



- (51) **International Patent Classification:**  
*H01R 13/10* (2006.01)     *H02G 15/08* (2006.01)  
*H02G 3/08* (2006.01)
- (21) **International Application Number:**  
PCT/US201 1/02225 1
- (22) **International Filing Date:**  
24 January 2011 (24.01.2011)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
61/298,074     25 January 2010 (25.01.2010)     US
- (71) **Applicant (for all designated States except US):** EN-PHASE ENERGY, INC. [US/US]; 201 1st Street Suite 300, Petaluma, CA 94952 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** FORNAGE, Martin [FR/US]; 25 Halsey Avenue, Petaluma, CA 94952 (US). BELUR, Raghuvver, R. [US/US]; 12808 Alta Tierra Road, Los Altos Hills, CA 94022 (US).
- (74) **Agent:** MOSER, Raymond R., Jr.; Moser IP Law Group, 1030 Broad Street, Suite 203, Shrewsbury, NJ 07702 (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

- (88) **Date of publication of the international search report:**  
24 November 2011

(54) **Title:** METHOD AND APPARATUS FOR INTERCONNECTING DISTRIBUTED POWER SOURCES

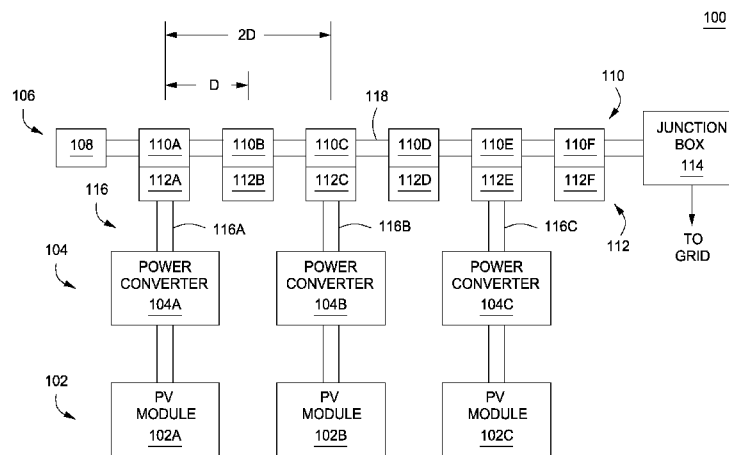


FIG. 1

- (57) **Abstract:** A method and apparatus for power wiring. In one embodiment, the apparatus comprises a splice box comprising (i) a plug having a means for electrically coupling to conductors within a cable adapted for coupling to a power line; (ii) means for coupling to a first means for guiding of a connector; and (iii) means for retaining the first means for guiding, the means for retaining the first means for guiding disposed within the means for coupling to the first means for guiding.

WO 2011/091359 A3

## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2011/022251****A. CLASSIFICATION OF SUBJECT MATTER****H01R 13/10(2006.01)i, H02G 3/08(2006.01)1, H02G 15/08(2006.01)1**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

H01R 13/10; H01R 4/58; H01R 4/24; H01R 31/06; H02G 3/16; B60R 16/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords:distribute, splice, power, connector, plug, cable

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 08-264209 A (SUMITOMO WIRING SYST LTD) 11 October 1996 See paragraph [0010] - paragraph [0016] and figures 1-4 .	1-15
A	JP 2007-059259 A (AUTO NETWORK GIJUTSU KENKYUSHO :K et al.) 08 March 2007 See paragraph [0021] - paragraph [0033] and figures 1-4 .	1-15
A	JP 09-154220 A (SUMITOMO WIRING SYST LTD) 10 June 1997 See paragraph [0020] - paragraph [0023] and figures 1-2 .	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

21 SEPTEMBER 2011 (21.09.2011)

Date of mailing of the international search report

**21 SEPTEMBER 2011 (21.09.2011)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
Government Complex-Daejeon, 189 Cheongsu-ro,  
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Sung Hee

Telephone No. 82-42-481-5889



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2011/022251**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 08-264209 A	11.10.1996	None	
JP 2007-059259 A	08.03.2007	None	
JP 09-154220 A	10.06.1997	JP 3087636 B2	11.09.2000