

Operating Manual

YarnMaster® EOS+

Gebrüder Loepfe AG
Kastellstrasse 10
8623 Wetzikon / Switzerland

Phone +41 43 488 11 11
Fax +41 43 488 11 00
e-mail service@loepfe.com
Internet www.loepfe.com

Document title: YarnMaster® EOS+ Operating Manual
Language version: English

This manual is protected by copyright.

Reproduction of this manual in whole or in part, dissemination to third parties, and use and/or disclosure of its contents without the written permission of Loepfe Brothers Ltd. is prohibited, except for internal purposes.

© 2025 Loepfe Brothers Ltd., Switzerland

Table of contents

1	About this document	7
1.1	Purpose of this document	7
1.2	Validity	7
1.3	Applicable documentation	7
1.4	Explanation of symbols	7
2	Safety	8
2.1	General safety information	8
2.2	Intended use	8
2.3	Qualified personnel	8
2.4	Electric shock	8
2.5	Electromagnetic compatibility	8
2.6	Unexpected start-up	9
2.7	Falling of electrical devices	9
2.8	Compressed air	9
2.9	Symbols on the product	9
3	Operation	11
3.1	Calling up the article dashboard	11
3.2	Toolbar and icons	12
3.3	Logging in with password	13
3.4	Monitoring and analysis	14
3.4.1	Monitoring NSLT	14
3.4.2	Comparing NSLT	15
3.4.3	Monitoring splices	16
3.4.4	Displaying hit list	17
3.4.5	Event log	18
3.4.6	Cuts and Alarms	19
3.5	Article management	20
3.5.1	Assigning article to group	20
3.5.2	Creating new article	21
3.5.3	Setting NSLT matrix	22
3.5.4	Setting alarms	23
3.5.5	Setting splice matrix	24
3.5.6	Setting count deviation cuts and alarms	25
4	Sensor Messages	26

1 About this document

1.1 Purpose of this document

This document guides you through the operation of the product. Please read the document thoroughly and keep it accessible.

If you have any uncertainties or questions, please contact the supplier.

1.2 Validity

This document applies to YarnMaster® EOS+.

1.3 Applicable documentation

In addition to this operating manual, instruction manuals are available for individual machine types.

1.4 Explanation of symbols

The following symbols and warning messages are used in these instructions.

	 DANGER Indicates an imminently hazardous situation that will lead to death or severe injury.
	 WARNING Indicates a potentially hazardous situation that can lead to death or severe injury.
	 CAUTION Indicates a potentially hazardous situation that can lead to minor or moderate injury.
	NOTE Indicates a potentially hazardous situation that can lead to property damage.

2 Safety

2.1 General safety information

- Read all safety and installation instructions before installation or maintenance.
- Follow all safety and operating instructions precisely.
- Retain all documentation for later reference.
- Take note of all warnings on the device and in the documentation for the machine in which this device is installed or repaired.

2.2 Intended use

The YarnMaster® EOS+ system is intended solely for purposes of yarn quality control in open-end spinning processes. Any other use, or any use that goes beyond the intended purpose, is considered improper. Loepfe Brothers Ltd. shall not be liable for any damages that result from improper use.

This software is intended exclusively for use as a control, data evaluation and administration tool for sensing heads that are linked to the Loepfe central unit (LZE) of the spinning machine. Any other use, or any use that goes beyond the intended purpose, is considered improper. Loepfe Brothers Ltd. shall not be liable for any damages that result from improper use.

2.3 Qualified personnel

Unqualified personnel cannot recognize risks and therefore endanger themselves and others.

- Only use trained and qualified personnel for the activities specified in these instructions.
- Define and publicize the respective responsibilities for the activities and train the personnel regularly.

2.4 Electric shock

Failure to observe the 5 electrotechnical rules may result in serious injury and electric shock.

- Disconnect.
- Secure against restart.
- Secure absence of voltage.
- Ground and short-circuit.
- Cover or isolate adjacent live parts.

2.5 Electromagnetic compatibility

This equipment is intended for use in an industrial environment. Electromagnetic compatibility in other environments cannot be guaranteed due to conducted and radiated interference.

This equipment is not intended for use in residential areas.

2.6 Unexpected start-up

If the machine starts up unexpectedly, people may be seriously injured or die.

- Before carrying out any maintenance work, secure the machine against restarting.
- Only switch the machine back on when all safety devices are working and nobody is in the danger zone.

2.7 Falling of electrical devices

If electrical devices fall during transportation or installation, personnel may be injured and the devices themselves may be damaged.

- Ensure that no devices fall from the means of transportation.
- Use suitable lifting gear. Ensure that the devices are properly installed.
- Wear personal protective equipment.

2.8 Compressed air

Unexpected contact with compressed air can lead to injuries.

- Before any installation or maintenance, disconnect the compressed air supply and release the pressure from the machine's compressed air system.

2.9 Symbols on the product

Warning symbols



General warning symbol



Electric voltage warning



Flammable substances warning



Hot surfaces warning

Prohibition symbols



Switched on mobile phones not permitted



Operation with long hair not permitted

Instruction symbols



Disconnect power plug



Disconnect before maintenance or repair (disconnect power supply)



Ground before using

ESD symbol



Electrostatically sensitive components

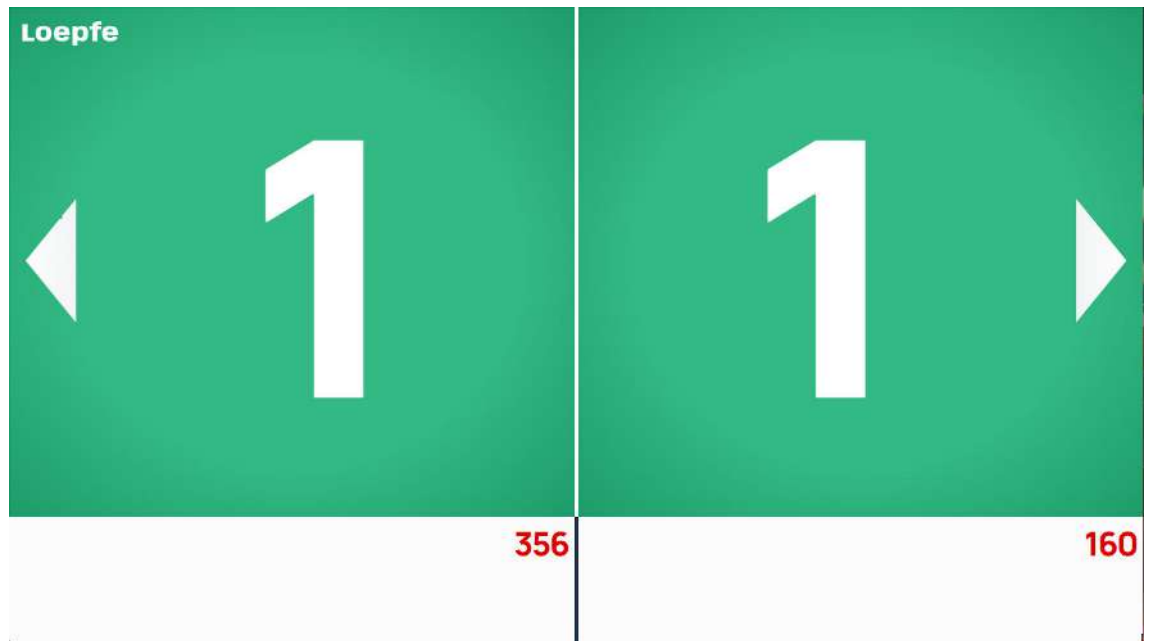
3 Operation

3.1 Calling up the article dashboard

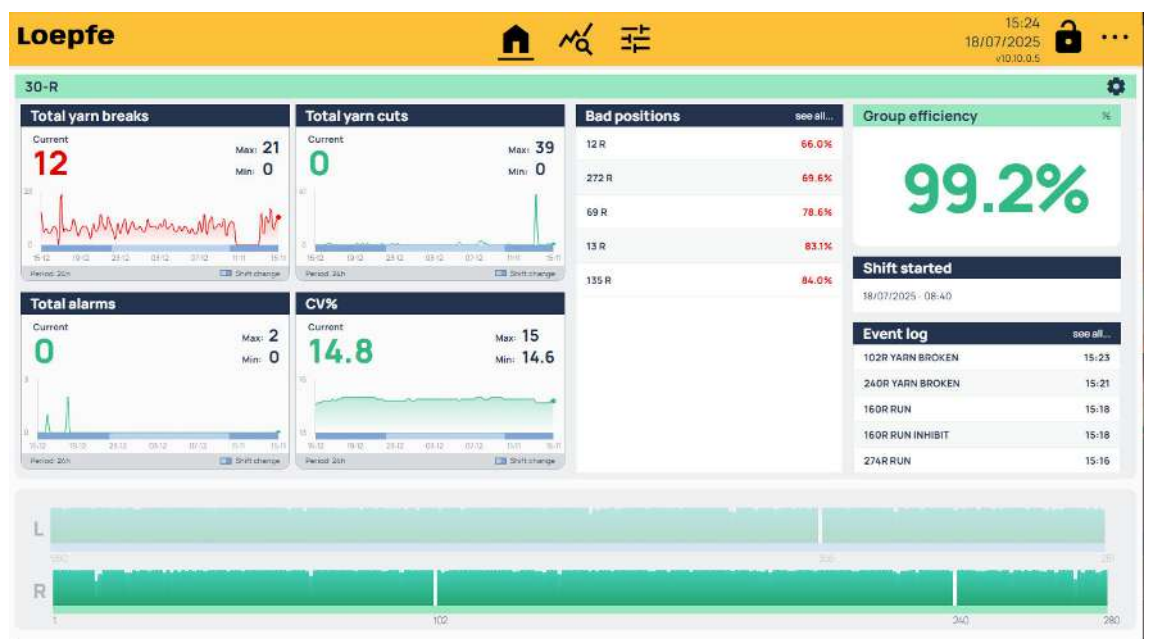
The article dashboard is the home screen of the YarnMaster® EOS+ user interface and it shows the efficiency and faults for a specific article.

✓ The machine with the software and the LZE is running.

1. If the screensaver is visible, tap on the screen.



⇒ The article dashboard appears for the article selected.



3.2 Toolbar and icons

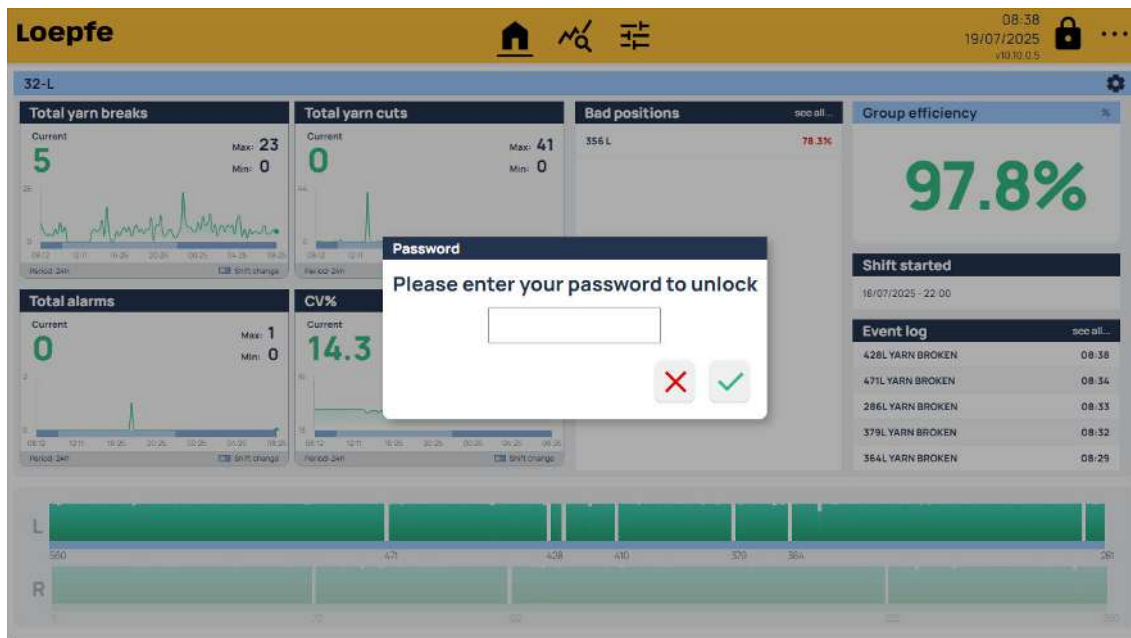
The toolbar is the central navigation tool of the user interface. It consists of the following icons.

	The home icon is used to call up the dashboards.
	The diagram icon is used to call up information on monitoring and analysis.
	The article icon is used to call up functions for editing articles.
	The lock icon and a password give you access to change settings.
	The three-dot icon gives you access to further settings and features:
	Camera features
	USB features
	Language settings
	System settings

3.3 Logging in with password

If you want to change articles or settings, you have to log in with a password.

1. Tap on the lock icon in the dashboard toolbar.



2. Enter password "1, 2, 3," and confirm by tapping on the green tick.



3.4 Monitoring and analysis

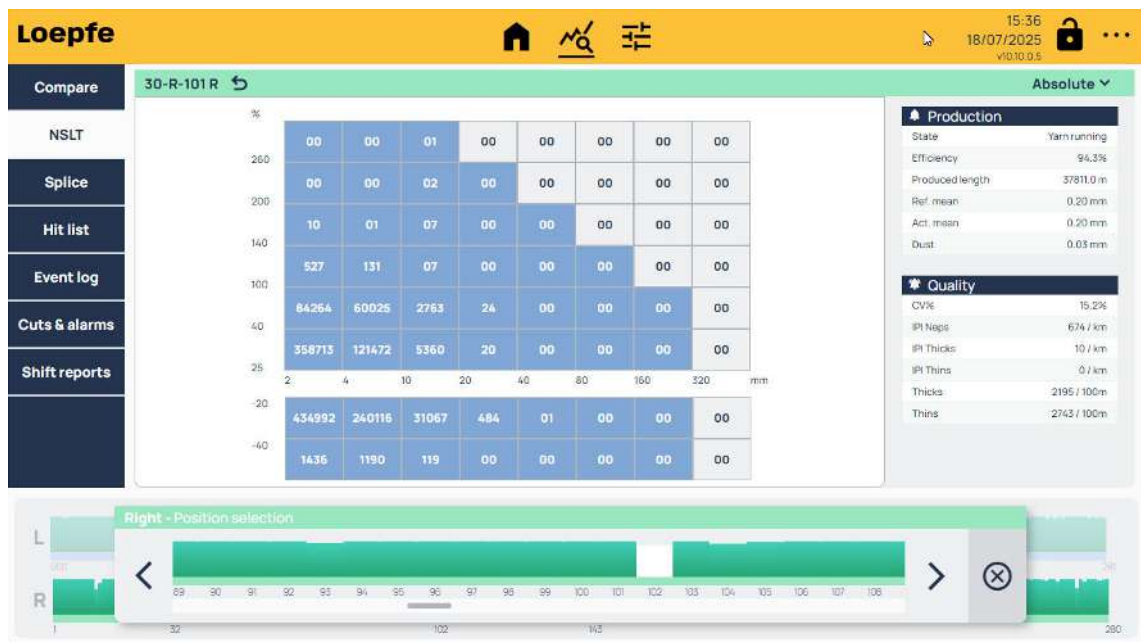
3.4.1 Monitoring NSLT

NSLT refers to spinning process related faults: neps and short, long or thin defects. The number of NSLTs is displayed depending on its length and diameter. The diameter is shown as a percentage deviation from the target diameter. All NSLTs marked in blue are within the permitted range.

1. Tap on the diagram icon in the toolbar.



2. Select the **NSLT** menu item.



3. To display the combined data of all spinning positions, tap on the position icon.



4. To choose between absolute and relative data, use the dropdown button.

/1000km

- ☐ Absolute
- ☒ /1000km
- ☐ /1000 Rh
- ☐ /100 kg

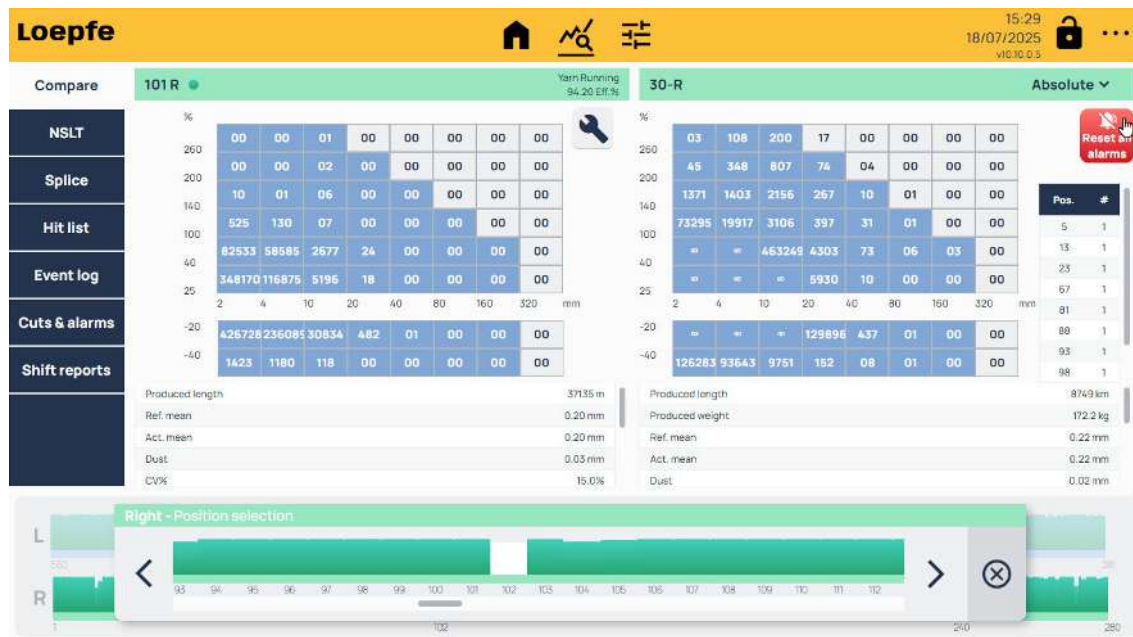
3.4.2 Comparing NSLT

The number of NSLTs for a specific spinning position can be compared with the NSLTs for the entire article. The specific spinning position is shown on the left, the entire article on the right.

1. Tap on the diagram icon in the toolbar.



2. Select the **Compare** menu item.



3. To display a different spinning position, select a new position number at the bottom of the screen.
4. To reset all alarms at once, press the red button.
5. To activate a special function for this spinning position, tap on the tool icon and select one of the following options:



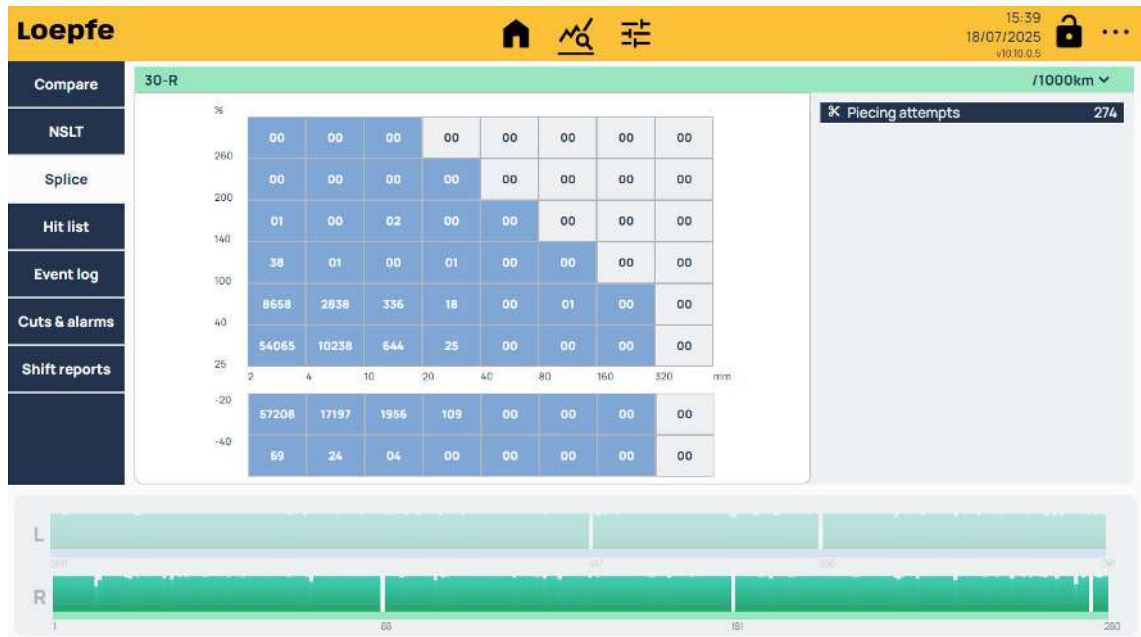
3.4.3 Monitoring splices

The splices are counted depending on their length and their percentage deviation from the target diameter. All splices marked in blue are within the tolerated range.

1. Tap on the diagram icon in the toolbar.



2. Select the **Splice** menu item.



3.4.4 Displaying hit list

The parameters for identifying bad spinning positions are displayed in a hit list and as a diagram.

1. Tap on the diagram icon in the toolbar.



2. Select the **Hit list** menu item.
3. Tap on the drop-down menu and select the type of parameter you want to display.



3.4.5 Event log

The events per spinning position are listed.

- 1. Tap on the diagram icon in the toolbar.



- 2. Select the **Event log** menu item.



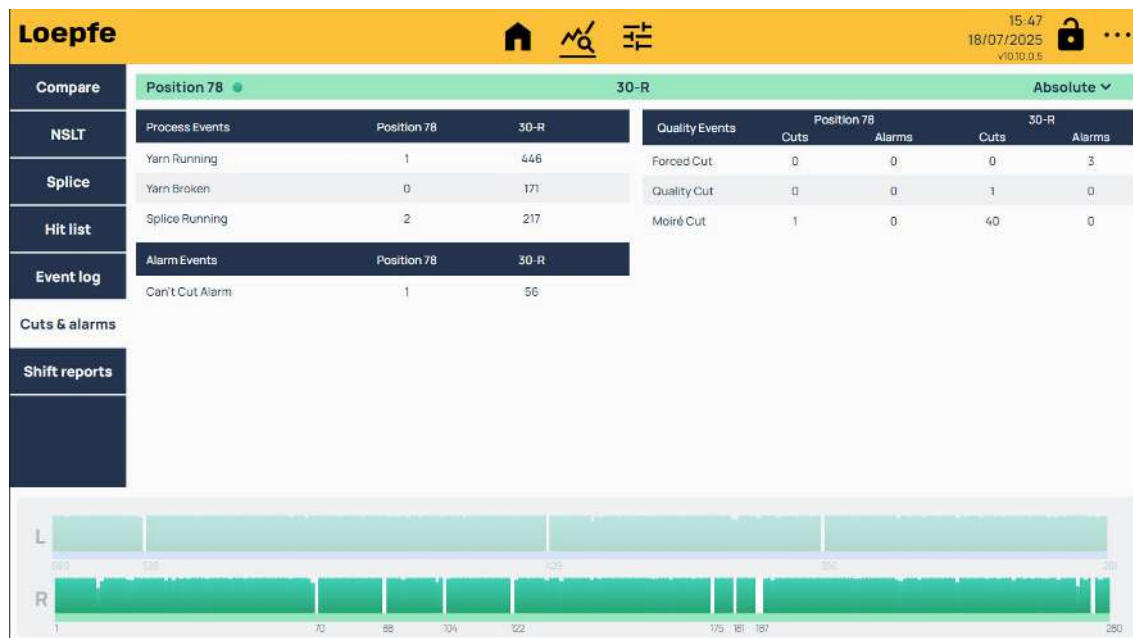
3.4.6 Cuts and Alarms

The cuts and alarms per position or the entire article is listed.

1. Tap on the diagram icon in the toolbar.



2. Select the **Cuts & alarms** menu item.



3.5 Article management

3.5.1 Assigning article to group

You can activate an article for production.

✓ You have entered your password.

1. Tap on the article icon in the toolbar.



2. Select an article on the left-hand side for each stopped group.

3. Uncheck "Use two groups" if you want to assign one article to both groups and combine the reporting.

The screenshot shows the Loepfe YarnMaster EOS+ interface. At the top, there is a yellow header bar with the Loepfe logo, navigation icons (home, search, settings), and a status bar showing the time (10:51), date (17/07/2025), and version (V10.10.0.5). Below the header, there is a section titled "Use two groups" with a checked checkbox. To the right of this section are two buttons: "Edit Article" and "Save group changes". Below this is a table with the following columns: Article, Group, Group speed, Status, and Lot change.

Article	Group	Group speed	Status	Lot change
Article 1	Right	150 m/min	Stopped	☐
Article 2	Left	90 m/min	Stopped	☒

Below the table, there are two horizontal bars representing the production progress for groups L and R. Group L has a progress bar from 0 to 300, and Group R has a progress bar from 1 to 300.

4. Enter the group speed.

5. To activate the settings for production, select **Lot change** and then tap **Save group changes**.

6. Confirm with the green tick.



3.5.2 Creating new article

✓ You have entered your password.

1. Tap on the article icon in the toolbar.



2. Tap **Edit Article** and select an article name that has not yet been used.
3. Select the **Properties** menu item.
4. Enter an article name.

5. Enter the yarn count for this article.
6. For thin yarn counts, you can reduce the variation needed for the yarn run threshold value.
7. Confirm by tapping on the green tick.

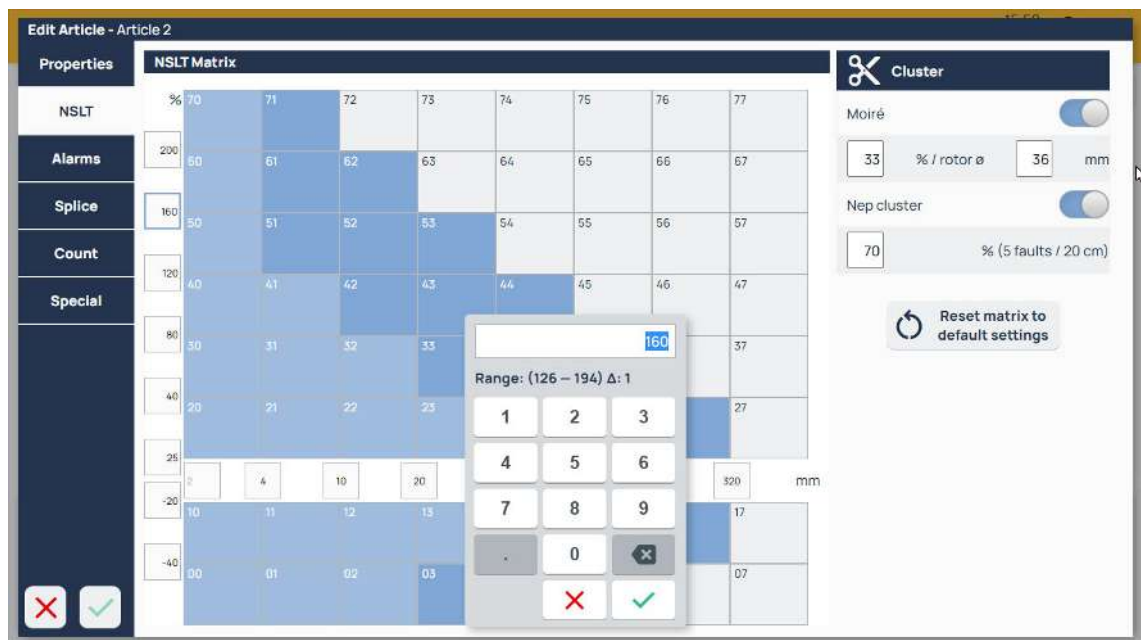


3.5.3 Setting NSLT matrix

The matrix for monitoring the NSLTs is set here.

1. You have entered your password.
2. Tap on the article icon in the toolbar.

3. Tap **Edit Article** and select an article from the drop-down list.
4. Select the **NSLT** menu item.



5. Mark the permitted error range using the blue boxes.
6. To change the matrix limits, tap the units and enter the new numerical limits.
7. To reset the units to the default values, tap the **Reset matrix to default settings** button.
8. Save the settings by tapping on the green tick.



3.5.4 Setting alarms

You can specify the conditions under which an alarm is triggered which then blocks the spinning position.

✓ You have entered your password.

1. Tap on the article icon in the toolbar.



2. Tap **Edit Article** and select an article from the drop-down list.

3. Select the **Alarms** menu item.

Category	Toggle	Name	Value 1	Unit	Value 2	Unit
NSLT	☒	NSLT	9	cuts /	1000	m
Alarms	☒	Moiré	9	cuts /	1000	m
Splice	☐	Nep cluster	0	cuts /	5000	m
Count	☐	CV%+	0	%		
Special	☐	CV%-	0	%		
	☐	IPI neps	0	%		
	☐	IPI thicks	0	%		
	☐	IPI thins	0	%		

4. Specify which faults should trigger an alarm and which conditions must be met for this to happen.

5. Save the settings by tapping on the green tick.



3.5.5 Setting splice matrix

You can set the sensitivity of the splice matrix.

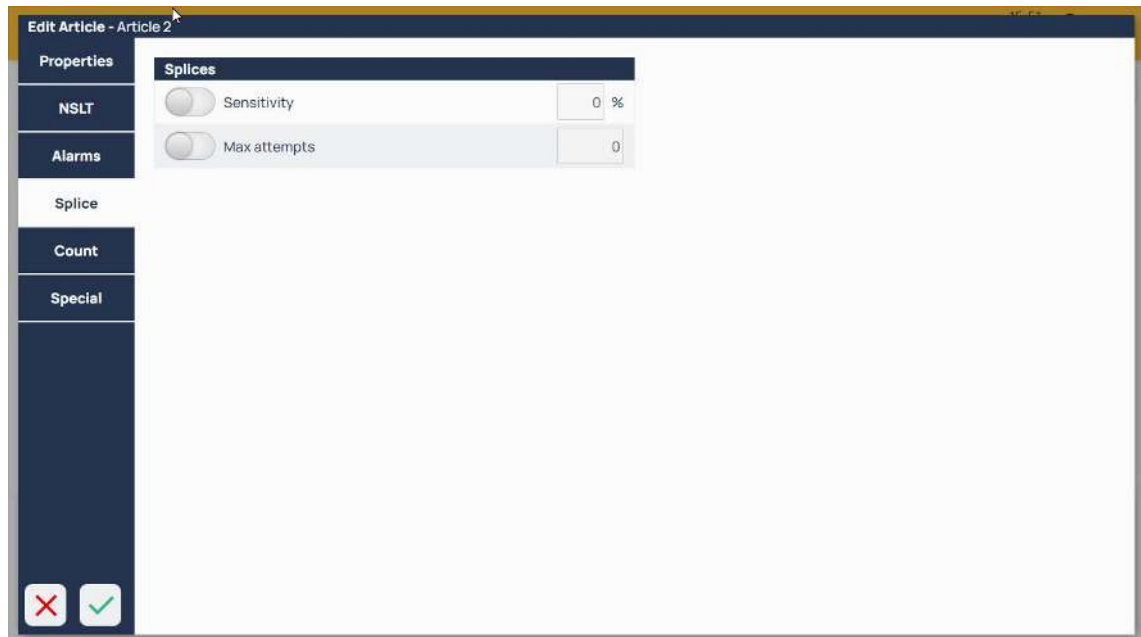
✓ You have entered your password.

1. Tap on the article icon in the toolbar.



2. Tap **Edit Article** and select an article from the drop-down list.

3. Select the **Splice** menu item.



4. Enter the tolerance range for splices. A common value is 70 %.

5. Enter how many splices are permitted per spinning position until the position is stopped. A common value here is 20.

6. Save the settings by tapping on the green tick.



3.5.6 Setting count deviation cuts and alarms

You can specify which short counts and long counts should be monitored and when alarms are triggered. An alarm blocks the spinning position and signals the operator that an intervention is required.

Short count cut

The short count cut can be set to trigger when a deviations of 2-30% of the target yarn diameter over a length of 1-9 meters is detected. The yarn defect is removed by the splice robot without operator intervention and the spinning position resumes spinning.

Short count alarm

You can specify the number of short count cut events per a specified length required to trigger a short count alarm.

Long count alarm

The long count alarm can be set to detect yarn count deviations of 0.3-20% of the target diameter over a length of 10-1000 meters.

Long count article average alarm

You can specify the maximum yarn diameter deviation allowed for the reference mean of each individual spinning position with respect to the reference mean of all positions running the same article. The range is 4-30%.

✓ You have entered your password.

1. Tap on the article icon in the toolbar.



2. Tap **Edit Article** and select an article from the drop-down list.
3. Select the **Count** menu item.

The screenshot shows the 'Edit Article - Article 2' interface. On the left is a sidebar with menu items: Properties, NSLT, Alarms, Splice, Count (selected), and Special. The main area is divided into two columns. The left column is titled 'Short count cut' and contains two rows: 'Diameter +' and 'Diameter -', each with a toggle switch, a percentage input field (0 %), and a length input field (0 m). The right column contains three sections: 'Short count alarm' with two rows for 'Number of short count cut events +' and 'Number of short count cut events -', each with a toggle switch, a 'cuts /' input field (0), and a length input field (0 m); 'Long count alarm' with two rows for 'Diameter +' and 'Diameter -', each with a toggle switch, a percentage input field (0 %), and a length input field (0 m); and 'Long count article average alarm' with a toggle switch and a percentage input field (0 %). At the bottom left of the main area are red and green checkmark buttons.

4. On the left, enter the percentage deviation over which length a short count is cut.
5. On the right, enter the number of cuts per unit length at which an short count alarm is triggered.
6. Also enter the conditions for long count alarms.

4 Sensor Messages

Sensor messages are indicated by two LEDs:

- The green LED acts as a sensing head health state indicator.
- The red LED acts as a yarn quality warning indicator.

LED status indicator code										Description
Time scale in seconds										
Sensing Head health states:										
Normal operation/yarn broken	█		█		█		█		█	All OK
Normal operation/yarn running	█	█	█	█	█	█	█	█	█	All OK
Not ready or dirty	█	█	█	█	█	█	█	█	█	Not ready
System alarm	█	█	█	█	█	█	█	█	█	Sensor system Alarm
Yarn quality warning states:										
Yarn running, broken or matrix cut										All OK
Short count cut	█		█		█		█		█	Yarn quality not good
Long count alarm	█	█	█	█	█	█	█	█	█	Yarn quality not good
Repeated cuts or alarms	█	█	█	█	█	█	█	█	█	Yarn quality not good
System Alarm	█	█	█	█	█	█	█	█	█	Sensor system Alarm
Normal operation conditions										Description
Yarn clearer active – No operator intervention required										
Yarn Running	█	█	█	█	█	█	█	█	█	All OK
Yarn broken or Yarn cut	█		█		█		█		█	All OK
Yarn Alarm States										Operator action
Yarn clearer in Alarm -- Yarn production locked -- Operator intervention required										
Short count cut	█		█		█		█		█	Remove defect from cone 9 meter
Long count alarm	█	█	█	█	█	█	█	█	█	Remove long defect from cone 100 meter Check and remove some sliver
repeated cuts or alarms	█	█	█	█	█	█	█	█	█	Remove cone Remove sliver

Sensor not ready states		Maintenance intervention
Yarn clearer not ready -- Maintenance intervention required when the condition persists		
Sensing head is waiting for cleaning – Dust cut or alarm		Clean this sensing head
Sensing head is waiting for connection to LZE		Reset system
Sensing head is waiting for settings from LZE		Redo article lot change
Sensing head in system alarm		Reset alarm, check troubleshooting
Sensing head has lost power		Restore power/Change sensing head



Gebrüder Loepfe AG
8623 Wetzikon / Switzerland
Phone +41 43 488 11 11
Fax +41 43 488 11 00
service@loepfe.com
www.loepfe.com