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**Datasheet for the decision
of 20 April 2021**

Case Number: T 1625/16 - 3.4.02

Application Number: 09794875.6

Publication Number: 2310808

IPC: G01F1/66, G01F1/60

Language of the proceedings: EN

Title of invention:

METHOD AND SYSTEM OF COORDINATION OF MEASUREMENT SUBSYSTEMS OF
A FLOW METER

Patent Proprietor:

Daniel Measurement and Control, Inc.

Opponent:

SICK AG

Headword:

Relevant legal provisions:

EPC Art. 54(1)

EPÜ Art. 56

Keyword:

Novelty - main request (no) - auxiliary request 1 (no) -
auxiliary request 2 (yes)
Inventive step - auxiliary request 2 (yes)

Decisions cited:

Catchword:



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Case Number: T 1625/16 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 20 April 2021

Appellant: SICK AG
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
9 May 2016 concerning maintenance of the
European Patent No. 2310808 in amended form.**

Composition of the Board:

Chairman R. Bekkering
Members: H. von Gronau
B. Müller

Summary of Facts and Submissions

- I. The opponent's appeal is directed against the interlocutory decision of the opposition division maintaining European patent No. 2310808 in amended form. The opposition division was of the opinion that the patent in amended form according to the then auxiliary request 2 met the requirements of the EPC.
- II. With the statement setting out the grounds of appeal, the appellant requested that the decision of the opposition division be set aside and the patent be revoked.
- III. With its reply to the appeal the respondent (patent proprietor) requested that the appeal be dismissed. In the alternative it requested to maintain the patent in amended form based on any one of auxiliary requests 1 to 5 filed with the reply to the appeal.
- IV. Both parties requested that oral proceedings be held.
- V. In a communication pursuant to Article 15(1) RPBA 2007 the board expressed its provisional opinion, that inter alia the subject-matter of claim 1 of the main request and auxiliary request 1 was not new in view of document

P1: US 3 940 985 A,

and that the subject-matter of the independent claims of auxiliary request 2 was considered to be new and to involve an inventive step.

- VI. With a letter dated 17 April 2020 the appellant put forward arguments as to why the subject-matter of the independent claims of auxiliary request 2 was obvious.
- VII. With a letter dated 23 April 2020 the respondent filed further auxiliary requests named Main Request-A, Auxiliary Requests 1-A, 3-A, 4-A, 5-A each of which included next to the word "coupled" the term "to each other" in the last feature of claims 1 of all these requests and in claim 10 of Main Request-A. The respondent also put forward arguments in support of the main request and the auxiliary requests.
- VIII. With a letter dated 17 March 2021 the respondent, for auxiliary request 2, filed an amended description page 2 of the patent specification with handwritten amendments and put forward arguments in support of auxiliary request 2.

With a submission dated 29 March 2021 the respondent, for auxiliary request 2, filed a retyped version of amended description page 2 of the patent specification.

- IX. Oral proceedings took place on 20 April 2021. During the oral proceedings the respondent filed claims 1-13 of auxiliary request 2, at 13:35 hours, replacing the previous claims of auxiliary request 2.

The parties stated their final requests as follows:

The appellant (opponent) requested that the decision under appeal be set aside and that the European patent No. 2310808 be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed (main request) or that the decision

under appeal be set aside and the patent be maintained in amended form on the basis of the claims of the main request-A or auxiliary requests 1, 1-A, 2 of 13:35 hours, 3, 3-A, 4, 4-A, 5 or 5-A.

Auxiliary request 2 of 13:35 hours was filed during the oral proceedings of 20 April 2021. Auxiliary requests 1 and 3-5 were filed with the reply to the appeal dated 20 December 2016, the auxiliary requests to whose denomination the letter A was added were filed with a letter dated 23 April 2020.

At the end of the oral proceedings the chairperson announced the board's decision.

