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Datasheet for the decision of 21 January 2010

Case Number: T 0539/08 - 3.2.06

Application Number: 00100986.9

Publication Number: 1023965

IPC: B23K 9/09

Language of the proceedings: EN

Title of invention:
High current welding power supply

Patentee:
Lincoln Global, Inc.

Opponent:
Esab AB

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)
RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):
EPC Art. 113(2), 54(2)
EPC R. 55(c)

Keyword:
"Admissibility of the opposition (yes) - sufficiently substantiated"
"Novelty (no) - granted patent and auxiliary requests A, B, C, D"
"Amendments - (not allowable) - auxiliary requests C1, C2, E"
"Basis for decision - (not valid request) - auxiliary request F"
"Late-filed request (not admitted) - auxiliary request E1"

Decisions cited:
T 1029/01, T 0582/07, T 0065/00

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0539/08 **-** 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 21 January 2010

Appellant: (Patent Proprietor)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 2 January 2008 revoking European patent No. 1023965 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Alting Van Geusau
Members: G. Pricolo
K. Garnett

Summary of Facts and Submissions

I. The appeal is from the decision of the Opposition Division posted on 2 January 2008 revoking European patent No. 1 023 965.

II. The opposition division considered that the opposition was admissible and that the subject-matter of claim 27 according to the patent as granted was not novel having regard to the disclosure of document

D1 : EP-A-538 227.

The opposition division further considered that the subject-matter of claim 19 of auxiliary request A, and of claim 1 of auxiliary requests B, C, D lacked an inventive step in the light of D1, and that that the amendments made to claim 1 according to auxiliary request E were contrary to the requirements of Article 123(2) EPC. Auxiliary requests C1 and C2 filed during the oral proceedings were not admitted, pursuant to Article 114(2) EPC.

III. The appellant (patentee) filed an appeal, received at the EPO on 12 March 2008, against this decision and paid the appeal fee on the same day. With the statement setting out the grounds of appeal, received at the EPO on 13 May 2008, the appellant requested that the decision be set aside and the opposition be rejected as inadmissible (main request) or the opposition be rejected as unfounded and the patent maintained as granted (first auxiliary request) or in amended form according to the auxiliary requests A-C, C1, D, E filed with the grounds of appeal. The auxiliary requests

A,B,C,D,E were identical to those considered by the Opposition Division. As further auxiliary request F, the appellant requested to reject the opposition as inadmissible with respect to claims 4, 5, 6, 10, 15, 18, 22, 26, 32, 33, 35 and 37, and to maintain the patent with claims 4, 5, 6, 10, 15, 18, 22, 26, 32, 33, 35 and 37.

IV. In a communication accompanying the summons to oral proceedings pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal, the Board explained in detail why in its preliminary opinion the opposition was admissible. The Board further expressed the preliminary view that the subject-matter of claim 27 as granted and of claim 19 according to auxiliary request A and of claim 1 according to auxiliary requests B, C, D lacked novelty over D1.

The Board moreover expressed doubts as to whether the amendments to claim 1 according to the auxiliary requests C1 and E met the requirements of Article 123(2) EPC. As regards auxiliary request F, the Board noted there was no basis in the EPC for the concept of partial admissibility of oppositions, and therefore the request to reject the opposition as inadmissible with respect to some claims only could not be allowed. Furthermore, in accordance with Art. 113(2) EPC, the European Patent Office could examine, and decide upon, the European patent only in the text submitted to it by the proprietor of the patent. Since the proprietor (appellant) had not submitted an amended text of the European patent which was restricted to the subject-matter of claims 4, 5, 6, 10, 15, 18, 22, 26, 32, 33,

35 and 37, the request to maintain the patent with these claims was not admissible.

V. By letter dated 18 December 2009 the appellant filed two sets of claims as auxiliary requests C2 and E1, and by letter dated 20 January 2010 it confirmed that as regards the ranking of auxiliary requests these two new requests should be placed, respectively, between auxiliary requests C1 and D, and between auxiliary requests E and F.

