UDMTEK Platform
User Manual

UDMTEK
Unified Digital Manufacturing Technology

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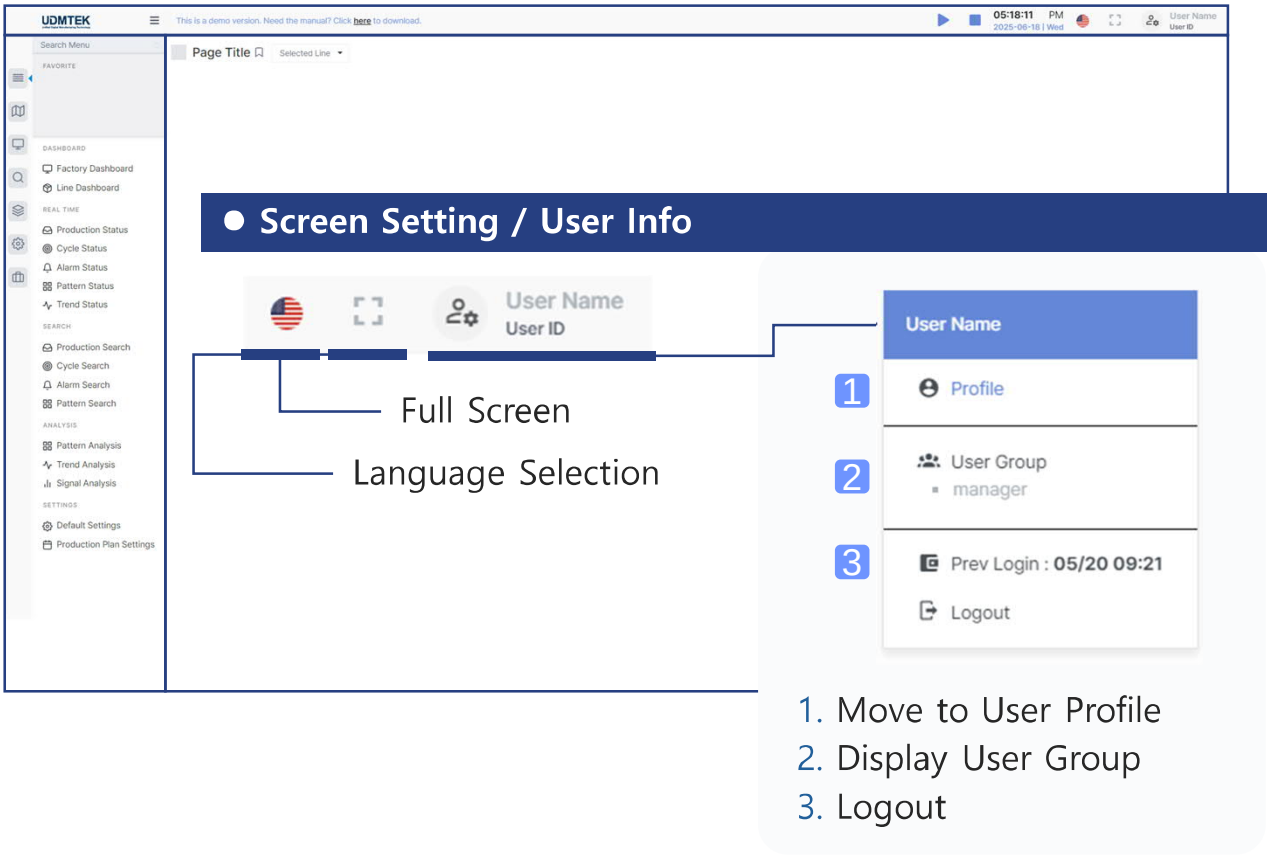
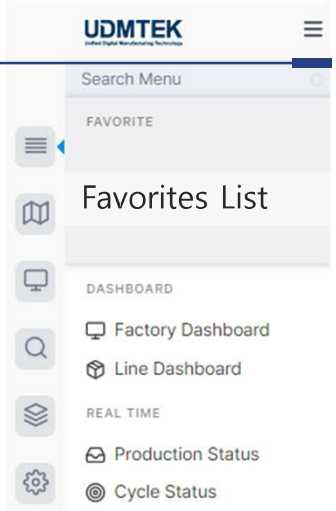
Screen Configuration



Menu Bar

Expand / Collapse Side Bar



Page Info

Dropdown to Select Line

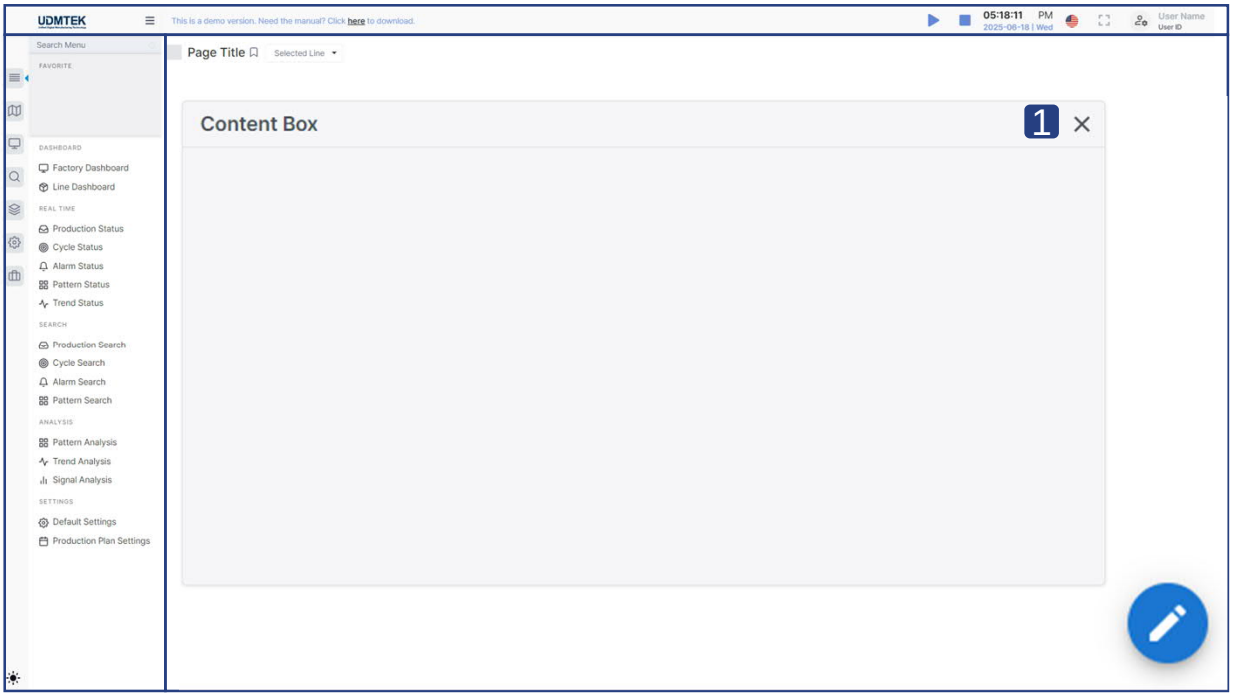
Set / Unset Page as Favorite

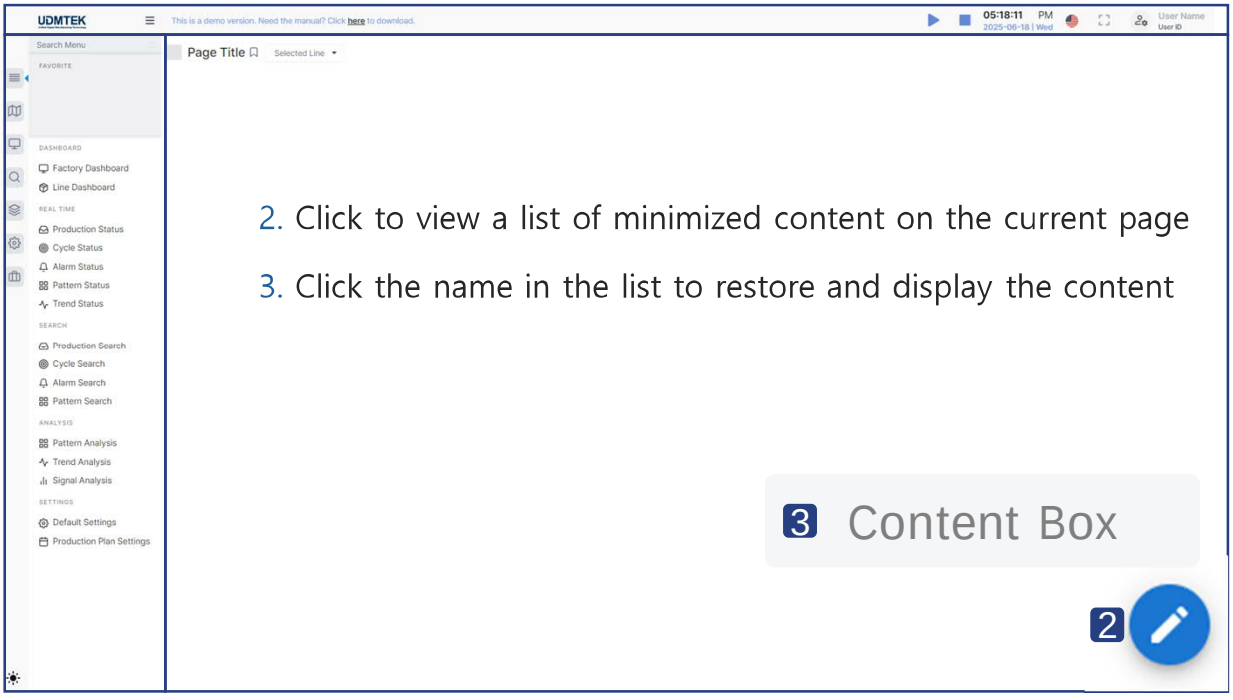
Screen Configuration

● Window Collapse / Display

● Some content windows can be minimized using the X button

1. Minimize Window

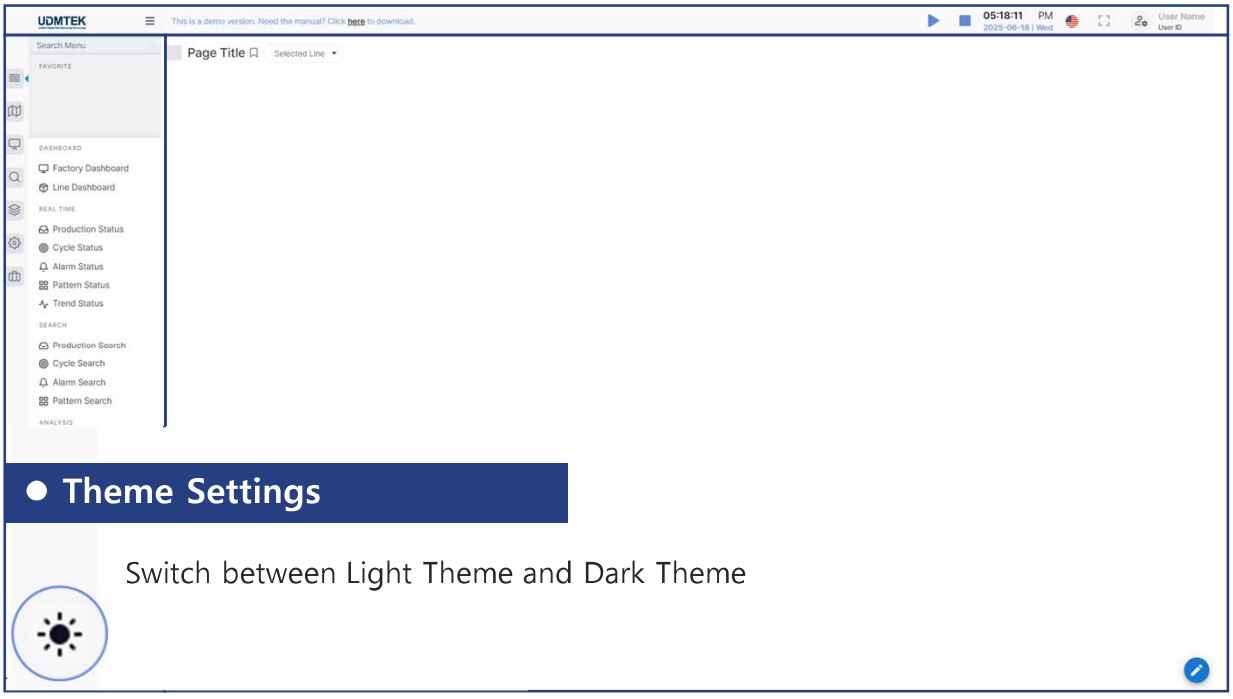




2. Click to view a list of minimized content on the current page

3. Click the name in the list to restore and display the content

Screen Configuration



Theme Settings

Switch between Light Theme and Dark Theme

Screen Configuration

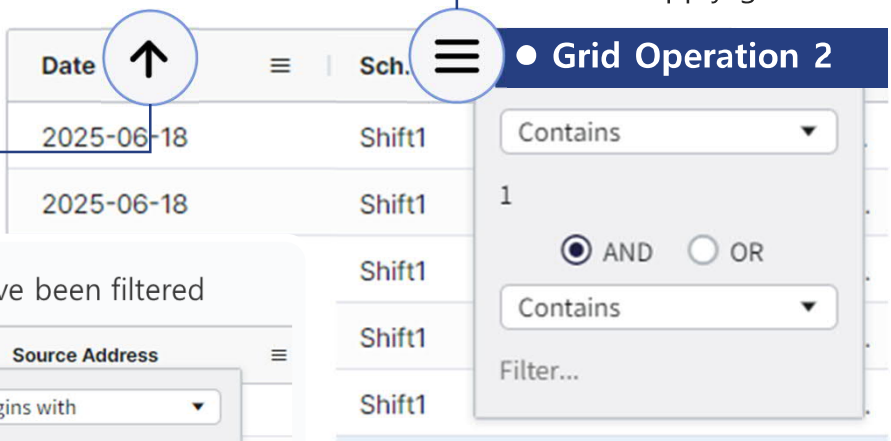
● Grid Operation 1

Click on the column header to sort rows

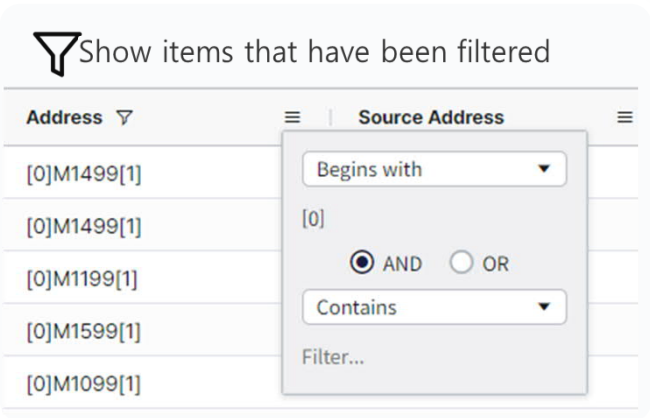
Sort Ascending

Sort Descending

Click the menu icon to apply grid filters

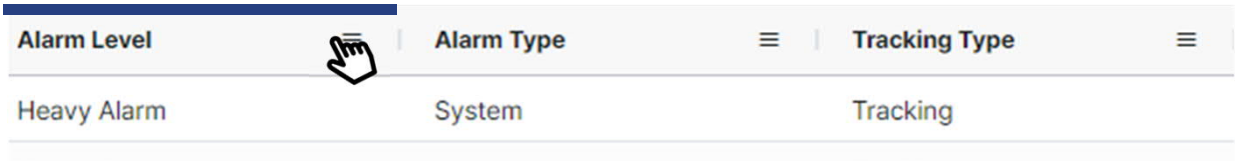


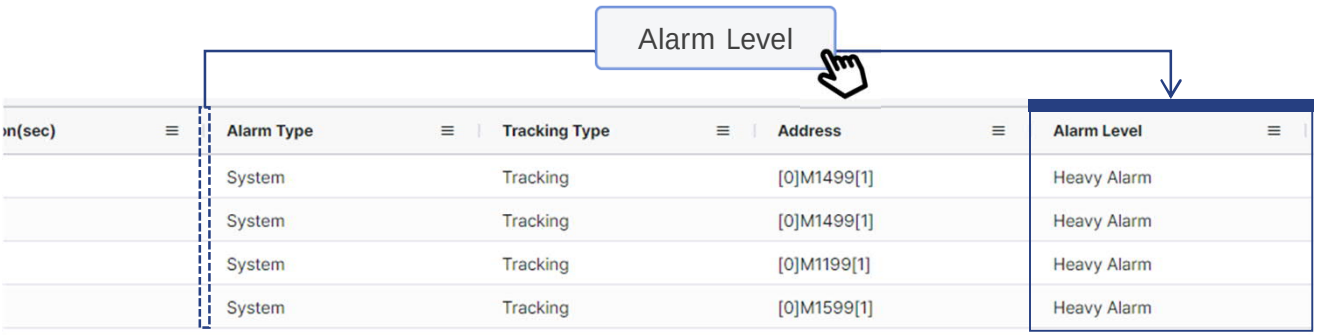
● Grid Operation 2



● Grid Operation 3

Drag the column header to rearrange column order



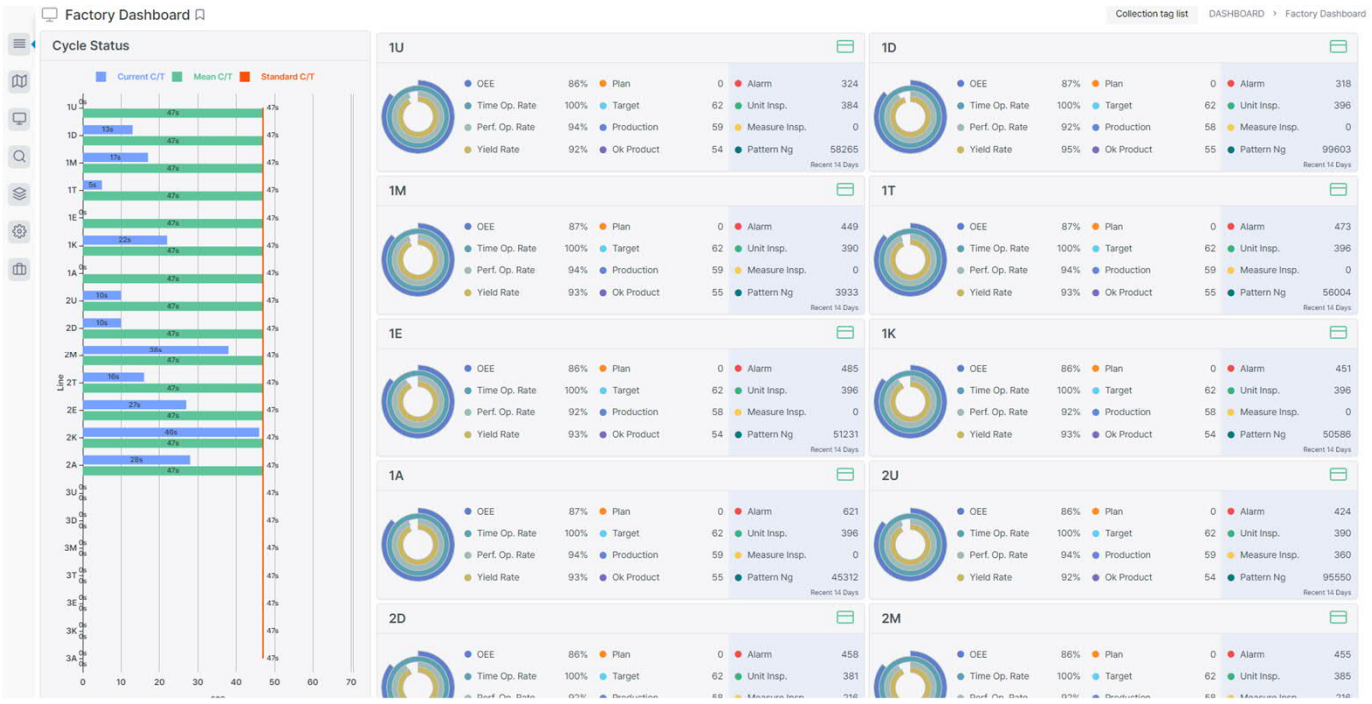


1

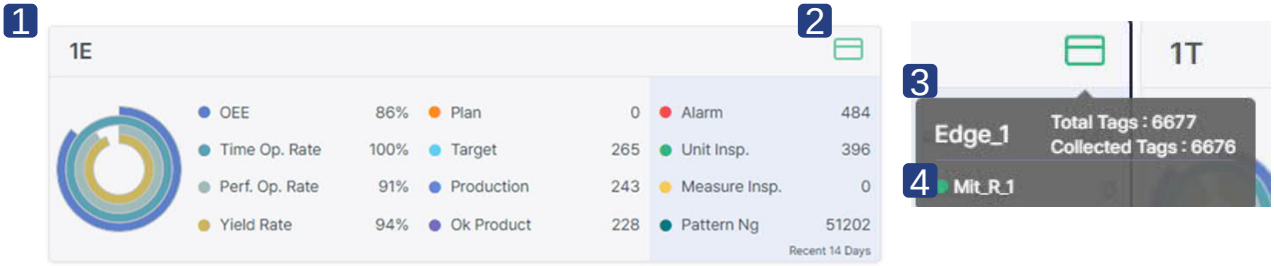
Dashboard

1. Factory Dashboard

- Display cycle status of each registered line
- Display current operation status of each line
- Display the number of occurrences over the past 14 days for alarms, actuator inspections, measurement inspections, abnormal patterns

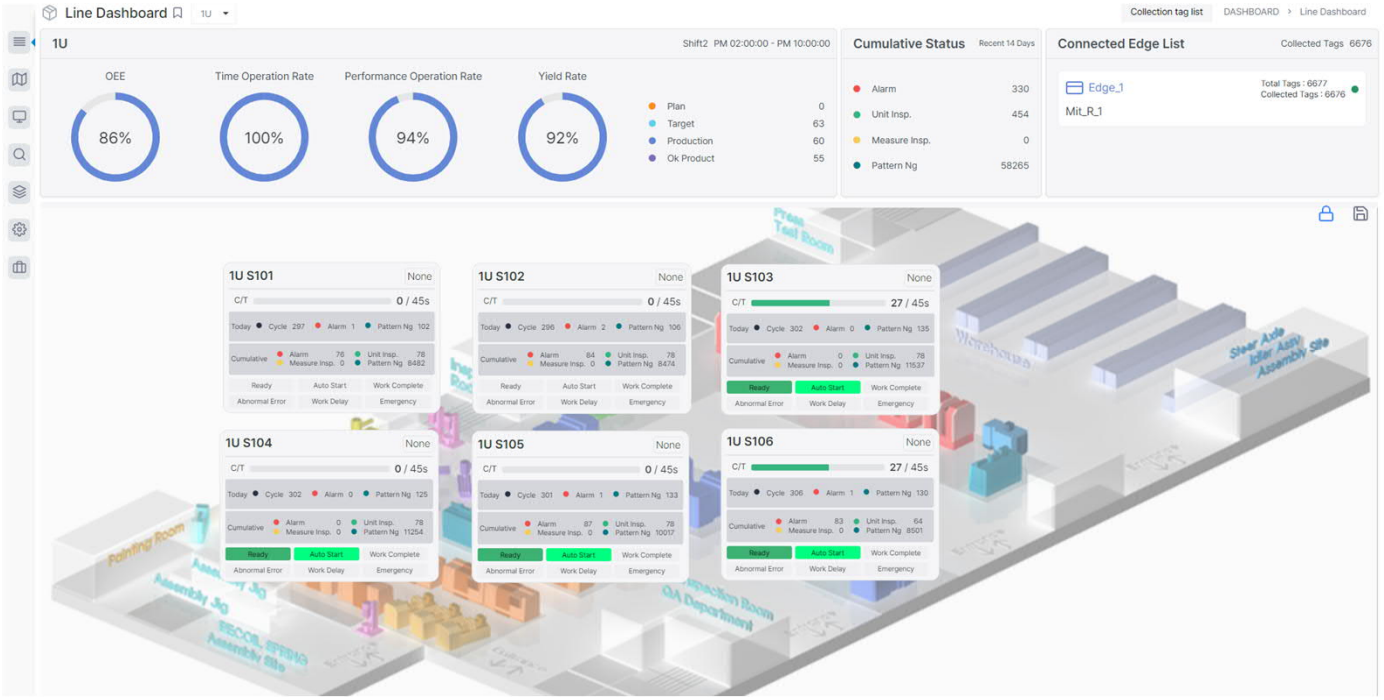


- Navigate to the Lind Dashboard after clicking on a specific line
  1. Line Name
  2. UDM Edge Info: Show information about the Edge devices connected to the line
  3. Tooltip with Edge information appears when hovering over the Edge icon
  4. Status and name of each device under the Edge are also displayed



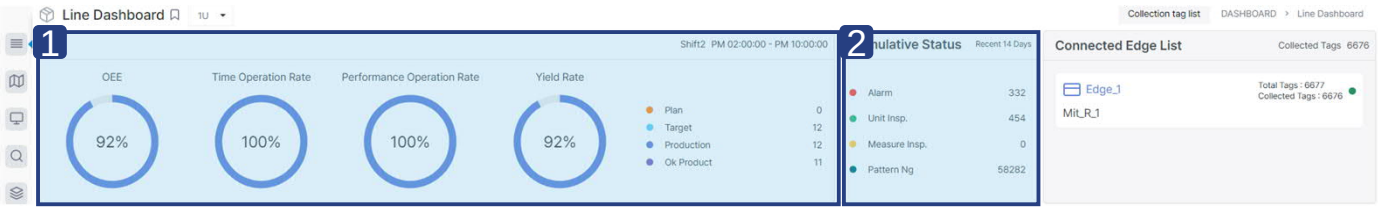
2. Line Dashboard

- Display the production status of the clicked line
- Show the number of occurrences over the past 14 days for alarms, unit inspection, measurement inspections, abnormal patterns
- Show the list of UDM Edge devices connected to
- Show cycle status for the stations in the line