- X. Claim 1 as considered for maintenance by the opposition division in the interlocutory decision (main request) reads as follows:

"A flow meter comprising:

a spool piece that defines a central passage;

a first plurality of transducer pairs mechanically coupled to the spool piece;

a first control electronics electrically coupled to the first plurality of transducer pairs, the first control electronics configured to selectively activate each transducer pair of the first plurality of transducer pairs;

a second plurality of transducer pairs mechanically coupled to the spool piece;

a second control electronics different than the first control electronics, the second control electronics electrically coupled to the second plurality of transducer pairs, the second control electronics configured to selectively activate each transducer pair of the second plurality of transducer pairs;

the first and second control electronics communicatively coupled and configured to coordinate activation of their respective transducer pairs."

Claim 1 of auxiliary request 1 reads as follows:

"A flow meter comprising:
a spool piece that defines a central passage;
a first plurality of transducer pairs mechanically coupled to the spool piece;
a first control electronics electrically coupled to the first plurality of transducer pairs, the first control electronics configured to selectively activate each transducer pair of the first plurality of transducer pairs;
a second plurality of transducer pairs mechanically coupled to the spool piece;
a second control electronics different than the first control electronics, the second control electronics electrically coupled to the second plurality of transducer pairs, the second control electronics configured to selectively activate each transducer pair of the second plurality of transducer pairs;
the first and second control electronics communicatively coupled by way of a signal line and configured to coordinate activation of their respective transducer pairs based on a synchronization signal sent across the signal line."

The independent claims of auxiliary request 2 as filed during the oral proceedings at 13:35 read as follows:

"1. A flow meter comprising:
a spool piece that defines a central passage;
a first plurality of transducer pairs mechanically coupled to the spool piece;

a first control electronics electrically coupled to the first plurality of transducer pairs, the first control electronics configured to selectively activate each transducer pair of the first plurality of transducer pairs;

a second plurality of transducer pairs mechanically coupled to the spool piece;

a second control electronics different than the first control electronics, the second control electronics electrically coupled to the second plurality of transducer pairs, the second control electronics configured to selectively activate each transducer pair of the second plurality of transducer pairs;

the first and second control electronics communicatively coupled and configured to coordinate activation of their respective transducer pairs, wherein the first control electronics comprises:

a first data acquisition board configured to control activation of the first plurality of transducer pairs;

the second control electronics comprises:

a second data acquisition board configured to control activation of the second plurality of transducer pairs;

the first and second data acquisition boards communicatively coupled by way of a signal line, and the first data acquisition board configured to send, proximate in time to each activation of a transducer pair, a synchronization signal to the second data acquisition board; and

the second data acquisition board configured to activate a transducer pair based on the synchronization signal."

"5. A flow meter comprising:

a spool piece that defines a central passage;

a first plurality of transducer pairs mechanically coupled to the spool piece;

a first control electronics electrically coupled to the first plurality of transducer pairs, the first control electronics configured to selectively activate each transducer pair of the first plurality of transducer pairs;

a second plurality of transducer pairs mechanically coupled to the spool piece;

a second control electronics different than the first control electronics, the second control electronics electrically coupled to the second plurality of transducer pairs, the second control electronics configured to selectively activate each transducer pair of the second plurality of transducer pairs;

the first and second control electronics communicatively coupled and configured to coordinate activation of their respective transducer pairs, wherein the first control electronics comprises:

a first data acquisition board configured to control activation of the first plurality of transducer pairs; the first data acquisition board configured to activate each transducer pair of the first plurality of transducer pairs in respective predetermined time slots, the time slots determined based on the value of a first counter;

the second control electronics comprises:

a second data acquisition board configured to control activation of the second plurality of transducer pairs; the second data acquisition board configured to activate each transducer pair of the second plurality of transducer pairs in respective predetermined time slots, the time slots determined based on the value of a second counter;

the first data acquisition board configured to periodically send a synchronization signal to the second data acquisition board, and the second data

acquisition board configured to substantially align the second counter to the first counter based on the synchronization signal."

"7. A flow meter comprising:
a spool piece that defines a central passage;
a first plurality of transducer pairs mechanically coupled to the spool piece;
a first control electronics electrically coupled to the first plurality of transducer pairs, the first control electronics configured to selectively activate each transducer pair of the first plurality of transducer pairs;
a second plurality of transducer pairs mechanically coupled to the spool piece;
a second control electronics different than the first control electronics, the second control electronics electrically coupled to the second plurality of transducer pairs, the second control electronics configured to selectively activate each transducer pair of the second plurality of transducer pairs;
the first and second control electronics communicatively coupled and configured to coordinate activation of their respective transducer pairs, wherein the first control electronics comprises:
a first processor board comprising a first processor;
a first data acquisition board coupled to the first processor, the first data acquisition board configured to control activation of the first plurality of transducer pairs;
the first data acquisition board configured to activate each transducer pair of the first plurality of transducer pairs in respective predetermined time slots, the time slots determined based on the value of a first counter;
the second control electronics comprises:

a second processor board comprising a second processor;
a second data acquisition board coupled to the second processor configured to control activation of the second plurality of transducer pairs;
the data acquisition board configured to activate each transducer pair of the second plurality of transducer pairs in respective predetermined time slots, the time slots determined based on the value of a second counter;
the first processor is configured to periodically send a synchronization signal to the second processor, and the second data acquisition board configured to substantially align the second counter to the first counter based on the synchronization signal."

"9. A method comprising:

operating a first measurement subsystem of a flow meter, the first measurement subsystem comprising a first plurality of transducer pairs coupled to a spool piece, operation of the first measurement subsystem comprising activating the first plurality of transducer pairs to transmit and receive acoustic signals through the spool piece;
operating a second measurement subsystem of the flow meter, the second measurement subsystem comprising a second plurality of transducer pairs coupled to the spool piece, operation of the second measurement subsystem comprising activating the second plurality of transducer pairs to transmit and receive acoustic signals through the spool piece; wherein
the method further comprises coordinating between activation of the first plurality of transducer pairs of the first measurement subsystem and activation of the second plurality of transducer pairs of the second measurement subsystem,

wherein coordinating further comprises sending a signal between a first control electronics associated with the first measurement subsystem and a second control electronics, different than the first control electronics, associated with the second measurement subsystem."

"13. A method comprising:

operating a first measurement subsystem of a flow meter, the first measurement subsystem comprising a first plurality of transducer pairs coupled to a spool piece, operation of the first measurement subsystem comprising activating the first plurality of transducer pairs to transmit and receive acoustic signals through the spool piece;

operating a second measurement subsystem of the flow meter, the second measurement subsystem comprising a second plurality of transducer pairs coupled to the spool piece, operation of the second measurement subsystem comprising activating the second plurality of transducer pairs to transmit and receive acoustic signals through the spool piece; wherein

the method further comprises coordinating between activation of the first plurality of transducer pairs of the first measurement subsystem and activation of the second plurality of transducer pairs of the second measurement subsystem,

wherein operating the first measurement subsystem further comprises activating each transducer pair of the first measurement subsystem in respective time slots based on a time base maintained by the first measurement subsystem;

wherein operating the second measurement subsystem further comprises activating each transducer pair of the second measurement subsystem in respective time

slots based on a time base maintained by the second measurement subsystem;
wherein coordinating further comprises;
sending a synchronization signal from the first measurement subsystem to the second measurement subsystem; and
aligning the time base maintained by the second measurement subsystem to the time base maintained by the first measurement subsystem based on the synchronization signal."

Claim 1 of the main request-A and the auxiliary request 1-A differ from claim 1 of the main request and the auxiliary request 1 respectively in that the term "to each other" has been introduced after "the first and second control electronics communicatively coupled" in the last portion of the claims.

Reasons for the Decision

1. The appeal is admissible.
2. Main request (claims as considered by the opposition division to meet the requirements of the EPC) - claim 1 - novelty (Article 54(1) EPC)
 - 2.1 In its grounds of appeal the appellant was of the opinion that the subject-matter of independent claims 1 and 10 was not new in view of document P1 (cf. grounds of appeal, section 3). During the oral proceedings the appellant argued that in document P1 the simultaneous activation of the transducer pairs was just an example as could be seen from column 5, lines 43 to 48 of document P1. Selective activation did not constitute a

differing feature and the claim did not define a sequential activation of the transducer pairs. Simultaneous activation of the transducers was part of an embodiment of the claimed invention as was disclosed in paragraph 0057, last sentence of the patent in suit. The embodiments showed only in Figure 9 a direct line, but the other embodiments showed communicative couplings from processors or clouds.

