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**Datasheet for the decision  
of 11 May 2022**

**Case Number:** T 2966/19 - 3.5.05

**Application Number:** 08775960.1

**Publication Number:** 2168319

**IPC:** H04L12/403, H04L29/12

**Language of the proceedings:** EN

**Title of invention:**

IDENTIFYING A PLURALITY OF DEVICES

**Applicant:**

Johnson Controls Fire Protection LP

**Headword:**

Identifying the serial numbers of sensors connected to a common communications bus line/Johnson

**Relevant legal provisions:**

EPC Art. 84, 56

RPBA 2020 Art. 11, 13

**Keyword:**

Claims - clarity - main request (no) - clarity after amendment  
- auxiliary request (yes)

Inventive step - main request (no) - auxiliary request (yes)

Remittal to the department of first instance

**Decisions cited:**

T 1906/11



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Case Number: T 2966/19 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 11 May 2022**

**Appellant:** Johnson Controls Fire Protection LP  
(Applicant) 6600 Congress Avenue  
Boca Raton, FL 33487 (US)

**Representative:** Wright, Howard Hugh Burnby  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 18 June 2019  
refusing European patent application No.  
08775960.1 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** A. Ritzka  
**Members:** P. Tabery  
D. Prietzel-Funk

## Summary of Facts and Submissions

- I. The appeal is directed against the examining division's decision to refuse the European patent application.
- II. The examining division decided that the application did not meet the requirements of Articles 123(2) and 56 EPC (main request) or Article 56 EPC (auxiliary requests 1-5).
- III. The examining division referred to the following document:

**D1** DE 102 40 832 A1

- IV. In its statement of grounds of appeal, the appellant requested that a patent be granted on the basis of the claims in accordance with either a main request or one of a first to a fifth auxiliary request, which were all submitted with the statement of grounds of appeal. The claims of all the requests were identical to those of the requests underlying the impugned decision, except for the auxiliary requests having been re-ordered.
- V. The board issued a summons to oral proceedings. It also provided its preliminary opinion on the case (Article 15(1) RPBA 2020).
- The board concurred with the examining division's findings in that the **main request** as well as the **auxiliary requests** did not meet the requirements of Article 56 EPC. In addition, it raised several objections pursuant to Article 84 EPC.
- VI. Oral proceedings were held on 11 May 2022. The appellant requested that the decision under appeal be set aside and that a patent be granted based on the main request submitted with the statement setting out

the grounds of appeal or based on the first auxiliary request submitted during the oral proceedings before the board or the second auxiliary request submitted with the statement setting out the grounds of appeal.

VII. **Claim 1** of the **main request** reads as follows:

A method of identifying a plurality of devices connected in parallel between the wires of a two wire common communications link, wherein each device bears a unique identification number belonging to a defined range of such numbers,

wherein a control station scans the devices by sending a succession of interrogation signals along the communications link, the interrogation signals comprising a representation of the identification numbers of the devices,

wherein a first scan is carried out with interrogation signals identifying a first set of bits constituted by the least significant bits of the identification numbers,

wherein each device is programmed to generate, and to send to the control station, a response signal that includes a checksum, if the identification number matches with at least a part of the unique identification number of the device,

wherein, in the event that two or more of the devices generate a response signal, the response signals will be deemed to be invalid by the control station, and the first scan is paused,

wherein upon pausing of the first scan, the control station initiates a second scan comprising interrogation signals identifying a second set of bits constituted by the first set of bits and a further set

of bits constituted by the next least significant bits of the identification numbers,

wherein successive scans are carried out by the control station, each successive scan adding yet a further set of bits constituted by the next least significant bits of the identification numbers, wherein upon completion of a scan that does not give rise to invalid responses, the previously-paused scan is resumed,

wherein successive scans are carried out until, after all levels of the entire range of identification numbers have been scanned, only a single response is returned from any one complete scan, whereby the control station associates a unique identification number with each of the devices, and

wherein, subsequent to identification of each of the devices by its unique identification number, the control station accords a simplified unique address number to each device for use in subsequent communication therewith.

