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**Datasheet for the decision
of 12 January 2021**

Case Number: T 1524/17 - 3.5.03

Application Number: 09720904.3

Publication Number: 2255259

IPC: G05B19/042, G08C19/02

Language of the proceedings: EN

Title of invention:

Variable liftoff voltage process field device

Patent Proprietor:

Rosemount Inc.

Opponent:

Endress+Hauser (Deutschland) AG+Co. KG

Headword:

Variable voltage regulator/ROSEMOUNT

Relevant legal provisions:

EPC Art. 100(c), 111(1), 116(1), 123(2)

EPC R. 80

RPBA 2020 Art. 11

Keyword:

Oral proceedings before the board: held by videoconference with the parties' consent

Added subject-matter - main request (no): no need for a description-based claim interpretation

Amendments occasioned by a ground for opposition - main request (yes)

Remittal to the opposition division for further prosecution - (yes): remaining opposition grounds not yet examined

Decisions cited:

G 0002/10, T 0190/99, T 2221/10



Beschwerdekammern

Boards of Appeal

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Case Number: T 1524/17 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 12 January 2021

Appellant: Rosemount Inc.
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Representative: Boulton Wade Tennant LLP
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Respondent: Endress+Hauser (Deutschland) AG+Co. KG
(Opponent) Colmarer Straße 6
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 28 April 2017
revoking European patent No. 2255259 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chair K. Bengi-Akyürek
Members: R. Gerdes
R. Winkelhofer

Summary of Facts and Submissions

- I. The appeal is against the decision of the opposition division revoking the present European patent for the ground of extension of subject-matter beyond the content of the application as filed (Articles 100(c) and 123(2) EPC).
- II. In the statement setting out the grounds of appeal, the patent proprietor (appellant) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the **main request** or of the **first to sixth auxiliary requests**. The claims of these requests were submitted with the statement of grounds and correspond to those on which the decision under appeal was based.
- III. In their reply, the opponent (respondent) requested that the appeal be dismissed.
- IV. Oral proceedings before the board were held on 12 January 2021 by means of videoconference with the parties' consent. The parties upheld their initial requests.
- V. Claim 1 of the **main request** reads as follows (with a numbering of features as indicated by the opposition division in their communication annexed to the summons to attend oral proceedings):
 - "a1) A field device (102; 200) comprising:
 - b1) field device circuitry (122; 216) configured to measure or control a process variable;

- c1) a first process control loop terminal (202) configured to couple to a two-wire process control loop (110; 206),
- d1) the two-wire process control loop carrying a loop current;
- e1) a second process control loop terminal (204) configured to couple to the two-wire process control loop;
- f1) a switching regulator (212) having an input and an output, the output coupled to the field device circuitry and arranged to provide power to the field device circuitry; and
- g1') a variable voltage regulator (232) having an input electrically coupled to the first process control loop terminal, a voltage output and a control input coupled to the field device circuitry; and
- h1) wherein the field device is configured such that the voltage appearing on the voltage output is a function of the control input; and
- i1') characterised in that the voltage output of the variable voltage regulator is coupled to the input of the switching regulator; and
- j1') characterised by further comprising a shunt regulator (214) configured to shunt current in excess of a quiescent current required by the field device, and wherein the shunt regulator is responsive to the field device circuitry."

Reasons for the Decision

1. *Main request - added subject-matter*

1.1 The opposition division held in the decision under appeal that feature g1' was not disclosed in the

application as originally filed. This feature specifies "a **variable voltage regulator** (232) having an input electrically coupled to the first process control loop terminal, a voltage output and a control input coupled to the field device circuitry" (emphasis added by the board). In contrast, claim 1 of the application as filed referred to "a **variable voltage source** having an input electrically coupled to the first process control loop terminal, and a voltage output coupled to the input of the switching regulator and a control input, wherein the voltage output is a function of the control input."

According to the decision under appeal, there was no support in original claims 1 and 5 that the "variable voltage source" was to be interpreted as a "variable voltage regulator". In addition, claim 5 of the application as filed specified that "the variable voltage source comprises a voltage regulator". This was to be understood such that the variable voltage regulator was a part and not a replacement of the variable voltage source.

Therefore, the amendment replacing the wording "variable voltage source" by "variable voltage regulator" contravened Article 123(2) EPC.

- 1.2 With respect to the interpretation of feature g1', the appellant argued that the expression "variable voltage regulator" was a synonym of "variable voltage source". Claim 5 as originally filed referred explicitly to the presence of a voltage regulator. However, claim 5 was largely superfluous, since it was already implied in claim 1 as filed that the voltage output of the variable voltage source was regulated.

The term "source" could be understood as

- (i) "a place ... from which something originates" or
- (ii) "a place from which a fluid or current flows".

Definition (ii) did not require creating the fluid or current. So, on the basis of definition (ii), it was reasonable to interpret the term "voltage source" such that it did not need to create a voltage. Because of these two possible interpretations of the term "voltage source" there was ambiguity in claim 1 as filed, so that the skilled person would turn to the description for further guidance on the claim interpretation. Following decisions T 190/99 (see Catchword) and T 2221/10 (see Reasons, point 33), the description had to be used to determine the correct interpretation of ambiguous terms appearing in a claim.

