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# Datasheet for the decision of 3 April 2014

**Case Number:** T 2039/10 - 3.5.03

**Application Number:** 05101494.2

**Publication Number:** 1571511

**IPC:** G05B19/042

**Language of the proceedings:** EN

**Title of invention:**
Frequency converter as well as method and device for configuring a frequency converter

**Applicant:**
ABB Oy

**Headword:**
Frequency converter/ABB

**Relevant legal provisions:**
EPC Art. 56

**Keyword:**
Inventive step - main request, first auxiliary request and second auxiliary request (no)

**Decisions cited:**

**Catchword:**

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Office européen des brevets

**Beschwerdekammern**
**Boards of Appeal**
**Chambres de recours**

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

**Case Number: T 2039/10 - 3.5.03**

# D E C I S I O N
# of Technical Board of Appeal 3.5.03
# of 3 April 2014

| | |
|---|---|
| **Appellant:** (Applicant) | ABB Oy<br>Strömbergintie 1<br>00380 Helsinki (FI) |
| **Representative:** | Kolster Oy Ab<br>Iso Roobertinkatu 23<br>PO Box 148<br>00121 Helsinki (FI) |
| **Decision under appeal:** | **Decision of the Examining Division of the European Patent Office posted on 7 June 2010 refusing European patent application No. 05101494.2 pursuant to Article 97(2) EPC.** |

**Composition of the Board:**

**Chairman:** F. van der Voort
**Members:** K. Schenkel
M.-B. Tardo-Dino

## Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing European patent application No. 05101494.2, publication number EP 1 571 511 A.

II. The reason given for the refusal was that the subject-matter of the claims of a main request and an auxiliary request did not involve an inventive step (Articles 52(1) and 56 EPC) having regard to the disclosures of:

D1: WO 03/025878 A; and
D2: EP 1 369 755 A.

III. In the statement of grounds of appeal the appellant requested that the decision be set aside and that a patent be granted on the basis of claims 1 to 5 of a main request or, in the alternative, on the basis of claims 1 to 5 of an auxiliary request, both as filed with the statement of grounds of appeal. Oral proceedings were conditionally requested.

IV. In a communication accompanying a summons to oral proceedings the board, without prejudice to its final decision, raised objections under Article 52(1) EPC in combination with Article 56 EPC (lack of inventive step) in respect of the subject-matter of claims 1, 3 and 4 of the main and auxiliary requests, objections under Article 84 EPC against claim 1 of the auxiliary request, and an objection under Article 123(2) EPC against claim 3 of the auxiliary request.

V. In response to the summons the appellant filed a substantive response together with a further set of claims 1 to 4 of a second auxiliary request.

VI. Oral proceedings were held on 3 April 2014.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 5 of the main request or claim 1 to 5 of the [first] auxiliary request, both requests as filed with the statement of grounds of appeal, or on the basis of claims 1 to 4 of the second auxiliary request as filed with the letter dated 3 March 2014.

At the end of the oral proceedings, after due deliberation, the chairman announced the board's decision.

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

"A method of configuring an unelectrified frequency converter, comprising
connecting (B) a configuration tool to the frequency converter by connecting connector poles of the configuration tool to connector poles of the frequency converter,
electrifying (C) with the configuration tool and by means of said connector poles of the configuration tool and the frequency converter at least a memory included in the frequency converter for the period of configuration; and
feeding (D) by means of the connector poles of the configuration tool and the frequency converter configuration data to the memory electrified with the configuration tool."

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

"A method of configuring an unelectrified frequency converter, comprising
connecting (B) a configuration tool to the frequency converter by connecting connector poles of the configuration tool to connector poles of the frequency converter,
electrifying (C) with the configuration tool and by means of said connector poles of the configuration tool and the frequency converter at least a memory included in the frequency converter for the period of configuration,
reading by utilizing a display on said configuration tool configuration data already stored in the memory of the frequency converter,
feeding configuration data by using a keyboard of the configuration tool to the configuration tool in order to modify the configuration data already stored in the memory of the frequency converter, and
feeding (D) by means of the connector poles of the configuration tool and the frequency converter the configuration data to the memory electrified with the configuration tool."

IX. Claim 1 of the second auxiliary request reads as follows:

"A frequency converter (10) comprising
a memory (12);
a control circuit arranged to utilize the configuration data stored in said memory (12) to control the operation of the frequency converter (10) in the way indicated by the configuration data, and
an interface (11) for connecting a configuration tool with a display to the frequency converter, said display allowing a user of said configuration tool a possibility to read configuration data already stored

in the memory of the frequency converter, and said interface comprises means for receiving configuration data from the configuration tool and for storing the configuration data to said memory (12) for modifying the configuration data read from said memory with configuration data fed by the user via a keyboard of said configuration tool; wherein said interface (11) is a wired interface including connector poles shaped to be connected to connector poles in the configuration tool for electrifying at least said memory by utilizing energy conveyed from the configuration tool, and for receiving the configuration data via said connector poles."

## Reasons for the Decision

1. *Main request* - inventive step

1.1 D2 discloses, using the language of claim 1, a method of configuring a frequency converter which includes a memory, in which the method comprises connecting a configuration tool to the frequency converter and feeding configuration data to the memory (the abstract and Fig. 1). In one embodiment the configuration tool is a personal computer which reads configuration data from a chipcard and in which the data is subsequently transferred from the personal computer to the memory of the frequency converter (column 3, lines 34 to 37). No further details of how the data transfer is carried out are disclosed in D2.

1.2 The method of claim 1 thus differs from the method disclosed in D2 in that according to claim 1 the method further comprises:

i) configuring an unelectrified frequency converter;

ii) connecting the configuration tool to the frequency converter by connector poles of the configuration tool to connector poles of the frequency converter;

iii) electrifying with the configuration tool and by means of the connector poles at least the memory for the period of configuration; and

iv) feeding, by means of the connector poles, configuration data to the electrified memory.

This analysis of D2 and claim 1 was not contested by the appellant.

1.3 The board agrees with the appellant and the examining division that document D2 represents the closest prior art. Starting out from D2, the technical problem underlying the subject-matter of claim 1 may therefore be seen in providing a practical implementation of the method of configuring a frequency converter as disclosed in D2.

1.4 Since D2 does not disclose further details regarding the data transfer from the personal computer to the memory, a skilled person would look elsewhere for implementation details.

D1, which is classified in IPC main class G08 "Signalling", discloses a utility meter 10 (Fig. 1) with a built-in memory 14. An external device 30 including a transceiver 32 is provided for transferring among other things calibration and program data to the memory 14 of the utility meter 10 (abstract, page 8, lines 5 to 7, and claim 8). D1 further provides details

of the data transfer between the external device 30 and the memory 14 (page 6, lines 2 to 6 and 14 to 25), and hence a person skilled in the art would consider D1 when faced with the above-mentioned problem.

1.5 The appellant argued that a utility meter is a simple device which is very different from a complex device such as a frequency converter and that a person skilled in the art of frequency converters would therefore be reluctant to consider D1. If, nevertheless, he were to come across D1, he would in any case have disregarded it as relating to a completely different technical field.

1.6 The board does not find these arguments convincing. The examining division already took the view that the skilled person would not limit himself to the narrow field of frequency converters, but would look for solutions in the field of electrical devices in general. D1 in the abstract and in claim 1 refers to an arrangement for use in a utility meter, i.e. suitable for use in a utility meter and hence does not exclude the use of the arrangement in other, more complex devices. Further, the features of the arrangement as mentioned in the abstract and in claim 1 are not specifically related to a utility meter, except for the fact that the data is specified as "commodity consumption data" or "meter-related data". It is noted that on page 8, lines 5 to 7, reference is also made to "meter control data, which may suitably include operational parameters, calibration information, or program data". The data content clearly depends on the specific application and does not prevent a use of the arrangement for transferring data with different content in a different application. Further, the assignment of D1 to the IPC main class G08 "Signalling"

emphasises D1's focus on the data transfer between an external device and an internal memory without any limitation to specific data or a specific application field. Thus, a skilled person would not see a problem in using the arrangement of D1 in, e.g., a frequency converter for transferring configuration data.

1.7 More specifically, D1 discloses an arrangement suitable for use in a utility meter which includes a non-volatile memory for holding data, which may be configuration data (page 3, lines 10 to 13 "program (parameter) data", page 9, line 29, to page 10, line 2 "calibration information") or consumption data (page 3, lines 16 to 17). A transceiver 16 in the meter 10 is capable of receiving an external data signal from the external device 30 and of writing the data in the memory, using power derived from the external data signal (page 3, lines 7 to 13). By deriving the power supply for the memory from the data signal provided by the external device 30 the data transfer is independent of a power supply of the utility meter 10. On page 3 at the beginning of the section "Summary of the Invention" the data transfer method using the transceiver (i.e. a device with transmitter and receiver functions) is disclosed without further specifying the communication medium and thus without excluding any specific communication medium. The focus at the beginning of the "Summary of the Invention" lies on the fact that the data transfer is independent of the availability of a mains power supply (page 3, lines 10 to 17). Only as an embodiment of the invention, the transceiver is an RF transceiver (page 3, lines 19 and 20, page 7, lines 1 and 2, and dependent claim 9). In order to implement the communication medium for the transceiver, a person skilled in the art, using common general knowledge, would therefore also consider a simple electric

communication medium, i.e. an electric conductor, which implies the presence of connector poles, in order to connect a transceiver of the external device to the transceiver of the utility meter.

1.8 The appellant argued that the skilled person, after applying the teaching of D1 to the frequency converter of D2, would not choose a wired connection for implementing the connection between the transceivers for the data transfer between the external device and the memory. One reason was that a combination of the features of D2 and D1 using RF transceivers would already have solved the problem. Hence, no further amendments would have been necessary. Further, D1 did not provide an enabling disclosure for a wired connection between the transceivers, in which the memory is electrified via connector poles. The embodiments disclosed in D1 comprised RF transceivers only, and a wired connection could not be considered a transceiver.

1.9 The board however does not accept these arguments for the following reasons. Claim 8 of D1 discloses an arrangement with a transceiver, without further specifying it as a wireless transceiver. The "Summary of the Invention" on page 3, lines 7 to 18, describes "the present invention" without specifying the transceiver as being an RF transceiver. The transceiver is specified as an RF transceiver only as an embodiment of the invention (page 3, lines 19 to 20, and page 7, lines 1 and 2). Thus, D1 does not disclose that the RF transceiver is an essential feature of the arrangement, which might otherwise have impeded the skilled person from considering other types of transceivers and communication media. Further, it was well-known that an RF link compared to a wired link is of increased

complexity, but, in return, facilitates the establishment of the connection, e.g. when the devices to be connected are physically difficult to access or the connection is to be made often. In the present case, however, facilitating the establishment of the connection is of lower importance, since a frequency converter is normally configured only once, or at least very rarely. Thus, the skilled person looking for an appropriate implementation of the connection would consider less complex techniques for connecting the personal computer to the frequency converter, such as a wired link with connector poles. The board agrees with the appellant that the skilled person would not consider a wire to be a transceiver. However, for assessing inventive step the question is whether or not the use of the term "transceiver" in D1 would prevent the skilled person from considering a different type of connection, i.e. other than the one explicitly disclosed in D1, namely an RF connection. In the board's judgment, in the present case, the skilled person would, when faced with the above-mentioned technical problem, take into consideration the technical relevance of the particular type of connection rather than being restricted by the specific connection disclosed in D1.

1.10 Hence, on applying the teaching of D1 to the configuration method known from D2 and taking into account the common general knowledge of the person skilled in the art, the skilled person would connect the configuration tool to the frequency converter by connector poles (cf. feature ii) at point 1.2), in which the connector poles electrify the memory for the period of configuration (cf. feature iii) at point 1.2) and feed the configuration data to the memory (cf. feature iv) at point 1.2), in which the frequency

converter is not electrified by mains electric power (cf. feature i) at point 1.2). He would thus arrive at a method which includes all the features of claim 1 without the exercise of inventive skill.

1.11 For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step (Articles 52(1) and 56 EPC). The main request is therefore not allowable.

2. *First auxiliary request* - inventive step

2.1 Claim 1 of the first auxiliary request (see point VIII above) adds the following features:

i) reading by utilizing a display on said configuration tool configuration data already stored in the memory of the frequency converter, and

ii) feeding configuration data by using a keyboard of the configuration tool to the configuration tool in order to modify the configuration data already stored in the memory of the frequency converter.

Re. feature i): D1 discloses that the external device may comprise "a portable "laptop" personal computer" (page 5, lines 12 to 13) and that data is communicated from the utility meter to the external device (page 10, lines 13 to 17). The data communicated may include data relevant to the meter (page 10, lines 24 to 26). It is part of the common general knowledge that a portable laptop personal computer includes a display and a keyboard. Hence, once data is communicated to a laptop and thus available there, it is straightforward to use the display of the laptop to display the data.

Re. feature ii): For the same reason allowing a user to use the well-known capabilities of a laptop to modify data before it is fed to a meter would have been obvious to the skilled person.

Taking into account the reasoning given at point 1, the same considerations apply to the use of a laptop for reading and writing data to the frequency converter of D2.

2.2 The appellant argued that D1 discloses only the transfer of consumption data from the meter to the external device (page 10, lines 13 to 17). However, the board notes that D1 also discloses that the external device may read commodity consumption data, or obtain meter statistics or "other metering information". The term "metering information" is thus used as a broad term which encompasses commodity consumption data and meter statistics, the "other metering information" hence being different from commodity consumption data and meter statistics. Further, on page 10, lines 5 to 8, as an effect of the data transfer from the external device to the meter, it is described that the operations of the meter may be altered, changed or configured. Hence, the skilled person would understand the term "other metering information" as a broad term which also encompasses configuration data.

2.3 For the above reasons, the subject-matter of claim 1 of the first auxiliary request does not involve an inventive step (Articles 52(1) and 56 EPC). The first auxiliary request is therefore not allowable.

3. *Second auxiliary request* - inventive step

3.1 Claim 1 of the second auxiliary request (see point IX above) is directed to a frequency converter which comprises the constructional features required for carrying out the method of claim 1 of the first auxiliary request. The appellant did not contest this and did not provide further arguments in support of this request.

3.2 Since claim 1 of this request does not define additional features which are not implied by the method features of claim 1 of the first auxiliary request, the considerations regarding claim 1 of the first auxiliary request apply *mutatis mutandis*.

3.3 The subject-matter of claim 1 of the second auxiliary request therefore does not involve an inventive step (Articles 52(1) and 56 EPC). The second auxiliary request is therefore not allowable.

4. As there is no allowable request, it follows that the appeal must be dismissed.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar: The Chairman:

G. Rauh F. van der Voort

Decision electronically authenticated