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**H04L 65/10** <sup>(2022.01)</sup>

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**H04L 65/1013; E01F 9/692; G08G 1/0955;**  
**E01F 9/646**

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Designated Validation States:  
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(72) Inventor: **Phillippo, Julian**  
**Norwich, NR3 2AT (GB)**

(74) Representative: **ip21 Ltd**  
**Central Formalities Department**  
**Suite 2**  
**The Old Dairy**  
**Elm Farm Business Park**  
**Wymondham**  
**Norwich, Norfolk NR18 0SW (GB)**

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(71) Applicant: **First Call Traffic Management Ltd**  
**Norwich, Norfolk NR3 2AT (GB)**

(54) **TRAFFIC LIGHT SYSTEMS, MOVEABLE BASE UNITS AND ASSOCIATED METHODS**

(57) A traffic light system comprises one or more temporary moveable base units, each having a support pole for supporting a traffic light signal head; each one of said base units comprising a socket for receiving a connector for removably connecting to one or more wires for transporting traffic light signals from an external control hub to said base unit; said base unit being self-standing and moveable to a chosen site for temporary deployment; said system comprising one or more permanent grounded traffic light poles in the vicinity of said temporary base unit comprising a socket for receiving a connector for removably connecting to one or more wires for transporting traffic light signals to said traffic light poles; and an underground tunnel leading to said permanently erected traffic light pole and which may house, in use, one or more wires to said external control hub; wherein said socket of said temporary moveable base unit and said socket from said permanent grounded traffic light poles are connectable in sequence with the same connector which is connected to one or more wires for connection to said external control hub; whereby traffic light signals may be rapidly switched from a temporary base unit to said permanently erected traffic light pole.

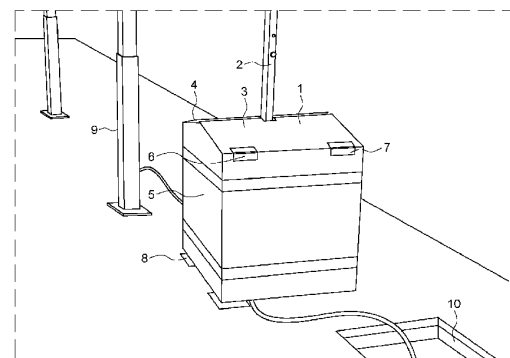


FIG. 1



## EUROPEAN SEARCH REPORT

Application Number

EP 22 16 7199

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                                                                                                                                                                                                                         | Relevant to claim                                                                                                                                                                                                                                                                     | CLASSIFICATION OF THE APPLICATION (IPC)      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Y,D                                                                                                                                                                                                                                                    | GB 2 585 689 A (FIRST CALL TRAFFIC MAN LTD [GB]) 20 January 2021 (2021-01-20)<br>* page 2, line 15 - line 31 *<br>* page 3, line 31 - line 33 *<br>* page 5, line 1 - line 18 *<br>* page 6, line 1 - line 26 *<br>* page 7, line 19 - line 23 *<br>* claims 1,12 *<br>* figures 1, 4A, 4B, 5A, 5B, 7, 10B *<br>----- | 1-8,13, 14                                                                                                                                                                                                                                                                            | INV.<br>G08G1/0955<br>E01F9/692<br>H04L65/10 |
| Y                                                                                                                                                                                                                                                      | US 7 423 551 B1 (SHARROW JOHN A [US]) 9 September 2008 (2008-09-09)<br>* column 1, line 64 - line 67 *<br>* column 2, line 1 - line 10 *<br>* column 4, line 59 - line 62 *<br>* column 5, line 43 - line 63 *<br>* figure 3 *<br>-----                                                                               | 1-8,13, 14                                                                                                                                                                                                                                                                            |                                              |
| Y                                                                                                                                                                                                                                                      | DE 42 10 967 A1 (NISSEN ADOLF ELEKTROBAU [DE]; HORIZONT GERAETEWERK [DE]) 7 October 1993 (1993-10-07)<br>* claim 13; figure 7 *<br>-----                                                                                                                                                                              | 2                                                                                                                                                                                                                                                                                     | TECHNICAL FIELDS SEARCHED (IPC)              |
| Y                                                                                                                                                                                                                                                      | US 2008/100707 A1 (BROWN STEPHEN F [US]) 1 May 2008 (2008-05-01)<br>* paragraph [0083]; figure 12 *<br>-----                                                                                                                                                                                                          | 2                                                                                                                                                                                                                                                                                     | G08G<br>E01F<br>H04L                         |
| A                                                                                                                                                                                                                                                      | GB 2 560 104 A (PIKE SIGNALS LTD [GB]) 29 August 2018 (2018-08-29)<br>* figures 1-2 *<br>* page 7, line 7 - line 11 *<br>-----                                                                                                                                                                                        | 1-8,13, 14                                                                                                                                                                                                                                                                            |                                              |
| A                                                                                                                                                                                                                                                      | GB 2 535 255 A (PIKE SIGNALS LTD [GB]) 17 August 2016 (2016-08-17)<br>* page 9, line 26 - page 13, line 21 *<br>-----                                                                                                                                                                                                 | 1-8,13, 14                                                                                                                                                                                                                                                                            |                                              |
| -/--                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                       |                                              |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                       |                                              |
| Place of search<br><b>The Hague</b>                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                       | Date of completion of the search<br><b>6 July 2022</b>                                                                                                                                                                                                                                | Examiner<br><b>Walker Pina, J</b>            |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                                                                                                                                                                                       | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>-----<br>& : member of the same patent family, corresponding document |                                              |

