Flex Signal Instruction Manual

Ver. 17.0

Do not reprint this document without out permission.

©2013 Flex Signal

Introduction

Thank you for purchasing Flex Signal. This document describes how to use Flex Signal.

Flex Signal is a package specially designed to wirelessly monitor the operating status of the PATLITE WD(*1) series (wireless communication model). Flex Signal allows you to monitor and manage the on or flash state of the signal lamp or the production volume in the web browser anytime, anywhere(*2).

(*1) For details on the WD series, contact PATLITE Corporation.
(*2) The signal lamps can be monitored and managed in any environment where you can communicate with the Flex Signal PC through a network.

Revision History

Ver.	Date	System version	Revision details
1.0	Feb. 24, 2014	1.0.0	First edition
1.1	Oct. 17, 2014	1.2.0	Improved the batch signal lamp setup function. Added the monitoring time display function. Added the function to share settings among multiple management groups.
1.2	Dec. 19, 2014	1.2.1	Improved the help function.
1.3	Jan. 22, 2015	1.2.1	Improved the help function.
2.0	Sep. 18, 2015	2.0.0	Added terms. Improved how the home page is accessed, menu, display mode, monitor, options, and other items. Added the operating state monitor, event notification settings, and license function.
2.1	Jul. 7, 2016	2.1.3	Added a description about downloaded CSV data.
3.0	Sep. 30, 2016	3.0.0	Improved the operation history, monthly report, operating state monitor, options, and other items. Added the general monitor, chart list, Gantt chart list, and batch download function. Abolished monitor size selection.
4.0	May 24, 2017	4.0.0	Added Chinese language support. Changed how to display the menu. Added the performance function. Added the signal lamp display settings on the monitor. Added the function to select “Display color” in “Component color.” Added average time and percentage to signal lamp information. Added a description about the “All off” setting.
5.0	May 31, 2018	5.0.0	Added the group setup function. Added the shift function. Added the daily report automatic output function. Modified the single device screen. Modified basic event settings. Added the function to specify the number of defective products. Modified the calendar date selection.
5.1	Jun. 7, 2018	5.0.1	Changed the term “common group settings” to “signal lamp settings.” Modified the menu, operation history monitor, monthly report monitor, operating state monitor, operation analysis monitor, batch signal lamp settings, individual signal lamp settings, and the basic event settings.
5. 2	Nov. 7, 2018	5.0.13	Modified the Gantt chart setting list. Add explanation of terms.
5. 3	Dec. 3, 2018	5.0.14	Modified the terms.
6.0	Jun. 1, 2019	6.0.0	Modified signal lamp settings, basic settings, operation evaluation settings and defective products setting screen. Add the display settings screen.

6.1	Dec. 13, 2019	6.1.0	Add the output type selection function and the daily report type selection function to the daily report automatic output function.
7.0	May 8, 2020	7.0.0	Add signal lamp detailed information to the operation history monitor. Add the fixed value setting function for the monitoring time. Add the break time setting function. Add the receiver status display function.
7.1	Jun. 5, 2020	7.0.1	Signal Tower settings – Add display items. Add display items in Gantt chart.
8.0	Dec. 1, 2020	8.0.0	Operation Status – Add a production volume graph. Basic settings – Added a description about usage of daily report automatic output options. Display settings – Add the whole monitor layout settings.
9.0	Mar. 1, 2021	9.0.0	Whole equipment – Changed the image. Display settings – Add the number of columns displayed. Signal Tower settings – Add the number of display items(changed from 3 to 5) Deleted the address and the home page links.
10.0	Jun. 1, 2021	10.0.0	Single equipment – operation history monitor – Add the function of display unit for the operation chart. Single equipment – monthly report monitor – Add list display function of the monthly report. Single equipment – Add settings for the items displayed on the monthly report list. Signal Tower settings – Individual signal lamp settings – Changed the image. Event settings – Divided the event basic settings into Mail server settings and signal light notification settings. Event settings – Signal light notification settings – Added the function to add the signal lamp notification settings. Help – System information – Add the function to check the transmitter status.
11.0	Aug. 31, 2021	11.0.0	Changed the menu screenshot. Changed the menu. Whole equipment – Download all files Changed the download file. Single equipment – Operation History Changed the download file. Single equipment – Operation Status Add operating time and production volume aggregation graph. Single equipment – Graph scale settings Add the part of operation time and production volume aggregation graph. Basic settings – Auto Output Settings Deleted the daily report type.

			Basic settings – Auto Output Settings Changed the download file. Event settings – Event Notice Settings Add upper and lower limits of the delay time. Terminal setting – Add menu display settings. Add System Setting
12.0	Nov. 30, 2021	12.0.0	Whole monitor – Add graph display. Single equipment – Operation History monitor Changed the screenshots. Signal Tower settings – Group setting Add the delete function. Signal Tower settings – Signal tower collective settings Changed settings for monitor items. Signal Tower settings – Individual signal light settings Changed settings for monitor items. Signal Tower settings – Added settings for monitor items.
12.1	Jan. 5, 2022	12.0.1	Display settings – Gantt chart settings Modified Table 7.
13.0	May 31, 2022	13.0.0	Terminology – Modified the invalid characters.
14.0	Nov. 16, 2022	14.0.0	Whole Monitor Changed the display time range of the graph. Single equipment – Operation History monitor Add Unit to time (Operation). Help – Add the communication status check screen.
14.1	May 22, 2023	14.2.0	Terminology – Add description about Count display name setting function. Single equipment – Operation History monitor Daily report data to be downloaded Changed count name in normal format and old format. Signal Tower settings – Signal tower collective settings Changed the screenshots. Signal Tower settings – Signal tower collective settings Add Count display name setting function. Signal Tower settings – Individual signal lamp settings Changed the screenshots. Signal Tower settings – Individual signal lamp settings Add Count display name setting function. Signal Tower settings – Individual signal lamp settings Changed the screenshots. Operation evaluation settings-operation evaluation collective Add description about addition of Count name setting function. Operation **evaluation** settings-individual operation evaluation settings Add description about addition of Count name setting function. Defective products settings Add description about Count display name setting function. Display settings-Gantt chart settings Changed the screenshots.
15.0	Jun 3, 2024	15.0.0	Whole Monitor – Added comment display function.

			Comment settings – Add comment settings screen. Password settings – Addition of password setting screen.
16.0	Jun 2, 2024	16.0.0	Display settings – Time / Image settings added. Whole Monitor – Time / Image function addition.
17.0	Jan 5, 2026	17.0.0	Display settings – Add description about addition of Highlight Icon Display function. Signal Tower settings – Individual signal lamp settings Add description about addition of Highlight Icon Registration function. Signal Tower settings – Individual signal lamp settings Add description about addition of Highlight Icon Registration function. Event Settings – UI changed. Event Settings – Notification Detail Settings – Add description about addition of Email Body and URL Command Conversion function.

Table of Contents

1. Screen Description 10

1-1. Terminology 10

(1) Site IP address 10
(2) Start time (origin time) 10
(3) Elapsed time 10
(4) Identification ID 10
(5) Off 10
(6) Operation light 10
(7) Alarm light 10
(8) Count function 10
(9) Monitoring time 10
(10) Operating time 11
(11) Operation rate 11
(12) Operation grading value 11
(13) Operation evaluation 11
(14) Operation achievement rate 11
(15) Count 11
(16) Production grading value 12
(17) Production target 12
(18) Production achievement rate 12
(19) Production tact time 12
(20) Production evaluation 12
(21) Alarm time 12
(22) Alarm rate 13
(23) Alarm count 13
(24) Defective products 13
(25) Good products 13
(26) Theoretical output 13
(27) Quality 13
(28) Performance 13
(29) OEE 14
(30) Difference 14
(31) Break time 14
(32) Invalid characters 14

1-1. Accessing the home page 15

1-1. Menu 16

1-1. Display mode 20

1-1. Monitor 22

(1) Whole monitor 22
(2) Chart list 31

1-1. Data 33

(1) Whole equipment - All of Gantt Chart monitor 33
(2) Whole equipment – download all files monitor 36
(3) Single equipment - operation history monitor 38
(4) Single equipment - monthly monitor 57
(5) Single equipment – monthly report list display items settings 68
(6) Single equipment - operating state monitor 69
(7) Single equipment – graph scale settings 74

1-1. Options 78

(1) Administrator authentication 78
(2) Signal Tower settings - group settings 79
(3) Signal tower settings - signal tower collective settings 80
(4) Signal tower settings - individual signal light settings 85
(5) Signal Tower Settings – monitor items setting 90
(6) Basic settings 93
(7) Display settings menu 96
(8) Display settings - whole monitor page settings 97
(9) Display settings - Gantt chart settings 99
(10) Operation evaluation settings - operation evaluation collective 102
(11) Operation evaluation settings - individual operation evaluation settings 106
(12) Event settings - event notice settings 110
(13) Event settings – notification details settings 112
(14) Event settings – mail server settings 115
(15) Defective products settings 117
(16) Comment settings 120

1-1. Other 123

(1) Terminal setting 123
(2) System settings – System Information 125
(3) System settings – Password settings 126

(4) Help - system information 128
(5) Help – confirmation communication status 131

1. Screen Description

1-1. Terminology

This section introduces the terms related to this system. These terms are used for description purposes in this manual.

(1) Site IP address

IP address of the PC where Flex Signal is installed

(2) Start time (origin time)

Time at which a day starts. The initial setting is 00:00. How a day is managed depends on whether the specified time is before or after noon. If you specify 09:00, a day starts at 9:00 and ends at 8:59 on the following day. If you specify 21:00, a day starts at 21:00 on the previous day and ends at 20:59.

(3) Elapsed time

Time elapsed from the start time (origin time). Unless otherwise specified, this is the elapsed time on the current day.

(4) Identification ID

16 digits that indicate the MAC address of the signal lamp. (If the MAC address consists of less than 16 digits, preceding zeros are added.) The MAC address uniquely identifies the signal lamp.

(5) Off

Refers to the state where only the specified color of the signal lamp is off.

(6) Operation light

Component color pattern of the signal lamp that indicates operation

(7) Alarm light

Component pattern of the signal lamp that indicates an error (stop)

(8) Count function

Whether to use the signal lamp count function. If you use all the colors of the signal lamp for the on or flash state, this function cannot be used. You can specify whether to use this function for each signal lamp.

(9) Monitoring time

Time during which the signal lamp was monitored. Normally, this time is the same as the specified fixed time or the elapsed time. When the fixed time is not specified, however, the monitoring time does not include the time during which there is a failure in the communication required for monitoring signal lamps and the break times. If a communication failure occurs, the following is possible. A signal lamp that is always on or flash can be used to determine the monitoring time.

[Communication failures of signal lamps]

- The signal lamp is off.

- The signal lamp cannot communicate with the receiver.

- The main PC cannot communicate with the receiver.

- The main PC is off.

(10) Operating time

Of the monitoring time, the total amount of time during which the operation lamp is on. Break times are excluded if the signal information during break time is set as disabled. This item is not displayed for signal lamps for which the operation lamp is not set.

(11) Operation rate

Proportion of the operating time to the monitoring time as a percentage. Unless otherwise specified, this is the operation rate on the current day. This item is not displayed for signal lamps for which the operation lamp is not set.

(12) Operation grading value

Three star grading with reference to the target operation rate

(13) Operation evaluation

Three star grading result of the operation rate. There are four grades(☆☆☆, ★☆☆, ★★☆, ★★★). They indicate the position of the operation rate in comparison with the criterion of each level. Unless otherwise specified, this is the operation evaluation on the current day. This item is not displayed for signal lamps for which the operation lamp is not set.

[Operation evaluation example]

When the following grades are used:★☆☆: 60.0%,★★☆: 70.0%,★★★: 80.0%

When the operation rate is 50.0%, ☆☆☆ is displayed.

When the operation rate is 75.2%, ★★☆ is displayed.

When the operation rate is 83.0%, ★★★ is displayed.

(14) Operation achievement rate

Proportion of the operating time to the target operating time per day as a percentage. This is the index of the operation achievement rate per day. Unless otherwise specified, this is the operation achievement rate on the current day. This item is not displayed for signal lamps for which the target operating time and achievement rate is not used.

(15) Count

Number counted for the signal lamp. This refers to the number of production or any item (such as the amount of electricity). The number of counts during break time is excluded if the signal information during break time is set as disabled. This item is not displayed for signal lamps for which the count function is not used.

*You can change whether the count is displayed as the number of production or any item (such as the amount of electricity) by specifying the setting.

(16) Production grading value

Three star grading with reference to the target production volume

(17) Production target

Target production volume per day. Unless otherwise specified, this is the target production volume on the current day. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

(18) Production achievement rate

Proportion of the production volume to the target production volume per day as a percentage. This is the index of the production achievement level per day. Unless otherwise specified, this is the production achievement rate on the current day. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

(19) Production tact time

Average operating time to produce one product (calculated by dividing the operating time by the production volume). This is the index of the production efficiency. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

(20) Production evaluation

Three star grading result of the production achievement rate. There are four grades (☆☆☆, ★☆☆, ★★☆, ★★★). They indicate the position of the production achievement rate in comparison with the criterion of each level. Unless otherwise specified, this is the production evaluation on the current day. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

[Production evaluation example]

When the following grades are used: ★☆☆: 50.0%, ★★☆: 65.0%, ★★★: 80.0%

When the production achievement rate is 45.0%, ☆☆☆ is displayed.

When the production achievement rate is 50.0%, ★☆☆ is displayed.

When the production achievement rate is 83.0%, ★★★ is displayed.

(21) Alarm time

Of the monitoring time, the total amount of time during which the error lamp (stop lamp) is on. Break times are excluded if the signal information during break time is set as disabled. This item is not displayed for signal lamps for which the error lamp (stop lamp) is not set.

(22) Alarm rate

Proportion of the abnormal time to the monitoring time as a percentage. Unless otherwise specified, this is the error rate on the current day. This item is not displayed for signal lamps for which the error lamp (stop lamp) is not set.

(23) Alarm count

Number of error occurrences. This indicates how many times the status indicated by the error lamp (stop lamp) occurs. Unless otherwise specified, this is the error count on the current day. The number of error occurrences during break time is excluded if the signal information during break time is set as disabled. This item is not displayed for signal lamps for which the error lamp (stop lamp) is not set.

(24) Defective products

Number of defective products in the production volume. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

(25) Good products

Number calculated by subtracting the number of defective products from the production volume. If the number of defective products is not specified, this number is the same as the production volume. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

(26) Theoretical output

Scheduled production volume calculated from the monitoring time. This volume is calculated by using the reference cycle time for each piece of equipment (dividing the monitoring time (s) by the reference cycle time). This item is not displayed for signal lamps for which the reference cycle time is not set.

(27) Quality

It is a value to be obtained by the following formula. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

Quality = Good products ／ Number of Production

(28) Performance

It is a value to be obtained by the following formula. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the

number of production.

Performance = Number of Production ／Theoretical output

(29) OEE

It is a value to be obtained by the following formula. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

OEE = Operation rate × Performance × Quality

(30) Difference

Difference between Theoretical output and Number of Production. This item is not displayed for signal lamps for which the count function is not used or signal lamps for which the count function is not used as the number of production.

(31) Break time

Time which is not included in the monitoring time. When the signal information during break time is set as enabled, the signal light information that is in on/flash state during break time is included in the time.

(32) Invalid characters

This indicates a character which includes any of the following characters or tab.

*;&"'$#@\<>

These characters cannot be entered on the screen.

1-1. Accessing the home page

The address of the home page of Flex Signal is as shown below. Specify the following address in the web browser (such as Internet Explorer) to access the dashboard. When you successfully access the page, the screen described in "1-5(1) General monitor" appears.

http://[Site IP address]/FS

* If the home page does not appear like it should, check that the network settings for the main PC are correct.

* Flex Signal cannot be used with PATLITE WDS-AUTO2 or WIN-01. Exit WDS-AUTO2 and WIN-01 before using Flex Signal.

1-1. Menu

The menu available on every screen is displayed at the top of the screen. You can go to each screen from this menu.

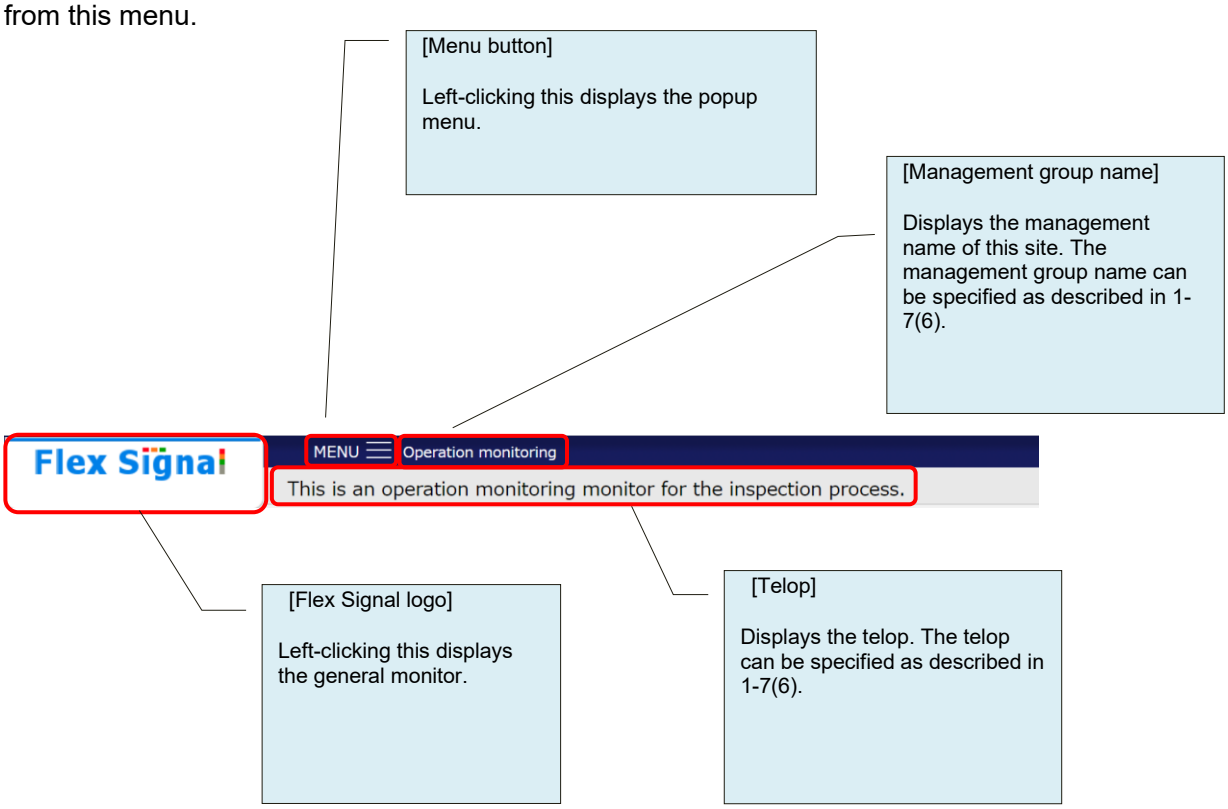


Figure 1: Top of the screen

Click each icon to go to the predetermined page.

Click “＋” or “—” to expand or collapse the menu content.

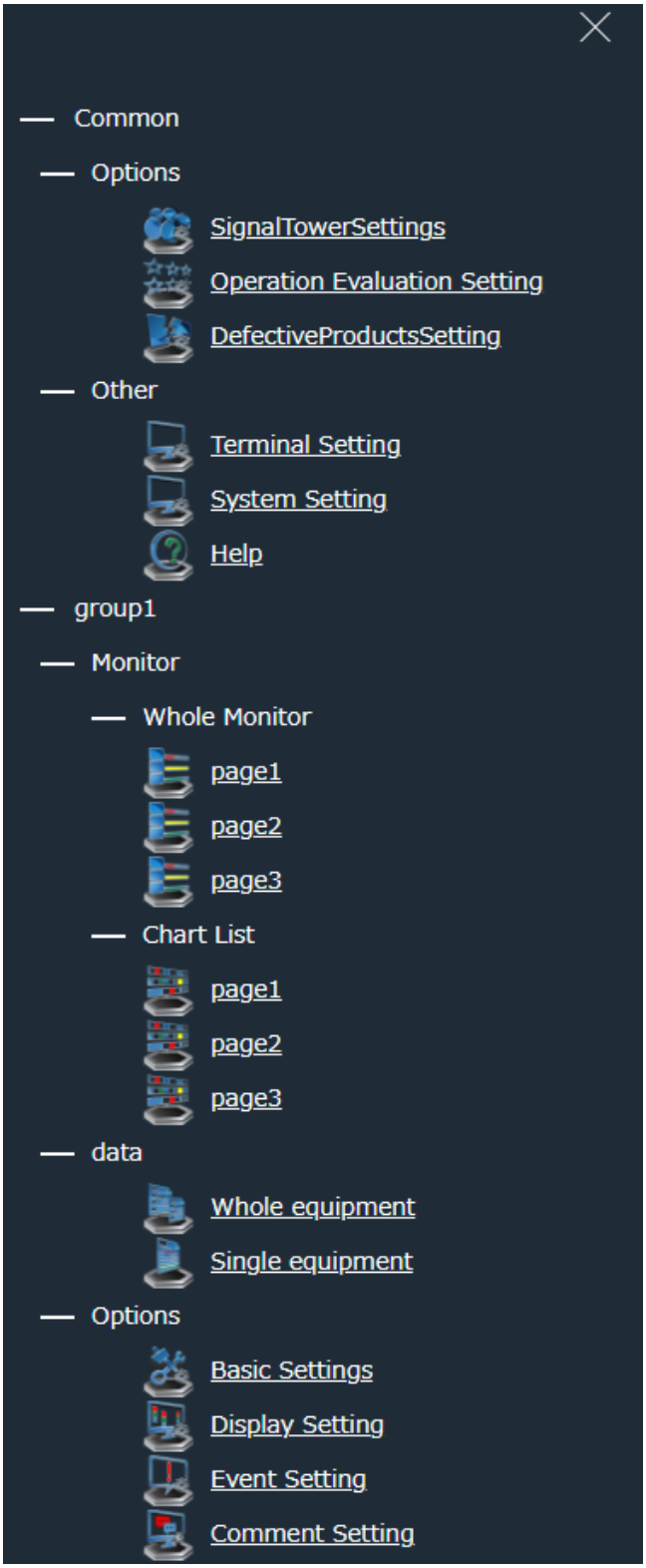


Figure 2: Menu screen

Groups added as described in "1-7(2) Signal Tower settings – group settings" are displayed below “Common” in order.

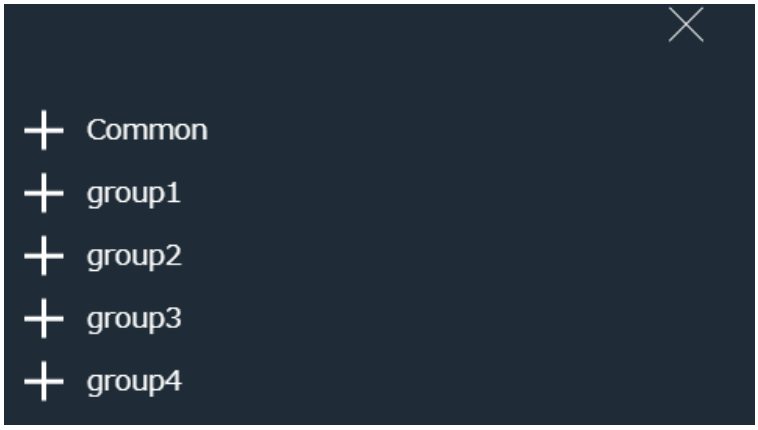


Table 1: Description of the menu

No.	Item			Description
1	Common	Options	Signal Tower settings	You can go to the Signal Tower settings screen.
2	Common	Options	Operation evaluation setting	You can go to the operation evaluation settings screen.
3	Common	Options	Defective product setting	You can go to the defective product settings screen.
4	Common	Others	Terminal setting	You can go to the terminal settings screen.
5	Common	Others	System setting	You can go to the system settings screen.
6	Common	Others	Help	You can go to the help screen.
7	Group	Monitor	Whole monitor submenu	You can go to the predetermined general monitor from each submenu.
8	Group	Monitor	Chart list submenu	You can go to the predetermined chart list from each submenu.
9	Group	Data	Whole equipment	You can go to the Gantt chart list monitor.
10	Group	Data	Single equipment	You can go to the single equipment – operation history monitor.
11	Group	Options	Basic settings	You can go to the basic settings screen.
12	Group	Options	Display setting	You can go to the display settings screen.
13	Group	Options	Event setting	You can go to the event settings screen.
14	Group	Options	Comment Setting	You can go to the comment settings screen.

1-1. Display mode

You can select the screen theme to adjust the screen appearance.

[Theme]

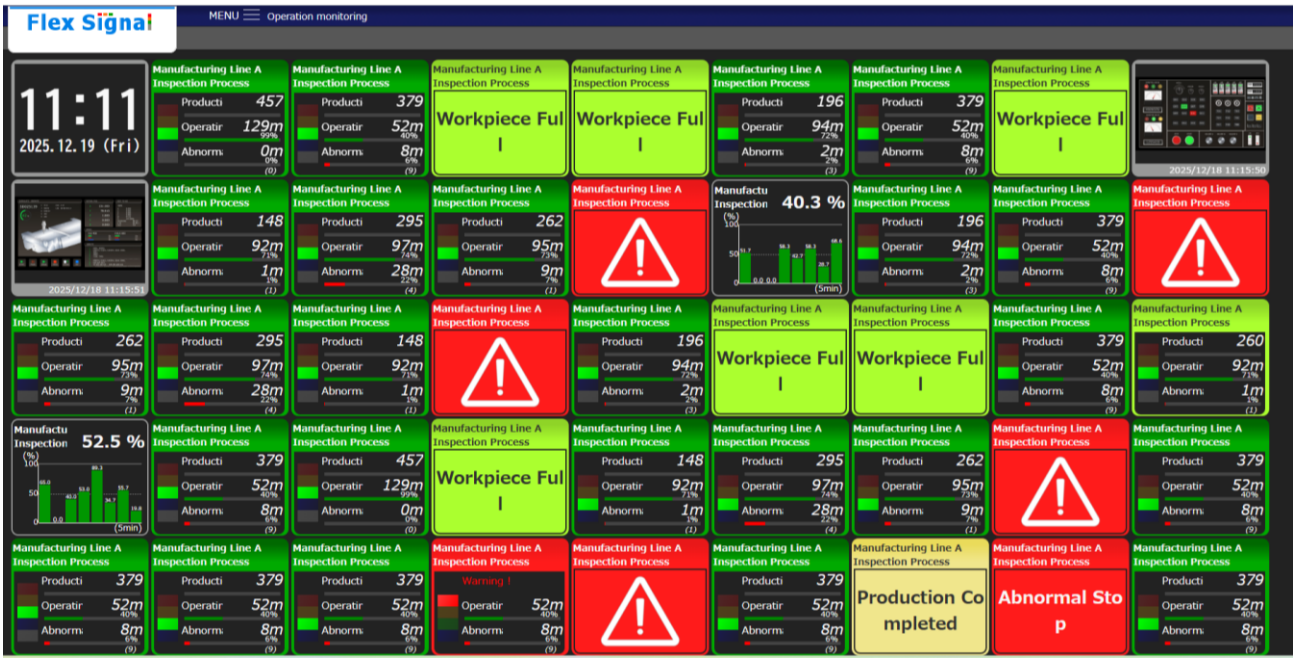
You can select from the following options to switch the base color:

- White: White-based theme
- Black (default): Black-based theme

* The signal lamp statuses are automatically placed according to the monitor size.

[Example 1] Theme: White, Monitor size: 1280 (W) x 1024 (H)

[Example 2] Theme: Black, Monitor size: 1920 (W) x 1080 (H)



1-1. Monitor

(1) Whole monitor

You can check the current operating states of the signal lamps in real time.

Items are displayed if you select “Item” for the Monitor Type in the monitor display items settings, and graph is displayed if “Graph” is selected.

The Monitor Type can be specified as described in “1-7 (4) Signal Tower settings - Individual signal light settings.”

When “Time” is selected as the display pattern for the monitor display item setting, the time is displayed,

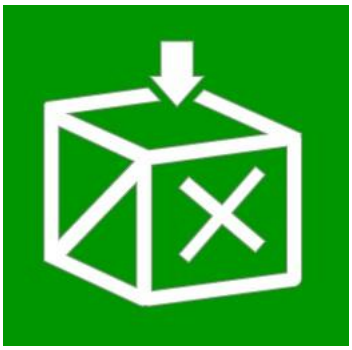
When “Image” is selected as the display pattern for the monitor display item setting, the image is displayed.

Figure 1: Whole monitor

Table 1: Description of the Whole monitor (Display type: Item)

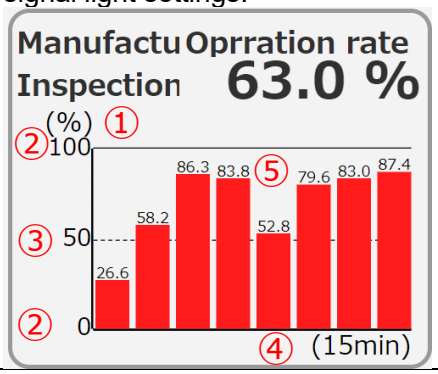
No.	Item		Description
1	Signal light status	—	Displays the current status of the signal lamp in real time. (The actual on or flash state of the signal lamp may be displayed with a delay (after several seconds to one minute) depending on the communication environment.) The border line color is the display color selected for each component color. Click the signal lamp status to display the operation history monitor of each signal lamp.
2	Signal light status	Line name	Displays the line name. The line name can be specified as described in “1-7 (4) Signal Tower settings - Individual signal light settings."
3	Signal light status	Signal tower name	Displays the signal lamp name. The signal lamp name can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."
4	Signal light status	Current statuses of the buzzer and the red, yellow, green, blue and white lights	Displays the status of the buzzer and the on, flash or off status of the red, yellow, green, blue and white lamps in real time. Whether or not to display the buzzer, the number of displayed tiers and the color of each displayed tier can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings." * Not displayed when the highlight display is set.
5	Signal light status	Monitor items	* Not displayed when the highlight display is set. - Display for one day Displays the display items in real time. The display items can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings." - Display per shift Displays the numerical value for the shift that includes the current time. If the current time is not included in any shift time, the items are not displayed. The display items can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."
6	Signal light status	Number of rows displayed	This can be specified as described in “1-7 (4) Signal Tower settings - Individual signal light settings." You can select from 3 tiers, 4 tiers and 5 tiers.
7	Signal light status	Comment	It can be set in "1-7(4) Signal light settings - Signal light individual settings 1-7(8) Display settings - Overall monitor display settings". 3-tier, 4-tier, and 5-tier can be selected.
8	Signal light status When the emphasis display is set	Management name	The management name is displayed in the center. Management name and the emphasis setting can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."

9		Icon	The icon image is displayed in the center. The emphasis setting can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings." ・Icon Image ・Icon1 ・Icon2 ・Icon3 ・Icon4 ・Icon5 ・Icon6

			・Icon7 ・Icon8  ・Icon9 ・Icon10 ・Icon11 ・Icon12 ・Icon13 ・Icon14

			・Icon15 ・Icon16 *A default icon image is provided, but you can also set any image of your choice. ・How to Change the Icon Image 1. Prepare the icon image you want to use. Supported extensions: .jpg, .png, .gif Recommended size: 256 × 256 px Example: icon_1.png Naming rule: icon_〇 (You can register up to 16 icons.) * Replace 〇 with the icon number you want to set. 2. Place the image in the monitoring folder. Monitoring folder path: C:¥FSImage¥EmphasisIcon * When you place an image in this folder, the FlexSignal application automatically imports it into the storage folder. * When setting a custom image, the existing icon image will be overwritten and deleted. * If the icon image has a transparent background, the transparent area will be displayed with the component color as the background color on the monitor screen.
10	Signal light status When the elapsed time is set	—	The time elapsed after the current status occurred is displayed under the component color name. The elapsed time setting can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings." * Displayed only when the highlight display is set.

Table 2: Description of the Whole monitor (Display type: Graph)

No.	Item		Description
1	Signal light statistical information graph	—	Displays the current statistical information of the signal lamp in graph form in real time. (The actual on or flash state of the signal lamp may be displayed with a delay (after several seconds to one minute) depending on the communication environment.) Click the signal lamp status to display the operation history monitor of each signal lamp.
2	Signal light statistical information graph	Line name	Displays the line name. The line name can be specified as described in “1-7 (4) Signal Tower settings - Individual signal light settings."
3	Signal light statistical information graph	Signal tower name	Displays the signal lamp name. The signal lamp name can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."
4	Signal light statistical information graph	Monitor item name	Displays the name of the graph. The monitor item name can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."
5	Signal light statistical information graph	Statistic value	Displays the current value of the items specified in the selected graph. The graph type can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings." - Display for one day Displays the items specified in the selected graph in real time. - Display per shift Displays the numerical value for the shift that includes the current time. If the current time is not included in any shift time, the items are not displayed.
6	Signal light statistical information graph	Graph	Displays the values of the graph type in a bar graph based on the display refresh time. The graph type, scale, interval, and color can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings." 

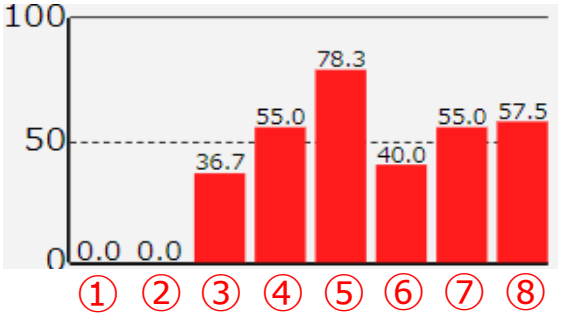
			① Displays unit of measurement of the y-axis. The unit of measurement changes depending on the graph type. ② Displays the maximum value and the minimum value specified in the scale. ③ Displays the median between the maximum value and the minimum value specified in the scale. ④ Displays the time specified as the interval. ⑤ Displays the graph of the items specified in the selected graph in the specified color. Following is the example of time in x-axis: [Example] Start time:8:00 Display refresh time:9:01 Interval: 5 minutes  (1) 8:25 – 8:30 (2) 8:30 – 8:35 (3) 8:35 – 8:40 (4) 8:40 – 8:45 (5) 8:45 – 8:50 (6) 8:50 – 8:55 (7) 8:55 – 9:00 (8) 9:00 – 9:01 *Note: ・Display for one day Data before the start time (origin time) is not aggregated. ・Display per shift Data before the start time of the shift that includes the current time is not aggregated. .

Table 3: Description of the Whole monitor (Display type: Time)

No.	Item		Description
1	Time	—	Displays the current time (in 24-hour notation). *Time is synchronized with the client PC.

Table 4: Description of the Whole monitor (Display type: Image)

No.	Item		Description
1	Image	—	For signal lights, the target image is displayed in real time. (Depending on the communication environment, the loaded image may be delayed for a few seconds to a minute.) Clicking on the image A pop-up window displaying the target image will appear.
2	Image	Image	Import images from a watched folder to a storage folder, The most recently updated images in the storage folder are displayed. Monitored folder: C:¥FSImage By placing images in the target MAC address folder in the monitored folder FlexSignal's application will automatically fetch the images in the storage folder. FlexSignal application will automatically import the images to the storage folder. Target extensions for captured images: .jpg .png .gif
3	Image	Update Date	Displays the date and time when the displayed image was last updated. Format: yyyy/MM/dd HH:mm:ss
4	Image display popup	—	Clicked image is enlarged.
5	Image display popup	—	Download the latest images of the subject signal lights. *To download the latest image of the subject signal light, The image may be different from the one shown here.

(2) Chart list

You can check the current and past operating states of the signal lamps.

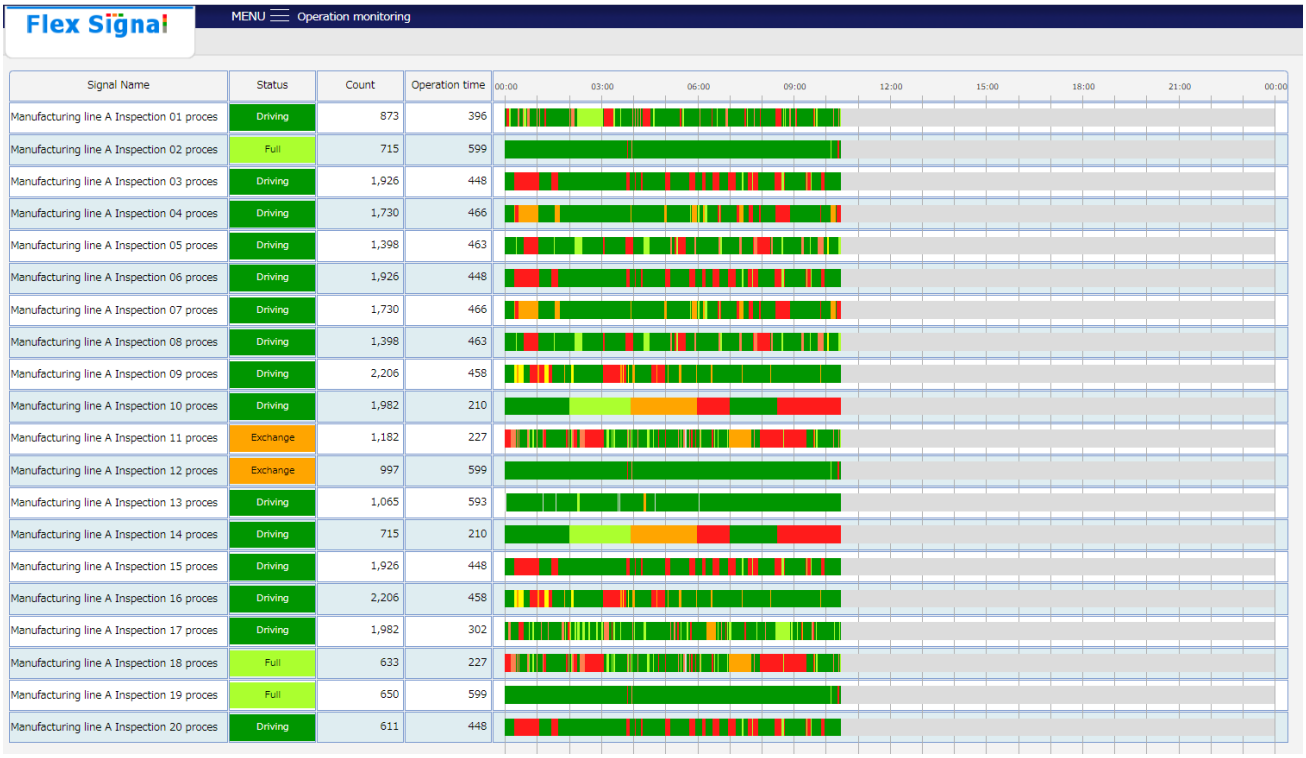


Figure 2: Chart list - Gantt chart for one day

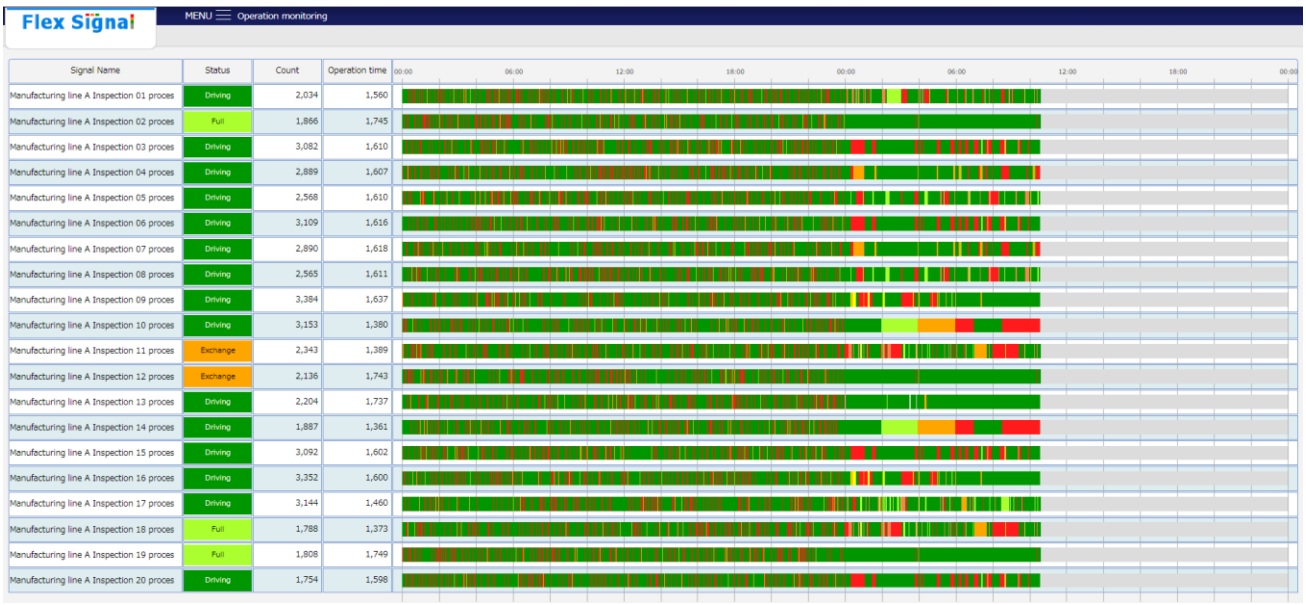


Figure 3: Chart list - Gantt chart for two days

Table 5: Description of the chart list

No.	Item	Description
1	Signal name	Displays the line name and signal lamp name of the target signal lamp. If the line name is not specified, only the signal lamp name is displayed. The line name and signal lamp name can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."
2	Display items	Displays the display items in real time. The display items can be specified as described in "1-7(9) Display settings - Gantt chart settings."
3	Operation chart	Displays the operation chart in the Gantt chart format. The operation chart is displayed using the colors selected in "Display color" under "Component color." Display for one or two days can be specified as described in "1-7(9) Display settings - Gantt chart settings."

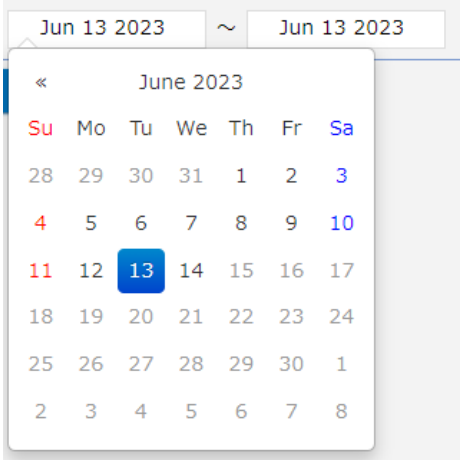
1-1. Data

(1) Whole equipment - All of Gantt Chart monitor

You can view the signal lamp operation chart in list form.

Figure 1: All of Gantt Chart monitor

Table 1: Description of the All of Gantt Chart monitor

No.	Item		Description
1	Menu	Gantt chart list	Displays the Gantt chart list monitors.
2	Menu	Download all files	Displays the batch download monitor.
3	Target day	—	Select the target year, month and day on the calendar. When you click a date, the calendar appears.  You can select up to seven days as the target period from the start day to the end day. * The next day or later cannot be selected.
4	Refresh	—	Refreshes the Gantt chart list monitor for the target days.
5	Date selection	—	Move the target year, month and day. When the start day is the same as the end day, clicking ◀◀ selects the previous day. When the start day is different from the end day, the past period that has the same number of days as the period from the start day to the end day is selected. Example: When the period is Jun. 29, 2017 to Jun. 29, 2017, clicking ◀◀ selects the period from Jun. 28, 2017 to Jun. 28, 2017. When the period is Jun. 25, 2017 to Jun. 29, 2017, clicking ◀◀ selects the period from Jun. 21, 2017 to Jun. 25, 2017. Click ◀ to select one day before the start and end days. Click ▶ to select one day after the start and end days. When the start day is the same as the end day, clicking ▶▶ selects the following day. When the start day is different from the end day, the future period that has the same number of days

			as the period from the start day to the end day is selected. Example: When the period is Jun. 29, 2017 to Jun. 29, 2017, clicking selects the period from Jun. 30, 2017 to Jun. 30, 2017. When the period is Jun. 21, 2017 to Jun. 25, 2017, clicking selects the period from Jun. 25, 2017 to Jun. 29, 2017.
6	Signal name	—	Displays the line name and signal lamp name of the target signal lamp. If the line name is not specified, only the signal lamp name is displayed. The line name and signal lamp name can be specified as described in “1-7 (4) Signal Tower settings – Individual signal light settings.”
7	Display items	—	Displays the display items in real time. The display items can be specified as described in "1-7(9) Display settings - Gantt chart settings."
8	Operation chart	—	Displays the operation chart for selected dates in the Gantt chart format. The operation chart is displayed using the colors selected in "Display color" under "Component color."

(2) Whole equipment – download all files monitor

You can download signal lamp data all at once.

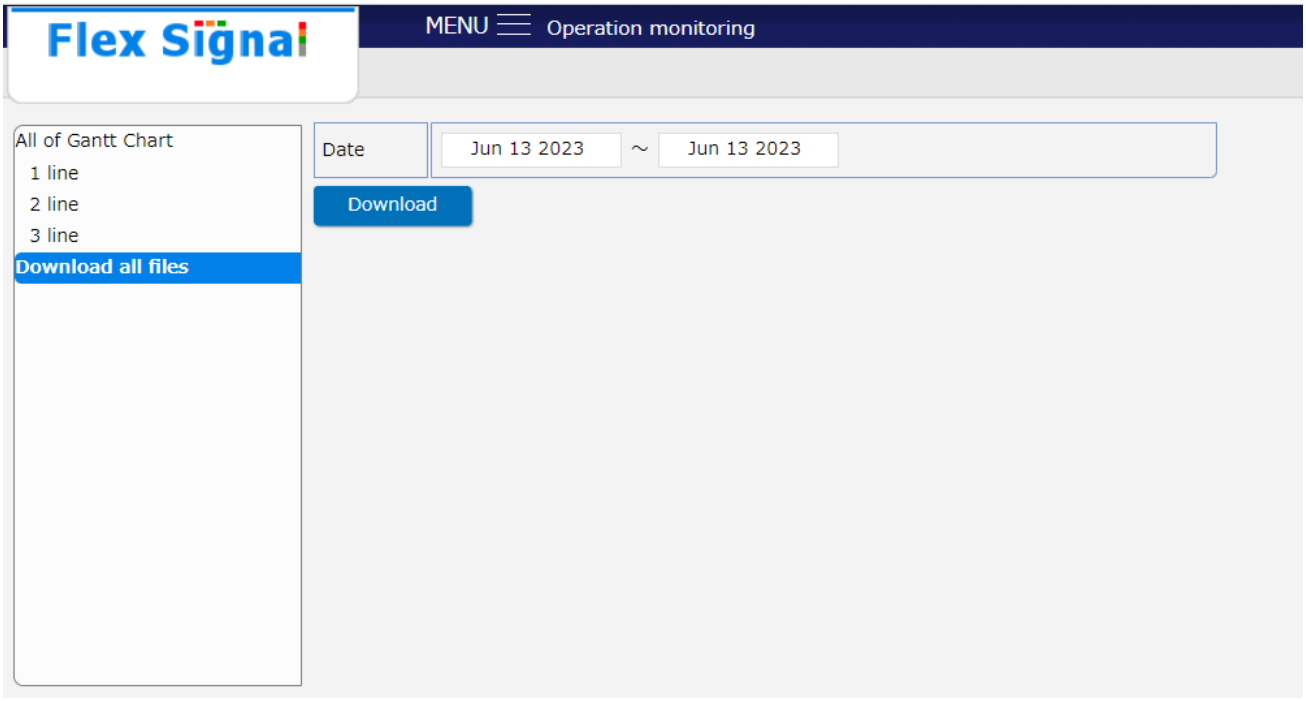
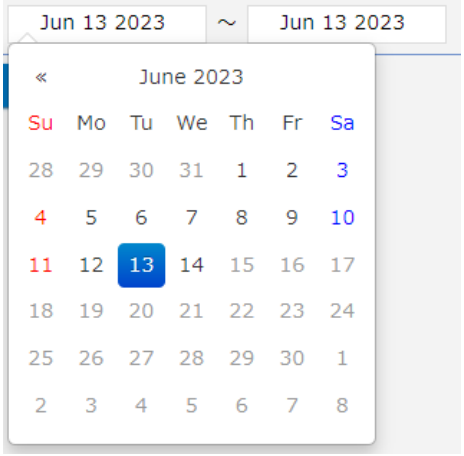
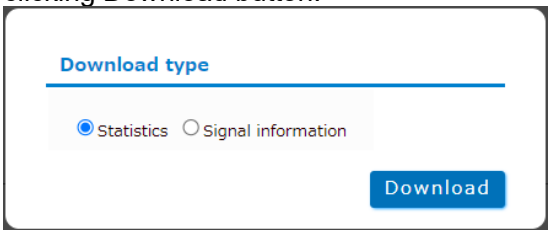


Figure 2: download all files monitor

Table 2: Description of the download all files monitor

No.	Item	Description
1	Date selection	Select the target year, month and day on the calendar. When you click a date, the calendar appears.  You can select up to seven days as the end date from the start day of the target year, month and day.
2	Download	Starts downloading a daily report on the target period for the number of signal lamps. A CSV file based on the CSV settings specified as described in "1-8(2) System settings" is downloaded. When you select “Normal” in “1-8(2) System settings", a popup window to select download type is displayed by clicking Download button.  After choosing the download type, click Download button to start downloading. A daily report on the target period is output in the CSV format for all the signal lamps and downloaded. When you select “Old format” in “1-8(2) System settings", downloading starts by clicking Download button. A daily report on the target period is output in the CSV format for the number of signal lamps, which is then zipped and downloaded. See "(3) Single equipment – Operation history monitor" for the format of a download file.

(3) Single equipment - operation history monitor

You can check the operating state of a signal lamp for the whole day and per shift (statistical information, signal information and operation chart).

* If the shift time is not specified, data is not displayed per shift.

Data for the shift category in the basic settings is displayed.

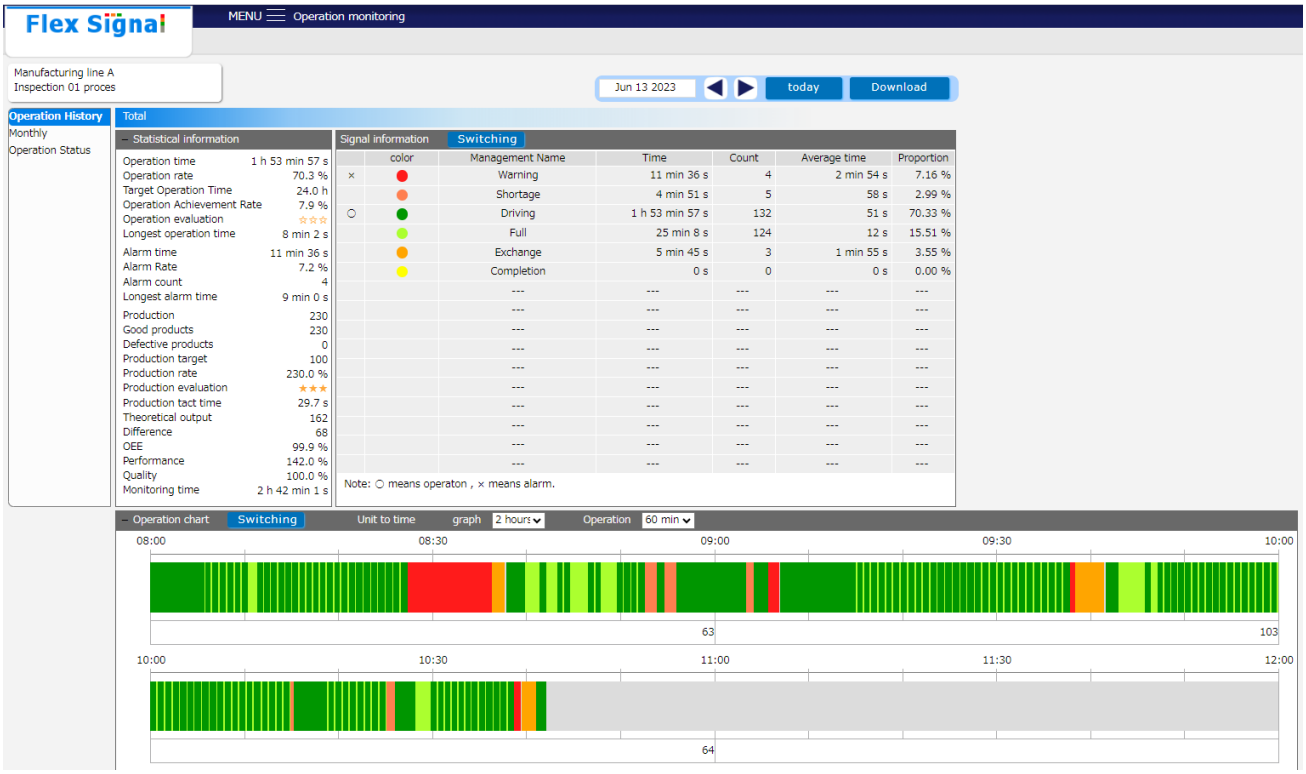


Figure 3: Total - operation history monitor

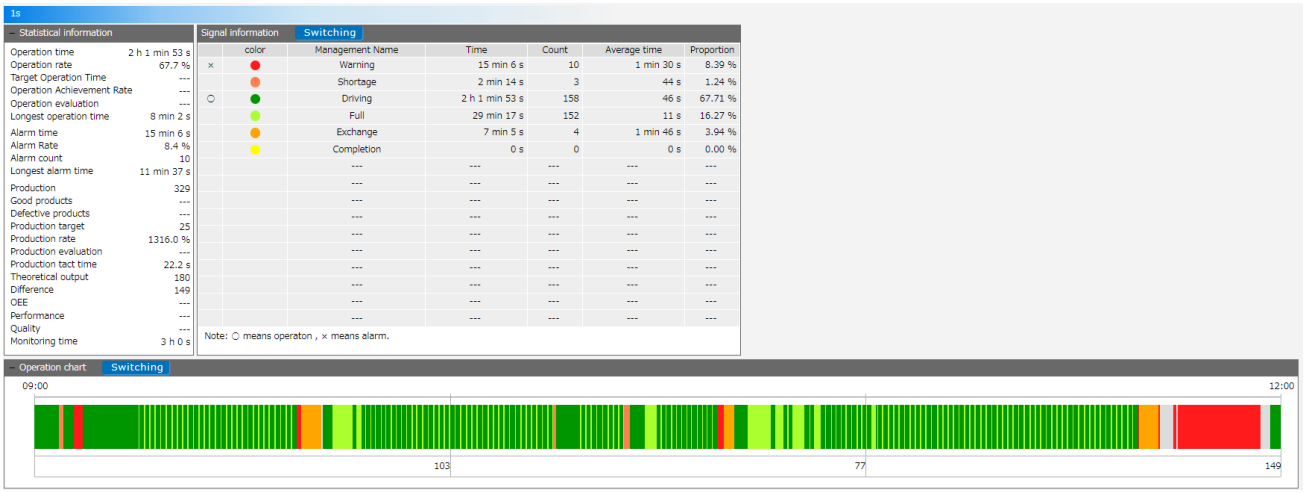


Figure 4: Shift 1 - operation history monitor

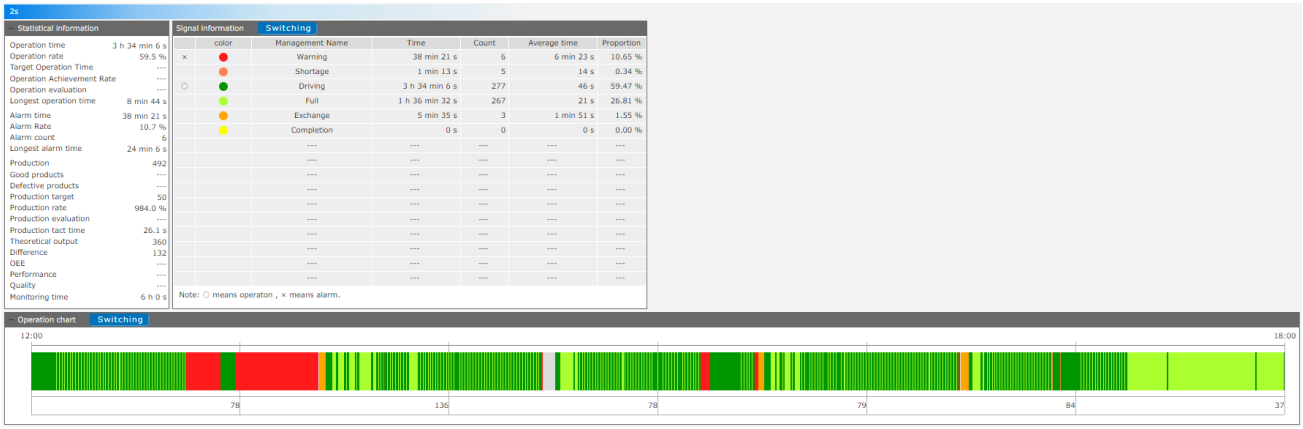


Figure 5: Shift 2 - operation history monitor

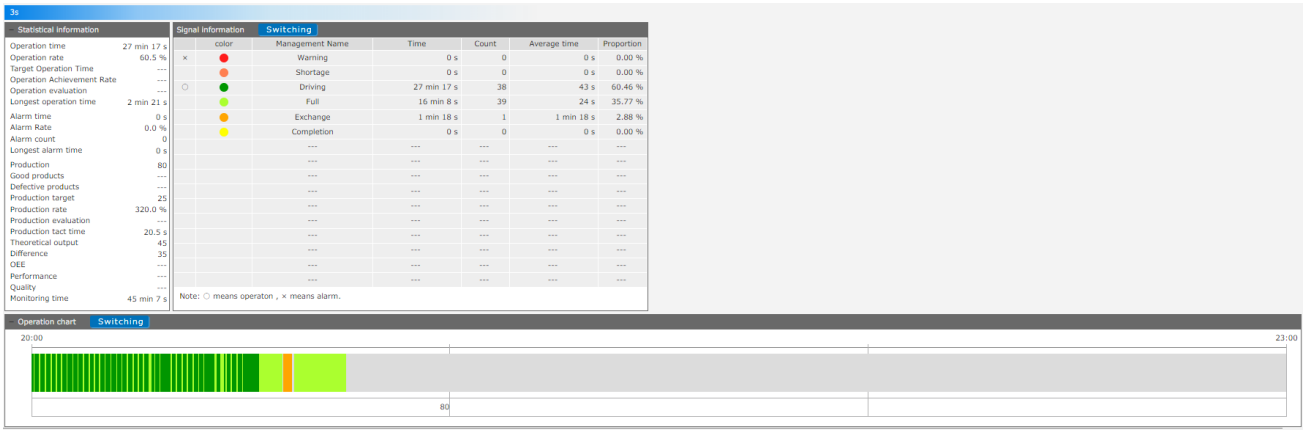
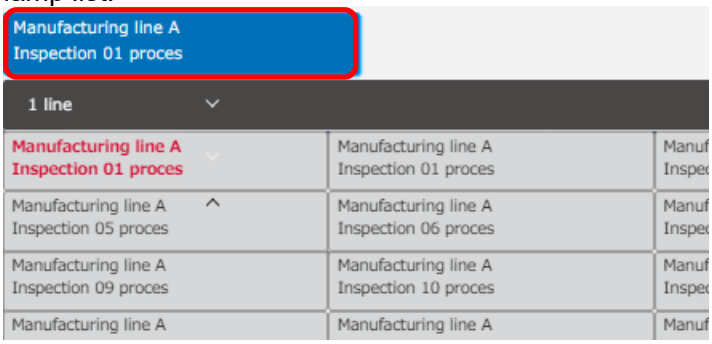
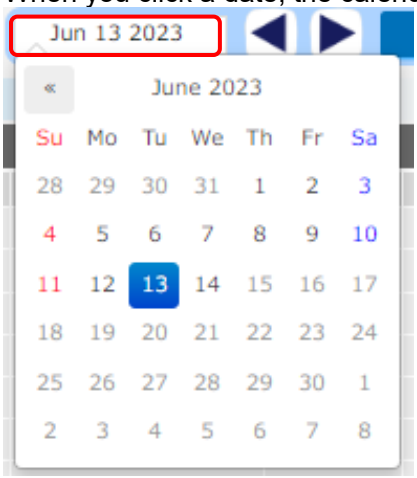
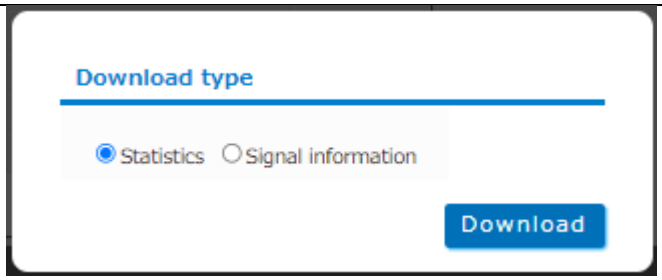
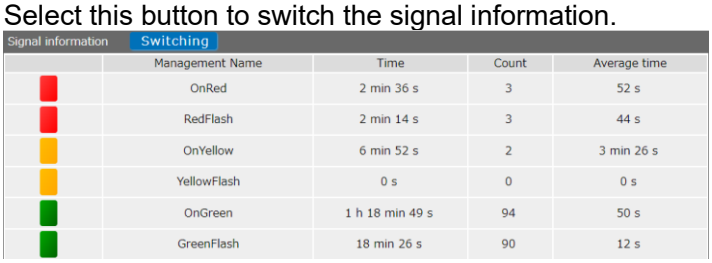
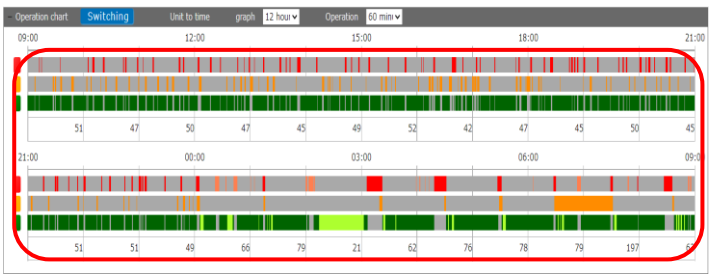


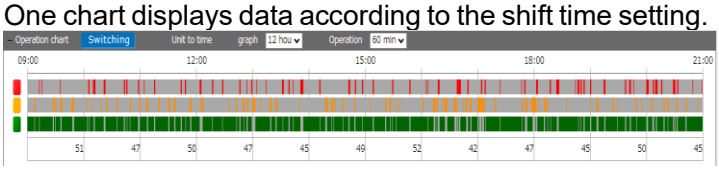
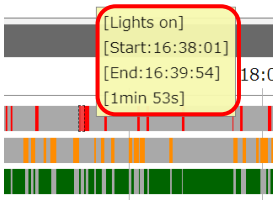
Figure 6: Shift 3 - operation history monitor

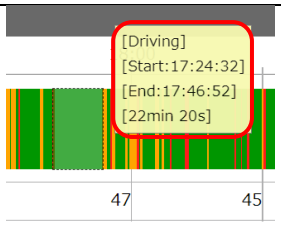
Table 3: Description of the operation history monitor

No.	Item		Description
1	Signal light selection	—	Select the signal lamp to be displayed. Click the displayed signal lamp name to display the signal lamp list.  Click to select the signal lamp name. * The displayed signal lamp list is determined according to the general monitor settings.
2	Target day	—	Select the target year, month and day on the calendar. When you click a date, the calendar appears.  * The next day or later cannot be selected.
3	Today	—	Displays the operation history for the current day.
4	Download	—	Downloads the daily report data for the target day (statistical information, signal information and operation history) in the CSV format. A CSV file based on the CSV settings specified as described in "1-8(2) System settings" is downloaded. When you select “Normal” in “1-8(2) System settings", a popup window to select download type is displayed by clicking Download button.

			 After choosing the download type, click Download button to start downloading. When you select “Old format” in “1-8(2) System settings", downloading starts by clicking Download button.
5	Menu	Operation history	Displays the operation history monitor for the target date.
6	Menu	Monthly	Displays the monthly report monitor
7	Menu	Operation status	Displays the operating state monitor.
8	Statistical information	Operation time	Displays the operating time on the target day.
9	Statistical information	Operation rate	Displays the operation rate on the target day.
10	Statistical information	Target operation time	Displays the target operating time on the target day.
11	Statistical information	Operation achievement rate	Displays the operation achievement rate on the target day.
12	Statistical information	Operation evaluation	Displays the operation evaluation on the target day.
13	Statistical information	Longest operation time	Displays the maximum continuous operating time on the target day.
14	Statistical information	Alarm time	Displays the abnormal time on the target day.
15	Statistical information	Alarm rate	Displays the error rate on the target day.
16	Statistical information	Alarm count	Displays the error count on the target day.
17	Statistical information	Longest alarm time	Displays the maximum continuous abnormal time on the target day.
18	Statistical information	Count *This is displayed as the number of production or any display name according to the settings for Count in Signal Tower settings.	Displays the count on the target day.
19	Statistical information	Good products	Displays the number of good products on the target day.
20	Statistical information	Defective products	Displays the number of defective products on the target day.
21	Statistical information	Production target	Displays the target production volume on the target day.

2 2	Statistical information	Production achievement rate	Displays the production achievement rate on the target day.
2 3	Statistical information	Production evaluation	Displays the production evaluation of the production achievement rate.
2 4	Statistical information	Production tact time	Displays the production cycle time on the target day.
2 5	Statistical information	Theoretical output	Displays the number of producible products on the target day.
2 6	Statistical information	Difference	Displays differences on the target day.
2 7	Statistical information	OEE	Displays the total equipment efficiency on the target day.
2 8	Statistical information	Performance	Displays the performance on the target day.
2 9	Statistical information	Quality	Displays the quality on the target day.
3 0	Statistical information	Monitoring time	Displays the monitoring time on the target day.
3 1	Signal information	—	Displays the component color definition, time, the number of occurrences, average time and percentage of the signal lamp.
3 2	Signal information	Switching	Select this button to switch the signal information. 
3 3	Operation chart	Switching	Select this button to switch the display method of the operation chart. You can display the on or flash state of each color signal lamp in the chart (figure below) or display the colors selected in "Display color" under "Component color" in the chart (Figure 3: Total - operation history monitor in 1-6). * Unused signal lamps and buzzers are not displayed. 
3 4	Operation chart	Unit to time (graph)	You can change the display unit of the operation chart. The time specified in Unit to time (graph) corresponds to the time displayed in one operation chart. For example, if you select 1 hour, operation chart for one hour is displayed in one chart, and there will be 24 operation charts displayed.

			*For the operation chart in shift display, Unit to time (graph) cannot be selected.
35	Operation chart	Unit to time (Operation)	You can change the display unit of production volume of the operation chart. The time specified in Unit to time (Operation) corresponds to the time to display production volume in the operation chart. For example, if you select 10 minutes, production volume in 10 minute periods is displayed, and you can check the subdivided production volume. *For the operation chart in shift display, Unit to time (Operation) cannot be selected.
36	Operation chart	(shift display)	One chart displays data according to the shift time setting. 
37	Operation chart	Detailed information (each color signal light display)	Details of the signal lamp status at that time are displayed when you place the cursor on the chart.  1. Status of each color signal lamp (on, flash or off), 2. Start time, 3. End time, and 4. Total time are displayed as details. If the lamp is off, ■ is displayed.
38	Operation chart	Red (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the red lamp.
39	Operation chart	Yellow (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the yellow lamp.
40	Operation chart	Green (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the green lamp.
41	Operation chart	Blue (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the blue lamp.
42	Operation chart	White (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the white lamp.
43	Operation chart	Buzzer (off or on)	Displays the off state(■) or on state(■) of the buzzer.
44	Operation chart	Detailed information (display color display)	Details of the signal lamp status at that time are displayed when you place the cursor on the chart.

			 1. Signal status (component color), 2. Start time, 3. End time, and 4. Total time are displayed as details. Display color under each component color is displayed in the chart.

[Daily report data to be downloaded]

■Normal

-Statistics

When “Statistics” is selected in the Normal format, the daily report CSV data consists of the following two items:

Table 4: Description of CSV items (Normal – Statistics)

Number of rows	Item name	Description
Row 1	Header section	The data item names are output.
From Rows 2	Statistical data item	The statistical data information list is output. It is output in the order of date, shift, and signal lamp No.

Details of each item are as shown below.

Table 5: Details of statistical data items (Normal – Statistics)

Column	Name	Description
1	Date	The target date is output.
2	MAC address	MAC address (identification ID) of the target signal lamp, which is specified as described in “1-7(4) Signal Tower settings – Individual signal light settings", is output.
3	Line name	Line name of the target signal lamp, which is specified as described in “1-7(4) Signal Tower settings – Individual signal light settings", is output.
4	Signal tower name	Signal tower name of the target signal lamp, which is specified as described in “1-7(4) Signal Tower settings – Individual signal light settings", is output.
5	Shift	The target shift name is output. ”Total” is output for the row of the data of for the whole day.

		For the row of the shift data, the shift name is output if the shift name is registered as described in “1-7(6) Basic settings", and “Shift X (X is the shift number)” is output if the shift name is not registered.
6	Operation time	The operating time of the target date, target signal lamp and target shift is output.
7	Operation rate	The operation rate of the target date, target signal lamp and target shift is output.
8	Target operation time	The target operating time of the target date, target signal lamp and target shift is output.
9	Operation achievement rate	The operation achievement rate of the target date, target signal lamp and target shift is output.
10	Operation evaluation	The operation evaluation of the target date, target signal lamp and target shift is output.
11	Longest operation time	The maximum continuous operating time of the target date, target signal lamp and target shift is output.
12	Alarm time	The abnormal time of the target date, target signal lamp and target shift is output.
13	Alarm rate	The error rate of the target date, target signal lamp and target shift is output.
14	Alarm count	The error count of the target date, target signal lamp and target shift is output.
15	Longest alarm time	The maximum continuous abnormal time of the target date, target signal lamp and target shift is output.
16	Count	The count of the target date, target signal lamp and target shift is output.
17	Good products	The number of good products of the target date, target signal lamp and target shift is output.
18	Defective products	The number of defective products of the target date, target signal lamp and target shift is output.
19	Production target	The target production volume of the target date, target signal lamp and target shift is output.
20	Production rate	The production achievement rate of the target date, target signal lamp and target shift is output.
21	Production evaluation	The production evaluation of the target date, target signal lamp and target shift is output.
22	Production tact time	The production cycle time of the target date, target signal lamp and target shift is output.
23	Theoretical output	The number of producible products of the target date, target signal lamp and target shift is output.
24	Difference	Differences of the target date, target signal lamp and target shift are output.

25	OEE	The total equipment efficiency of the target date, target signal lamp and target shift is output.
26	Performance	The performance of the target date, target signal lamp and target shift is output.
27	Quality	The quality of the target date, target signal lamp and target shift is output.
28	Monitoring time	The monitoring time of the target date, target signal lamp and target shift is output.
29~52	Number of production per hour	The number of production for each hour of the target date, target signal lamp and target shift is output, starting from the start time (origin time) specified as described in “1-7(6) Basic settings."
53~68	Component color time	The total time for which each component color (specified as described in “1-7(4) Signal Tower settings – Individual signal light settings”) was displayed on the target date, target signal lamp and target shift is output in HHMMSS format.
69~80	On (flash) time	Total time for which each signal color was in on (flash) state on the target date, target signal lamp and target shift is output in HHMMSS format.

-Signal information

When “Signal information” is selected in the Normal format, the daily report CSV data consists of the following two items:

Table 6: Description of CSV items (Normal – Signal information)

Number of rows	Item name	Description
Row 1	Header section	The data item names are output.
From Rows 2	Signal light status data item	The list of signal lamp status change information is output. It is output in the order of date and time, and signal lamp No.

Details of each item are as shown below.

Table 7: Details of signal light status data items (Normal – Signal information)

Column	Name	Description
1	Date and time	The start date and time of the target signal light status is output.
2	MAC address	MAC address (identification ID) of the target signal lamp, which is specified as described in “1-7(4) Signal Tower settings – Individual signal light settings", is output.
3	Line name / Signal tower name	Line name and signal tower name of the target signal lamp, which is specified as described in “1-7(4) Signal Tower settings – Individual signal light settings", is output.

4	Red signal light signal value No.	The signal value is output. (0: Unused or off, 1: On, 2: Flash)
5	Yellow signal light signal value No.	The signal value is output. (0: Unused or off, 1: On, 2: Flash)
6	Green signal light signal value No.	The signal value is output. (0: Unused or off, 1: On, 2: Flash)
7	Blue signal light signal value No.	The signal value is output. (0: Unused or off, 1: On, 2: Flash)
8	White signal light signal value No.	The signal value is output. (0: Unused or off, 1: On, 2: Flash)
9	Buzzer value No.	The buzzer value is output. (0: Off, 1: On).
10	Barcode information	The barcode data is output. *This item is output only when using “FSPro” option.
9	External contact information	The external contact data is output in decimal. *This item is output only when using “FSPro” option.

■Old format

The daily report CSV data in Old format consists of the following five items:

Table 8: Description of CSV items (Old format)

Number of rows	Item name	Description
Row 1	Header section	The data date, line name and signal lamp name are output.
Rows 2 to 29	Statistical data item	The statistical data information list is output.
Rows 30 to 53	Production volume data item	Production volume information is output for each hour.
Rows 54 to 69	Signal data item for which component color is set	The total signal on state information is output using the colors selected in "Display color" under "Component color."
Rows 70 to 81	Each signal light on (flash) data item	Signal on (flash) information of each signal lamp is output.
Rows 82 to 91	Spare	
From Rows 92	Signal event data item for which a component color is set	Detailed on/off information is output using the colors selected in "Display color" under "Component color."

Details of each item are as shown below.

Table 9: Details of statistical data items (Old format)

Column	Name	Description
1	Statistical data item name	The title of statistical data is output.
2	Statistical data	The calculated statistical data value is output.
3～13	Spare	

Table 10: Details of production volume data items (Old format)

Column	Name	Description
1	Time	The time is output.
2	Count	The value of the count is output for each hour.
3～13	Spare	

Table 11: Details of signal data item for which component color is set (Old format)

Column	Name	Description
1	Component color setting	The component color management name and color information are output.
2	Time	Total time of the status indicated by the relevant component color is output in HHMMSS format.
3	Count	How many times the relevant component color has changed from the recovered status to the generated status is output.
4	Average time	The average time per occurrence is output in HHMMSS format.
5	Proportion	The percentage relative to the monitoring time is output.
6～13	Spare	

Table 12: Details of each signal light on (flash) data item (Old format)

Column	Name	Description
1	Signal name	The signal color is output.
2	Time	Total time for which each signal color was in on (flash) state is output in HHMMSS format.
3	Count	The number of times each signal color was in on (flash) state is output.
4	Average time	The average time per occurrence of the status indicated by each signal color is output in HHMMSS format.
5～13	Spare	

Table 13: Details of signal event data item for which component color is set (Old format)

Column	Name	Description
1	Start date/time	The time at which the status indicated by the component color occurred is output.
2	End date/time	The time at which the status indicated by the component color ended is output.
3	Duration	The duration of the status indicated by the component color is displayed in seconds.
4	Red signal light signal value No.	The signal value is output. ((blank): Not specified, 1: Off, 2: On, 4: Flash)

5	Yellow signal light signal value No.	The signal value is output. ((blank): Not specified, 1: Off, 2: On, 4: Flash)
6	Green signal light signal value No.	The signal value is output. ((blank): Not specified, 1: Off, 2: On, 4: Flash)
7	Blue signal light signal value No.	The signal value is output. ((blank): Not specified, 1: Off, 2: On, 4: Flash)
8	White signal light signal value No.	The signal value is output. ((blank): Not specified, 1: Off, 2: On, 4: Flash)
9	Buzzer value No.	The buzzer value is output. ((blank): Not specified, 0: Off 1: On)
10	Component color setting	The component color management name and color information are output.
11～13	Spare	

[Sample downloaded daily report data] (Format: CSV, Character encoding: UTF-8, Line feed code: CRLF)

■Normal

-Statistics

Date,MAC,Line name,Signal tower name,Shift,Operation time,Operation rate,Target operation time,Operation achievement rate,Operation evaluation,Longest operation time,Alarm time,Alarm rate,Alarm count,Longest alarm time,Count,Good products,Defective products,Production target,Production rate,Production evaluation,Production tact time,Theoretical output,Difference,OEE,Performance,Quality,Monitoring time,08:00,09:00,10:00,11:00,12:00,13:00,14:00,15:00,16:00,17:00,18:00,19:00,20:00,21:00,22:00,23:00,00:00,01:00,02:00,03:00,04:00,05:00,06:00,07:00,Color1 time,Color2 time,Color3 time,Color4 time,Color5 time,Color6 time,Color7 time,Color8 time,Color9 time,Color10 time,Color11 time,Color12 time,Color13 time,Color14 time,Color15 time,Color16 time,OnRed,RedFlash,OnYellow,YellowFlash,OnGreen,GreenFlash,OnBlue,BlueFlash,OnWhite,WhiteFlash,BuzzerON,BuzzerOFF

2021/08/26,00015CFFFEBAB710, A-line,01Process,Total,18:03:41,79.1,20.0,90.3,★★★,00:23:30,02:19:01,10.1,123,00:03:06,1085,962,123,1500,72.3,★★☆,59.9,82202,-81117,0.9,1.3,88.7,22:50:02,39,45,45,40,49,43,50,45,40,47,50,47,41,43,49,47,46,41,49,47,45,41,46,50,02:19:01,00:36:16,00:39:23,00:19:31,00:52:10,18:03:41,,,,,,,,,,02:19:01,00:36:16,00:39:23,00:19:31,18:03:41,00:52:10,00:00:00,00:00:00,00:00:00,00:00:00,02:19:01,21:40:59

2021/08/26,00015CFFFEBAB710, A-line,01Process,DayShift,05:14:50,80.1,---,---,---,00:23:30,00:38:43,9.9,37,00:02:31,311,274,37,500,62.2,---,60.7,23578,-23267,0.9,1.3,88.1,06:32:58,39,45,45,40,49,43,50,,,,,,,,,,,,,,,,,00:38:43,00:06:43,00:08:35,00:06:13,00:17:54,05:14:50,,,,,,,,,,00:38:43,00:06:43,00:08:35,00:06:13,05:14:50,00:17:54,00:00:00,00:00:00,00:00:00,00:00:00,00:00:00,00:38:43,06:21:17

2021/08/26,00015CFFFEBAB710, A-line,01Process,NightShift,05:07:38,77.0,---,---,---,00:16:30,00:46:27,11.6,40,00:03:06,313,273,40,500,62.6,---,59.0,23981,-23668,0.9,1.3,87.2,06:39:41,,,,,,,,45,40,47,50,47,41,43,,,,,,,,,,00:46:27,00:11:36,00:11:31,00:06:56,00:15:33,05:07:38,,,,,,,,,,00:46:27,00:11:36,00:11:31,00:06:56,05:07:38,00:15:33,00:00:00,00:00:00,00:00:00,00:00:00,00:00:00,00:46:27,06:13:33

2021/08/26,00015CFFFEBAB710, A-line,01Process,Shift3,05:20:26,79.4,---,---,---,00:20:21,00:39:13,9.7,32,00:02:16,324,292,32,500,64.8,---,59.3,24202,-23878,1.0,1.3,90.1,06:43:22,,,,,,,,,,,,,,,,49,47,46,41,49,47,45,,,,00:39:13,00:11:32,00:16:24,00:03:24,00:12:23,05:20:26,,,,,,,,,,00:39:13,00:11:32,00:16:24,00:03:24,05:20:26,00:12:23,00:00:00,00:00:00,00:00:00,00:00:00,00:00:00,00:39:13,06:20:47

-Signal information

Date,MAC,Line name / Signal tower name,Red,Yellow,Green,Blue,White,Buzzer
2021/08/26 08:00:00,00015CFFFEBAB710, A-line/01Process,0,0,0,0,1,0,,
2021/08/26 08:01:35,00015CFFFEBAB710, A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:02:57,00015CFFFEBAB710,A-line/01Process,0,0,2,0,0,0,,
2021/08/26 08:03:49,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:05:00,00015CFFFEBAB710,A-line/01Process,0,1,0,0,0,0,,
2021/08/26 08:06:03,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:11:10,00015CFFFEBAB710,A-line/01Process,0,1,0,0,0,0,,
2021/08/26 08:12:51,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:17:09,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 08:18:32,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:20:00,00015CFFFEBAB710,A-line/01Process,2,0,0,0,0,0,,
2021/08/26 08:21:40,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:25:00,00015CFFFEBAB710,A-line/01Process,0,0,2,0,0,0,,
2021/08/26 08:27:58,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:31:22,00015CFFFEBAB710,A-line/01Process,0,1,0,0,0,0,,
2021/08/26 08:32:54,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:35:00,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 08:36:23,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:39:11,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 08:41:42,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:42:08,00015CFFFEBAB710,A-line/01Process,0,2,0,0,0,0,,
2021/08/26 08:43:03,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:44:39,00015CFFFEBAB710,A-line/01Process,0,0,2,0,0,0,,
2021/08/26 08:45:00,00015CFFFEBAB710,A-line/01Process,0,0,0,0,1,0,,
2021/08/26 08:47:18,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:49:23,00015CFFFEBAB710,A-line/01Process,0,2,0,0,0,0,,
2021/08/26 08:50:00,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:52:54,00015CFFFEBAB710,A-line/01Process,2,0,0,0,0,0,,
2021/08/26 08:53:19,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 08:54:19,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:55:00,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 08:56:07,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 08:59:20,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 09:00:00,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:06:15,00015CFFFEBAB710,A-line/01Process,0,0,0,0,1,0,,
2021/08/26 09:07:22,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:12:18,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 09:13:20,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:20:00,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 09:21:36,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:22:32,00015CFFFEBAB710,A-line/01Process,2,0,0,0,0,0,,
2021/08/26 09:23:05,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:26:26,00015CFFFEBAB710,A-line/01Process,0,0,2,0,0,0,,
2021/08/26 09:27:34,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:34:25,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 09:35:00,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:36:46,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 09:37:01,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:39:12,00015CFFFEBAB710,A-line/01Process,0,0,0,0,1,0,,
2021/08/26 09:40:00,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:44:38,00015CFFFEBAB710,A-line/01Process,0,2,0,0,0,0,,
2021/08/26 09:45:00,00015CFFFEBAB710,A-line/01Process,0,0,0,0,1,0,,
2021/08/26 09:46:08,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:47:34,00015CFFFEBAB710,A-line/01Process,0,0,0,0,2,0,,
2021/08/26 09:48:06,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 09:50:00,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 09:58:47,00015CFFFEBAB710,A-line/01Process,2,0,0,0,0,0,,
2021/08/26 09:59:45,00015CFFFEBAB710,A-line/01Process,0,2,0,0,0,0,,
2021/08/26 10:00:00,00015CFFFEBAB710,A-line/01Process,2,0,0,0,0,0,,
2021/08/26 10:01:39,00015CFFFEBAB710,A-line/01Process,1,0,0,0,0,1,,
2021/08/26 10:02:13,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 10:08:54,00015CFFFEBAB710,A-line/01Process,0,0,0,0,1,0,,
2021/08/26 10:09:37,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 10:10:00,00015CFFFEBAB710,A-line/01Process,0,0,2,0,0,0,,
2021/08/26 10:11:30,00015CFFFEBAB710,A-line/01Process,0,0,1,0,0,0,,
2021/08/26 10:13:48,00015CFFFEBAB710,A-line/01Process,0,0,2,0,0,0,,

■Old format

Daily Report data,2020/05/01,A-line/01Process,,,,,,
Operation time,00:46:16,,,,,,,
Operation rate,3.2,,,,,,,
Target operation time,---,,,,,,,
Operation achievement rate,---,,,,,,,
Operation evaluation,---,,,,,,,
Longest operation time,00:13:30,,,,,,,
Alarm time,00:10:20,,,,,,,
Alarm rate,0.7,,,,,,,
Alarm count,4,,,,,,,
Longest alarm time,00:05:00,,,,,,,
Count,,,,,,,,
Production target,---,,,,,,,
Production achievement rate,---,,,,,,,
Production evaluation,---,,,,,,,
Production tact time,,,,,,,,
Monitoring time,24:00:00,,,,,,,
Performance,,,,,,,,
OEE,,,,,,,,
Quality,,,,,,,,
Theoretical output,8640,,,,,,,
Good products,,,,,,,,
Defective products,,,,,,,,
Difference,,,,,,,,
,,,,,,,,
,,,,,,,,
,,,,,,,,
,,,,,,,,
,,,,,,,,
Count 07:15,,,,,,,,
Count 08:15,,,,,,,,
Count 09:15,,,,,,,,
Count 10:15,,,,,,,,
Count 11:15,,,,,,,,
Count 12:15,,,,,,,,
Count 13:15,,,,,,,,
Count 14:15,,,,,,,,
Count 15:15,,,,,,,,
Count 16:15,,,,,,,,
Count 17:15,,,,,,,,
Count 18:15,,,,,,,,
Count 19:15,,,,,,,,
Count 20:15,,,,,,,,
Count 21:15,,,,,,,,
Count 22:15,,,,,,,,
Count 23:15,,,,,,,,
Count 00:15,,,,,,,,
Count 01:15,,,,,,,,
Count 02:15,,,,,,,,
Count 03:15,,,,,,,,
Count 04:15,,,,,,,,
Count 05:15,,,,,,,,

Count 06:15,,,,,,,,,
OnRed:::::BuzzerON:alarm stop,00:10:20,4,00:02:35,0.72,,,,,
RedFlash:::::BuzzerOFF:no work,00:03:30,2,00:01:45,0.24,,,,,
::OnGreen::::auto,00:46:16,8,00:05:47,3.21,,,,,
::GreenFlash::::full work,00:24:04,4,00:06:01,1.67,,,,,
:OnYellow:::::tool exchange,02:13:50,10,00:13:23,9.29,,,,,
:YellowFlash:::::Completion,00:04:02,5,00:00:48,0.28,,,,,
:::OnBlue:::OnBlue,00:02:56,6,00:00:29,0.20,,,,,
:::BlueFlash:::BlueFlash,00:03:26,5,00:00:41,0.24,,,,,
::::OnWhite::OnWhite,00:00:00,0,0,0.00,,,,,
::::::,,,,,,,,,
::::::,,,,,,,,,
::::::,,,,,,,,,
::::::,,,,,,,,,
::::::,,,,,,,,,
::::::,,,,,,,,,
::::::,,,,,,,,,
OnRed,00:45:24,22,00:02:03,,,,,,
RedFlash,00:06:04,5,00:01:12,,,,,,
OnYellow,02:18:50,10,00:13:53,,,,,,
YellowFlash,00:04:02,5,00:00:48,,,,,,
OnGreen,00:46:16,8,00:05:47,,,,,,
GreenFlash,00:24:04,4,00:06:01,,,,,,
OnBlue,00:02:56,6,00:00:29,,,,,,
BlueFlash,00:03:26,5,00:00:41,,,,,,
OnWhite,00:00:00,0,00:00:00,,,,,,
WhiteFlash,00:00:00,0,00:00:00,,,,,,
BuzzerON,02:16:10,3,00:45:23,,,,,,
BuzzerOFF,02:34:15,8,00:19:16,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
,,,,,,,,,
2020/05/01 07:15:00,2020/05/01 08:00:00,2700,,,,,,,System stop
2020/05/01 08:00:00,2020/05/01 08:30:00,1800,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 08:30:00,2020/05/01 08:35:00,300,2,,,,,1,OnRed:::::BuzzerON:alarm stop
2020/05/01 08:35:00,2020/05/01 08:40:00,300,,,2,,,,::OnGreen::::auto
2020/05/01 08:40:00,2020/05/01 08:45:00,300,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 08:45:00,2020/05/01 08:55:00,600,,,2,,,,::OnGreen::::auto
2020/05/01 08:55:00,2020/05/01 09:10:00,900,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 09:10:00,2020/05/01 09:15:00,300,,,2,,,,::OnGreen::::auto
2020/05/01 09:15:00,2020/05/01 09:25:00,600,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 09:25:00,2020/05/01 09:35:00,600,,,2,,,,::OnGreen::::auto
2020/05/01 09:35:00,2020/05/01 10:38:16,3796,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 10:38:21,2020/05/01 10:38:38,17,2,,,,,1,OnRed:::::BuzzerON:alarm stop
2020/05/01 10:39:22,2020/05/01 10:42:02,160,2,,,,,1,OnRed:::::BuzzerON:alarm stop
2020/05/01 10:42:46,2020/05/01 10:44:25,99,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 10:44:25,2020/05/01 10:45:36,71,,4,,,,,:YellowFlash:::::Completion

2020/05/01 10:45:36,2020/05/01 10:47:27,111,,,2,,,,::OnGreen::::auto
2020/05/01 10:47:27,2020/05/01 10:48:38,71,,,4,,,,::GreenFlash::::full work
2020/05/01 10:51:40,2020/05/01 10:52:35,55,,,,2,,,:::OnBlue:::OnBlue
2020/05/01 10:52:35,2020/05/01 10:52:52,17,,,,4,,,:::BlueFlash:::BlueFlash
2020/05/01 10:52:52,2020/05/01 10:53:19,27,,,,2,,,:::OnBlue:::OnBlue
2020/05/01 10:53:19,2020/05/01 10:53:25,6,,,,4,,,:::BlueFlash:::BlueFlash
2020/05/01 10:53:25,2020/05/01 10:53:30,5,,,,2,,,:::OnBlue:::OnBlue
2020/05/01 10:54:25,2020/05/01 10:55:59,94,4,,,,,0,RedFlash:::::BuzzerOFF:no work
2020/05/01 10:55:59,2020/05/01 10:56:43,44,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 10:57:10,2020/05/01 10:57:43,33,,4,,,,,:YellowFlash:::::Completion
2020/05/01 10:57:43,2020/05/01 11:11:13,810,,,2,,,,::OnGreen::::auto
2020/05/01 11:11:13,2020/05/01 11:22:42,689,,,4,,,,::GreenFlash::::full work
2020/05/01 11:22:42,2020/05/01 11:23:32,50,,,,2,,,:::OnBlue:::OnBlue
2020/05/01 11:23:37,2020/05/01 11:24:16,39,,,,4,,,:::BlueFlash:::BlueFlash
2020/05/01 11:24:16,2020/05/01 11:26:39,143,2,,,,,1,OnRed:::::BuzzerON:alarm stop
2020/05/01 11:27:45,2020/05/01 11:35:12,447,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 11:35:12,2020/05/01 11:36:51,99,,4,,,,,:YellowFlash:::::Completion
2020/05/01 11:36:51,2020/05/01 11:37:19,28,,,2,,,,::OnGreen::::auto
2020/05/01 11:37:19,2020/05/01 11:47:31,612,,,4,,,,::GreenFlash::::full work
2020/05/01 11:47:31,2020/05/01 11:47:53,22,,,,2,,,:::OnBlue:::OnBlue
2020/05/01 11:47:53,2020/05/01 11:49:55,122,,,,4,,,:::BlueFlash:::BlueFlash
2020/05/01 11:51:34,2020/05/01 11:53:30,116,4,,,,,0,RedFlash:::::BuzzerOFF:no work
2020/05/01 11:53:30,2020/05/01 11:53:36,6,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 11:53:36,2020/05/01 11:53:41,5,,4,,,,,:YellowFlash:::::Completion
2020/05/01 11:53:41,2020/05/01 11:54:19,38,,2,,,,,:OnYellow:::::tool exchange
2020/05/01 11:54:19,2020/05/01 11:54:53,34,,4,,,,,:YellowFlash:::::Completion
2020/05/01 11:54:53,2020/05/01 11:55:20,27,,,2,,,,::OnGreen::::auto
2020/05/01 11:55:20,2020/05/01 11:56:32,72,,,4,,,,::GreenFlash::::full work
2020/05/01 11:56:32,2020/05/01 11:56:49,17,,,,2,,,:::OnBlue:::OnBlue
2020/05/01 11:56:49,2020/05/01 11:57:11,22,,,,4,,,:::BlueFlash:::BlueFlash

(4) Single equipment - monthly monitor

You can check the monthly operating state (statistical information) of signal lamp with numerical values.

You can switch between calendar display and list display by clicking the Switching button.

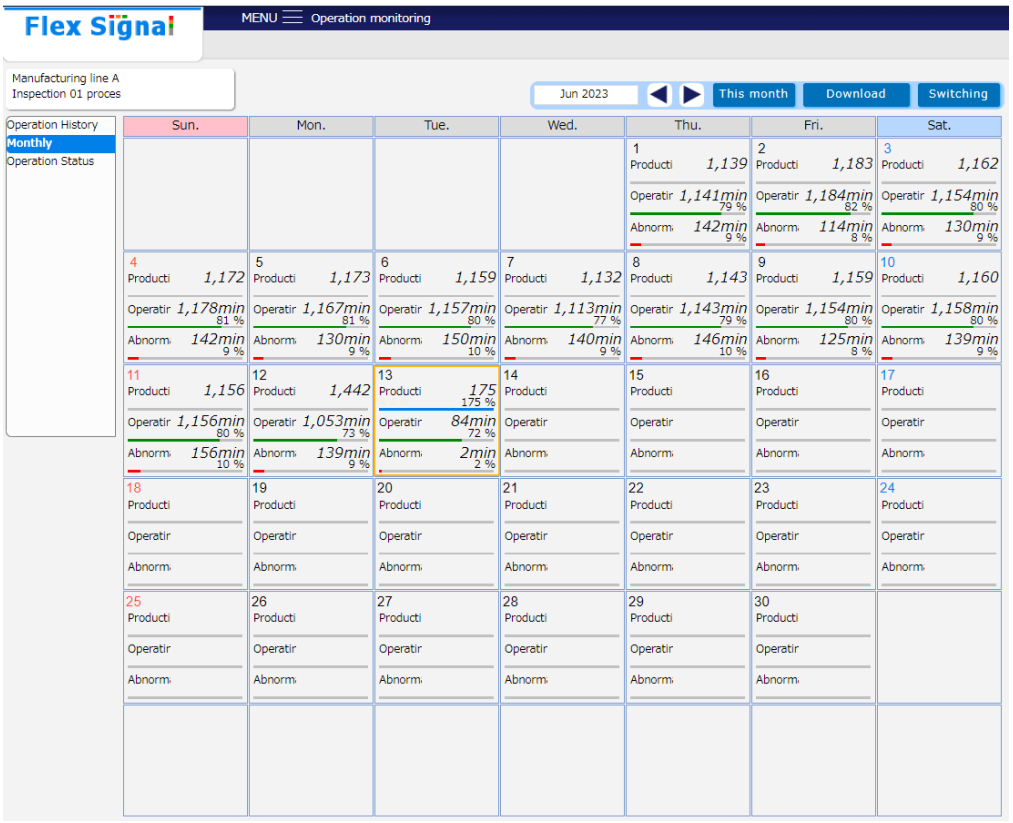
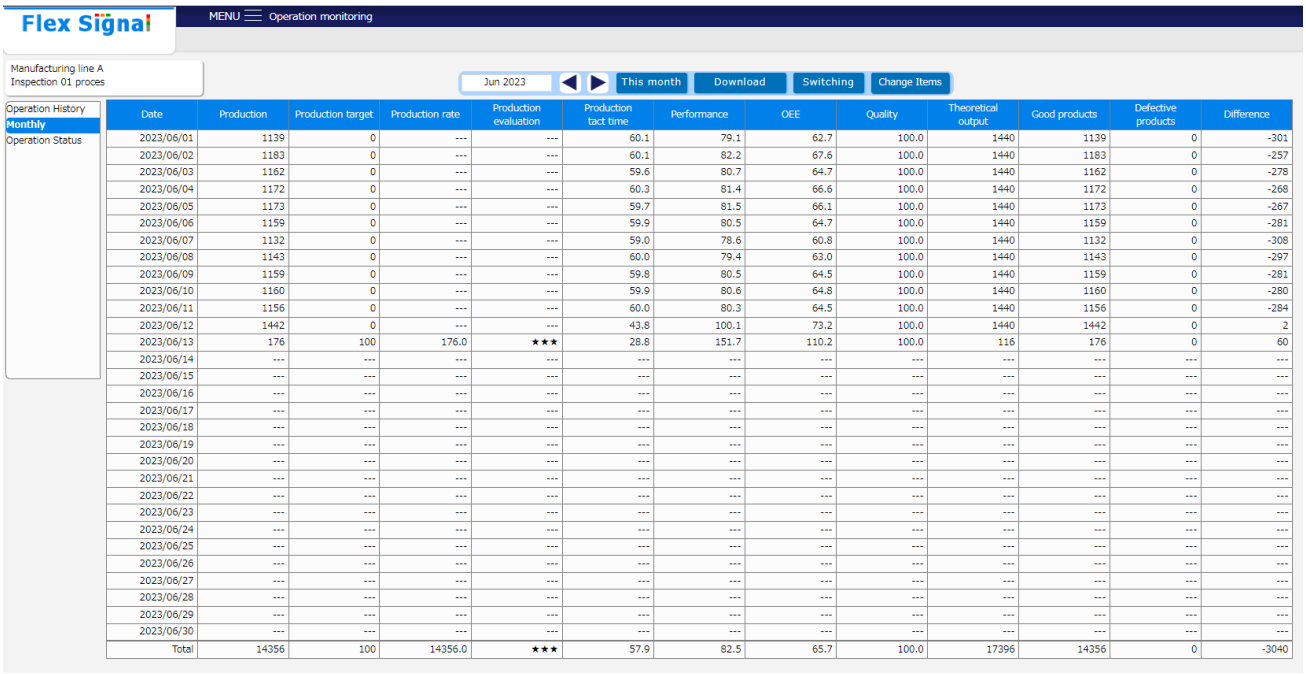


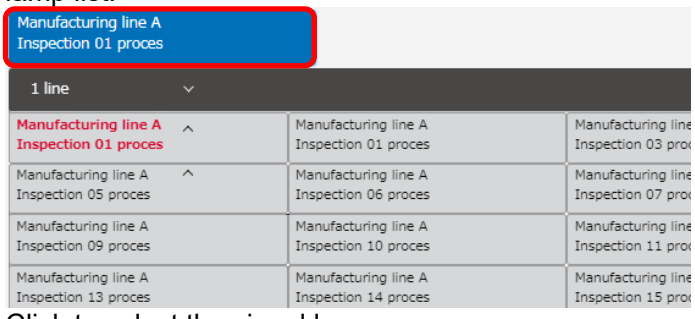
Figure 7: Monthly monitor Calendar display



Date	Production	Production target	Production rate	Production evaluation	Production tact time	Performance	OEE	Quality	Theoretical output	Good products	Defective products	Difference
2023/06/01	1139	0	---	---	60.1	79.1	62.7	100.0	1440	1139	0	-301
2023/06/02	1183	0	---	---	60.1	82.2	67.6	100.0	1440	1183	0	-257
2023/06/03	1162	0	---	---	59.6	80.7	64.7	100.0	1440	1162	0	-278
2023/06/04	1172	0	---	---	60.3	81.4	66.6	100.0	1440	1172	0	-268
2023/06/05	1173	0	---	---	59.7	81.5	66.1	100.0	1440	1173	0	-267
2023/06/06	1159	0	---	---	59.9	80.5	64.7	100.0	1440	1159	0	-281
2023/06/07	1132	0	---	---	59.0	78.6	60.8	100.0	1440	1132	0	-308
2023/06/08	1143	0	---	---	60.0	79.4	63.0	100.0	1440	1143	0	-297
2023/06/09	1159	0	---	---	59.8	80.5	64.5	100.0	1440	1159	0	-281
2023/06/10	1160	0	---	---	59.9	80.6	64.8	100.0	1440	1160	0	-280
2023/06/11	1156	0	---	---	60.0	80.3	64.5	100.0	1440	1156	0	-284
2023/06/12	1442	0	---	---	43.8	100.1	73.2	100.0	1440	1442	0	2
2023/06/13	176	100	176.0	★★★	28.8	151.7	110.2	100.0	116	176	0	60
2023/06/14	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/15	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/16	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/17	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/18	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/19	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/20	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/21	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/22	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/23	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/24	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/25	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/26	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/27	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/28	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/29	---	---	---	---	---	---	---	---	---	---	---	---
2023/06/30	---	---	---	---	---	---	---	---	---	---	---	---
Total	14356	100	14356.0	★★★	57.9	82.5	65.7	100.0	17396	14356	0	-3040

Figure 8: Monthly monitor List display

Table 14: Description of the monthly monitor

No.	Item		Description
1	Signal light selection	—	Select the signal lamp to be displayed. Click the displayed signal lamp name to display the signal lamp list.  Click to select the signal lamp name. * The displayed signal lamp list is determined according to the general monitor settings.
2	Target month	—	Select the target year and month on the calendar. When you click a date, the calendar appears.