- 2.2 The respondent was of the opinion that document P1 did not describe a communication between the two control electronics, and that the term "communicatively coupled" at least required the possibility of a communication between the coupled circuits, which was not provided for the circuits 30₁ to 30₄ of document P1 (see reply to appeal, section 2.3). Document P1 did not show lines connecting the transmit/receive circuitry 30₁, 30₂, 30₃, and 30₄ to each other and therefore these circuitries were not communicatively coupled to each other. Furthermore, in contrast to what was defined in the claim, the control circuitry in document P1 was not selectively activated. Rather, document P1 disclosed energising the transducers simultaneously (see letter dated 23 April 2020, section 2). During the oral proceedings before the board the respondent added that the claimed subject-matter provided redundancy of the system components and avoided interference between the transducer pairs. The feature that the control electronics was configured to selectively activate the transducer pairs was not disclosed in document P1 and, together with the coordinated activation, contributed to inventive step. One measurement system was the primary subsystem as defined in paragraph 0057 of the contested patent that selectively activated the second subsystem. In document P1 all subsystems were activated simultaneously and not selectively.

2.3 The board is of the opinion that the subject-matter of claim 1 is not new in view of document P1. Document P1 discloses a flow meter comprising:

a spool piece that defines a central passage (see pipe 21);

a first plurality of transducer pairs mechanically coupled to the spool piece (see e.g. T1, T1', T2, T2');

a first control electronics (see e.g. 30₁, 30₂) electrically coupled to the first plurality of transducer pairs, the first control electronics being configured to selectively activate each transducer pair of the first plurality of transducer pairs (see column 5, lines 43-54);

a second plurality of transducer pairs mechanically coupled to the spool piece (see T3, T3', T4, T4'); a second control electronics different than the first control electronics (see 30₃, 30₄), the second control electronics being electrically coupled to the second plurality of transducer pairs, the second control electronics being configured to selectively activate each transducer pair of the second plurality of transducer pairs;

the first and second control electronics being communicatively coupled and configured to coordinate activation of their respective transducer pairs.

The definition that control electronics are configured to selectively activate each transducer pair is not a differing feature with respect to the disclosure of document P1. As is apparent from paragraph 0057, last sentence of the patent in suit, this also includes simultaneous activation of the transducer pairs as

disclosed in document P1.

The wording of the last paragraph of claim 1 is broad and defines that the first and second control electronics are communicatively coupled. The claim does not define how and to which unit the control electronics are coupled. An embodiment in the description of the patent in suit discloses that the control electronics 152 can also be coupled to a flow computer 256 or a computer network 258 (see paragraph 0055). In document P1 the first control electronics (30₁, 30₂) is communicatively coupled to the master timing circuit 32 and the second control electronics is likewise coupled to this timing circuit (see column 5, lines 51-54). So both circuits are communicatively coupled to receive the timing information which allows them to coordinate activation of their respective transducer pairs.

2.4 The board therefore concludes that the subject-matter of claim 1 is not new.

3. Main request-A - admittance (Article 13(1) RPBA 2007)

3.1 According to Article 13(1) RPBA any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the board's discretion. The discretion shall be exercised in view of inter alia the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy. In the present case the respondent filed the claims of the main request-A with a letter dated 23 April 2020, i.e. after the reply to the grounds of appeal and even after the communication pursuant to Article 15(1) RPBA 2007.

