NAVIA INTERNATIONAL GmbH
Löbauer Strasse 25B
02894 Reichenbach, Germany
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www.navia-international.com

Original operating instructions

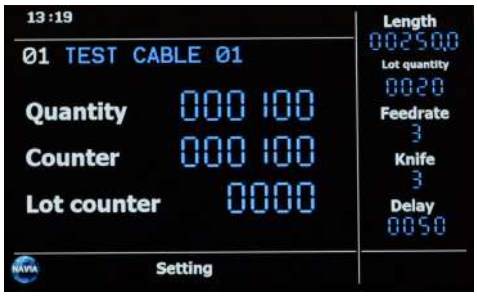
GlobalCut 100 digital

The universal cutting machine Made in Germany

Simple programming via rotary control
High cutting force without compressed air
Software update via interface

Variable outlet for adaptation to different materials

Ball-bearing guide rails for precise material guidance, quick adjustment and an exact cut



Large display with clear presentation of all important information

IMPORTANT !

Please read this manual carefully so that you can understand the cutting machine GlobalCut100 digital can be operated correctly from the very first moment and thus can work safely!
In addition to the aforementioned safety versions, the statutory safety regulations of the respective country and the company in which the machine is used must be strictly observed.

The measuring tape installed on the machine is only for length checking.

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1. INTENDED USE

The cutting machine is intended to cut cables, hoses, ribbon cables and strands to a pre-set length. The machine can handle material with a thickness of max. 12 mm diameter and max. Cut to 100 mm width. Copper strands can be machined up to a line cross section of 35 sqmm depending on the cable type.
The material is placed in the machine by the operator and clamped. The machine then cuts the material automatically, depending on the set parameters.
All instructions from the operating instructions must be observed and the maintenance plan adhered to.
The use of the machine is permitted in the commercial sector.
Operation of the machine in an explosive environment is prohibited.
In no case may steel wires or similar solid materials be cut, a destruction of the knife would result.
Unauthorized modifications to the machines are prohibited for safety reasons.

Before the first commissioning and at appropriate intervals, the protective equipment must be tested by a qualified person for function. This concerns the emergency stop device and the safety cover.

The cutting machine GlobalCut 100 digital is to be used only for its intended use. The machine must be in a safe condition.

All persons involved in the commissioning, operation and maintenance of the machine must be suitably qualified and must strictly observe these operating instructions.
You have to be able to recognize dangers.

Under no circumstances should the protective covers be altered, removed or bypassed by modifications.

The cutting machine may only be operated with the protective covers closed.

The mains plug must be removed before carrying out any repair or cleaning work and before opening the machine.

The safety devices must be checked before commissioning and every 4 weeks.

The feed of the material to be cut via a transport table with two laterally adjustable guide rails. A sensor, controlled by a lever arrangement, monitors the material flow and stops the cutting machine immediately if no cutting material is present. The material to be cut is transported by means of a roll feed between the knife assembly. The upper roller is raised by operating a lever in the vertical, so that the cut material can be easily inserted between the roller assembly. Then the lever is lowered again and the rollers are closed. The lower roller is controlled by a stepper motor. By a gear, the upper roller engages in the closed state in the lower roller and is moved simultaneously with the lower roller. As a roll material, rubber is used for better rolling friction.

The knife assembly consists of a lower, fixed flat blade and an upper, via a guide rail vertically movable flat blade.

2. TECHNICAL DATA GlobalCut100 digital

GlobalCut100 digital TECHNICAL DATA	
Wire Size	max. 35 mm^2
Material thickness	mind. 0,1mm
Material thickness	max. 12 mm
Material width	max. 100 mm
Cutting length	0.1 - 99999.9 mm
Performance (L = 100 mm)	100 st./min
Cutting Speed	6 Stufen (4 is Standard)
Program storage	100 intern
Weight	34 kg
Dimensions (L x W x H)	350 x 320 x 250 mm
Power supply	110 V - 230 V; 50 Hz / 60 Hz; 120 VA
Operation noise	< 71 db

External inputs and outputs

The GlobalCut100 digital has additional connection sockets for the controller.

These can be found on the left side of the machine. To the left of the fan grill

Order of the connectors from top to bottom:
4 pole - encoder
5 pole - feeder
6 pole - RS232 and remote control
7 pole - printer connection

External inputs and outputs GlobalCut100 digital				
PIN	encoder	feeder	RS 232 and remote control	printer connection
	4 pin socket	5 pin socket	6 pin socket	7 pin socket
1	VCC +24V	RS232 TX	RS232 TX	Relay com
2	GND	RS232 RX	RS232 RX	Relay opener
3	pulse	RS232 GND	RS232 GND	Relay normally open
4	active	Ausgang on/off	VCC remote Control	Printer active
5	unavailable	active	Stop remote Control	VCC
6	unavailable	unavailable	Begin remote Control	printer pulse
7	unavailable	unavailable	unavailable	pulse GND

The functions START and STOP can be triggered by a remote control.

Switching is done by connecting the switching voltage (VCC) to the corresponding input. The switching voltage is short circuit proof.
Pin assignment of the 6 pol.DIN socket for the remote control:
4 - switching voltage VCC
5 - STOP
6 - START

3. WARNINGS

Before operating this device, read the operating instructions carefully and keep them for future reference. Use the machine only for the purpose intended. The machine may only be operated by trained personnel in compliance with the statutory safety regulations.

Incorrect use of the device may result in serious personal injury and property damage!

The intended use according to the operating instructions must be observed. Furthermore, the operating conditions must be taken into account. Claims for damages for damage to property or personal injury are excluded if one of the following causes is responsible:

- Machine was not used for the intended purpose.
- Improper installation, commissioning, operation and maintenance.
- Operation with defective safety devices or improperly installed or non-functioning safety and protection devices.
- Failure to follow the instructions in the manual regarding Installation, commissioning and maintenance.
- Unauthorized changes to the device or accessories.
- Improper repair of the device by unauthorized personnel.
- No use of original spare parts.
- Events due to foreign bodies or force majeure.

Check the existing voltage - especially during initial commissioning - before connecting the device to the mains to avoid damage to the device! The junction box must be grounded to prevent electrical shock in the event of a possible electrical failure.

Only operate the device if the mains voltage is available and stable. In the event of network disturbances during operation and resulting malfunctions, the device must be switched off immediately or the machine must be disconnected from the mains.

Disconnect the device completely from the mains before carrying out maintenance and conversion work.

When touching live parts there is danger to life!
Risk of cuts and bruises!

Protective devices may only be removed when the machine is at a standstill and with the machine switched off. The housing or protective cover may only be removed by qualified personnel during maintenance work. Operation without protective cover is not permitted!

Please note the following points in the workplace selection:

- Ensure a stable power supply and avoid multiple use of the same outlet with other equipment.
- Lighting sources and brightness should meet the workplace needs.
- The cutting machine must be placed on a level surface and, if necessary, secured against slipping.
- The machine may only be used in low-dust areas with low electromagnetic energy Fields and not be operated in a corrosive atmosphere.

Keep the device away from heat, moisture and flammable substances!

4. INITIAL INSTALLATION

BEFORE INSTALLATION

Unpack the cutting machine carefully.

Check cutting machine for completeness and possible damage.

In the event of damage, the packaging must be kept for clarification.

The operating instructions must be accessible to the operator at all times.

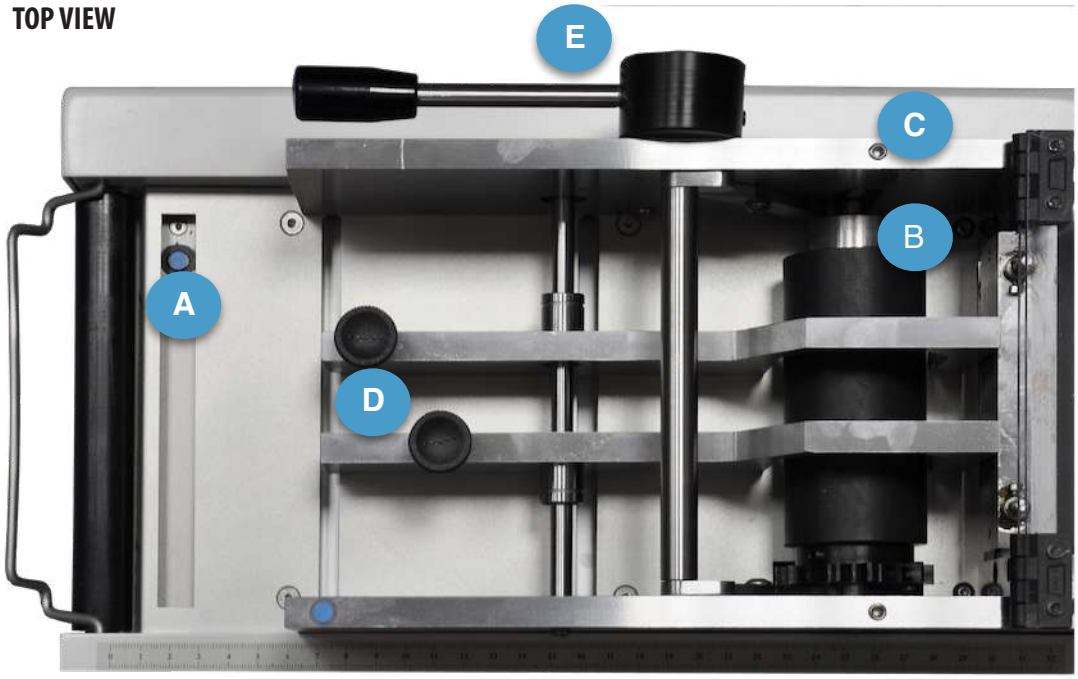
Follow exactly the steps in the operating instructions.

Before initial start-up, the instructions must be read carefully and completely.
You are liable for any damage caused by disregard of the instructions for use or limitations of use, by negligence or intent.

The machine must be set up so that there is enough space left and right for the material supply and output.

Machine at mains voltage with 110 V - 230 V; Connect 50 Hz / 60 Hz. With unstable mains voltage, countermeasures may have to be taken.

5. CONTROLS



A	Material end control	B	Transport rollers
C	Pressure screws - Transport roller	D	Screws - guide rail
E	Lever - transport roller		

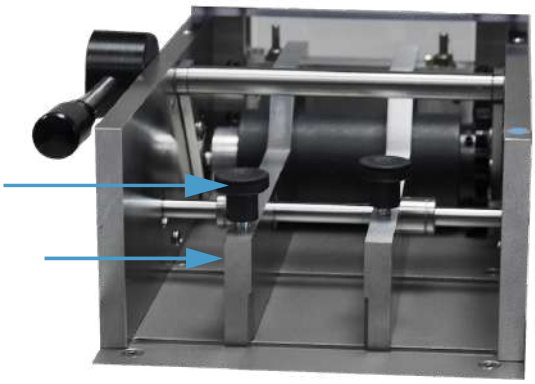
The material to be cut must be fed via the sliding roller.

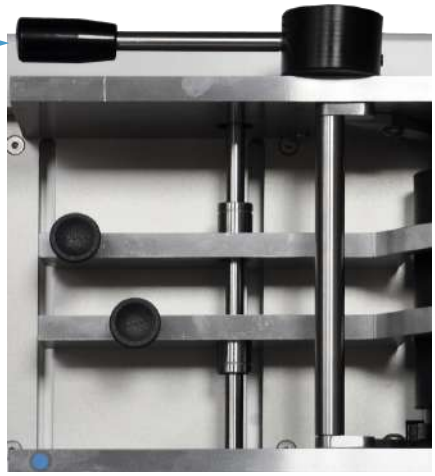
The release lever must be located above the material, so that it falls onto the sensor only if there is no material.

When the final monitoring has triggered, the machine is stopped immediately and a message is displayed.

The message is automatically deleted by inserting new material. The cutting process can be continued by pressing the START key.

GUIDE RAILS





The material to be cut is guided between the two guide rails.

To adjust the knurled screws must be easily solved so that the rail can move freely.

The distance between the rails must be adjusted so that the material to be cut is guided without clamps.

To insert the cutting material, the upper transport roller is moved by turning the roller lever upwards.

The contact pressure of the upper transport roller is freely adjustable via the spring-loaded pressure screws.

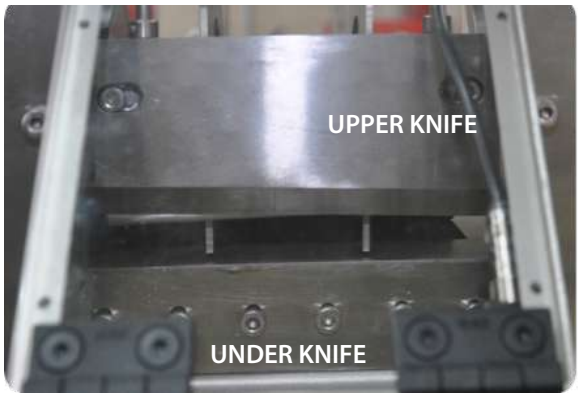
KNIFE

To change the upper blade, remove the protective cover and remove the four screws indicated on the image below (two per side).

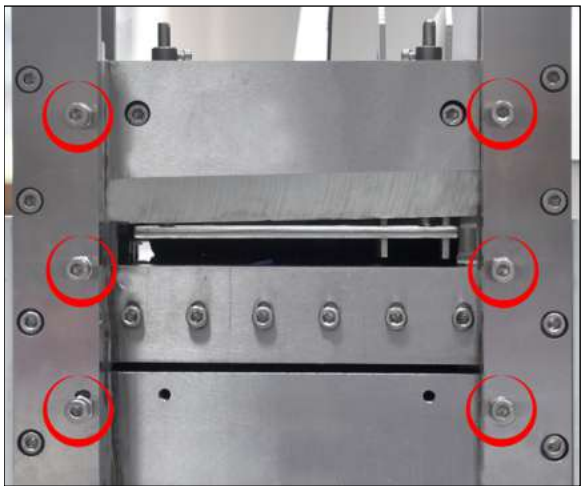
Before changing the lower blade, remove the protective cover and the exhaust duct.

You can change the lower blade by removing the screws.

The knife exchange may only be carried out by trained personnel!



SETTING THE KNIFE GUIDANCE



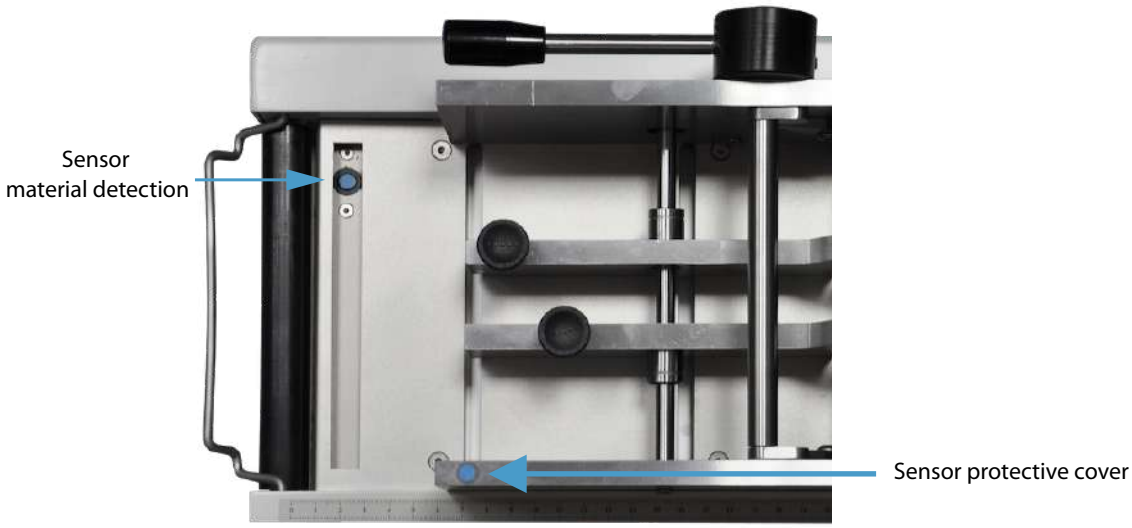
After replacing the upper knife, the knife guides must be readjusted.

The right and left guides each have 3 screws. Before installing the knife, they must be loosened.
After installing the new knife, press it down in the guide. Then tighten the screws by hand until a resistance is felt. Then the screws are countered with the nuts.

After switching on the machine, the Cut key must be pressed, the knife height is then automatically calibrated.

ELECTRONIC SENSORS FOR YOUR SAFETY

The ***GlobalCut100 digital*** is equipped with three safety sensors. The first sensor detects missing material. The second sensor checks the proper operation of the protective cover. The third sensor monitors the knife. If the material to be cut is too hard for the machine, the knife sensor recognizes this and the knife opens again to prevent damage to the machine. This is located inside the machine.



The machine can not be started when the protective cover is open. A corresponding error message will be shown on the display.

When opening the protective cover, the machine stops immediately. After closing the cover, you can continue with the START key. If the cutting process has already started, the knife will open and the message "Knife error" will appear. After a corresponding check of the material, the STOP key must be acknowledged.
The cutting process can be continued with the START key.

If there is no material left, the cutting process stops immediately and the message Material end appears in the display. After renewed supply of material, the process can be continued with the START key..

DESCRIPTION OF THE CONTROLS

The selected program is started and the specified batch size is processed. Storing display inputs

Fundamentals of the function, operation of the navigator, buttons START and STOP

By turning the knob from the navigator you can access the various menu items in the display. These selected points are highlighted in gray on the display. By pressing the navigator you get into the selection. The current rotation causes in the selection the activation of the different inputs or further selection points. For numeric inputs, pressing the navigator changes the color of the desired digit or selection from gray to green. Now the number can be changed by turning. Press again to make the display gray. By turning the navigator, the next digit or the desired menu item can be selected. A pressure then causes the execution of e.g. save and the submenu is left.
The START button on the control panel can also be used to store inputs. Furthermore, it triggers the cutting process..
Pressing the STOP button interrupts the cutting process. The STOP key is also used to exit submenus without saving or acknowledging error messages.

6. QUICK START OPERATION

For an immediate use of the machine, we recommend that you read the following paragraph carefully.

Turn on the machine at the power switch, the machine starts and the display looks like this:

Turn the Navigator one position to the right. They are in storage space 00.
This is used for material blanks in which the adjustable values of length, quantity, feed rate and knife speed are not to be saved or for one-off blanks.

Here test samples can be carried out and the function of the machine become familiar.

Turn the navigator one more step to the right, the display of the field Length will be grayed out.
Press on the control element of the navigator, now you can set the desired length of the material to be cut.
Another push will move you through the fields of the display.

To enter a 100mm crop move the field underlay to gray in third place.
If you now press the navigator, the selected digit will turn green.
If you turn the Navigator one position to the right, the digit of the third digit changes to 1.
Pressing will make the selected digit gray. If the Save field is now reached by rotation of the navigator, the changed value is saved by pressing. You can also press the START key
You are back in the main menu.

Scroll through the Navigator to the Quantity box and press.
Now enter the desired number of cuts by selecting and changing the digits in the display as described for the setting of the length.
Now move to the field by rotating the navigator and press.
You are back in the main menu and the most important settings have been made.
Transport and knife speed
If the transport and knife speed (presetting Transport value 5, knife value 4) does not suit the material to be cut, the presetting can be changed by selecting the menu item Change.
The transport speed is adjustable in the value range 1 to 8 and the knife speed from 1 to 6. The larger the value, the greater the respective speed.
By selecting the menu item Save the changed speed values are accepted. The now programmed cutting process can be started by pressing the START key. Pressing the STOP key interrupts the cutting process, but it can be continued at any time by pressing START.

7. PROGRAMMING

PROGRAMMING EXAMPLER	
program number	01
length	250 mm
number of pieces	100 pieces
lot size	20 pieces
feed rate	3 (scope 1-8)
rotational speed	3 (scope 1-6)
delay	50
Text for storage space 01	TEST CABLE 01

Please proceed as follows:

Turn the navigator in the main menu to new and confirm the selection by pressing on it

On the left top of the display, a 01 for memory location 1 appears..

The Length field is now grayed out and can be selected for entry by pressing the Navigator.

Now enter the desired length of the blank. The entry is made in mm with one decimal place. By turning the navigator, move between the digits of the input and change them by selecting (pressure) and adjusting (rotation). Please enter a 2 for the hundredth place and a 5 for the tens.

To save, we go to save or press the START key. For the function of the START key to save, no input must be active, i. be shown in green.

For the amount of blanks, move to the number of pieces and change them accordingly. In our case, we want to have 100 blanks.

We move to the hundredth digit and change it to the number 1. Then save again or press the START key.

You want to process the 100 blanks in lots of 20 pieces. Therefore, we select the lot size and enter the value 20.

After entering, we have this display in the display.

We save this input.

Now the feed and knife speed is set.

The feed rate is adjustable in the value range 1 to 8 and the knife speed from 1 to 6. The larger the value, the greater the respective speed.

Both values are programmed to the value 3.

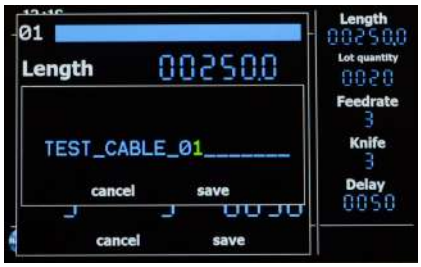
The delay is programmed to the value 50. This causes the feed to be slowly accelerated at the beginning and gently slowed down at the end.

A strong jerk at the beginning and a run on the unwinding at the end is prevented.

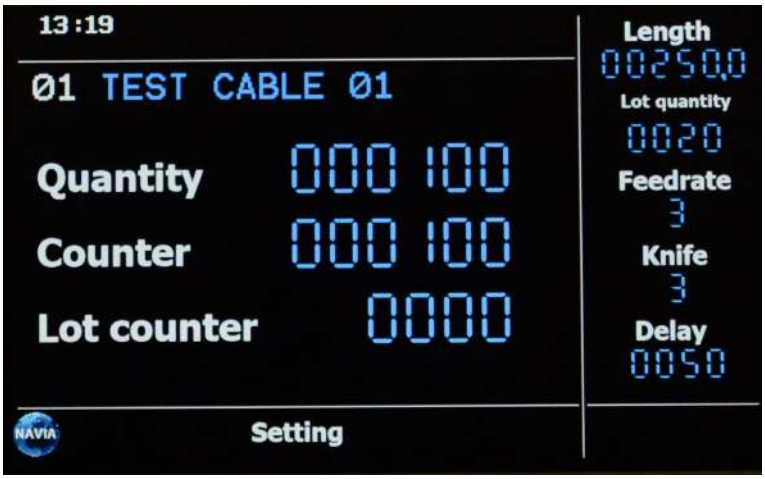
As a next step we want to give a name to the storage:

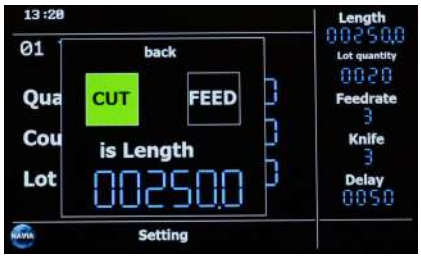
For this we move with the navigator to the field to the right of the number of the memory location. You can start typing by pressing the navigator. There are 20 posts for the text. The selection of the characters to be displayed can be made in the settings, factory setting is A to Z and 0 to 9.

Tip: In order to reach a digit input faster, we turn the navigator to the left.



The values are now stored under the program number. The display now shows the following picture. By selecting the program number you can start the cutting process or change the programmed values. Go to the menu item Change.

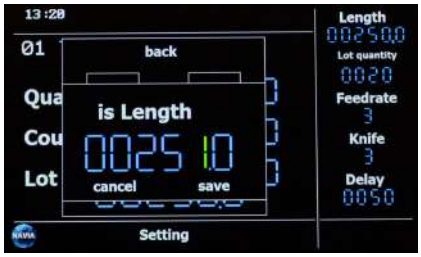




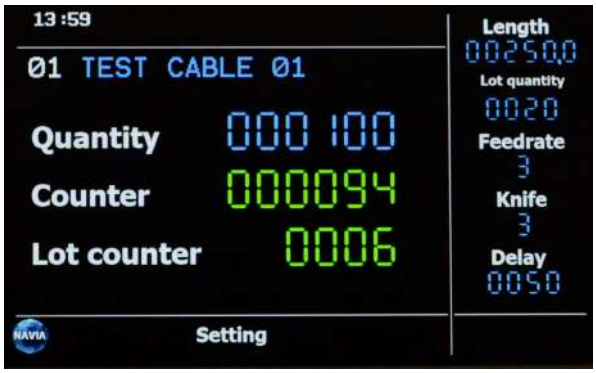
Now press the navigator and a new window will appear in the display.

If you have loaded material, you can do the first cut. Pay attention to a closed protective cover.
By selecting the CUT field and triggering by pressing the navigator, a cutting operation (zero cut) is performed. Now move to the field FEED and trigger it. The feed of the material to be cut is carried out. If you trigger CUT again, you have performed the first cut.
However, you can start the cutting process without the zero cut immediately with the START key.

Measure the actual length of the blank with the ruler attached to the machine. If some material deviates from the desired length, you can correct it as follows. By activating the menu item Actual length the default value can be changed from the programmed length to the actual cut length. This deviation can occur with material that is very soft, or can be compressed. By entering the actual length, the programmed length for this cut is automatically adjusted by the machine to the material to be cut. This process can be performed as often as desired. A long press on the navigator in the field Actual length causes a reset of all entered entries of the actual length. It can now be entered again.
In general, however, no deviation of the actual length to the desired length can be determined.



The actual programmed cutting process can be started by pressing the START key. By pressing the STOP key, the cutting process is interrupted, but can be continued at any time by START.
Pressing the STOP button twice stops the entire cutting process and the main menu is displayed.



Display when processing the order. There are already 6 cuts done.

A storage space can be deleted at any time. In the main menu, call up the Delete item and the recalled memory location will be deleted. The data of all subsequent memory locations is moved down one place (example 03 is deleted, 04 becomes 03, 05 becomes 04, etc.).

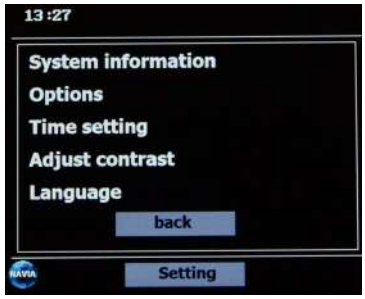
Settings

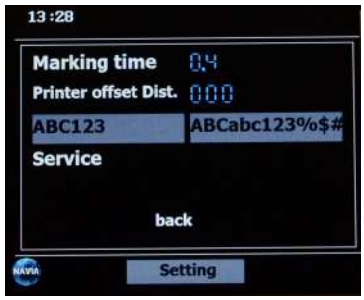
By pressing the navigator and switching on the machine (keep pressed until the display is activated) it is possible to reset the machine to factory settings. If you select yes now, the entire memory and all settings will be deleted.

If you have confirmed the entry with yes, you can now specify the language of the user interface.

The ***GlobalCut100 digital*** has a settings menu. The menu is called up by selecting settings

The **System Information** shows the machine type, the serial number and the software version.
The options **option** allows you to change the character set for naming the memory locations.
Furthermore, the **time** and **contrast** of the display can be set here.
The last item is used to set the **language** for the user interface.





8. MAINTENANCE

SURROUNDINGS
Always use the machine in a clean environment. During extended downtime, the machine must be stored in a dry, dust-protected place.
CLEANING
Clean the machine with a dry, soft cloth. Under no circumstances may solvents or aggressive cleaners be used. Do not use compressed air to clean the working area! It could get foreign bodies in the modules or machine and affect the function.
RECURRING MAINTENANCE WORK
The machine is low maintenance and durable. The following activities must be carried out at regular intervals by the plant personnel: Removal of material residues and dirt on transport rollers, knives, etc.
REPAIR WORK
All repairs may only be carried out by qualified personnel. In case of damage e.g. due to incorrect execution, no liability is accepted. Never disassemble the machine. This is only allowed by trained personnel.
SHIPPING
To ship the machine, only the original packaging should be used to prevent shipping damage.

9. ERROR LIST

ERROR DESCRIPTION	FAULT CAUSE	TROUBLE
Deviation target / actual of the cutting length	Required traction too big Material-related slip with constant deviation Wear on transport rollers	Upstream of a feeder or roll-off aid Change the set values Use automatic correction Renew transport rollers
No rectangular cutting edge	Guide rails are not aligned parallel to the guide table	Align guide rails
Irregular cutting edge	Wear on the knives	Renew knife
Undefined operating state (without alarm message)	Program fault due to incorrect mains voltage etc.	Switch off the machine and after 2 min. Switch back on if there is a fault. Contact Customer Service
No function and no display indication with existing mains voltage	Device fuse triggered	Replace fuse link

10. IMPRINT

NAVIA INTERNATIONAL GmbH
Löbauer Strasse 25B
02894 Reichenbach, Germany
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www.navia-international.com

GENERAL

This manual was prepared by the company Navia in January 2018.

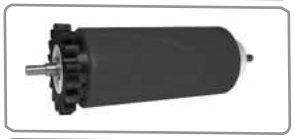
Guidelines

These operating instructions have been drawn up taking into account Directive 2006/42 / EC of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16 / EC.

Contact

For questions and suggestions we are at your disposal.

11. SPARE PARTS GlobalCut 100 digital

Item number		
NM-10165	Protective cover cpl. GC100 digital	
Item number		
NM-10085	Upper role	
Item number		
NM-10086	Lower role	
Item number		
NM-10088	Lower blade	
Item number		
NM-10006	Upper blade	

12. NOTES

EC-declaration of conformity

1/NI/2018

Manufacturer: **NAVIA INTERNATIONAL GmbH**
Löbauer Strasse 25B
02894 **Reichenbach,** **Germany**

confirms this product

Type: **GlobalCut100 digital**

Serial number: 150200 to 150900

Description: an electric machine for cutting lines,
compliant with the following provisions is:

European Directives: 2004/108/EC of 15. December 2004 on the Electromagnetic Compatibility and Machinery Directive 2006/42 / EC

Harmonized standards:
EN ISO 13857:2008-06
EN ISO 12100:2011-03
EN 349:2008-09
EN 60204-1:2007-06
EN 61000-6-2:2006-03
EN 61000-6-3:2011-09

This statement applies only to the machine in the condition in which it was marketed and excludes components added or modified by the end user.

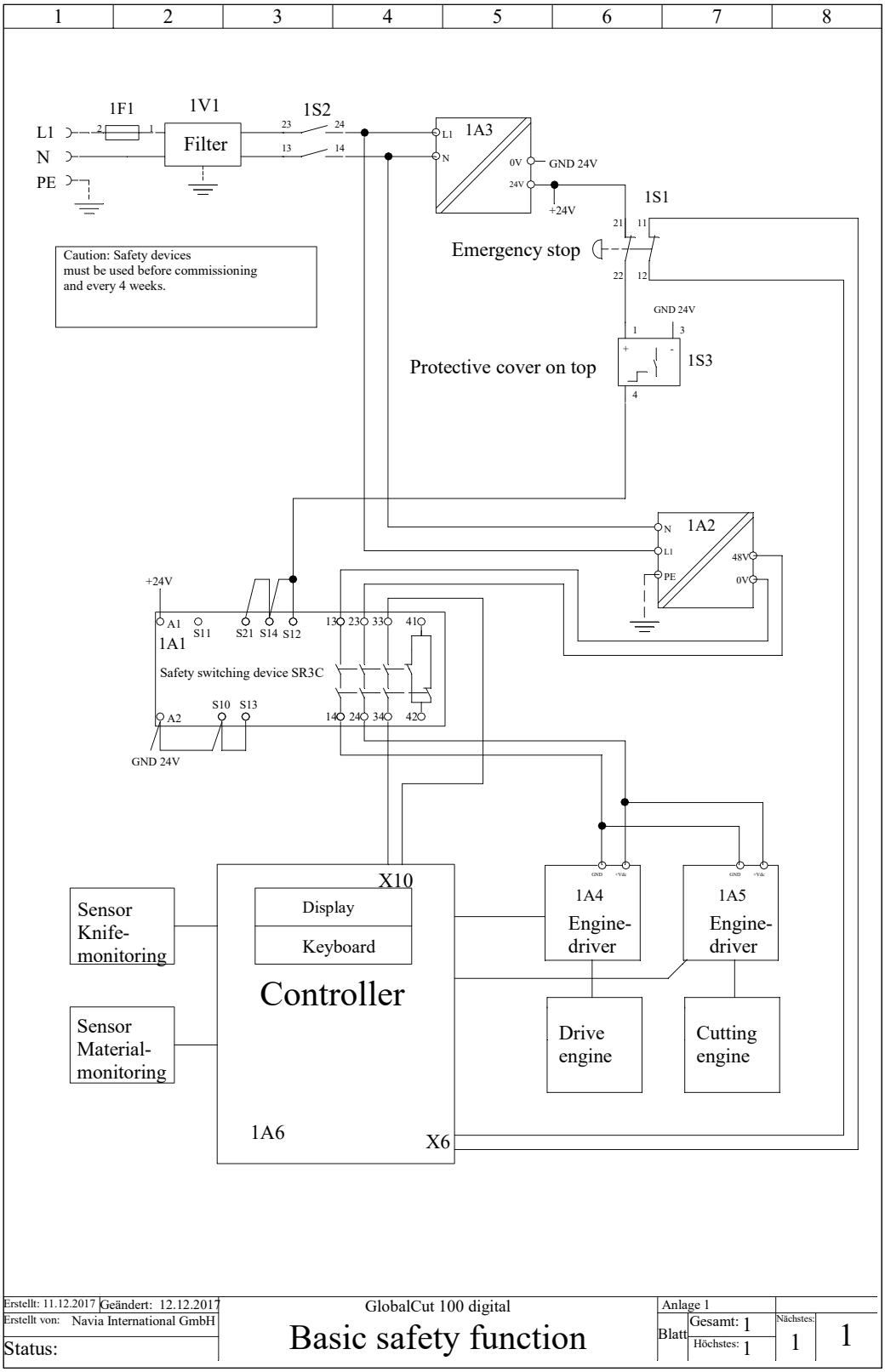
Documents authorized representative: Frank Lindemann

Address: Löbauer Strasse 25B
02894 Reichenbach, Germany

Place and date: Reichenbach, 24.07.2018

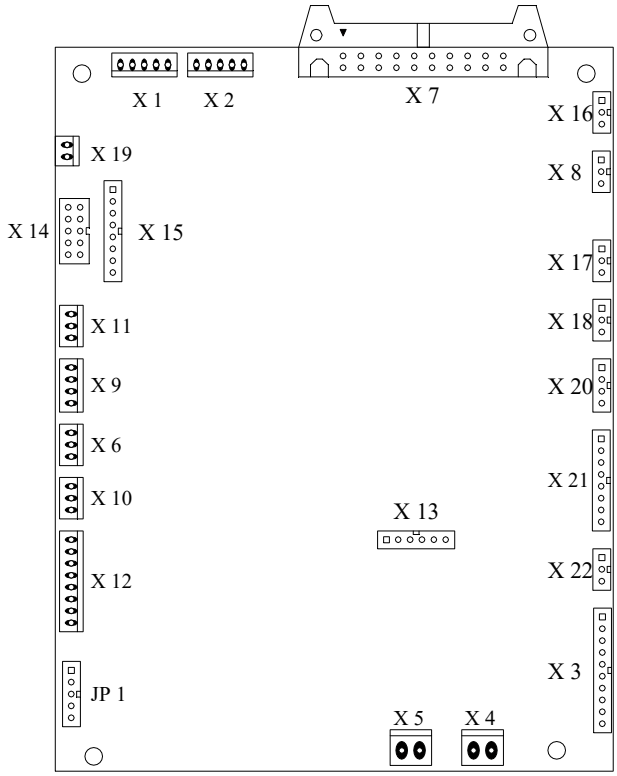
Frank Lindemann

14. APPENDIX PRINCIPLE SCREEN SAFETY FUNCTION



APPENDIX CONTROLLER

1	2	3	4	5	6	7	8



Erstellt: 19.01.2018 Geändert: ---	Controller NUC1	Anlage 1		
Erstellt von: Navia International GmbH	Location of the terminal strips	Blatt Gesamt: 1	Nächstes: ---	1
Status:		Höchstes: 1		