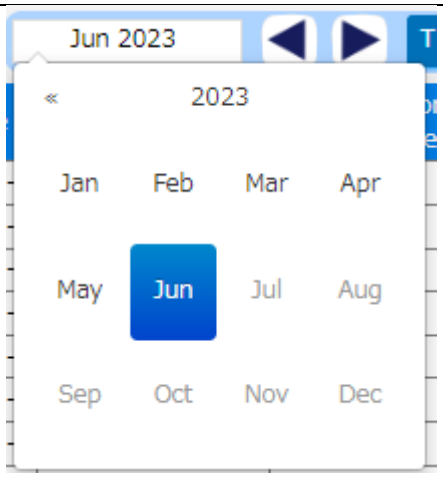
			 * The next month or later cannot be selected.
3	This month	—	Displays the monthly report for this month.
4	Download	—	Downloads the monthly report data for the target month (daily statistical information for one month) in the CSV format.
5	Switching	—	Click this button to switch the monthly report data between calendar display and list display.
6	Change items	—	Displays the screen to change display items of the monthly report list. *This item is displayed only when displayed in list.
7	Menu	Operation history	Displays the operation history monitor.
8	Menu	Monthly	Displays the monthly report monitor for the target date.
9	Menu	Operation status	Displays the operating state monitor.
1 0	Details on each day	Monitor items	Displays the monitor items. The monitor items can be specified as described in “1-7 (4) Signal Tower settings - Individual signal light settings."

Table 15: Description of the monthly report CSV items

Column	Item name	Description
Row 1	Header section	The data date, line name and signal lamp name are output.
From Row 2	Data item	Daily data information list is output.
Last row	Total	Total / average / maximum value of the target month are output.

Details of the data item are as shown below.

Table 16: Details of data items

Column	Name	Description
1	Date	The target date is output.
2	Operation time	The operating time on the target date is output.
3	Operation rate	The operation rate on the target date is output.
4	Target operation time	The target operating time on the target date is output.
5	Operation achievement rate	The operation achievement rate on the target date is output.
6	Operation evaluation	The operation evaluation on the target date is output.
7	Longest operation time	The maximum continuous operating time on the target date is output.
8	Alarm time	The abnormal time on the target date is output.
9	Alarm rate	The error rate on the target date is output.
10	Alarm count	The error count on the target date is output.
11	Longest alarm time	The maximum continuous abnormal time on the target date is output.
12	Count *This is displayed as the number of production or any display name according to the settings for Count in Signal Tower settings.	The count on the target date is output.
13	Production target	The target production volume on the target date is output.
14	Production rate	The production achievement rate on the target date is output.
15	Production evaluation	The production evaluation on the target date is output.
16	Production tact time	The production cycle time on the target date is output.
17	Monitoring time	The monitoring time on the target date is output.
18	Performance	The performance on the target date is output.
19	OEE	The total equipment efficiency on the target date is output.
20	Quality	The quality on the target date is output.
21	Theoretical output	The number of producible products on the target date is output.
22	Good products	The number of good products on the target date is output.
23	Defective products	The number of defective products on the target date is output.
24	Difference	Differences on the target date are output.

25~56	Component color time Component color count	The total time for which each component color was displayed on the target date is output in HHMMSS format. The number of times each component color was displayed on the target date is output.
57~80	On (flash) total time On (flash) count	Total time for which each signal color was in on (flash) state on the target date is output in HHMMSS format. The number of times each signal color was in on (flash) state on the target date is output.

Details of the total are as shown below.

Table 17: Details of the total

Column	Name	Description
1	Date	“Total” is output.
2	Operation time	The total value of the operating time in the target month is output.
3	Operation rate	The average value of the operation rate in the target month is output.
4	Target operation time	The total value of the target operating time in the target month is output.
5	Operation achievement rate	The average value of the operation achievement rate in the target month is output.
6	Operation evaluation	The average value of the operation evaluation in the target month is output.
7	Longest operation time	The maximum value of the longest continuous operating time in the target month is output.
8	Alarm time	The total value of the abnormal time in the target month is output.
9	Alarm rate	The average value of the error rate in the target month is output.
10	Alarm count	The total value of the error count in the target month is output.
11	Longest alarm time	The maximum value of the longest continuous abnormal time in the target month is output.
12	Count	The total value of the count in the target month is output.
13	Production target	The total value of the target production volume in the target month is output.
14	Production rate	The average value of the production achievement rate in the target month is output.
15	Production evaluation	The average value of the production evaluation in the target month is output.
16	Production tact time	The average value of the production cycle time in the target month is output.
17	Monitoring time	The total value of the monitoring time in the target month is output.
18	Performance	The performance in the target month is output.
19	OEE	The total equipment efficiency in the target month is output.
20	Quality	The quality in the target month is output.

21	Theoretical output	The total value of the number of producible products in the target month is output.
22	Good products	The total value of the number of good products in the target month is output.
23	Defective products	The total value of the number of defective products in the target month is output.
24	Difference	The total value of the differences in the target month is output.
25~56	Component color time Component color count	The total value of the total time for which each component color was displayed in the target month is output in HHMMSS format. The total value of the number of times each component color was displayed in the target month is output.
57~80	On (flash) total time On (flash) count	The total value of the total time for which each signal color was in on (flash) state in the target month is output in HHMMSS format. The total value of the number of times each signal color was in on (flash) state in the target month is output.

[Sample downloaded monthly report data] (Format: CSV, Character encoding: UTF-8, Line feed code: CRLF)

Monthly Report data,2021/05,A-line 01rocess,,

Date,Operation time,Operation rate,Target operation time,Operation achievement rate,Operation evaluation,Longest operation time,Alarm time,Alarm rate,Alarm count,Longest alarm time,Number of production,Production target,Production achievement rate,Production evaluation,Production tact time,Monitoring time,Performance,OEE,Quality,Theoretical output,Good products,Defectiive products,Difference,Color1(time),Color1(count),Color2(time),Color2(count),Color3(time),Color3(count),Color4(time),Color4(count),Color5(time),Color5(count),Color6(time),Color6(count),Color7(time),Color7(count),Color8(time),Color8(count),Color9(time),Color9(count),Color10(time),Color10(count),Color11(time),Color11(count),Color12(time),Color12(count),Color13(time),Color13(count),Color14(time),Color14(count),Color15(time),Color15(count),Color16(time),Color16(count),OnRed(total time),OnRed(count),RedFlash(total time),RedFlash(count),OnYellow(total time),OnYellow(count),YellowFlash(total time),YellowFlash(count),OnGreen(total time),OnGreen(count),GreenFlash(total time),GreenFlash(count),OnBlue(total time),OnBlue(count),BlueFlash(total time),BlueFlash(count),OnWhite(total time),OnWhite(count),WhiteFlash(total time),WhiteFlash(count),BuzzerON(total time),BuzzerON(count),BuzzerOFF(total time),

2021/05/01,13:48:58,57.6,24.0,57.6, ★ ★ ☆ ,00:13:08,05:09:24,21.5,242,00:04:19,848,---,---,---,58.7,24:00:00,---,---,100.0,---,848,0,---,05:09:24,242,00:00:00,0,13:48:58,359,00:00:00,0,05:01:38,244,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,05:09:24,242,00:00:00,0,05:01:38,244,00:00:00,0,13:48:58,359,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1

2021/05/02,14:43:55,61.4,24.0,61.4, ★ ★ ★ ,00:13:33,04:47:26,20.0,232,00:03:50,874,---,---,---,60.7,24:00:00,---,---,100.0,---,874,0,---,04:47:26,232,00:00:00,0,14:43:55,342,00:00:00,0,04:28:39,225,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:47:26,232,00:00:00,0,04:28:39,225,00:00:00,0,14:43:55,342,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1

2021/05/03,14:29:14,60.4,24.0,60.4, ★ ★ ★ ,00:13:05,04:56:42,20.6,231,00:04:38,866,---,---,---,60.2,24:00:00,---,---,100.0,---,866,0,---,04:56:42,231,00:00:00,0,14:29:14,347,00:00:00,0,04:34:04,220,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:56:42,231,00:00:00,0,04:34:04,220,00:00:00,0,14:29:14,347,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1

2021/05/04,15:19:07,63.8,24.0,63.8, ★ ★ ★ ,00:17:53,04:30:21,18.8,218,00:03:44,918,---,---,---,60.1,24:00:00,---,---,100.0,---,918,0,--
-,04:30:21,218,00:00:00,0,15:19:07,322,00:00:00,0,04:10:32,215,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:30:21,218,00:00:00,0,04:10:32,215,00:00:00,0,15:19:07,322,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/05,14:41:15,61.2,24.0,61.2, ★ ★ ★ ,00:15:10,04:48:46,20.1,223,00:04:33,887,---,---,---,59.6,24:00:00,---,---,100.0,---,887,0,--
-,04:48:46,223,00:00:00,0,14:41:15,334,00:00:00,0,04:29:59,229,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:48:46,223,00:00:00,0,04:29:59,229,00:00:00,0,14:41:15,334,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/06,14:24:11,60.0,24.0,60.0, ★ ★ ★ ,00:13:06,04:28:23,18.6,219,00:03:47,879,---,---,---,59.0,24:00:00,---,---,100.0,---,879,0,--
-,04:28:23,219,00:00:00,0,14:24:11,348,00:00:00,0,05:07:26,247,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:28:23,219,00:00:00,0,05:07:26,247,00:00:00,0,14:24:11,348,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/07,14:46:52,61.6,24.0,61.6, ★ ★ ★ ,00:08:45,04:35:43,19.1,234,00:04:45,863,---,---,---,61.7,24:00:00,---,---,100.0,---,863,0,--
-,04:35:43,234,00:00:00,0,14:46:52,350,00:00:00,0,04:37:25,238,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:35:43,234,00:00:00,0,04:37:25,238,00:00:00,0,14:46:52,350,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/08,14:40:24,61.1,24.0,61.1, ★ ★ ★ ,00:14:21,04:43:40,19.7,227,00:04:40,859,---,---,---,61.5,24:00:00,---,---,100.0,---,859,0,--
-,04:43:40,227,00:00:00,0,14:40:24,331,00:00:00,0,04:35:56,209,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:43:40,227,00:00:00,0,04:35:56,209,00:00:00,0,14:40:24,331,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/09,14:40:52,61.2,24.0,61.2, ★ ★ ★ ,00:14:02,04:34:29,19.1,224,00:03:58,879,---,---,---,60.1,24:00:00,---,---,100.0,---,879,0,--
-,04:34:29,224,00:00:00,0,14:40:52,337,00:00:00,0,04:44:39,238,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:34:29,224,00:00:00,0,04:44:39,238,00:00:00,0,14:40:52,337,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/10,14:42:16,61.3,24.0,61.3, ★ ★ ★ ,00:18:13,04:35:52,19.2,239,00:05:00,874,---,---,---,60.6,24:00:00,---,---,100.0,---,874,0,--
-,04:35:52,239,00:00:00,0,14:42:16,354,00:00:00,0,04:41:52,223,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:35:52,239,00:00:00,0,04:41:52,223,00:00:00,0,14:42:16,354,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1

2021/05/11,14:33:39,60.7,24.0,60.7, ★ ★ ★ ,00:13:10,04:31:14,18.8,231,00:04:07,866,---,---,---,60.5,24:00:00,---,---,100.0,---,866,0,--
-,04:31:14,231,00:00:00,0,14:33:39,359,00:00:00,0,04:55:07,235,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:31:14,231,00:00:00,0,04:55:07,235,00:00:00,0,14:33:39,359,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/12,14:45:23,61.5,24.0,61.5, ★ ★ ★ ,00:13:50,05:03:28,21.1,247,00:04:12,878,---,---,---,60.5,24:00:00,---,---,100.0,---,878,0,--
-,05:03:28,247,00:00:00,0,14:45:23,356,00:00:00,0,04:11:09,208,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,05:03:28,247,00:00:00,0,04:11:09,208,00:00:00,0,14:45:23,356,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
2021/05/13,14:44:18,61.0,24.0,61.4, ★ ★ ★ ,00:11:56,04:22:35,18.1,223,00:03:28,889,---,---,---,59.7,24:10:09,---,---,100.0,---,889,0,--
-,04:22:35,223,00:00:00,0,14:44:18,357,00:11:13,2,04:52:03,226,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:22:35,223,00:00:00,0,04:52:03,226,00:00:00,0,14:44:18,357,00:11:13,2,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:10:09,4
2021/05/14,14:10:07,59.0,24.0,59.0, ★ ★ ☆ ,00:10:38,04:41:34,19.6,223,00:06:30,855,---,---,---,59.7,23:59:41,---,---,100.0,---,855,0,--
-,04:41:34,223,00:00:00,0,14:10:07,350,00:00:00,0,05:08:00,233,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:41:34,223,00:00:00,0,05:08:00,233,00:00:00,0,14:10:07,350,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,09:15:00,1
2021/05/15,08:50:11,59.9,24.0,36.8, ★ ★ ☆ ,00:12:19,03:22:01,22.8,152,00:04:57,530,---,---,---,60.0,14:44:57,---,---,100.0,---,530,0,--
-,03:22:01,152,00:00:00,0,08:50:11,214,00:00:00,0,02:32:45,131,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,03:22:01,152,00:00:00,0,02:32:45,131,00:00:00,0,08:50:11,214,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,14:44:57,1
2021/05/16,00:57:47,60.5,24.0,4.0, ☆ ☆ ☆ ,00:43:03,00:04:43,4.9,1,00:04:43,6515,---,---,---,0.5,01:35:27,---,---,100.0,---,6515,0,--
-,00:04:43,1,00:00:00,0,00:57:47,7,00:00:02,1,00:26:32,3,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:04:43,1,00:00:00,0,00:26:34,3,00:00:00,0,00:57:47,7,00:00:02,1,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,01:35:27,2
2021/05/17,03:41:06,53.1,24.0,15.4, ★ ☆ ☆ ,02:42:47,02:39:05,38.2,10,00:55:52,523,---,---,---,25.4,06:56:18,---,---,100.0,---,523,0,--
-,02:39:05,10,00:01:35,3,03:41:06,6,00:00:48,1,00:33:36,5,00:00:01,1,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,02:39:05,10,00:01:35,3,00:33:36,5,00:00:01,1,03:41:06,6,00:00:50,1,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,06:56:18,13

2021/05/18,00:57:47,57.8,24.0,4.0, ☆ ☆ ☆ ,00:43:03,00:04:43,4.7,1,00:04:43,6180,---,---,---,0.6,01:39:57,---,---,100.0,---,6180,0,--

-,00:04:43,1,00:00:00,0,00:57:47,7,00:00:02,1,00:26:32,3,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0

0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:04:43,1,00:00:00,0,00:26:34,3,00:00:00,0,00:5

7:47,7,00:00:02,1,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,01:39:57,4

2021/05/19,00:57:47,57.8,24.0,4.0, ☆ ☆ ☆ ,00:43:03,00:04:43,4.7,1,00:04:43,6180,---,---,---,0.6,01:39:57,---,---,100.0,---,6180,0,--

-,00:04:43,1,00:00:00,0,00:57:47,7,00:00:02,1,00:26:32,3,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0

0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:04:43,1,00:00:00,0,00:26:34,3,00:00:00,0,00:5

7:47,7,00:00:02,1,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,01:39:57,4

2021/05/20,14:19:18,70.5,24.0,59.7, ★ ★ ☆ ,08:33:08,01:50:27,9.1,85,00:04:36,40146,---,---,---,1.3,20:18:26,---,---,100.0,---,40146,0,--

-,01:50:27,85,00:00:00,0,14:19:18,134,00:00:17,1,04:08:24,94,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:0

0,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,01:50:27,85,00:00:00,0,04:08:24,94,00:00:0

0,0,14:19:18,134,00:00:17,1,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,20:18:26,4

2021/05/21,05:56:32,47.4,24.0,24.8, ★ ☆ ☆ ,00:11:17,02:07:20,16.9,102,00:03:21,357,---,---,---,59.9,12:31:28,---,---,100.0,---,357,0,--

-,02:07:20,102,00:00:00,0,05:56:32,140,00:00:00,0,01:56:08,88,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:

00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,02:05:47,101,00:00:00,0,01:56:08,88,00:00

:00,0,05:56:32,140,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,02:31:28,1

2021/05/22,---,--

-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0

0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0

0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0

2021/05/23,---,--

-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0

0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0

0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0

2021/05/24,---,--

-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0

0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0

0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0

2021/05/25,---,--

-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0

0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0

0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0

2021/05/26,---,--
-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0
0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0
2021/05/27,---,--
-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0
0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0
2021/05/28,---,--
-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0
0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0
2021/05/29,---,--
-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0
0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0
2021/05/30,---,--
-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0
0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0
2021/05/31,---,--
-,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:0
0:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0
Total,240:10:59,60.7,504.0,47.7, ★ ★ ☆ ,08:33:08,76:02:39,19.2,3565,00:55:52,72666,---,---,---,11.9,395:36:20,---,--
-,100.0,---,72666,0,--
-,76:02:39,3565,00:01:35,3,240:10:59,5361,00:12:24,7,76:08:58,3517,00:00:01,1,00:00:00,0,00:00:00,0,00:00:00,0,0
0:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,76:01:06,3564,00:01:35,3,76:09:04,35
17,00:00:01,1,240:10:59,5361,00:12:26,7,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,370:51:39,46

(5) Single equipment – monthly report list display items settings

This screen is displayed by clicking Change Items button when list display is applied on the monthly report monitor screen.

You can change display items of the monthly report list.

*"Change Items" button appears only when list display is applied on the monthly report monitor.

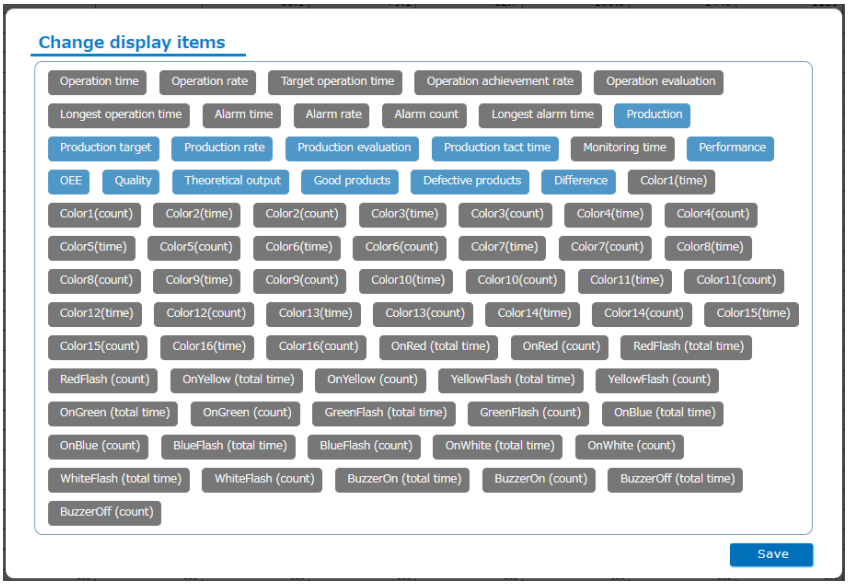


Figure 9: Monthly report list display items setting screen

Table 18: Description of the monthly report list display items setting screen

No.	Item		Description
1	Display item switching button	—	Click buttons to switch whether to show or hide each item on the monthly report list. -Show: Light blue -Hide: Gray
2	Save	—	Registers display items.

(6) Single equipment - operating state monitor

You can check the operating state (statistical information) of signal lamp for the whole day and per shift in graph form.

You can also check the operating time and the production volume of signal lamp for the whole day in aggregated graph form.

The data can be displayed by day or month in both graphs.

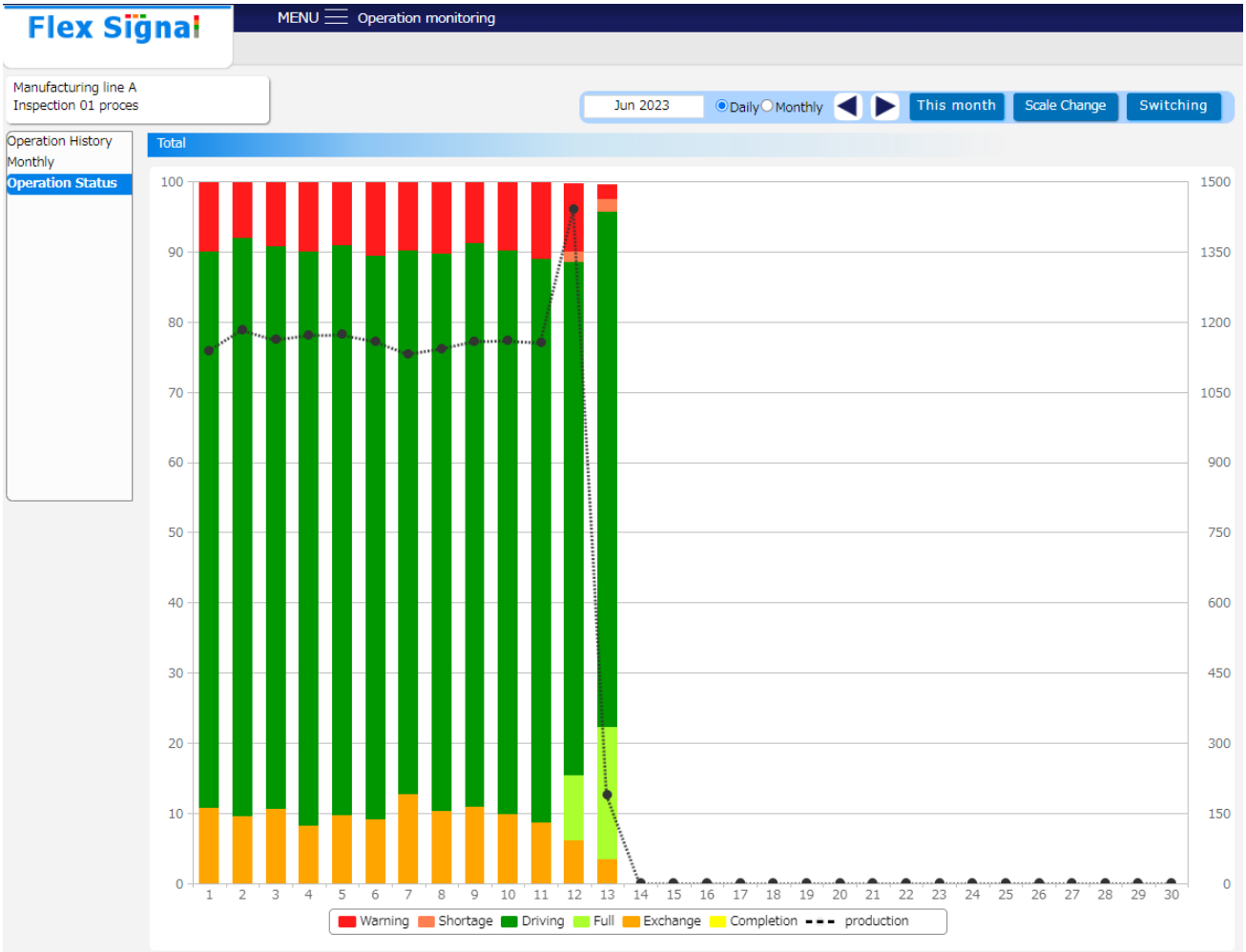


Figure 10: Operating state monitor screen (Component color graph)

* If the shift time is not specified, data is not displayed per shift.

*”Scale change” button and the graph (line graph) of production volume appear only when “Count is used as production” is selected as described in "1-7 (4) Signal Tower settings - Individual signal light settings."

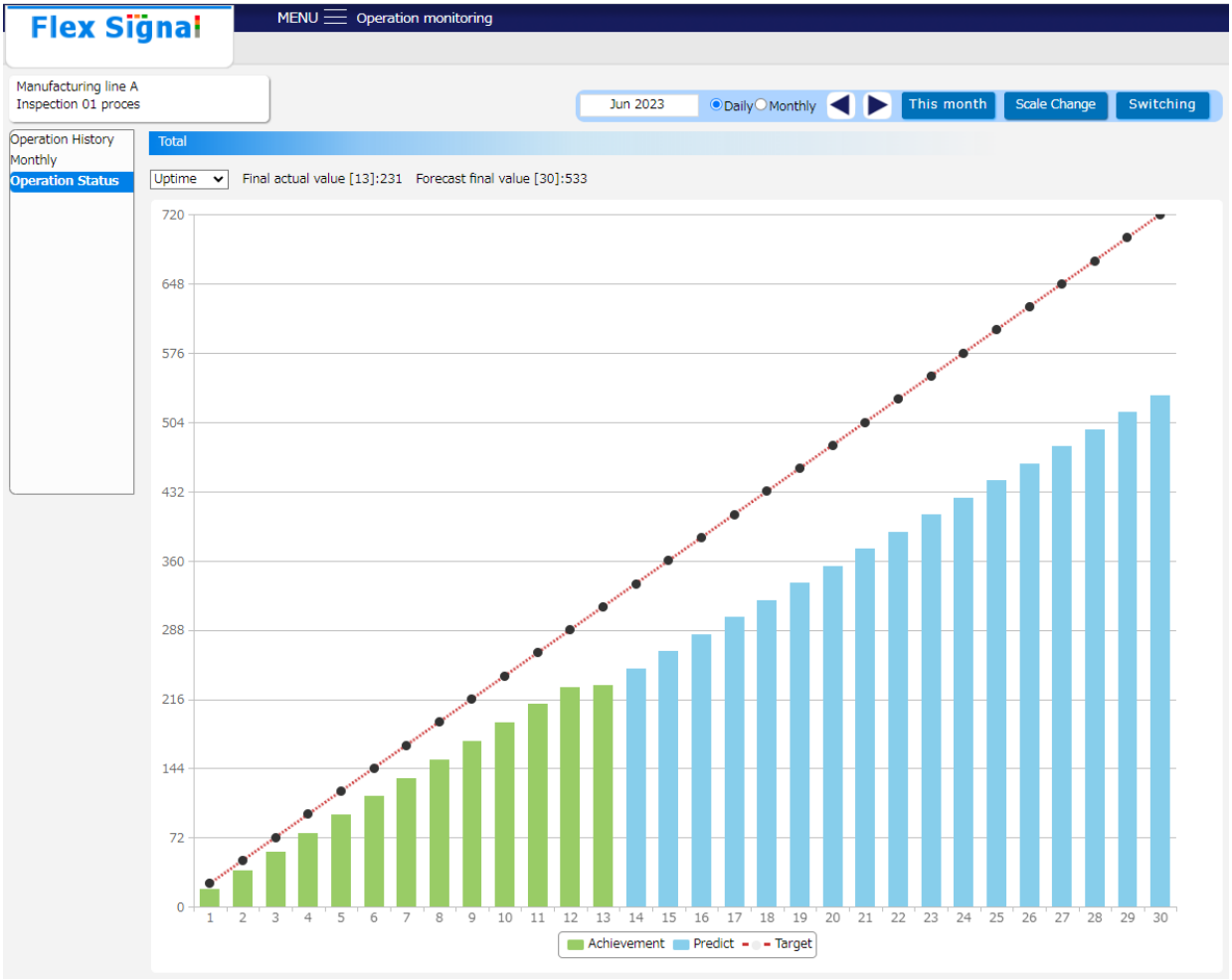
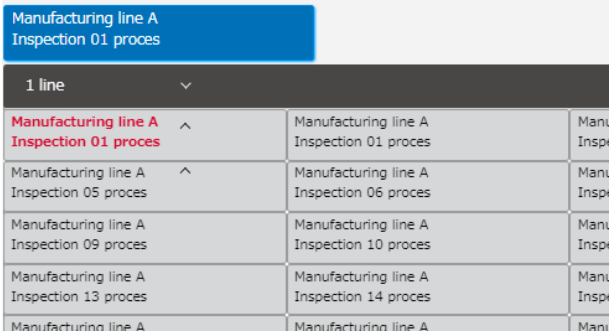


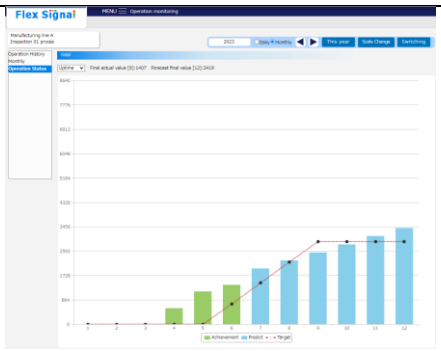
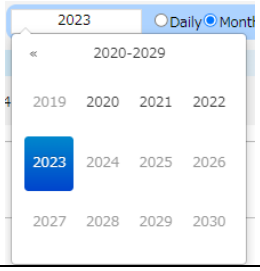
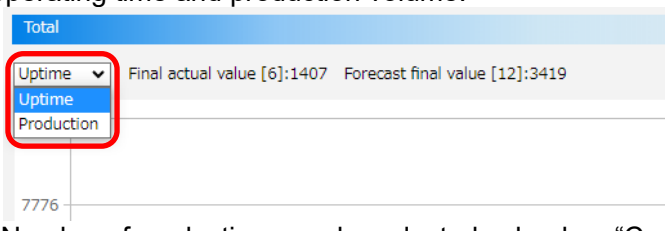
Figure 11: Operating state monitor screen (Graph of operating time and production volume)

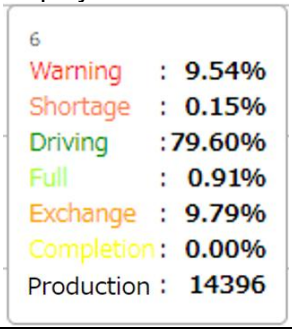
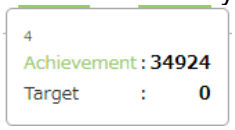
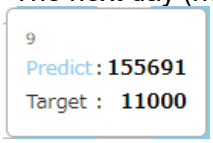
*The graph of production volume can be displayed only when “Count is used as production” is selected as described in "1-7 (4) Signal Tower settings - Individual signal light settings."

