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**Datasheet for the decision
of 25 September 2006**

Case Number: T 0407/06 - 3.2.06

Application Number: 00202689.6

Publication Number: 1072700

IPC: D01H 1/22

Language of the proceedings: EN

Title of invention:

Device and process for controlling the motor drives of textile machines

Applicant:

MARZOLI S.p.A.

Opponent:

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Headword:

-

Relevant legal provisions:

EPC Art. 84

Keyword:

"Clarity (no) "

Decisions cited:

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Catchword:

-



Case Number: T 0407/06 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 25 September 2006

Appellant: MARZOLI S.p.A.
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Representative: Lotti, Giorgio
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 11 November 2005
refusing European application No. 00202689.6
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: G. Kadner
Members: G. Pricolo
K. Garnett

Summary of Facts and Submissions

- I. The appeal stems from the decision of the examining division posted on 11 November 2005 to refuse the European patent application No. 00 202 689 on the grounds that the application did not meet the requirements of Articles 83 and 84 EPC.

The appeal was lodged on 23 December 2005 and the prescribed appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 9 March 2006.

- II. In a communication accompanying the summons to oral proceedings pursuant to Article 11(1) of the Rules of Procedure of the Boards of Appeal, the Board expressed the provisional opinion that the decision of the examining division should be confirmed.
- III. During oral proceedings, which were held before the Board on 25 September 2006, the appellant submitted an amended set of claims and requested that the decision under appeal be set aside and that a patent be granted on the basis of these claims.

Claim 1 reads as follows:

"1. A process for controlling a plurality of motors or motor drives constituted by brushless or asynchronous alternate current type motors (121) of textile machines, characterised in that it contains the following phases:
- regulating the number of revolutions relating to a given brushless or asynchronous alternate current motor (121), by means of an encoder (101) which, after

measuring the true number of the revolutions of said brushless or asynchronous alternate current motor (121), communicates said true number of revolutions to an electronic actuating device (112) connected to said brushless or asynchronous alternate current motor and to its respective actuator (C1, C23, CF, CC); said electronic actuating device (112) performing a differential operation between said true number of revolutions measured by said encoder (101) and a nominal number of revolutions transmitted by a central electronic unit (111) and depending on the technological operating parameters of said textile machine; said electronic actuating device (112) setting said true number of revolutions of the said brushless or asynchronous alternate current motor (121), equal to the sum between said nominal number of revolutions, memorized inside an application program of said central electronic unit (111), and a value resulting from said differential operation; correcting by means of said electronic actuating device (112), by adding or subtracting a number of revolutions to said true number of revolutions of said brushless or asynchronous alternate current motor (121), so as to cancel out said value resulting from said differential operation, in order that the limit of said value resulting from said differential operation, for a time t tending to be zero, cancels itself out; if said limit turns out to be greater or smaller than zero, said true number of revolutions of said brushless or asynchronous alternate current motor (121) is respectively decreased or increased on the part of said electronic actuating device (112); if said limit turns out to be equal to zero, said inverter (112) does not

take any action to correct said true number of revolutions."

- IV. In response to the specific objection under Article 84 EPC raised by the Board during the oral proceedings, namely that it was not clear what was meant by the wording of claim 1: "*said electronic actuating device setting said true number of revolutions of the said brushless or asynchronous alternate current motor, equal to the sum between said nominal number of revolutions, memorized inside an application program of said central electronic unit, and a value resulting from said differential operation*", the appellant essentially submitted that the term "setting" implied that the actual value of the true number of revolutions was stored in memory by the electronic actuating device. In fact, the electronic actuating device needed to retrieve this value when carrying out the subsequent step of correcting the true number of revolutions, otherwise it could not establish the number of revolutions to be added or subtracted and verify whether the correction was performed successfully. In this context, the term "setting" had the same meaning as the term "initializing" used in claim 2 according to the application as filed.

Reasons for the decision

1. The appeal is admissible.

2. Claim 1, which is essentially based on claim 2 of the application as filed, is directed to a process for controlling the motors or motor drives constituted by brushless or asynchronous alternate current type motors of textile machines. It contains the following phases (the terms N, N1 and ΔN are added for intelligibility):
 - a) regulating the number of revolutions relating to a given motor by means of an encoder, which, after measuring the true number N1 of the revolutions of said motor, communicates said true number of revolutions to an electronic actuating device connected to said motor and to its respective actuator;
 - b) said electronic actuating device performing a differential operation ΔN between said true number N1 of revolutions measured by said encoder and a nominal number N of revolutions transmitted by a central electronic unit, hence $\Delta N = N1 - N$;
 - c) said electronic actuating device setting said true number N1 of revolutions of said motor equal to the sum between said nominal number N of revolutions, memorized inside an application program of a central electronic unit, and the value resulting from said differential operation ΔN ;
 - d) correcting by means of said electronic actuating device by adding or subtracting a number of revolutions to said true number N1 of revolutions of said motor, so as to cancel out said value resulting from said differential operation.

In summary, according to the claimed process, the true number of revolutions N_1 is firstly measured by the encoder (phase a), then communicated to (phase a), set by (phase c), and finally corrected by (phase d) the electronic actuating device, until the true number of revolutions of the motor becomes equal to the nominal number of revolutions N , i.e. until ΔN becomes 0.

3. During the oral proceedings the question arose of what action is carried out in phase c), i.e. what action is performed by the electronic actuating device when it sets the true number of revolutions.

3.1 The term "setting" which is found in the claim is taken from the description (see page 10, lines 7-15) and replaced the term "initialization", which was present only in claim 2 of the patent application as originally filed. Since the relevant passage of the description does not provide any explanation of the term "setting", but in essence merely repeats the wording of the claim, the term can only be given its ordinary meaning in the present context of an electronic control for electric motors.

3.2 The Board accepts that the term "setting" can be understood as indicating that a value is "stored" in a memory, in accordance with the applicant's submissions. However, the term "setting" can also assume other meanings in the present context. For instance it could indicate that a value is "adjusted". Different actions may thus be carried out in phase c) depending on which of these meanings is given to the term "setting".

If the term "setting" is understood as intended by the appellant, then the claim means that in phase c) the electronic actuating device stores in memory the true number of revolutions. However, this step does not make sense in the context of the process according to claim 1, since the only phase in which the value of the true number of revolutions is needed is phase b), which precedes phase c), and in which the electronic actuating device performs the differential operation between the true number of revolutions and the nominal number of revolutions. In phase d), which is subsequent to phase c), the electronic actuating device corrects *"by adding or subtracting a number of revolutions to said true number of revolutions"* so as to *"cancel out the value resulting from the differential operation"*. This claimed correction phase can only be understood as the essential phase of the regulating process in which a command is generated to increase or decrease the true (i.e. the actual or current) number of revolutions of the motor (i.e. its speed), in order to cancel out the value resulting from the differential operation and thus arrive at the nominal number of revolutions. This phase cannot be understood in the sense that a mere mathematical operation is carried out, consisting in adding or subtracting an unspecified number of revolutions to the stored true number of revolutions, because in such case there would be no regulating process of the number of revolutions of the motor at all. Accordingly, there is no necessity in step d) to retrieve the stored value of the true number of revolutions. Furthermore, it is also not necessary to verify whether the correction is performed successfully, since the regulating process, which is based on the comparison between the measured true number of

revolutions of the motor and the nominal value, is automatically carried out until the true number of revolutions equals the nominal value. Nor is there any disclosure or indication in the patent application taken as a whole, that would suggest that a step of storing the value of the true number of revolutions after performing the differential operation (phase b) might serve any meaningful technical purpose.

On the other hand, if the term "setting" is understood as "adjusting", then in phase c) the electronic actuating device adjusts the true number of revolutions. However, this interpretation also does not make sense, since the adjustment of the number of revolutions is performed in the subsequent phase d).

3.3 Therefore, the wording of claim 1 leaves open at least two possible of interpretations of the step in which the electronic actuating device sets "*the true number of revolutions of the brushless or asynchronous alternate current motor, equal to the sum between said nominal number of revolutions, memorized inside an application program of said central electronic unit, and a value resulting from said differential operation*". Since neither of the two possibilities makes sense in the context of claim 1, even having regard to the whole content of the application as filed, the skilled reader cannot discern, on an objective basis, which, if any, of these possibilities should apply.

3.4 The result is that the matter for which protection is sought is defined in an ambiguous matter, and hence in a lack of clarity of claim 1. It follows that claim 1 does not meet the requirements of Article 84 EPC.

3.5 For the sake of completeness, the Board notes that this ambiguity could not be resolved by reintroducing in claim 1 the term "initialization" which was in claim 2 of the application as filed. An "initialization" of the true number of revolutions would imply that the true number of revolutions is set to a starting value. However, here also an ambiguity is present, in that there is no objective basis in the application as filed to assess whether "setting to a starting value" means that the true number of revolutions is stored in memory as a starting value or, rather, that the true number of revolutions of the motor is adjusted to a starting value.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

M. Patin

G. Kadner