VI. Oral proceedings, at the end of which the decision of the Board was announced, took place on 21 January 2010.

The appellant did not appear at the oral proceedings, as announced in its letter dated 18 January 2010. In accordance with Rule 115(2) EPC, the proceedings were continued without the appellant.

The respondent (opponent) requested that the appeal be dismissed.

VII. The text of the independent claims relevant to the present decision is as follows:

Claim 27 as granted:
"A method for creating a succession of positive and negative current pulses by an inverter with said positive current pulses passing through a first inductor segment and an electrode (E) in series with a workpiece (W) by closing a first transistor based switch upon receipt of a first command signal and said negative current pulses passing through a second inductor segment and said electrode (E) by closing a

second transistor based switch upon receipt of a second command signal, characterized in that the method further comprises: (a) switching between said first and second command signals to reverse the polarity of said current pulses; and, (b) turning said inverter off before said command signals are switched."

Claim 19 according to auxiliary request A:
"A method of creating welding current in a succession of current pulses with a maximum current level and a trailing off state said current pulses passing through a series circuit including an inductor (110), an output power switch and electrode (E) in welding relationship with a workpiece (W), with a power supply (10) having an inverter stage (12) with an input to be connected to a power source, at least a first output terminal (90) at a first electrical polarity when said inverter is on, and a control device (70) to generate an off signal to turn said inverter off and remove current from said at least first terminal (90) to shift said current pulse toward an off state; and, said output power switch including at least a first transistor based switch having a conduction condition passing current from said at least first terminal (90) upon creation of a first command signal and a non-conduction condition blocking current upon creation of a second command signal, characterized in that the method further comprising: (a) measuring the instantaneous value of said welding current; (b) producing a low current signal when said instantaneous current is at a selected value substantially below said maximum current level; and, (c) creating said second logic signal upon production of a low current signal after generation of an off signal whereby said transistor based switch is switched from

said conduction condition to said non-conduction condition when said welding current is generally at a said selected value."

Claim 1 of auxiliary request B:
"A welding power supply (10) for creating welding current in a succession of current pulses with a maximum current level and a trailing off state by an inverter, with said current pulses passing through a series circuit including an inductor (110), an output power switch and a electrode (E) in welding relationship with a workpiece (W), said power supply (10) having (i) said inverter with an input to be connected to a power source, and said inverter including at least a first output terminal (90) at a first electrical polarity when said inverter is on, (ii) a control device (70) to generate an off signal to turn said inverter off and remove current from said at least first terminal (90) to shift said current pulse toward an off state, and (iii) said output power switch including at least a first transistor based switch having a conduction condition passing current from said at least first terminal (90) upon creation of a first command signal and a non-conduction condition blocking current upon creation of a second command signal, characterized in that said control device (70) further includes a circuit or program for creating at least said second command signal and further includes delay means for turning said inverter off before said second command signal switches said output power switch from said conduction condition to said non-conduction condition, wherein said inverter includes a second output terminal (92) at a second electrical polarity when said inverter is on and the welding power supply

(10) further comprises a sensor for measuring the instantaneous value of said welding current, a comparator for producing a low current signal when said instantaneous current is at a selected value substantially below said maximum current level, wherein said circuit or program creates at least said second command signal upon production of a low current signal after generation of an off signal whereby said transistor based switch is switched from said conduction condition to said non-conduction condition when said welding current is at said selected value, and wherein the welding power supply (10) is further designed for creating a succession of positive and negative current pulses by said inverter with said positive current pulses passing through a first inductor segment and an electrode (E) in series with a workpiece (W) by closing said first transistor based switch upon receipt of a command signal and said negative current pulses passing through a second inductor segment and said electrode (E) by closing a second transistor based switch upon receipt of a command signal, wherein said control device (70) includes reversing means for switching between said command signals to reverse the polarity of said current pulses, and said delay means include means for turning said inverter off before said command signals are reversed, and wherein said inductor segments are a part of a single inductor."

Claim 1 according to auxiliary request C differs from claim 1 according to auxiliary request B by the addition of the following features at the end of the claim:

"and wherein said inverter stage (12) involves an output transformer with a primary winding receiving high frequency current pulses and a secondary winding providing current pulses to said terminals."

Claim 1 according to auxiliary request C1 differs from claim 1 according to auxiliary request C in that the term "a secondary winding" in the last sentence is replaced by "one secondary winding".

Claim 1 according to auxiliary C2 request differs from claim 1 according to auxiliary request C1, apart from the inclusion of reference signs in the last sentence, by the addition of the following features at the end of the claim:
"the secondary winding (36) having a first and a second end and a centre nullpoint (38) between the first end and the second end, the centre nullpoint (38) being grounded, the first and second ends connected to a rectifier (18), the rectifier (18) providing the first and second terminals (90, 92)."

Claim 1 according to auxiliary request D differs from claim 1 according to auxiliary request C by the addition of the following wording at the end of the claim:
"and wherein said succession of pulses includes pulses alternating between positive current pulses and negative current pulses, and wherein means for creating said positive and negative pulses and means for adjusting the frequency of said pulses and means for adjusting the relative time between said positive and negative current pulses are provided."

In claim 1 according to auxiliary request E this wording is replaced by the following:
"and wherein said succession of pulses includes pulses alternating between positive current pulses and negative current pulses; wherein said reversing means comprises an oscillator (170) and control circuit (150) with a logic flip-flop (160), in which the Q logic is said first signal and said logic is said second command signal, and wherein said delay means includes a logic network (210) wherein an oscillator (170) output is combined with one of said logic signals (Q, Q) to turn said inverter off preparatory to initiation of the other of said command signals, and wherein means for creating said positive and negative pulses are provided, and wherein means for adjusting the frequency of said pulses and means for adjusting the relative time between said positive and negative current pulses are provided as voltage input to the oscillator (170).";

and in claim 1 according to auxiliary request E1 this same wording is replaced by:
"and wherein said succession of pulses includes pulses alternating between positive current pulses and negative current pulses; and wherein said reversing means is a logic flip-flop (160), in which the Q logic is said first signal and said logic is said second command signal, and wherein said delay means includes a logic network (210) wherein an oscillator (170) output is combined with one of said logic signals (Q, $\underline{Q}$) to turn said inverter off preparatory to initiation of the other of said command signals."

VIII. The appellant's arguments in support of its requests may be summarised as follows:

The notice of opposition was not sufficiently substantiated. In particular, as regards the grounds of opposition under Article 100(a) EPC, the opponent recited the wording of claim 1 of the patent in suit and added reference numerals in parentheses but failed to discuss the features and their interrelationship, and failed to point to any passage in D1 from which the features were supposed to be disclosed. The standard for admissibility of an opposition could not be reduced to a simple recitation of one claim with the addition of a few reference numerals of a prior art document. Furthermore D1 was not identified in the notice of opposition and was not submitted to the EPO within the nine-month opposition period.

Contrary to the view of the Opposition Division, the subject-matter of claim 27 was novel over D1. D1 disclosed a welding current source for AC arc welding having a completely different electrical composition and connection compared to the electrical composition and connection of the patent in suit. This was best understood by comparing Fig. 1 of the patent in suit with Fig. 1 of D1. Furthermore, D1 disclosed the control of the output current to a set value I_{SW}, and stressed that the output current should not drop to zero. This was not the same as "turning the inverter off" according to the patent in suit. The independent claims according to the auxiliary requests A, B, C, C1, D and E filed with the grounds of appeal were amended by way of addition of further features distinguishing the claimed subject-matter from D1. As regards

auxiliary request F, it was restricted to claims that had not been opposed and therefore the patent as defined in these claims should remain in force.

Auxiliary requests C2 and E1 were filed in response to the objections under Article 123(2) EPC raised by the Board in its communication accompanying the summons to oral proceedings. In the independent claims of auxiliary request C2, further features of the embodiment comprising "one secondary winding" had been introduced in claim 1. Auxiliary request E2 did not rely on language from the description but used language of the granted claims only.

IX. The respondent's response can be summarized as follows:

Document D1 was identified in the notice of opposition sent by fax. Moreover, a copy of D1 was sent by mail together with the confirmation copy of the notice of opposition. The notice recited the claims and included references to the corresponding features of the cited documents, similarly to the procedure of the European Patent Office in their communications. Therefore, the ground of opposition under Article 100(a) EPC was sufficiently substantiated.

D1 disclosed all the features of claim 27 as granted, of claim 19 of auxiliary request A, and of claim 1 of auxiliary requests B, C and D.

The amendments made to claim 1 according to auxiliary request C1 and C2 introduced subject-matter extending beyond the content of the application as filed, contrary to the requirements of Article 123(2) EPC. The

feature added to claim 1, according to which one secondary winding was provided, was isolated from a set of features disclosed in combination.

Also auxiliary requests E was objectionable under Article 123(2) EPC because claim 1 included features taken in isolation from a specific context which was not recited in claim 1.

Claim 1 of auxiliary request E1 included the features of granted claims but in a specific combination which was not the subject of previous discussions.

Reasons for the Decision

1. The appeal is admissible.

2. *Admissibility of the opposition*

2.1 The appellant submitted that Annex 1, which is the publication EP-A-538 227 identified as D1 in the decision under appeal, was not identified in the notice of opposition.

The opposition was filed using form 2300 and a list "A" of publications numbered 1 to 7 was given on Form 2300.3. EP-A-538 227 being the first document (document 1) of the list (A), it is clear that the Annex 1 (A1) mentioned under "Facts and arguments" in the notice of opposition is actually EP-A-538227. Any doubts in this respect are overcome by comparing the references to this document in the notice of opposition (in particular: "I_{sw} Fig. 3a").

2.2 The analysis of features of claim 1 provided by the opponent in the notice of opposition is sufficient for the skilled reader to understand the opponent's case on lack of novelty over D1. The opponent used the reference numerals of D1 for identifying those features of D1 that correspond to the features of the claim and referred to specific, relevant passages of D1. In particular, the opponent referred to the passages in col. 3, lines 46-49 and col. 4, lines 2, 3 and col. 4, l. 6-9, in respect of the second command signal, the low current signal, and the feature of turning off the inverter.

The respondent submitted that the complexity of the claimed subject-matter required a detailed argumentation. For a skilled person it is however immediately evident, in particular from the circuit diagram of Fig. 1 of D1, how the various features are interrelated. The circuit diagram comprises a number of standard electronic components, such as inductors, transistors and diodes, and of blocks, all identified by reference numerals, that are wired together. By associating the reference numerals of D1 to the features of claim 1 and by referring to specific passages of D1 in respect of critical functions of the known device, the opponent made it sufficiently clear why the features of claim 1 are allegedly known in combination from D1.

2.3 Therefore, the notice of opposition is sufficiently substantiated in the sense of Rule 55(c) EPC 1973 in respect of one ground of opposition (lack of novelty) at least. Since this is a condition sufficient for the

admissibility of the opposition (see in this respect T 1029/01, point 2 of the reasons), the appellant's objections concerning the admissibility of the opposition fail.

3. *First auxiliary request - maintenance of the patent as granted*

3.1 Applying the wording of claim 27 of the patent in suit to the disclosure of D1, this document discloses (see Fig. 1) a method for creating a succession of positive and negative current pulses by an inverter (see col. 1, lines 1 to 3 and Fig. 3a showing the characteristics of the welding current) with said positive current pulses passing through a first inductor segment (18) and an electrode (14) in series with a workpiece (15) by closing a first transistor based switch (12) upon receipt of a first command signal (from control unit 4, see col. 3, lines 8 to 14) and said negative current pulses passing through a second inductor segment (19) and said electrode (14) by closing a second transistor based switch (13) upon receipt of a second command signal (see col. 3, lines 12 to 14), the method further comprising: (a) switching between said first and second command signals to reverse the polarity of said current pulses (see col. 3, lines 46 to 49).

3.2 The appellant submitted that D1 disclosed a welding current source having a completely different electrical composition and connection as compared to the electrical composition and connection according to the patent in suit, as best understood by comparison of Fig. 1 of the patent in suit and Fig. 1 of D1. However, claim 27 is not limited to the embodiment depicted in

Fig. 1 of the patent in suit. Nor can the features of the embodiment according to Fig. 1 be used to restrict the terms of the claim beyond their normal meaning.

3.3 The appellant further submitted that D1 did not disclose turning the inverter off, this being different from "controlling the output current of the inverter to zero" as disclosed by D1 (col. 4, l. 2,3). However, this disclosure of D1 means that, in the device of D1, the control unit 4 suitably controls the coupling elements 3 in the inverter such that the output current is zero (see col. 2, lines 25-27 and col. 3, lines 14-21 and col. 3, l. 57 to col. 4, l. 1). This has as a result that the inverter is, in effect, turned off.

In this respect it is noted, firstly, that claim 27 does not specify the manner in which the inverter is turned off. Secondly, it is noted that, according to the description of the patent in suit, "turning off" means that the pulse width modulator (which controls the transistor switching network forming the inverter) is deactivated (see col. 8, l. 51-52 of the patent in suit). This has as a result that the inverter no longer supplies current (see col. 8, l. 53 of the patent in suit), i.e. that the inverter current is controlled to zero as in D1. It is true, as pointed out by the appellant, that D1 discloses that the current intensity must never drop below the minimum value which is required for reliable re-striking of the arc. However, this passage refers to the welding current. The current that is controlled to zero is the output current of the inverter. When the inverter current is controlled to zero, the welding current drops as shown in Fig. 3a, and a change of polarity takes place when the sensed

welding current I_{S1} has reached the value I_{SW} (see col. 4, l. 6 to 9). On changing polarity, zero-crossing occurs in a very short time and the re-striking of the arc occurs virtually with the same current I_{SW} (see col. 4, l. 15 to 17). Clearly, on changing polarity the inverter current is no longer controlled to zero (or to the set value I_{SW}), otherwise the next current pulse could not be generated. Accordingly, where the inverter current is controlled to zero, the welding current is not allowed to drop below the minimum value required for reliable re-striking of the arc.

As a consequence, in D1 the inverter is also "turned off" in the sense of the patent in suit.

3.4 Therefore, D1 discloses all the features of claim 27 as granted. As a consequence, its subject-matter is not new within the meaning of Article 54(1) and (2) EPC.

4. *Auxiliary request A*

4.1 Using the wording of claim 19 of auxiliary request A, D1 (see Fig. 1) discloses a method of creating welding current in a succession of current pulses with a maximum current level (I_{S1}) and a trailing off state (see Fig. 3a) said current pulses passing through a series circuit including an inductor (18-20), an output power switch (12) and electrode (14) in welding relationship with a workpiece (15), with a power supply having an inverter stage (2) with an input to be connected to a power source (1), at least a first output terminal (6a) at a first electrical polarity when said inverter is on; and, said output power switch including at least a first transistor based switch (12)

having a conduction condition passing current from said at least first terminal (6a) upon creation of a first command signal and a non-conduction condition blocking current upon creation of a second command signal (see col. 3, lines 8 to 10, 28, 29, 46, 49), the method comprising: measuring the instantaneous value of said welding current (by means of shunt 21, see col. 3, lines 14 to 16); producing a low current signal when said instantaneous current is at a selected value (I_{SW}) below said maximum current level (see col. 4, lines 6 to 9: "*the welding current is sensed by the measuring shunt 21 and the control unit outputs a signal for changing polarity to the two transistors when the current intensity is* I_{SW}". This means that a low current signal is produced as a result of the comparison between the welding current and the set value $I_{SW,}$ whereby I_{SW} is considerably lower than the welding current, see col. 3, lines 49, 50); and, creating said second logic signal upon production of a low current signal (see col. 3, lines 8,9: as a result of the comparison between the welding current and the set value I_{SW}, the control unit outputs a signal for changing polarity, which signal is the second logic signal) whereby said transistor based switch is switched from said conduction condition to said non-conduction condition when said welding current is generally at a said selected value (see col. 4, lines 9 to 15).