*The graph of target can be displayed only when the Operation time target (target production volume) is specified as described in "1-7 (11) Operation evaluation settings - Individual operation evaluation settings."

Table 19: Description of the operating state monitor screen

No.	Item		Description
1	Signal light selection	—	Select the signal lamp to be displayed. Click the displayed signal lamp name to display the signal lamp list.  Click to select the signal lamp name. * The displayed signal lamp list is determined according to the general monitor settings.
2	Graph display format	—	Select the display format of operating state graphs. ■Component color graph When you select "Daily," the graph is displayed by day (Figure 10: Operating state monitor screen (Component color graph) in 1-6). When you select "Monthly," the graph is displayed by month (figure below). ■Graph of operating time and production volume When you select "Daily," the graph is displayed by day (Figure 11: Operating state monitor screen (Graph of operating time and production volume) in 1-6). When you select "Monthly," the graph is displayed by month (figure below).

			
3	Target year and month	—	Select the target year and month on the calendar. When you select a year or month, each of the following calendars appears. * When you select "Monthly," you cannot select a month. 
4	This month	—	Displays the (daily) operating state for this month. This item is displayed only when "Daily" is selected.
5	This year	—	Displays the (monthly) operating state for this year. This item is displayed only when "Monthly" is selected.
6	Refresh	—	Refreshes the operating state in the selected target year and month.
7	Scale change	—	Displays the screen to change scale setting of the graph of production volume. * This item is displayed only when “Count is used as production.”
8	Switch display	—	Switches the display of component color graph and the graph of operating time and production volume. You can select Uptime or Number of productions from the drop-down list at the upper left corner of the graph of operating time and production volume.  *Number of productions can be selected only when “Count is used as production.”
9	Menu	Operation history	Displays the operation history monitor.
10	Menu	Monthly	Displays the monthly report monitor.
11	Menu	Operation status	Displays the operating state monitor for the target date.

1 2	Operating state graph (Component color graph)		Displays the operating state of a signal lamp in a bar graph. When you place the cursor on each date in the bar graph, the breakdown of the operating state on the target date is displayed. 
1 3	Operating state graph (Graph of operating time and production volume)		Displays the operating time and production volume of a signal lamp in a bar graph. When you place the cursor on each date in the bar graph, result (prediction) and target on the target date is displayed. -At the current day (current month) or before  -The next day (next month) or later  The predicted value is calculated using the arithmetic mean. [Example] If the total increase value until the 10th is 200, it will be +20 per day, and 11th = 220/12th = 240.

(7) Single equipment – graph scale settings

This screen is displayed by clicking Scale Change button on the operating state monitor screen.

■Component color graph

You can change the scale of the production volume graph in the component color graph.

* The same scale is applied when displaying per shift.

*”Scale change” button appears only when “Count is used as production” is selected as described in "1-7 (4) Signal Tower settings - Individual signal light settings."

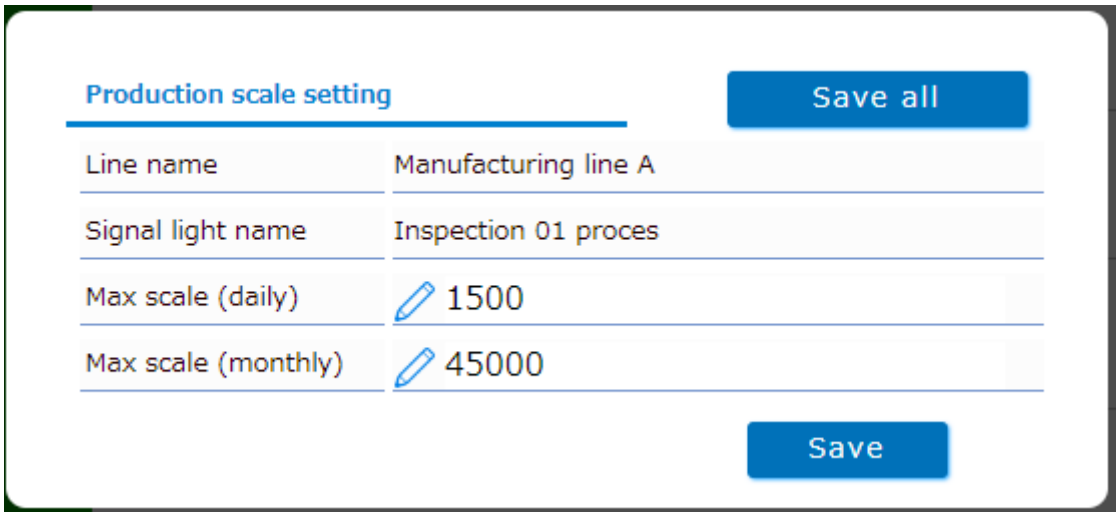


Figure 12: Production scale setting screen

Table 20: Description of the production scale setting screen

No.	Item		Description
1	Line name	—	Displays the line name to apply settings.
2	Signal light name	—	Displays the signal lamp name to apply settings.
3	Max scale (daily)	—	Specify the scale for production volume graph by day. (from 10 to 99999)
4	Max scale (monthly)	—	Specify the scale for production volume graph by month. (from 10 to 999999)
5	Save all	—	Registers the scale for production volume for all signal lamps.
6	Save	—	Registers the scale for production volume for the target signal lamp.

■Uptime summary graph

You can change the scale of the uptime summary graph.

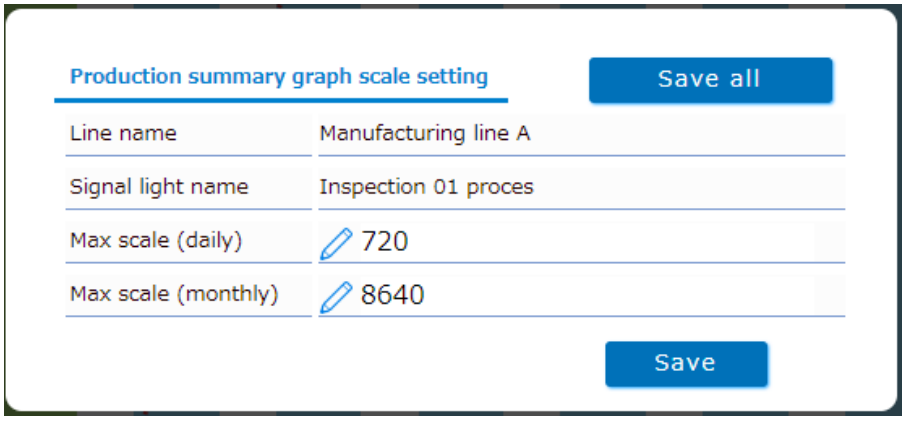


Figure 13: Uptime summary graph scale setting screen

Table 21: Description of the uptime summary graph scale setting screen

No.	Item		Description
1	Line name	—	Displays the line name to apply settings.
2	Signal light name	—	Displays the signal lamp name to apply settings.
3	Max scale (daily)	—	Specify the scale for uptime summary graph by day. (from 10 to 99999)
4	Max scale (monthly)	—	Specify the scale for uptime summary graph by month. (from 10 to 999999)
5	Save all	—	Registers uptime summary scale for all signal lamps.
6	Save	—	Registers uptime summary scale for the target signal lamp.

■Production summary graph

You can change the scale of the production summary graph.

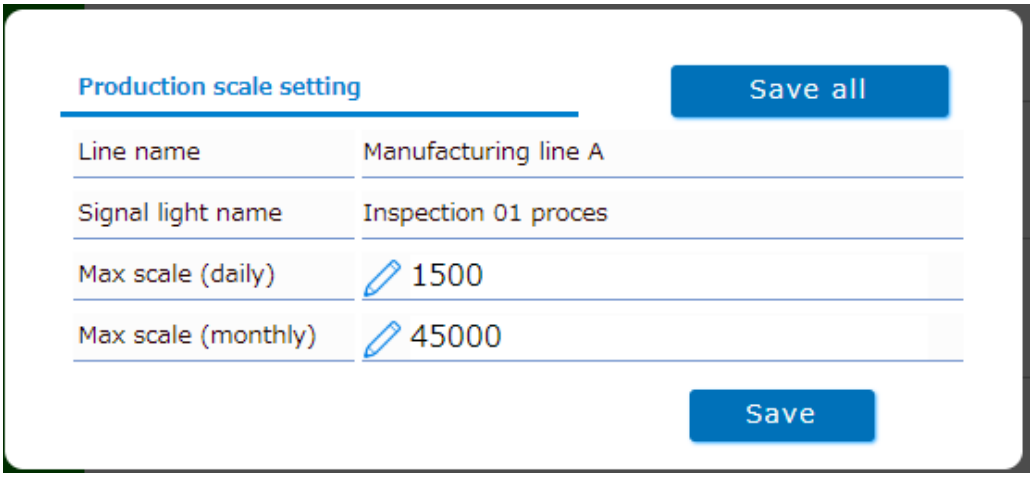


Figure 14: Production summary graph scale setting screen

Table 22: Description of the production summary graph scale setting screen

No.	Item		Description
1	Line name	—	Displays the line name to apply settings.
2	Signal light name	—	Displays the signal lamp name to apply settings.
3	Max scale (daily)	—	Specify the scale for production volume summary graph by day. (from 10 to 99999)
4	Max scale (monthly)	—	Specify the scale for production volume summary graph by month. (from 10 to 999999)
5	Save all	—	Registers production volume summary scale for all signal lamps
6	Save	—	Registers production volume summary scale for the target signal lamp.

1-1. Options

(1) Administrator authentication

When you select the "Options" menu button, the following screen may appear. Enter the administrator password and press "OK." The initial administrator password is admin.

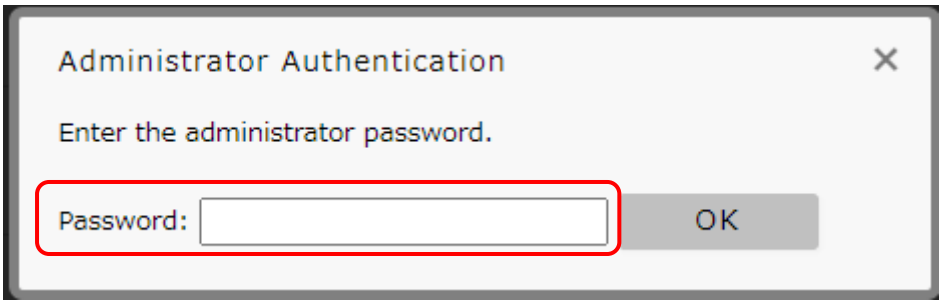


Figure 1: Administrator authentication screen

(2) Signal Tower settings - group settings

You can add or name groups.

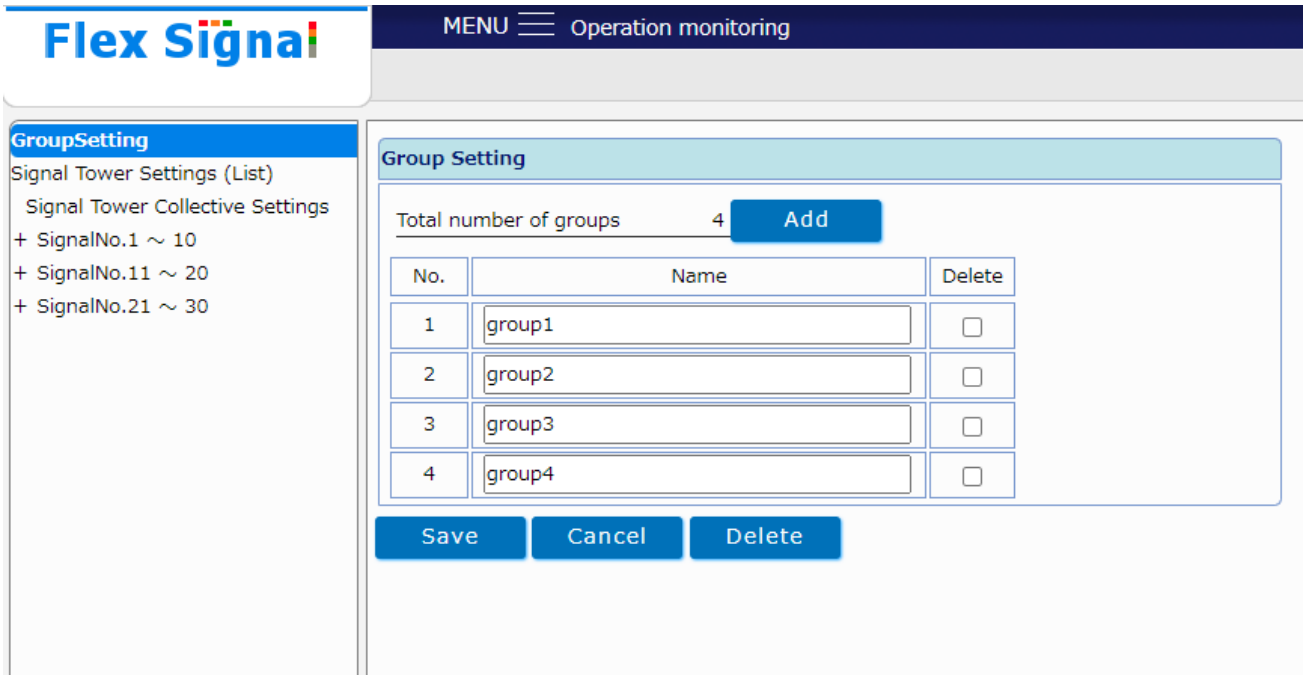


Figure 2: Group setting screen

Table 1: Description of group setting

No.	Item		Description
1	Group setting	Total number of groups	Displays the total number of groups.
2	Group setting	Add	Adds groups.
3	Group setting	No.	Displays the group No.
4	Group setting	Name	Specify the group name.
5	Save	—	Registers group settings.
6	Cancel	—	Cancels currently edited group settings.
7	Delete	—	Deletes the setting.

(3) Signal tower settings - signal tower collective settings

You can specify settings for multiple signal lamps at once.

You can change the display of setting items by switching tabs.

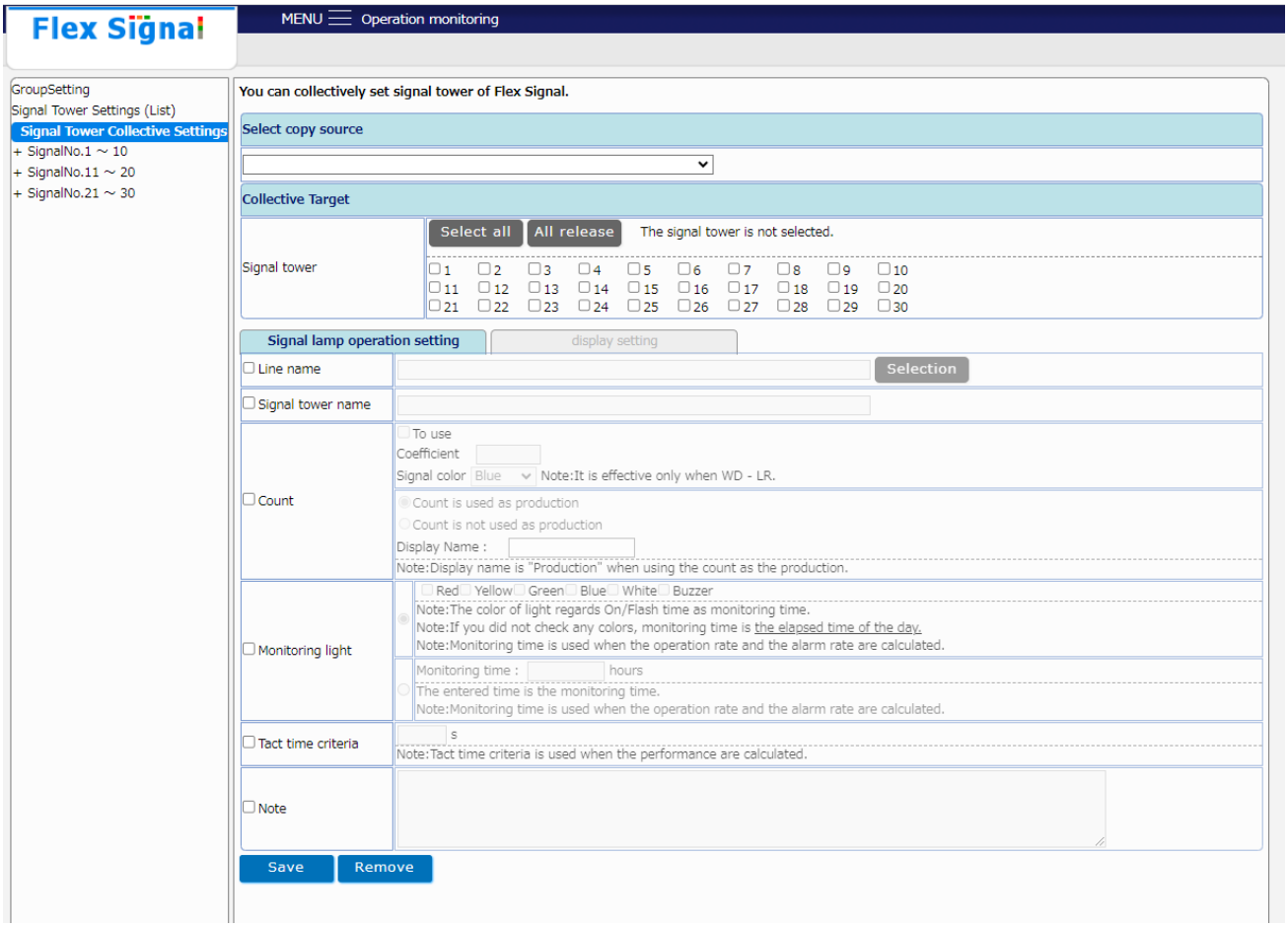


Figure 3: Signal tower collective settings - Signal lamp operation setting

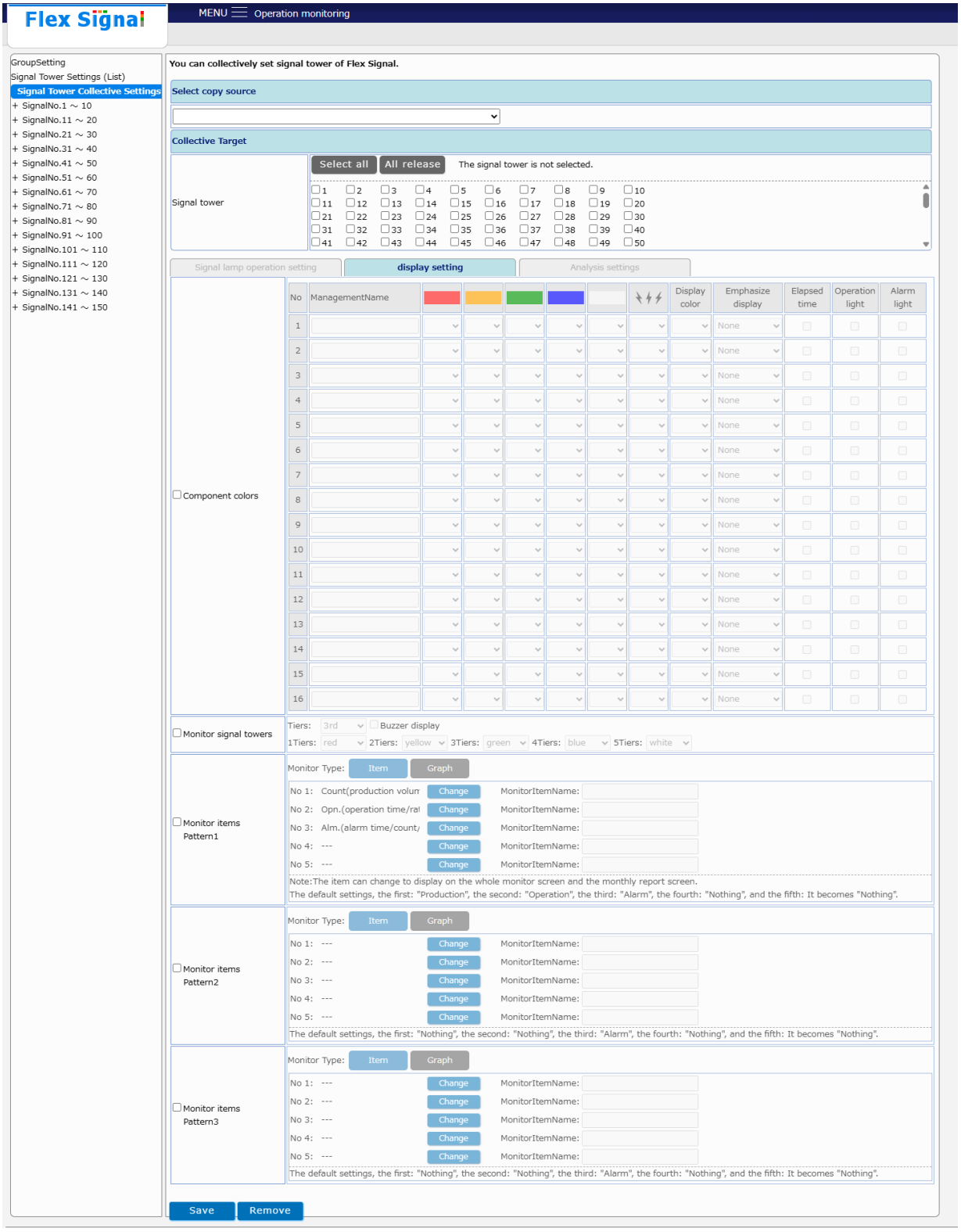
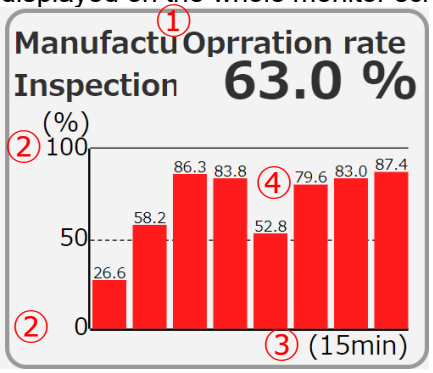


Figure 4: Signal tower collective settings - Display setting

Table 2: Description of signal tower collective settings

No.	Item		Description
1	Select copy source	—	Select the device you want to copy. The settings for the selected device are displayed for all the items.
2	Collective Target	—	Select the signal lamps you want to configure. You can easily select or deselect all the signal lamps by using "Select all" or "All release."
3	Signal lamp operation setting	Line name	Specify the line name. Specify a name that clearly indicates the line group that the signal lamp belongs to.
4	Signal lamp operation setting	Signal tower name	Specify the signal lamp name. Specify a name that clearly indicates the signal lamp.
5	Signal lamp operation setting	Count	Specify whether to use the count function, the coefficient, the signal lamp color to use as the count, and whether to use count as the number of production. When not using count, clear the "To use" check box. When the "To use" check box is not selected, the information related to the production volume (count, production achievement rate, production evaluation, production cycle time, production target, good products, defective products, difference, OEE, performance and quality) is not displayed. If the coefficient is not specified, calculation is performed using 1 as the coefficient. When “Count is used as production” is not selected, you can specify any name as the display name of the production. (The default display name is “Production.”) The information related to the production volume (production achievement rate, production evaluation, production cycle time, production target, good products, defective products, difference, OEE, performance and quality) is not displayed. * The signal lamp color used as the count cannot be used as the component color. * For WD-LR: Specify the signal lamp color used as the count.
6	Signal lamp operation setting	Monitoring light	-Target signal color setting Select the color used as the reference of the monitoring time. The monitoring time is the total time for which one of the selected component color signals is in the on or flash state. If a color is not selected, the monitoring time is the elapsed time on that day. -Fixed time setting The input time is used as the monitoring time.
7	Signal lamp operation setting	Tact time criteria	Specify the cycle time to calculate performance.

8	Signal lamp operation setting	Note	Enter a description or special notes on the signal lamp, if any.
9	Display setting	Component colors	Specify the component color of the signal lamp; the on, flash or off state of each color; the management name indicated by the on/off combination of the buzzer; display color; highlighting; display of the elapsed time; operation lamp target selection; and error lamp target selection. When the on, flash or off state or the on or off state is not specified, specify "(blank)" for each color. Emphasis Display: The status of the target component color will be emphasized and displayed on the overall monitor. * If a management name is set, the monitor screen will display the name specified as the "Management Name." * If an icon is set, the monitor screen will display the image specified for the icon. Operation Time: The overall monitor will display the elapsed time since the target component color status started. * If the Emphasis display is set to "Management Name," selection is possible. * "All off" indicates that all the colors of the signal lamp are set to off. * When you select the on, flash or off state, be sure to set a display color. * You cannot just set the buzzer without setting the on, flash or off state for any signal lamp. * You can select multiple operation lamps. * You can select multiple error lamps. * Whether to display the elapsed time can be specified only when "Highlight" is selected. The component colors are in descending priority order from No. 1 (No. 1 > No. 2 > - - - > No. 16). For the following signal lamp statuses and component colors, the component color setting for No. 1 takes priority and the red lamp flash. Signal lamp status: Red lamp flash and yellow lamp flash Component color settings: No. 1 Red lamp: "Flash," Other signal lamps: "(Blank)" No. 2 Yellow lamp: "Flash," Other signal lamps: "(Blank)"
10	Display setting	Monitor signal towers	Specify whether to display the buzzer, the number of displayed tiers of the signal lamp, and the color for each tier of the signal lamp displayed in the general monitor screen and the signal lamp settings (list).

1 1	Display setting	Monitor items (Monitor Type: Item)	Specify the items being monitored for each signal lamp displayed on the whole monitor screen and the monthly report screen. You can set up to 5 display patterns. ■Select item Displays the screen to change the monitor items. ■Monitor Item Name Specify a name for the display item. * You can register a name consisting of up to four characters.
1 2	Display setting	Monitor items (Monitor Type: Graph)	Specify the setting for the graph of each signal lamp displayed on the whole monitor screen.  ■Graph Type Select the graph type to display. ■Monitor Item Name Input the name of the graph. (①) ■Scale Input the scale for the y-axis of the graph. (②) ■Interval Select the time interval used to display the graph. (③). ■Color Select the color of the graph. (④)
1 3	Save	—	Registers settings for the target signal lamps all at once.
1 4	Remove	—	Deletes and disables all the settings for the target signal lamps.

(4) Signal tower settings - individual signal light settings

Settings related to the signal lamps can be individually specified.

You can change the display of setting items by switching tabs.

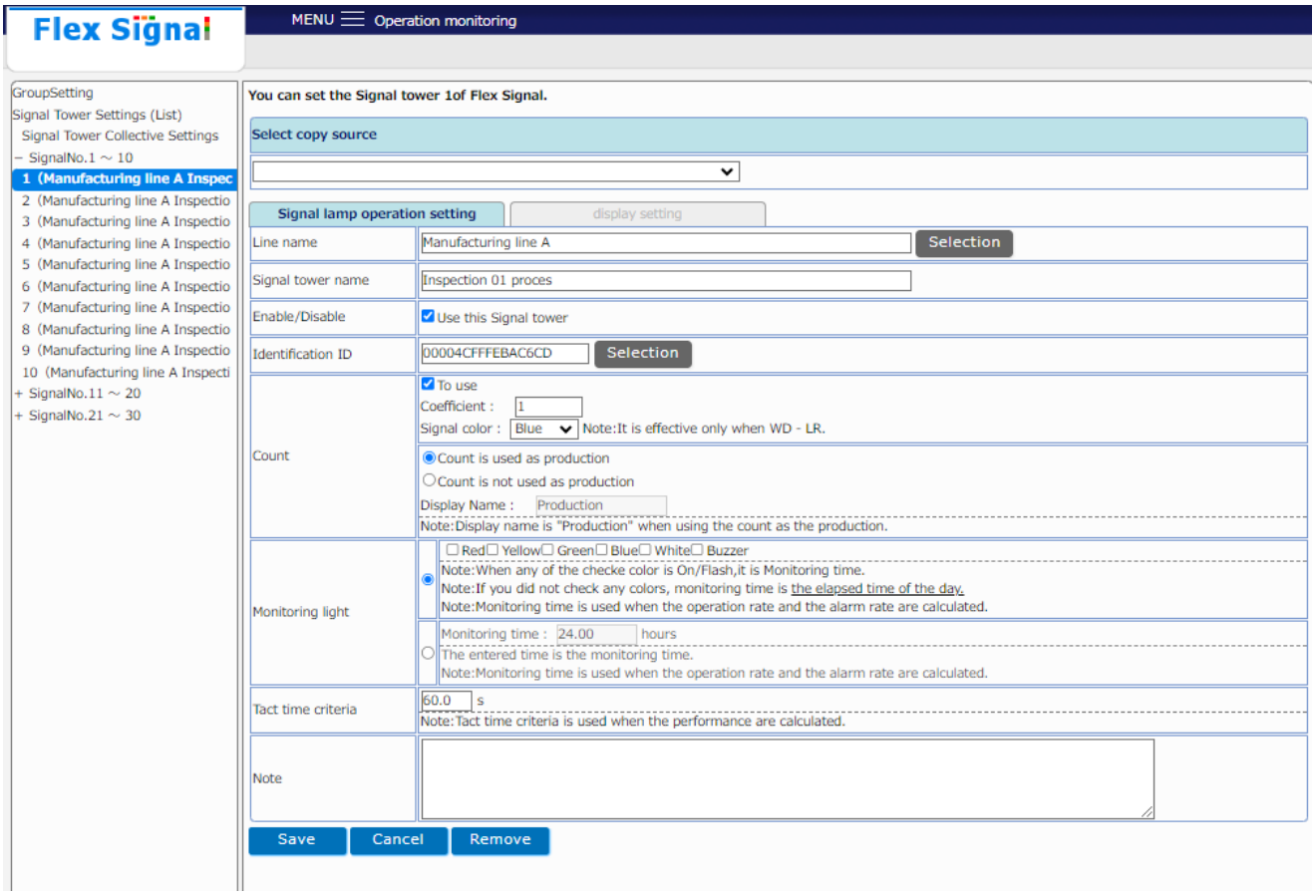


Figure 5: Individual signal light settings – Signal lamp operation setting

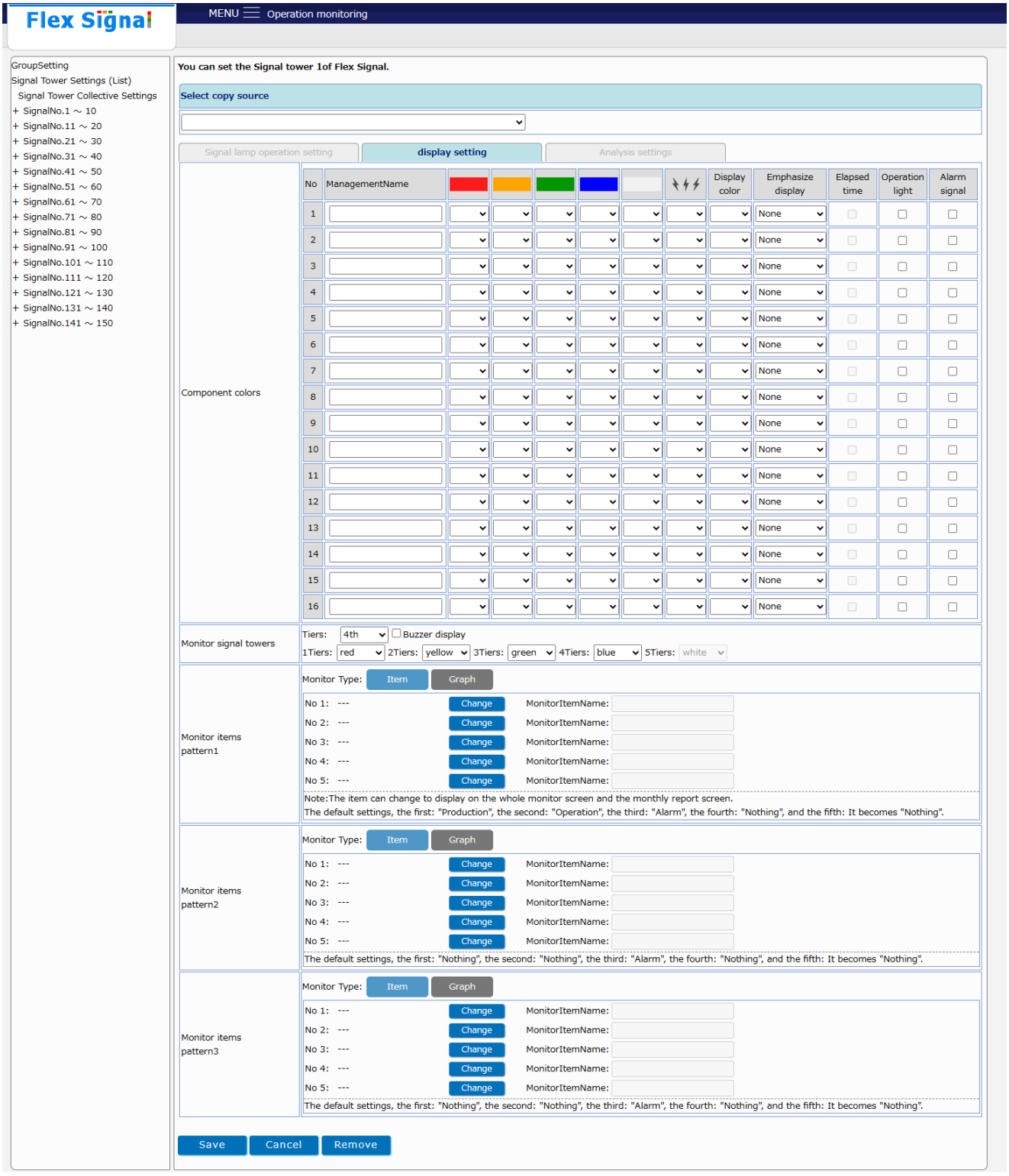
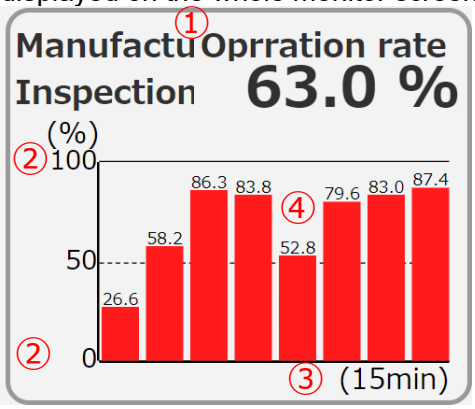


Figure 7: Individual signal light settings – Display setting

Table 3: Description of individual signal light settings

No.	Item		Description
1	Select copy source	—	Select the device you want to copy. The settings for the selected device are displayed for all the items.
2	Signal lamp operation setting	Line name	Specify the line name. Specify a name that clearly indicates the line group that the signal lamp belongs to.
3	Signal lamp operation setting	Signal tower name	Specify the signal lamp name. Specify a name that clearly indicates the signal lamp.
4	Signal lamp operation setting	Count	Specify whether to use the count function, the coefficient, the signal lamp color to use as the count, and whether to use count as the number of production. When not using count, clear the "To use" check box. When the "To use" check box is not selected, the information related to the production volume (count, production achievement rate, production evaluation, production cycle time, production target, good products, defective products, difference, OEE, performance and quality) is not displayed. If the coefficient is not specified, calculation is performed using 1 as the coefficient. When “Count is used as production” is not selected, you can specify any name as the display name of the production. (The default display name is “Production.”) The information related to the production volume (production achievement rate, production evaluation, production cycle time, production target, good products, defective products, difference, OEE, performance and quality) is not displayed. * The signal lamp color used as the count cannot be used as the component color. * For WD-LR: Specify the signal lamp color used as the count.
5	Signal lamp operation setting	Monitoring light	-Target signal color setting Select the color used as the reference of the monitoring time. The monitoring time is the total time for which one of the selected component color signals is in the on or flash state. If a color is not selected, the monitoring time is the elapsed time on that day. -Fixed time setting The input time is used as the monitoring time.
6	Signal lamp operation setting	Tact time criteria	Specify the cycle time to calculate performance.
7	Signal lamp operation setting	Note	Enter a description or special notes on the signal lamp, if any.
8	Display setting	Component colors	Specify the component color of the signal lamp; the on, flash or off state of each color; the management name

			indicated by the on/off combination of the buzzer; display color; highlighting; display of the elapsed time; operation lamp target selection; and error lamp target selection. When the on, flash or off state or the on or off state is not specified, specify "(blank)" for each color. Emphasis Display: The status of the target component color will be emphasized and displayed on the overall monitor. * If a management name is set, the monitor screen will display the name specified as the "Management Name." * If an icon is set, the monitor screen will display the image specified for the icon. Operation Time: The overall monitor will display the elapsed time since the target component color status started. * If the Emphasis display is set to "Management Name," selection is possible. * "All off" indicates that all the colors of the signal lamp are set to off. * When you select the on, flash or off state, be sure to set a display color. * You cannot just set the buzzer without setting the on, flash or off state for any signal lamp. * Whether to display the elapsed time can be specified only when "Highlight" is selected. * You can select multiple operation lamps. * You can select multiple error lamps. The component colors are in descending priority order from No. 1 (No. 1 > No. 2 > - - - > No. 16). For the following signal lamp statuses and component colors, the component color setting for No. 1 takes priority and the red lamp flash. Signal lamp status: Red lamp flash and yellow lamp flash Component color settings: No. 1 Red lamp: "Flash," Other signal lamps: "(Blank)" No. 2 Yellow lamp: "Flash," Other signal lamps: "(Blank)"
9	Display setting	Monitor signal towers	Specify whether to display the buzzer, the number of displayed tiers of the signal lamp, and the color for each tier of the signal lamp displayed in the general monitor screen and the signal lamp settings (list).
10		Monitor items (Monitor Type: Item)	Specify the items being monitored for each signal lamp displayed on the whole monitor screen and the monthly report screen. You can set up to 5 display patterns. ■Select item Select items on a popup window which appears by clicking the Change button.

			Please refer to “” for the popup window to change items. ■Monitor Item Name Specify a name for the display item. * You can register a name consisting of up to four characters.
1 1		Monitor items (Monitor Type: Graph)	Specify the setting for the graph of each signal lamp displayed on the whole monitor screen.  ■Graph Type Select the graph type to display. ■Monitor Item Name Input the name of the graph. (①) ■Scale Input the scale for the y-axis of the graph. (②) ■Interval Select the time interval used to display the graph. (③). ■Color Select the color of the graph. (④)
1 2	Save	—	Registers settings for the target signal lamps all at once.
1 3	Cancel	—	Discards the current edits to the settings and updates the registration.
1 4	Remove	—	Deletes and disables all the settings for the target signal lamps.

(5) Signal Tower Settings – monitor items setting

This screen is displayed by clicking Change button in the Monitor Items area on the signal tower settings screen.

You can change the monitor items.

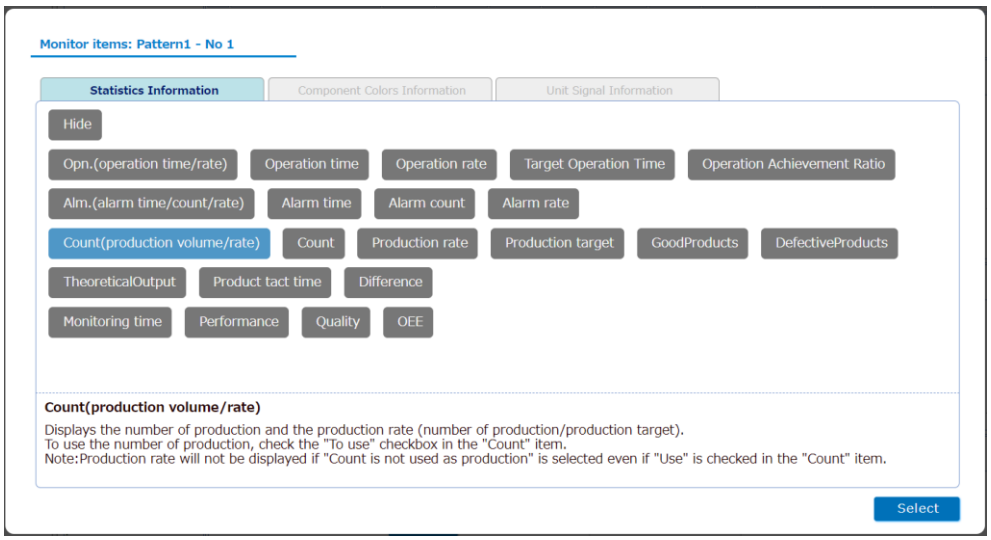


Figure 8: Monitor items setting screen – Statistics Information

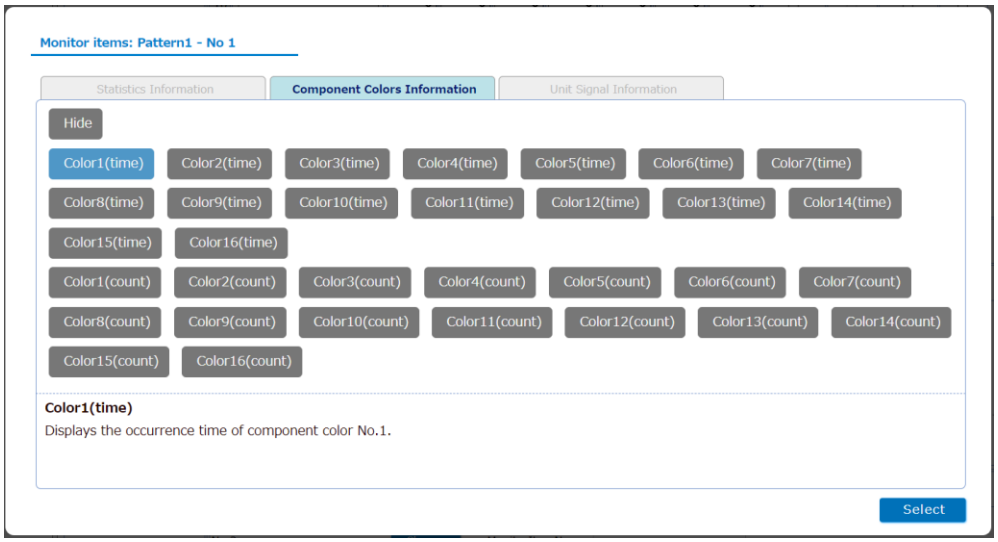


Figure 9: Monitor items setting screen – Component Colors Information

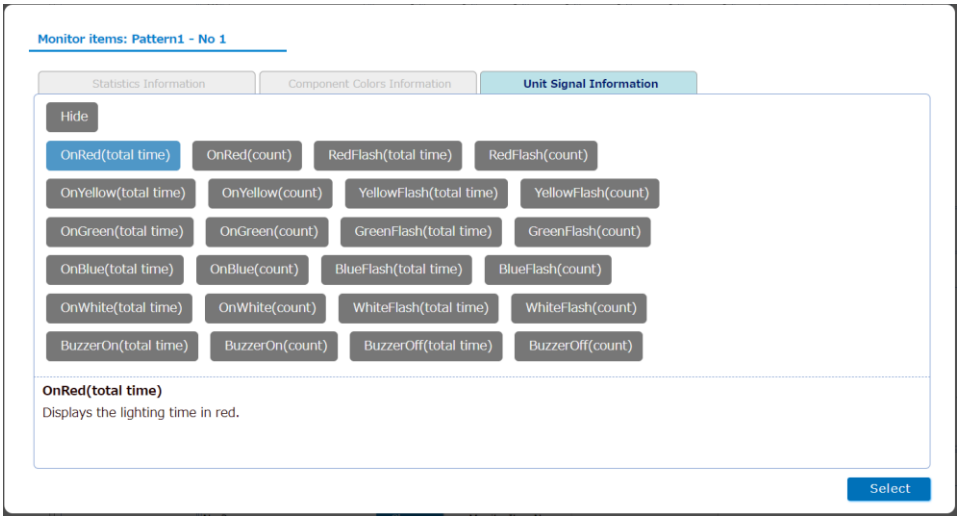


Figure 10: Monitor items setting screen – Unit Signal Information

Table 4: Description of the monitor items setting screen

No.	Item		Description
1	Display item switching button	—	Click a button to switch monitor items. -Selected: Light blue -Not selected: Gray
2	Descriptions	—	Displays the descriptions about the item currently being selected.
3	Save	—	Registers the display item.

(6) Basic settings

Specify basic settings for Flex Signal.

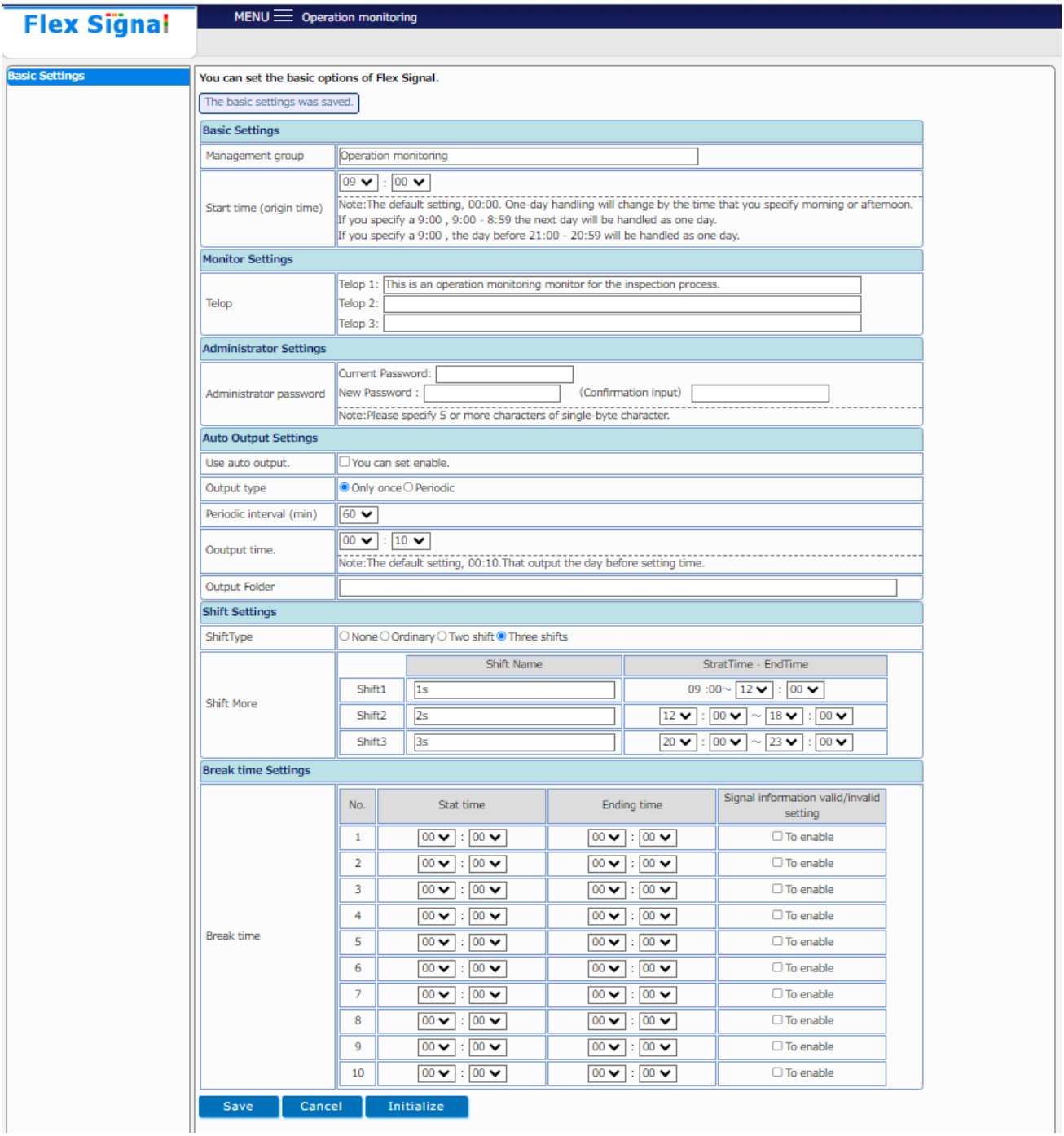


Figure 11: Basic settings

Table 5: Description of the basic settings

No.	Item		Description
1	Basic settings	Management group	Specify the management name. You can use any name desired. The management group name is displayed at the right of the "MENU" button at the top of the screen.
2	Basic settings	Start time (origin time)	Specify the start time (origin time) of a day. Specify the time you want to set as the origin of a day. How a day is managed depends on whether the specified time is before or after noon. If you specify 09:00, a day starts at 9:00 and ends at 8:59 on the following day. If you specify 21:00, a day starts at 21:00 on the previous day and ends at 20:59.
3	Basic settings	Telops 1 to 3	The text for up to three different telops can be specified. Telops 1, 2, and 3 scroll in order from right to left at the top of the screen.
4	Administrator settings	Administrator password	Specify the system administrator password. You can password protect "MENU" - "Options." The initial password is admin.
5	Auto output settings	Use auto output	Specify whether to automatically output daily reports. Select the check box to enable this item. *When using FSAlarm, the file which can be downloaded on “Whole equipment – All” is additionally output. *When using FSPro, the file which can be downloaded on “Analysis” is additionally output.
6	Auto output settings	Output type	Select how many times the daily reports are output. The initial setting is only once a day.
7	Auto output settings	Periodic interval (min)	Select the output interval for when outputting periodically. The initial setting is 60 minutes.
8	Auto output settings	Output time	Specify the output time for when outputting only once a day. The initial setting is 00:10.
9	Auto output settings	Output Folder	Specify the path to the output folder. Example: C:¥Sample¥text
10	Shift settings	Shift Type	Select the shift category. The initial setting is "None."
11	Shift settings	Shift More	Specify the shift name, start time, and end time. The shift items not selected in the shift type cannot be entered.
12	Break time Settings	Break time	Specify start time, end time, and the signal information valid/invalid setting.
13	Save	—	Registers settings.
14	Cancel	—	Discards the current edits to the settings and updates the registration.
15	Initialize	—	Restores to the settings at the time of shipment.

[Contents of automatically output daily report data]

■Normal

When “Normal” is selected in “1-8(2) System settings", a daily report (statistics and signal information) for the number of signal lamps is downloaded.

*See below for the download file.

-Statistics: “1-6(3) Single equipment – Operation history monitor"

-Signal information: “1-6(3) Single equipment – Operation history monitor"

■Old format

When “Old format” is selected in “1-8(2) System settings", a daily report and a monthly report for the number of signal lamps is downloaded.

*When “Periodic” is selected for the output type, a monthly report is not output.

*See below for the download file.

-Daily report: “1-6(3) Single equipment – Operation history monitor"

-Monthly report: “1-6(4) Single equipment – Monthly monitor"

(7) Display settings menu

The left section of the display setting screen displays the menu common to all the display setting screens. When you click a menu, each settings screen appears.

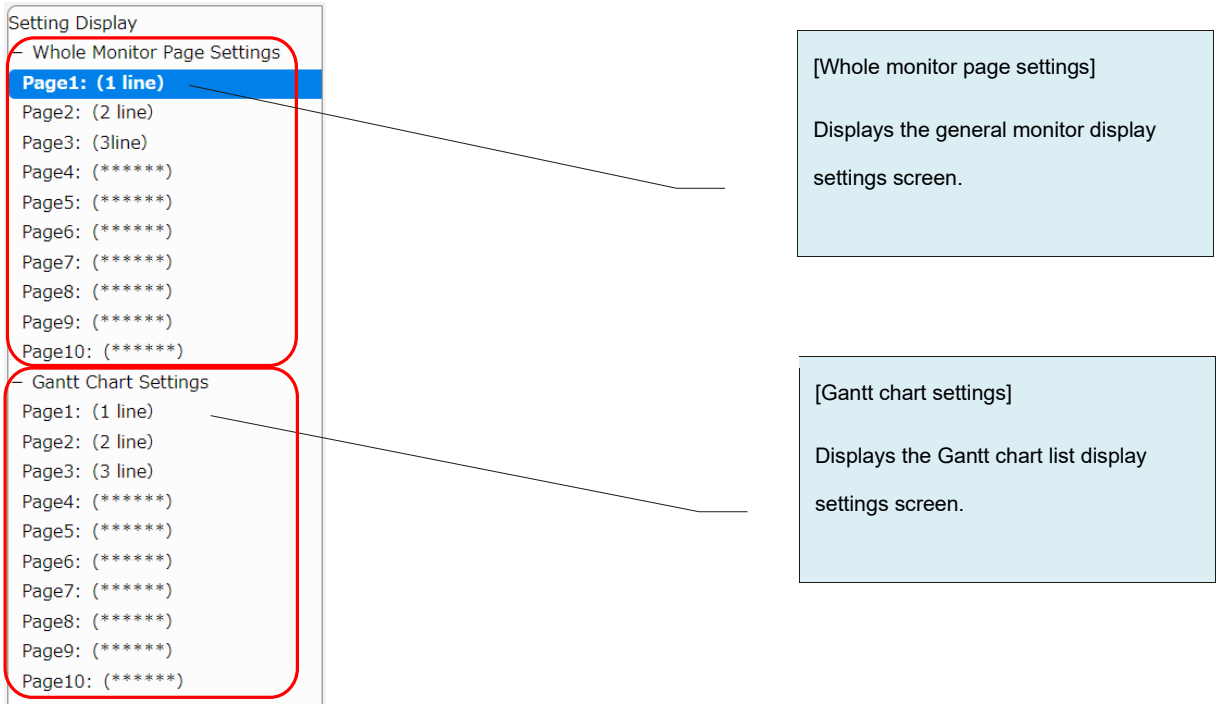


Figure 12: Display settings menu

(8) Display settings - whole monitor page settings

Specify general monitor display settings.

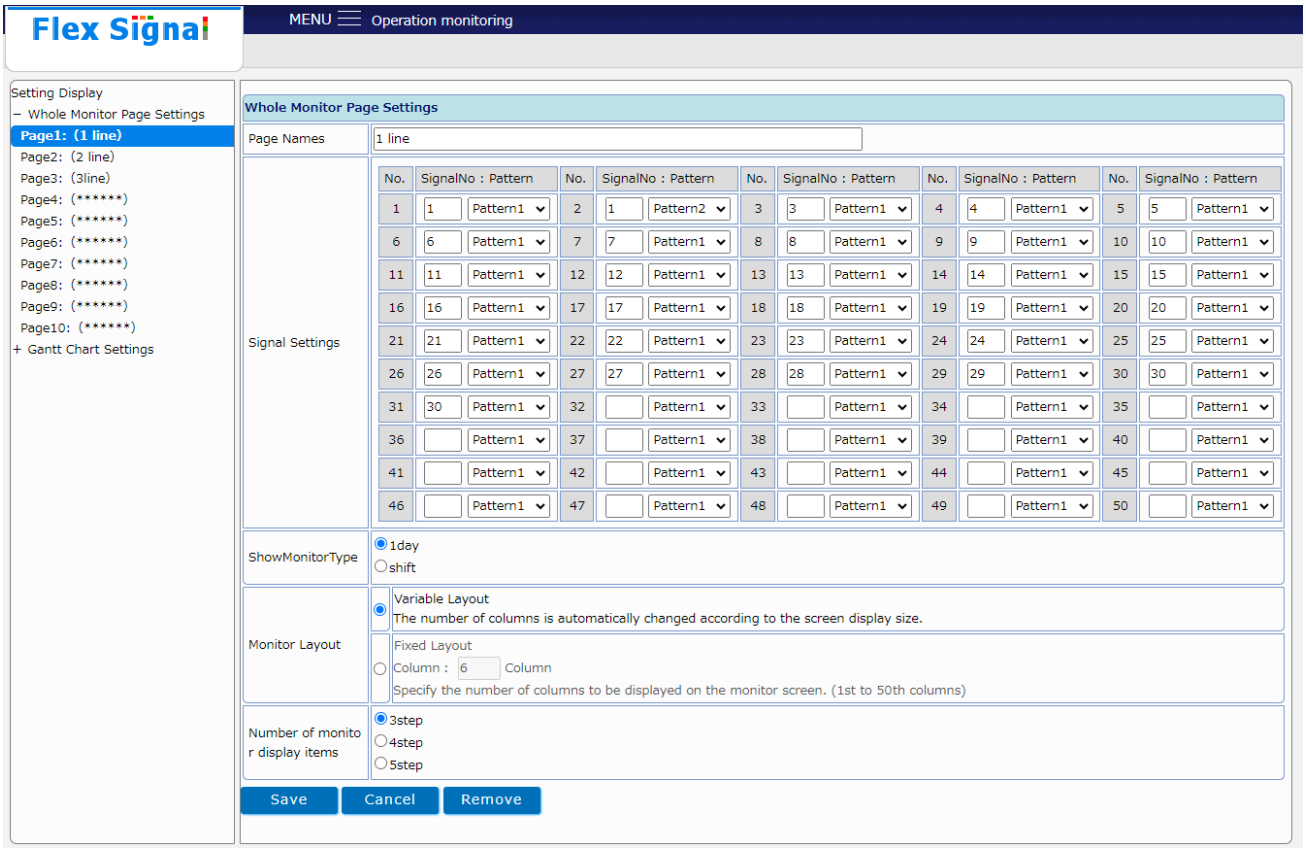


Figure 13: Whole monitor page settings

Table 6: Description of the Whole monitor page settings

No.	Item		Description
1	Page names	—	Specify the page name. You can use any name desired. After being registered, the page name is displayed on the "MENU" - "Monitor/Whole monitor" submenu at the top of the screen.
2	Signal settings	—	Signal lamp No. : Specify the signal lamp No. displayed on the general monitor. Pattern : Set the pattern to be displayed on the overall monitor from “Pattern 1-3”, “Time”, and “Image”.
3	Show monitor type	—	Specify the monitor display range. One-day display: Displays data for one day. Shift display: Displays data in the shift category that includes the current time.
4	Monitor Layout	Variable Layout	Automatically changes the number of columns displayed on the general monitor according to the screen size.
5	Monitor Layout	Fixed Layout	Specify the number of columns displayed on the general monitor. (from 1 to 50)
6	Number of monitor display items	—	Specify the number of rows displayed on the general monitor. The item contents can be specified as described in "(4) Signal Tower settings - Individual signal light settings."
6	Save	—	Registers settings.
7	Cancel	—	Discards the current edits to the settings and updates the registration.
8	Remove	—	Deletes the settings and disables the page display settings.

(9) Display settings - Gantt chart settings

You can specify the Gantt chart list display settings.

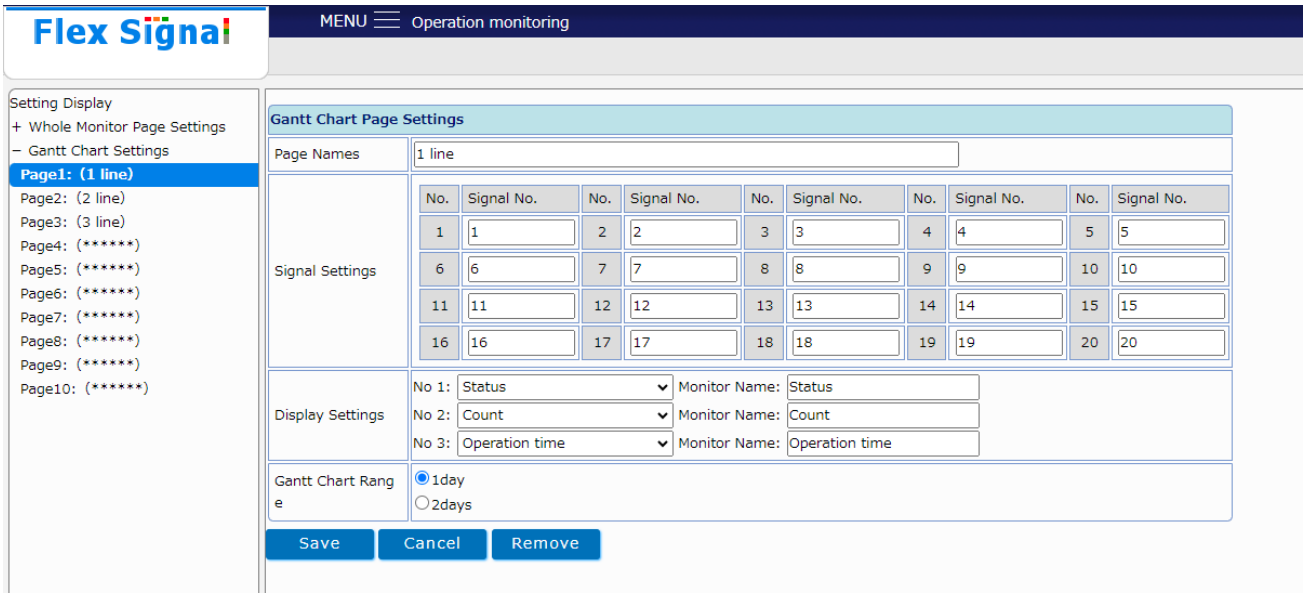


Figure 14: Gantt chart settings

Table 7: Description of the Gantt chart settings

No.	Item		Description
1	Gantt chart page settings	Page names	Specify the page name. You can use any name desired. After being registered, the page name is displayed on the "MENU" - "Monitor/chart list" submenu at the top of the screen and the menu on the screen described in "1-6(1) Whole equipment – All of Gantt Chart monitor."
2	Gantt chart page settings	Signal settings	Specify the signal lamp number displayed on the screens described in "1-5(2) Chart list" and "1-6(1) Whole equipment – All of Gantt Chart monitor."
3	Gantt chart page settings	Display settings	Specify the display settings for the items displayed on the screens described in "1-5(2) Chart list" and "1-6(1) Whole equipment – All of Gantt Chart monitor."
4	Gantt chart page settings	Empty	No data is displayed.
5	Gantt chart page settings	Count	Displays the count.
6	Gantt chart page settings	Operation time	Displays the operating time.
7	Gantt chart page settings	Alarm time	Displays the alarm time.
8	Gantt chart page settings	Production target	Displays the production target.
9	Gantt chart page settings	Monitoring time	Displays the monitoring time.
10	Gantt chart page settings	Production rate	Displays the production achievement rate.
11	Gantt chart page settings	Operation rate	Displays the operation rate.
12	Gantt chart page settings	Alarm count	Displays the alarm count.
13	Gantt chart page settings	Alarm rate	Displays the alarm rate.
14	Gantt chart page settings	Colors 1 to 16 (time)	Displays the duration of the statuses indicated by component colors 1 to 16. Component colors 1 to 16 can be specified as described in "(4) Signal Tower settings - Individual signal light settings."
15	Gantt chart page settings	Colors 1 to 16 (count)	Displays the number of occurrences of the statuses indicated by component colors 1 to 16. Component colors 1 to 16 can be specified as described in "(4) Signal Tower settings - Individual signal light settings."
16	Gantt chart page settings	Performance	Displays the performance. * Not displayed for shift display.
16	Gantt chart page settings	OEE	Displays the OEE. * Not displayed for shift display.
17	Gantt chart page settings	Quality	Displays the quality. * Not displayed for shift display.
18	Gantt chart page settings	Good products	Displays the good products. * Not displayed for shift display.

19	Gantt chart page settings	Defective products	Displays the defective products. * Not displayed for shift display.
20	Gantt chart page settings	Theoretical output	Displays the theoretical output. * Not displayed for shift display.
21	Gantt chart page settings	Difference	Displays the difference. * Not displayed for shift display.
22	Gantt chart page settings	On / Flash (time) (red, yellow, green, blue, white, buzzer)	Displays the duration for which each signal lamp was in on /flash state. *Signal colors which are not used for component color is not aggregated.
23	Gantt chart page settings	On / Flash (count) (red, yellow, green, blue, white, buzzer)	Displays the number of times each signal lamp was in on /flash state. *Signal colors which are not used for component color is not aggregated.
24	Gantt chart page settings	Status	Displays the status in real time. Each status is indicated by a component color. Component colors can be specified as described in "(4) Signal Tower settings - Individual signal light settings." * Not displayed on the Gantt chart list monitor.
25	Gantt chart page settings	Monitor name	Specify the name for the item to be displayed. * You can register a name consisting of up to four characters.
26	Gantt chart page settings	Gantt chart range	Specify the display range of the Gantt chart displayed in the chart list. When display for “1 day" is selected, the Gantt chart displays data for the current day. When display for “2 days" is selected, the Gantt chart displays data for the previous day and the current day. * This item is used in the chart list.
27	Save	—	Registers settings.
28	Cancel	—	Discards the current edits to the settings and updates the registration.
29	Remove	—	Deletes the settings and disables the page display settings.

(10) Operation evaluation settings - operation evaluation collective

Settings related to the evaluation criteria based on operation target or production target can be specified at once.

You can change the display of setting items by switching tabs.

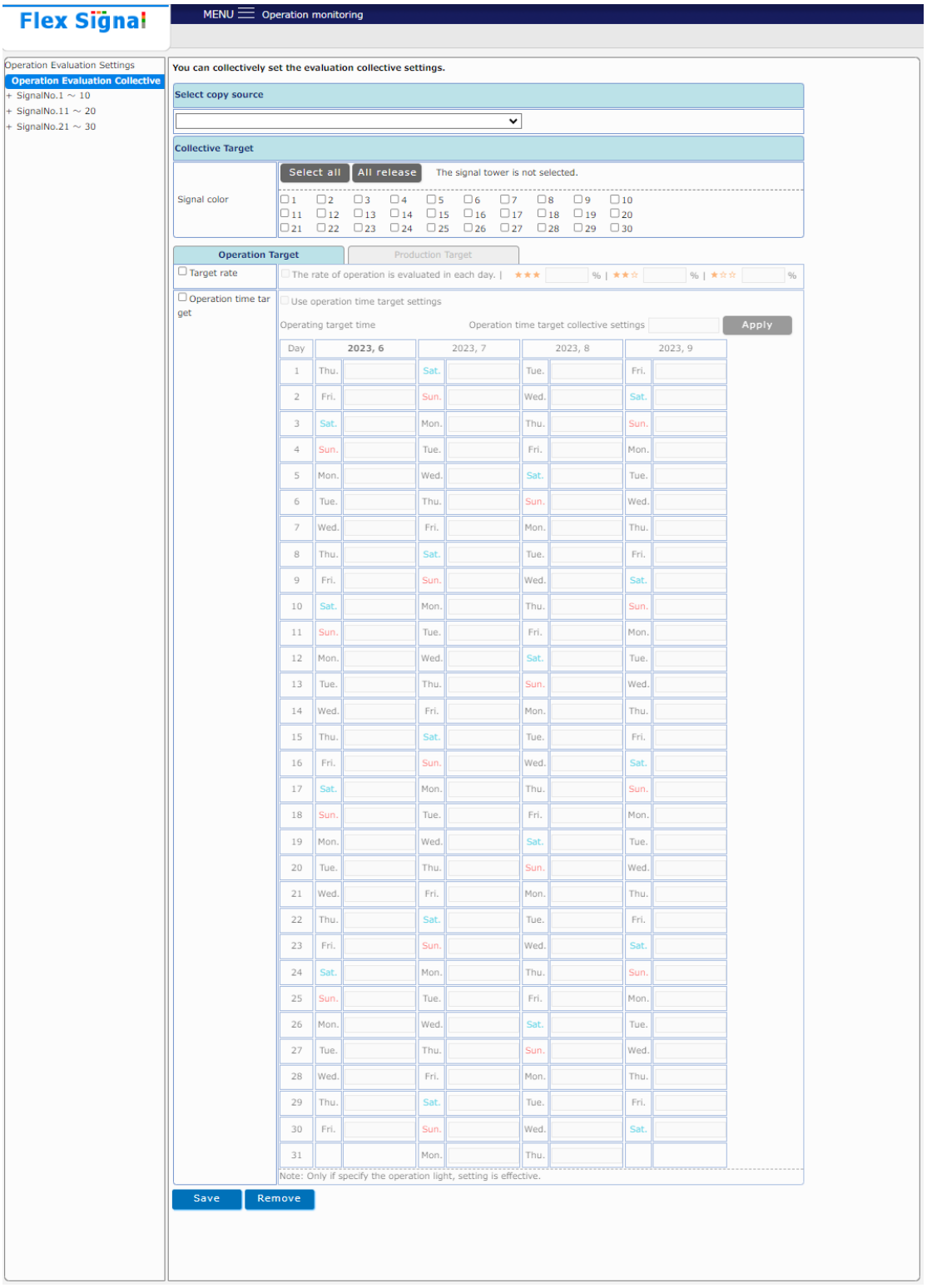


Figure 15: Operation evaluation collective - Operation target screen

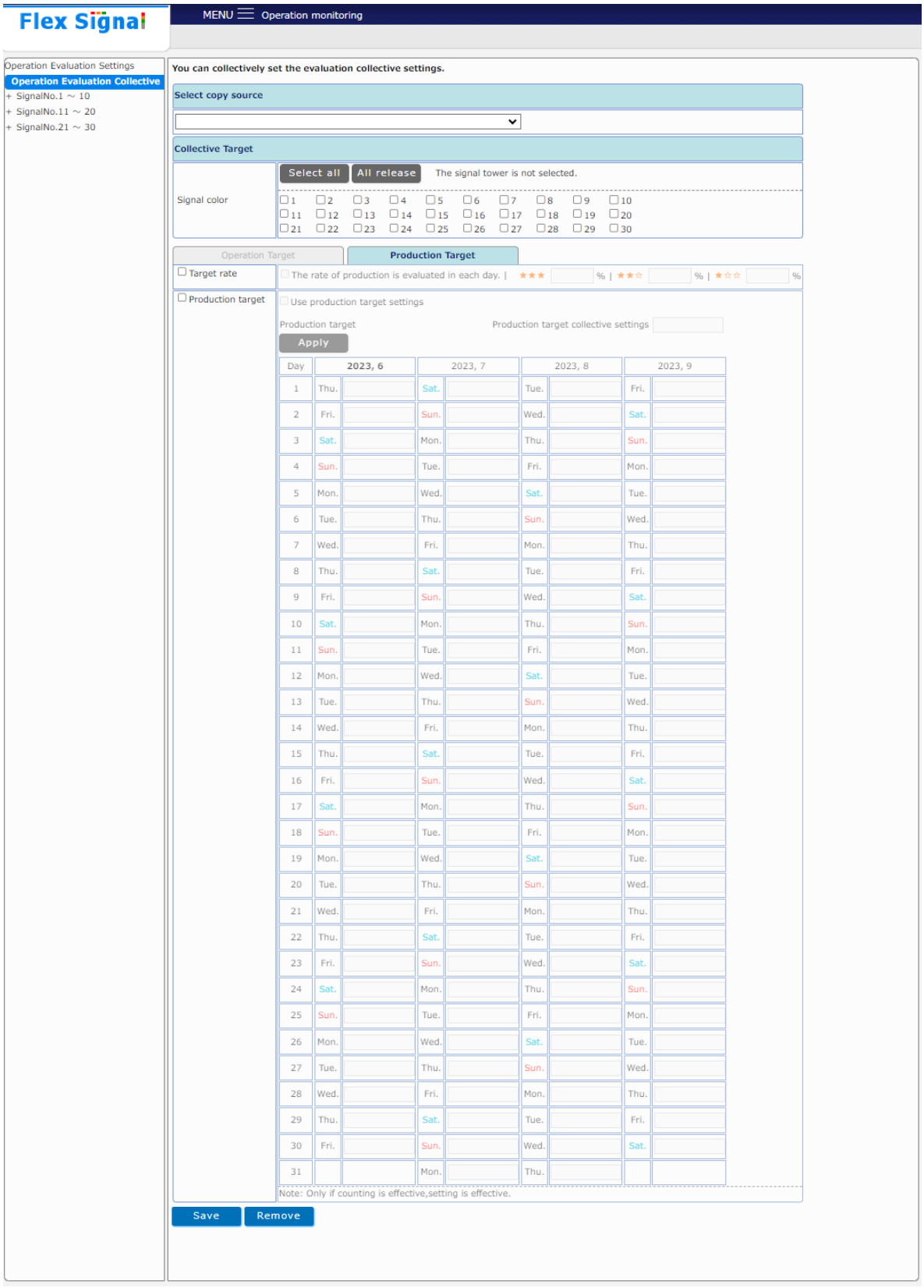


Figure 16: Operation evaluation collective - Production target screen

Figure 8: Description of operation evaluation collective

No.	Item		Description
1	Select copy source	—	Select the device you want to copy. The settings for the selected device are displayed for all the items.
2	Collective Target	—	Select the signal lamps you want to configure. You can easily select or deselect all the signal lamps by using “Select all” or “All release.”
3	Operation evaluation	Target rate	Specify whether to evaluate operation ("The rate of operation is evaluated in eacch day.") and the operation grading values (three star grading). When evaluating operation, select the "The rate of operation is evaluated in each day." check box and specify the operation grading values and operation time target on each day.
4	—	Operation time target	Enter the daily operation target time. You can specify the target operating time with one or more decimal places for the next four months including this month.
5	Production target	Target rate	Specify whether to evaluate production ("The rate of production is evaluated in each day.") and the production grading values (three star grading). When evaluating production, select the "The rate of production is evaluated in each day." check box and specify the production grading values and the target production volume on each day. *If “Count is not used as production” is selected in the settings for Count in Signal Tower settings, the value is not displayed even if the production target is specified.
6	—	Production target	Enter the daily target production volume. You can specify the target production volume for the next four months including the current month.
7	Save	—	Registers settings.
8	Cancel	—	Discards the current edits to the settings and updates the registration.
9	Remove	—	Deletes settings.

(11) Operation evaluation settings - individual operation evaluation settings

Settings related to the evaluation criteria based on operation target or production target can be individually specified.

You can change the display of setting items by switching tabs.

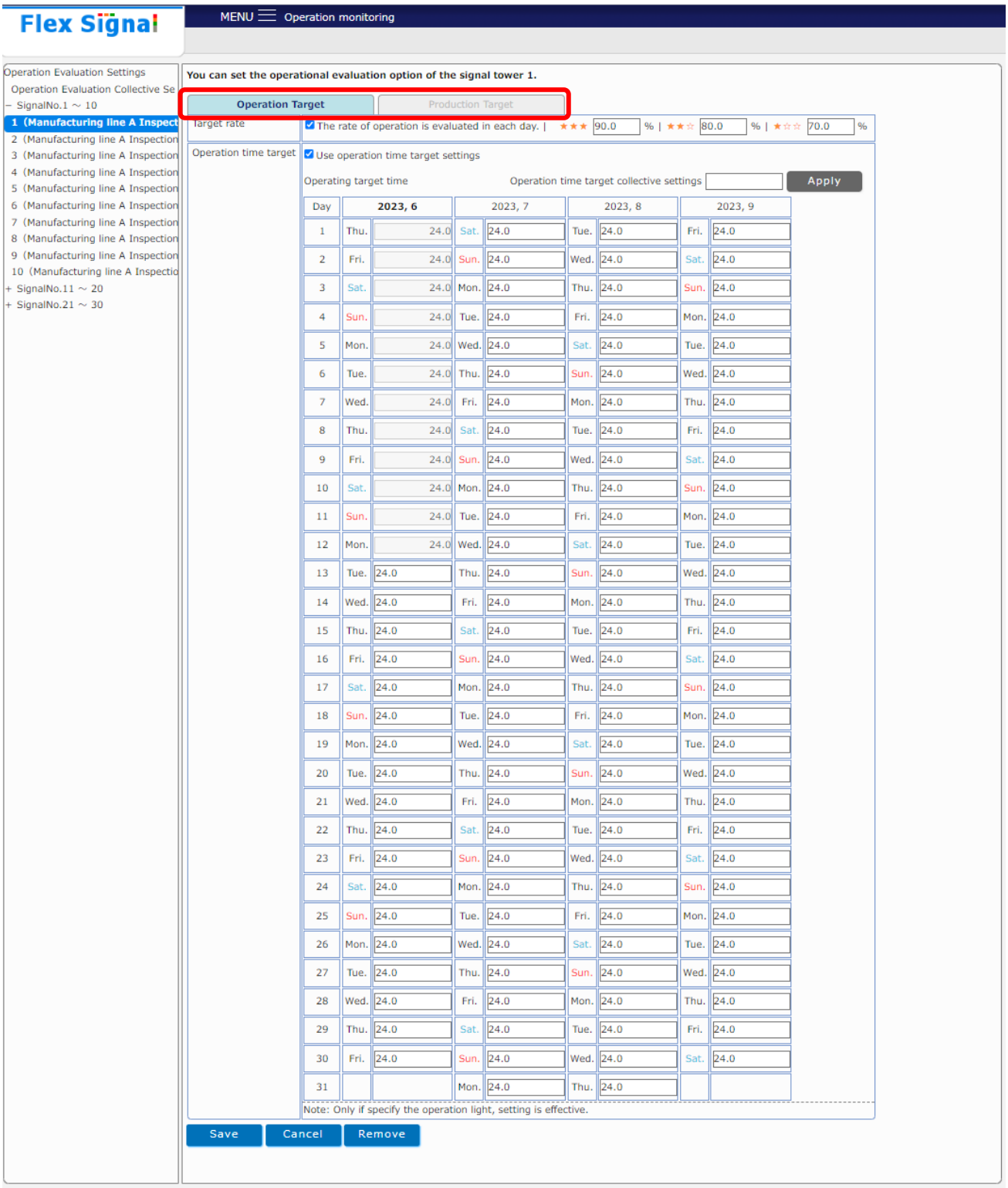


Figure 17: Individual signal lamp operation evaluation settings - Operation target screen

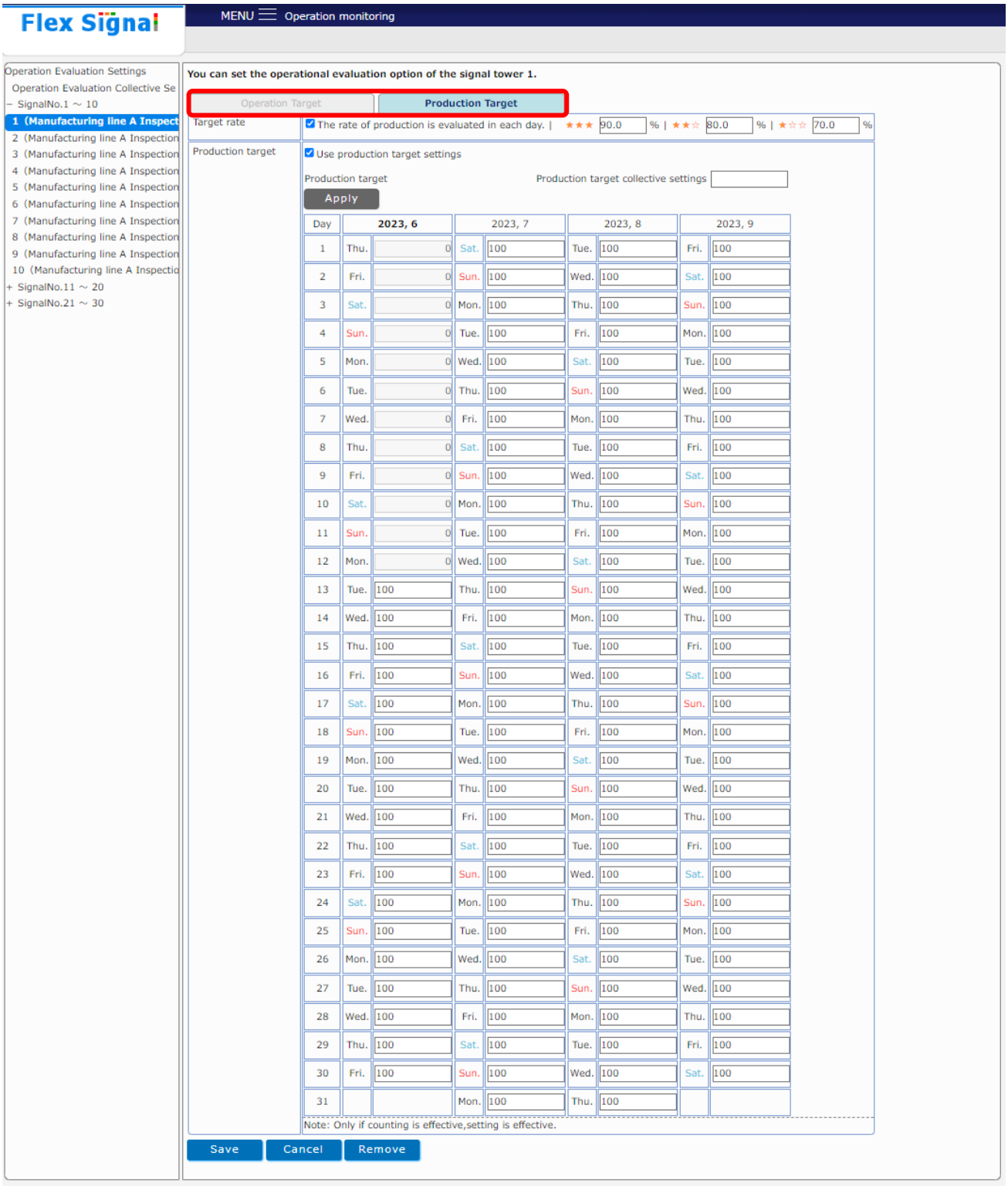


Figure 18: Individual signal lamp operation evaluation settings - Production target screen

Figure 9: Description of individual operation evaluation settings

No.	Item		Description
1	Operation evaluation	Target rate	Specify whether to evaluate operation ("The rate of operation is evaluated in each day.") and the operation grading values (three star grading). When evaluating operation, select the "The rate of operation is evaluated in each day." check box and specify the operation grading values and operation time target on each day.
2	—	Operation time target	Enter the daily operation target time. You can specify the target operating time with one or more decimal places for the next four months including this month.
3	Production target	Target rate	Specify whether to evaluate production ("The rate of production is evaluated in each day.") and the production grading values (three star grading). When evaluating production, select the "The rate of production is evaluated in each day." check box and specify the production grading values and the target production volume on each day. *If “Count is not used as production” is selected in the settings for Count in Signal Tower settings, the value is not displayed even if the production target is specified.
4	—	Production target	Enter the daily target production volume. You can specify the target production volume for the next four months including the current month.
5	Save	—	Registers settings.
6	Cancel	—	Discards the current edits to the settings and updates the registration.
7	Delete	—	Deletes settings.

(12) Event settings - event notice settings

Specify the event notification settings.

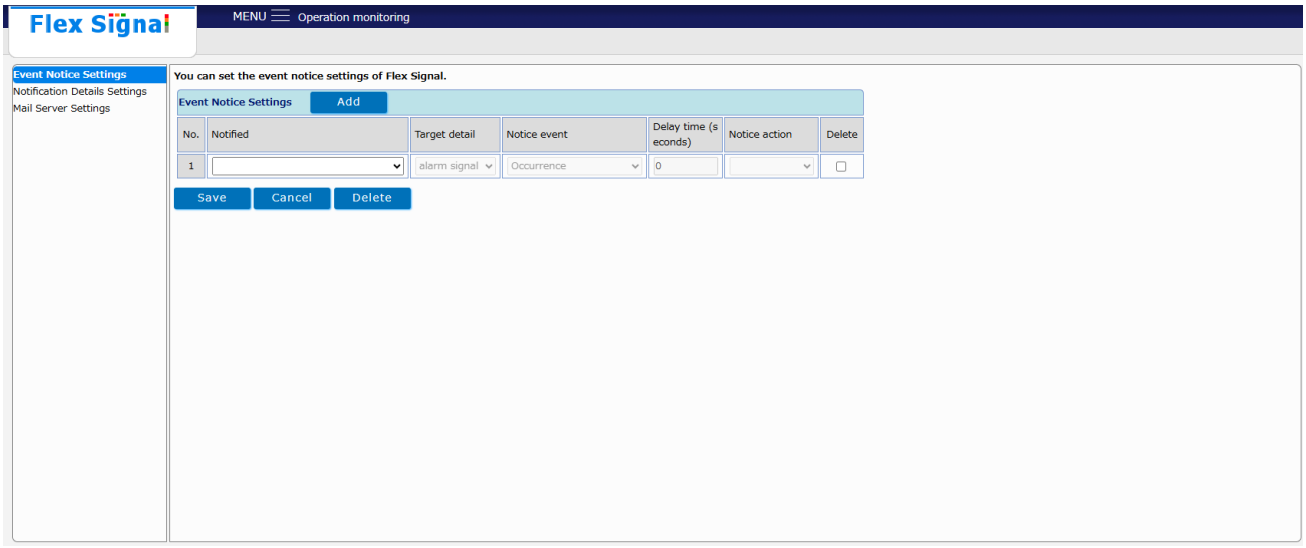


Figure 21: Event notice settings

Table 12: Description of event Notice settings

No.	Item		Description
1	Event notice settings	Notified	Specify the signal lamp subject to event notification. If you are not going to send any notifications, leave it blank (initial setting). To set event notifications for all the signal lamps, select "All." To set event notification to one page on the general monitor, select a page name.
2	Event notice settings	Target detail	Specify the details of the signal lamp subject to event notification. To set event notification for the signal lamps used as error lamps, select "alarm signal." To set event notification for each component color, select "pattern 1 (to 16)."
3	Event notice settings	Notice event	Specify the event that serves as the notification trigger. "Occurrence" indicates that the error indicated by the signal lamp occurs. "Recovery" indicates that the normal status is recovered from the error indicated by the signal lamp.
4	Event notice settings	Delay time (seconds)	Set the duration of the event notification target status when an event notification is issued. (0 to 99999) If 0 is specified, the event notification will be issued when the event notification target status occurs.
5	Event notice settings	Notice action	Specify the operation at event notification. When you select "E-mail" notification, an event notification email is sent to the destination email address. When you select "Signal tower 1 (to 5)" notification, notification is sent to the external signal lamp specified in the signal light notification settings. The number of the signal lamp notification corresponds to the No. in the signal light notification settings.
6	Add	—	Adds one row to specify the settings for event notification.
7	Save	—	Registers settings.
8	Cancel	—	Discards the current edits to the settings and updates the registration.
9	Delete	—	Deletes the setting.

(13) Event settings – notification details settings

Specify the notification content to be used when notifying an event.

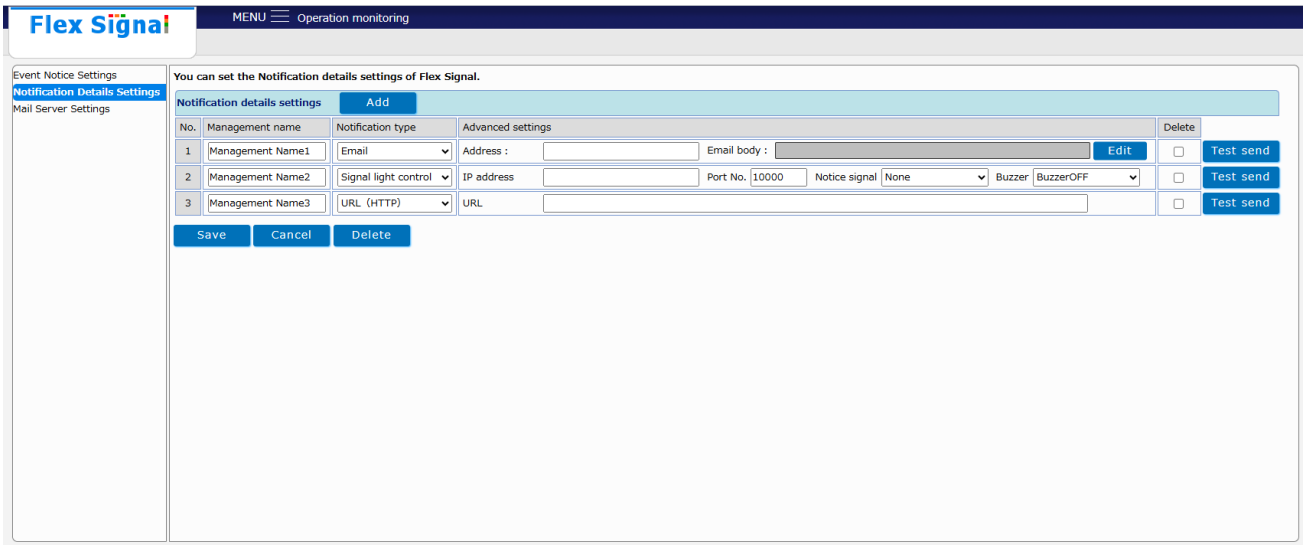


Figure 20: notification details settings

Table 11: Description of Notification details settings

No.	Item		Description
1	Notification details settings	Management Name	Specify the management name for the notification. Maximum input length: 30 characters.
2	Notification details settings	Notification type	Specify the notification type. To use the destination address and email body, select "Email." To use the IP address, port number, notification lamp, and buzzer, select "IP address." To use the URL, select "URL."
3	Notification details settings	Address	Set the email address for sending notifications. Multiple addresses can be specified by separating them with a comma (,). Maximum input length: 100 characters.
4	Notification details settings	Mail Message	Set the email body for the notification. Maximum input length: 100 characters. Command variables can be used. Command Variables ・Line Name ([%L]): Automatically replaced with the line name of the signal tower where the event occurred. ・Signal Tower Name ([%S]): Automatically replaced with the signal tower name where the event occurred. ・Memo ([%M]): Automatically replaced with the memo of the signal tower where the event occurred.
5	Notification details settings	IP address	Specify the IP address of the external signal lamp to which event notification is sent from Flex Signal.
6	Notification details settings	Port No.	Specify the port number of the external signal lamp.
7	Notification details settings	Notice signal	Select the signal lamp that lights up or flash at event notification.
8	Notification details settings	Buzzer	Specify to sound the buzzer at event notification.
9	Notification details settings	URL	Specify the URL to which event notification is sent from Flex Signal. Maximum input length: 100 characters. Command variables can be used. Command Variables ・Line Name ([%L]): Automatically replaced with the line name of the signal tower where the event occurred. ・Signal Tower Name ([%S]): Automatically replaced with the signal tower name where the event occurred. ・Memo ([%M]): Automatically replaced with the memo of the signal tower where the event occurred.

			* For details on the URL to be specified, see the manual for your network display lamp available from PATLITE.
10	Notification details settings	Test send	Send a test notification to the specified destination.
11	Add	—	Adds one row to specify the settings for signal lamp notification.
12	Save	—	Registers settings.
13	Cancel	—	Discards the current edits to the settings and updates the registration.
14	Delete	—	Deletes the setting.

(14) Event settings – mail server settings

Specify the settings for the email server used at event notification.

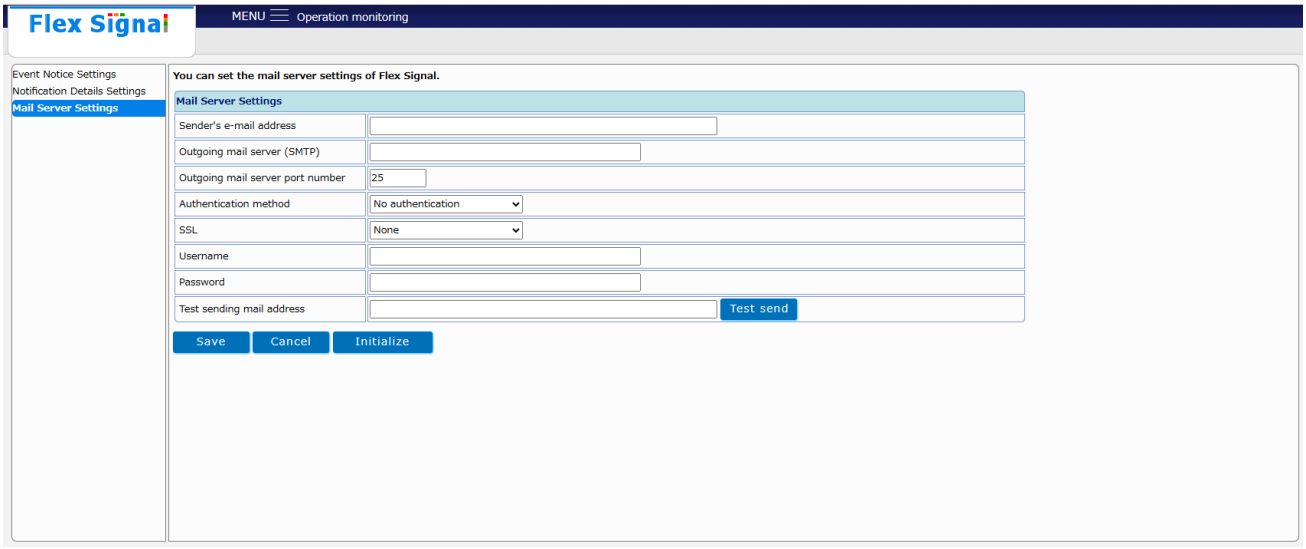


Figure 19: Mail server settings

Table 10: Description of Mail server settings

No.	Item		Description
1	Mail Server Settings	Sender's e-mail address	Specify the source email address of the event notification email.
2	Mail Server Settings	Outgoing mail server (SMTP)	Specify the transmission email server (SMTP) used for event email notification.
3	Mail Server Settings	Outgoing mail server port number	Specify the port number of the transmission email server.
4	Mail Server Settings	Authentication method	Specify the authentication method used for email transmission.
5		SSL	Specify whether to use SSL for email transmission.
6	Mail Server Settings	Username	Specify the user name used for authentication at email transmission. * You do not have to enter this item if "Authentication method" is "No authentication."
7	Mail Server Settings	Password	Specify the password used for authentication at email transmission. * You do not have to enter this item if "Authentication method" is "No authentication."
8	Mail Server Settings	Test sending mail address	Specify the email address to which you want to send the test email. You can send the email by pressing the "Test send" button.
9	Save	—	Registers settings.
10	Cancel	—	Discards the current edits to the settings and updates the registration.
11	Initialize	—	Restores to the settings at the time of shipment.

(15) Defective products settings

Specify the number of defective products.

* If “Count is not used as production” is selected in the settings for Count in Signal Tower settings, the value is not displayed even if the defective products settings are specified.

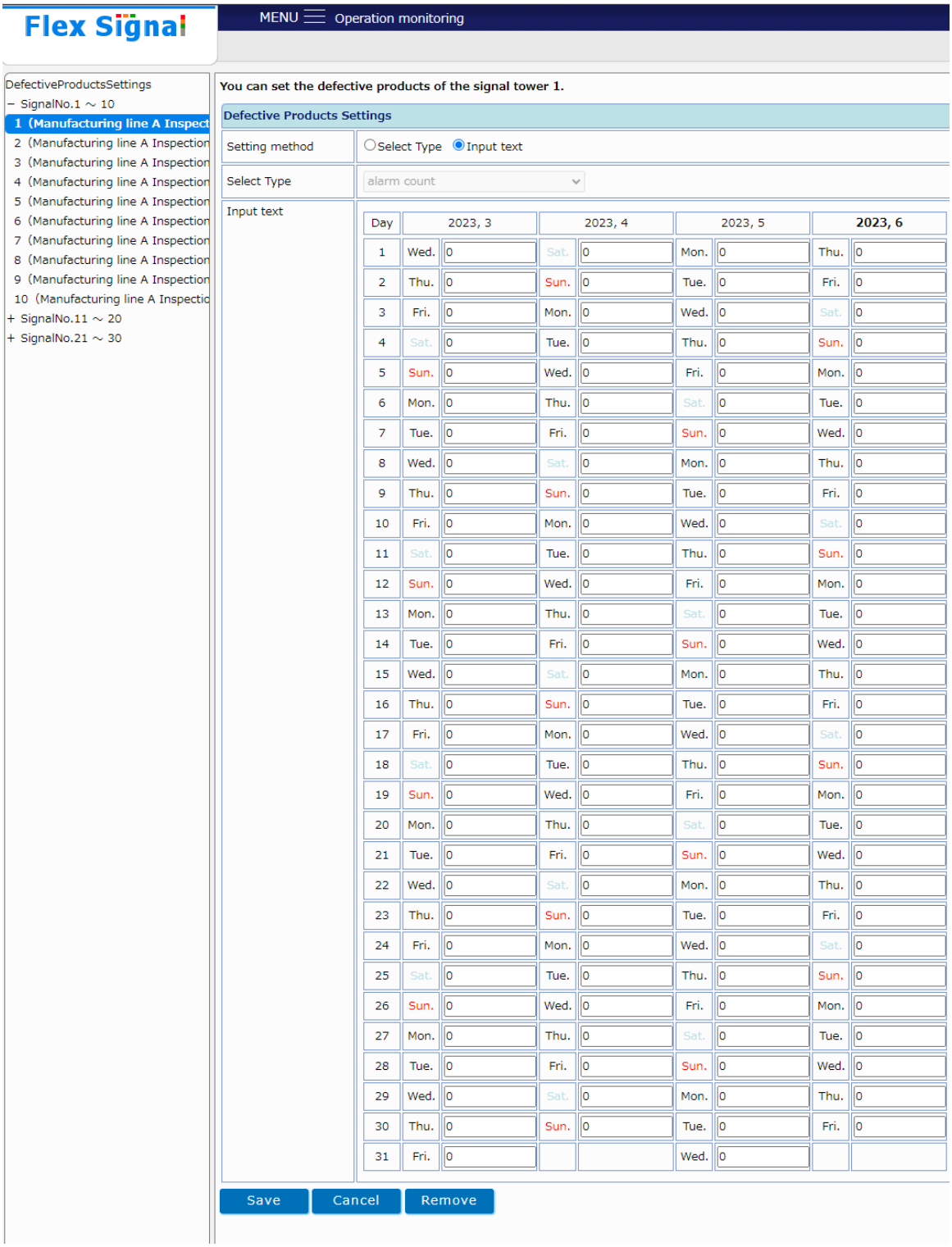


Figure 22: Defective products settings

Table 13: Description of Defective products settings

No.	Item		Description
1	Defective Products	Setting method	It can be set from Select type and input text.
2	Defective Products	Select Type	Set the number of defective products in the selection item content.
3	Defective Products	Alarm count	Set the number of alarm counts.
4	Defective Products	Color pattern 1 (count)	Set the number of occurrences of the statuses indicated by component colors 1.
5	Defective Products	Color pattern 2 (count)	Set the number of occurrences of the statuses indicated by component colors 2.
6	Defective Products	Color pattern 3 (count)	Set the number of occurrences of the statuses indicated by component colors 3.
7	Defective Products	Color pattern 4 (count)	Set the number of occurrences of the statuses indicated by component colors 4.
8	Defective Products	Color pattern 5 (count)	Set the number of occurrences of the statuses indicated by component colors 5.
9	Defective Products	Color pattern 6 (count)	Set the number of occurrences of the statuses indicated by component colors 6.
10	Defective Products	Color pattern 7 (count)	Set the number of occurrences of the statuses indicated by component colors 7.
11	Defective Products	Color pattern 8 (count)	Set the number of occurrences of the statuses indicated by component colors 8.
12	Defective Products	Color pattern 9 (count)	Set the number of occurrences of the statuses indicated by component colors 9.
13	Defective Products	Color pattern 10 (count)	Set the number of occurrences of the statuses indicated by component colors 10.
14	Defective Products	Color pattern 11 (count)	Set the number of occurrences of the statuses indicated by component colors 11.
15	Defective Products	Color pattern 12 (count)	Set the number of occurrences of the statuses indicated by component colors 12.
16	Defective Products	Color pattern 13 (count)	Set the number of occurrences of the statuses indicated by component colors 13.
17	Defective Products	Color pattern 14 (count)	Set the number of occurrences of the statuses indicated by component colors 14.
18	Defective Products	Color pattern 15 (count)	Set the number of occurrences of the statuses indicated by component colors 15.
19	Defective Products	Color pattern 16 (count)	Set the number of occurrences of the statuses indicated by component colors 16.
20	Defective Products	Input text	Set the number of defective products with the entered value of each day. You can specify the number of defective products for the next four months including the current month.
21	Save	—	Registers settings.
22	Cancel	—	Discards the current edits to the settings and updates the registration.
23	Remove	—	Deletes settings.

(16) Comment settings

Set the content and conditions of the comment to be displayed on the entire FlexSignal monitor (andon 1st row).

*If there are multiple signal lights displaying comments, the comment with the lowest number will be applied.

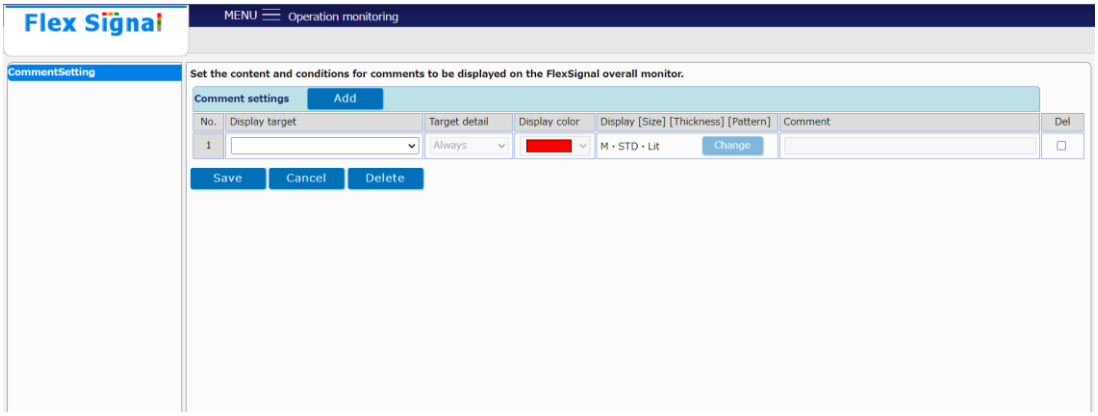


Figure 23: Comment settings

Table 14: Description of Comment settings

No.	Item		Description
1	Comment Settings	Display target	Sets the signal lights for which comments are to be displayed. ・If you do not want to display comments, leave blank. ・To target all signal lights, set “All”. ・To target a signal light, set “Target Signal Light”. *Initial value: Blank
2	Comment Settings	Target detail	Sets the details of the signal lights for which comments are to be displayed. ・Set “Always” to always display. ・If you want to target a signal light that is set to “Abnormal light”, set “Abnormal light”. ・To target each component color, set “component colors 1-16”. *Initial value: Always
3	Comment Settings	Display Color	Select the text color of the comments to be displayed. *Initial value: Red
4	Comment Settings	Display	Select the “size,” “thickness,” and “pattern” of the comments to be displayed. ■Change button.

			Click the Change button to display the “Display Method Settings” popup. ■Label Displays abbreviations for the “size,” “thickness,” and “pattern” being set. *Initial value: M・STD・Lit
5	Comment Settings	Comment	Sets the content of comments to be displayed. The number of characters that can be entered is 100. *Initial value:Blank
6	Add	—	Adds one row to specify the settings for comment.
7	Save	—	Registers settings.
8	Cancel	—	Discards the current edits to the settings and updates the registration.
9	Delete	—	Deletes the settings that are checked in the “Delete” box.

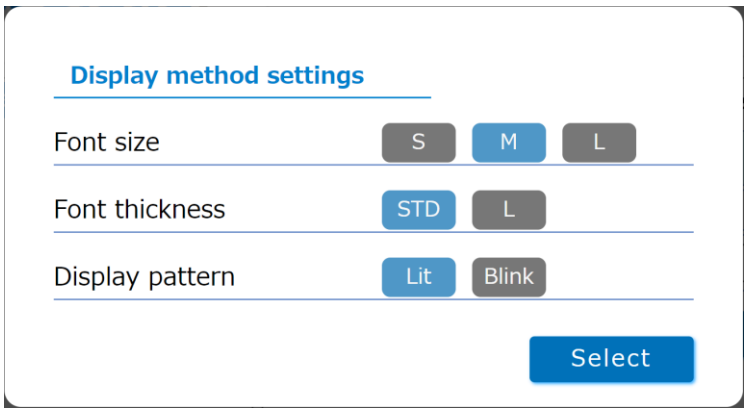


Figure 24: Comment settings – Display method settings

Table 15: Description of Comment settings– Display method settings

No.	Item		Description
1	Display method settings	Font size	Select the font size for comments to be displayed. *Initial value:M
2	Display method settings	Font thickness	Select the font weight of the comments to be displayed. Initial value:STD
3	Display method settings	Display pattern	Select the display pattern of comments to be shown. Initial value:Lit
4	Select	—	Select the settings.

1-1. Other

(1) Terminal setting

Specify the settings related to the screen display on the access terminal.

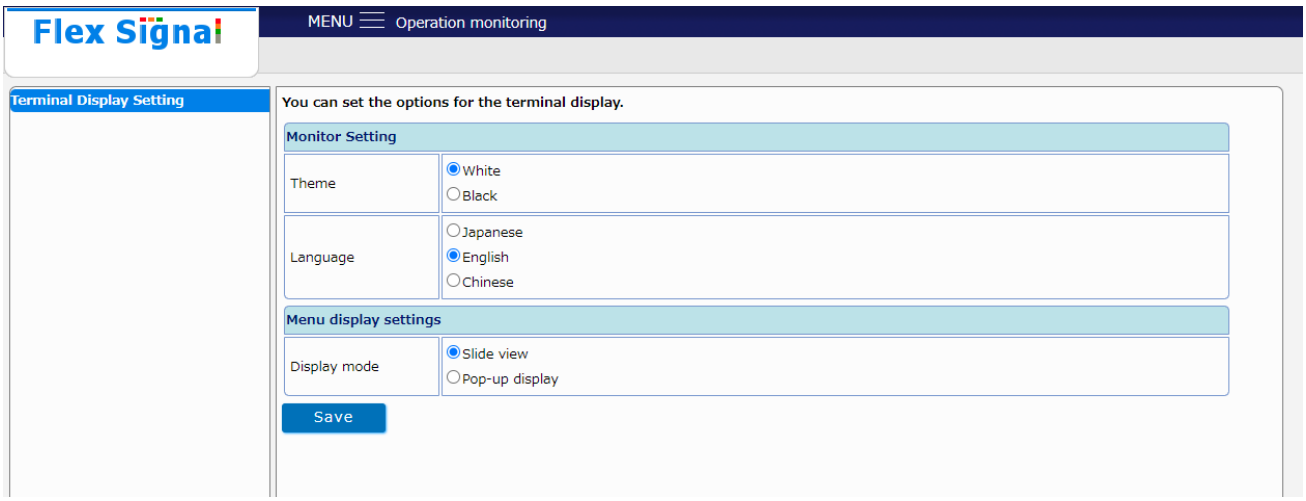
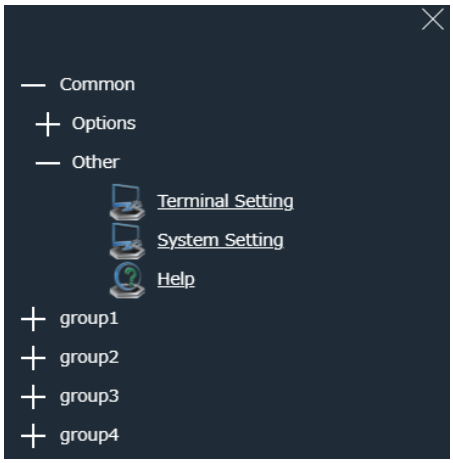
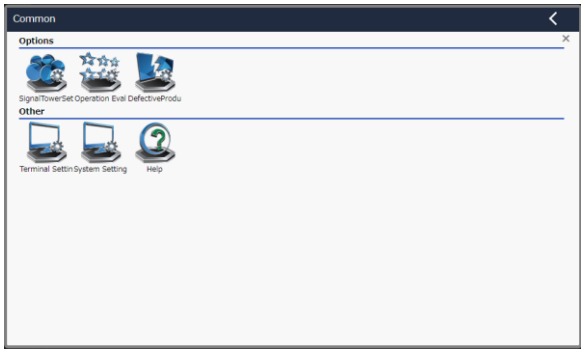


Figure 1: Terminal display settings

Table 1: Description of terminal display settings

No.	Item		Description
1	Monitor setting	Theme	Specify the screen theme. Select the base color. The selected theme applies only to the terminal currently accessing the screen.
2	Monitor setting	Language	Specify the screen language. The selected language applies only to the terminal currently accessing the screen.
3	Menu display settings	Display mode	Specify how the menu is displayed. Slide view: The menu appears on the left side of the screen.  Pop-up display: The menu appears on the pop-up window.  When pop-up display is applied, click the bar labeled “Common” in the above figure to switch the group. The selected display mode applies only to the terminal currently accessing the screen.
4	Save	—	Registers settings.

(2) System settings – System Information

Specify the settings related to the system.

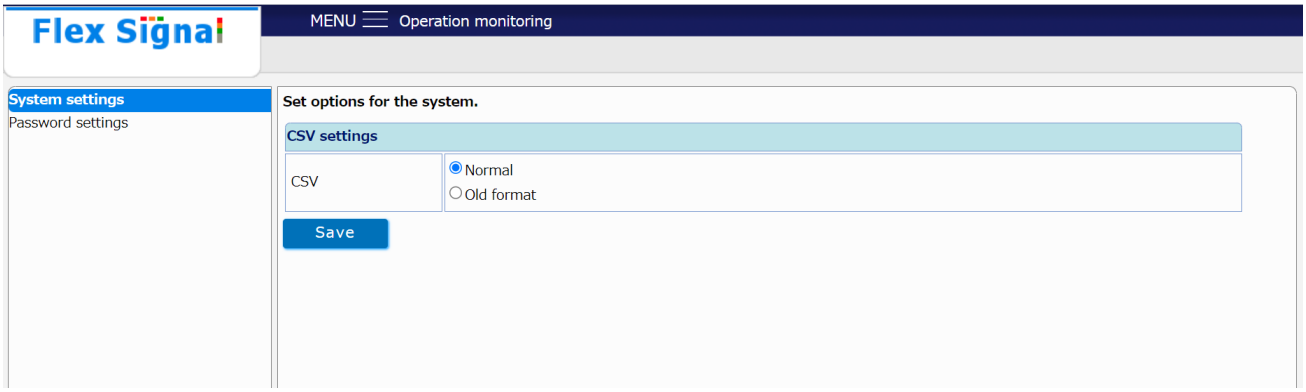


Figure 2: System settings

Table 2: Description of System settings

No.	Item		Description
1	CSV settings	CSV	Specify the CSV format setting for when downloading on the screens below. -Whole equipment – download all files monitor -Single equipment – operation history monitor -Basic settings Daily report automatic output setting *For details on each format, see “1-6(3) Single equipment – operation history monitor.”
2	Save	—	Registers settings.

(3) System settings – Password settings

Configure settings related to passwords.

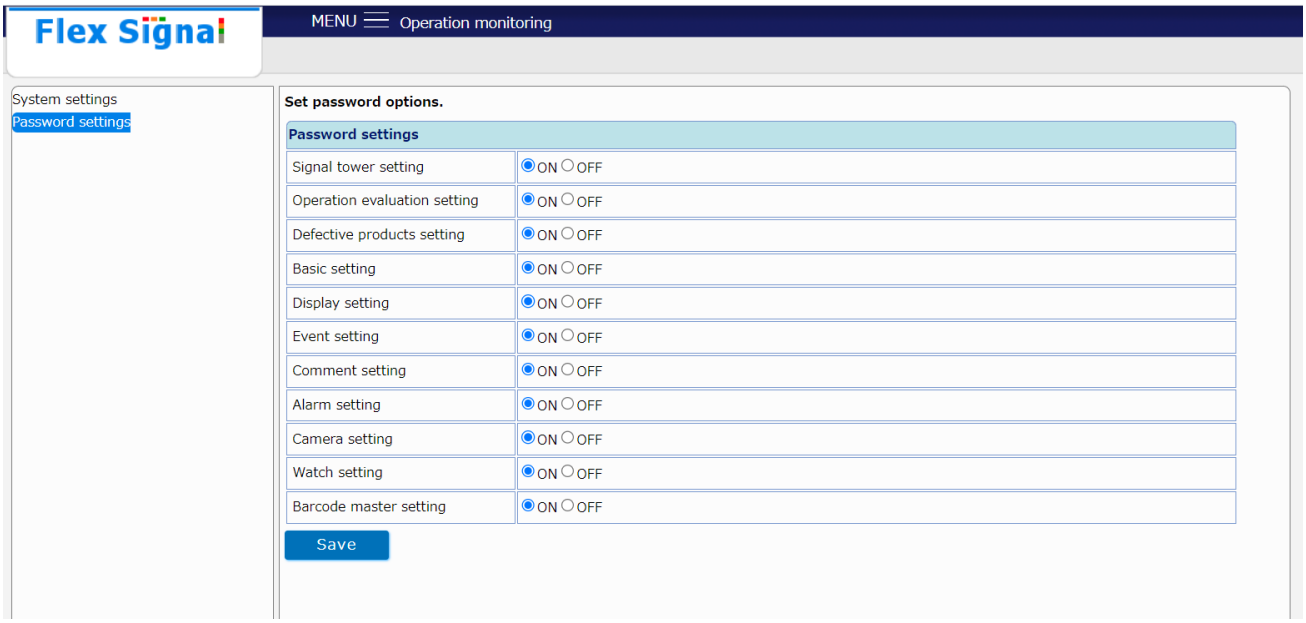


Figure 3: Password settings

Table 3: Description of Password settings

No.	Item	Description
1	Signal tower setting	Sets whether or not the administrator password is required when moving to the “Signal tower setting” screen. ON: Admin password available, OFF: No admin password
2	Operation evaluation setting	Sets whether or not the administrator password is required when moving to the “Operation evaluation setting” screen. ON: Admin password available, OFF: No admin password
3	Defective products setting	Sets whether or not the administrator password is required when moving to the “Defective products setting” screen. ON: Admin password available, OFF: No admin password
4	Basic setting	Sets whether or not the administrator password is required when moving to the “Basic setting” screen. ON: Admin password available, OFF: No admin password
5	Display setting	Sets whether or not the administrator password is required when moving to the “Display setting” screen. ON: Admin password available, OFF: No admin password
6	Event setting	Sets whether or not the administrator password is required when moving to the “Event setting” screen. ON: Admin password available, OFF: No admin password
7	Comment setting	Sets whether or not the administrator password is required when moving to the “Comment setting” screen. ON: Admin password available, OFF: No admin password
8	Alarm setting	Sets whether or not the administrator password is required when moving to the “Alarm setting” screen.

		ON: Admin password available, OFF: No admin password
9	Camera setting	Sets whether or not the administrator password is required when moving to the “Camera setting” screen. ON: Admin password available, OFF: No admin password
1 0	Watch setting	Sets whether or not the administrator password is required when moving to the “Watch setting” screen. ON: Admin password available, OFF: No admin password
1 1	Barcode master setting	Sets whether or not the administrator password is required when moving to the “Barcode master setting” screen. ON: Admin password available, OFF: No admin password

(4) Help - system information

View system information.

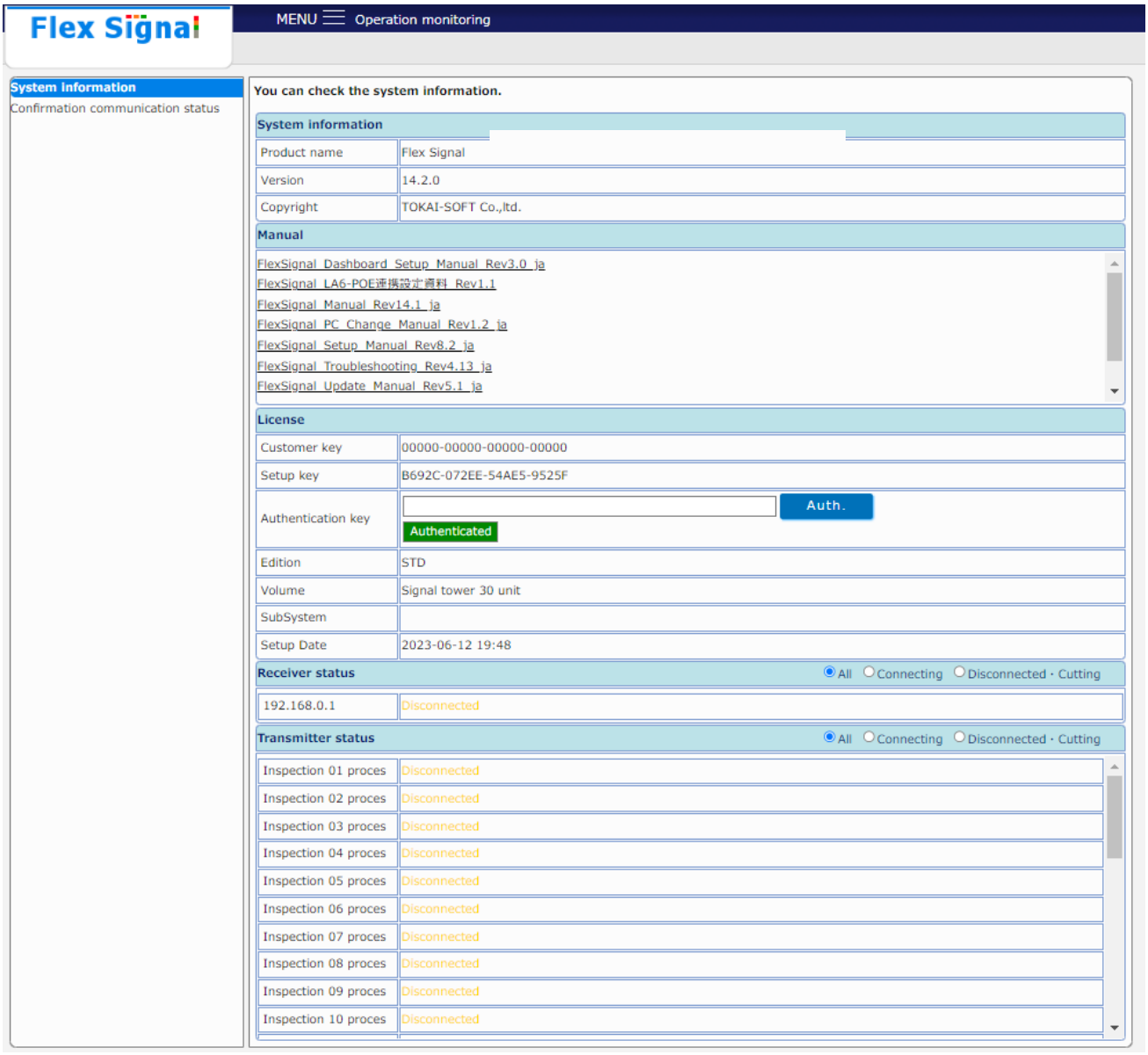


Figure 3: System information

Table 3: Description of system information

No.	Item		Description
1	System information	Product name	Displays the product name.
2	System information	Version	Displays version information.
3	System information	Copyright	Displays copyrights.
4	Manual	Each type of manual	You can read each type of manual.
5	License	Customer key	Displays the customer key.
6	License	Setup key	Displays the setup key.
7	License	Authentication key	Enter the authentication key. After installation, During the trial (expiration date : 2023-07-12 19:47) is displayed until the expiration date. When you are using Flex Signal for trial purposes, Flex Signal can be used until the expiration date. * The expiration date for trial use is one month after installation. When you enter the correct authentication key, Authenticated is displayed. Once authenticated, Flex Signal can be used indefinitely. After the expiration date, Unauthenticated is displayed. If Flex Signal is not authenticated, data for the signal lamps is no longer updated.
8	License	Edition	Displays the edition.
9	License	Volume	Displays the number of signal lamps that can be managed.
10	License	Subsystem	Displays the subsystem installation status. Installed subsystems are displayed with a green background as shown below. Dashboard
11	License	Setup date	Displays the setup date.
12	Receiver status	IP address	Displays the list of IP addresses of the specified receivers. Displays the communication status between the receiver and the PC on which Flex Signal is installed on the right side. Disconnected: The state in which the communication has never been established after starting the PC. Cutting: The communication is in an abnormal state. Connecting: The communication is in a normal state. *Please check the communication with the receiver if “Disconnected” or “Cutting” is displayed. To display only the receivers in the specified communication status, select from the buttons on the right side of the "Receiver status" text. All: Displays all receivers regardless of the status. Connecting: Displays only the receivers which are being connected.

			Disconnected・Cutting: Displays only the receivers which are being disconnected or cut.
13	Transmitter status	Transmitter names	Displays the transmission status of the transmitters already specified in the signal light settings. Displays the communication status between the transmitter and the receiver on the right side. Disconnected: The state in which the communication has never been established after starting the PC. Cutting: The communication is in an abnormal state. Abnormal connection (multiple connections): The state in which multiple receivers are connected. Connecting: The communication is in a normal state. *Please check the communication with the transmitter if “Disconnected”, “Cutting”, or “Abnormal connection (multiple connections)” is displayed. To display only the transmitters in the specified communication status, select from the buttons on the right side of the "Transmitter status" text. All: Displays all transmitters regardless of the status. Connecting: Displays only the transmitters which are being connected. Disconnected・Cutting: Displays only the receivers which are being disconnected, cut, or in abnormal connection (multiple connections).

(5) Help – confirmation communication status

Check the communication status of receivers and transmitters.

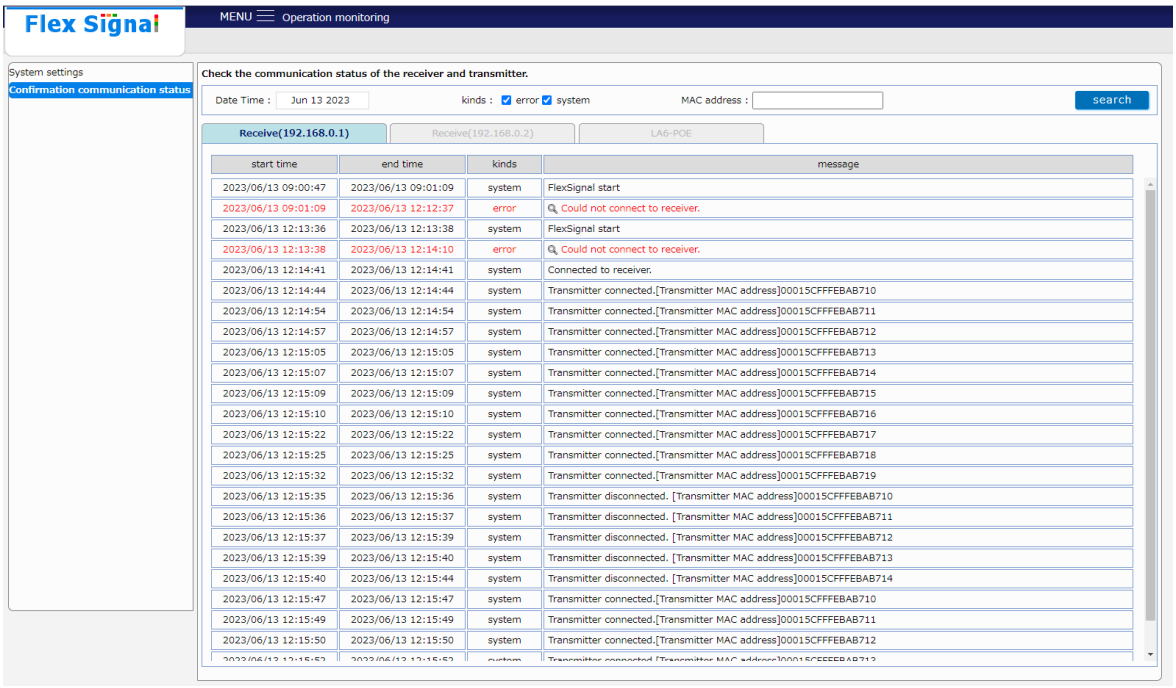


Figure 4: Confirmation communication status (AirGrid)

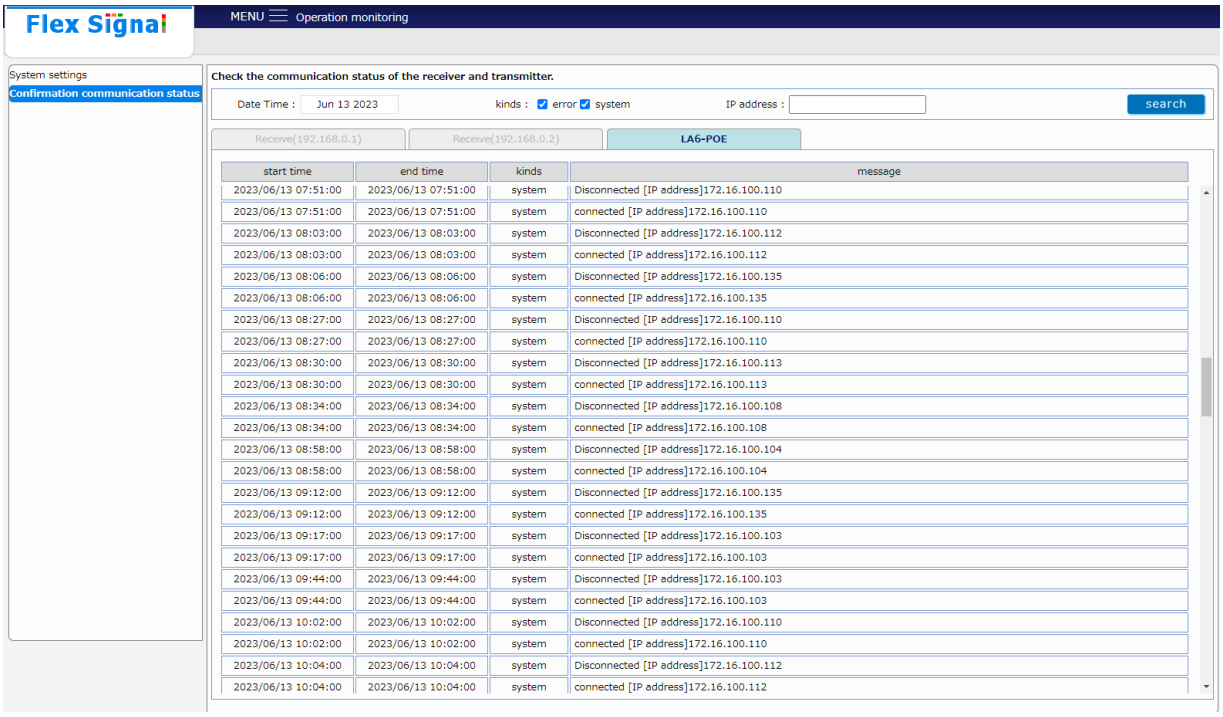
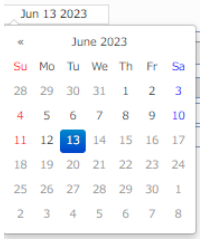
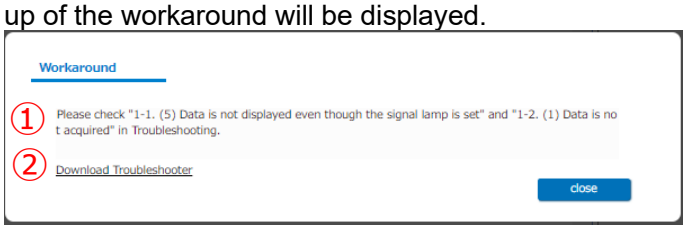


Figure 5: Confirmation communication status (LA6-POE)

Table 4: Description of Confirmation communication status

No.	Item		Description
1	Date Time	—	Select the target year, month and day on the calendar. When you click a date, the calendar appears.  *You can select from 30 days before to the current day (including the current day).
2	Kinds	Error	Select this check box to display logs whose kind is “error.”
3	Kinds	System	Select this check box to display logs whose kind is “system.”
4	MAC address	—	Displays logs that partially match the entered MAC address. * If it is blank, search by MAC address will not be performed.
5	IP address	—	Displays logs that partially match the entered IP address. * If it is blank, search by IP address will not be performed.

6	Search button	—	Search by the specified date, kind and (IP or MAC) address.
7	Receiver (IP address) tab	—	Displays communication logs of the receiver of the IP address of the selected tab.
8	LA6-POE tab	—	Displays communication logs of LA6-POE.
9	Communication log list	Start time	Displays the start date and time of the log.
10	Communication log list	End time	Displays the end date and time of the log.
11	Communication log list	Kinds	Displays the type of the log.
12	Communication log list	Message	Displays the message of the log. *By clicking the log message whose kind is "error", a pop-up of the workaround will be displayed.  ① An explanation of how to deal with the "error" is described. ② You can download the document about the workaround by clicking “Download Troubleshooter”.

技術をカタチで提案します
東海ソフト株式会社