- 3.2 In the oral proceedings before the board the appellant argued that these requests should not be admitted because the proposed amendment did not render the subject-matter of claim 1 new. Further, it was not clear what the amendment "to each other" meant and the application as originally filed neither provided a verbatim nor a substantive disclosure of the additional feature. It was also not clear how or to which embodiment the amended claim was limited. In view of the description and the figures, in particular figures 13 and 14, the amendment provided no limitation. Furthermore, document P1 also provided such a coupling for sending the activation signal.
- 3.3 The respondent put forward that the additional feature made clear that information was transferred from one control electronics to the other. This was disclosed in all figures, in particular Figures 9 to 14 where a direct communicative connection was disclosed. Such a direct communication was not disclosed in document P1, because the circuits were all under control of a master timing circuit as was evident from column 5, lines 53 to 54. The amendment was a direct reaction to the provisional opinion of the board and therefore not late filed.
- 3.4 The board notes that the provisional opinion set out in its communication pursuant to Article 15(1) RPBA 2007 did not comprise any objections that had not yet been raised previously by the appellant. Furthermore, the amendment in this request raises questions of added subject-matter. Moreover, the subject-matter of the claims *prima facie* does not overcome the deficiency of the claims of the higher ranking request, i.e. it is not *prima facie* new. In view of these aspects and the advanced state of the

proceedings the board exercising its discretion under Article 13(1) RPBA 2007 decided not to admit main request-A into the proceedings.

4. Auxiliary request 1 - claim 1 - novelty (Article 54(1) EPC)
- 4.1 Claim 1 differs from claim 1 of the main request in that it further specifies that the first and second control electronics are communicatively coupled "by way of a signal line" and configured to coordinate activation of their respective transducer pairs "based on a synchronisation signal sent across the signal line".
- 4.2 During the oral proceedings before the board the appellant maintained the view that the additional features did not render the subject-matter of claim 1 new. It shared the view expressed in the provisional opinion of the board.
- 4.3 The respondent argued that the expression "communicatively coupled" in claim 1 meant that the first control electronics and the second control electronics were communicatively coupled to each other. Thus, the only fair reading of "by way of a signal line" was that the signal line coupled the first control electronics and the second control electronics to each other. This was consistent with the embodiments shown in Figures 9 and 10 and paragraph 0053 of the patent specification. The definition "based on a synchronization signal sent across the signal line" modified "coordinate activation of their respective transducer pairs". The claimed coordination caused the first control electronics and second control electronics to be communicatively coupled to each

other. Thus the only fair reading of "based on a synchronization signal sent across the signal line" was that the first control electronics and second control electronics communicated the synchronization signal between each other. This was consistent with Figures 9 and 10 and paragraph [0053] of the specification (see letter dated 23 April 2020, section 3.1).

Document P1 failed to disclose that the transducer pairs were selectively activated. Document P1 actually disclosed the opposite of such selective activation. The transmit/receive circuitry 30₁, 30₂, 30₃ and 30₄ in P1 were not communicatively coupled to each other and the transmit/receive circuitry 30₁, 30₂, 30₃ and 30₄ were not communicatively coupled by a signal line. Thus, these transmit/receive circuitries could not communicate a synchronization signal across such a signal line (see letter dated 23 April 2020, section 3.2). During the oral proceedings before the board the respondent emphasised that the coordinated activation of the respective transducer pairs based on a synchronization signal sent across the signal line required direct communication. Document P1 did not disclose such direct synchronization connection between the subsystems. Therefore, the subject-matter of claim 1 was new.

4.4 The board is of the opinion that these additional features do not render the subject-matter of claim 1 novel. Document P1 discloses that the control electronics are coupled with the timing circuit 32 by way of a signal line (indicated by arrows in Figure 5). The timing signals of the timing circuit are sent across the signal line to the respective control electronics (see column 5, lines 38 to 54). Claim 1 does not require a direct signal line between the first

and second control electronics on which the synchronization signal is sent. As can be seen for example from Figures 13 and 14 of the patent in suit the signal line on which the synchronization signal is sent may be arranged between a central unit (flow computer 256 or computer network 258) and the respective control electronics 202. In document P1 the synchronization signal is also sent over a signal line between a master timing circuit 32 and the transmit/receive circuitry.

- 4.5 Therefore, the board concludes that all features of claim 1 are also known from document P1.
5. Auxiliary request 1-A - admittance (Article 13(1) RPBA 2007
- 5.1 Auxiliary request 1-A was filed with a letter dated 23 April 2020, together with the main request-A.
- 5.2 The appellant referred to the arguments put forward with respect to admittance of the main request-A.
- 5.3 The respondent essentially maintained the arguments in favour of admittance of main request-A but added that the amendment to the subject-matter of claim 1 of auxiliary request 1-A did not raise the same concerns as the amendment to the subject-matter of claim 1 of main request-A and that the amendment was less complex.
- 5.4 As for admittance of main request-A (see point 3.4 above) the board notes that the provisional opinion set out in its communication pursuant to Article 15(1) RPBA 2007 did not comprise any objections that had not yet been raised previously by the appellant. Furthermore, the amendment in claim 1 of this request

raises the same questions of added subject-matter as for the main request-A, and the subject-matter of the claims *prima facie* does not overcome the deficiency of the claims of the auxiliary request 1, i.e. it is not *prima facie* new.

In view of these aspects the board exercising its discretion under Article 13(1) RPBA 2007 decided not to admit auxiliary request 1-A into the proceedings.

6. Auxiliary request 2 - claim 1 - novelty and inventive step (Articles 54(1) and 56 EPC)

6.1 In comparison to claim 1 of the main request, claim 1 comprises the additional features of dependent claim 2 of the main request, in particular that

the first control electronics comprises:

a first data acquisition board configured to control activation of the first plurality of transducer pairs;

the second control electronics comprises:

a second data acquisition board configured to control activation of the second plurality of transducer pairs;

the first and second data acquisition boards communicatively coupled by way of a signal line, and the first data acquisition board configured to send, proximate in time to each activation of a transducer pair, a synchronization signal to the second data acquisition board; and

the second data acquisition board configured to activate a transducer pair based on the synchronization signal.

6.2 In its notice of opposition, the appellant argued with respect to dependent claim 2 that it was obvious to a person skilled in the art to provide a data acquisition board and a signal line (see notice of opposition, page 9, first paragraph). Starting from the disclosure of document P1 and with the problem to find an alternative solution while maintaining synchronisation between the control electronics the person skilled in the art had only a very limited choice of options. One could either provide a central clock which controls the control electronics, or arrange for an agreement between the control electronics, or to provide a mixture of the two options above, i.e. to provide a central clock in one of the control electronics and to control the other electronics with this clock. The first alternative was known from document P1 and the other two alternatives corresponded to the claimed solution. The person skilled in the art therefore had no choice when looking for an alternative (see letter dated 17 April 2020, section 2). During the oral proceedings before the board the appellant added that, sending proximate in time to each activation of a transducer pair, a synchronization signal to the second data acquisition board was not a differing feature. In the apparatus of document P1 one option was to activate the transducers simultaneously and the patent in suit also stated in paragraph [0057], last sentence, that the coordination might involve simultaneous firings of the transducers. In both cases the activation signal was sent proximate in time. The description of the patent in suit did not provide a definition for the term "proximate in time". This term did therefore not define a particular temporal relationship in activating the transducer pairs. Interference between the transducer pairs could

also be avoided by arranging the transducer pairs at different levels.

6.3 The respondent was of the opinion that the differing features had the specific effect of simplifying the circuitry and providing a direct synchronization from one acquisition board to the other acquisition board rather than the indirect synchronization by means of an external timer as disclosed in document P1. The claimed subject-matter constituted an improvement over the prior art and thus did not represent a mere alternative over P1. But even if one considered alternatives over P1, possible alternatives would not be limited to the three cases indicated by the appellant. Alternatives could be patentable if they were not obvious. P1 disclosed that the transmit/receive circuits for the different paths were all under control of a master timing circuit 32 and it would not be obvious to a person skilled in the art to provide a direct communicative coupling of the two data acquisition boards by way of a signal line for sending a synchronization signal from the first to the second data acquisition board (see letter dated 17 March 2021, section 2). During the oral proceedings before the board the respondent pointed to a further difference of the claimed subject-matter with respect to P1: avoiding interference between measurement subsystems and activating the transducer pairs at different times. The overall aim of the claimed invention was to avoid interference between the transducer pairs. Proximate in time was different from a simultaneous transmission in P1 which was evident from paragraphs 0052 and 0056 of the patent in suit. The three alternatives given by the appellant were wrongly limited to the area of synchronised activation of the transducer pairs.

6.4 The board is of the opinion that the feature that the first and second acquisition boards of the control electronics are communicatively coupled by way of a signal line is also known from document P1 (see Figure 5, the circuits 30 are communicatively coupled to the transducer pairs and to the timing circuit 32 as indicated by the arrows).

However, the board does not see a disclosure in document P1 that the first acquisition board 30₁ or 30₂ is configured to send a synchronization signal to the second acquisition board 30₃, 30₄. In document P1 a central master timing circuit 32 sends the synchronization signal to the first and second control electronics/acquisition boards.

The board considers document P1 to be the closest prior art document. Starting from document P1 the sending of a synchronisation signal from one acquisition board to the other does not have any particular effect. The problem that the claimed invention solves could therefore be to provide an alternative solution to the fluid flow measurement system of document P1.

The board is of the opinion that the possible alternatives to the fluid flow measurement system of document P1 are not limited to the alternatives listed by the appellant. These indicated alternatives are limited to the synchronisation of the control electronics. However, looking for an alternative solution to the fluid flow measurement system of document P1 without considering the claimed solution would not direct the person skilled in the art to implement an alternative in the synchronization of the transmit/receive circuitry in P1. Alternatives could be found in any aspect of the fluid flow measurement

system. In the opinion of the board it is not obvious to look for an alternative in the way the transducers are activated and to propose the claimed solution.

6.5 The board is therefore of the opinion that the subject-matter of claim 1 is new and involves an inventive step.

7. Auxiliary request 2 - independent claims 5, 7, 9 and 13 - novelty and inventive step (Articles 54(1) and 56 EPC)

7.1 The other independent claims of auxiliary request 2, i.e. claims 5, 7, 9 and 13, also comprise the feature of sending a synchronisation signal between the first and second control electronics. In particular claim 5 defines that the first data acquisition board is configured to periodically send a synchronisation signal to the second data acquisition board, claim 7 defines that the first processor in the first control electronics is configured to periodically send a synchronisation signal to the second processor in the second control electronics, claim 9 defines that coordinating comprises sending a signal between a first control electronics and a second control electronics, and claim 13 defines that coordinating comprises sending a synchronisation signal from the first measurement subsystem to the second measurement subsystem. Claims 5, 7 and 13 in addition differ from the disclosure of document P1 in that the first and second data acquisition boards have their respective counters (claims 5 and 7) or their respective time bases (claim 13) that are synchronized by the synchronisation signal.

7.2 The board is therefore of the opinion that the subject-matter of the other independent claims is likewise new and involves an inventive step.

8. Auxiliary request 2 - claim 10

8.1 During the oral proceedings before the board the appellant put forward that it was not clear in dependent claim 10 of the auxiliary request 2 filed at 13:35 hours whether the Boolean value was sent in addition to the signal or whether the Boolean value was the signal. Granted claims 11 and 12 (originally filed claims 15 and 16) disclosed that the Boolean value was an alternative to the signal and was not sent in addition to the signal. Accordingly, the requirements of Article 84 and 123(2) EPC were not met.

8.2 As noted during the oral proceedings the board is of the opinion that "the sending" in claim 10 refers to "sending a signal" in claim 9 and that therefore claim 10 clearly defines that sending a Boolean value is a specific form of sending a signal as defined in claim 9. Furthermore, the overall disclosure of the application indicates that the Boolean value is a special form of the synchronisation signal (see in particular paragraph 0058 where it is disclosed that the synchronization signal may be a single Boolean value).

8.3 The board therefore concludes that claim 10 of the auxiliary request 2 meets the requirements of Article 84 and 123(2) EPC.

9. The appellant did not raise any further objections with respect to the claims and the description of the auxiliary request 2.

10. In the light of the foregoing the board comes to the conclusion that the patent as amended according to the documents of auxiliary request 2 and the invention to which it relates meet the requirements of the EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent as amended in the following version:

Claims:

Nos. 1 to 13 according to the second auxiliary request filed during the oral proceedings of 20 April 2021 at 13:35 hours.

Description:

Page 2 filed with letter dated 29 March 2021, pages 3 to 10 of the patent specification.

Drawings:

Figs. 1-18 of the patent specification.

The Registrar:

The Chairman:



L. Gabor

R. Bekkering

Decision electronically authenticated