4.2 The appellant, and the opposition division as well, argued that D1 does not disclose "a control device to generate an off signal to turn said inverter off". However, as explained above (see point 3.3) according to D1 the output current of the inverter is controlled

by the control unit 4 which acts on the coupling elements 3. There is therefore a control device (in control unit 4) to generate an off signal to turn the inverter off (i.e. to control to zero its output current). Furthermore, also in the method of D1 the second logic signal is created after generation of said off signal, since the welding current is reduced to zero immediately before the change in polarity (see col. 3, lines 53 to 54).

4.3 Therefore, D1 discloses all the features of claim 19 according to auxiliary request A. As a consequence, its subject-matter is not new within the meaning of Article 54(1) and (2) EPC.

5. *Auxiliary request B*

5.1 Using the wording of claim 1 of auxiliary request B, and referring to the above explanations as regards the functioning of the circuit shown in Fig. 1 of D1, this document discloses a welding power supply for creating welding current in a succession of current pulses with a maximum current level (I_{S1}) and a trailing off state (see Fig. 3a) by an inverter (2), with said current pulses passing through a series circuit including an inductor (18-20), an output power switch (12,13) and electrode (14) in welding relationship with a workpiece (15), said power supply having said inverter with an input to be connected to a power source (1), and said inverter including at least a first output terminal (6a) at a first electrical polarity when said inverter is on, a control device (4) to generate an off signal to turn said inverter off and remove current from said at least first terminal (6a) to shift said current pulse toward

an off state; and said output power switch including at least a first transistor based switch (12) having a conduction condition passing current from said at least first terminal upon creation of a first command signal and a non-conduction condition blocking current upon creation of a second command signal (see col. 3, l. 8-14), said control device further including a circuit (4) for creating at least said second command signal and further including delay means (4) for turning said inverter off before said second command signal switches said output power switch from said conduction condition to said non-conduction condition (see col. 4, l. 1-20), wherein said inverter includes a second output terminal (7b) at a second electrical polarity when said inverter is on and the welding power supply further comprises a sensor (21) for measuring the instantaneous value of said welding current, a comparator for producing a low current signal when said instantaneous current is at a selected value substantially below said maximum current level (see col. 4, l. 7-9: if the control unit outputs a signal for changing polarity when the current intensity is I_{SW} then a comparison has been performed), said circuit or program creating at least said second command signal upon production of a low current signal after generation of an off signal (see col. 4, l. 7-9) whereby said transistor based switch is switched from said conduction condition to said non-conduction condition when said welding current is generally at said selected value (I_{SW}), and wherein the welding power supply is further designed for creating a succession of positive and negative current pulses by said inverter with said positive current pulses passing through a first inductor segment (18) and an electrode in series with a workpiece by closing said first transistor based

switch (12) upon receipt of a command signal (via line 33) and said negative current pulses passing through a second inductor segment (19) and said electrode by closing a second transistor based switch (13) upon receipt of a command signal (via line 32), wherein said control device (4) includes reversing means for switching between said command signals to reverse the polarity of said current pulses (see col. 3, l. 7-14), and said delay means include means for turning said inverter off before said command signals are reversed (see col. 4, l. 2,3).

5.2 The appellant argued that the two windings 18 and 19 of D1, corresponding to the inductor segments of claim 1, did not form a single inductor. However, these windings 18, 19 are on a common iron core 20 (see col. 2, l. 47-50). As submitted by the Board in its communication and stressed by the respondent during the oral proceedings, an electrical component consisting of two coils mounted on a common core can be regarded, in practice, as an inductor. Therefore, D1 also discloses the feature of claim 1 that said inductor segments are a part of a single inductor.

5.3 Accordingly, D1 discloses all the features of claim 1 according to auxiliary request B. As a consequence, its subject-matter is not new within the meaning of Article 54(1) and (2) EPC.

6. *Auxiliary request C*

6.1 Claim 1 according to auxiliary request C includes all the features of claim 1 according to auxiliary request B (which subject-matter is anticipated by D1) and

additionally the features that "said inverter stage involves an output transformer with a primary winding receiving high frequency current pulses and a secondary winding providing current pulses to said terminals."

6.2 D1 discloses that the inverter stage (2) involves an output transformer (5) with a primary winding receiving high frequency current pulses and a secondary winding (6,7) providing current pulses to said terminals (see col. 2, lines 27 to 29). As pointed out by the appellant, the secondary winding consists of two windings (6, 7); however, the two secondary windings are part of a same transformer having one primary winding and thus constitute the secondary winding thereof.

6.3 Therefore, also the above-mentioned additional features are known from D1. As a consequence, the subject-matter of claim 1 according to auxiliary request C is not new within the meaning of Article 54(1) and (2) EPC.

7. *Auxiliary request C1*

7.1 The independent claim 1 of auxiliary request C1 is limited over the independent claim 1 of the auxiliary request C by specifying that there is "one" secondary winding. The feature that one secondary winding is provided is taken from an embodiment presented in the description and drawings of the application as filed (see Figs 1, 1A and col. 8, lines 5 to 7 of the A2 publication), where it is disclosed in combination with other features which are not recited in claim 1. Where newly claimed subject-matter is based on the extraction of features in isolation from a set of features

originally disclosed in combination (e.g. in a specific embodiment in the description), the requirements of Article 123(2) EPC are met, following accepted jurisprudence (see e.g. T 582/07; see also the Case Law of the Boards of Appeal of the EPO, 5th edition, 2006, III.A.1.1, page 240), if there is no clearly recognizable functional or structural relationship between the features, i.e. when they are not inextricably linked.

In the present case, as submitted by the respondent during the oral proceedings, it is clear that the features relating to a centre null point (38) and to a specific diode arrangement (D1 to D4) shown in Fig. 1 are inextricably linked with the provision of "one" secondary winding in that these features allow the single winding to provide pulses to both the first and second terminals (90, 92).

7.2 Therefore, the amendment made to claim 1 in accordance with auxiliary request C1 constitutes an unallowable isolation of a feature from a disclosed combination which contravenes Article 123(2) EPC.

8. *Auxiliary request D*

8.1 Claim 1 according to auxiliary request D differs from claim 1 according to auxiliary request C (which subject-matter is anticipated by D1) in that it additionally includes the features of granted claims 13 to 15, according to which "said succession of pulses includes pulses alternating between positive current pulses and negative current pulses, and wherein means for creating said positive and negative pulses and

means for adjusting the frequency of said pulses and means for adjusting the relative time between said positive and negative current pulses are provided."

8.2 These additional features are known from D1, which discloses pulses alternating between positive current pulses and negative current pulses (see Fig. 3a), means for creating said positive and negative pulses (in particular the inverter and the switching transistors), means (31) for adjusting the frequency of said pulses (see col. 3, l. 10-12) and means (35) for adjusting the relative time between said positive and negative current pulses (see col. 3, l. 21-24).

8.3 Since also these additional features are known from D1, the subject-matter of claim 1 according to auxiliary request D is not new within the meaning of Article 54(1) and (2) EPC.

9. *Auxiliary request E*

9.1 Independent claim 1 is amended over independent claim 1 of auxiliary request D by including, inter alia, the feature "that the reversing means comprises an oscillator and control circuit with a logic flip-flop".

9.2 As pointed out by the respondent during the oral proceedings, and as stated by the Opposition Division in the decision under appeal (point 9 of the reasons), there is no basis in the application as filed for the inclusion of this feature. As a matter of fact, the application as filed discloses that the reversing means is a logic flip-flop (see claim 7), not that the reversing means is only part thereof as recited by the

added feature according to which the reversing means comprises an oscillator and control circuit with a logic flip-flop.

