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- (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.
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**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:**  
6 January 2011

(54) **Title:** IMPROVED MAINTENANCE OF WIRELESS FIELD DEVICES

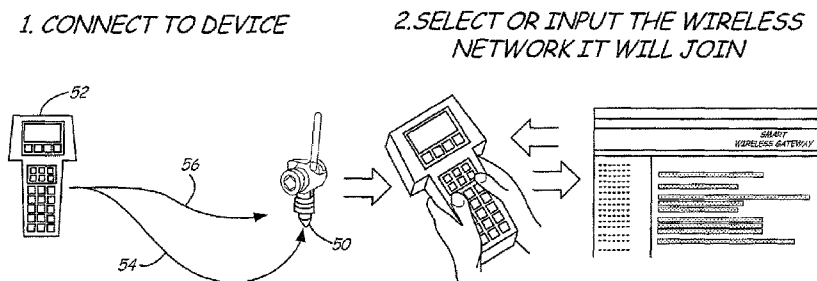


FIG. 3

(57) **Abstract:** A method (200) of commissioning a wireless field device (50) is provided. The method (200) includes communicatively coupling (202) a handheld field maintenance tool (100) to the wireless field device (50) to obtain a wireless field device identifier (204). A wireless network is selected. Wireless communication is generated between the handheld field maintenance tool (100) and a wireless gateway (20) to automatically obtain a join key (208) for the wireless field device identifier. The join key is written (210) to the wireless field device (50) with the handheld field maintenance tool (100).

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## INTERNATIONAL SEARCH REPORT

International application No

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## A. CLASSIFICATION OF SUBJECT MATTER

INV. H04L29/06

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

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

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

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ABB LIMITED: "Wireless Instrumentation Jargon Buster"[Online] no. IB/INST-018, 3 March 2009 (2009-03-03), XP002596601 INFORMATION BULLETIN INSTRUMENTATION ABB Retrieved from the Internet:  URL:http://www05.abb.com/global/scot/scot203.nsf/veritydisplay/be00ec76ef07e978c125756e003157b9/\$File/IB_INST-018_1.pdf&gt;  [retrieved on 2010-08-16]  the whole document</p> <p style="text-align: center;">----- -/--</p>	1-14

 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 document 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 another 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

19 August 2010

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17/11/2010

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## INTERNATIONAL SEARCH REPORT

International application No  
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DAVID GUSTAFSSON: "WirelessHART - Implementation and Evaluation on Wireless Sensors"[Online] 1 April 2009 (2009-04-01), pages I-39, XP002596602 Stockholm, Swede MASTERS'S DEGREE PROJECT, KTH UNIVERSITY, ELECTRICAL ENGINEERING, Retrieved from the Internet: URL: <a href="http://www.ee.kth.se/php/modules/publications/reports/2009/XR-EE-RT%202009:003.pdf">http://www.ee.kth.se/php/modules/publications/reports/2009/XR-EE-RT%202009:003.pdf</a> [retrieved on 2010-08-16] page 22	1-14
X	----- US 2009/125713 A1 (KARSCHNIA ROBERT J [US] ET AL) 14 May 2009 (2009-05-14) paragraphs [0003] - [0055] figures 2a,2b,3	1-14
A	----- WO 2008/127632 A1 (HART COMM FOUNDATION [US]; PRATT WALLACE A [US]; NIXON MARK J [US]; RO) 23 October 2008 (2008-10-23) paragraph [0032] - paragraph [0137] figures 1,8	1-14
A	----- WO 2008/042074 A2 (ROSEMOUNT INC [US]; SCHNAARE THEODORE HENRY [US]) 10 April 2008 (2008-04-10) page 1 - page 5 figures 1-3	1-14

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2010/034889

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-14

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-14

a method of commissioning a wireless field device, the method comprising: communicatively coupling a handheld field maintenance tool to the wireless field device to obtain a wireless field device identifier; communicating wirelessly a gateway with the field device; the method being characterized in that the handheld field maintenance tool obtains an identifier from the field device and the handheld field maintenance tool obtains a join key from the gateway and the same handheld field maintenance tool writes said join key into the field device.

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2. claims: 15-18

a method of confirming connectivity of a wireless field device, the method comprising: communicatively coupling a handheld field maintenance tool to the wireless field device to obtain a wireless field device identifier; communicating wirelessly a gateway with the field device; the method being characterized in that at least one parameter relative to the field device is accessed within the gateway to confirm connectivity (e.g. device connection strength).

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2010/034889
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Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
US 2009125713	A1	14-05-2009	CN 101855854 A EP 2213030 A1 WO 2009064409 A1	06-10-2010 04-08-2010 22-05-2009
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