The description of the application as filed provided clear guidance that the invention was only concerned with field devices entirely powered by the process control loop (see page 1, line 27 to page 2, line 8 and page 4, line 27 to page 5, line 2). Hence, claims 1 and 5 had to be interpreted such that the "voltage source" consisted of a "voltage regulator". Figure 7 also supported the view that a voltage regulator was directly coupled to the process control loop and, hence, no component separate from the voltage source. The appellant also referred to page 6, line 27 to page 7, line 3 and page 13, lines 18 to 22 of the application as filed, arguing that the application as filed was not limited to "linear regulators".

- 1.3 The appellant's reasoning based on decisions T 190/99 and T 2221/10 confounds rules of claim interpretation

in opposition proceedings with the requirements of Article 123(2) EPC.

1.4 According to the jurisprudence of the Boards of Appeal, the applicable criterion to decide whether an amendment extends the content of the application as filed is what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the description, claims and drawings as filed (see e.g. G 2/10, OJ 2012, 376, Reasons, point 4.3).

1.5 Unlike in the cases underlying T 190/99 and T 2221/10, the board sees no need to determine whether or not the wording "variable voltage source" in original claim 1 is ambiguous. The question to be answered in the present case is rather whether the amended claim meets the above applicable criterion. As specified in this criterion, the assessment is to be carried out based on the whole of the description, claims and drawings as filed irrespective of whether the original claims contained ambiguous features or not.

1.6 The description of the underlying application as filed discloses a linear regulator (232) connected between the process control loop terminal (202) and the switching regulator (212). Furthermore, the linear regulator is controlled to provide a variable voltage to the switching regulator. The linear regulator also has a control input coupled to the field device circuitry (see Figure 7 and page 12, lines 13 to 22).

In addition, the application as originally filed refers to a "variable pre-regulator architecture" providing "a variable input voltage to a switching regulator" (see

page 6, line 27 to page 7, line 3). Also claims 5 and 14 of the application as filed refer to a "voltage regulator" in general. The board takes these passages as implying that the application was not limited to linear regulators.

1.7 The respondent argued that both embodiments of Figures 6 and 7 referred to linear regulators. However, the linear regulator of Figure 6 provided a constant voltage. In addition, it was known that linear regulators generally supplied a constant output voltage and not an output voltage that was dependent on a control input. Therefore, the skilled person would not have interpreted the original application documents such that the linear regulators of Figures 6 and 7 were variable voltage regulators, as specified in feature g1'.

1.8 The board is not convinced by these arguments. There is no indication in the application as filed that Figure 6 should be regarded as an embodiment of the invention specified in claim 1. Actually, there is no control input and no voltage output being a function of the control input as required by either of claim 1 as filed or present claim 1. In contrast, in Figure 7, a control input (I_{SET}) to the linear regulator 232 is disclosed. It is also shown that the linear regulator provides a variable output voltage V_{PRE} (see Figure 7 and page 12, lines 16 to 21).

The appellant's argument that linear regulators in general only provide a constant output voltage is correct. However, it is evident from the provision of the control input (I_{SET}) and the indication of the "variable V_{PRE} " output voltage in Figure 7 as well as from corresponding passages of the description (see

page 12, lines 16 to 21) that the linear regulator is used as a variable voltage regulator. As argued by the appellant, such a use can easily be achieved by adding few electrical components to that linear regulator. Hence, in contrast to the "example solution" of Figure 6, the circuitry of Figure 7 may serve as a basis for feature g1' of present claim 1.

1.9 Hence, claim 1 of the main request does not contravene Article 123(2) EPC.

2. *Main request - Amendments occasioned by a ground for opposition*

2.1 The respondent argued in their reply to the statement of grounds of appeal that the amendments to the claims of the main request contravened Rule 80 EPC, because dependent claims 2 to 4, 7 and 8 as granted had only been dependent on granted claim 1. After the incorporation of dependent claim 5 into claim 1, these claims concerned new subject-matter, which was not occasioned by a ground for opposition within the meaning of Rule 80 EPC.

2.2 Apart from some rearrangements of features (between features g1' and i1'), claim 1 has been amended by specifying that the control input of the "variable voltage regulator" is coupled to the "field device circuitry" (feature g1') and that the field device comprises a "shunt regulator" configured to regulate a shunt current in excess of a quiescent current required by the field device, and wherein the shunt regulator is responsive to the field device circuitry (feature j1').

2.3 The amendment of claim 1 is based on the features of claims 5 and 6 as granted. Furthermore, the dependent

claims 2, 3, 7 and 8 as granted have been retained and renumbered accordingly.

2.4 The board agrees with the decision under appeal that the amendments narrow down the claimed subject-matter and thus serves to overcome the opposition grounds under Article 100(a) in combination with Articles 54 and 56 EPC. For the purposes of Rule 80 EPC, it is irrelevant whether the remaining dependent claims 2 to 5 relate to different subject-matter than dependent claims 2, 3, 7 and 8 as granted from which they originate.

2.5 Hence, the board agrees with the decision under appeal that the main request complies with Rule 80 EPC.

3. *Remittal*

3.1 Regarding the main request, the decision under appeal was based on the sole reason of added subject-matter (Article 123(2) EPC). This alleged deficiency of the claims of the main request led to objections of added subject-matter and extension of protection regarding the auxiliary requests (Articles 123(2) and 123(3) EPC). The board arrives at a different conclusion and the decision under appeal must consequently be set aside. However, the opposition division has not yet carried out an examination of the further grounds of opposition invoked by the opponent. The above constitutes "special reasons" within the meaning of Article 11 RPBA 2020.

3.2 Under these circumstances, the board, in exercising its discretion under Article 111(1) EPC, remits the case to the opposition division for further prosecution on the basis of the main request on file.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated