

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2018/068492

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> <i>B60L 1/00</i> (2006.01)i; <i>B60L 11/18</i> (2006.01)i  According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>  Minimum documentation searched (classification system followed by classification symbols) B60L  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 practicable, search terms used) EPO-Internal		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 2875982 A1 (MITSUBISHI ELECTRIC CORP [JP]) 27 May 2015 (2015-05-27) paragraphs [0006], [0015], [0023], [0030], [0066], [0068] - [0073]; figures 1-42	1-6,8,10-12,14
X	DE 102009008549 A1 (BOMBARDIER TRANSP GMBH [DE]) 19 August 2010 (2010-08-19) paragraphs [0061] - [0068]; figures 1,2	1,9
X Y	EP 2599656 A1 (MITSUBISHI ELECTRIC CORP [JP]) 05 June 2013 (2013-06-05) paragraphs [0011] - [0065]; figures 1,10	1-4,6,8,10-12,14 7,13
Y	EP 2141044 A2 (SIEMENS AG [DE]) 06 January 2010 (2010-01-06) paragraph [0037]; figure 1	7,13
X	US 2015061377 A1 (ISHIKAWA MICHIAKI [JP] ET AL) 05 March 2015 (2015-03-05) abstract; figure 1	1,12
X	DE 102012208241 A1 (SIEMENS AG [DE]) 21 November 2013 (2013-11-21) abstract; figure 1	1,12
A	DE 102012216312 A1 (SIEMENS AG [DE]) 13 March 2014 (2014-03-13) abstract; figure 1	1-14
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 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  <b>26 October 2018</b>		Date of mailing of the international search report  <b>07 November 2018</b>
Name and mailing address of the ISA/EP  <b>European Patent Office p.b. 5818, Patentlaan 2, 2280 HV Rijswijk Netherlands</b> Telephone No. (+31-70)340-2040 Facsimile No. (+31-70)340-3016		Authorized officer  <b>Albertsson, Gustav</b>  Telephone No.

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A	US 2014012446 A1 (KUMAR AJITH KUTTANNAIR [US] ET AL.) 09 January 2014 (2014-01-09) abstract; figures 1-3	1-14
A	WO 2014206185 A1 (CHANGCHUN RAILWAY VEHICLES CO [CN]) 31 December 2014 (2014-12-31) abstract; figure 1	1-14

**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

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