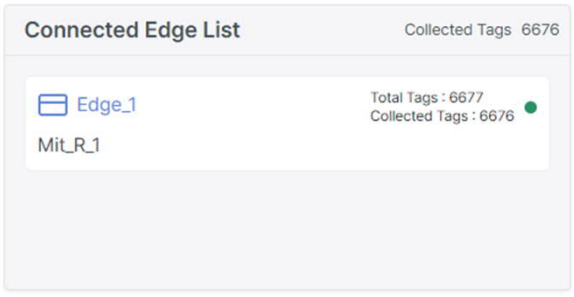


2. Line Dashboard

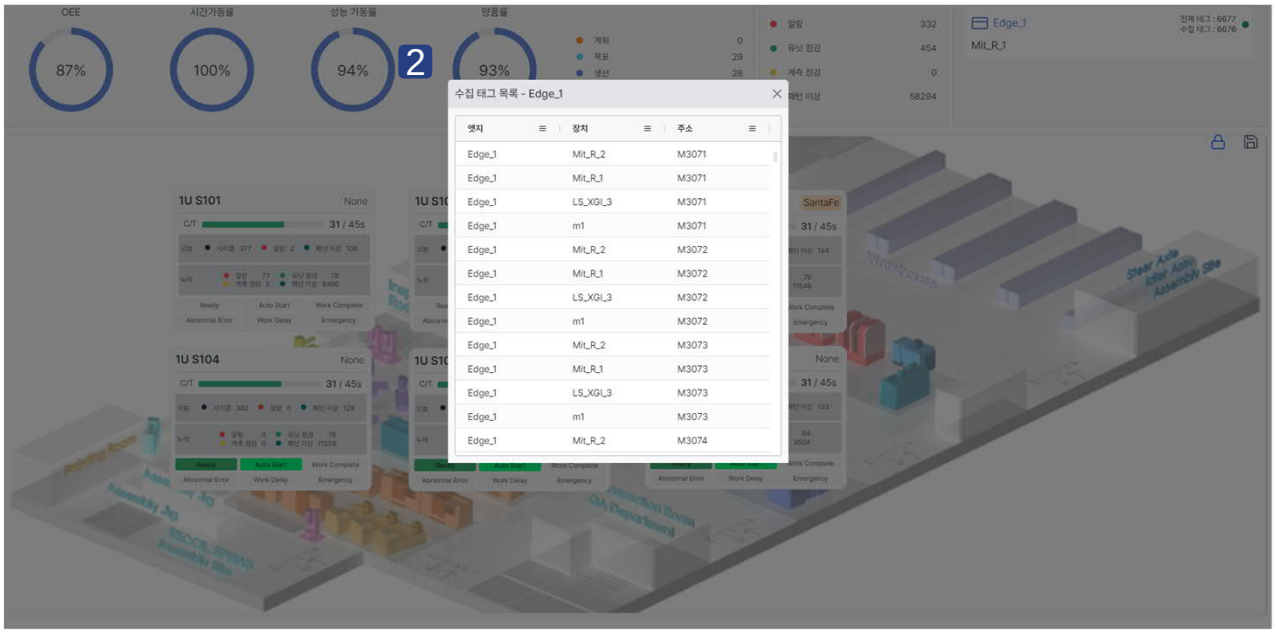
- Display the production status of the clicked line
  1. Line production status
  2. Cumulative status over the past 14 days



- Connected UDM Edge list
  1. Double-click the Edge to view the list of collected tags for that Edge

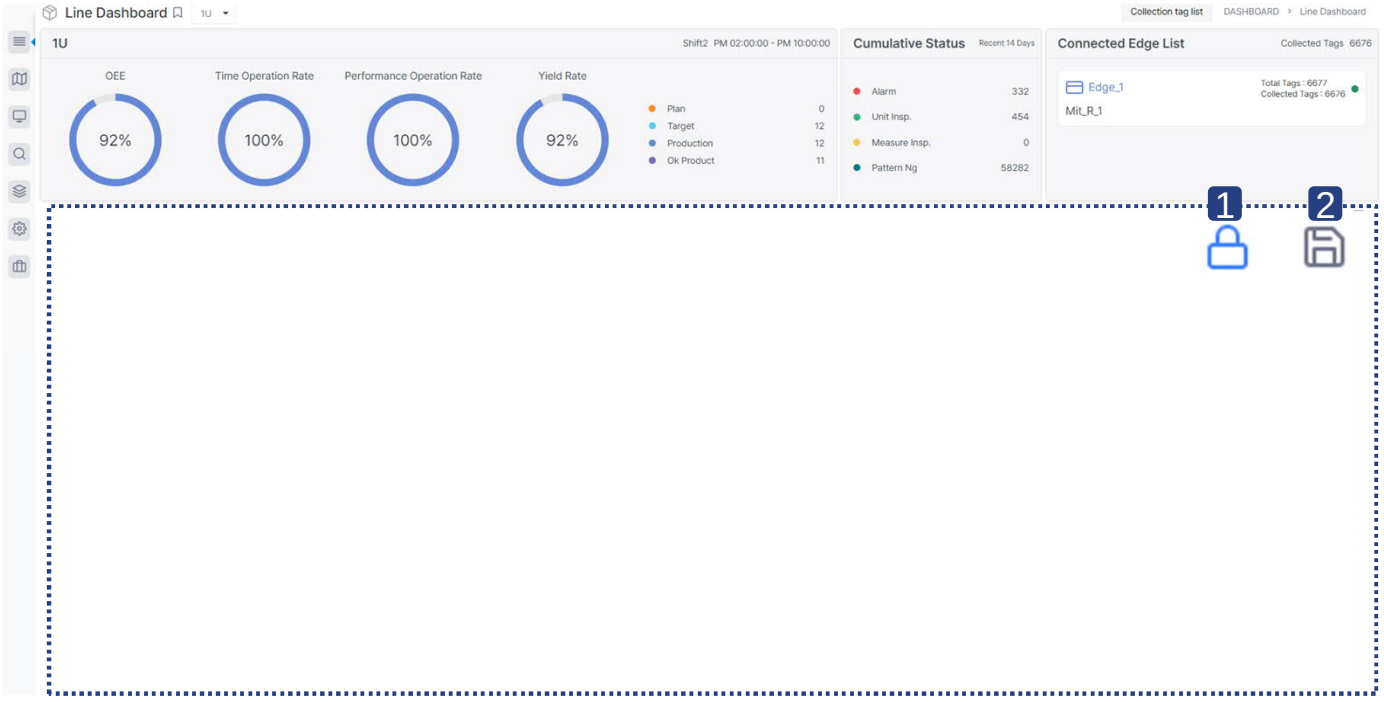


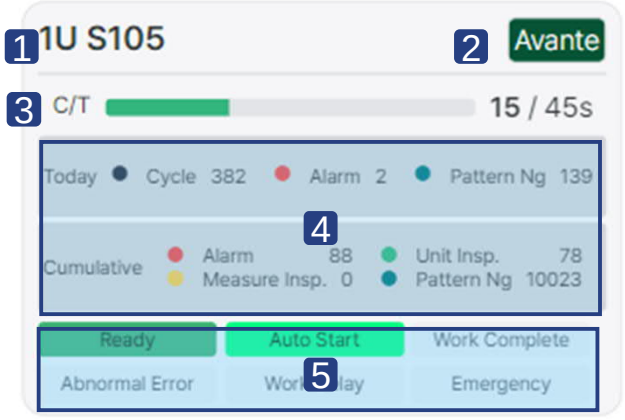
1 Double Click



2. Line Dashboard

- Process cards can be positioned freely with the dashboard layout
  1. Lock/Unlock Process Card: Enable/Disable to placement of process cards
  2. Save Process Card Layout: Saves the current placement of process cards





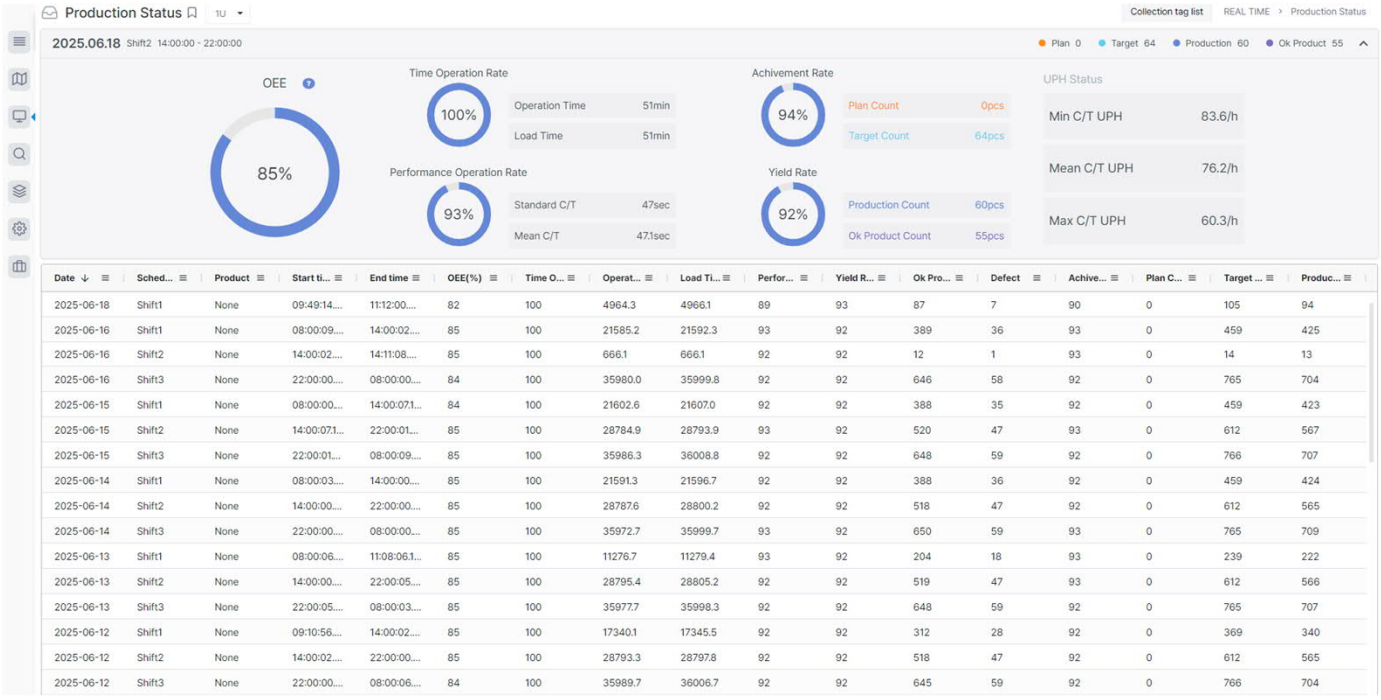
- Process Cards
  1. Display process name
  2. Display Product Model
  3. Show current C/T and standard C/T
  4. Show production status
  5. Show cycle status

2

Production

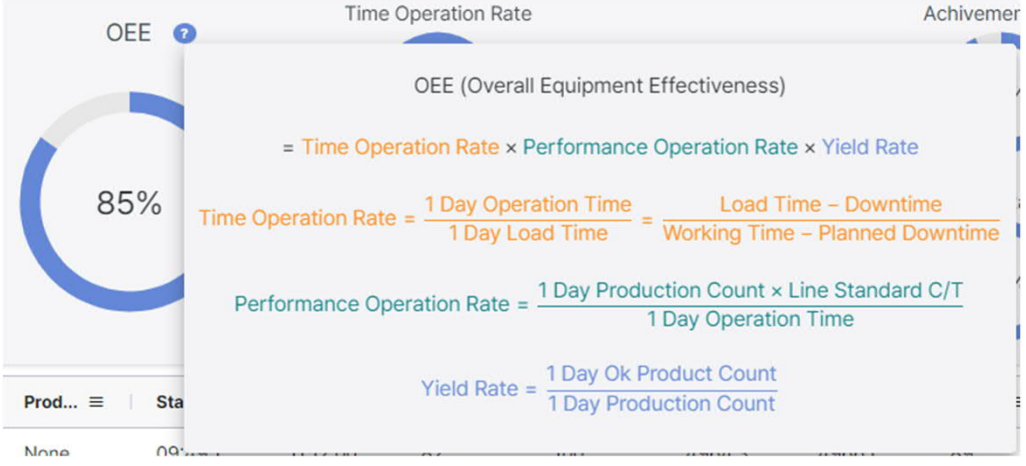
1. Production Status

- Show current shift of production status
- Search production logs for each line by schedule



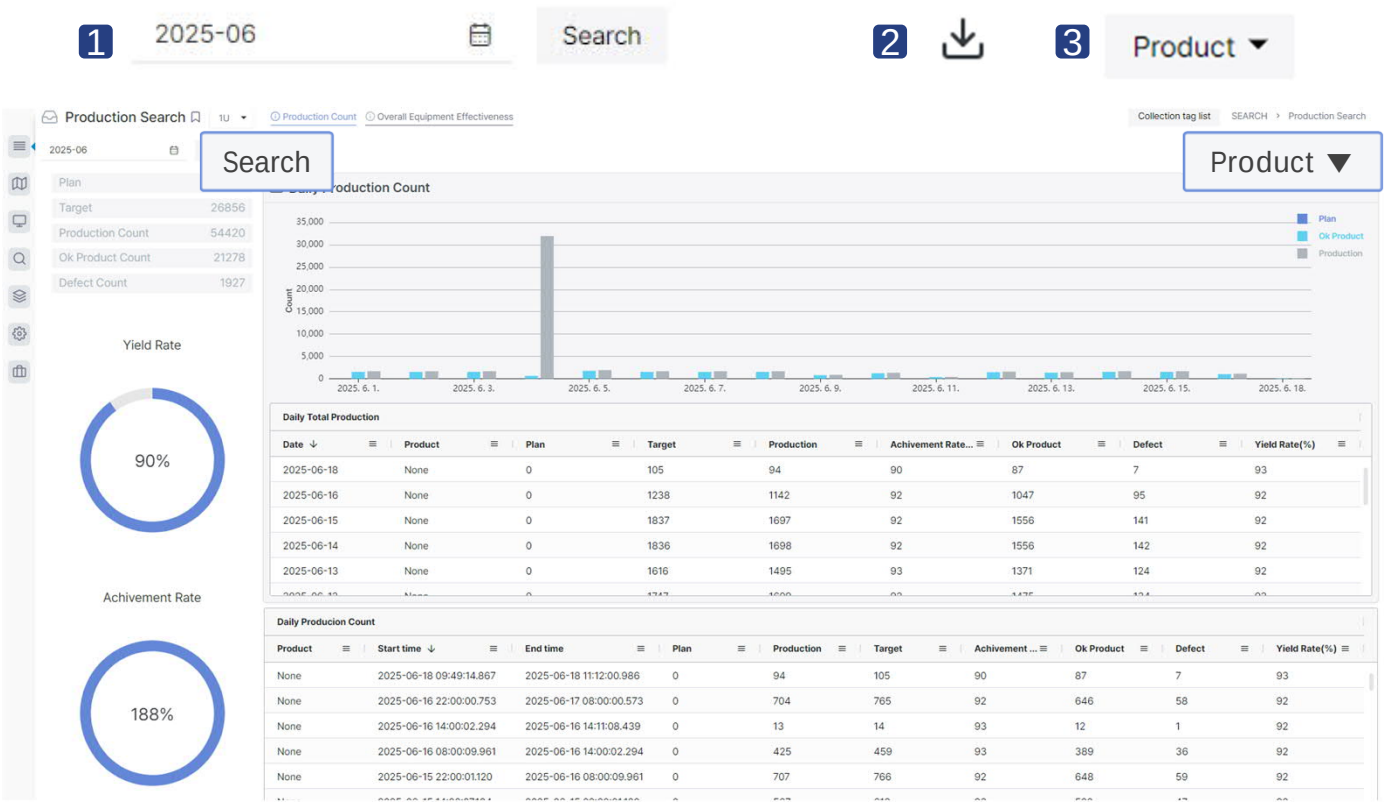
Date	Sched...	Product	Start ti...	End time	OEE(%)	Time O...	Operat...	Load Ti...	Perfor...	Yield R...	Ok Pro...	Defect	Achive...	Plan C...	Target ...	Produc...
2025-06-18	Shift1	None	09:49:14....	11:12:00....	82	100	4964.3	4966.1	89	93	87	7	90	0	105	94
2025-06-16	Shift1	None	08:00:09....	14:00:02....	85	100	21585.2	21592.3	93	92	389	36	93	0	459	425
2025-06-16	Shift2	None	14:00:02....	14:11:08....	85	100	666.1	666.1	92	92	12	1	93	0	14	13
2025-06-16	Shift3	None	22:00:00....	08:00:00....	84	100	35980.0	35999.8	92	92	646	58	92	0	765	704
2025-06-15	Shift1	None	08:00:00....	14:00:07.1...	84	100	21602.6	21607.0	92	92	388	35	92	0	459	423
2025-06-15	Shift2	None	14:00:07.1...	22:00:01....	85	100	28784.9	28793.9	93	92	520	47	93	0	612	567
2025-06-15	Shift3	None	22:00:01....	08:00:09....	85	100	35986.3	36008.8	92	92	648	59	92	0	766	707
2025-06-14	Shift1	None	08:00:03....	14:00:00....	85	100	21591.3	21596.7	92	92	388	36	92	0	459	424
2025-06-14	Shift2	None	14:00:00....	22:00:00....	85	100	28787.6	28800.2	92	92	518	47	92	0	612	565
2025-06-14	Shift3	None	22:00:00....	08:00:00....	85	100	35972.7	35999.7	93	92	650	59	93	0	765	709
2025-06-13	Shift1	None	08:00:06....	11:08:06.1...	85	100	11276.7	11279.4	93	92	204	18	93	0	239	222
2025-06-13	Shift2	None	14:00:00....	22:00:05....	85	100	28795.4	28805.2	92	92	519	47	93	0	612	566
2025-06-13	Shift3	None	22:00:05....	08:00:03....	85	100	35977.7	35998.3	92	92	648	59	92	0	765	707
2025-06-12	Shift1	None	09:10:56....	14:00:02....	85	100	17340.1	17345.5	92	92	312	28	92	0	369	340
2025-06-12	Shift2	None	14:00:02....	22:00:00....	85	100	28793.3	28797.8	92	92	518	47	92	0	612	565
2025-06-12	Shift3	None	22:00:00....	08:00:06....	84	100	35989.7	36006.7	92	92	645	59	92	0	766	704

? When clicking on the question mark,
a tooltip appears explaining the calculation



2. Prodcution Search

- Production Count
- View daily product output
- Display monthly statistics, total daily production quantity, detailed daily production quantity



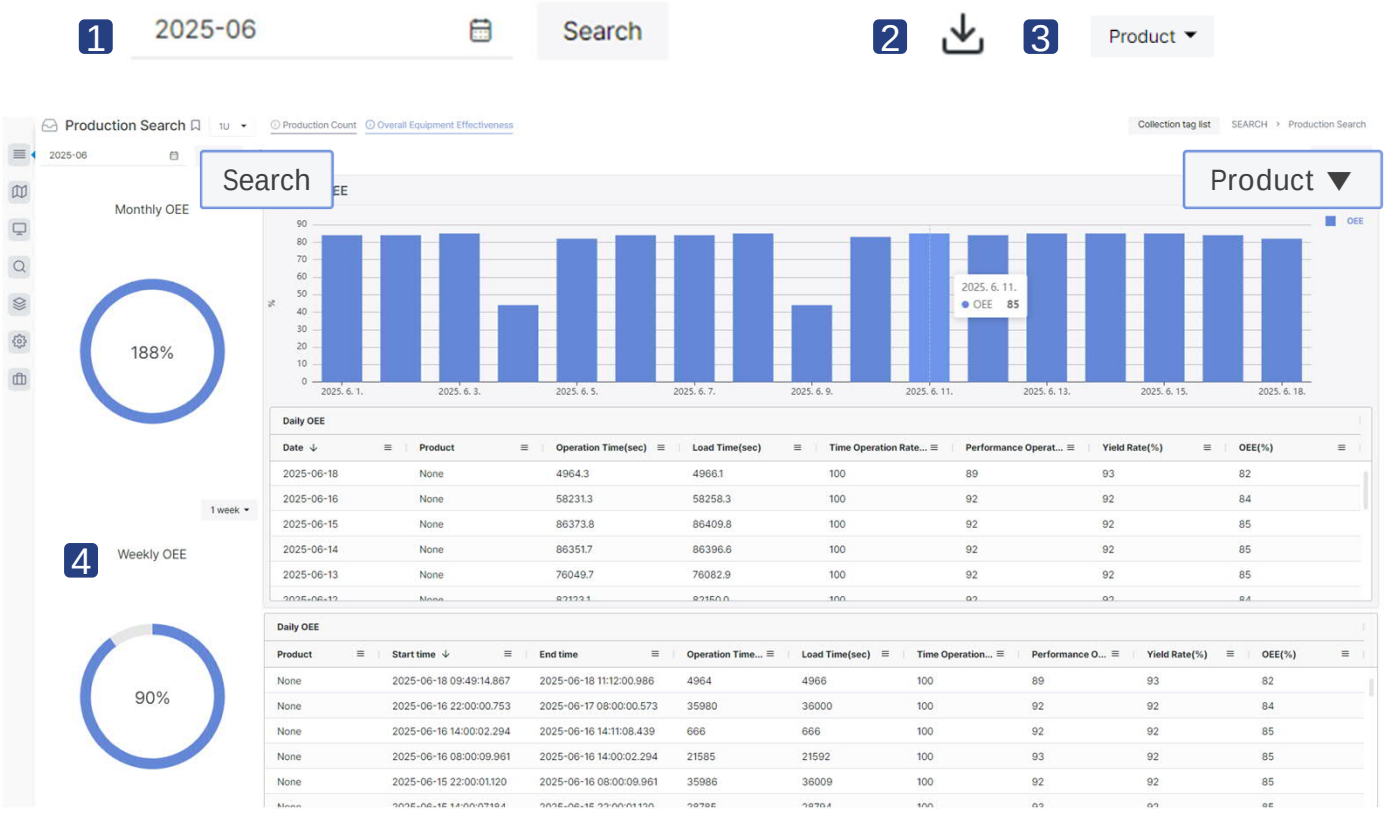
1.Select date rand and click “Search” button

2.Download daily production quantity for selected month

3.Use the dropdown to choose which product item(s) to display in the chart

2. Prodcution Search

- Overall Equipment Effectiveness
- View daily Overall Equipment Effectiveness (OEE)
- Display monthly OEE, daily OEE, detailed daily production output



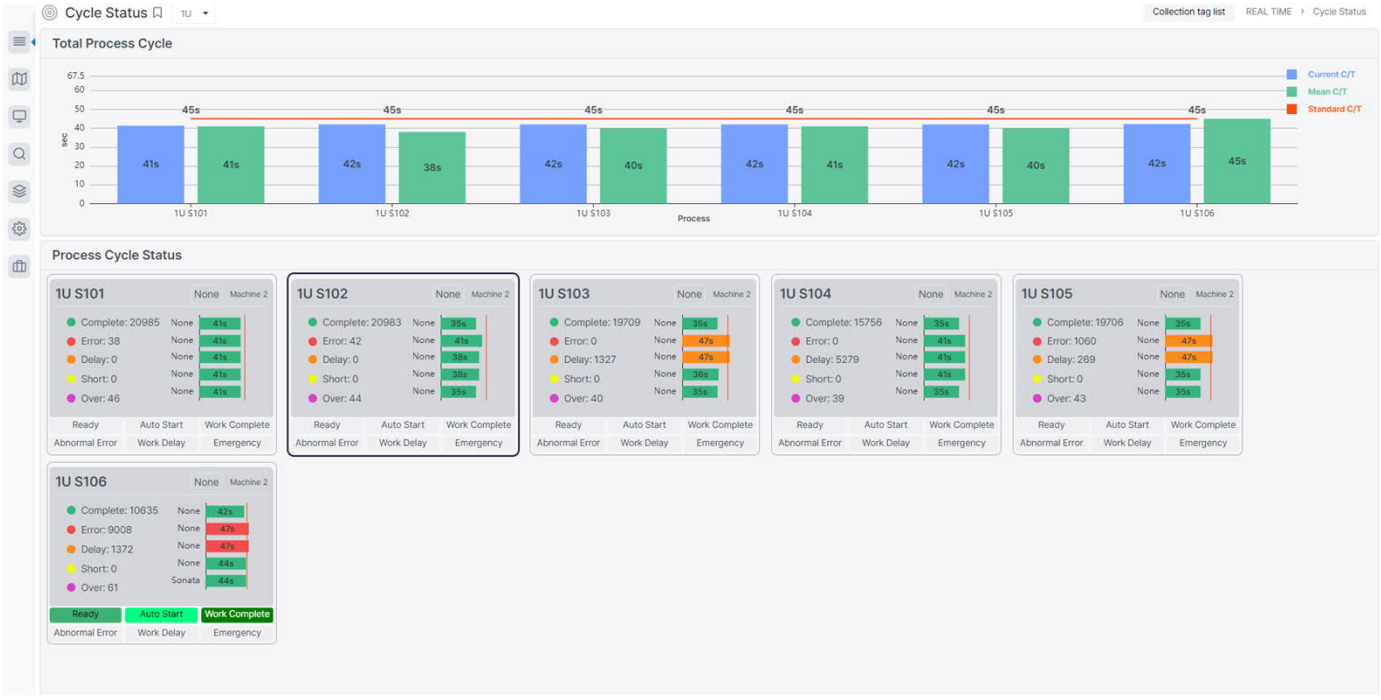
1.Select a time range and click "Search" button
2.Download monthly OEE data
3.Use the dropdown to select the product items to be displayed in the chart
4.Check weekly OEE performance

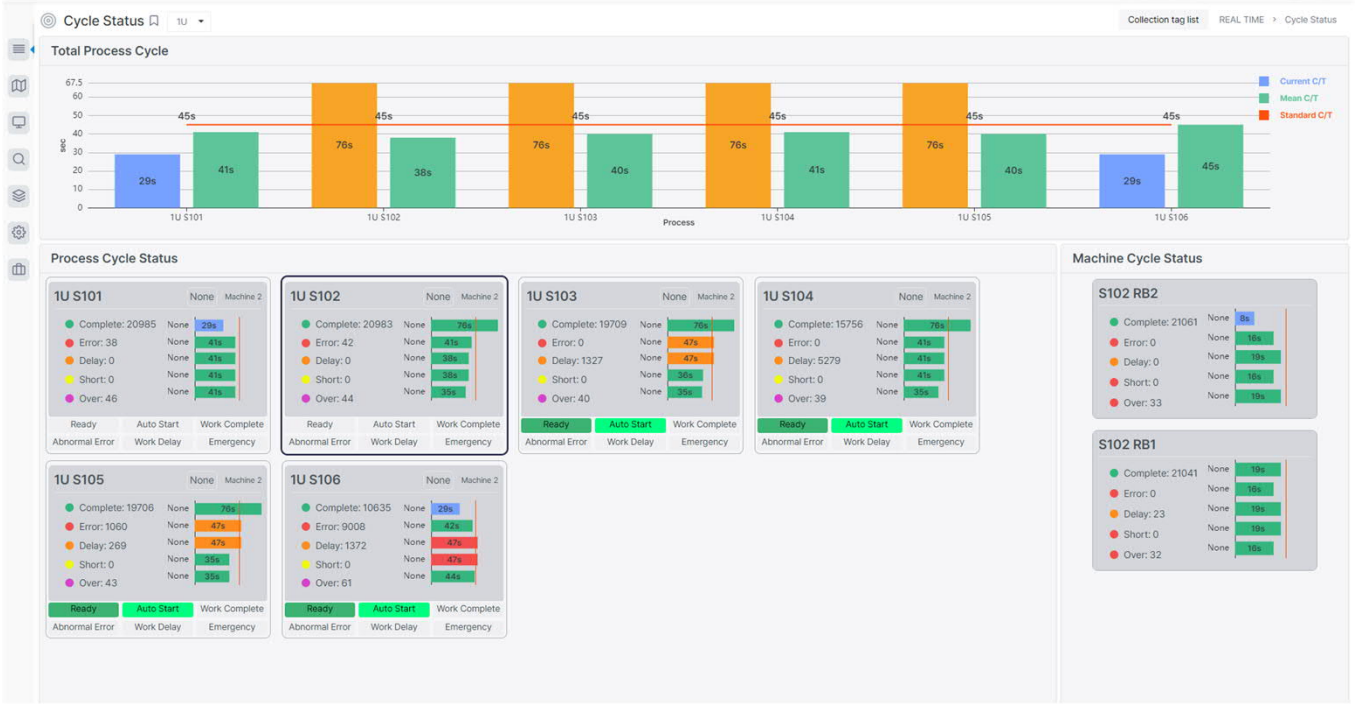
3

Cycle

1. Cycle Status

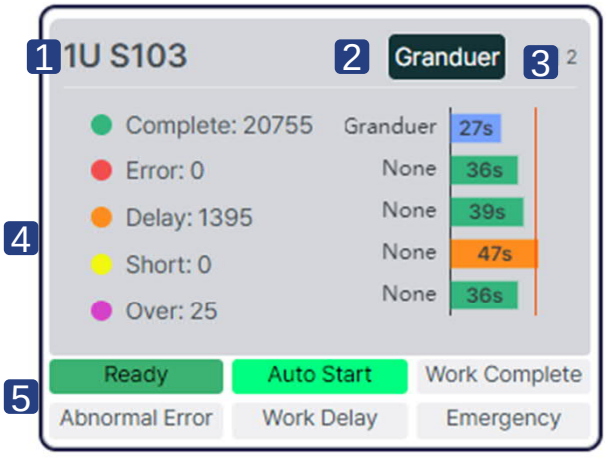
- View the selected line's process cycle and related machines' cycle
- Display current C/T, standard C/T, average C/T





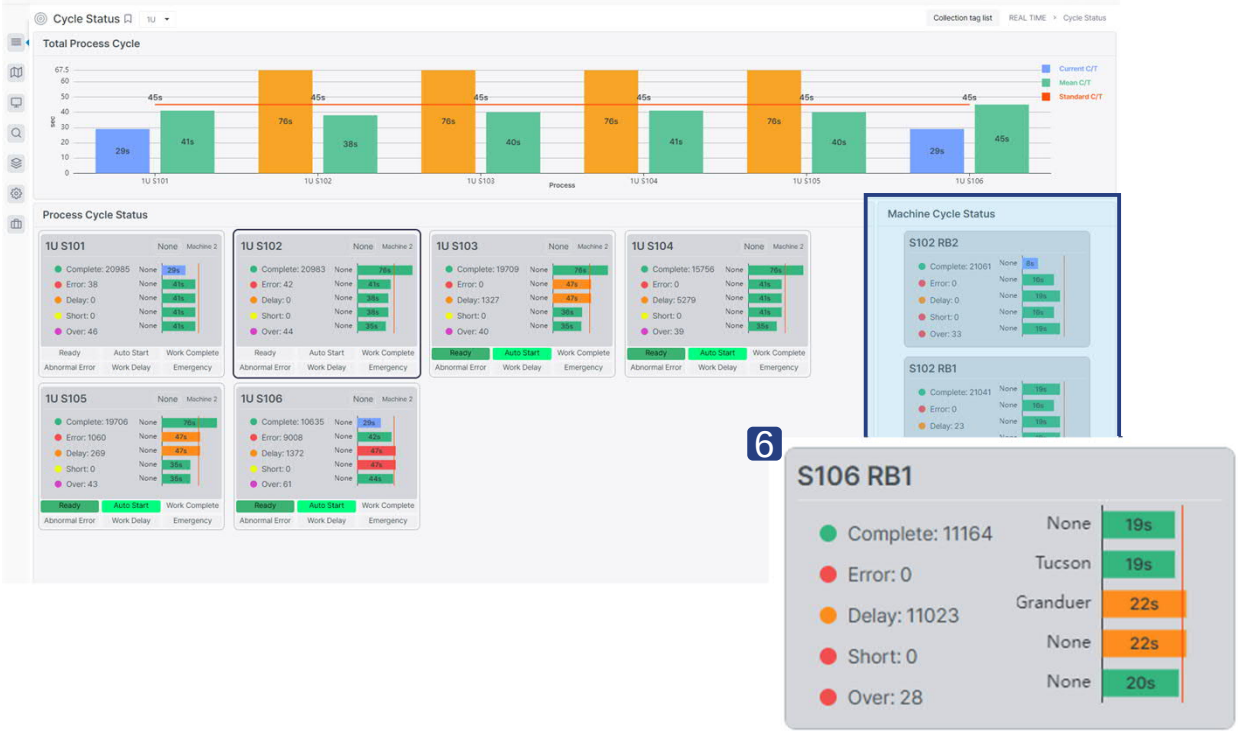
1. Cycle Status

- When clicking a process cycle card, the equipment cycle cards linked to that process will be displayed



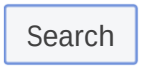
1. Name of the process or station
2. Product related with the current operation cycle
3. Number of equipment in the process
4. View cumulative cycle logs / view the current cycle and the last 4 cycles
5. Current Cycle Status (Ready, Auto Start, Work Complete, etc.)

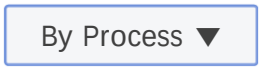
6. Detailed equipment cycle data per equipment including completion, error, delays and C/T information

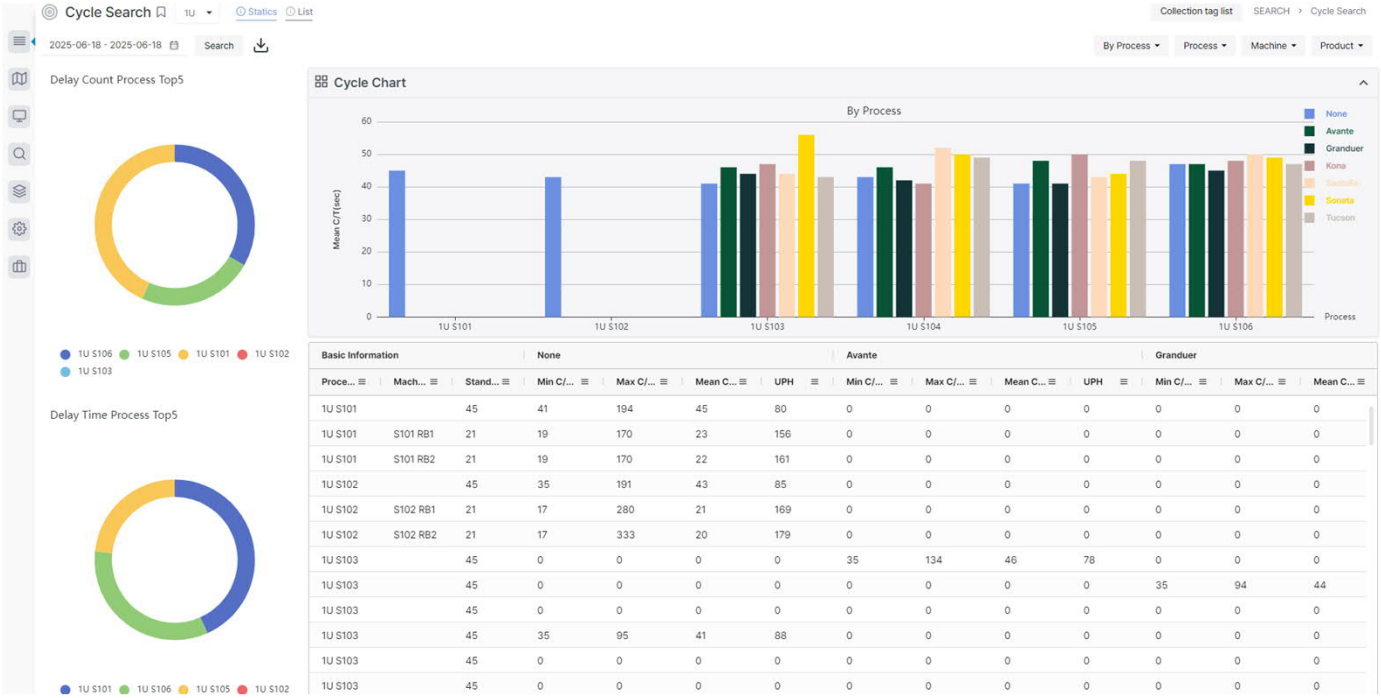


2. Cyle Search

- Search cycle log (Statistics)
- View the cycle log of the selected line
- Display Top 5 processes with the most delays during the selected period



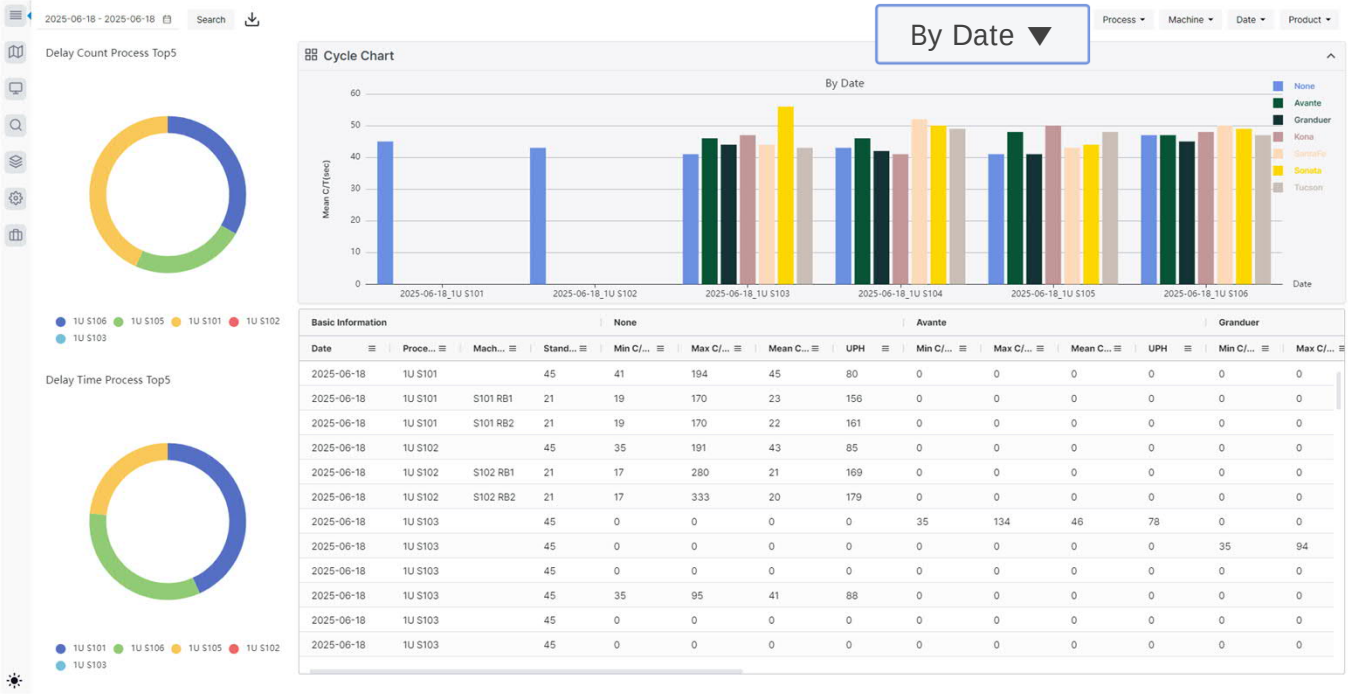


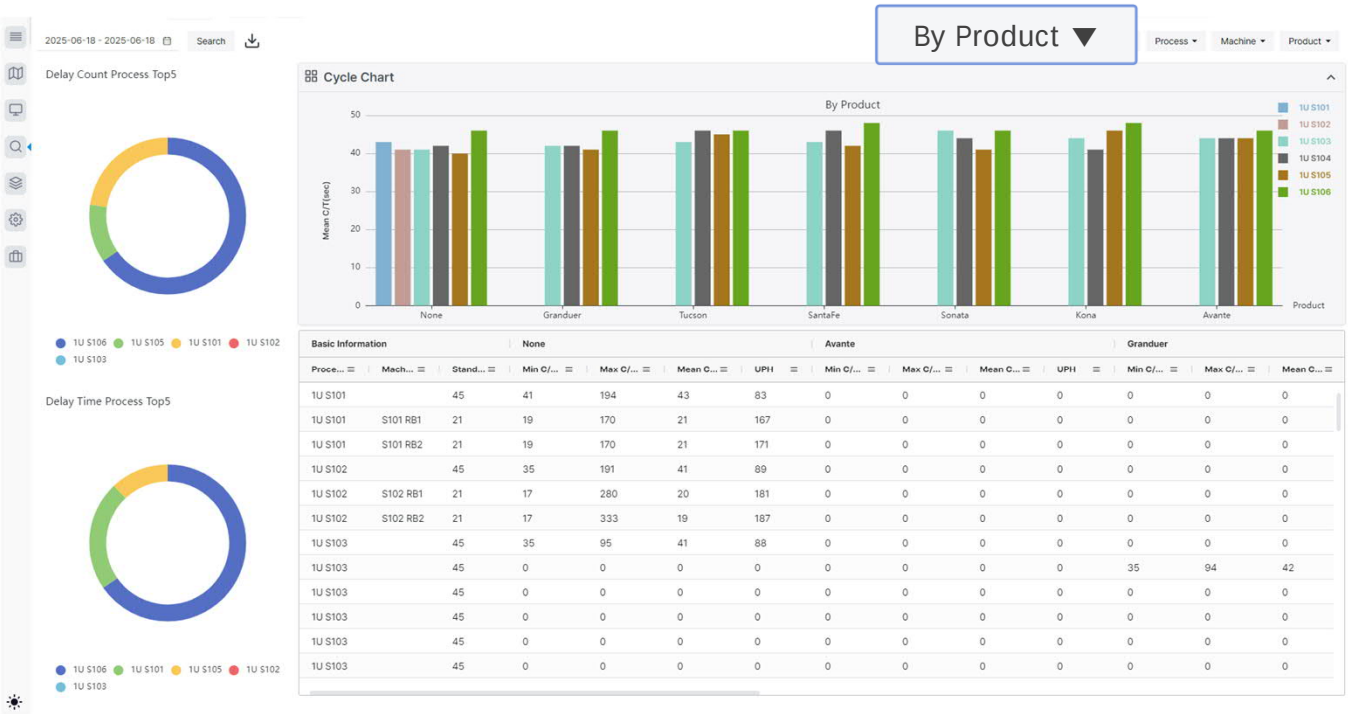


1.Select the timeline then click “Search” button
2.Download cycle log data
3.Use the dropdown to filter by item, process, or equipment

2. Cycle Search

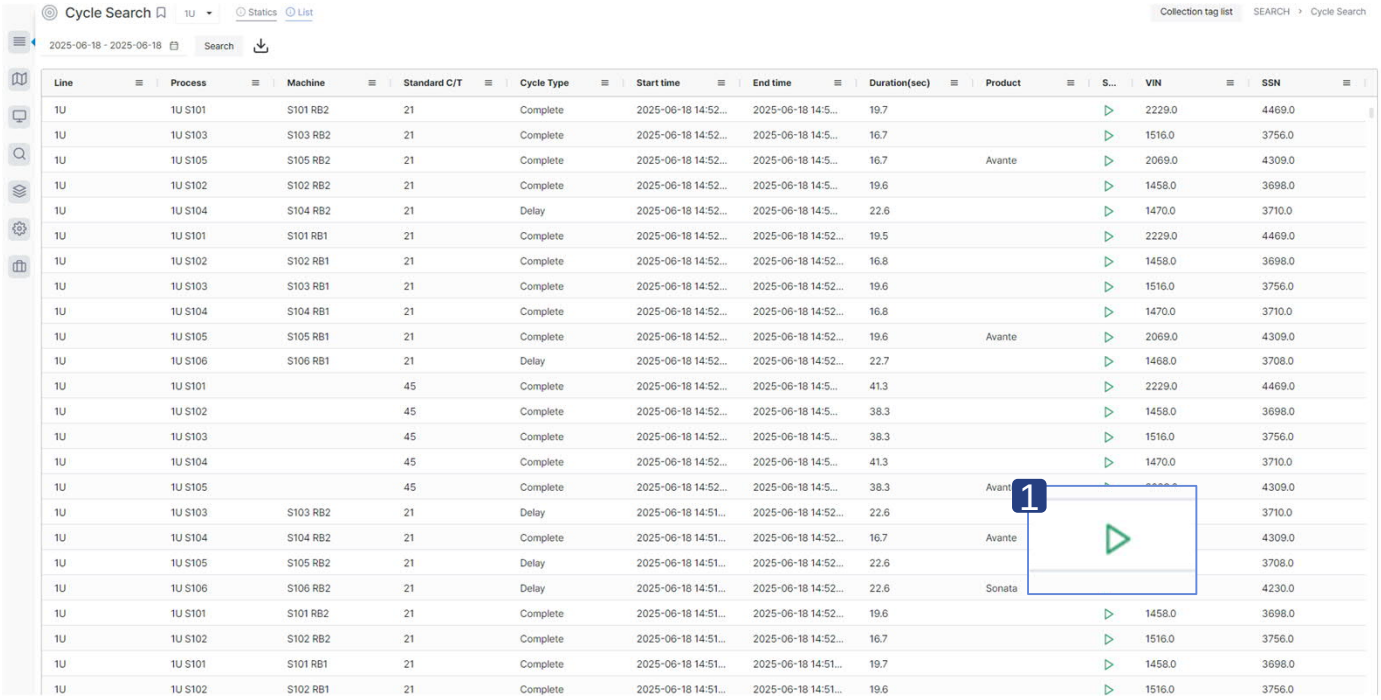
- Search cycle log (Statistics)





2. Cycle Search

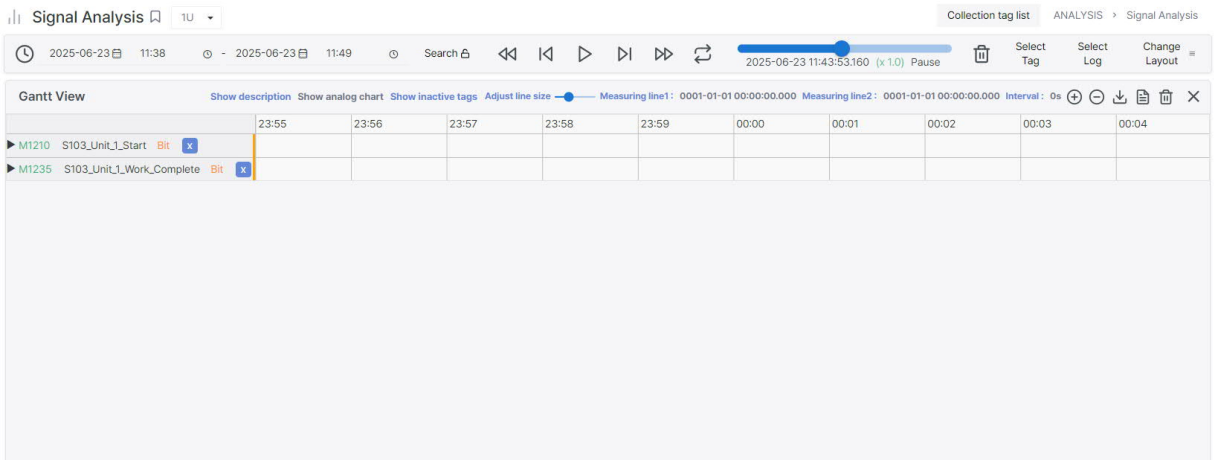
- Search cycle log (List)
- Display cycle logs of the selected line in grid format



Line	Process	Machine	Standard C/T	Cycle Type	Start time	End time	Duration(sec)	Product	S...	VIN	SSN
1U	1U S101	S101 RB2	21	Complete	2025-06-18 14:52...	2025-06-18 14:5...	19.7			2229.0	4469.0
1U	1U S103	S103 RB2	21	Complete	2025-06-18 14:52...	2025-06-18 14:5...	16.7			1516.0	3756.0
1U	1U S105	S105 RB2	21	Complete	2025-06-18 14:52...	2025-06-18 14:5...	16.7	Avante		2069.0	4309.0
1U	1U S102	S102 RB2	21	Complete	2025-06-18 14:52...	2025-06-18 14:5...	19.6			1458.0	3698.0
1U	1U S104	S104 RB2	21	Delay	2025-06-18 14:52...	2025-06-18 14:5...	22.6			1470.0	3710.0
1U	1U S101	S101 RB1	21	Complete	2025-06-18 14:52...	2025-06-18 14:52...	19.5			2229.0	4469.0
1U	1U S102	S102 RB1	21	Complete	2025-06-18 14:52...	2025-06-18 14:52...	16.8			1458.0	3698.0
1U	1U S103	S103 RB1	21	Complete	2025-06-18 14:52...	2025-06-18 14:52...	19.6			1516.0	3756.0
1U	1U S104	S104 RB1	21	Complete	2025-06-18 14:52...	2025-06-18 14:52...	16.8			1470.0	3710.0
1U	1U S105	S105 RB1	21	Complete	2025-06-18 14:52...	2025-06-18 14:52...	19.6	Avante		2069.0	4309.0
1U	1U S106	S106 RB1	21	Delay	2025-06-18 14:52...	2025-06-18 14:52...	22.7			1468.0	3708.0
1U	1U S101		45	Complete	2025-06-18 14:52...	2025-06-18 14:5...	41.3			2229.0	4469.0
1U	1U S102		45	Complete	2025-06-18 14:52...	2025-06-18 14:5...	38.3			1458.0	3698.0
1U	1U S103		45	Complete	2025-06-18 14:52...	2025-06-18 14:5...	38.3			1516.0	3756.0
1U	1U S104		45	Complete	2025-06-18 14:52...	2025-06-18 14:5...	41.3			1470.0	3710.0
1U	1U S105		45	Complete	2025-06-18 14:52...	2025-06-18 14:5...	38.3	Avant			4309.0
1U	1U S103	S103 RB2	21	Delay	2025-06-18 14:51...	2025-06-18 14:52...	22.6				3710.0
1U	1U S104	S104 RB2	21	Complete	2025-06-18 14:51...	2025-06-18 14:52...	16.7	Avante			4309.0
1U	1U S105	S105 RB2	21	Delay	2025-06-18 14:51...	2025-06-18 14:52...	22.6				3708.0
1U	1U S106	S106 RB2	21	Delay	2025-06-18 14:51...	2025-06-18 14:52...	22.6	Sonata			4230.0
1U	1U S101	S101 RB2	21	Complete	2025-06-18 14:51...	2025-06-18 14:52...	19.6			1458.0	3698.0
1U	1U S102	S102 RB2	21	Complete	2025-06-18 14:51...	2025-06-18 14:52...	16.7			1516.0	3756.0
1U	1U S101	S101 RB1	21	Complete	2025-06-18 14:51...	2025-06-18 14:51...	19.7			1458.0	3698.0
1U	1U S102	S102 RB1	21	Complete	2025-06-18 14:51...	2025-06-18 14:51...	19.6			1516.0	3756.0

- Signal Analysis for cycle
  1. When clicking the play button in the Search row,
  2. the platform navigates to Signal Analysis for deeper analysis

2

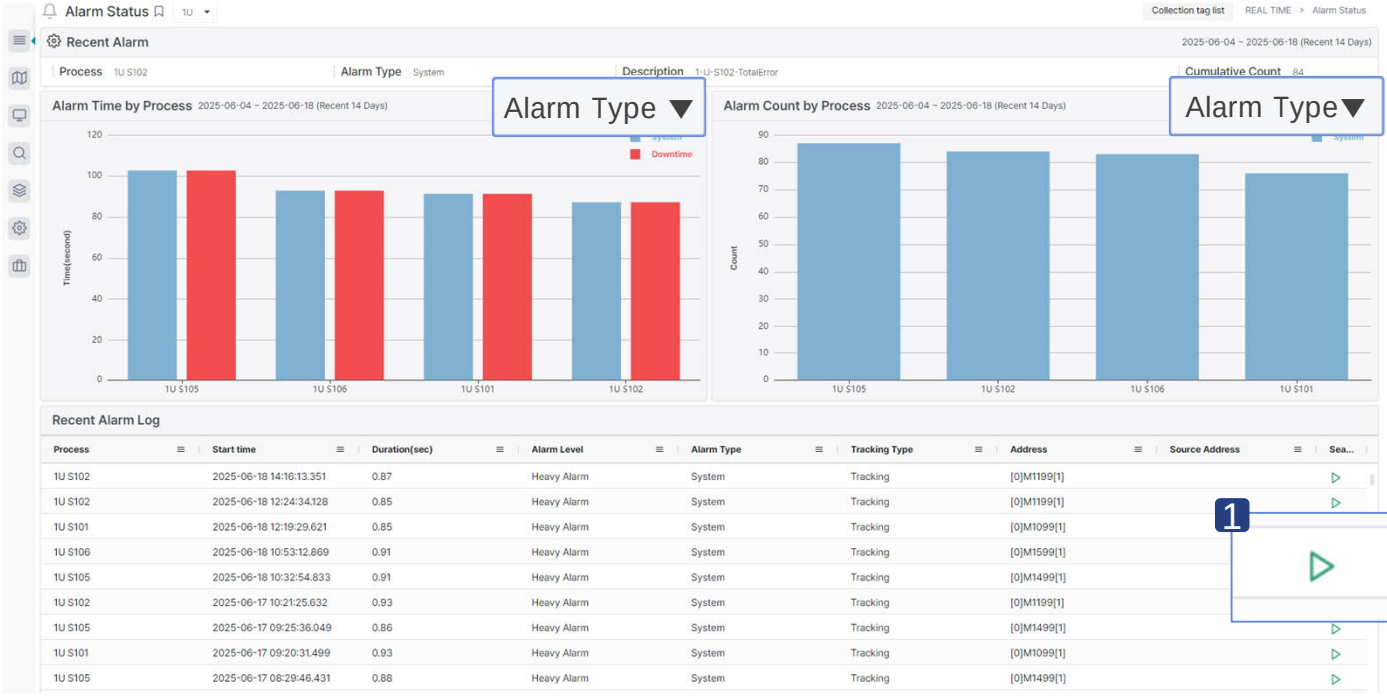


4

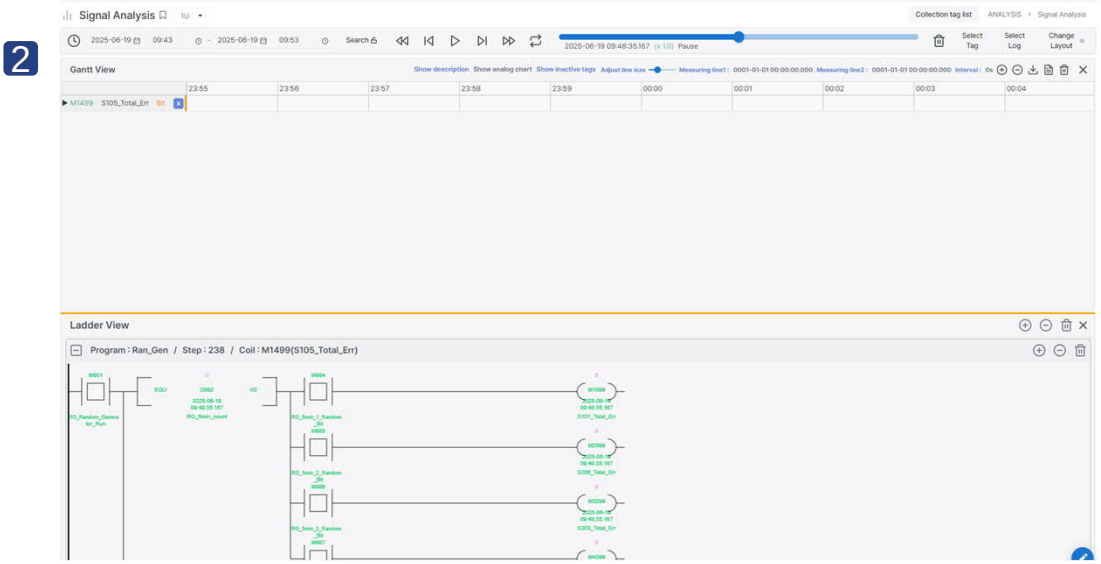
Alarm

1. Alarm Status

- Show the most recent alarms that occurred on the selected line
- Show the total amount of alarm time and alarm counts in the station
- Filter alarms by process, alarm level, alarm type, and tracking type via dropdown options

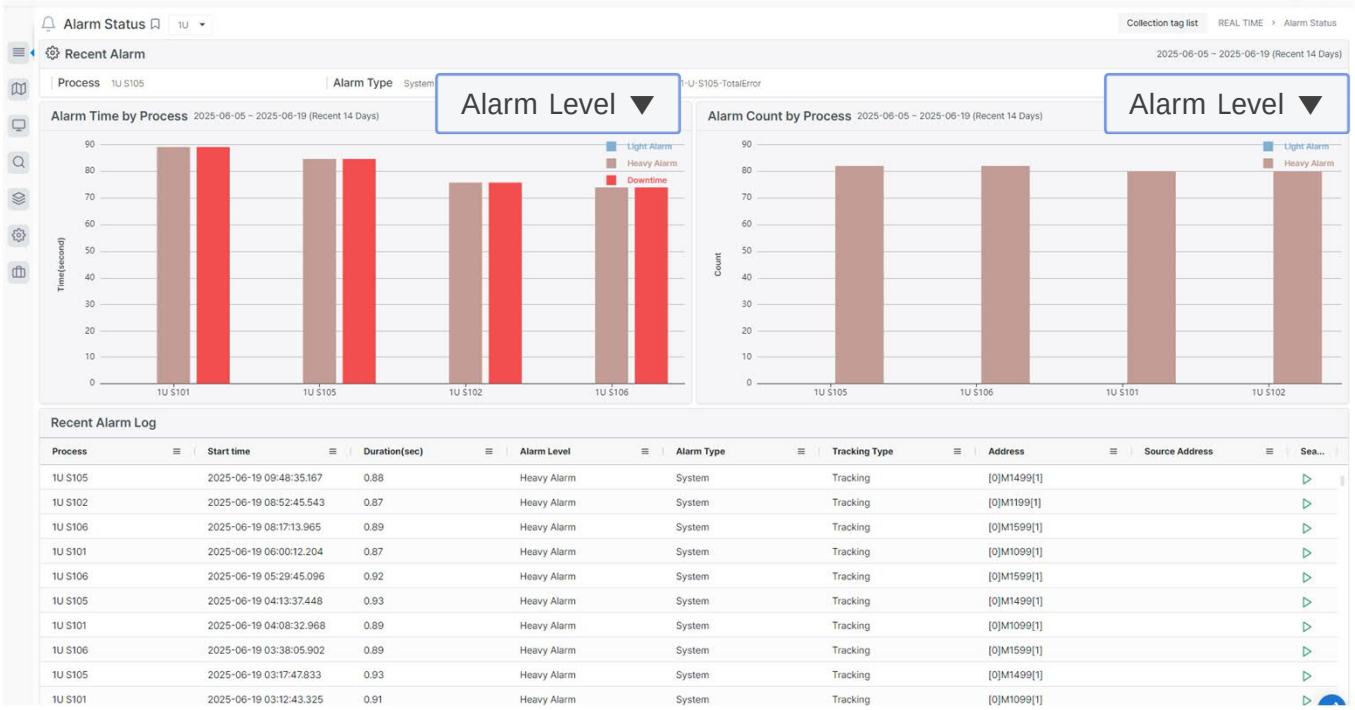


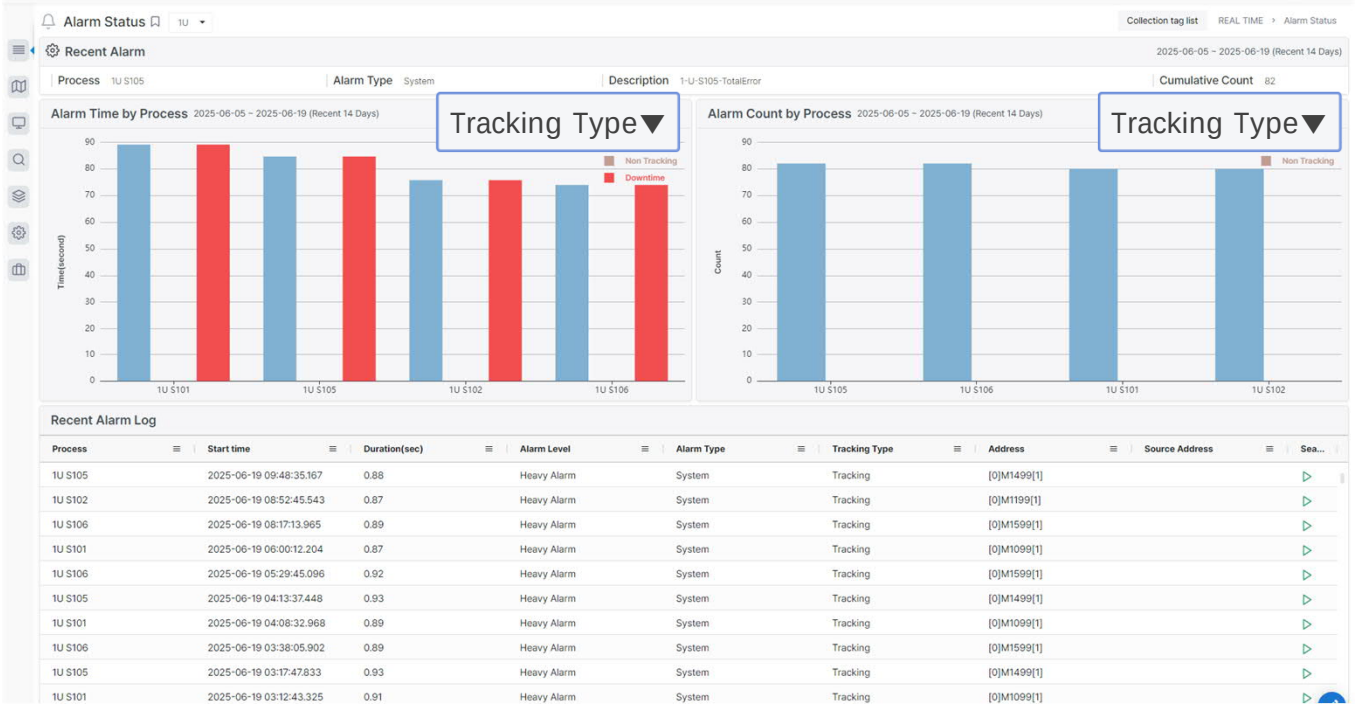
1.When clicking the play button in the Search row,
2.Platform navigates to Signal Analysis for root cause analysis



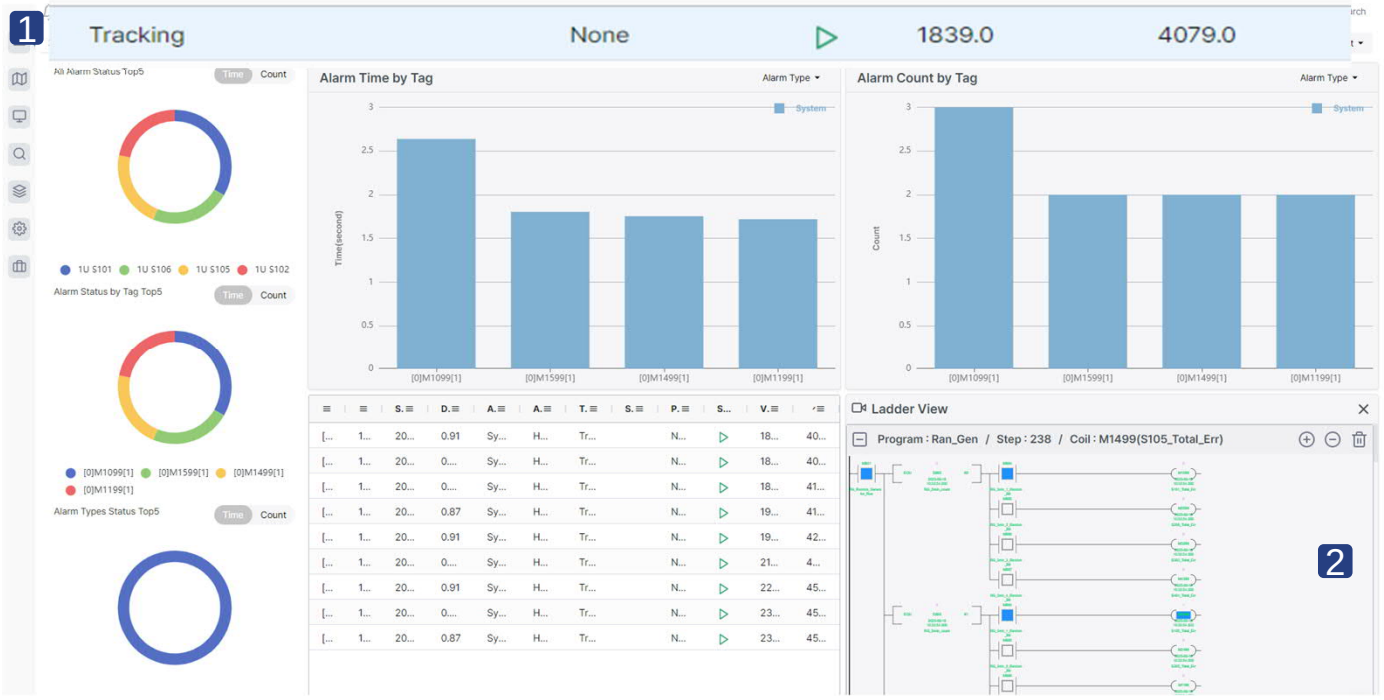
1. Alarm Status

- Use the aggregation dropdown to display charts by category

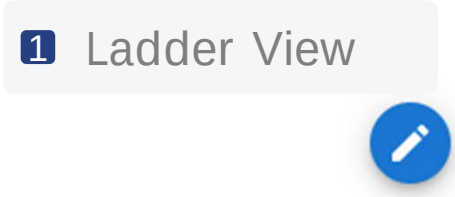




1. Alarm Status

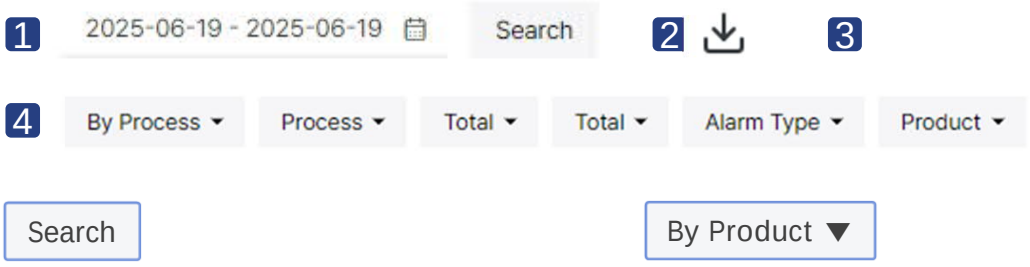


- Show Ladder View after double-clicking alarm logs
  1.Close Ladder View
  2.Open Ladder View



2. Search Alarms

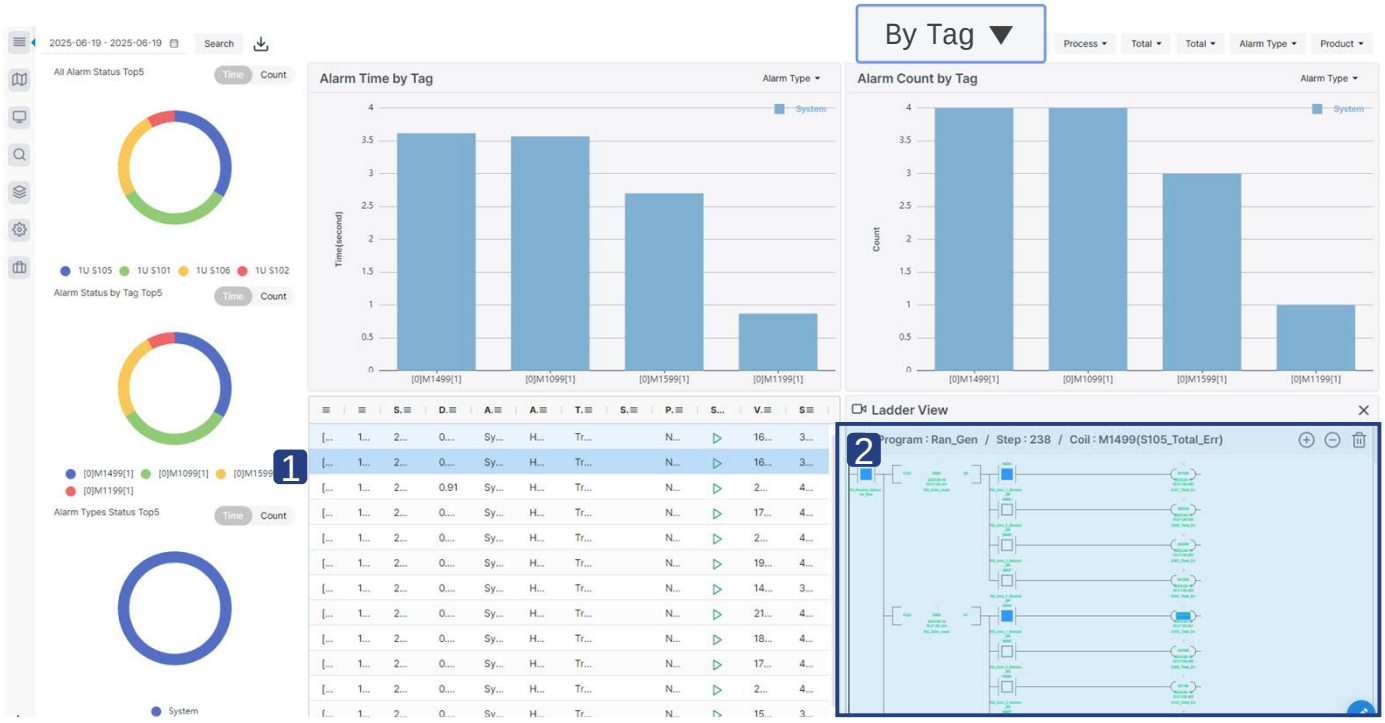
- View alarm logs of the selected line
- Show statistic charts within the selected time

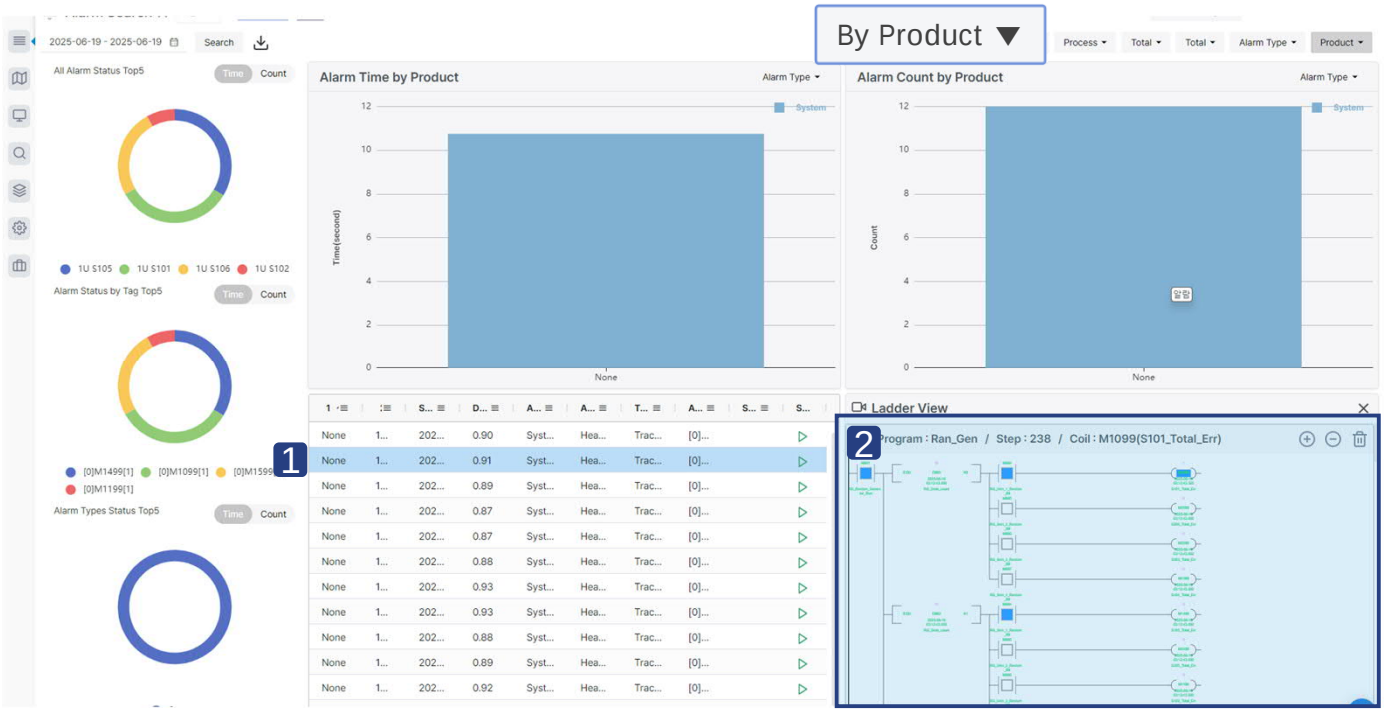


1.Select period and click the “Search” button
2.Download the alarm log
3.Change option through dropdown menu
4.Change chart display option through dropdown menu

2. Search Alarms

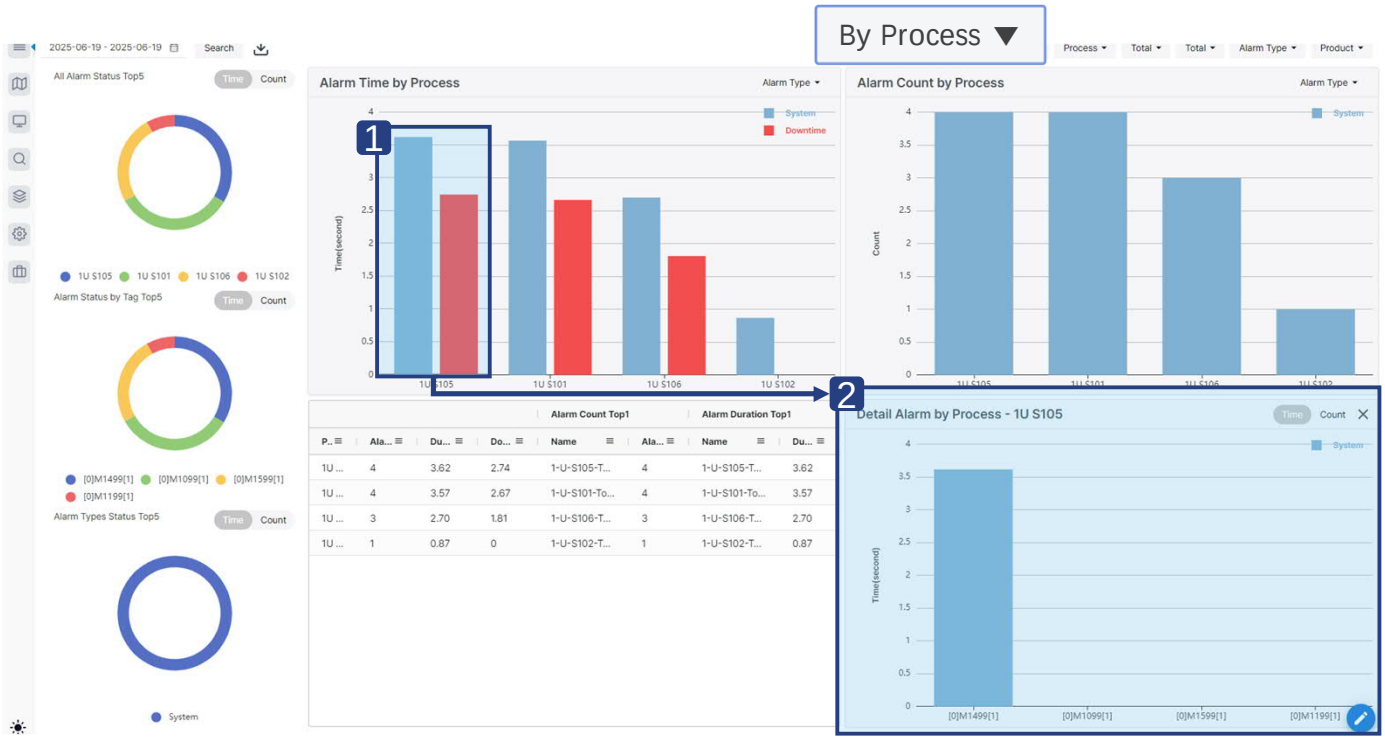
- Double-clicking on a row in alarm tag displays the Ladder View

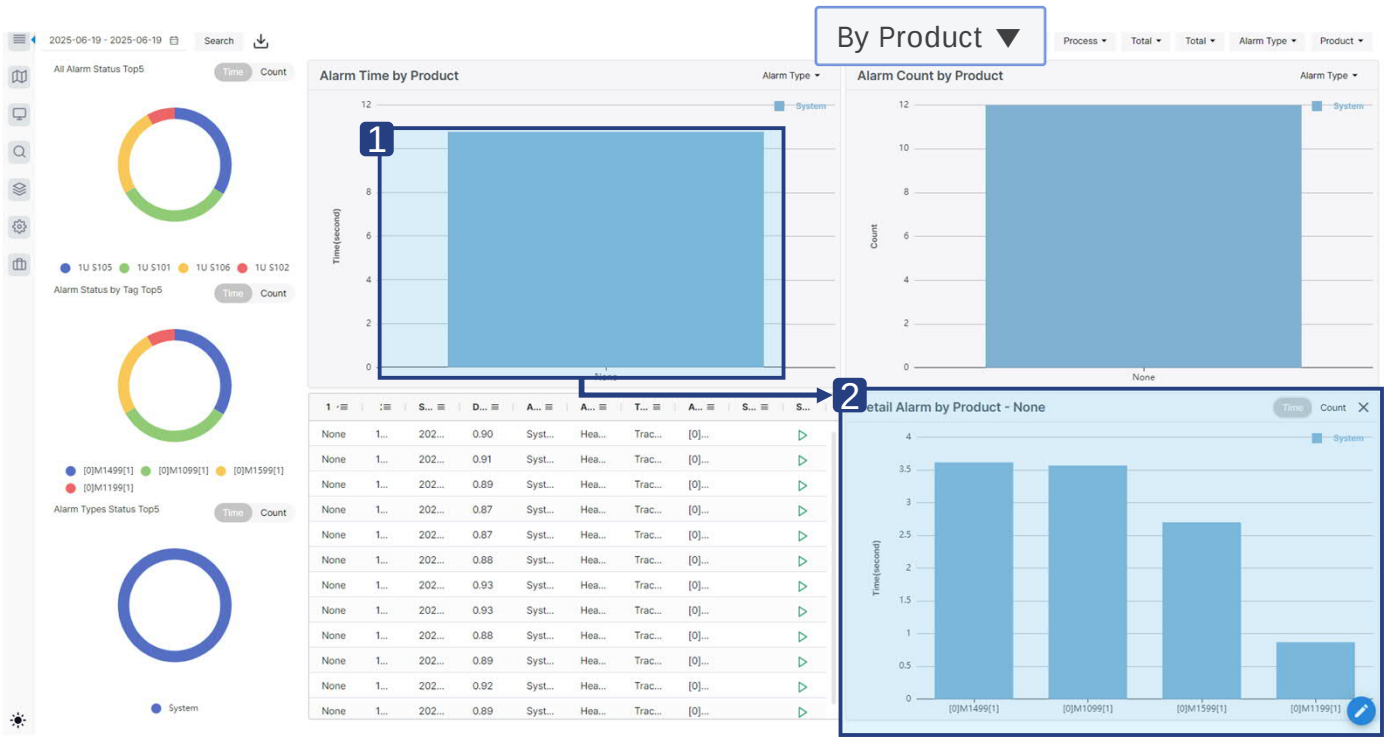




2. Search Alarms

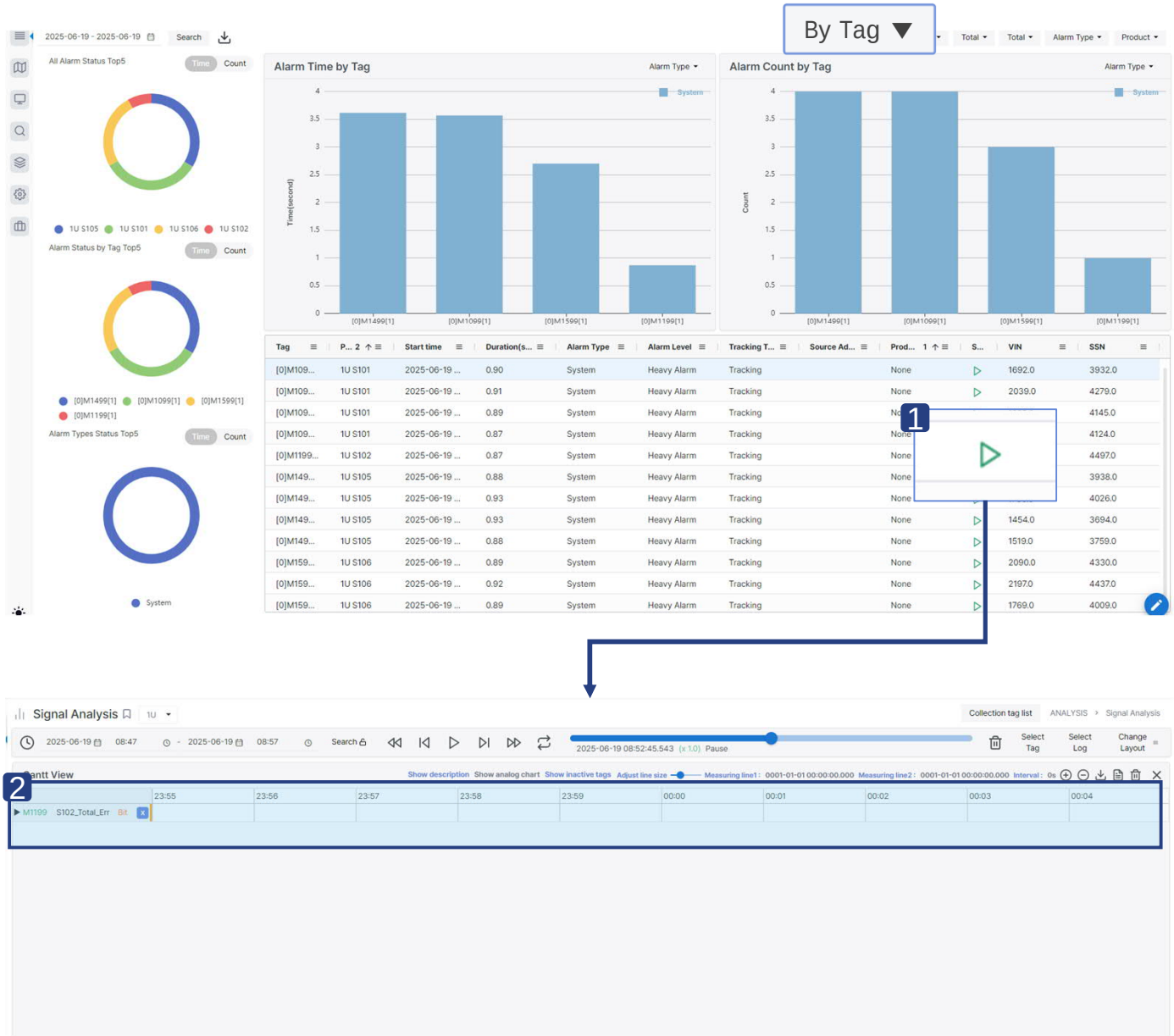
- When clicking a chart bar in process or alarm type, detailed alarm information is displayed





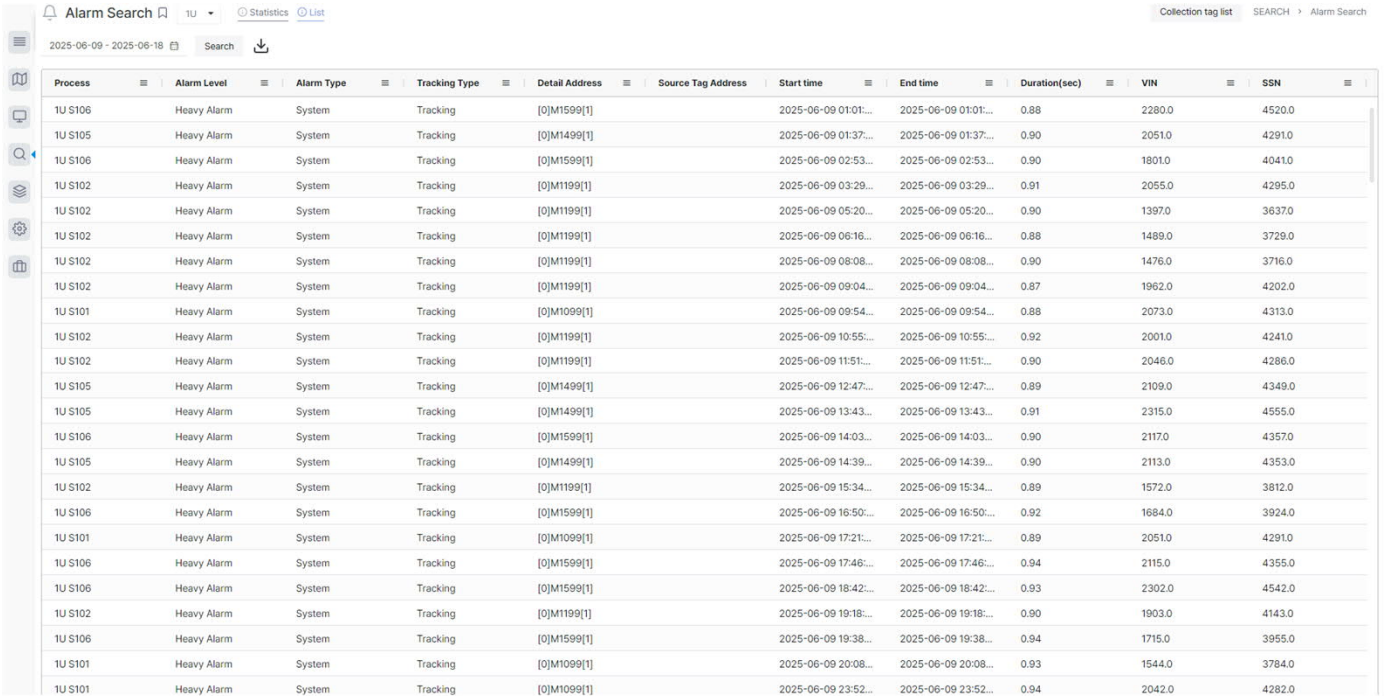
2. Search Alarms

- Clicking the play button in the Search column navigates to the Signal Analysis page, allowing for root cause analysis and check timestamp
- When clicking by tag or product, it will redirect to Signal Analysis
  1. Click ▷ button for signal analysis
  2. Selected alarm is displayed on Signal Analysis



2. Search Alarms

- View the alarm logs of the selected line



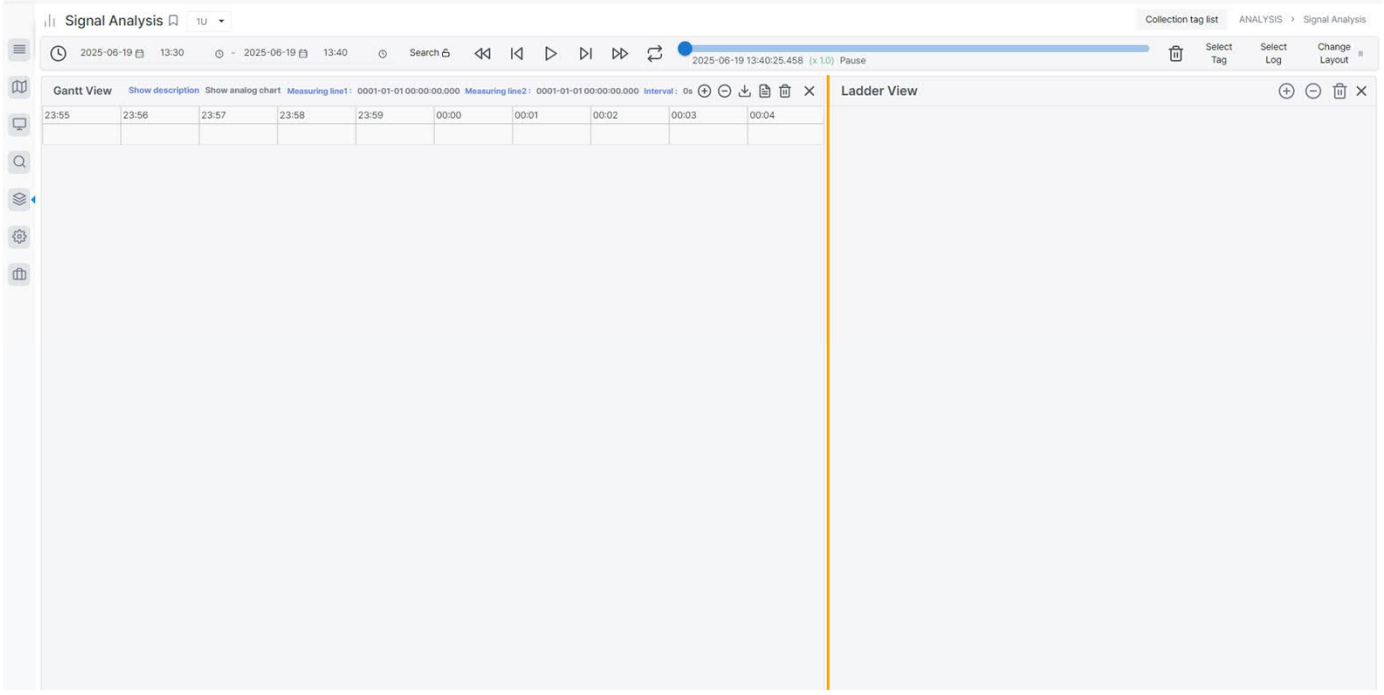
Process	Alarm Level	Alarm Type	Tracking Type	Detail Address	Source Tag Address	Start time	End time	Duration(sec)	VIN	SSN
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 01:01:...	2025-06-09 01:01:...	0.88	2280.0	4520.0
1U S105	Heavy Alarm	System	Tracking	[0]M1499[1]		2025-06-09 01:37:...	2025-06-09 01:37:...	0.90	2051.0	4291.0
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 02:53...	2025-06-09 02:53...	0.90	1801.0	4041.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 03:29...	2025-06-09 03:29...	0.91	2055.0	4295.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 05:20...	2025-06-09 05:20...	0.90	1397.0	3637.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 06:16...	2025-06-09 06:16...	0.88	1489.0	3729.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 08:08...	2025-06-09 08:08...	0.90	1476.0	3716.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 09:04...	2025-06-09 09:04...	0.87	1962.0	4202.0
1U S101	Heavy Alarm	System	Tracking	[0]M1099[1]		2025-06-09 09:54...	2025-06-09 09:54...	0.88	2073.0	4313.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 10:55:...	2025-06-09 10:55:...	0.92	2001.0	4241.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 11:51:...	2025-06-09 11:51:...	0.90	2046.0	4286.0
1U S105	Heavy Alarm	System	Tracking	[0]M1499[1]		2025-06-09 12:47:...	2025-06-09 12:47:...	0.89	2109.0	4349.0
1U S105	Heavy Alarm	System	Tracking	[0]M1499[1]		2025-06-09 13:43...	2025-06-09 13:43...	0.91	2315.0	4555.0
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 14:03...	2025-06-09 14:03...	0.90	2117.0	4357.0
1U S105	Heavy Alarm	System	Tracking	[0]M1499[1]		2025-06-09 14:39...	2025-06-09 14:39...	0.90	2113.0	4353.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 15:34...	2025-06-09 15:34...	0.89	1572.0	3812.0
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 16:50:...	2025-06-09 16:50:...	0.92	1684.0	3924.0
1U S101	Heavy Alarm	System	Tracking	[0]M1099[1]		2025-06-09 17:21:...	2025-06-09 17:21:...	0.89	2051.0	4291.0
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 17:46:...	2025-06-09 17:46:...	0.94	2115.0	4355.0
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 18:42:...	2025-06-09 18:42:...	0.93	2302.0	4542.0
1U S102	Heavy Alarm	System	Tracking	[0]M1199[1]		2025-06-09 19:18:...	2025-06-09 19:18:...	0.90	1903.0	4143.0
1U S106	Heavy Alarm	System	Tracking	[0]M1599[1]		2025-06-09 19:38...	2025-06-09 19:38...	0.94	1715.0	3955.0
1U S101	Heavy Alarm	System	Tracking	[0]M1099[1]		2025-06-09 20:08...	2025-06-09 20:08...	0.93	1544.0	3784.0
1U S101	Heavy Alarm	System	Tracking	[0]M1099[1]		2025-06-09 23:52...	2025-06-09 23:52...	0.94	2042.0	4282.0

5

Signal

1. Signal Analysis

- Search registered tags based on time periods
- Trace the root cause of faults through Gantt View and Ladder View
- Replay past operations

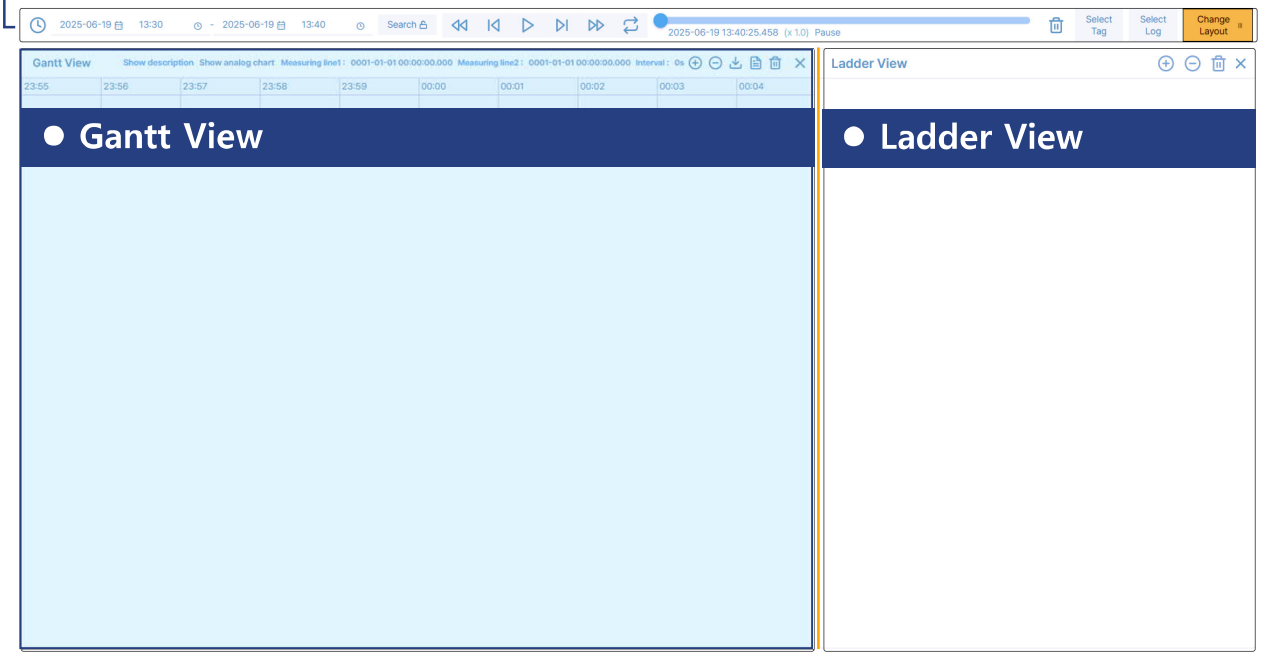


- Detailed Contents
  1. Screen Configuration
  2. How to Search
     - Search Tags
     - Search Logs
  3. Chart Functions
     - Gantt View
     - Ladder View

1.1 Screen Configuration

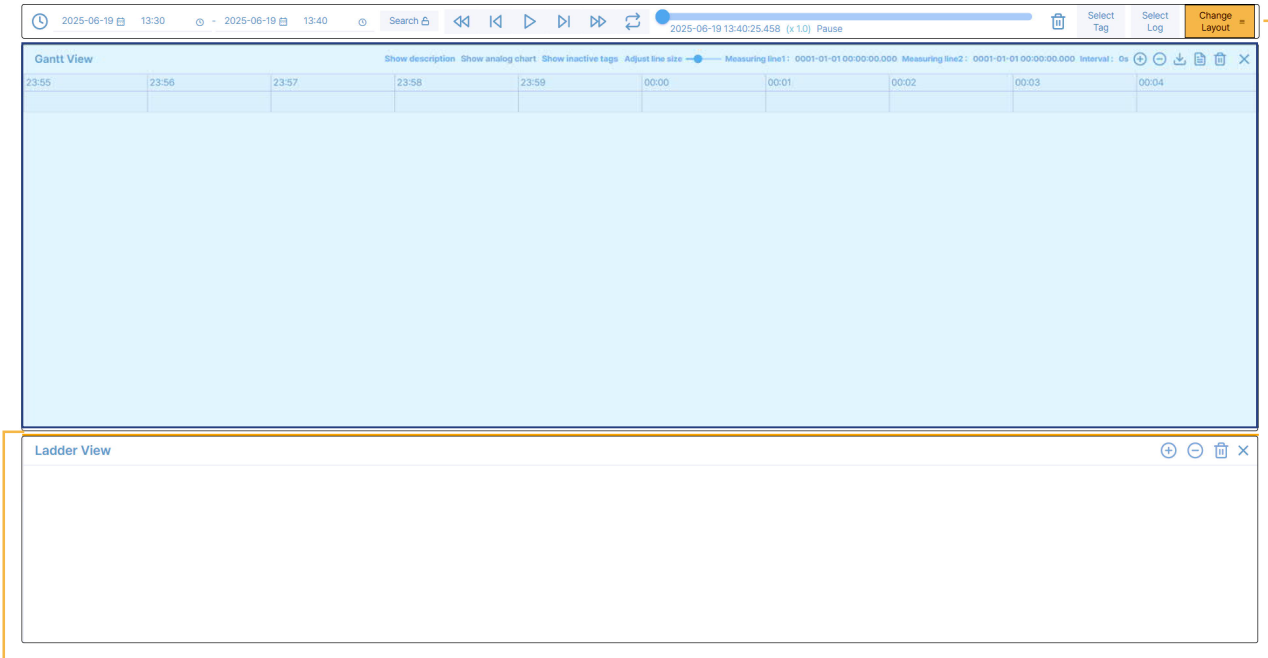
• Composed of Top Bar, Gantt

● Top Bar Period Search / Simulation Control / Tag Registration



Switch layout between horizontal and vertical arrangement of Gantt View and Ladder View

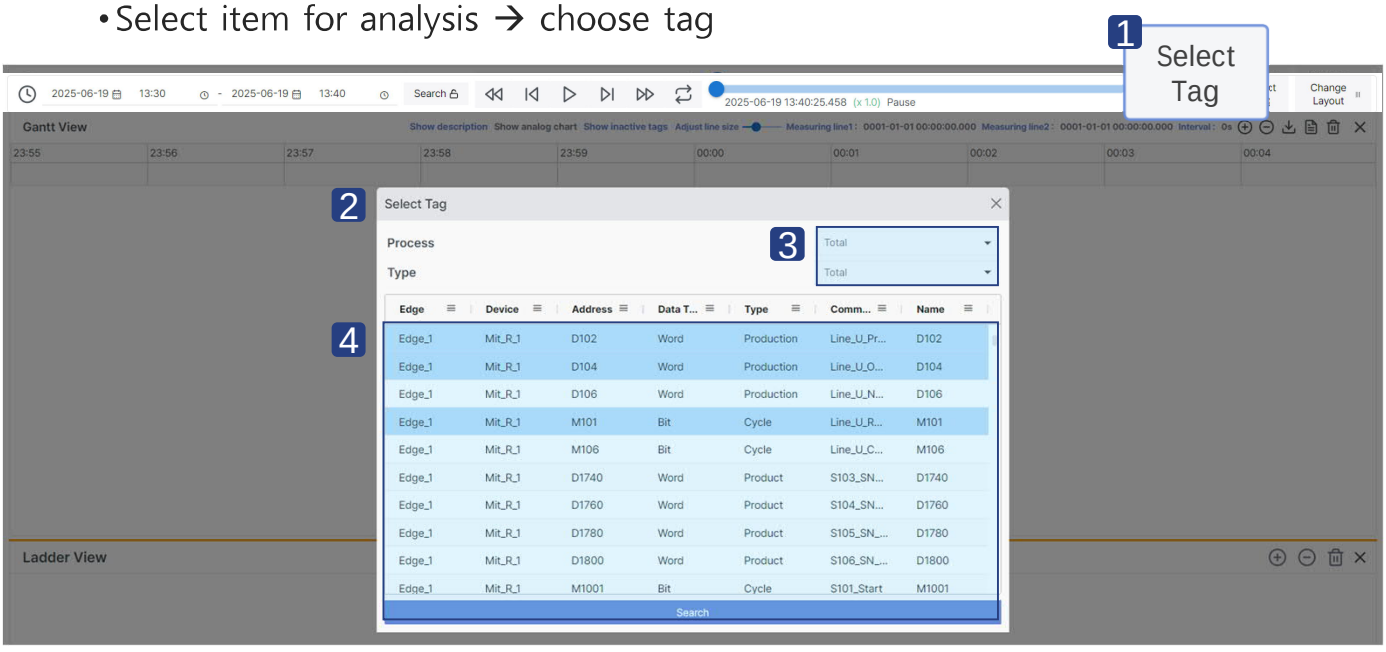
Switch View



Drag to resize and split the screen

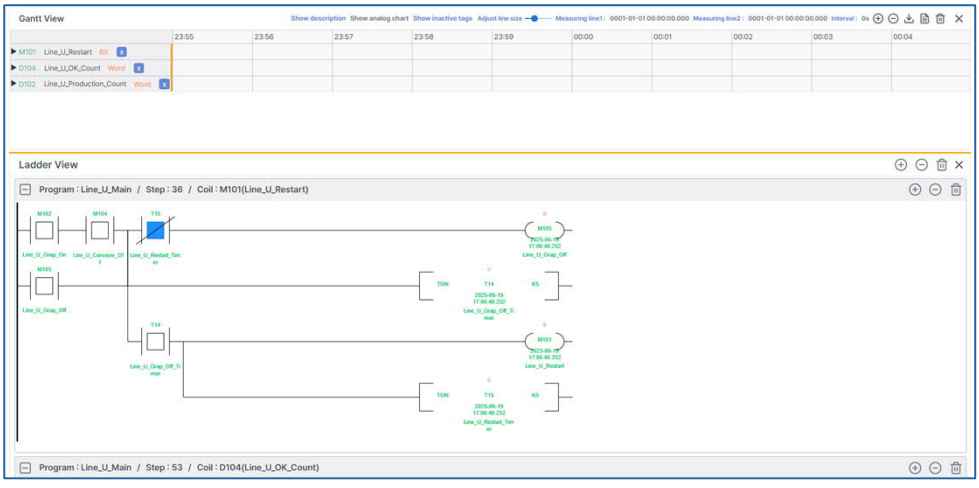
1.2 Search Data: Tags

- Select item for analysis → choose tag



- Checking Tag Registration
  1. Click the Select Tag button
  2. List of currently collected tags pop up
  3. Select Process / Type
  4. Select Tag
     - Single Tag Search: Click the row then press "Search" or double click the row
     - Multiple Tag Search : Select multiple rows for analysis then click "Search"

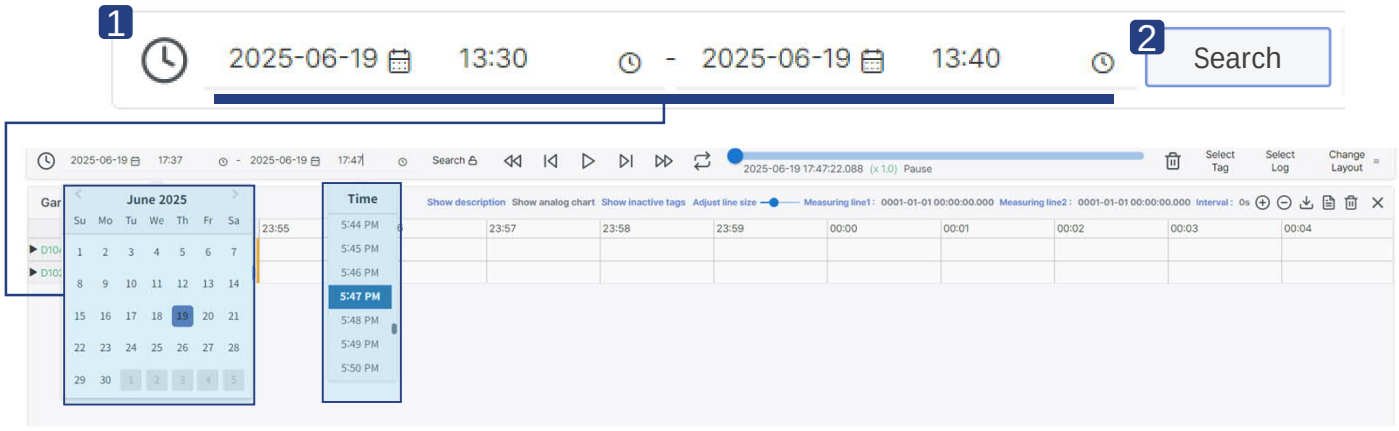
5



5. Ladder Step and Gantt Item linked to the selected tag will be registered and displayed

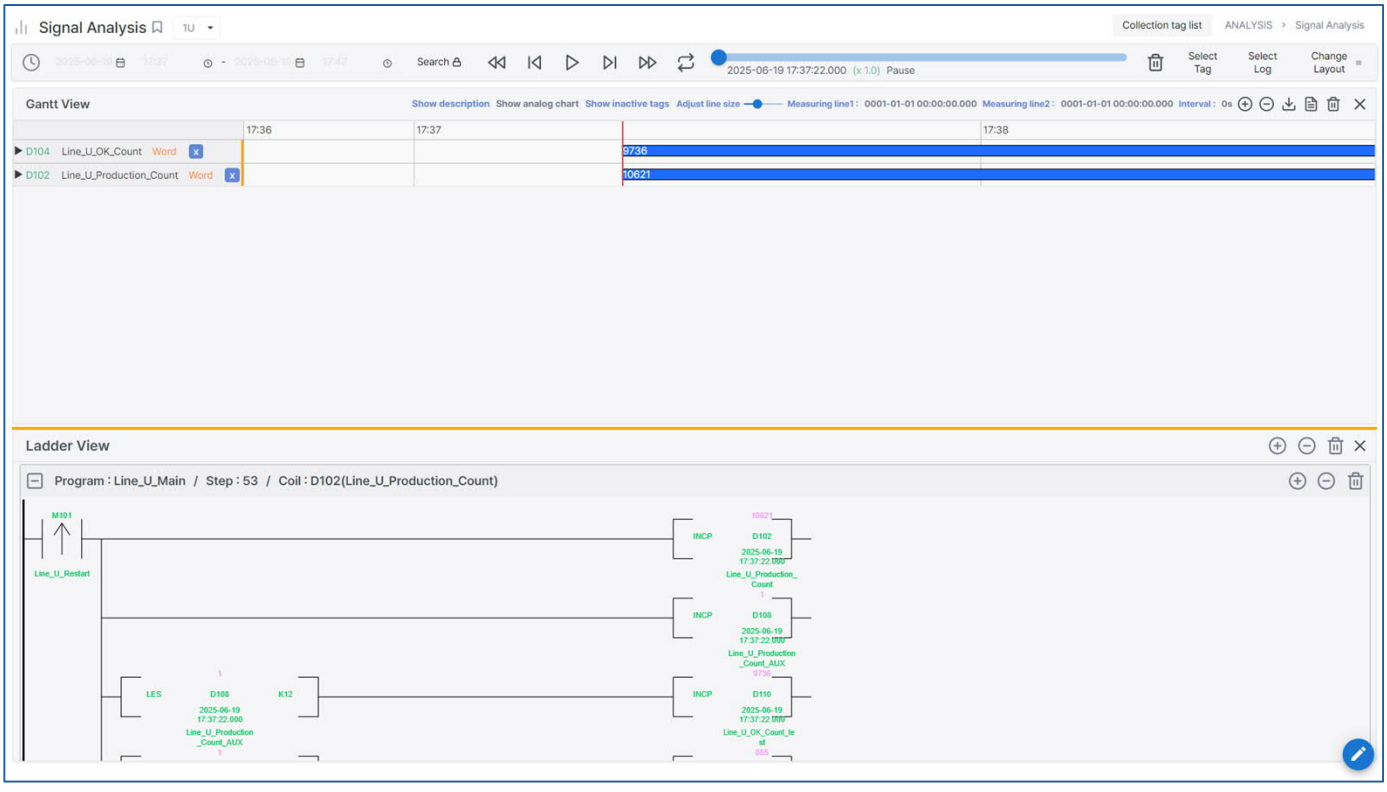
1.2 Search Data: Tags

• Select time period



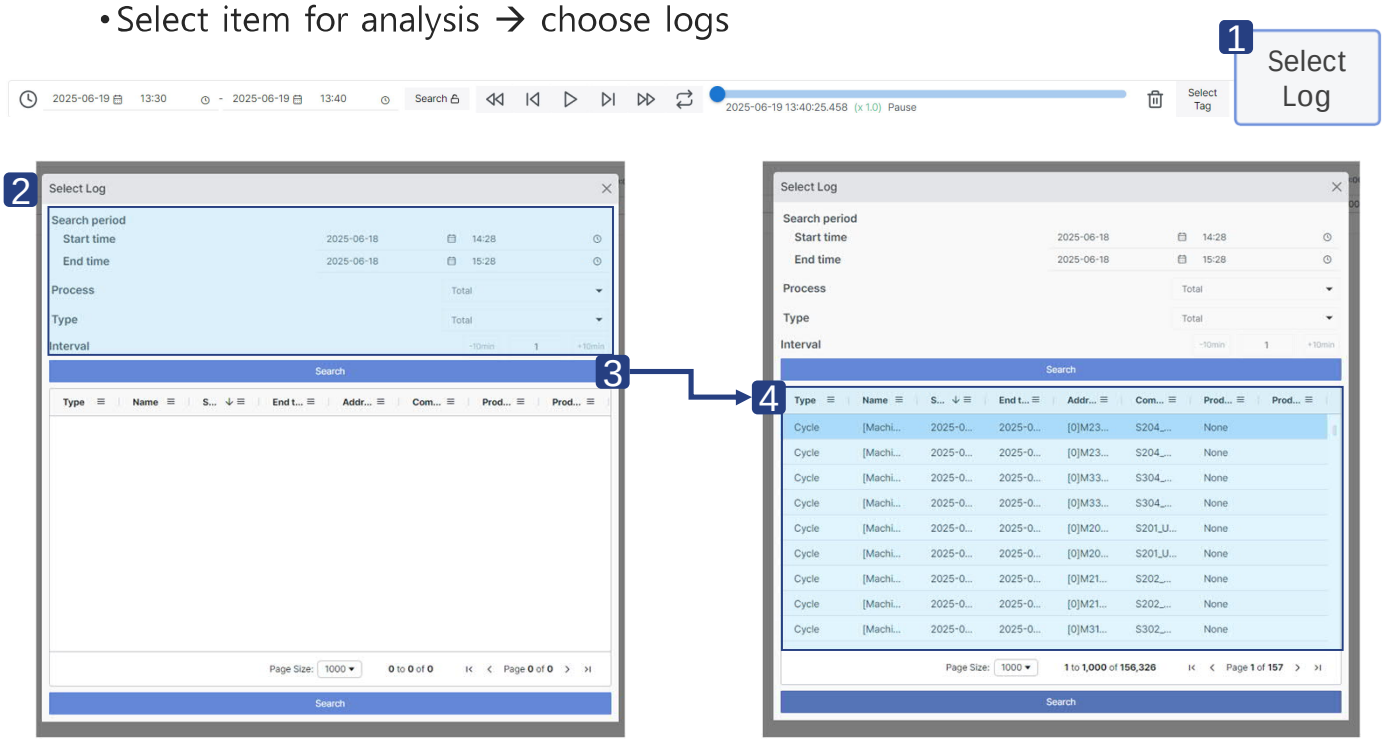
1.Enter start time and end times for the period of the logs to analyze
2.Click Search Button after entering the time

● Search Complete

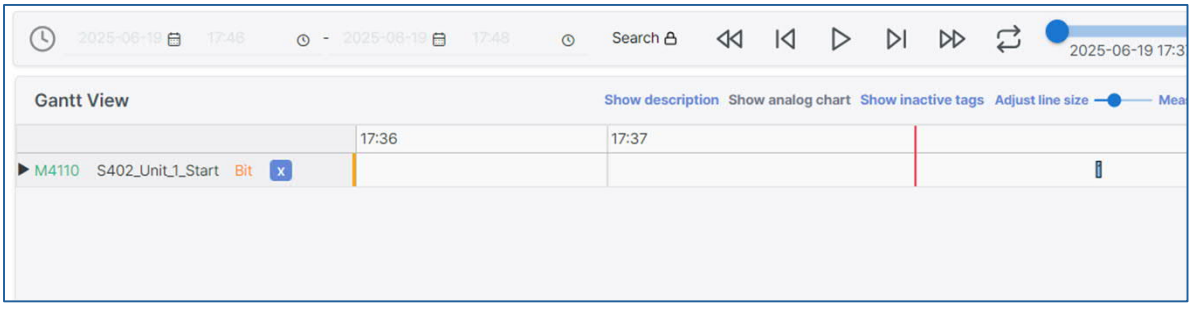


1.2 Data Search: Logs

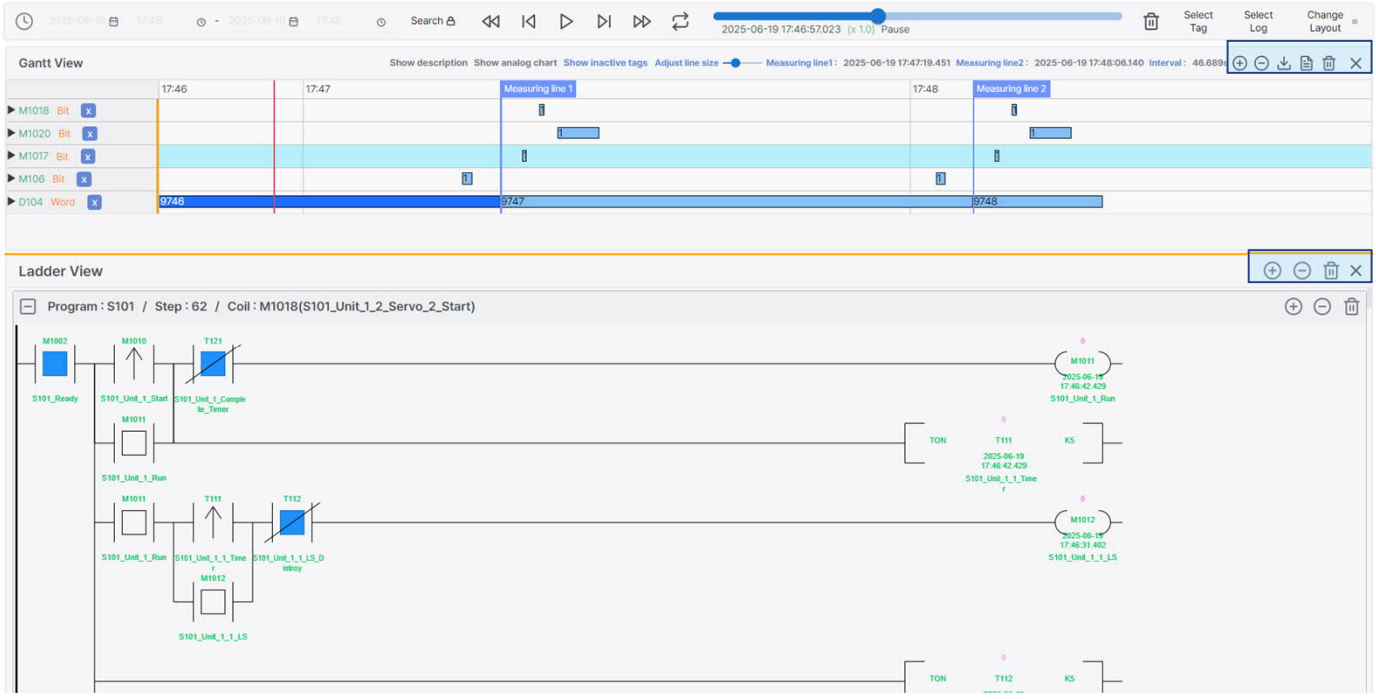
• Select item for analysis → choose logs



- Checking Log Registration
  1. Click the "Select Log" button
  2. List of available logs will pop up
  3. Choose logs to analyze then click "Search" button
  4. Select Log
     - Search Single Log : Select a row the click the 'Search' button or double-click the row
     - Search Multiple Log : Select multiple rows for analysis then click "Search"
- Search Complete



1.3 Chart Functions

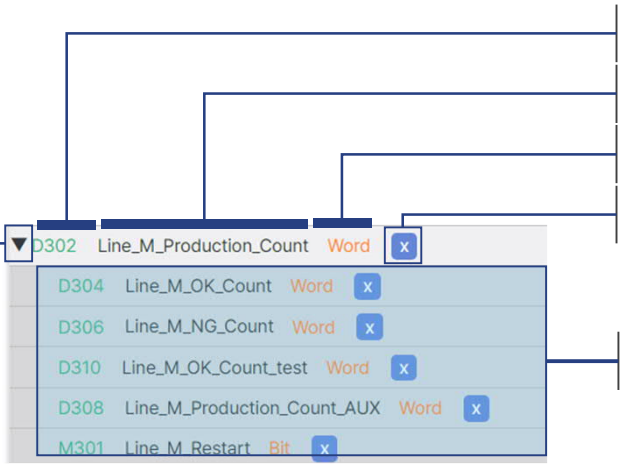


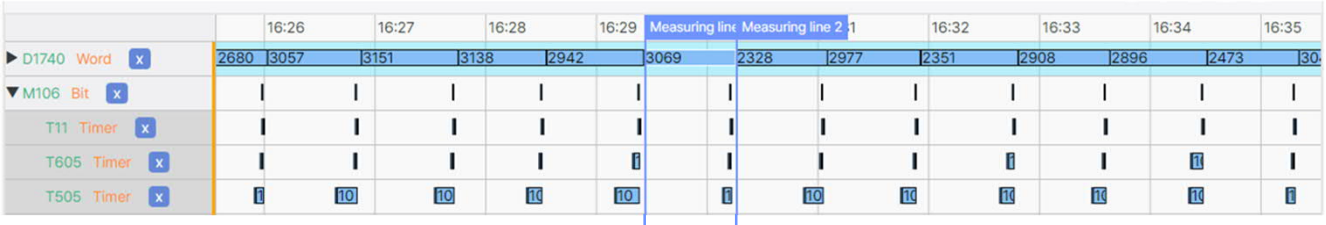
1. Zoom In	Enlarge the chart (Shift + Mouse Scroll Up)
2. Zoom Out	Shrink the chart (Shift + Mouse Scroll Down)
3. Download	Download the selected tag
4. Current Bar Value	Display the current bar value
5. Delete Entire Tags	Clear all registered tags from the chart
6. Close	Close the chart display

1.3 Chart Functions – Gantt View

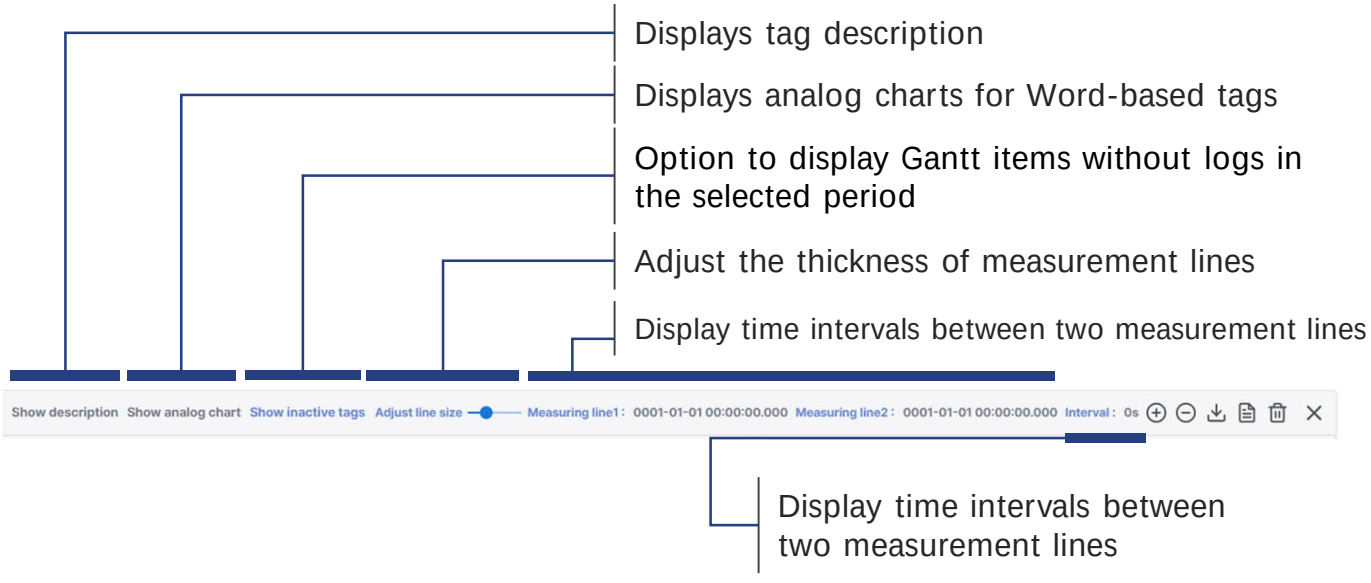
● Tag List

Show related tags



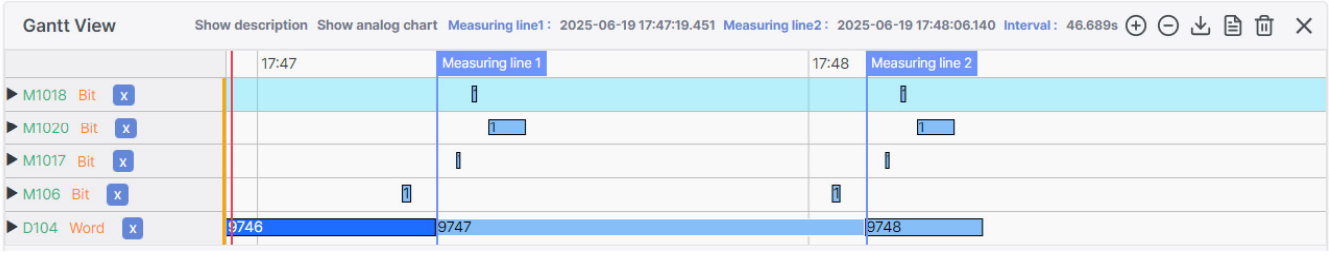


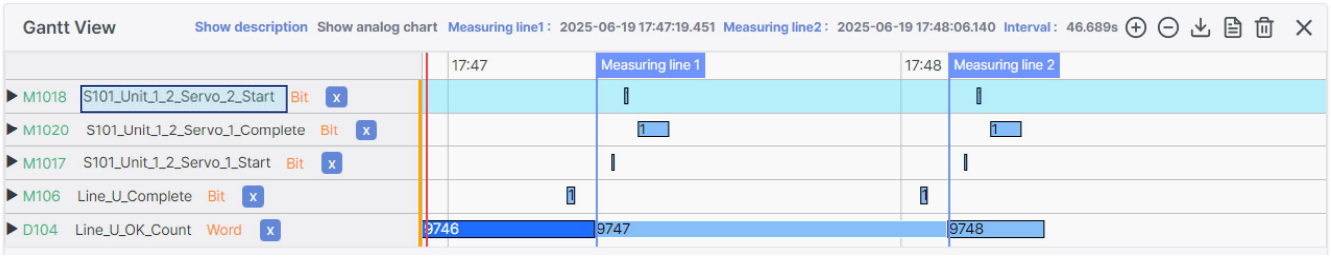
● Function List



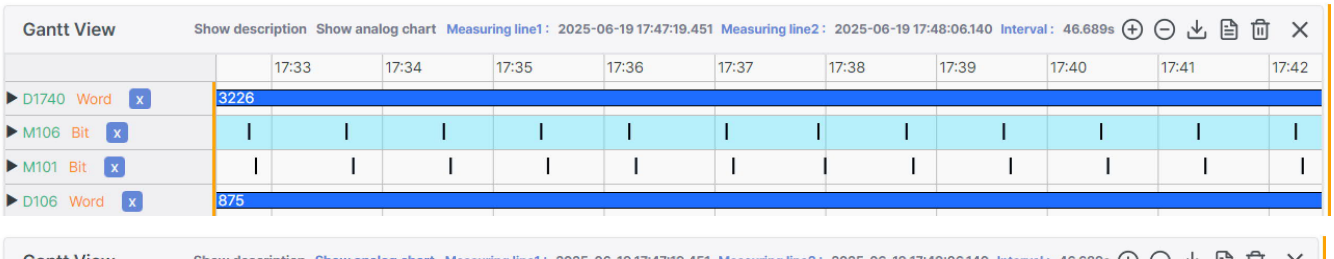
1.3 Chart Function – Gannt View

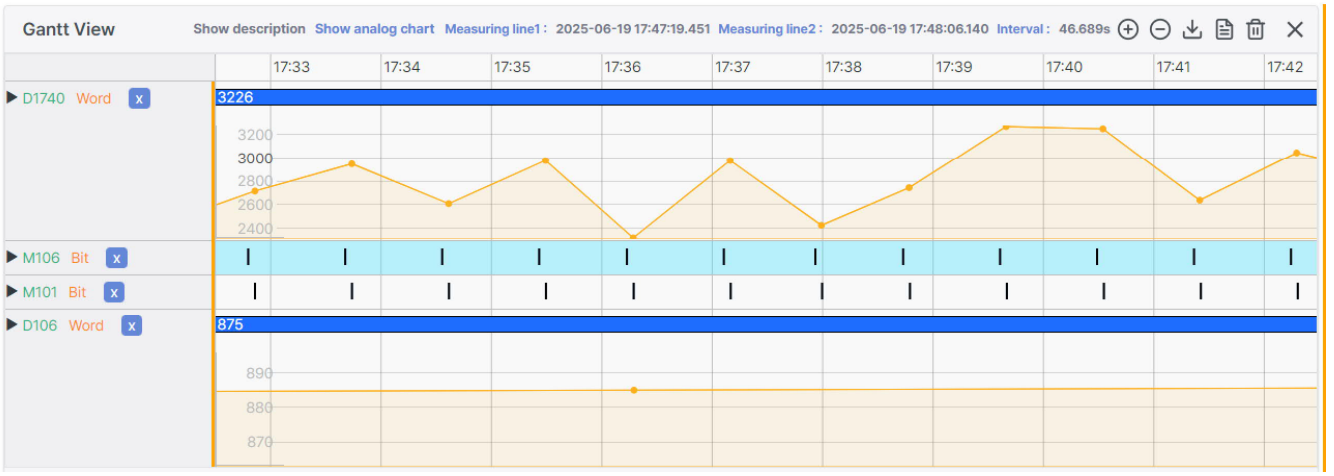
Show description | Display tag descriptions



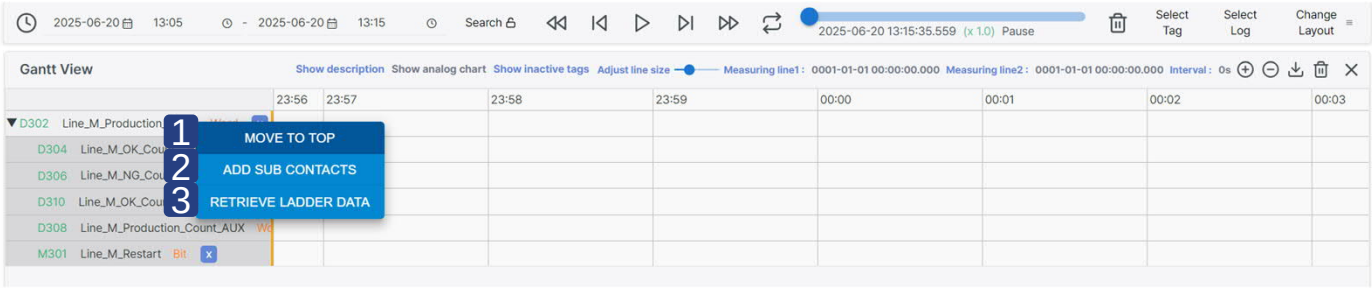


Show analog Chart | Display analog chart for word-based tags





1.3 Chart Functions – Gantt View

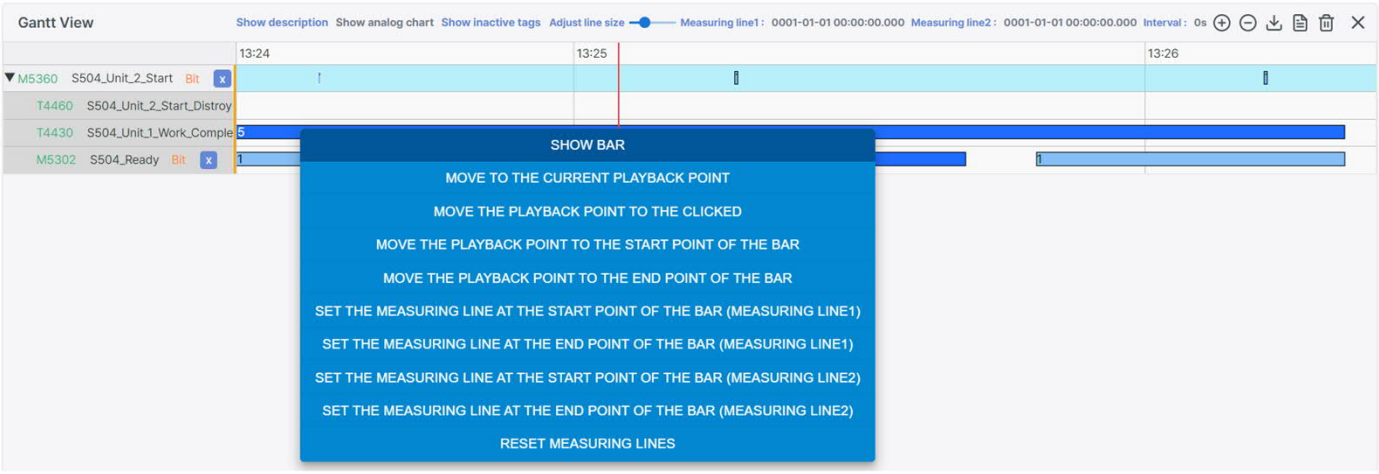


- Right click to view details on Gantt list

1. Move to top	Move the selected item to the top of the Gantt chart (can also be dragged with the mouse)
2. Add related tags	Add related tags that are related to the register coil
3. View Ladder View	Register the step used by the selected tag to the Ladder View and move to the top of the Ladder View

1.3 Chart Functions – Gantt View

- Double-click the bar of a Bit tag to display measurement lines



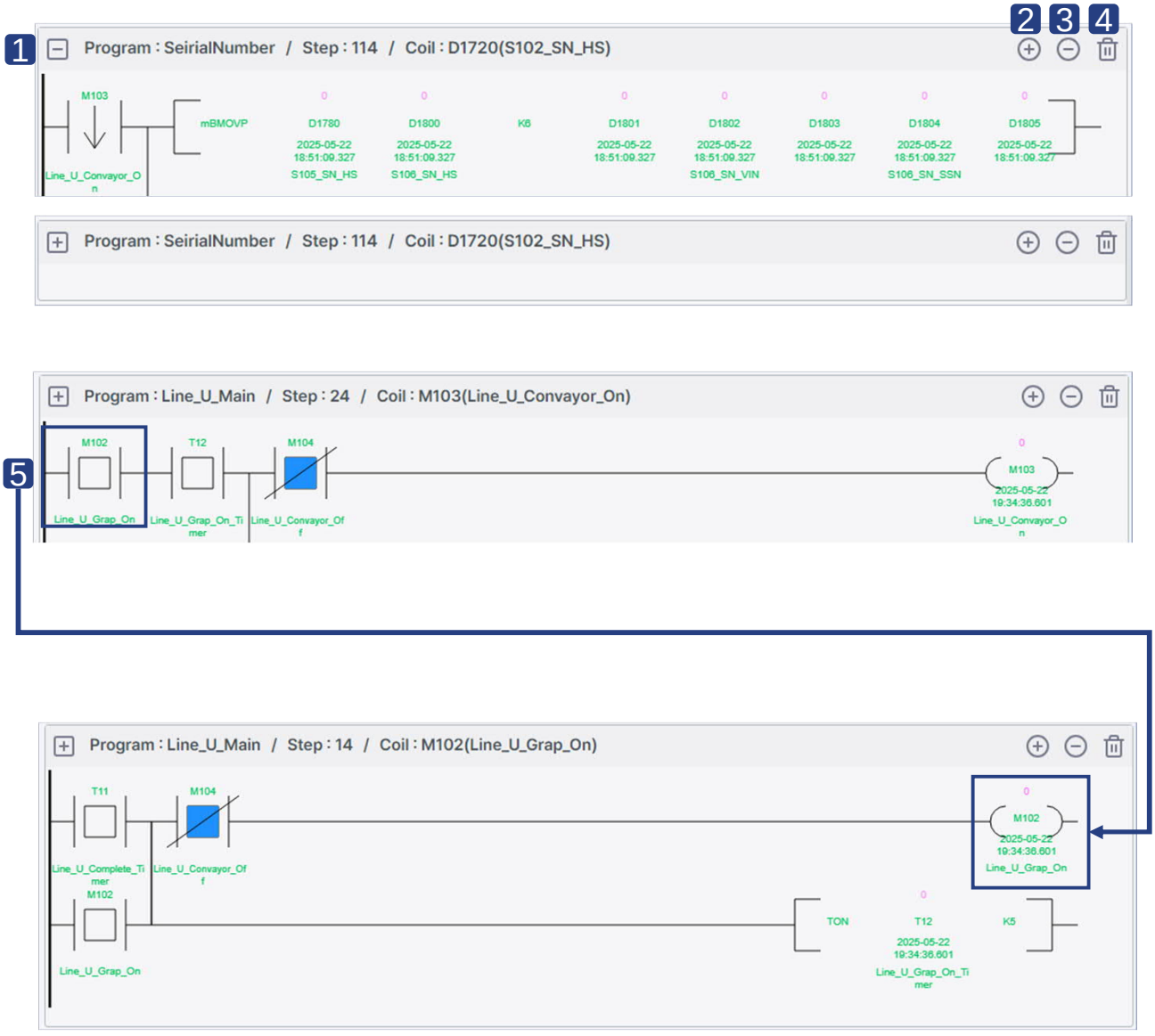
- Right click to view details on Gantt chart

1. Show Bar	Toggle display of the Gantt bar
2. Move to the current playback time	Jump to the current playback time
3. Move to clicked time	Jump to the clicked time
4. Move to start point of bar	Jump to the start time of the selected bar
5. Move to end point of bar	Jump to the end time of the selected bar
6. Set start of the Measuring line 1	Set measurement marker line 1 at the bar's start
7. Set end of the Measuring line 1	Set measurement marker line 1 at the bar's end
8. Set start of the Measuring line 2	Set measurement marker line 2 at the bar's start
9. Set end of the Measuring line 2	Set measurement marker line 2 at the bar's end
10. Reset measuring line	Clear all measurement marker lines

1.3 Chart Functions – Ladder View

- Ladder View Features

1. Toggle	Toggle the ladder diagram for the selected coil
2. Zoom In	Enlarge the chart (Shift + Mouse Scroll Up)
3. Zoom Out	Shrink the chart (Shift + Mouse Scroll Down)
4. Close	Remove the logic
5. Double-Click Tag	Add the Ladder Step item corresponding to the Coil for the selected tag

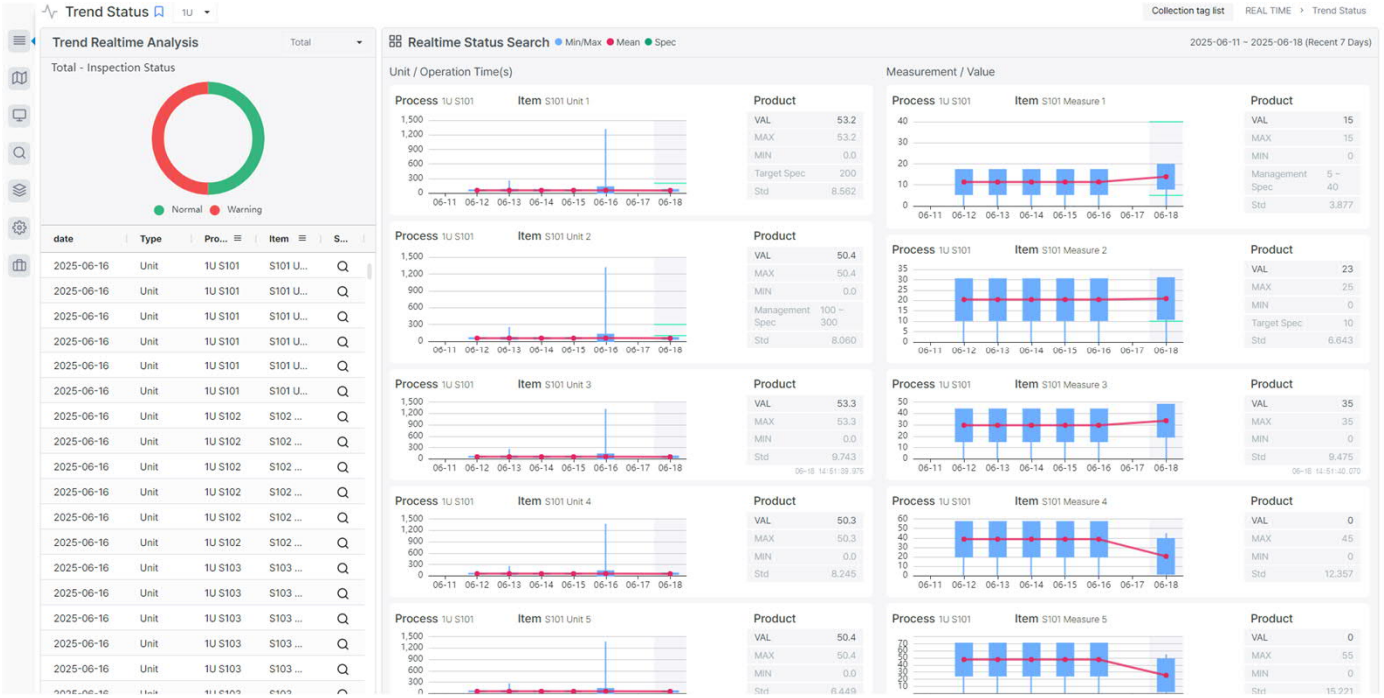


6

Trend

1. Trend Status

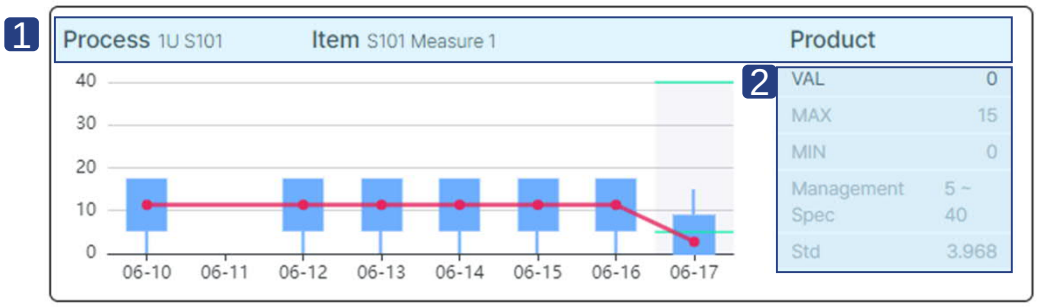
- Display real-time status of registered actuators or measurement
- Display inspection list for registered assets



● Trend Status Card

1.Show station name, item name, and product name

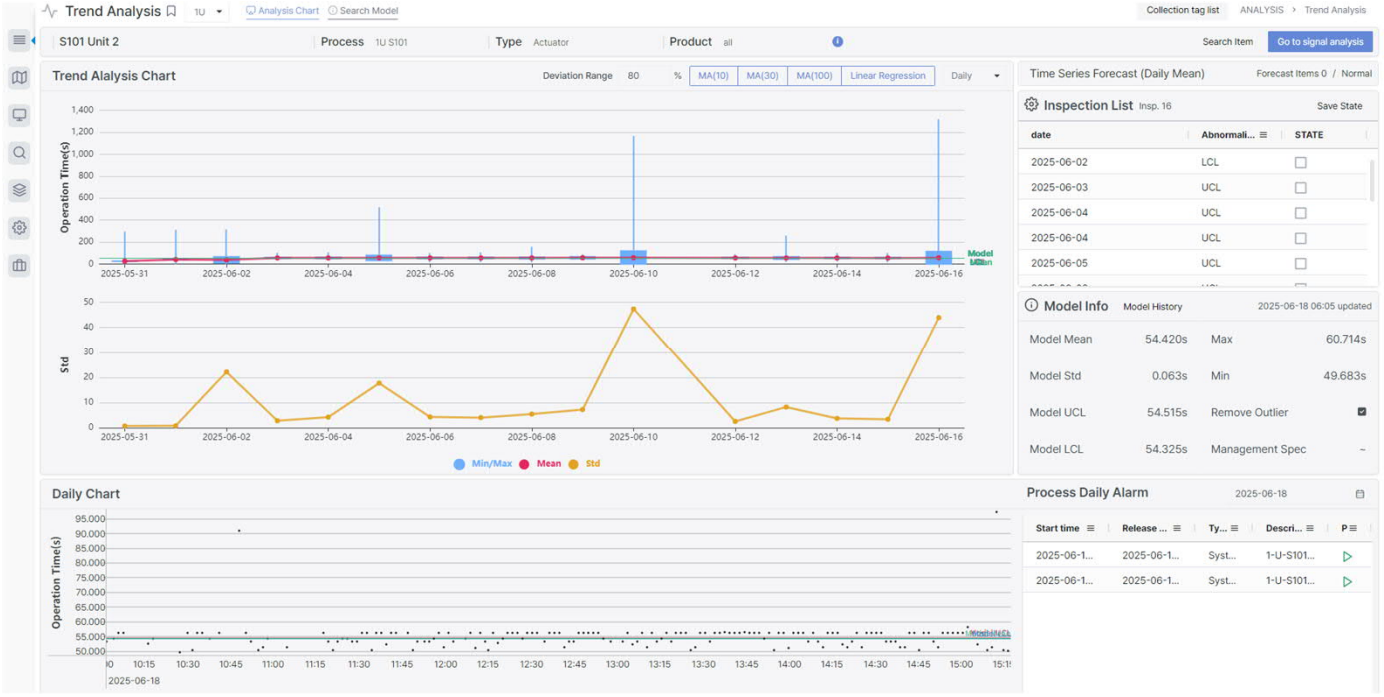
2.Display real-time values



●	**Daily average**	Display the daily or real-time average of operation time (or measurement values)
▮	**Min/Max & Confidence level**	Line : Show maximum and minimum operation time Bar : Display confidence interval for the data
▬	**Spec**	Target spec / manage spec value or range

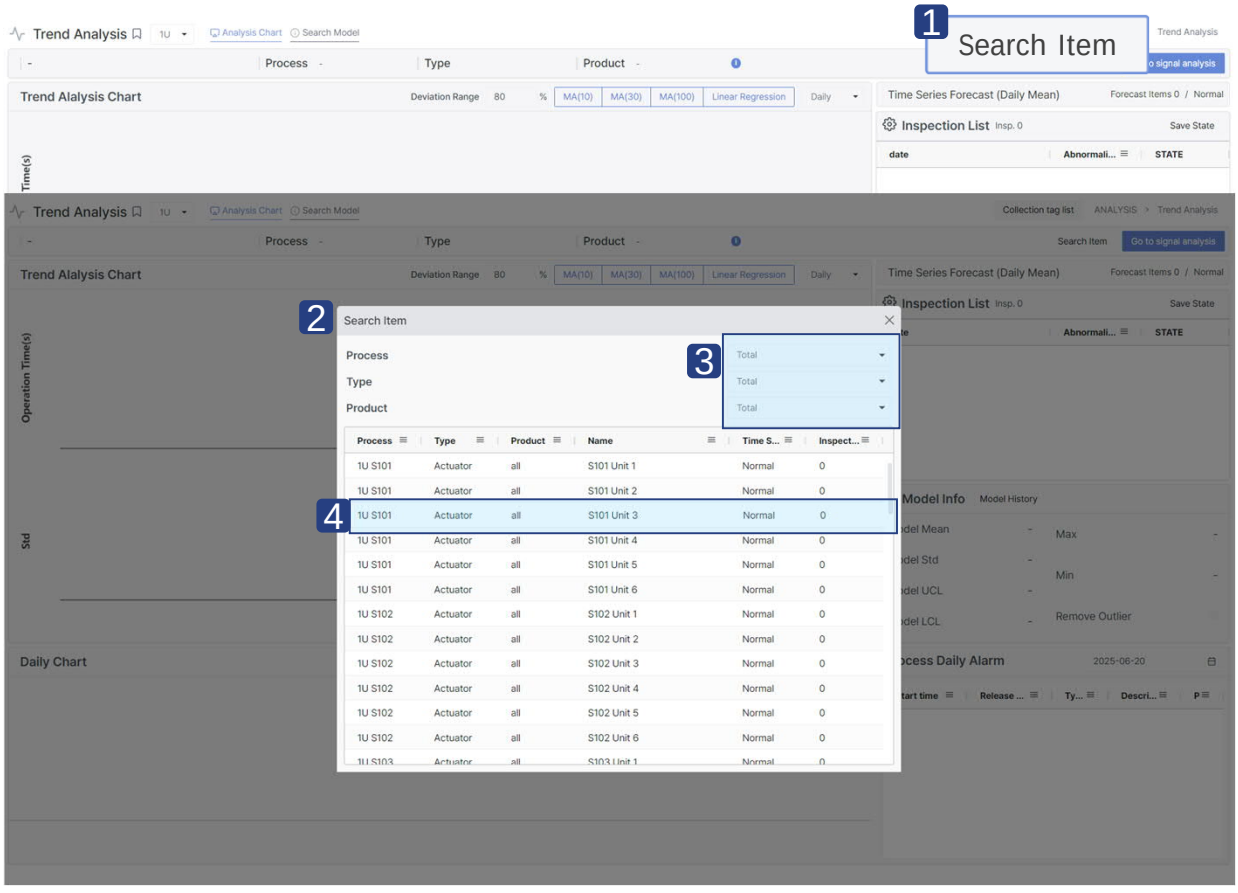
2. Trend Analysis

- Check the trends of registered actuators and measurements
- Provide time series-based predictions and model details (Mean, Max., Min., etc.)
- Display average operation time, upper and lower limits of abnormal thresholds



2. Trend Analysis

- Search Actuators and Measurement
  1.Click "Search" button
  2.View the list of registered assets
  3.Select the assets by process/type/product category
  - Double click to view the statistical data
  - Trend of the operation time and predicted values will be displayed

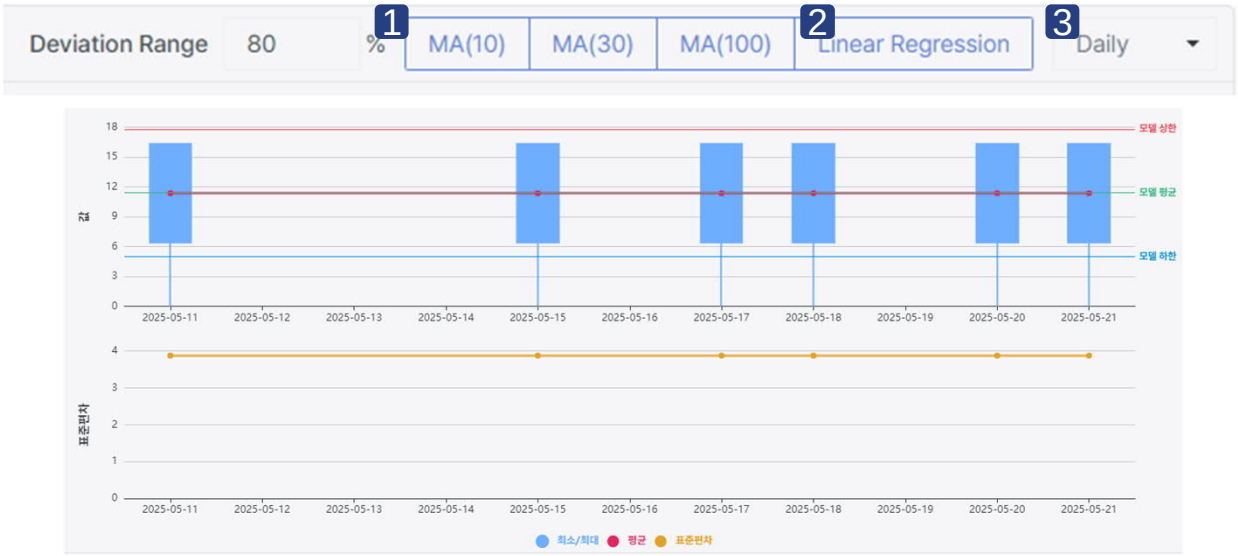


2. Trend Analysis

1.Displays a moving average line based on the daily operating time (or measured value) and standard deviation

2.Displays a linear regression trend line based on the daily operating time (or measured value) and standard deviation

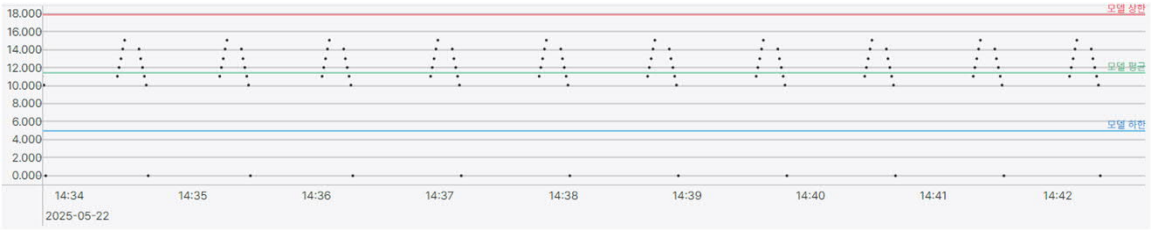
3.Allows users to set the desired period for trend chart analysis



	Upper Limit	Shows upper limit of the asset's operation time (or measure values)
	Model Average	Shows the average value of operation time or measured value
	Lower Limit	Shows lower limit of the asset's operation time (or measure values)
	Daily Average	Shows the daily average of operating time (or measured value)
	Daily Average Prediction	Shows the predicted daily average of operating time (or measured value)
	Max./Min. & Confidence Interval	Line: Shows the maximum and minimum operating time (or measured value) Box: shows the confidence interval for the operating time (or measured value) * Click the box to view the corresponding day's daily chart
	Daily Standard Deviation	Shows the standard deviation of daily operating time (or measured value)

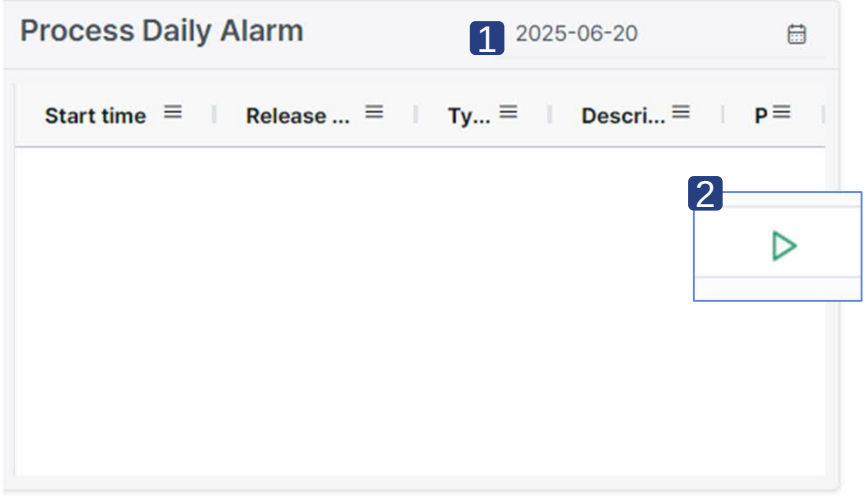
2. Trend Analysis

- **Daily Chart:** Displays detailed history of asset's operation time or measured value



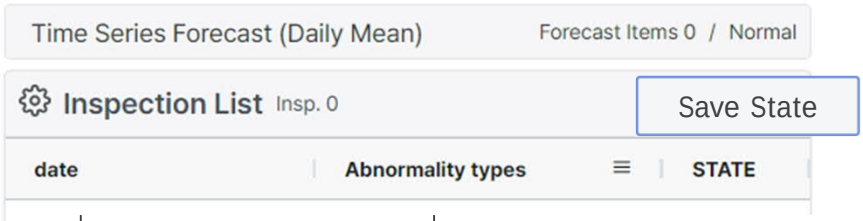
Upper Limit	Shows upper limit of the asset's operation time (or measure values)
Average	Shows the average value of operation time or measured value
Lower Limit	Shows lower limit of the asset's operation time (or measure values)
Operation Time (Measured value)	Displays individual data points of the asset

- View Alarms during operation
  1. Search period and dates
  2. Move to Singal Analysis to trace the root cause of alarms

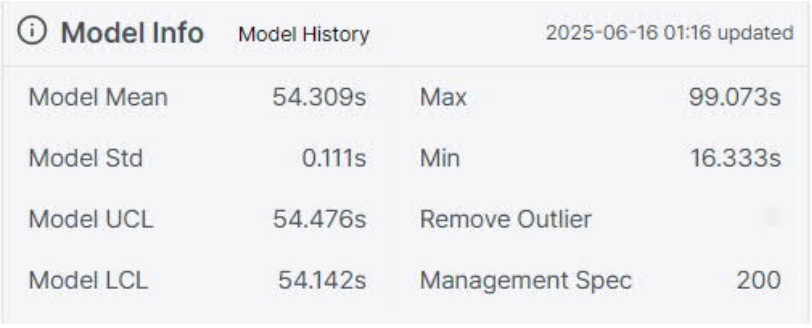


2. Trend Analysis

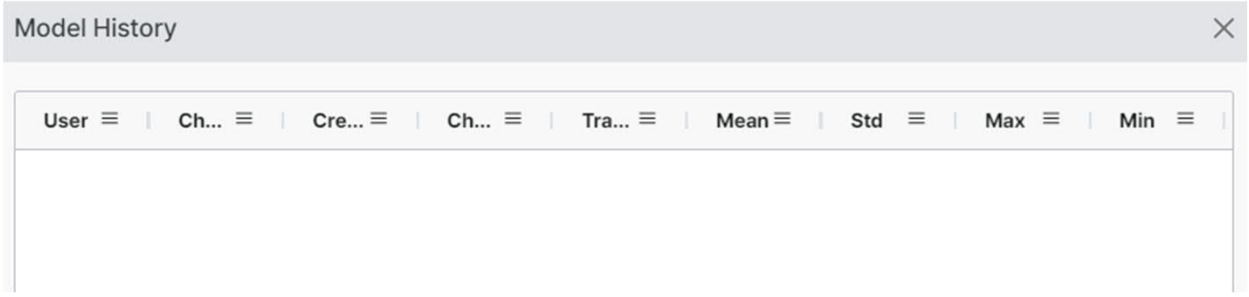
• Time Series Prediction



Time Series Prediction	Displays predictions for daily values, average, standard deviation. If the value exceeds the upper or lower limit, it is marked as abnormal operation (shown in inspection list)
Inspection List	Highlights data points where the daily average operating time (measured value) exceeds the model's upper or lower threshold. Double-click the date to view that day's detailed chart
Save State	Update the inspection status of the selected alert



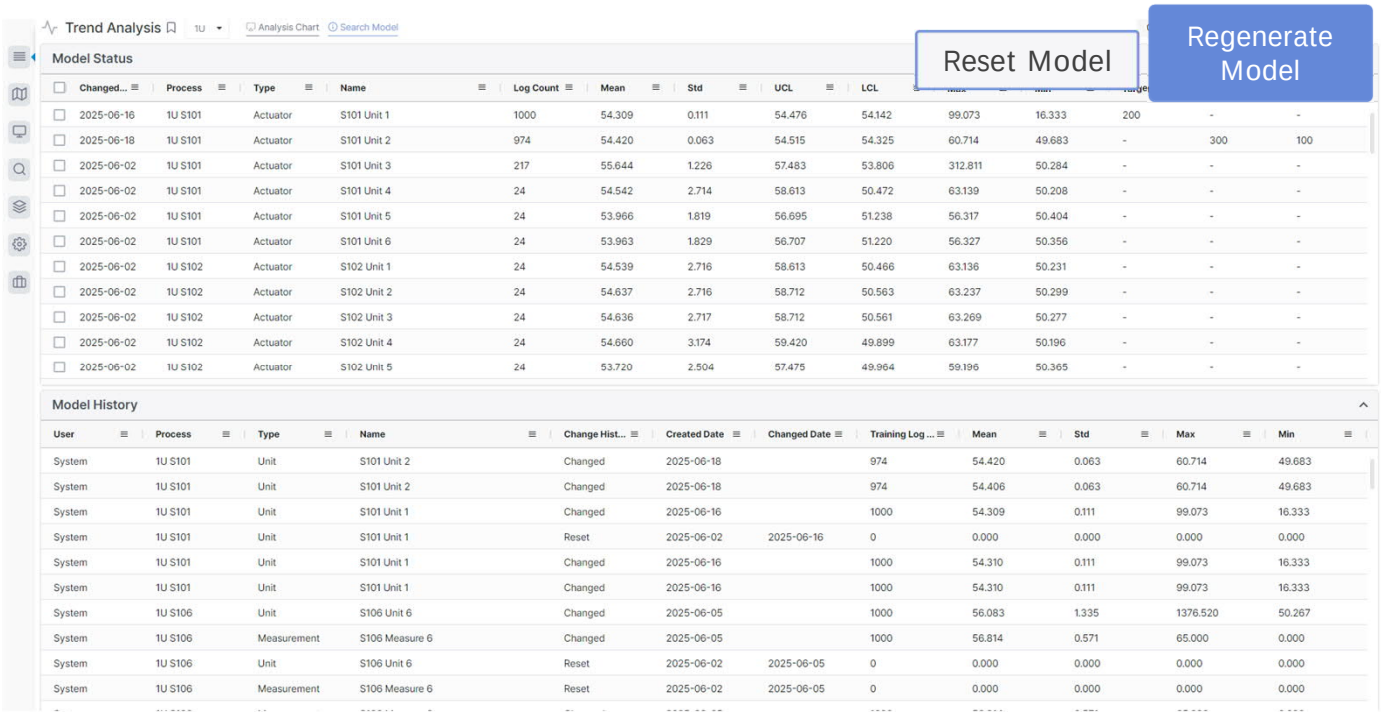
Model Info	Displays detailed statistical model information
Model History Button	Opens a pop-up window showing the model history, allowing to reset, generate, modify



2. Trend Analysis

- **Model Status**
  Display detailed information on the statistical model and specifications for each assets

Reset Model	Reset the statistical model
Regenerate Model	Customize the learning cycle time and modify the model



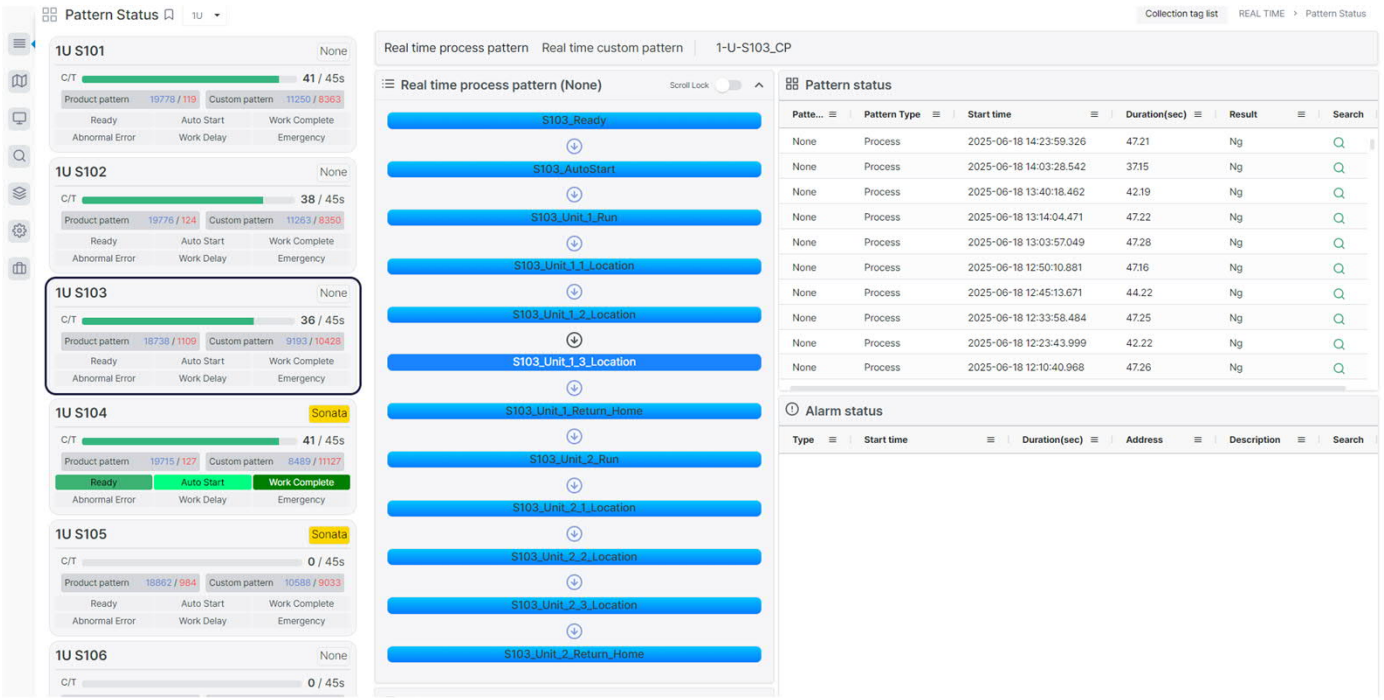
- **Model History**
  Display full history of the statistical model for all assets

7

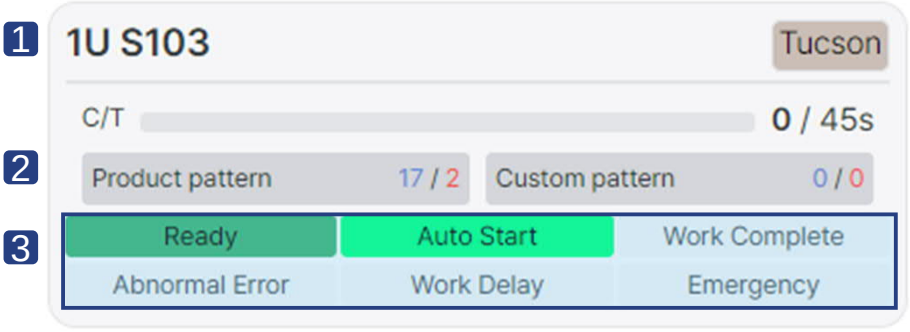
Pattern

1. Pattern Status

• Display process pattern in real-time

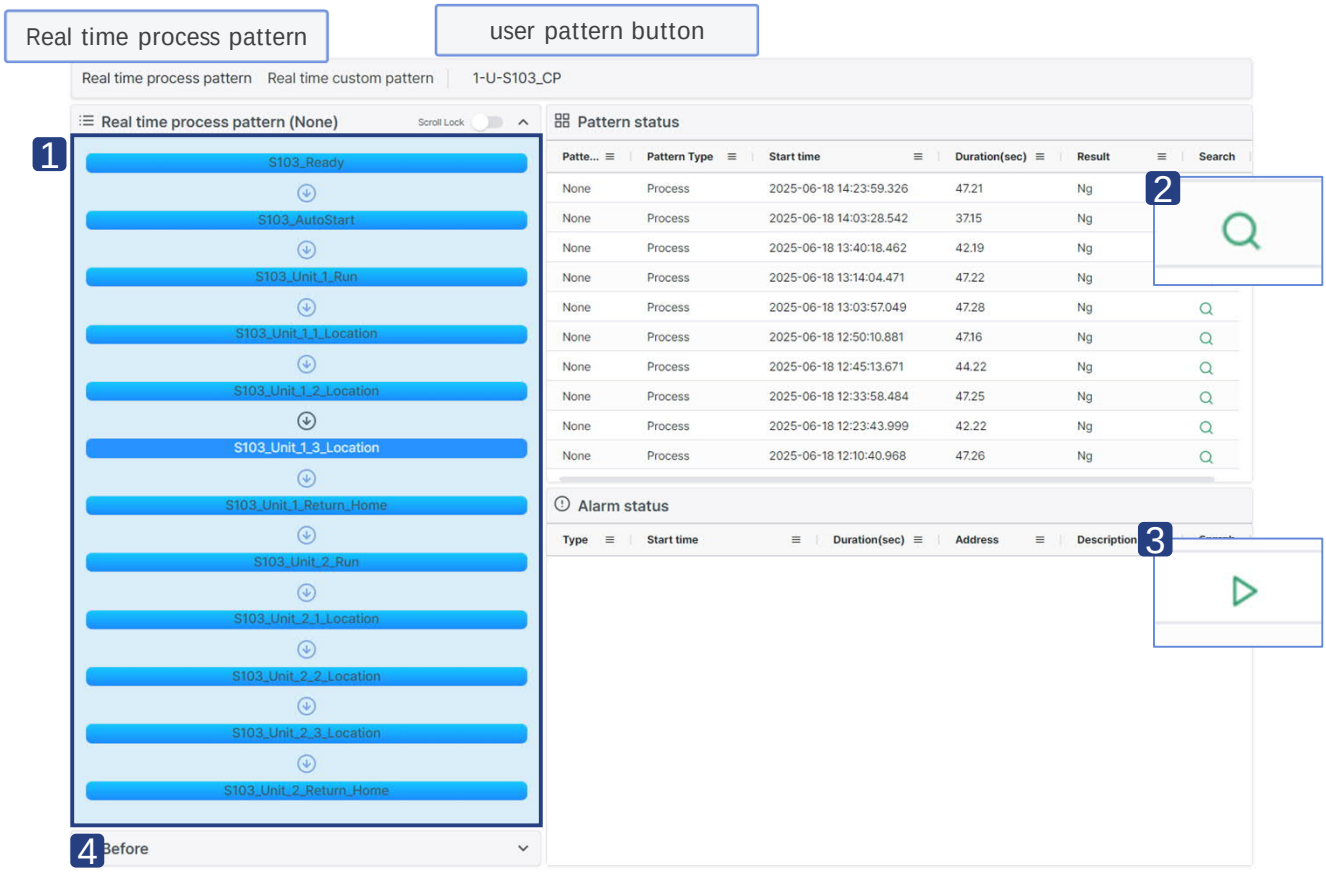


- Process Pattern Status
  1. Display station name and product
  2. Display current status (Pass / Fail)
  3. Display current operation status in real-time



1. Pattern Status

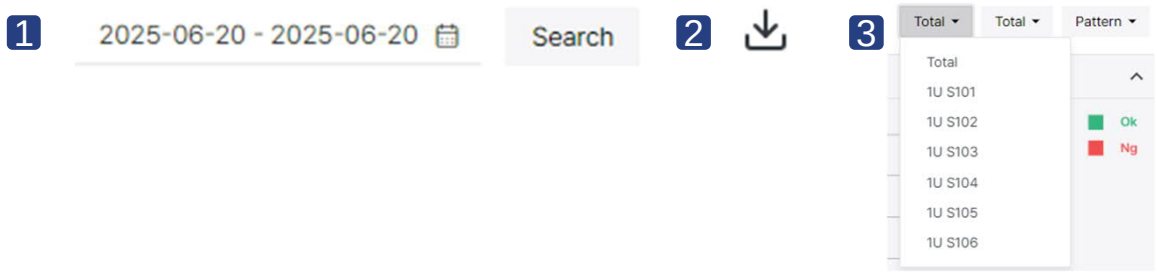
- Button to select the pattern to display in 1

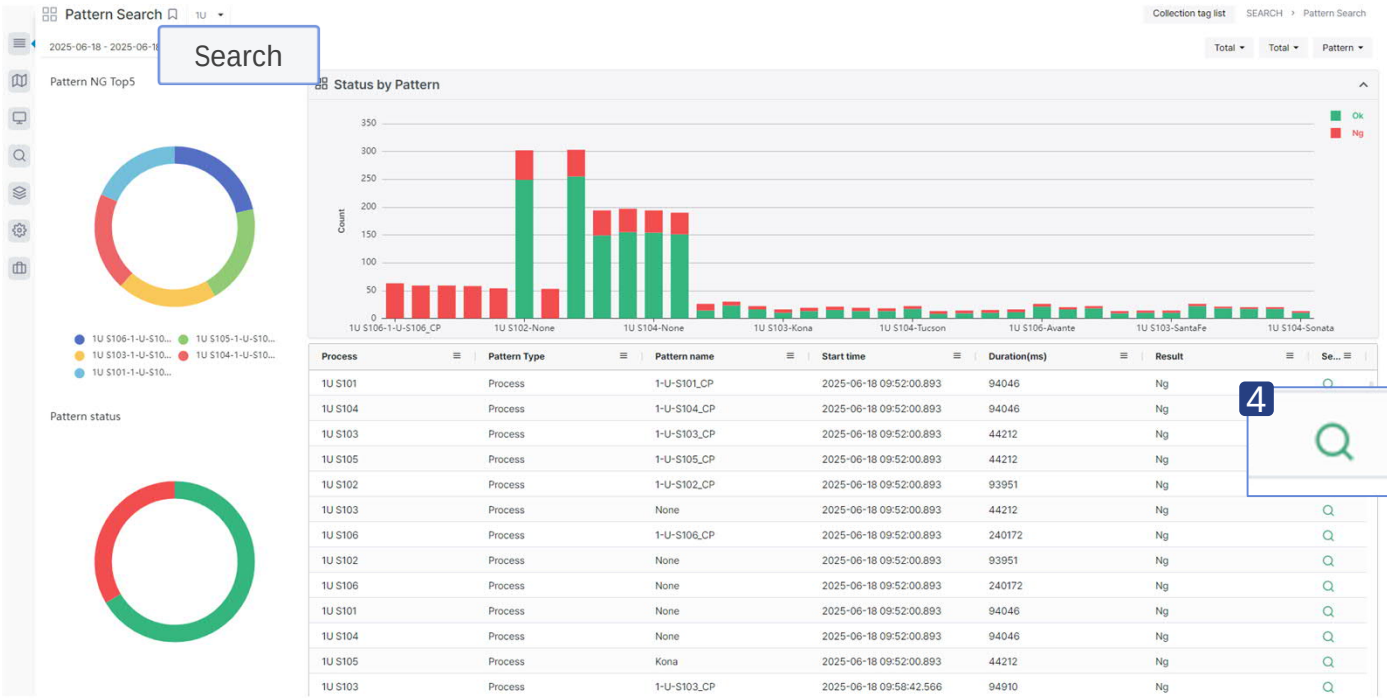


1. Display real-time pattern status
2. Navigate to Pattern Analysis page to view the selected pattern
3. Navigate to Singal Analysis to view the corresponding pattern logic
4. Previout Pattern

2. Pattern Search

- View pattern logs of the selected line
- Show cumulative pattern chart and pattern log grid for the selected period

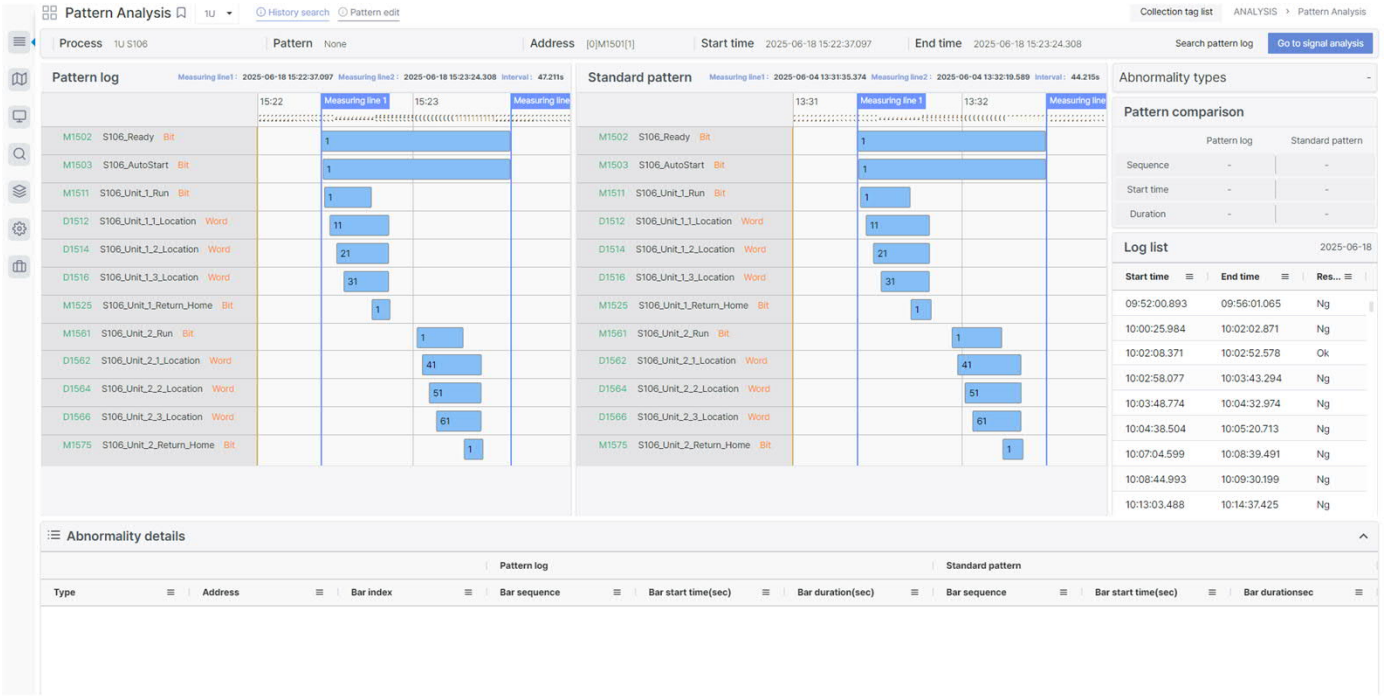




1. Select period and click the "Search" button
2. Download pattern log
3. Dropdown to select display of all processes or a specific process
4. Navigate to Pattern Analysis to compare the current pattern with standard pattern

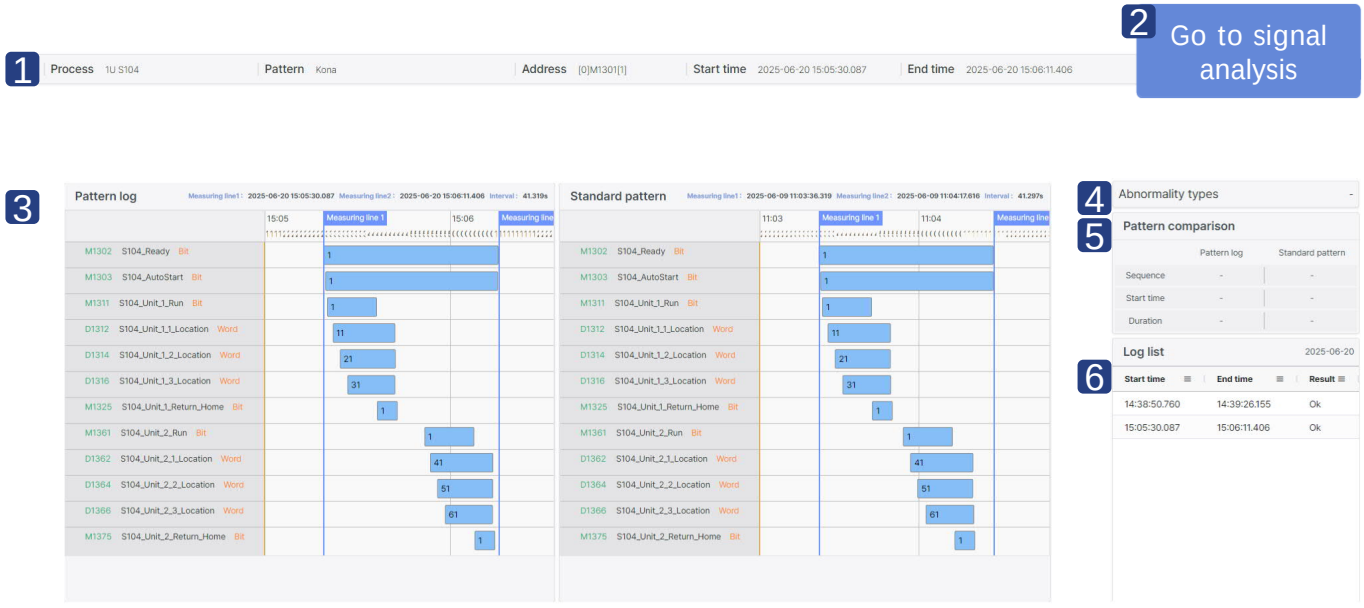
3. Pattern Analysis

- Search coil and related tags of the registered patterns
- Show the process pattern in Gantt chart
- Show the details of anomalies



3. Pattern Analysis

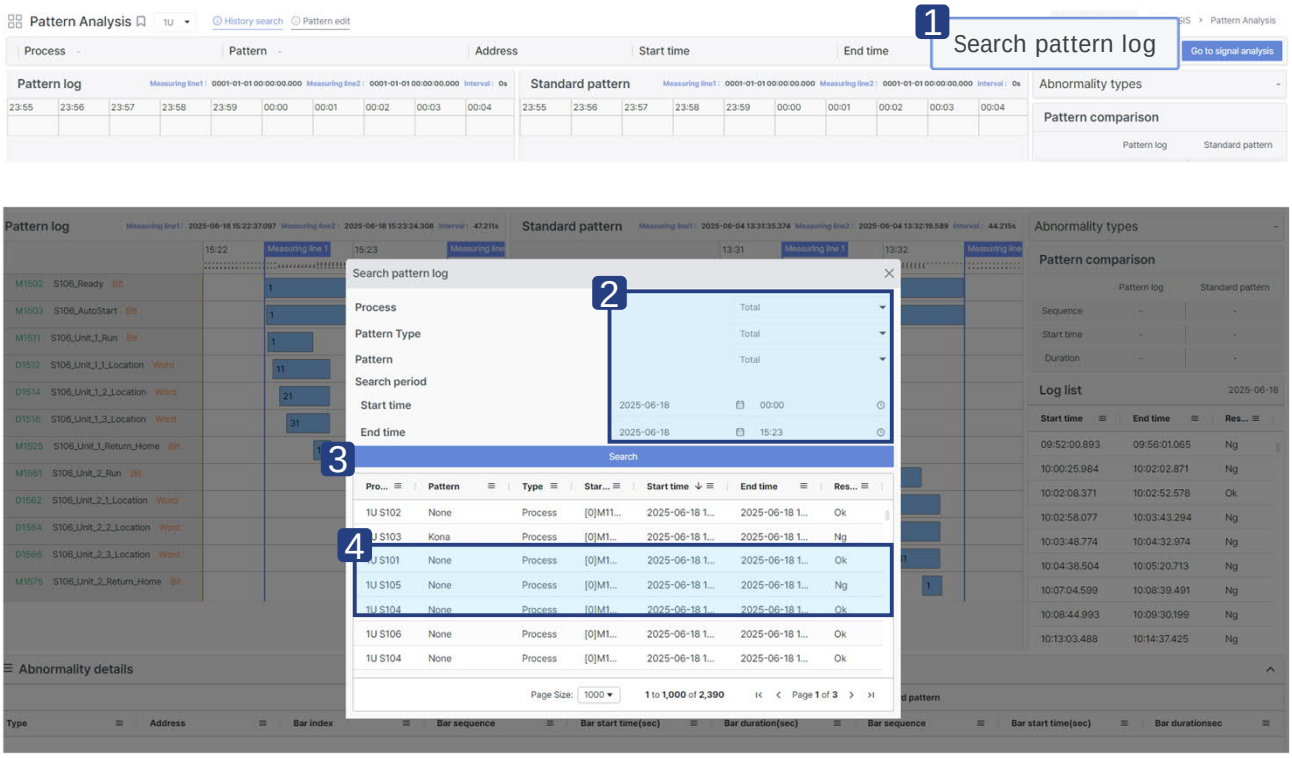
• Pattern Analysis Screen



1. Pattern Log Info	Displays process, pattern, reference address, and start/end time
2. Signal Analysis Button	Opens the signal analysis screen for the relevant cycle
3. Pattern Log / Reference Pattern Gantt Chart	Visual comparison of actual log patterns and standard reference patterns
4. Abnormality Types	Highlights anomalies detected on the Gantt chart bar
5. Pattern Comparison	Shows detailed information when a Gantt bar is clicked
6. Log List	Lists pattern logs for the same product/user
7. Abnormality Details	Displays a list of logs determined to be anomalies

3. Pattern Analysis

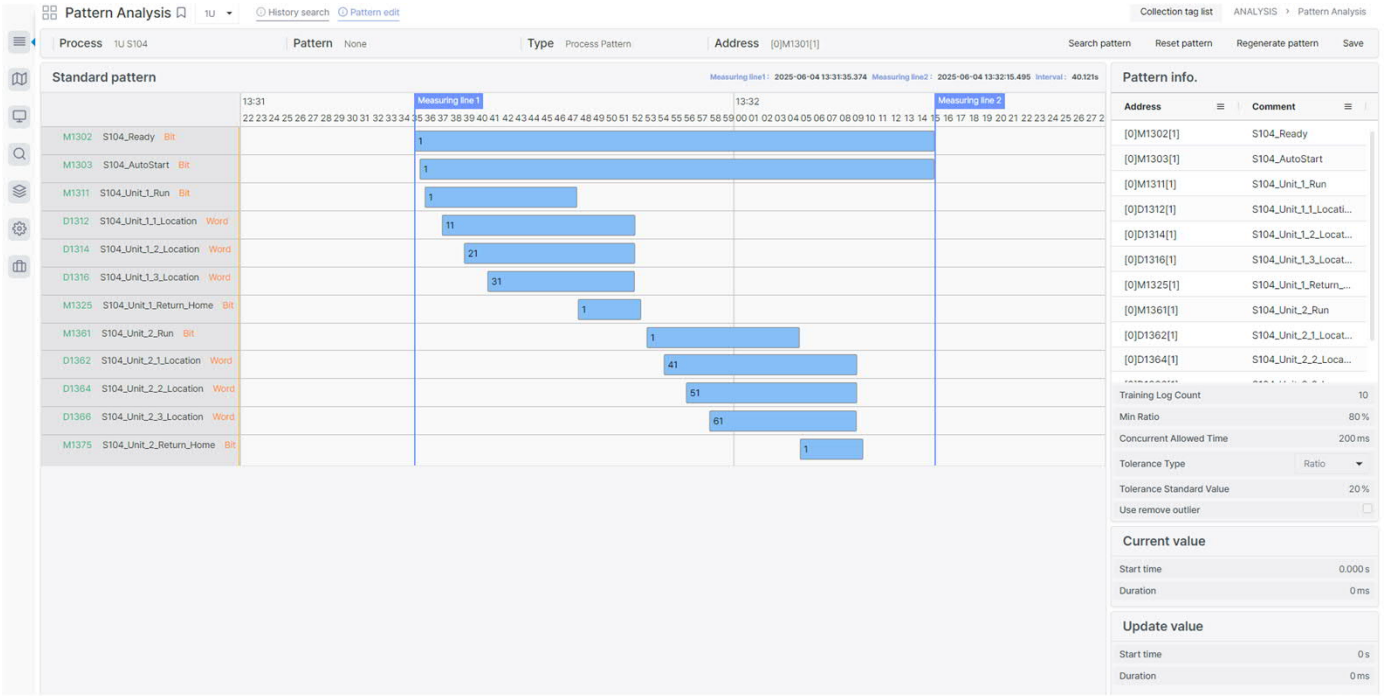
• Search pattern logs



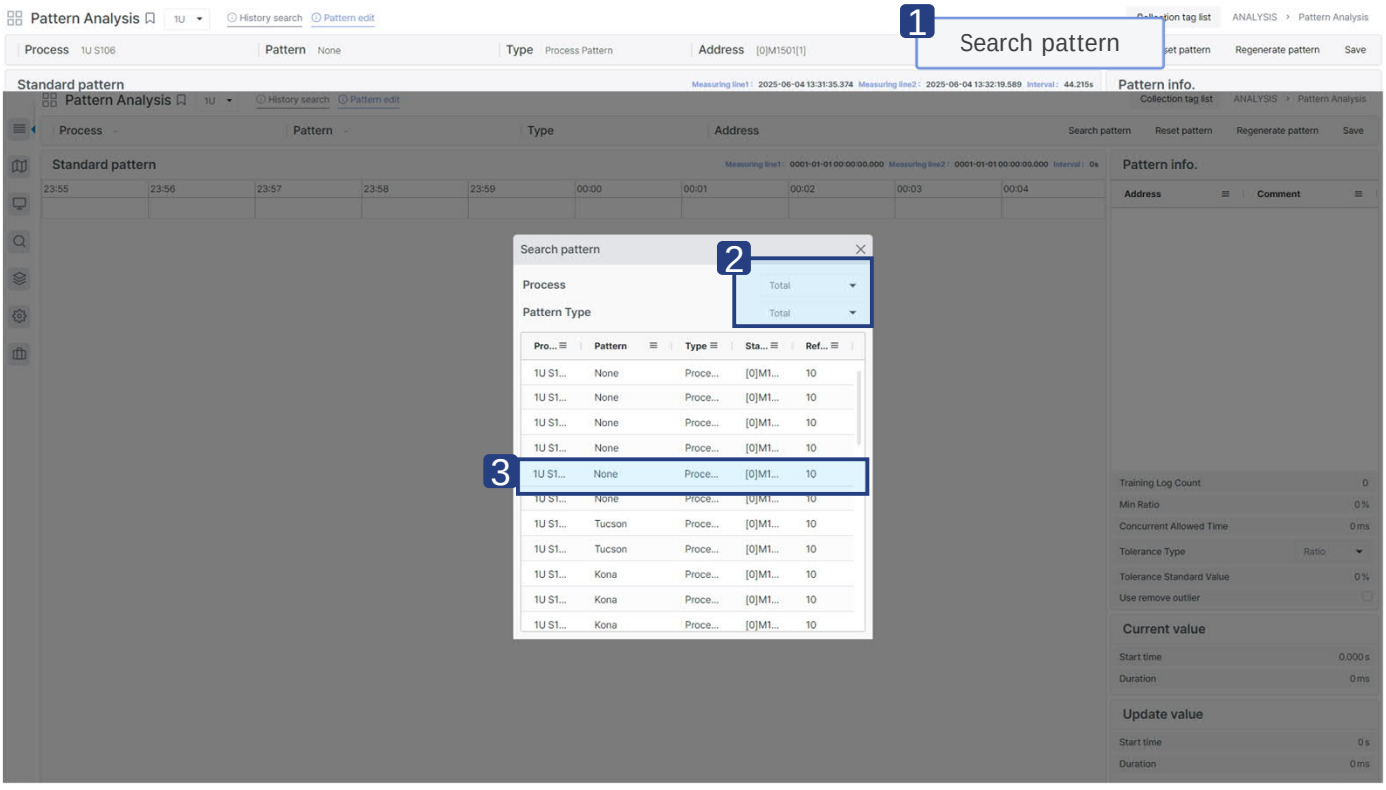
- How to search pattern logs
  1. Click "Search Pattern Log"
  2. Select filter criteria (e.g. process / product / user defined) and set Start Time and End Time
  3. Click "Search" button
  4. Double-click the row to search

3. Pattern Analysis

- **Edit Patterns**
  - Search standard pattern
  - Edit patterns



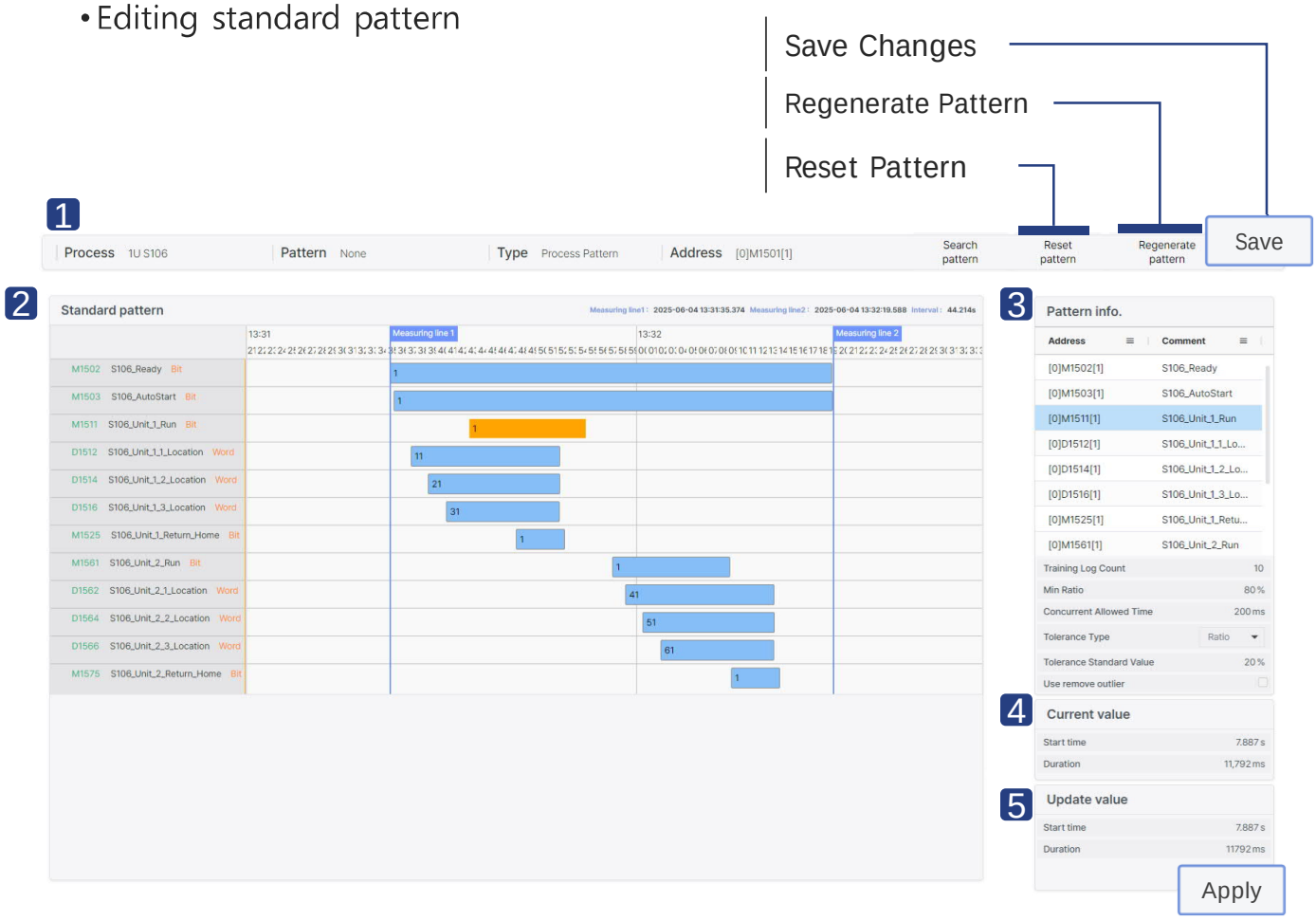
3. Pattern Analysis



- How to search Pattern
  1. Click "Search Pattern"
  2. Select Criteria
  3. Double-click the pattern to view

3. Pattern Analysis

• Editing standard pattern



1. Standard Pattern Info	Displays buttons for initializing the pattern, regenerating the pattern, and saving changes
2. Standard Pattern Gantt Chart	Shows each tag's Gantt bar; adjust the bars by dragging
3. Pattern Info	View and modify settings for the user-defined pattern
4. Current Bar Value	Shows the current reference value of the clicked Gantt bar
5. Modified Bar Value	Shows the modified reference value of the clicked Gantt bar; click "Apply" to save changes

- Modifying Pattern Bars:
  Drag it directly or edit the values in Section 5 then click apply