Independent **claim 9** is directed to a corresponding system.

VIII. **Claim 1** of the **first auxiliary request** reads as follows:

A method of identifying a plurality of devices connected in parallel between the wires of a two wire common communications link, wherein each device bears a unique identification number belonging to a defined range of such numbers,

wherein a control station scans the devices by sending a succession of interrogation signals along the communications link, the interrogation signals comprising a representation of the identification numbers of the devices,

wherein a first scan is carried out with interrogation signals identifying a first set of bits constituted by the least significant bits of the identification numbers,

wherein each device is programmed to generate, and to send to the control station, a response signal that includes a checksum, if the representation of the identification number matches with at least a part of the unique identification number of the device,

wherein, in the event that two or more of the devices generate a response signal, the response signals will be deemed to be invalid by the control station, and the first scan is paused,

wherein upon pausing of the first scan, the control station initiates a second scan comprising interrogation signals identifying a second set of bits constituted by the first set of bits and a further set of bits constituted by the next least significant bits of the identification numbers,

wherein successive scans are carried out by the control station, each successive scan adding yet a further set of bits constituted by the next least significant bits of the identification numbers, wherein upon completion of a scan that does not give rise to invalid responses, the previously-paused scan is resumed continuing on from the point at which it was paused,

wherein successive scans are carried out until no invalid responses are generated in each level, and

wherein, subsequent to identification of each of the devices by its unique identification number, the control station accords a simplified unique address number to each device for use in subsequent communication therewith.

## Reasons for the Decision

1. The present application concerns identifying the serial numbers of a plurality of devices (e.g. sensors) connected to a common communications bus line.

2. Main request

2.1 Added subject-matter (Article 123(2) EPC)

In the decision under appeal, the examining division considered that the feature "*a plurality of devices connected in parallel between the wires of a two wire common communications link*" in claims 1 and 9 constituted an intermediate generalisation. Notably, the application as originally filed disclosed either "*a two wire communication **loop** ... connected in parallel between the wires*" (see page 9, lines 25-29, emphasis added by the examining division) or "*a common communication bus line*" (see page 3, line 8). Claiming a "*two wire ... link*" without mentioning a "*loop*" constituted an intermediate generalisation, since these two features had a structural and functional relationship.

The appellant argued that the skilled person would not consider that a "*loop*" configuration was the only configuration relevant to the invention. The skilled person would understand that what was essential was that there were a plurality of devices "*that are connected along a common communications link*" so that each device might be simultaneously addressed.

The board finds the appellant's arguments to be convincing, since the "*loop*" configuration is indeed not the only configuration relevant to the invention. Instead, the skilled person would learn from the



passages cited by the examining division that there was a bus line, which could be implemented using two wires and/or implemented as a loop. Therefore, the board considers that a skilled person faced with the amended claim, as compared with a skilled person having seen only the original application, would not derive from that amended claim any additional technically relevant information (in line with decision T 1906/11).

Hence, the board holds that claims 1 and 9 fulfil the requirements of Article 123(2) EPC.

## 2.2 Clarity (Article 84 EPC)

2.2.1 In claim 1, "*the identification number*" (see line 14) lacks a proper antecedent, since claim 1 specifies several identification numbers up to that point (one for each device). In the following, this is interpreted as referring to "*the representation of the identification number*" instead, in line with the appellant's interpretation.

2.2.2 Next, in claim 1, the term "**all levels** of the **entire range of identification numbers**" (see lines 27-28, emphasis added by the board) is unclear. First, claim 1 specifies "**a defined range of [identification] numbers**", but not an "**entire range**". This difference in wording raises doubts as to whether the "**defined range**" might be the same as the "**entire range**". Second, claim 1 does not specify any levels or that the defined range possesses such levels. It is thus not defined what "**all levels**" is referring to. The board notes that the preceding method step defines "*successive scans*" with "*further [sets] of bits*", which it interprets as being equivalent to "**levels**", in line with the table spanning pages 11-13 of the description. Assuming this interpretation, the board notes that the preceding

feature also specifies that the *"adding [of] yet a further set of bits"* is only performed until *"completion of a scan that does not give rise to invalid responses"*. Depending on the actual distribution of the identification numbers, successive scans thus may or may not be performed with all sets of bits. Therefore, the board holds that this preceding method step contradicts what appears to be the most obvious interpretation of the feature under scrutiny. In the following, the board gives precedence to the feature in lines 23-26 and interprets the feature in lines 27-28 accordingly.

- 2.2.3 The board notes that the term *"scan"* is used throughout the description (see e.g. page 2, lines 26-29) to refer to *"a set of queries that is sent out"* (the queries are denoted in the claim as *"interrogation signals"*). It is understood from the wording of claim 1 that each device sends *"a response signal ... if the identification number matches"*. In view of this, the board deduces that the condition *"until [...] only a single response is returned from any one complete scan"* in claim 1 (lines 28-29 of this claim) is worded in a way that implies that only a single device is connected to the common communications link: the claimed *"first scan"* also falls under the term *"any one complete scan"* and will certainly return more than a single response if more than one device is connected; however, claim 1 specifies that a *plurality* of devices is connected to the common communications link. Therefore, the formulation of the condition quoted above raises doubts as to the technical meaning of the feature in question. In the following, the board interprets the exit condition as being *"until no invalid responses are generated in each level"*, in line with page 13, last

line to page 14, line 1, of the description, as explained by the appellant.

- 2.2.4 Furthermore, in the last feature of claim 1, the term "*its unique identification number*" appears to lack its proper antecedent, since the claim twice mentions "**a** *unique identification number*" for each device [emphasis added by the board] up to that point (see lines 2-3 and 29-30, respectively). Due to the numerous issues with the features regarding successive scans of lines 26-30, the board assumes in the following that the proper antecedent is that in lines 2-3.
- 2.2.5 With regard to claim 9, the board notes that the feature "*to proceed to the next scan until only one response is received from a higher scan*" deviates from what is disclosed in the description; however, according to the description, "*after a collision has been resolved [i.e., two or more response signals do not arise], scanning reverts to the lower level at which it was paused*", which the appellant explained was the intended meaning.
- 2.2.6 Finally, the last feature of claim 9 is formulated as a method step, although said claim is directed to an apparatus rather than to a method. This raises doubts as to the category of claim 9.
- 2.2.7 Since claims 1 and 9 lack clarity, the requirements of Article 84 EPC are not met.

2.3 Therefore, the **main request** is not allowable.

### 3. First auxiliary request

Compared with claim 1 of the main request, claim 1 of the first auxiliary request additionally specifies that "*the previously-paused scan is resumed continuing on*"

from the point at which it was paused" [added feature as underlined by the appellant]. This introduces a clarification limiting the interpretation of the term "resume" (see point 2.3.4 above). Furthermore, the appellant replaced the unclear features in the claims with the interpretations already identified in section 2.2.

Since the amendments address either objections raised by the board or issues discussed during the oral proceedings before the board and do so in a way which furthers the proceedings, the board decides to admit the first auxiliary request into the proceedings (Article 13(1) and (2) RPBA 2020).

### 3.1 Added subject-matter (Article 123(2) EPC)

The appellant submitted that the added feature was disclosed on page 10, lines 18 to 23, of the application as originally filed.

The board holds that the added feature is unambiguously derivable from the cited passage and that this passage is in context with the disclosure of the other features of claim 1. Therefore, the board holds that the requirements of Article 123(2) EPC are met.

### 3.2 Clarity (Article 84 EPC)

The appellant submitted that the amendments resolved all of the board's objections regarding the lack of clarity.

The board notes that the objections regarding the lack of clarity raised with respect to the main request are resolved by the amendments. Therefore, the board holds that the requirements of Article 84 EPC are met.

