

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT

**CONVEYING PARTY DATA**

Name	Execution Date
NORIYASU IWANE	08/09/2016
NAOYA TAKASHIMA	05/02/2014
TAIJI MITSUYAMA	08/08/2016

**RECEIVING PARTY DATA**

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<b>Street Address:</b>	1000, AMAGO, KOURA-CHO
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<b>City:</b>	SHIGA
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**PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15281089

**CORRESPONDENCE DATA**

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<b>ATTORNEY DOCKET NUMBER:</b>	MP140339USC1/FRKWP196WOUS
<b>NAME OF SUBMITTER:</b>	THOMAS E. WATSON
<b>SIGNATURE:</b>	/Thomas E. Watson/
<b>DATE SIGNED:</b>	07/30/2019

**Total Attachments: 6**

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PATENT ASSIGNMENT

Client Docket No. MP140339US-C1  
OC Docket No. FRKWPI96WOUS

We, Noriyasu IWANE, Naoya TAKASHIMA and Taiji MITSUYAMA, ("ASSIGNORS"), have invented subject matter ("INVENTION") entitled "SECONDARY BATTERY STATE DETECTION DEVICE AND SECONDARY BATTERY STATE DETECTION METHOD", disclosed and/or claimed in PCT patent application no. PCT/JP2015/058389, filed March 19, 2015, which INVENTION:

- will also be filed in the United States Patent & Trademark Office as a United States patent application ("US APPLICATION") without this executed PATENT ASSIGNMENT. ASSIGNORS hereby authorize, and request, ASSIGNEE'S legal representatives of Amin, Turocy & Watson, LLP, 127 Public Square, 57<sup>th</sup> Floor, Key Tower, Cleveland, Ohio 44114, who are associated with customer number 23623, to insert here in parentheses (Application No. 15/281,089 filed 09/30/2016) this US APPLICATION's Application No. and filing date, when known;
- was filed in the United States Patent & Trademark Office on \_\_\_\_\_ and was given U.S. Patent Application Serial No. \_\_\_\_\_;
- is filed concurrently herewith;

FURUKAWA ELECTRIC CO., LTD., a Japanese corporation, having a principal place of business at 2-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1008322, Japan, on behalf of itself and its successors and assigns, and

FURUKAWA AUTOMOTIVE SYSTEMS INC., a Japanese corporation, having a principal place of business at 1000, Amago, Koura-cho, Inukami-gun, Shiga 5220242, Japan, on behalf of itself and its successors and assigns ("ASSIGNEES"),

are entitled to, and are desirous of acquiring, the entire and exclusive rights, title and interest in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEES, the entire and exclusive rights, title and interest in the INVENTION and the APPLICATION (and APPLICATION DERIVATIVES);

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

PATENT ASSIGNMENT

Client Docket No. MP140339US-C1  
OC Docket No. FRKWPI96WOUS

<u>Noriyasu Iwane</u> Inventor's Signature	<u>9th August, 2016</u> Date
<u>Noriyasu IWANE</u> Printed Name in English	 Printed Name in Native Language (if other than English)

 Inventor's Signature	 Date
<u>Naoya TAKASHIMA</u> Printed Name in English	 Printed Name in Native Language (if other than English)

<u>Mitsuyama Taiji</u> Inventor's Signature	<u>8th August, 2016</u> Date
<u>Taiji MITSUYAMA</u> Printed Name in English	 Printed Name in Native Language (if other than English)

**TRANSLATOR'S CERTIFICATE OF TRANSLATION**

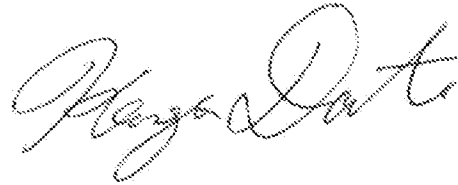
Translation from: Japanese to English  
MultiLing Project Number: FKDK1930017JP

MultiLing Japan Corporation, a Japanese corporation, with its principal office at 193-1 Yamashita-cho, Naka-ku, Yokohama, Kanagawa, 231-0023 JAPAN certifies that:

- a) it is a professional translation company competent in multiple languages, including English and language(s) listed above;
- b) it has translated or verified the translation from the original document to the translated document identified below, and to the best of its knowledge, information, and belief the translation of that document is accurate as a publication quality translation;
- c) all statements made herein of our own knowledge are true; and, further,
- d) all statements made based upon information or belief are believed to be true

Translated Document Identifier: Deed of Assignment(MP130580)\_en.docx  
Proposal management number: PP130618

Signed this 26th day of July, 2019.



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Kengo Date  
Language Team Manager

Patent No. 6422481 October 26, 2018
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MP130580  
Date: May 2, 2014

**Deed of Assignment**

(AND confirmation of the application for registration of copyright of the program)

(Assignee)

Furukawa Electric Co., Ltd. Mitsuyoshi Shibata  
Marunouchi Nakadori Bldg., 2-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo

We confirm that we assigned the right to obtain a patent and utility model registration, and design registration in Japan and foreign countries concerning the following inventions, devices, and designs to your company. In the application for registration of copyright of the program, concerning the owner of the copyright, we know that it is your company.

May 2, 2014 (Please enter the date of assignment.)

Name of proposal	State detection device of secondary battery and state detection method of secondary battery
Proposal management number	PP130618

(Assignor)

Name	Employee number	Contribution rate (%)	Office	Section	Seal
Noriyasu IWANE	910211	50	Hiratsuka	Research & Development Division, Automotive Technology Center	(Seal)
Naoya TAKASHIMA	251352	25	Hiratsuka	Research & Development Division, Automotive Technology Center	(Seal)
Taiji MITSUYAMA	251375	25	Hiratsuka	Research & Development Division, Automotive Technology Center	(Seal)

In this deed of assignment, all the inventors (maximum 6 persons) are indicated. Only those within the Furukawa Electric Group are required to affix their seals to this deed of assignment. Forwarding to those outside the Furukawa Electric Group is not required.

After printing of the deed of assignment, please send it to the person in charge of the intellectual property by in-house mail. If you do not know the person in charge of the intellectual property, please send the deed of assignment to the intellectual property GL designated in the workflow.

Person in charge of intellectual property: Noriyuki SHOJI

特許第 6422481 号  
平成 30年 10月 26日

### 譲渡証書

(兼 プログラム著作権申請確認書)

(譲受人)

古河電気工業株式会社 柴田 光義 殿  
東京都千代田区丸の内二丁目2番3号 丸の内仲通りビル

下記の発明・考案・意匠に関して日本及び諸外国で特許・実用新案登録・意匠登録を受ける権利を貴社に譲渡したことに相違ありません。プログラム著作権申請においては、著作権の帰属先に関しては、貴社であることを承知しております。

(平成26年 5月 8日(譲渡日を入力して下さい))

提案の名称: 二次電池状態検出装置および二次電池状態検出方法

提案管理番号: PP130618

(譲渡人)

氏名	社員番号	寄与率(%)	事業所	所属	印
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高嶋 直也	251352	25	平塚	研開本部自動車研	
光山 泰司	251375	25	平塚	研開本部自動車研	

この譲渡証書は発明者全員(最大6名)が表示されております。古河電工グループ圏内の方のみ押印をお願いします。古河電工グループ圏外の方への回送は不要です。

譲渡証書を印刷後、知財担当へ社内メールでご送付ください。なお、知財担当不明の場合には、譲渡証書はワークフロー中で指定した知財GLへご送付ください。

知財担当: 庄司 範行

2016-511535

MP 140339JP