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EPO FORM 1503 03.82 (P04C01)



## EUROPEAN SEARCH REPORT

Application Number

EP 22 16 7199

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category                                                                                                                                                                                                                   | Citation of document with indication, where appropriate, of relevant passages                                                                 | Relevant to claim                                                                                                                                                                                                                                                                           | CLASSIFICATION OF THE APPLICATION (IPC) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| A                                                                                                                                                                                                                          | GB 2 534 294 A (PIKE SIGNALS LTD [GB])<br>20 July 2016 (2016-07-20)<br>* page 11, line 7 - page 13, line 16;<br>figures 2, 3, 4, 5 *<br>----- | 1-8, 13,<br>14                                                                                                                                                                                                                                                                              |                                         |
|                                                                                                                                                                                                                            |                                                                                                                                               |                                                                                                                                                                                                                                                                                             | TECHNICAL FIELDS<br>SEARCHED (IPC)      |
|                                                                                                                                                                                                                            |                                                                                                                                               |                                                                                                                                                                                                                                                                                             |                                         |
| <del>The present search report has been drawn up for all claims</del>                                                                                                                                                      |                                                                                                                                               |                                                                                                                                                                                                                                                                                             |                                         |
| Place of search                                                                                                                                                                                                            |                                                                                                                                               | Date of completion of the search                                                                                                                                                                                                                                                            | Examiner                                |
| The Hague                                                                                                                                                                                                                  |                                                                                                                                               | 6 July 2022                                                                                                                                                                                                                                                                                 | Walker Pina, J                          |
| CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                                |                                                                                                                                               | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or<br>after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding<br>document |                                         |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another<br>document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                               |                                                                                                                                                                                                                                                                                             |                                         |

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EPO FORM 1503 03.82 (P04C01)



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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

**see sheet B**

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

**1-8, 13, 14**

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

**EP 22 16 7199**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

**1. claims: 1-8, 13, 14**

**system for deploying together temporary and permanent  
traffic lights**

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**2. claims: 9-12**

**apparatus for providing adaptive stability to a resource  
constrained portable traffic light**

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# ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 22 16 7199

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-07-2022

| 10 | Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|----|-------------------------------------------|---------------------|----------------------------|---------------------|
|    | <b>GB 2585689</b>                         | <b>A</b>            | <b>20-01-2021</b>          | <b>NONE</b>         |
|    | -----                                     |                     |                            |                     |
| 15 | <b>US 7423551</b>                         | <b>B1</b>           | <b>09-09-2008</b>          | <b>NONE</b>         |
|    | -----                                     |                     |                            |                     |
|    | <b>DE 4210967</b>                         | <b>A1</b>           | <b>07-10-1993</b>          | <b>NONE</b>         |
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|    | <b>US 2008100707</b>                      | <b>A1</b>           | <b>01-05-2008</b>          | <b>NONE</b>         |
|    | -----                                     |                     |                            |                     |
| 20 | <b>GB 2560104</b>                         | <b>A</b>            | <b>29-08-2018</b>          | <b>NONE</b>         |
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|    | <b>GB 2535255</b>                         | <b>A</b>            | <b>17-08-2016</b>          | <b>NONE</b>         |
|    | -----                                     |                     |                            |                     |
|    | <b>GB 2534294</b>                         | <b>A</b>            | <b>20-07-2016</b>          | <b>NONE</b>         |
| 25 | -----                                     |                     |                            |                     |
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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82