### 3.3 Novelty (Article 54(1) EPC)

In the decision under appeal, the examining division considered that the added feature was disclosed in document **D1**. The scan in paragraph [0037] "*continues twice 'from the point at which it paused', see the scan pattern '10000000' which occurs twice after the first scan at with the collision between Melder 2 and 3 occurs, i.e. each time the scan continues from the point at which it was paused.*"

The appellant argued that the added feature whereby "*the previously-paused scan is resumed continuing on from the point at which it was paused*" was not disclosed in document **D1**, since paragraph [0037] of this document set out that after the event "*Melder 2 erhält Adresse '02'*", an "*Abfrage durch Zentrale*" was performed with the value "*10000000*", but this was identical to the initial value. Therefore, document **D1** did not disclose the added feature whereby, when resuming a previously-paused scan, the scan was continued on from the point at which it was paused.

The board considers the arguments presented by the appellant to be convincing. Notably, the embodiment cited in paragraph [0037] sets out that, when scanning with "*10100000*", only "*Melder 2*" reacts. After this scan "*that does not give rise to invalid responses*", "*Melder 2*" and "*Melder 3*" are assigned an address. Thereafter, scanning resumes at "*10000000*", i.e. the initial value. Therefore, the board concurs with the appellant in that the added feature that "*the previously-paused scan is resumed continuing on from the point at which it was paused*" constitutes another distinguishing feature of claims 1 and 9. Furthermore, the board notes that the other amendments relate to clarifications only. These clarifications correspond to the interpretations underlying the novelty analysis of

the main request, which thus remains unaffected by these amendments.

#### 3.4 Inventive step (Article 56 EPC)

The appellant emphasised that document **D1** related to a combination of devices connected in parallel and in series. Hence, when an address was assigned to a newly identified device, the station closed its switch, and therefore there was the possibility that another device would have become visible which could have had an ID in a range that had already been scanned. Therefore, the scan had to be restarted from the beginning. Otherwise, if the scan was continued on from the point at which it was paused, devices might have been missed.

Consequently, starting from the disclosure of document **D1**, the skilled person would not have considered continuing on with a scan from the point at which it was paused.

As opposed to the added feature, document **D1** teaches that scans are restarted with the initial value after a scan that does not give rise to invalid responses. The board concurs with the appellant in that the skilled person would not deviate from this teaching, since otherwise a device may be missed which might have become visible after the newly recognised device had closed its switch. Hence, the added feature is not rendered obvious by the embodiment in paragraph [0037] of document **D1**. The board notes that, in the embodiment in paragraph [0029] of document **D1**, it is shown that devices are scanned without returning to the initial value when a device has been recognised; however, this embodiment does not make use of the claimed "*successive scan adding yet a further set of bits*", and the scans are not paused either. Therefore, it does not render the additional feature obvious either. Therefore, the

board holds that the subject-matter of claim 1 is not rendered obvious by the disclosure of document **D1**.

The same considerations apply, *mutatis mutandis*, to independent claim 9.

4. Since the amendments and arguments presented with the appellant's first auxiliary request overcome the reasons provided in the impugned decision, the appeal is allowable; however, the case is not yet ready for a final decision regarding the request to grant a patent.

5. Remittal (Article 11 RPBA 2020)

Under Article 11 RPBA 2020 the board may remit the case to the department whose decision was appealed if there are special reasons for doing so.

The board notes that the examining division decided on novelty and inventive step only in view of document **D1**. Therefore, novelty and inventive step have not been assessed in view of documents **D2**, **D3** and **D4**, which were cited in the European search report as relevant documents.

Under these circumstances, the board does not consider it appropriate to decide on the issues of novelty and inventive step with regard to documents **D2**, **D3** and **D4** without a decision by the examining division.

Therefore, the board holds that there are special reasons for remitting the case to the examining division.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution on the basis of the first auxiliary request submitted during the oral proceedings before the board.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated