

Controls
EcoController GEL 8130

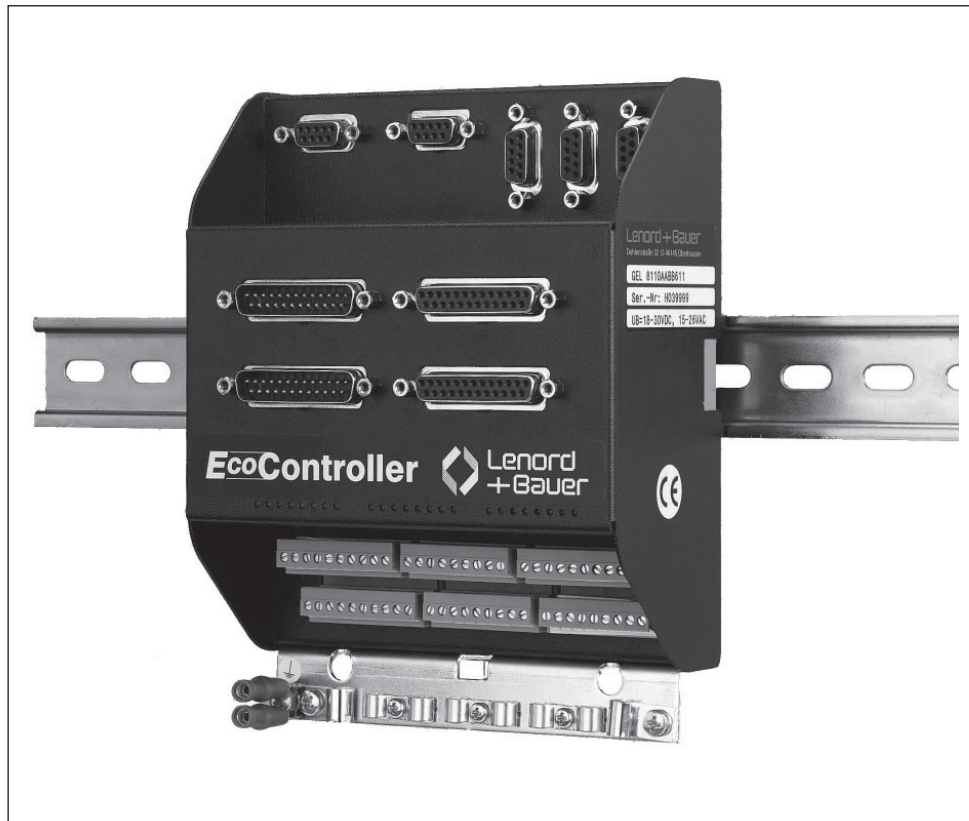
Flying Saw

MOTIONLINE

LENORD+BAUER

Technical information

Version 09.04



General information

Function description

The EcoController GEL 8130 is based on the positioning Controller GEL 8110, i.e. it has the same characteristics and functions. Consequently, the information supplied in the data sheet of the EcoController GEL 8110 applies to the GEL 8130 too.

The principle of a "flying saw" is that one drive (saw) is synchronized with a second drive (material). As soon as both move parallelly with the same speed, a sawing operation or any other operation can be performed at the apparently static material. Once the sawing operation is terminated (signal "sawing operation completed") the saw carriage is returned to the start position where it awaits the new internally generated start for the synchronous run. The Controller calculates and optimizes the start moment using the desired material length and the speed of the drives; the minimization of wear of the drive during the sawing operation and when approaching the start position can be set.

If - in case of an internal start - the saw carriage is still not in start position because of a high material speed or a very short nominal length, this fact is ignored and the output "cut loss" is selected.

To control a flying saw a unit is formed of 2 axes, the first being assigned to the saw drive and the second to a material drive.

After having been configured accordingly the material axis can be controlled and adjusted by the Controller. This,

however, may as well be performed by a separate control. In this case only the encoder pulses must be supplied and some parameters in the Controller need to be adjusted for this axis.

Only an incremental encoder can be used for the material axis.

To obtain the desired length two operating modes can be used:

- the nominal length processing
- the mark detection

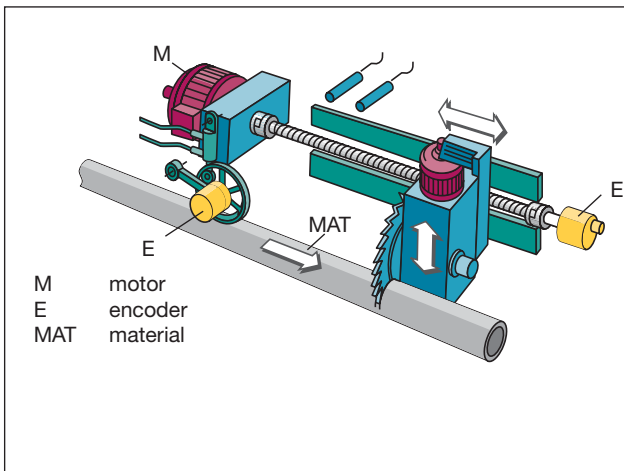
For the nominal length processing the length to be cut is preset in a nominal-value sentence. Even if different lengths are to be cut they can be preset in several sentences and processed one after the other. If required, piece numbers can be preset.

In the case of mark detection the desired length to be cut is detected by a sensor and the respective marks applied to the material.

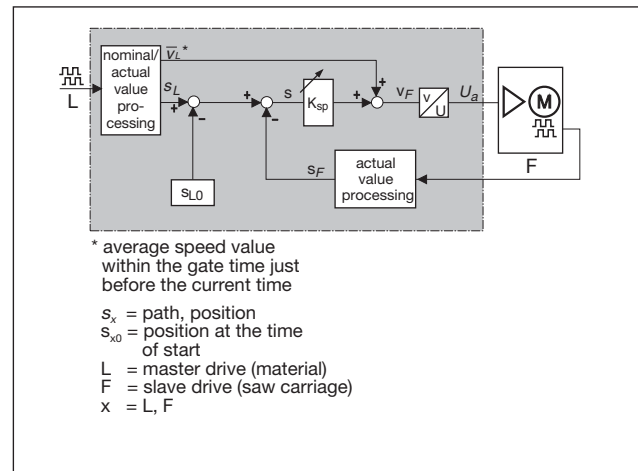
Thus a synchronized cutting of the material can be ensured. The cut position may also be displaced into one or the other direction thanks to a programmable offset.

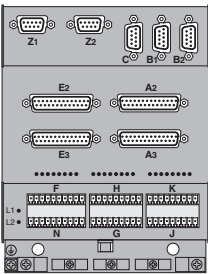
Control principle

For the synchronization the drive is cyclically supplied with a newly calculated nominal value for the position. For approaching the start position the same control principle as in the GEL 8110 is applied.



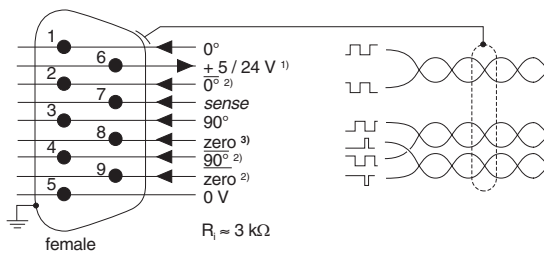
▲ The basic construction of a flying saw





Connectors Z1, Z2

(count input for incremental encoders)



¹⁾ adjustable by a DIP switch (same voltage level as N4, max. 26 V)

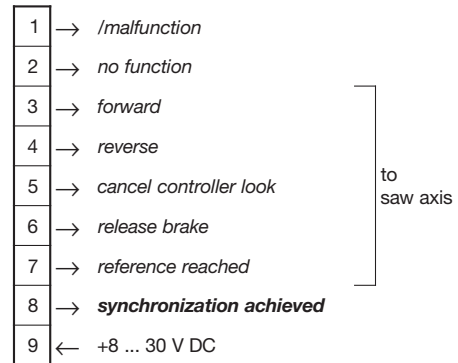
²⁾ do not connect if not used

³⁾ **reference fine (Z1)**
mark detection (Z2)

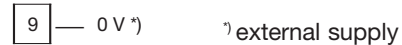
E281347Z

Terminal strip K, slave drive

(control outputs)



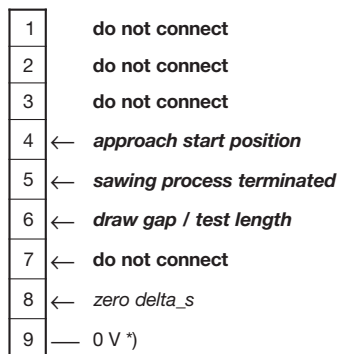
J



E281325K

Terminal strip G, axis 2

(control inputs)

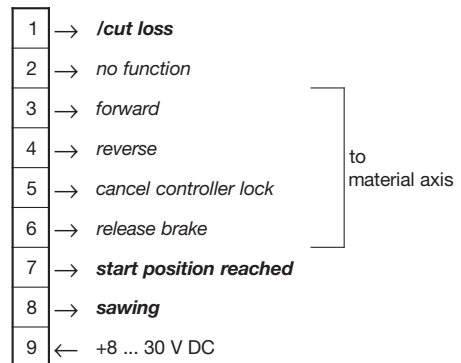


^{*)} external supply

E281325 G

Terminal strip H, master drive

(control outputs)



G



E281325H

Note:

The pin layout is different from the one of the standard version GEL 8110. The divergences are **printed in bold**. For all other pin layouts please refer to the GEL 8110 data sheet.

We have agencies in:

Austria
Belgium
Canada
Denmark
Finland
France
Germany
Great Britain
Israel
Italy
Korea
Malaysia
Norway
Portugal
Sweden
Switzerland
Spain
the Czech Republic
the Netherlands
the USA
Turkey



... automates motion.

Lenord, Bauer & Co. GmbH
Dohlenstrasse 32
46145 Oberhausen, Germany
Phone: +49 208 9963-0
Fax: +49 208 676292
info@lenord.de
www.lenord.de

Subject to technical modifications and typographical errors.
For the latest version please visit our web site : www.lenord.de.