman, Suite 1090
Irvine, CA 92612
Tel: 949-263-1888 Fax: 949-263-1338

Phoenix

2355 West Chandler Blvd.
Chandler, AZ 85224-6199
Tel: 480-792-7966 Fax: 480-792-4338

San Jose

Microchip Technology Inc.
2107 North First Street, Suite 590
San Jose, CA 95131
Tel: 408-436-7950 Fax: 408-436-7955

Toronto

6285 Northam Drive, Suite 108
Mississauga, Ontario L4V 1X5, Canada
Tel: 905-673-0699 Fax: 905-673-6509

ASIA/PACIFIC

Australia

Microchip Technology Australia Pty Ltd
Marketing Support Division
Suite 22, 41 Rawson Street
Epping 2121, NSW
Australia
Tel: 61-2-9868-6733 Fax: 61-2-9868-6755

China - Beijing

Microchip Technology Consulting (Shanghai)
Co., Ltd., Beijing Liaison Office
Unit 915
Bei Hai Wan Tai Bldg.
No. 6 Chaoyangmen Beidajie
Beijing, 100027, No. China
Tel: 86-10-85282100 Fax: 86-10-85282104

China - Chengdu

Microchip Technology Consulting (Shanghai)
Co., Ltd., Chengdu Liaison Office
Rm. 2401-2402, 24th Floor,
Ming Xing Financial Tower
No. 88 TIDU Street
Chengdu 610016, China
Tel: 86-28-86766200 Fax: 86-28-86766599

China - Fuzhou

Microchip Technology Consulting (Shanghai)
Co., Ltd., Fuzhou Liaison Office
Unit 28F, World Trade Plaza
No. 71 Wusi Road
Fuzhou 350001, China
Tel: 86-591-7503506 Fax: 86-591-7503521

China - Hong Kong SAR

Microchip Technology Hongkong Ltd.
Unit 901-6, Tower 2, Metroplaza
223 Hing Fong Road
Kwai Fong, N.T., Hong Kong
Tel: 852-2401-1200 Fax: 852-2401-3431

China - Shanghai

Microchip Technology Consulting (Shanghai)
Co., Ltd.
Room 701, Bldg. B
Far East International Plaza
No. 317 Xian Xia Road
Shanghai, 200051
Tel: 86-21-6275-5700 Fax: 86-21-6275-5060

China - Shenzhen

Microchip Technology Consulting (Shanghai)
Co., Ltd., Shenzhen Liaison Office
Rm. 1812, 18/F, Building A, United Plaza
No. 5022 Binhe Road, Futian District
Shenzhen 518033, China
Tel: 86-755-82901380 Fax: 86-755-82966626

China - Qingdao

Rm. B505A, Fullhope Plaza,
No. 12 Hong Kong Central Rd.
Qingdao 266071, China
Tel: 86-532-5027355 Fax: 86-532-5027205

India

Microchip Technology Inc.
India Liaison Office
Marketing Support Division
Divyasree Chambers
1 Floor, Wing A (A3/A4)
No. 11, O'Shaughnessy Road
Bangalore, 560 025, India
Tel: 91-80-2290061 Fax: 91-80-2290062

Japan

Microchip Technology Japan K.K.
Benex S-1 6F
3-18-20, Shinyokohama
Kohoku-Ku, Yokohama-shi
Kanagawa, 222-0033, Japan
Tel: 81-45-471-6166 Fax: 81-45-471-6122

Korea

Microchip Technology Korea
168-1, Youngbo Bldg. 3 Floor
Samsung-Dong, Kangnam-Ku
Seoul, Korea 135-882
Tel: 82-2-554-7200 Fax: 82-2-558-5934

Singapore

Microchip Technology Singapore Pte Ltd.
200 Middle Road
#07-02 Prime Centre
Singapore, 188980
Tel: 65-6334-8870 Fax: 65-6334-8850

Taiwan

Microchip Technology (Barbados) Inc.,
Taiwan Branch
11F-3, No. 207
Tung Hua North Road
Taipei, 105, Taiwan
Tel: 886-2-2717-7175 Fax: 886-2-2545-0139

EUROPE

Austria

Microchip Technology Austria GmbH
Durisolstrasse 2
A-4600 Wels
Austria
Tel: 43-7242-2244-399
Fax: 43-7242-2244-393

Denmark

Microchip Technology Nordic ApS
Regus Business Centre
Lautrup høj 1-3
Ballerup DK-2750 Denmark
Tel: 45 4420 9895 Fax: 45 4420 9910

France

Microchip Technology SARL
Parc d'Activite du Moulin de Massy
43 Rue du Saule Trapu
Batiment A - 1er Etage
91300 Massy, France
Tel: 33-1-69-53-63-20 Fax: 33-1-69-30-90-79

Germany

Microchip Technology GmbH
Steinheilstrasse 10
D-85737 Ismaning, Germany
Tel: 49-89-627-144-0
Fax: 49-89-627-144-44

Italy

Microchip Technology SRL
Via Quasimodo, 12
20025 Legnano (MI)
Milan, Italy
Tel: 39-0331-742611 Fax: 39-0331-466781

United Kingdom

Microchip Ltd.
505 Eskdale Road
Winnersh Triangle
Wokingham
Berkshire, England RG41 5TU
Tel: 44 118 921 5869 Fax: 44-118 921-5820

03/25/03