(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
23 June 2011 (23.06.2011)

PCT

(10) International Publication Number
WO 2011/074800 A3

(51) International Patent Classification:
H04L 12/24 (2006.01) *G06F 1/32* (2006.01)

(21) International Application Number:
PCT/KR20 10/008434

(22) International Filing Date:
2 6 November 2010 (26.1 1 .2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2009-0126362
1 7 December 2009 (17.12.2009) K R
10-2009-0126375
1 7 December 2009 (17.12.2009) K R

(71) Applicant *(for all designated States except US):* **LG ELECTRONICS INC.** [KR/KR]; 2 0 Yeouido-dong, Yeongdeungpo-gu, Seoul 150-721 (KR).

(72) Inventors; and
(75) Inventors/Applicants *(for US only):* **LEE, Koonseok** [KR/KR]; L G Electronics Inc. I P Group, 327-23 Gasan-dong, Geumcheon-gu, Seoul 153-802 (KR). **LEE, Hoonbong** [KR/KR]; L G Electronics Inc. I P Group, 327-23 Gasandong, Geumcheon-gu, Seoul 153-802 (KR). **KIM, Yanghwan** [KR/KR]; L G Electronics Inc. I P Group, 327-23 Gasandong, Geumcheon-gu, Seoul 153-802 (KR).

(74) Agent: **HAW, Yong-Noke;** 6th Fl. Hyun Juk Bldg., 832-41, Yeoksam-dong, Gangnam-gu, Seoul 135-080 (KR).

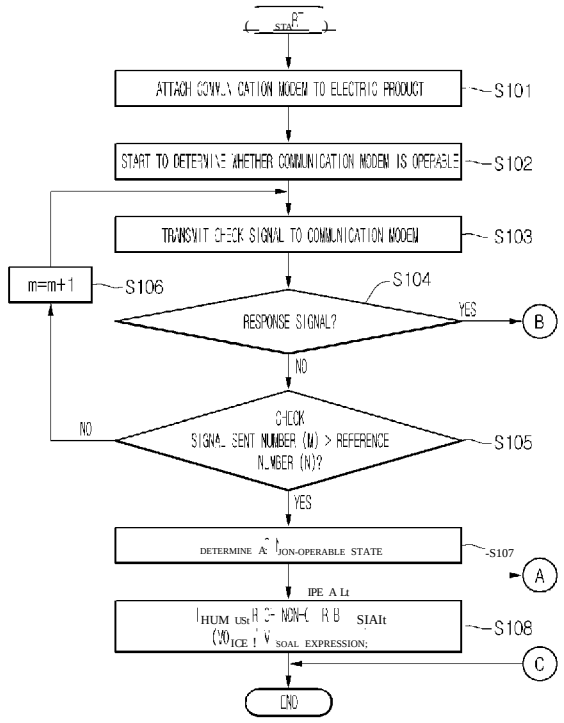
(81) Designated States *(unless otherwise indicated, for every kind of national protection available):* AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, 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,

[Continued on next page]

(54) Title: NETWORK SYSTEM AND METHOD OF CONTROLLING NETWORK SYSTEM

[Fig. 4]



(57) Abstract: A method of controlling a network system is provided. The network system includes a metering device measuring energy supplied from a power supply source, a communication device in which energy information related to the energy communicates, and an energy management device recognizing the energy information, the energy management device controlling an operation of an electric product. The metering device or the energy management device checks whether communication of the communication device is possible. Also, when it is determined that the communication device is in a communication failure state, the communication failure state is displayed on the outside thereof. When a communication modem mounted on the electric product is in a communication failure state, the electric product may normally perform a power management program, based on power or operation information stored therein.

WO 2011/074800 A3

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))*

(88) Date of publication of the international search report:
10 November 201 1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2010/008434

A. CLASSIFICATION OF SUBJECT MATTER

H04L 12/24(2006.01)i, G06F 1/32(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)

H04L 12/24; G06F 1/28; H02J 1/00; G06F 17/60; G06F 1/32; F23N 3/00; G06N 5/02

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) & Keywords: energy , meter , control , manage

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004-0138981 A1 (GREGORY A. EHLERS et al.) 15 July 2004	1-4,8-22
A	See abstract; claims 1-28; paragraphs [0077]-[0080] , [0148], [0244],	5-7
A	US 2009-0088907 A1 (LEWIS KARL et al.) 02 April 2009 See abstract; claims 23-24; figure 1; paragraphs [0026]-[0027] .	1-22
A	US 05924486A A (EHLERS; GREGORY A. et al.) 20 July 1999 See abstract; claims 1-37.	1-22
A	US 2009-0240380 A1 (SHAH ASHOK DEEPAK et al.) 24 September 2009 See abstract; claims 1-20; paragraphs [0033]-[0034] , [0056]-[0059] .	1-22

☐ 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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
16 AUGUST 2011 (16.08.2011)	**16 AUGUST 2011 (16.08.2011)**

Name and mailing address of the ISA/KR

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

Facsimile No. 82-42-472-7140

Authorized officer

Kim Hyeon Jin

Telephone No. 82-42-481-5645

Form PCT/ISA/210 (second sheet) **(July** 2009)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2010/008434

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004-0138981 A1	15.07.2004	AU 2003-218484 B2	08.03.2007
		CA 2480551 A1	09.10.2003
		CN 1656661 CO	17.08.2005
		EP 1490941 A4	10.01.2007
		GB 2449600 A	26.11.2008
		JP 2005-522164 A	21.07.2005
		KR 10-0701110 B1	30.03.2007
		US 2004-0117330 A1	17.06.2004
		US 2004-0133314 A1	08.07.2004
		US 2004-0139038 A1	15.07.2004
		US 2005-0033707 A1	10.02.2005
		US 2007-0043477 A1	22.02.2007
		US 2007-0043478 A1	22.02.2007
		US 2007-0220907 A1	27.09.2007
		US 2009-0157529 A1	18.06.2009
		US 2009-0157529 A1	18.06.2009
		US 2011-0130887 A1	02.06.2011
		US 7130719 B2	31.10.2006
		US 7343226 B2	11.03.2008
		us 7379997 B2	27.05.2008
		us 7418428 B2	26.08.2008
		us 7516106 B2	07.04.2009
		us 7949615 B2	24.05.2011
		Wo 03-084022 A1	09.10.2003
		Wo 2008-032225 A3	20.03.2008
US 2009-0088907 A1	02.04.2009	us 2009-088907 A1	02.04.2009
		wo 2009-046132 A1	09.04.2009
US 05924486A A	20.07.1999	AU 1998-73819 A1	17.05.1999
		CN 1278339 AO	27.12.2000
		EP 1025474 B1	13.11.2002
		JP 2001-521139 A	06.11.2001
		US 6216956 B1	17.04.2001
		WO 99-22284 A1	06.05.1999
US 2009-0240380 A1	24.09.2009	AU 2009-225444 A1	24.09.2009
		AU 2009-225446 A1	24.09.2009
		AU 2009-225455 A1	24.09.2009
		AU 2009-225460 A1	24.09.2009
		EP 2268969 A1	05.01.2011
		EP 2269121 A1	05.01.2011
		EP 2269123 A1	05.01.2011
		EP 2269269 A2	05.01.2011
		US 2009-0237011 A1	24.09.2009
		US 2009-0238252 A1	24.09.2009
		US 2009-0239393 A1	24.09.2009
		US 2009-2370 11 A1	24.09.2009
		US 2009-238252 A1	24.09.2009

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2010/008434

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		US 2009-239393 A1	24.09.2009
		US 2009-240380 A1	24.09.2009
		US 2011-0028006 A1	03.02.2011
		US 7726974 B2	01.06.2010
		W0 2009-117679 A3	07.01.2010
		W0 2009-117681 A1	24.09.2009
		W0 2009-117690 A1	24.09.2009
		W0 2009-117695 A1	24.09.2009