9.3 Therefore, the amendment made to claim 1 according to auxiliary request E introduces subject-matter extending beyond the content of the application as filed, contrary to Article 123(2) EPC.

10. *Auxiliary request F*

Auxiliary request F is a request to reject the opposition as inadmissible with respect to claims 4, 5, 6, 10, 15, 18, 22, 26, 32, 33, 35 and 37 and to maintain the patent with these claims. However, as already mentioned in the communication of the Board accompanying the summons to oral proceedings, there is no basis in the EPC for the concept of partial admissibility of oppositions (see e.g. T 65/00), and therefore the request to reject the opposition as inadmissible with respect to some claims only cannot be allowed. Moreover, in accordance with Art. 113(2) EPC, the European Patent Office shall examine, and decide upon, the European patent only in the text submitted to it by the proprietor of the patent. Since the proprietor (appellant) has not submitted an amended text of the European patent which is restricted to the subject-matter of these claims, the request to maintain the patent with claims 4, 5, 6, 10, 15, 18, 22, 26, 32, 33, 35 and 37 cannot be considered by the Board pursuant to Article 113(2) EPC.

11. *Auxiliary request C2 and E1*

11.1 The auxiliary requests C2 and E1 were filed by the appellant about one month before the date of oral proceedings. They represent an amendment to the appellant's case as set out in the grounds of appeal and may be admitted and considered at the Board's discretion pursuant to Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA). This Article makes clear that in exercising that discretion, the Board must consider a range of factors including *inter alia* the complexity of the new subject matter submitted, the current state of the proceedings and the need for procedural economy.

11.2 As submitted by the appellant in its letter dated 18 December 2009, the auxiliary request C2 and E1 were filed in response to the negative preliminary opinion expressed by the Board under Article 123(2) EPC in its communication accompanying the summons to oral proceedings in respect of auxiliary request C1 and E. Auxiliary request E was, however, already rejected by the Opposition Division for lack of compliance with Article 123(2) EPC.

11.3 Claim 1 according to auxiliary request C2 defines, in addition to the features of claim 1 according to auxiliary C1, the following features:
"the secondary winding (36) having a first and a second end and a centre nullpoint (38) between the first end and the second end, the centre nullpoint (38) being grounded, the first and second ends connected to a rectifier (18), the rectifier (18) providing the first and second terminals (90, 92)."

These features, as the additional features of claim 1 according to auxiliary request C1, are taken from the embodiment disclosed in the description and drawings of the application as filed. Since claim 1 does not mention the presence of a specific diode arrangement (D1 to D4), which as explained above is inextricably linked with the presence of a single winding, also the amendment made to claim 1 in accordance with auxiliary request C2 constitutes an unallowable isolation of features from a disclosed combination. Therefore, even if it were admitted into the proceedings, auxiliary request C2 does not meet the requirements of Article 123(2) EPC. It is accordingly not necessary to actually decide whether to admit this auxiliary request.

11.4 Further as submitted by the appellant in its letter dated 18 December 2009, claim 1 of auxiliary request E1 "does not rely on language from the description but uses language of the granted claims only", since it combines the wording of claims 1, 2, 4, 5, 6, 11, 13. However, since it does not include the features relating to the presence of means for adjusting the frequency of the pulses and of means for adjusting the relative time between the positive and negative current pulses, claim 1 does not constitute a further limitation over claim 1 of auxiliary request E (or even over claim 1 of auxiliary request D) which comprises these features. In fact, although claim 1 combines the wording of granted claim 1, it presents a specific combination which does not directly follow from the previous limitations introduced by the appellant.

11.5 From the above it follows that the auxiliary request E1 would initiate a diverging debate. Under these

circumstances, and in the absence of the appellant, at the oral proceedings the Board exercised its discretion under Article 13(1) RPBA not to admit the auxiliary requests E1 into the proceedings for reasons of procedural economy.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau