



Flex Signal Instruction Manual

Ver. 16.0

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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

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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.

$$\text{Quality} = \text{Good products} \div \text{Number of Production}$$

(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.

$$\text{Performance} = \text{Number of Production} \div \text{Theoretical output}$$

(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.

$$\text{OEE} = \text{Operation rate} \times \text{Performance} \times \text{Quality}$$

(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](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.

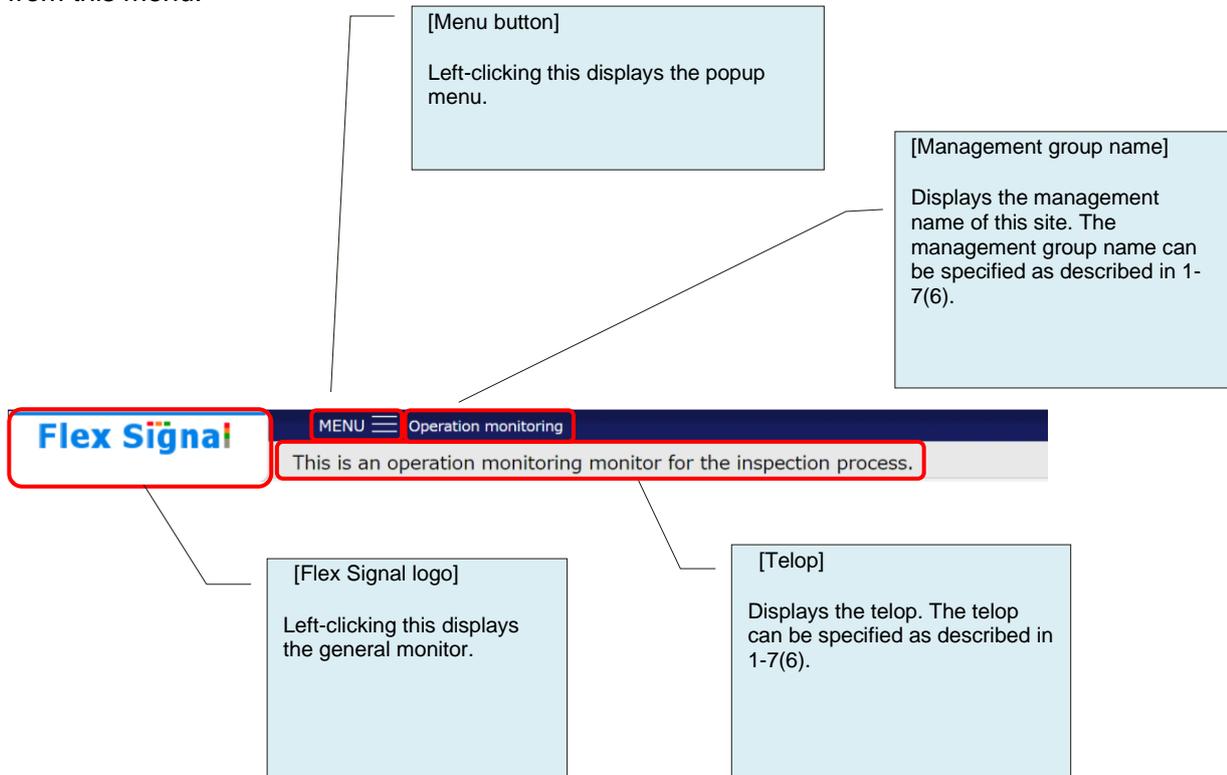


Figure 1: Top of the screen

Click each icon to go to the predetermined page.

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

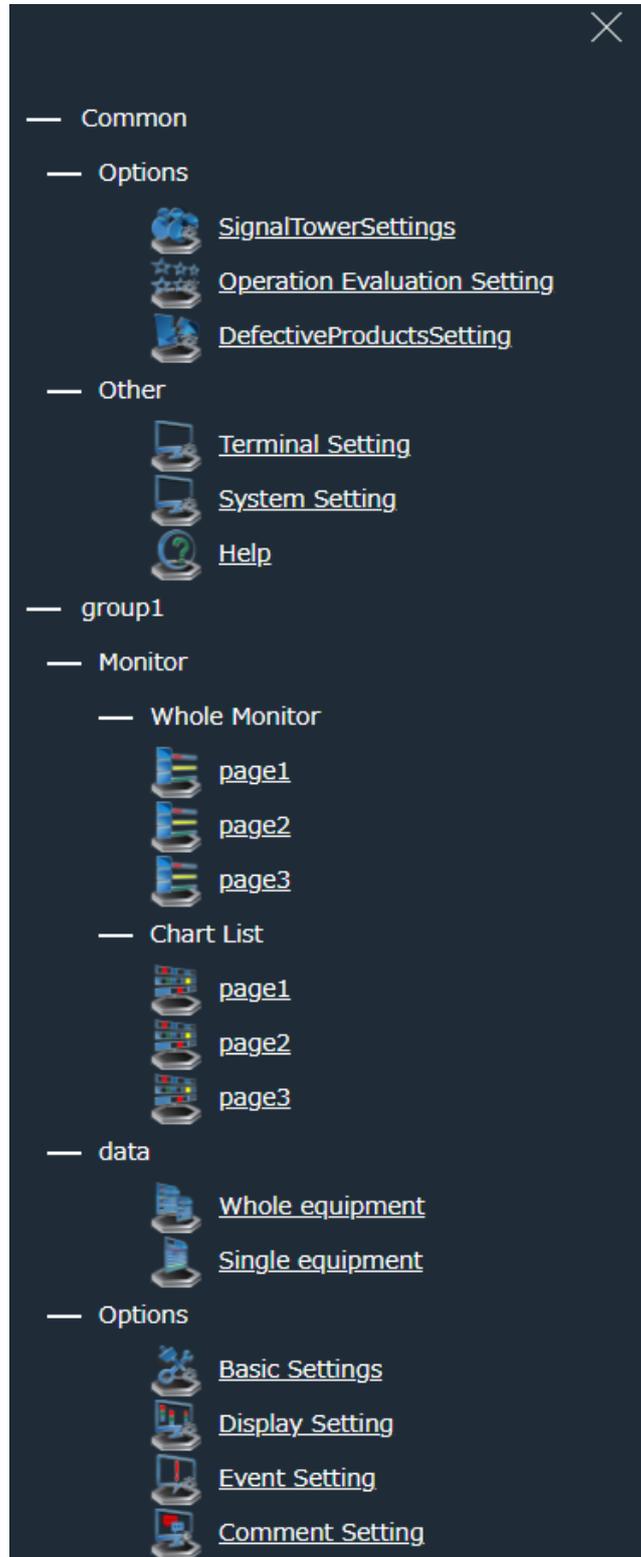


Figure 2: Menu screen

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.
1 0	Group	Data	Single equipment	You can go to the single equipment – operation history monitor.
1 1	Group	Options	Basic settings	You can go to the basic settings screen.
1 2	Group	Options	Display setting	You can go to the display settings screen.
1 3	Group	Options	Event setting	You can go to the event settings screen.
1 4	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.

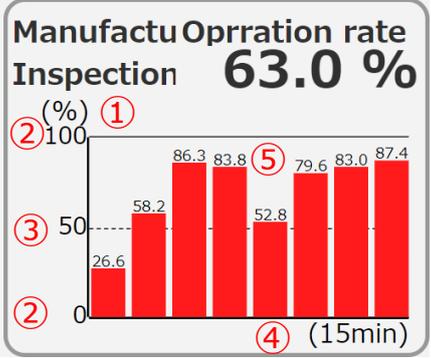


Figure 1: Whole monitor

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 highlight display is set	— The display color for each component color is displayed across the area enclosed by the border line. The component color name is displayed at the center. The component color name and the zoom setting can be specified as described in "1-7 (4) Signal Tower settings - Individual signal light settings."
9	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)

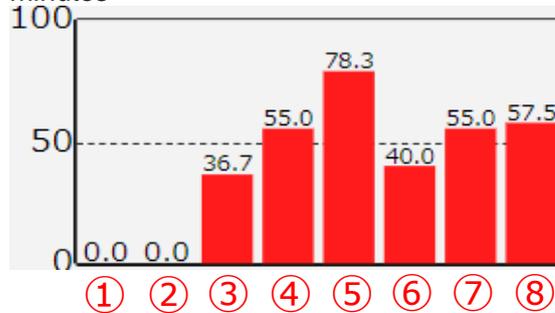
No.	Item	Description
1	Signal light statistical information graph	— Displays the current statistical information of the signal lamp in graph form in real time. (The actual on or flash state of the signal lamp may be displayed with a delay (after several seconds to one minute) depending on the communication 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	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.

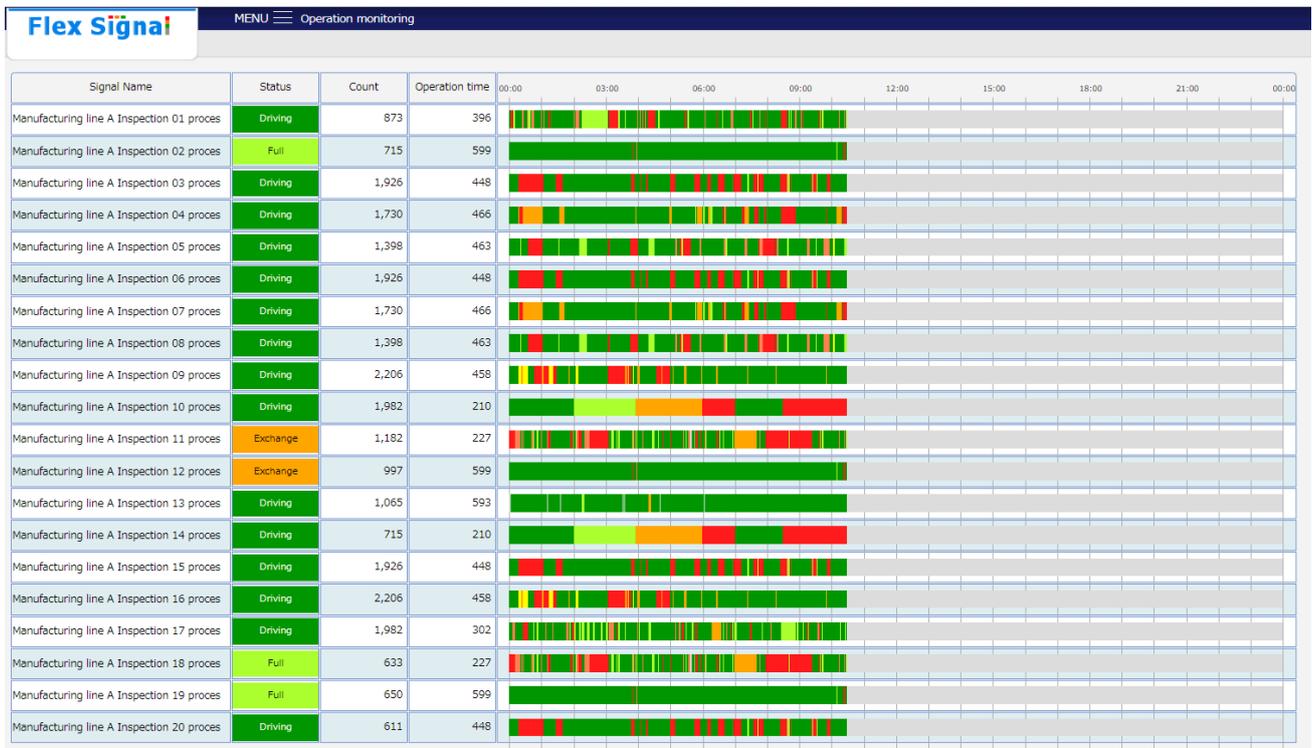


Figure 2: Chart list - Gantt chart for one day

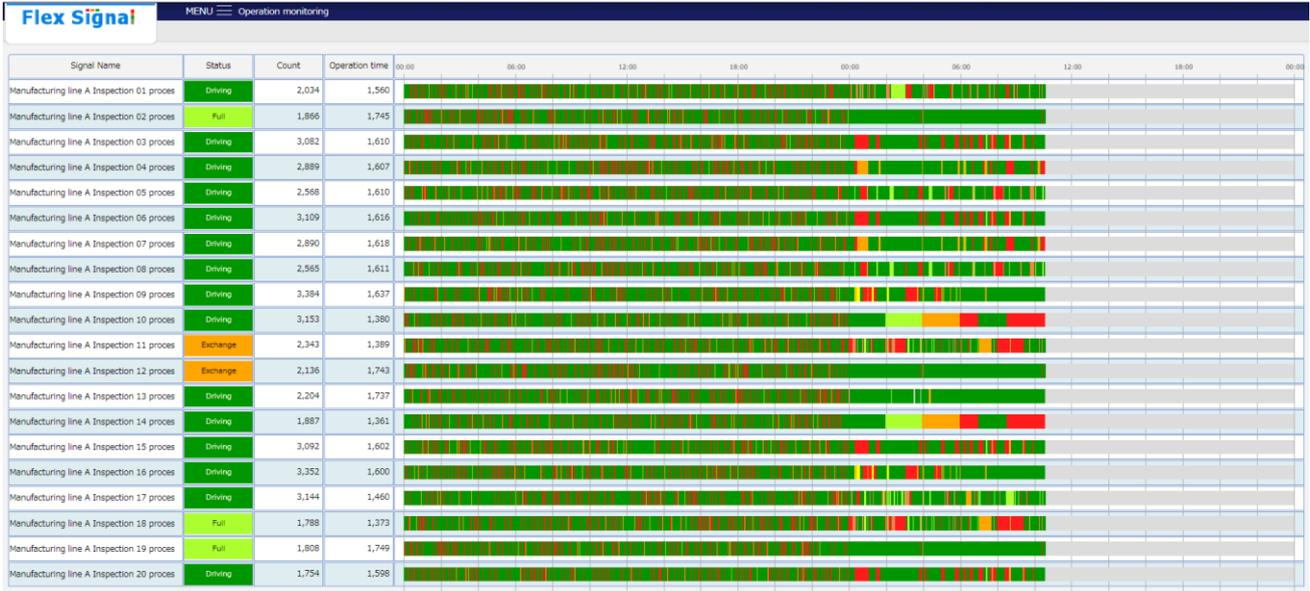


Figure 3: Chart list - Gantt chart for two days

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.

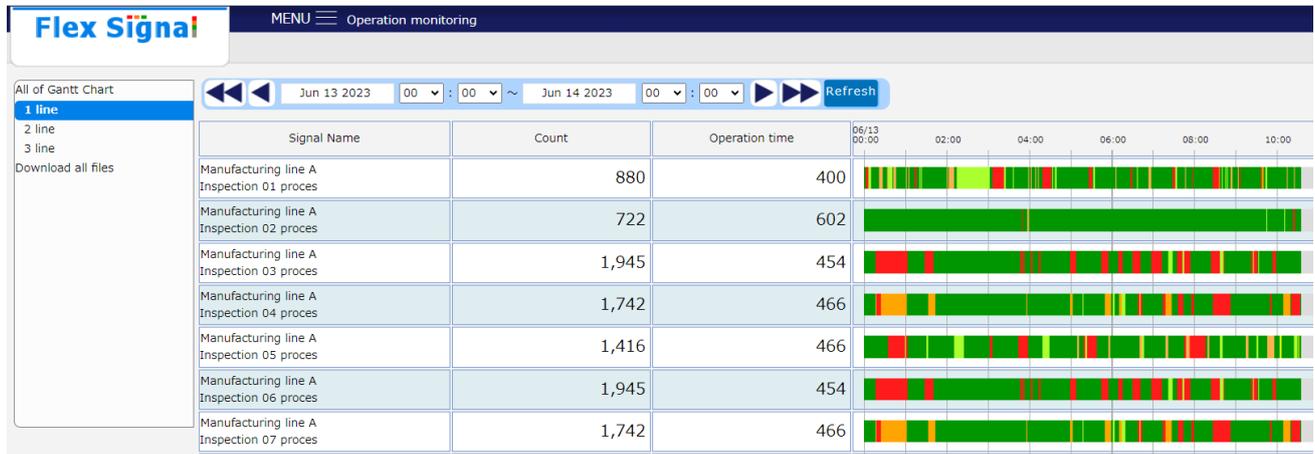
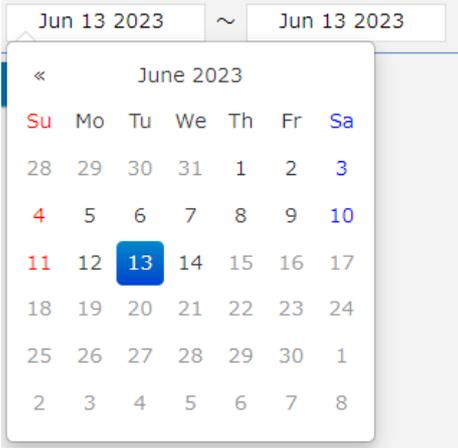


Figure 1: All of Gantt Chart monitor

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.

			<p>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.</p>
6	Signal name	—	<p>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."</p>
7	Display items	—	<p>Displays the display items in real time. The display items can be specified as described in "1-7(9) Display settings - Gantt chart settings."</p>
8	Operation chart	—	<p>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."</p>

(2) Whole equipment – download all files monitor

You can download signal lamp data all at once.

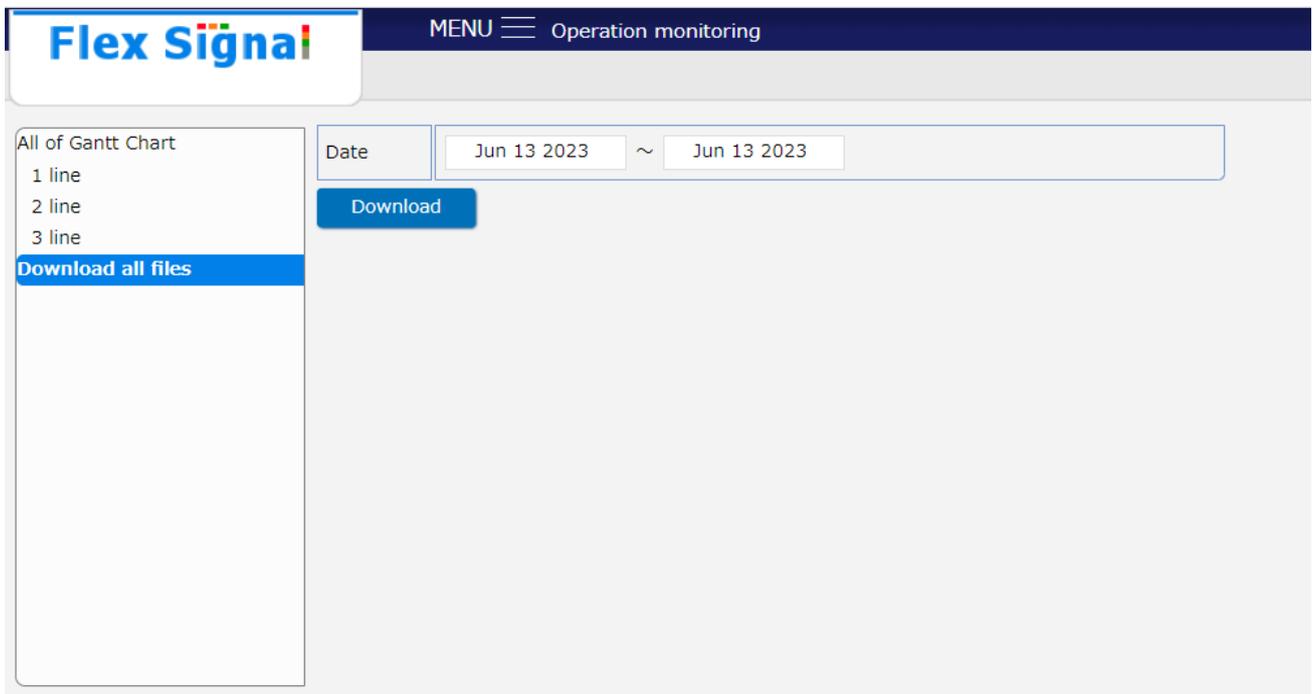
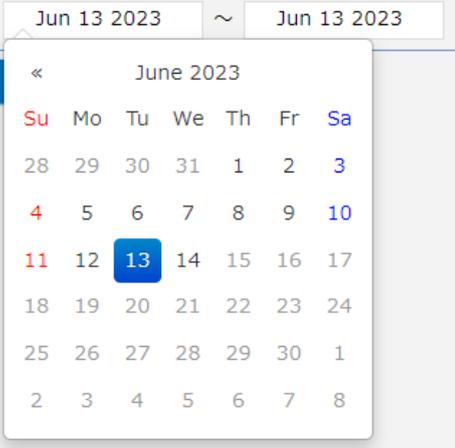
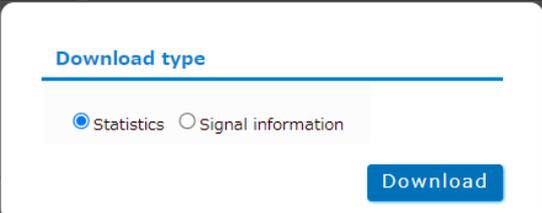


Figure 2: download all files monitor

Table 2: Description of the download all files monitor

No.	Item	Description
1	Date selection	<p>Select the target year, month and day on the calendar. When you click a date, the calendar appears.</p>  <p>You can select up to seven days as the end date from the start day of the target year, month and day.</p>
2	Download	<p>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.</p> <p>When you select "Normal" in "1-8(2) System settings", a popup window to select download type is displayed by clicking Download button.</p>  <p>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.</p> <p>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.</p> <p>See "(3) Single equipment – Operation history monitor" for the format of a download file.</p>

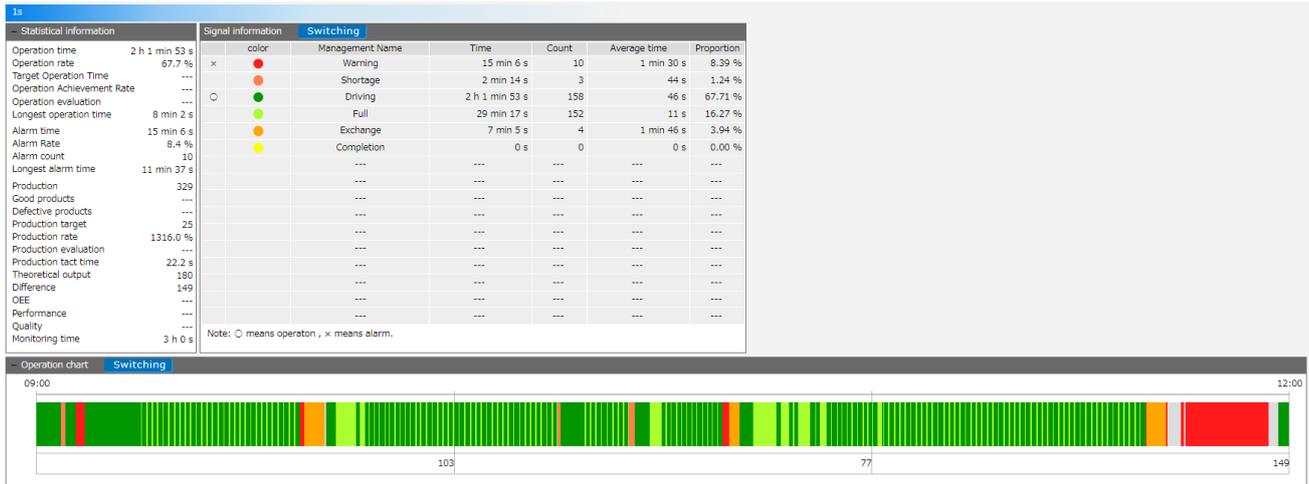


Figure 4: Shift 1 - operation history monitor

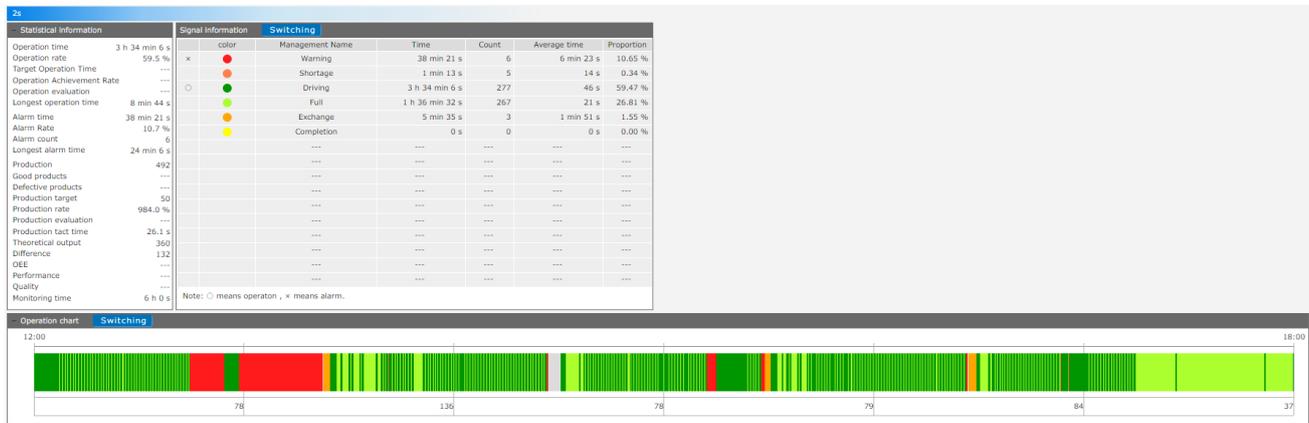


Figure 5: Shift 2 - operation history monitor

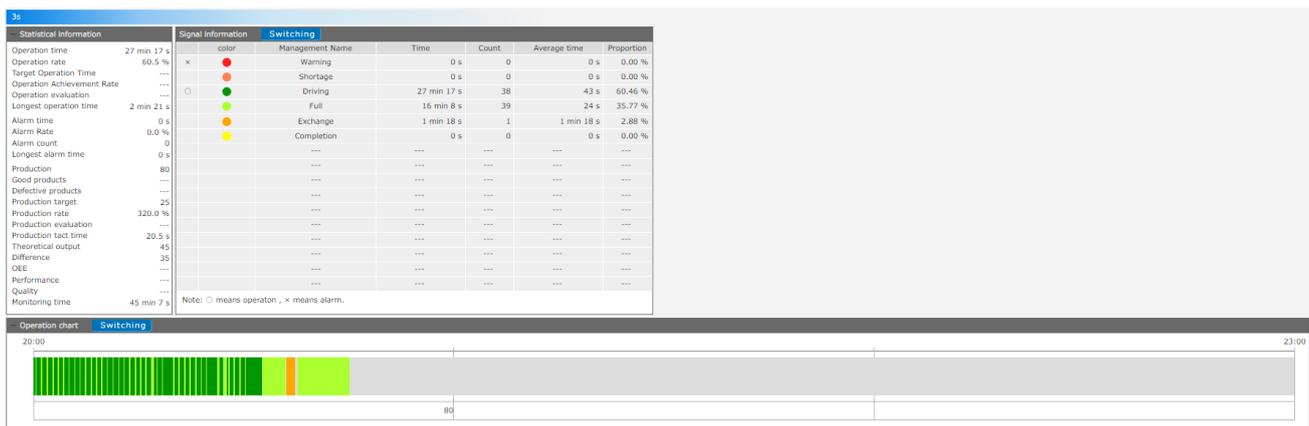
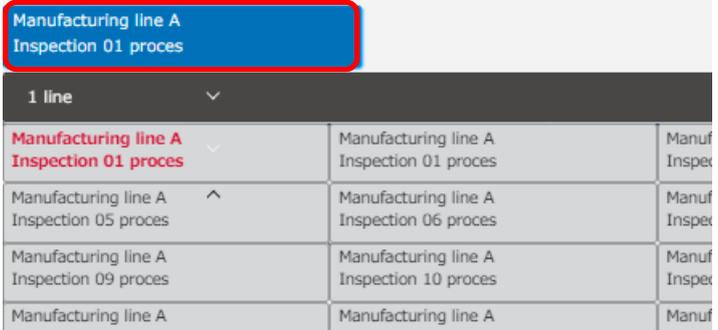
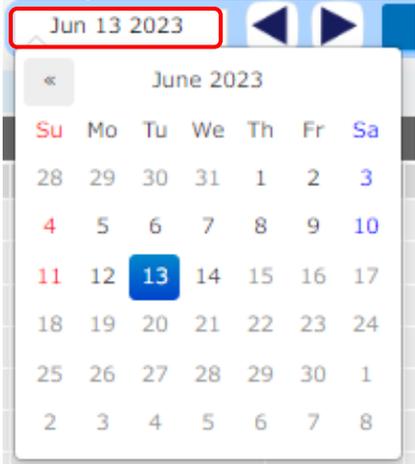
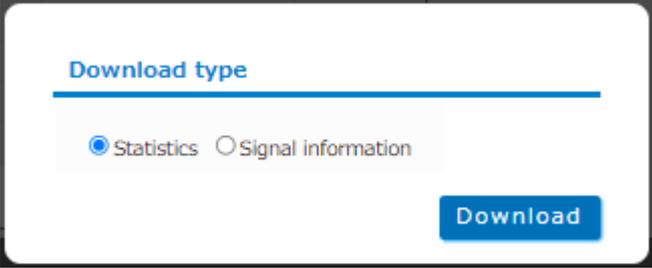
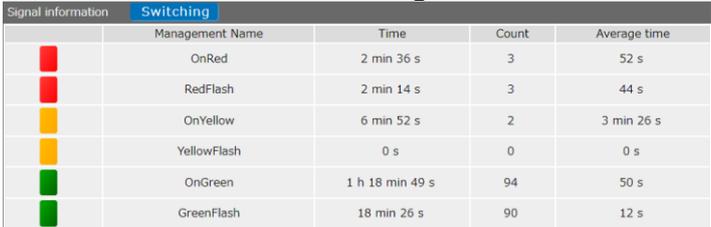


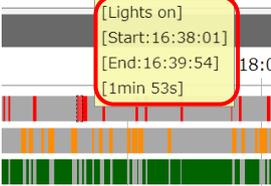
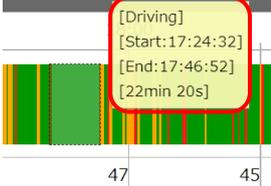
Figure 6: Shift 3 - operation history monitor

Table 3: Description of the operation history monitor

No.	Item	Description
1	Signal light selection	<p>Select the signal lamp to be displayed. Click the displayed signal lamp name to display the signal lamp list.</p>  <p>Click to select the signal lamp name. * The displayed signal lamp list is determined according to the general monitor settings.</p>
2	Target day	<p>Select the target year, month and day on the calendar. When you click a date, the calendar appears.</p>  <p>* The next day or later cannot be selected.</p>
3	Today	Displays the operation history for the current day.
4	Download	<p>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.</p> <p>When you select "Normal" in "1-8(2) System settings", a popup window to select download type is displayed by clicking Download button.</p>

			 <p>After choosing the download type, click Download button to start downloading.</p> <p>When you select “Old format” in “1-8(2) System settings”, downloading starts by clicking Download button.</p>
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.
1 0	Statistical information	Target operation time	Displays the target operating time on the target day.
1 1	Statistical information	Operation achievement rate	Displays the operation achievement rate on the target day.
1 2	Statistical information	Operation evaluation	Displays the operation evaluation on the target day.
1 3	Statistical information	Longest operation time	Displays the maximum continuous operating time on the target day.
1 4	Statistical information	Alarm time	Displays the abnormal time on the target day.
1 5	Statistical information	Alarm rate	Displays the error rate on the target day.
1 6	Statistical information	Alarm count	Displays the error count on the target day.
1 7	Statistical information	Longest alarm time	Displays the maximum continuous abnormal time on the target day.
1 8	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.
1 9	Statistical information	Good products	Displays the number of good products on the target day.
2 0	Statistical information	Defective products	Displays the number of defective products on the target day.
2 1	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	<p>Select this button to switch the signal information.</p>  <table border="1"> <thead> <tr> <th>Signal information</th> <th>Management Name</th> <th>Time</th> <th>Count</th> <th>Average time</th> </tr> </thead> <tbody> <tr> <td></td> <td>OnRed</td> <td>2 min 36 s</td> <td>3</td> <td>52 s</td> </tr> <tr> <td></td> <td>RedFlash</td> <td>2 min 14 s</td> <td>3</td> <td>44 s</td> </tr> <tr> <td></td> <td>OnYellow</td> <td>6 min 52 s</td> <td>2</td> <td>3 min 26 s</td> </tr> <tr> <td></td> <td>YellowFlash</td> <td>0 s</td> <td>0</td> <td>0 s</td> </tr> <tr> <td></td> <td>OnGreen</td> <td>1 h 18 min 49 s</td> <td>94</td> <td>50 s</td> </tr> <tr> <td></td> <td>GreenFlash</td> <td>18 min 26 s</td> <td>90</td> <td>12 s</td> </tr> </tbody> </table>	Signal information	Management Name	Time	Count	Average time		OnRed	2 min 36 s	3	52 s		RedFlash	2 min 14 s	3	44 s		OnYellow	6 min 52 s	2	3 min 26 s		YellowFlash	0 s	0	0 s		OnGreen	1 h 18 min 49 s	94	50 s		GreenFlash	18 min 26 s	90	12 s
Signal information	Management Name	Time	Count	Average time																																		
	OnRed	2 min 36 s	3	52 s																																		
	RedFlash	2 min 14 s	3	44 s																																		
	OnYellow	6 min 52 s	2	3 min 26 s																																		
	YellowFlash	0 s	0	0 s																																		
	OnGreen	1 h 18 min 49 s	94	50 s																																		
	GreenFlash	18 min 26 s	90	12 s																																		
3 3	Operation chart	Switching	<p>Select this button to switch the display method of the operation chart.</p> <p>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).</p> <p>* Unused signal lamps and buzzers are not displayed.</p> 																																			
3 4	Operation chart	Unit to time (graph)	<p>You can change the display unit of the operation chart.</p> <p>The time specified in Unit to time (graph) corresponds to the time displayed in one operation chart.</p> <p>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.</p> <p>*For the operation chart in shift display, Unit to time (graph) cannot be selected.</p>																																			

3 5	Operation chart	Unit to time (Operation)	<p>You can change the display unit of production volume of the operation chart.</p> <p>The time specified in Unit to time (Operation) corresponds to the time to display production volume in the operation chart.</p> <p>For example, if you select 10 minutes, production volume in 10 minute periods is displayed, and you can check the subdivided production volume.</p> <p>*For the operation chart in shift display, Unit to time (Operation) cannot be selected.</p>
3 6	Operation chart	(shift display)	<p>One chart displays data according to the shift time setting.</p> 
3 7	Operation chart	Detailed information (each color signal light display)	<p>Details of the signal lamp status at that time are displayed when you place the cursor on the chart.</p>  <p>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.</p> <p>If the lamp is off, ■ is displayed.</p>
3 8	Operation chart	Red (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the red lamp.
3 9	Operation chart	Yellow (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the yellow lamp.
4 0	Operation chart	Green (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the green lamp.
4 1	Operation chart	Blue (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the blue lamp.
4 2	Operation chart	White (on, flash or off)	Displays the on state(■), flash state(■) or off state(■) of the white lamp.
4 3	Operation chart	Buzzer (off or on)	Displays the off state(■) or on state(■) of the buzzer.
4 4	Operation chart	Detailed information (display color)	<p>Details of the signal lamp status at that time are displayed when you place the cursor on the chart.</p>  <p>1. Signal status (component color), 2. Start time, 3. End time, and 4. Total time are displayed as details.</p> <p>Display color under each component color is displayed in the chart.</p>

[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
2021/08/26,00015CFFFEAB710, 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
2021/08/26,00015CFFFEAB710, 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,,,,,,,,,00:38:43,00:06:43,00:08:35,00:06:13,05:14:50,00:17:54,00:00:00,00:00:00,00:00:00,00:00:00,00:38:43,06:21:17
2021/08/26,00015CFFFEAB710, 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,,,,,,,,,00:46:27,00:11:36,00:11:31,00:06:56,05:07:38,00:15:33,00:00:00,00:00:00,00:00:00,00:00:00,00:46:27,06:13:33
2021/08/26,00015CFFFEAB710, 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,,,,,,,,,00:39:13,00:11:32,00:16:24,00:03:24,05:20:26,00:12:23,00:00:00,00:00:00,00:00:00,00:00:00,00:39:13,06:20:47

-Signal information

Date,MAC,Line name / Signal tower name,Red,Yellow,Green,Blue,White,Buzzer

2021/08/26 08:00:00,00015CFFFEAB710, A-line/01Process,0,0,0,0,1,0,,

2021/08/26 08:01:35,00015CFFFEAB710, A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:02:57,00015CFFFEAB710,A-line/01Process,0,0,2,0,0,0,,

2021/08/26 08:03:49,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:05:00,00015CFFFEAB710,A-line/01Process,0,1,0,0,0,0,,

2021/08/26 08:06:03,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:11:10,00015CFFFEAB710,A-line/01Process,0,1,0,0,0,0,,

2021/08/26 08:12:51,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:17:09,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 08:18:32,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:20:00,00015CFFFEAB710,A-line/01Process,2,0,0,0,0,0,,

2021/08/26 08:21:40,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:25:00,00015CFFFEAB710,A-line/01Process,0,0,2,0,0,0,,

2021/08/26 08:27:58,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:31:22,00015CFFFEAB710,A-line/01Process,0,1,0,0,0,0,,

2021/08/26 08:32:42,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:35:00,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 08:36:23,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:39:11,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 08:41:42,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:42:08,00015CFFFEAB710,A-line/01Process,0,2,0,0,0,0,,

2021/08/26 08:43:03,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:44:39,00015CFFFEAB710,A-line/01Process,0,0,2,0,0,0,,

2021/08/26 08:45:00,00015CFFFEAB710,A-line/01Process,0,0,0,0,1,0,,

2021/08/26 08:47:18,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:49:23,00015CFFFEAB710,A-line/01Process,0,2,0,0,0,0,,

2021/08/26 08:50:00,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:52:54,00015CFFFEAB710,A-line/01Process,2,0,0,0,0,0,,

2021/08/26 08:53:19,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 08:54:19,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:55:00,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 08:56:07,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 08:59:20,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 09:00:00,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:06:15,00015CFFFEAB710,A-line/01Process,0,0,0,0,1,0,,

2021/08/26 09:07:22,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:12:18,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 09:13:20,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:20:00,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 09:21:36,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:22:32,00015CFFFEAB710,A-line/01Process,2,0,0,0,0,0,,

2021/08/26 09:23:05,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:26:26,00015CFFFEAB710,A-line/01Process,0,0,2,0,0,0,,

2021/08/26 09:27:34,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:34:25,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 09:35:00,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:36:46,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 09:37:01,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:39:12,00015CFFFEAB710,A-line/01Process,0,0,0,0,1,0,,

2021/08/26 09:40:00,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:44:38,00015CFFFEAB710,A-line/01Process,0,2,0,0,0,0,,

2021/08/26 09:45:00,00015CFFFEAB710,A-line/01Process,0,0,0,0,1,0,,

2021/08/26 09:46:08,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:47:34,00015CFFFEAB710,A-line/01Process,0,0,0,0,2,0,,

2021/08/26 09:48:06,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 09:50:00,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 09:58:47,00015CFFFEAB710,A-line/01Process,2,0,0,0,0,0,,

2021/08/26 09:59:45,00015CFFFEAB710,A-line/01Process,0,2,0,0,0,0,,

2021/08/26 10:00:00,00015CFFFEAB710,A-line/01Process,2,0,0,0,0,0,,

2021/08/26 10:01:39,00015CFFFEAB710,A-line/01Process,1,0,0,0,0,1,,

2021/08/26 10:02:13,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 10:08:54,00015CFFFEAB710,A-line/01Process,0,0,0,0,1,0,,

2021/08/26 10:09:37,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 10:10:00,00015CFFFEAB710,A-line/01Process,0,0,2,0,0,0,,

2021/08/26 10:11:30,00015CFFFEAB710,A-line/01Process,0,0,1,0,0,0,,

2021/08/26 10:13:48,00015CFFFEAB710,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,,,,,

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.

Flex Signal		MENU Operation monitoring							
Manufacturing line A Inspection 01 proces		Jun 2023		This month		Download		Switching	
Operation History	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.		
Monthly					1 Producti 1,139	2 Producti 1,183	3 Producti 1,162		
Operation Status					Operatir 1,141min 79 %	Operatir 1,184min 82 %	Operatir 1,154min 80 %		
					Abnorm 142min 9 %	Abnorm 114min 8 %	Abnorm 130min 9 %		
	4 Producti 1,172	5 Producti 1,173	6 Producti 1,159	7 Producti 1,132	8 Producti 1,143	9 Producti 1,159	10 Producti 1,160		
	Operatir 1,178min 81 %	Operatir 1,167min 81 %	Operatir 1,157min 80 %	Operatir 1,113min 77 %	Operatir 1,143min 79 %	Operatir 1,154min 80 %	Operatir 1,158min 80 %		
	Abnorm 142min 9 %	Abnorm 130min 9 %	Abnorm 150min 10 %	Abnorm 140min 9 %	Abnorm 146min 10 %	Abnorm 125min 9 %	Abnorm 139min 9 %		
	11 Producti 1,156	12 Producti 1,442	13 Producti 1,175 179 %	14 Producti	15 Producti	16 Producti	17 Producti		
	Operatir 1,156min 80 %	Operatir 1,053min 73 %	Operatir 84min 72 %	Operatir	Operatir	Operatir	Operatir		
	Abnorm 156min 10 %	Abnorm 139min 9 %	Abnorm 2min 2 %	Abnorm	Abnorm	Abnorm	Abnorm		
	18 Producti	19 Producti	20 Producti	21 Producti	22 Producti	23 Producti	24 Producti		
	Operatir	Operatir	Operatir	Operatir	Operatir	Operatir	Operatir		
	Abnorm	Abnorm	Abnorm	Abnorm	Abnorm	Abnorm	Abnorm		
	25 Producti	26 Producti	27 Producti	28 Producti	29 Producti	30 Producti			
	Operatir	Operatir	Operatir	Operatir	Operatir	Operatir			
	Abnorm	Abnorm	Abnorm	Abnorm	Abnorm	Abnorm			

Figure 7: Monthly monitor Calendar display

Operation History	Date	Production	Production target	Production rate	Production evaluation	Production tact time	Performance	OEE	Quality	Theoretical output	Good products	Defective products	Difference
Monthly	2023/06/01	1139	0	---	---	60.1	79.1	62.7	100.0	1440	1139	0	-301
Operation Status	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	<p>Select the signal lamp to be displayed. Click the displayed signal lamp name to display the signal lamp list.</p> <p>Click to select the signal lamp name. * The displayed signal lamp list is determined according to the general monitor settings.</p>
2	Target month	Select the target year and month on the calendar. When you click a date, the calendar appears.

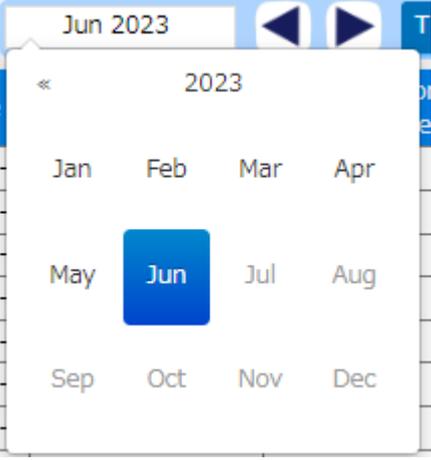
			 <p>* The next month or later cannot be selected.</p>
3	This month	—	Displays the monthly report for this month.
4	Download	—	Downloads the monthly report data for the target month (daily statistical information for one month) in the CSV format.
5	Switching	—	Click this button to switch the monthly report 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.
10	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.

: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:
:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:28:23,219,00:00:00,0,05:07:26,247,00:
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:
:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:35:43,234,00:00:00,0,04:37:25,238,00:
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:
:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:43:40,227,00:00:00,0,04:35:56,209,00:
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:
:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:34:29,224,00:00:00,0,04:44:39,238,00:
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:
:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:35:52,239,00:00:00,0,04:41:52,223,00:
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:
:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,04:31:14,231,00:00:00,0,04:55:07,235,00:
00:00,0,14:33:39,359,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,00:00:00,0,24:00:00,1
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

(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.

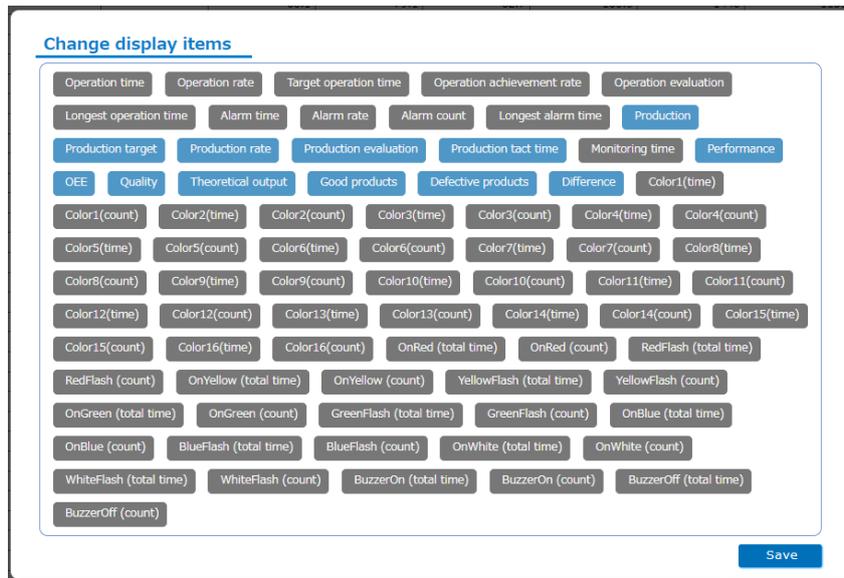


Figure 9: Monthly report list display items setting screen

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.

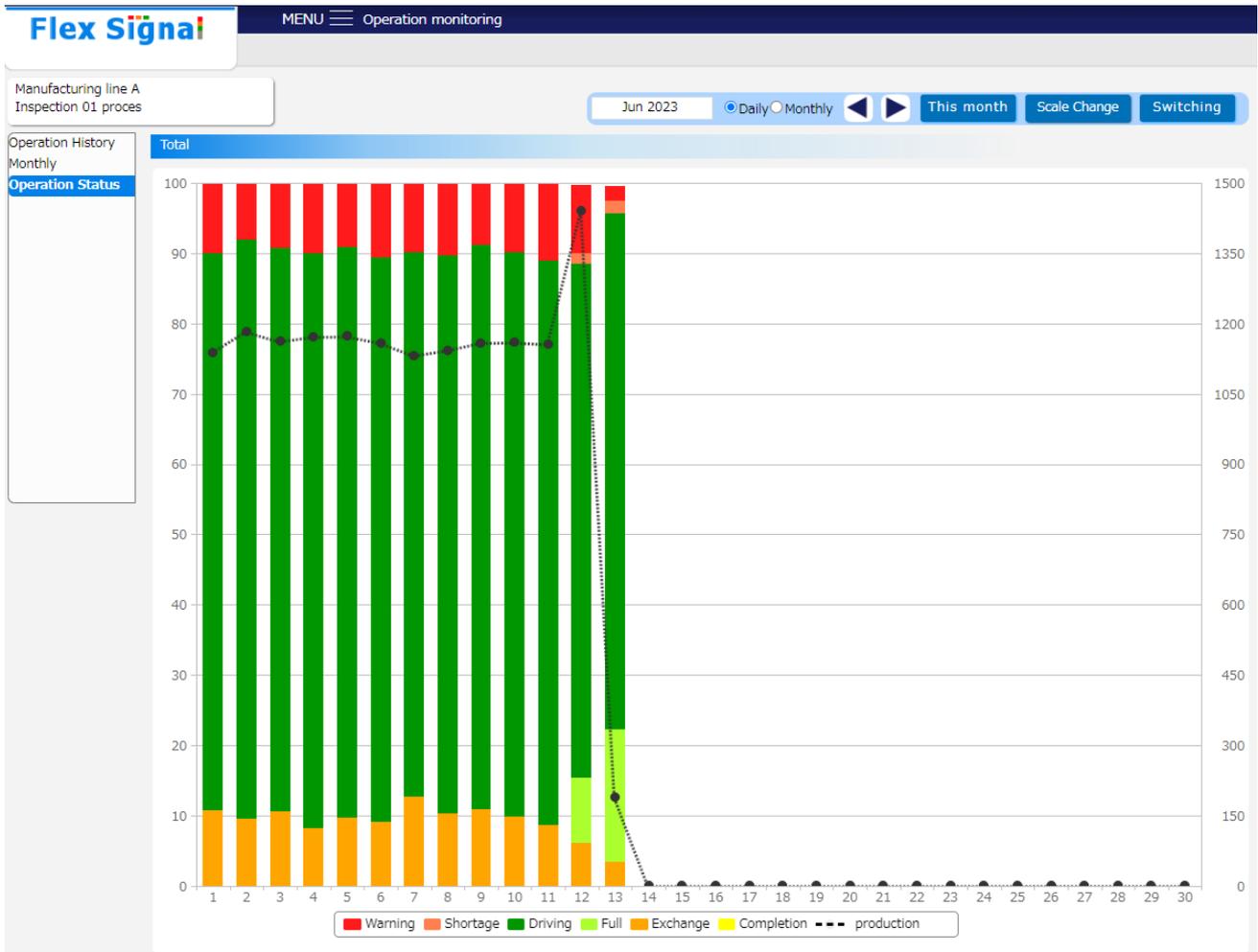


Figure 10: Operating state monitor screen (Component color graph)

* 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."

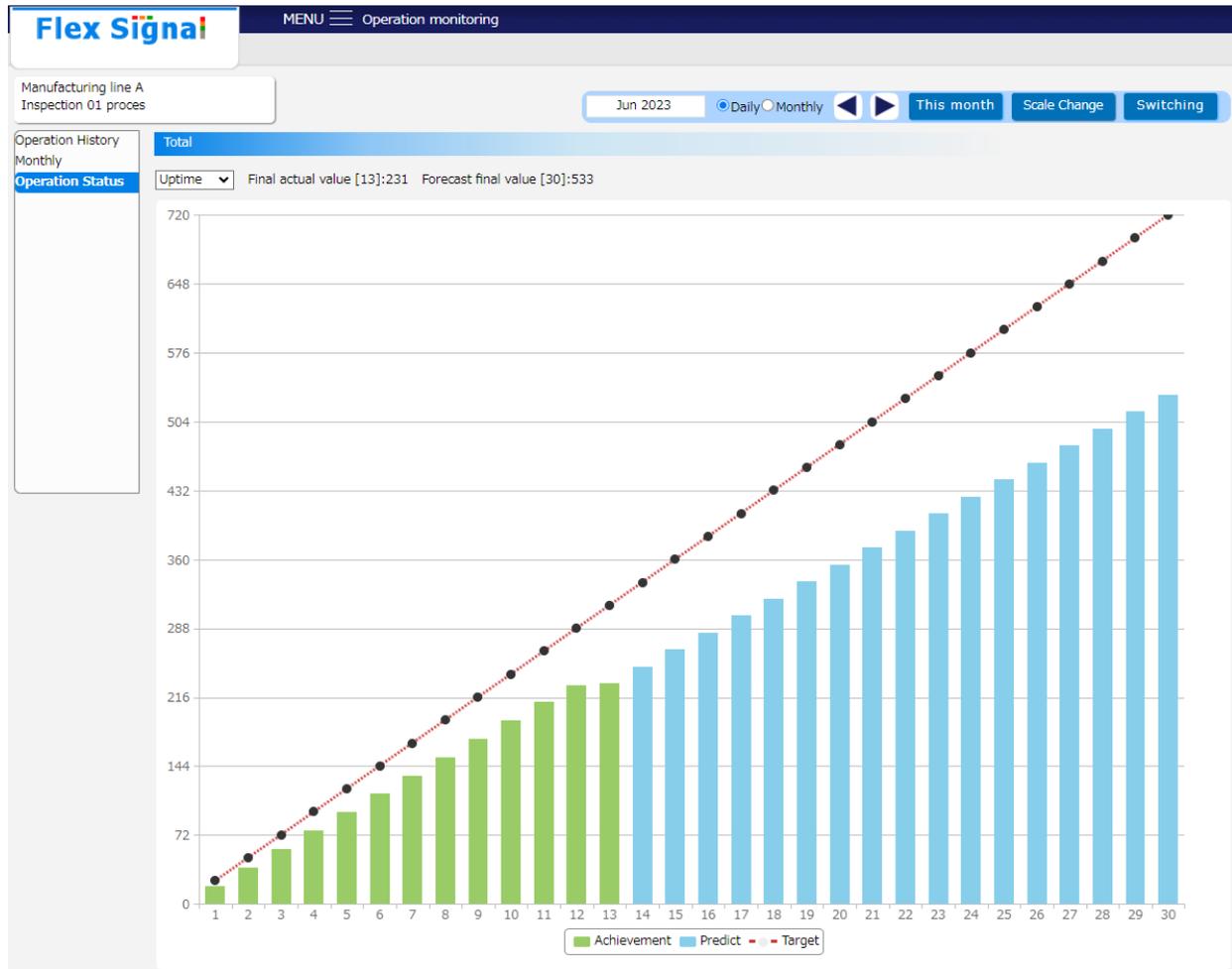
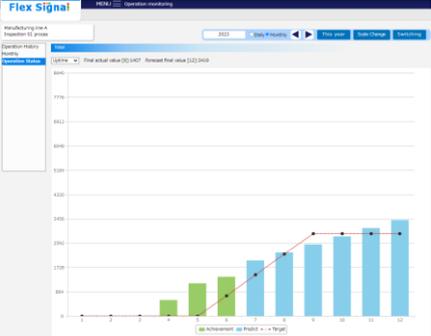


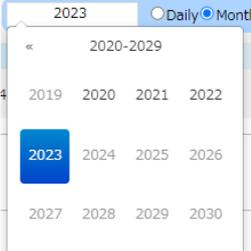
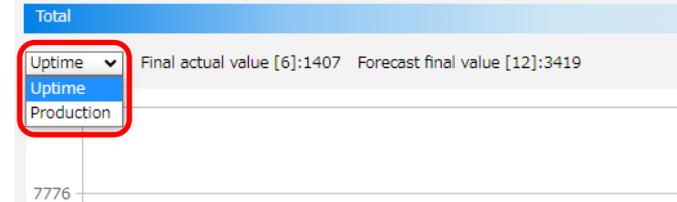
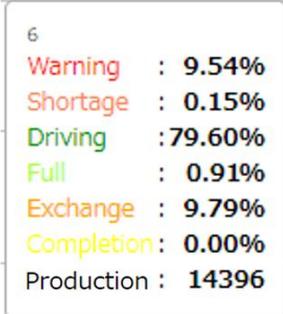
Figure 11: Operating state monitor screen (Graph of operating time and production volume)

*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	Item	Description
1	Signal light selection	—	<p>Select the signal lamp to be displayed. Click the displayed signal lamp name to display the signal lamp list.</p>  <p>Click to select the signal lamp name. * The displayed signal lamp list is determined according to the general monitor settings.</p>
2	Graph display format	—	<p>Select the display format of operating state graphs.</p> <ul style="list-style-type: none"> ■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	—	<p>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.</p> 
4	This month	—	<p>Displays the (daily) operating state for this month. This item is displayed only when "Daily" is selected.</p>
5	This year	—	<p>Displays the (monthly) operating state for this year. This item is displayed only when "Monthly" is selected.</p>
6	Refresh	—	<p>Refreshes the operating state in the selected target year and month.</p>
7	Scale change	—	<p>Displays the screen to change scale setting of the graph of production volume. * This item is displayed only when "Count is used as production."</p>
8	Switch display	—	<p>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.</p>  <p>*Number of productions can be selected only when "Count is used as production."</p>
9	Menu	Operation history	<p>Displays the operation history monitor.</p>
1 0	Menu	Monthly	<p>Displays the monthly report monitor.</p>
1 1	Menu	Operation status	<p>Displays the operating state monitor for the target date.</p>
1 2	Operating state graph (Component color graph)		<p>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.</p> 

<p>1 3</p>	<p>Operating state graph (Graph of operating time and production volume)</p>		<p>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.</p> <p>-At the current day (current month) or before</p> <div data-bbox="727 398 954 517" style="border: 1px solid black; padding: 5px;"> <p>4 Achievement: 34924 Target : 0</p> </div> <p>-The next day (next month) or later</p> <div data-bbox="727 551 932 678" style="border: 1px solid black; padding: 5px;"> <p>9 Predict: 155691 Target : 11000</p> </div> <p>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.</p>
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(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."

Production scale setting	
Line name	Manufacturing line A
Signal light name	Inspection 01 proces
Max scale (daily)	1500
Max scale (monthly)	45000

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.

The screenshot shows a web interface for setting the scale of the uptime summary graph. The title is 'Production summary graph scale setting'. There are two buttons: 'Save all' at the top right and 'Save' at the bottom right. The form contains the following fields:

Line name	Manufacturing line A
Signal light name	Inspection 01 proces
Max scale (daily)	720
Max scale (monthly)	8640

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.

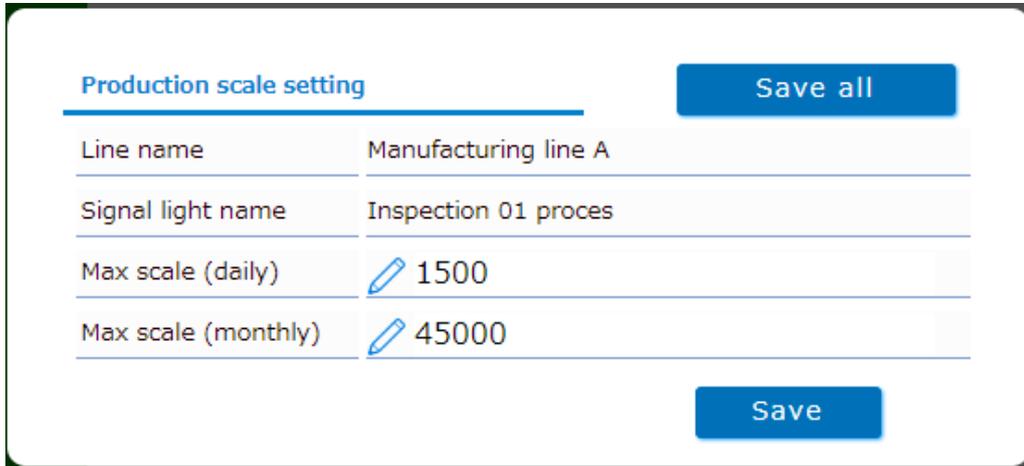


Figure 14: Production summary graph scale setting screen

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.

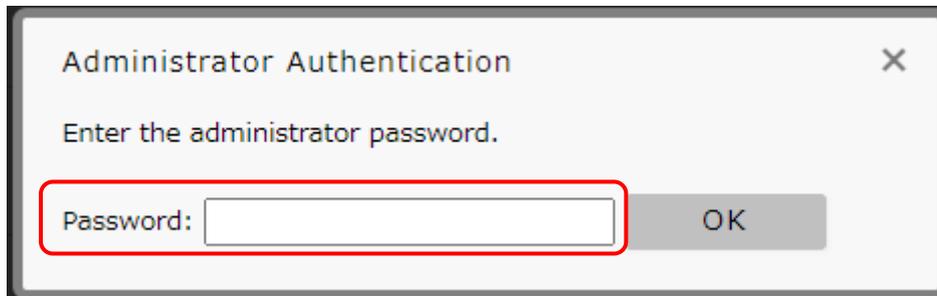


Figure 1: Administrator authentication screen

(2) Signal Tower settings - group settings

You can add or name groups.

The screenshot shows the 'Group Setting' screen in the Flex Signal interface. The top bar includes the 'Flex Signal' logo and 'MENU Operation monitoring'. The left sidebar shows 'GroupSetting' and 'Signal Tower Settings (List)' with expandable options for signal numbers 1-10, 11-20, and 21-30. The main content area is titled 'Group Setting' and features a 'Total number of groups' field with the value '4' and an 'Add' button. Below this is a table with four rows, each representing a group. The columns are 'No.', 'Name', and 'Delete'. The 'Name' column contains text input fields with values 'group1', 'group2', 'group3', and 'group4'. The 'Delete' column contains checkboxes. At the bottom of the main area are three buttons: 'Save', 'Cancel', and 'Delete'.

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	—	Cancel 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.

The screenshot displays the 'Signal Tower Collective Settings' page in the Flex Signal web application. The interface is divided into several sections:

- Header:** 'Flex Signal' logo and 'MENU Operation monitoring'.
- Left Sidebar:** 'GroupSetting' and 'Signal Tower Settings (List)' with expandable sections for 'SignalNo.1 ~ 10', 'SignalNo.11 ~ 20', and 'SignalNo.21 ~ 30'. The 'Signal Tower Collective Settings' section is currently selected.
- Main Content Area:**
 - Instruction:** 'You can collectively set signal tower of Flex Signal.'
 - Select copy source:** A dropdown menu.
 - Collective Target:** A grid of checkboxes for 30 signal towers (1-30). Buttons for 'Select all' and 'All release' are present. A message states 'The signal tower is not selected.'
 - Signal lamp operation setting / display setting:** Two tabs are visible, with 'Signal lamp operation setting' being the active one.
 - Form Fields:**
 - Line name:** Text input field with a 'Selection' button.
 - Signal tower name:** Text input field.
 - Count:** Includes a 'To use' checkbox, a 'Coefficient' input, a 'Signal color' dropdown (set to 'Blue'), and a note: 'Note:It is effective only when WD - LR.' Below this are radio buttons for 'Count is used as production' (selected) and 'Count is not used as production'. A 'Display Name' input field and a note: 'Note:Display name is "Production" when using the count as the production.' are also present.
 - Monitoring light:** Includes checkboxes for 'Red', 'Yellow', 'Green', 'Blue', 'White', and 'Buzzer'. A note: 'Note:The color of light regards On/Flash time as monitoring time.' Below this are radio buttons for 'Monitoring time is the elapsed time of the day.' (selected) and 'The entered time is the monitoring time.'. A 'Monitoring time' input field with 'hours' unit and a note: 'Note:Monitoring time is used when the operation rate and the alarm rate are calculated.' are also present.
 - Tact time criteria:** Includes a radio button for 's' and a note: 'Note:Tact time criteria is used when the performance are calculated.'
 - Note:** A large text area for additional notes.
 - Buttons:** 'Save' and 'Remove' buttons at the bottom.

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

Flex Signal

MENU Operation monitoring

GroupSetting

Signal Tower Settings (List)

Signal Tower Collective Settings

- SignalNo.1 ~ 10

1 (Manufacturing line A Inspectio

2 (Manufacturing line A Inspectio

3 (Manufacturing line A Inspectio

4 (Manufacturing line A Inspectio

5 (Manufacturing line A Inspectio

6 (Manufacturing line A Inspectio

7 (Manufacturing line A Inspectio

8 (Manufacturing line A Inspectio

9 (Manufacturing line A Inspectio

10 (Manufacturing line A Inspectio

+ SignalNo.11 ~ 20

+ SignalNo.21 ~ 30

You can collectively set signal tower of Flex Signal.

Select copy source

▼

Collective Target

The signal tower is not selected.

Signal tower

1

2

3

4

5

6

7

8

9

10

11

12

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14

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16

17

18

19

20

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25

26

27

28

29

30

Signal lamp operation setting
display setting

No	ManagementName						⚡	Display color	Emphasize display	Elapsed time	Operation light	Alarm light
1		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16		▼	▼	▼	▼	▼	▼	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Component colors

Monitor signal towers

Tiers: 3rd ▼ Buzzer display

1Tiers: red ▼ 2Tiers: yellow ▼ 3Tiers: green ▼ 4Tiers: blue ▼ 5Tiers: white ▼

Monitor items Pattern1

Monitor Type: Item Graph

No 1: Count(production volum Change MonitorItemName:

No 2: Opn.(operation time/ral Change MonitorItemName:

No 3: Alm.(alarm time/count) Change MonitorItemName:

No 4: --- Change MonitorItemName:

No 5: --- Change MonitorItemName:

Note:The item can change to display on the whole monitor screen and the monthly report screen.
The default settings, the first: "Production", the second: "Operation", the third: "Alarm", the fourth: "Nothing", and the fifth: It becomes "Nothing".

Monitor items Pattern2

Monitor Type: Item Graph

No 1: --- Change MonitorItemName:

No 2: --- Change MonitorItemName:

No 3: --- Change MonitorItemName:

No 4: --- Change MonitorItemName:

No 5: --- Change MonitorItemName:

The default settings, the first: "Nothing", the second: "Nothing", the third: "Alarm", the fourth: "Nothing", and the fifth: It becomes "Nothing".

Monitor items Pattern3

Monitor Type: Item Graph

No 1: --- Change MonitorItemName:

No 2: --- Change MonitorItemName:

No 3: --- Change MonitorItemName:

No 4: --- Change MonitorItemName:

No 5: --- Change MonitorItemName:

The default settings, the first: "Nothing", the second: "Nothing", the third: "Alarm", the fourth: "Nothing", and the fifth: It becomes "Nothing".

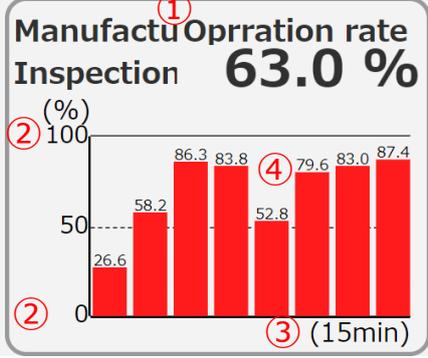
Save
Remove

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	<p>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.</p> <p>When the on, flash or off state or the on or off state is not specified, specify "(blank)" for each color.</p> <p>Highlighting emphasizes the status indicated by the target component color on the general monitor.</p> <p>The time elapsed after the status indicated by the target component color started is displayed on the general monitor.</p> <p>Select the "Operation light" check box to use the operation lamp for the status indicated by the target component color.</p> <p>Select the "Alarm light" check box to use the error lamp for the status indicated by the target component color.</p> <p>* "All off" indicates that all the colors of the signal lamp are set to off.</p> <p>* When you select the on, flash or off state, be sure to set a display color.</p> <p>* You cannot just set the buzzer without setting the on, flash or off state for any signal lamp.</p> <p>* You can select multiple operation lamps.</p> <p>* You can select multiple error lamps.</p> <p>* Whether to display the elapsed time can be specified only when "Highlight" is selected.</p> <p>The component colors are in descending priority order from No. 1 (No. 1 > No. 2 > - - - > No. 16).</p> <p>For the following signal lamp statuses and component colors, the component color setting for No. 1 takes priority and the red lamp flash.</p> <p>Signal lamp status: Red lamp flash and yellow lamp flash</p> <p>Component color settings: No. 1 Red lamp: "Flash," Other signal lamps: "(Blank)" No. 2 Yellow lamp: "Flash," Other signal lamps: "(Blank)"</p>
1 0	Display setting	Monitor signal towers	<p>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).</p>
1 1	Display setting	Monitor items (Monitor Type: Item)	<p>Specify the items being monitored for each signal lamp displayed on the whole monitor screen and the monthly report screen.</p> <p>You can set up to 5 display patterns.</p> <p>■Select item Displays the screen to change the monitor items.</p> <p>■Monitor Item Name Specify a name for the display item.</p>

			* You can register a name consisting of up to four characters.
1 2	Display setting	Monitor items (Monitor Graph) Type:	<p>Specify the setting for the graph of each signal lamp displayed on the whole monitor screen.</p>  <p>■Graph Type Select the graph type to display.</p> <p>■Monitor Item Name Input the name of the graph. (①)</p> <p>■Scale Input the scale for the y-axis of the graph. (②)</p> <p>■Interval Select the time interval used to display the graph. (③).</p> <p>■Color Select the color of the graph. (④)</p>
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.

The screenshot displays the 'Signal lamp operation setting' configuration window. The sidebar on the left shows a tree view under 'Signal Tower Settings (List)' with 'SignalNo.1 ~ 10' expanded to show '1 (Manufacturing line A Inspectio)'. The main window title is 'Flex Signal' and 'MENU Operation monitoring'. The main content area is titled 'You can set the Signal tower 1of Flex Signal.' and contains a 'Select copy source' dropdown. Below this are two tabs: 'Signal lamp operation setting' (active) and 'display setting'. The form fields include:

- Line name: Manufacturing line A (with a Selection button)
- Signal tower name: Inspection 01 proces
- Enable/Disable: Use this Signal tower
- Identification ID: 00004CFFFEAC6CD (with a Selection button)
- Count: To use. Coefficient: 1. Signal color: Blue (dropdown). Note: It is effective only when WD - LR.
- Count sub-options: Count is used as production, Count is not used as production. Display Name: Production. Note: Display name is "Production" when using the count as the production.
- Monitoring light: Red Yellow Green Blue White Buzzer. Note: When any of the checke color is On/Flash, it is Monitoring time. Note: If you did not check any colors, monitoring time is the elapsed time of the day. Note: Monitoring time is used when the operation rate and the alarm rate are calculated.
- Monitoring time: 24.00 hours. Note: The entered time is the monitoring time. Note: Monitoring time is used when the operation rate and the alarm rate are calculated.
- Tact time criteria: 60.0 s. Note: Tact time criteria is used when the performance are calculated.
- Note: (empty text area)

 At the bottom of the form are 'Save', 'Cancel', and 'Remove' buttons.

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

Flex Signal
MENU ☰ Operation monitoring

You can set the Signal tower 1of Flex Signal.

Select copy source

Signal lamp operation setting
display setting

No	ManagementName	Red	Yellow	Green	Blue	White	Buzzer	Display color	Emphasize display	Elapsed time	Operation light	Alarm signal
1	Warning	On						RED	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Shortage	Flash						CRL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Driving			On				GRN	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Full			Flash				YGR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Exchange		On					ORN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Completion		Flash					YEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Monitor signal towers

Tiers: 5th Buzzer display

1Tiers: red 2Tiers: yellow 3Tiers: green 4Tiers: blue 5Tiers: white

Monitor items pattern1

Monitor Type: Item Graph

No 1: Count(production volu... Change MonitorItemName: Production

No 2: Opn.(operation time/rat... Change MonitorItemName: Operating time

No 3: Alm.(alarm time/count)... Change MonitorItemName: Abnormal time

No 4: --- Change MonitorItemName: _____

No 5: --- Change MonitorItemName: _____

Note:The item can change to display on the whole monitor screen and the monthly report screen. The default settings, the first: "Production", the second: "Operation", the third: "Alarm", the fourth: "Nothing", and the fifth: It becomes "Nothing".

Monitor items pattern2

Monitor Type: Item Graph

No 1: --- Change MonitorItemName: _____

No 2: --- Change MonitorItemName: _____

No 3: --- Change MonitorItemName: _____

No 4: --- Change MonitorItemName: _____

No 5: --- Change MonitorItemName: _____

The default settings, the first: "Nothing", the second: "Nothing", the third: "Alarm", the fourth: "Nothing", and the fifth: It becomes "Nothing".

Monitor items pattern3

Monitor Type: Item Graph

No 1: --- Change MonitorItemName: _____

No 2: --- Change MonitorItemName: _____

No 3: --- Change MonitorItemName: _____

No 4: --- Change MonitorItemName: _____

No 5: --- Change MonitorItemName: _____

The default settings, the first: "Nothing", the second: "Nothing", the third: "Alarm", the fourth: "Nothing", and the fifth: It becomes "Nothing".

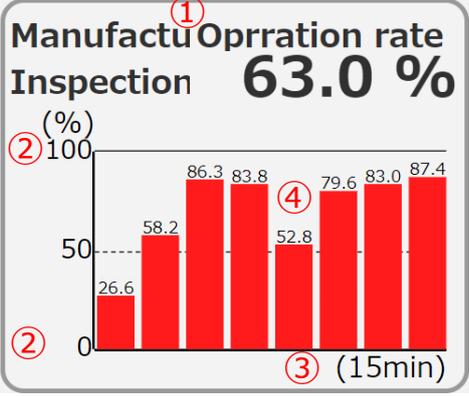
Save Cancel Remove

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;

			<p>operation lamp target selection; and error lamp target selection.</p> <p>When the on, flash or off state or the on or off state is not specified, specify "(blank)" for each color.</p> <p>Highlighting emphasizes the status indicated by the target component color on the general monitor.</p> <p>The time elapsed after the status indicated by the target component color started is displayed on the general monitor.</p> <p>Select the "Operation light" check box to use the operation lamp for the status indicated by the target component color.</p> <p>Select the "Alarm signal" check box to use the error lamp for the status indicated by the target component color.</p> <p>* "All off" indicates that all the colors of the signal lamp are set to off.</p> <p>* When you select the on, flash or off state, be sure to set a display color.</p> <p>* You cannot just set the buzzer without setting the on, flash or off state for any signal lamp.</p> <p>* Whether to display the elapsed time can be specified only when "Highlight" is selected.</p> <p>* You can select multiple operation lamps.</p> <p>* You can select multiple error lamps.</p> <p>The component colors are in descending priority order from No. 1 (No. 1 > No. 2 > - - - > No. 16).</p> <p>For the following signal lamp statuses and component colors, the component color setting for No. 1 takes priority and the red lamp flash.</p> <p>Signal lamp status: Red lamp flash and yellow lamp flash</p> <p>Component color settings: No. 1 Red lamp: "Flash," Other signal lamps: "(Blank)" No. 2 Yellow lamp: "Flash," Other signal lamps: "(Blank)"</p>
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)	<p>Specify the items being monitored for each signal lamp displayed on the whole monitor screen and the monthly report screen.</p> <p>You can set up to 5 display patterns.</p> <p>■Select item</p> <p>Select items on a popup window which appears by clicking the Change button.</p> <p>Please refer to "" for the popup window to change items.</p> <p>■Monitor Item Name</p> <p>Specify a name for the display item.</p> <p>* You can register a name consisting of up to four characters.</p>

<p>1 1</p>		<p>Monitor items (Monitor Graph) Type:</p>	<p>Specify the setting for the graph of each signal lamp displayed on the whole monitor screen.</p>  <ul style="list-style-type: none"> ■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)
<p>1 2</p>	<p>Save</p>	<p>—</p>	<p>Registers settings for the target signal lamps all at once.</p>
<p>1 3</p>	<p>Cancel</p>	<p>—</p>	<p>Discards the current edits to the settings and updates the registration.</p>
<p>1 4</p>	<p>Remove</p>	<p>—</p>	<p>Deletes and disables all the settings for the target signal lamps.</p>

(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.

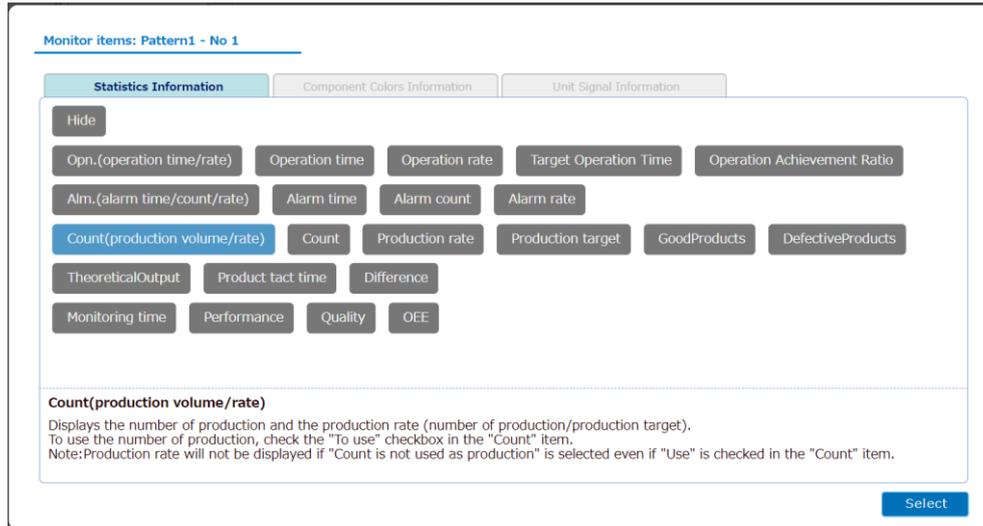


Figure 8: Monitor items setting screen – Statistics Information



Figure 9: Monitor items setting screen – Component Colors Information

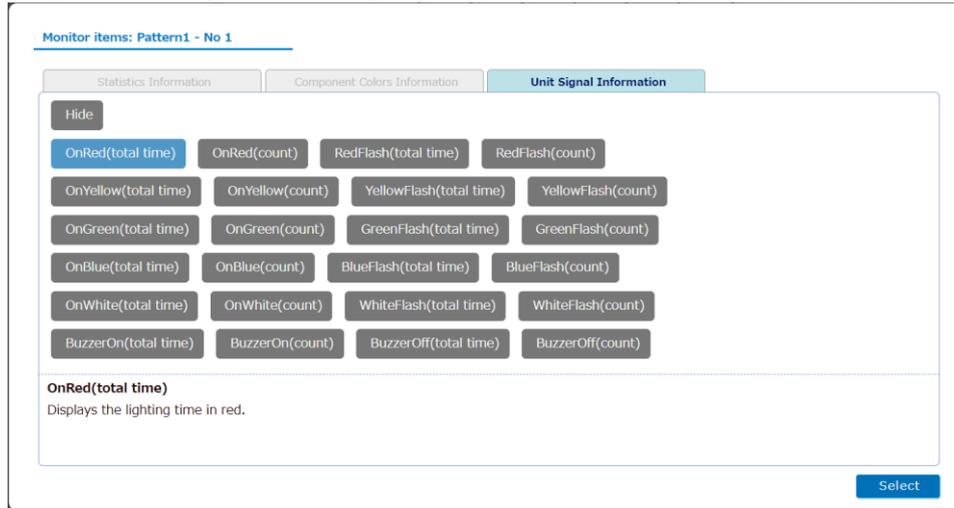


Figure 10: Monitor items setting screen – Unit Signal Information

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.

Flex Signal MENU Operation monitoring

Basic Settings

You can set the basic options of Flex Signal.

The basic settings was saved.

Basic Settings

Management group: Operation monitoring

Start time (origin time): 09 : 00

Note: The default setting, 00:00. One-day handling will change by the time that you specify morning or afternoon. If you specify a 9:00, 9:00 - 8:59 the next day will be handled as one day. If you specify a 9:00, the day before 21:00 - 20:59 will be handled as one day.

Monitor Settings

Telop 1: This is an operation monitoring monitor for the inspection process.

Telop 2:

Telop 3:

Administrator Settings

Administrator password: Current Password: New Password: (Confirmation input)

Note: Please specify 5 or more characters of single-byte character.

Auto Output Settings

Use auto output. You can set enable.

Output type: Only once Periodic

Periodic interval (min): 60

Ooutput time: 00 : 10

Note: The default setting, 00:10. That output the day before setting time.

Output Folder:

Shift Settings

Shift Type: None Ordinary Two shift Three shifts

Shift More	Shift Name		StratTime - EndTime	
	Shift1	Shift2	Shift3	Shift4
	1s		09 : 00 ~ 12 : 00	
	2s		12 : 00 ~ 18 : 00	
	3s		20 : 00 ~ 23 : 00	

Break time Settings

No.	Stat time	Ending time	Signal information valid/invalid setting
1	00 : 00	00 : 00	<input type="checkbox"/> To enable
2	00 : 00	00 : 00	<input type="checkbox"/> To enable
3	00 : 00	00 : 00	<input type="checkbox"/> To enable
4	00 : 00	00 : 00	<input type="checkbox"/> To enable
5	00 : 00	00 : 00	<input type="checkbox"/> To enable
6	00 : 00	00 : 00	<input type="checkbox"/> To enable
7	00 : 00	00 : 00	<input type="checkbox"/> To enable
8	00 : 00	00 : 00	<input type="checkbox"/> To enable
9	00 : 00	00 : 00	<input type="checkbox"/> To enable
10	00 : 00	00 : 00	<input type="checkbox"/> To enable

Save Cancel Initialize

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 FSAAlarm, 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
1 0	Shift settings	Shift Type	Select the shift category. The initial setting is "None."
1 1	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.
1 2	Break time Settings	Break time	Specify start time, end time, and the signal information valid/invalid setting.
1 3	Save	—	Registers settings.
1 4	Cancel	—	Discards the current edits to the settings and updates the registration.
1 5	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.

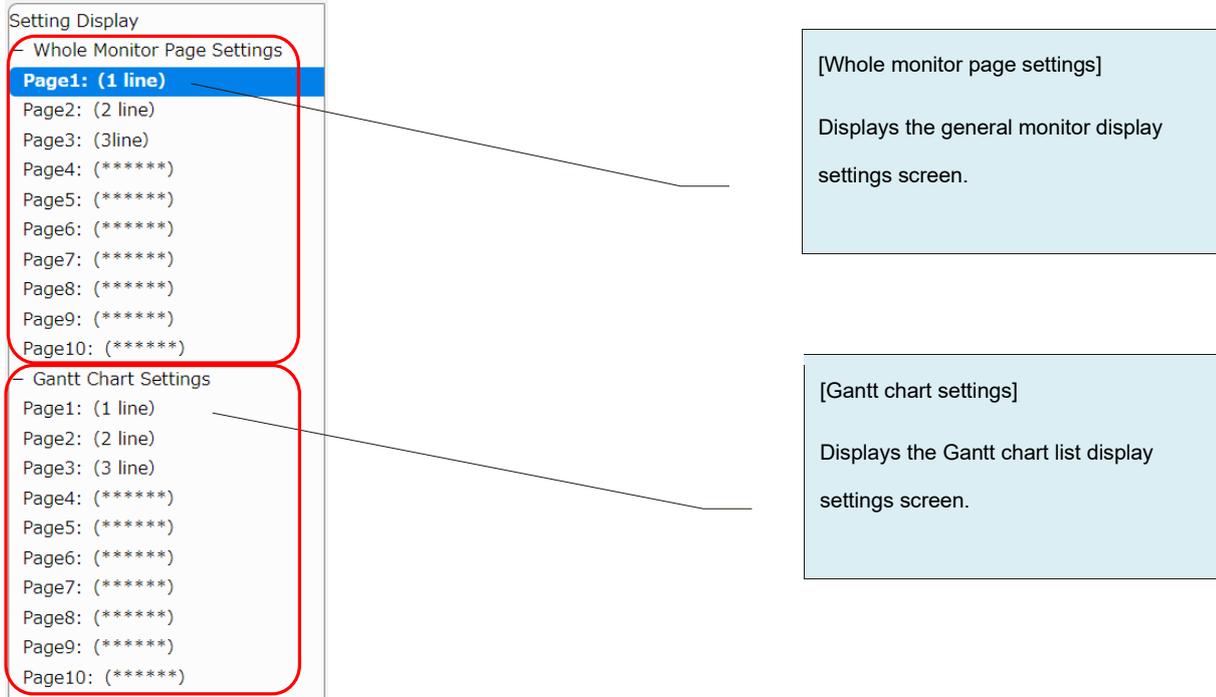


Figure 12: Display settings menu

(8) Display settings - whole monitor page settings

Specify general monitor display settings.

Flex Signal MENU ≡ Operation monitoring

Setting Display
- Whole Monitor Page Settings

Page1: (1 line) **Selected**
Page2: (2 line)
Page3: (3line)
Page4: (*****)
Page5: (*****)
Page6: (*****)
Page7: (*****)
Page8: (*****)
Page9: (*****)
Page10: (*****)
+ Gantt Chart Settings

Whole Monitor Page Settings

Page Names: 1 line

No.	SignalNo : Pattern										
1	1 Pattern1	2	1 Pattern2	3	3 Pattern1	4	4 Pattern1	5	5 Pattern1		
6	6 Pattern1	7	7 Pattern1	8	8 Pattern1	9	9 Pattern1	10	10 Pattern1		
11	11 Pattern1	12	12 Pattern1	13	13 Pattern1	14	14 Pattern1	15	15 Pattern1		
16	16 Pattern1	17	17 Pattern1	18	18 Pattern1	19	19 Pattern1	20	20 Pattern1		
21	21 Pattern1	22	22 Pattern1	23	23 Pattern1	24	24 Pattern1	25	25 Pattern1		
26	26 Pattern1	27	27 Pattern1	28	28 Pattern1	29	29 Pattern1	30	30 Pattern1		
31	30 Pattern1	32	Pattern1	33	Pattern1	34	Pattern1	35	Pattern1		
36	Pattern1	37	Pattern1	38	Pattern1	39	Pattern1	40	Pattern1		
41	Pattern1	42	Pattern1	43	Pattern1	44	Pattern1	45	Pattern1		
46	Pattern1	47	Pattern1	48	Pattern1	49	Pattern1	50	Pattern1		

ShowMonitorType: 1day shift

Monitor Layout: Variable Layout
The number of columns is automatically changed according to the screen display size.
 Fixed Layout
Column : 6 Column
Specify the number of columns to be displayed on the monitor screen. (1st to 50th columns)

Number of monitor display items: 3step 4step 5step

Save Cancel Remove

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.

Flex Signal MENU ≡ Operation monitoring

Setting Display
 + Whole Monitor Page Settings
 - Gantt Chart Settings

Page1: (1 line)
 Page2: (2 line)
 Page3: (3 line)
 Page4: (*****)
 Page5: (*****)
 Page6: (*****)
 Page7: (*****)
 Page8: (*****)
 Page9: (*****)
 Page10: (*****)

Gantt Chart Page Settings

Page Names: 1 line

No.	Signal No.								
1	1	2	2	3	3	4	4	5	5
6	6	7	7	8	8	9	9	10	10
11	11	12	12	13	13	14	14	15	15
16	16	17	17	18	18	19	19	20	20

Signal Settings

Display Settings

No 1: Status ▼ Monitor Name: Status
 No 2: Count ▼ Monitor Name: Count
 No 3: Operation time ▼ Monitor Name: Operation time

Gantt Chart Range
 1day
 2days

Save Cancel Remove

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.
1 0	Gantt chart page settings Production rate	Displays the production achievement rate.
1 1	Gantt chart page settings Operation rate	Displays the operation rate.
1 2	Gantt chart page settings Alarm count	Displays the alarm count.
1 3	Gantt chart page settings Alarm rate	Displays the alarm rate.
1 4	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."
1 5	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."
1 6	Gantt chart page settings Performance	Displays the performance. * Not displayed for shift display.
1 6	Gantt chart page settings OEE	Displays the OEE. * Not displayed for shift display.
1 7	Gantt chart page settings Quality	Displays the quality. * Not displayed for shift display.
1 8	Gantt chart page settings Good products	Displays the good products. * Not displayed for shift display.
1 9	Gantt chart page settings Defective products	Displays the defective products. * Not displayed for shift display.
2 0	Gantt chart page settings Theoretical output	Displays the theoretical output. * Not displayed for shift display.

2 1	Gantt chart page settings	Difference	Displays the difference. * Not displayed for shift display.
2 2	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.
2 3	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.
2 4	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.
2 5	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.
2 6	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.
2 7	Save	—	Registers settings.
2 8	Cancel	—	Discards the current edits to the settings and updates the registration.
2 9	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.

The screenshot shows the 'Operation evaluation collective - Operation target' screen in the Flex Signal interface. The top navigation bar includes the 'Flex Signal' logo and 'MENU Operation monitoring'. The sidebar on the left lists 'Operation Evaluation Settings' and 'Operation Evaluation Collective' with sub-items for signal ranges: '+ SignalNo.1 ~ 10', '+ SignalNo.11 ~ 20', and '+ SignalNo.21 ~ 30'. The main content area is titled 'You can collectively set the evaluation collective settings.' and contains several sections:

- Select copy source:** A dropdown menu.
- Collective Target:** Includes 'Select all' and 'All release' buttons, a message 'The signal tower is not selected.', and a grid of checkboxes for signal numbers 1 through 30.
- Operation Target / Production Target:** Two tabs are present. The 'Operation Target' tab is active, showing:
 - Target rate: The rate of operation is evaluated in each day. | ★★★ % | ★★ % | ★ %
 - Operation time target: Use operation time target settings
 - Operating target time:** A calendar grid for the period from 2023, 6 to 2023, 9. The grid shows days of the week and specific dates, with some days highlighted in red (Sun.) or blue (Sat.).
 - Operation time target collective settings:** A section with an 'Apply' button.

At the bottom of the main content area, there is a note: 'Note: Only if specify the operation light, setting is effective.' and two buttons: 'Save' and 'Remove'.

Figure 15: Operation evaluation collective - Operation target screen

MENU Operation monitoring

Operation Evaluation Settings

Operation Evaluation Collective

+ SignalNo.1 ~ 10

+ SignalNo.11 ~ 20

+ SignalNo.21 ~ 30

You can collectively set the evaluation collective settings.

Select copy source

Collective Target

Select all
All release
The signal tower is not selected.

Signal color

1 2 3 4 5 6 7 8 9 10

11 12 13 14 15 16 17 18 19 20

21 22 23 24 25 26 27 28 29 30

Operation Target

Target rate

Production target

Production Target

The rate of production is evaluated in each day. | ★★★ % | ★★★ % | ★★★ %

Use production target settings

Production target Production target collective settings

Day	2023, 6	2023, 7	2023, 8	2023, 9
1	Thu.	Sat.	Tue.	Fri.
2	Fri.	Sun.	Wed.	Sat.
3	Sat.	Mon.	Thu.	Sun.
4	Sun.	Tue.	Fri.	Mon.
5	Mon.	Wed.	Sat.	Tue.
6	Tue.	Thu.	Sun.	Wed.
7	Wed.	Fri.	Mon.	Thu.
8	Thu.	Sat.	Tue.	Fri.
9	Fri.	Sun.	Wed.	Sat.
10	Sat.	Mon.	Thu.	Sun.
11	Sun.	Tue.	Fri.	Mon.
12	Mon.	Wed.	Sat.	Tue.
13	Tue.	Thu.	Sun.	Wed.
14	Wed.	Fri.	Mon.	Thu.
15	Thu.	Sat.	Tue.	Fri.
16	Fri.	Sun.	Wed.	Sat.
17	Sat.	Mon.	Thu.	Sun.
18	Sun.	Tue.	Fri.	Mon.
19	Mon.	Wed.	Sat.	Tue.
20	Tue.	Thu.	Sun.	Wed.
21	Wed.	Fri.	Mon.	Thu.
22	Thu.	Sat.	Tue.	Fri.
23	Fri.	Sun.	Wed.	Sat.
24	Sat.	Mon.	Thu.	Sun.
25	Sun.	Tue.	Fri.	Mon.
26	Mon.	Wed.	Sat.	Tue.
27	Tue.	Thu.	Sun.	Wed.
28	Wed.	Fri.	Mon.	Thu.
29	Thu.	Sat.	Tue.	Fri.
30	Fri.	Sun.	Wed.	Sat.
31		Mon.	Thu.	

Note: Only if counting is effective, setting is effective.

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 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.
4	—	Operation target time	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.

The screenshot shows the 'Operation Target' tab selected. At the top, there are two tabs: 'Operation Target' (highlighted with a red box) and 'Production Target'. Below the tabs, there are three input fields for target rates: 90.0%, 80.0%, and 70.0%. A checkbox labeled 'The rate of operation is evaluated in each day.' is checked. Below this, there is a section for 'Operation time target' with a checkbox 'Use operation time target settings' also checked. An 'Apply' button is visible. The main part of the screen is a table for 'Operating target time' with columns for days of the month (2023, 6 to 2023, 9) and rows for each day (1-31). Each cell contains a day abbreviation and a numerical value (24.0). At the bottom, there are 'Save', 'Cancel', and 'Remove' buttons.

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


MENU ☰ Operation monitoring

Operation Evaluation Settings
 Operation Evaluation Collective Se
 - SignalNo.1 ~ 10

1 (Manufacturing line A Inspect
 2 (Manufacturing line A Inspection
 3 (Manufacturing line A Inspection
 4 (Manufacturing line A Inspection
 5 (Manufacturing line A Inspection
 6 (Manufacturing line A Inspection
 7 (Manufacturing line A Inspection
 8 (Manufacturing line A Inspection
 9 (Manufacturing line A Inspection
 10 (Manufacturing line A Inspectio
 + SignalNo.11 ~ 20
 + SignalNo.21 ~ 30

You can set the operational evaluation option of the signal tower 1.

Operation Target
Production Target

Target rate The rate of production is evaluated in each day. | ★★★ 90.0 % | ★★☆☆ 80.0 % | ★☆☆ 70.0 %

Production target Use production target settings

Production target Production target collective settings

Apply

Day	2023, 6	2023, 7	2023, 8	2023, 9
1	Thu. 0	Sat. 100	Tue. 100	Fri. 100
2	Fri. 0	Sun. 100	Wed. 100	Sat. 100
3	Sat. 0	Mon. 100	Thu. 100	Sun. 100
4	Sun. 0	Tue. 100	Fri. 100	Mon. 100
5	Mon. 0	Wed. 100	Sat. 100	Tue. 100
6	Tue. 0	Thu. 100	Sun. 100	Wed. 100
7	Wed. 0	Fri. 100	Mon. 100	Thu. 100
8	Thu. 0	Sat. 100	Tue. 100	Fri. 100
9	Fri. 0	Sun. 100	Wed. 100	Sat. 100
10	Sat. 0	Mon. 100	Thu. 100	Sun. 100
11	Sun. 0	Tue. 100	Fri. 100	Mon. 100
12	Mon. 0	Wed. 100	Sat. 100	Tue. 100
13	Tue. 100	Thu. 100	Sun. 100	Wed. 100
14	Wed. 100	Fri. 100	Mon. 100	Thu. 100
15	Thu. 100	Sat. 100	Tue. 100	Fri. 100
16	Fri. 100	Sun. 100	Wed. 100	Sat. 100
17	Sat. 100	Mon. 100	Thu. 100	Sun. 100
18	Sun. 100	Tue. 100	Fri. 100	Mon. 100
19	Mon. 100	Wed. 100	Sat. 100	Tue. 100
20	Tue. 100	Thu. 100	Sun. 100	Wed. 100
21	Wed. 100	Fri. 100	Mon. 100	Thu. 100
22	Thu. 100	Sat. 100	Tue. 100	Fri. 100
23	Fri. 100	Sun. 100	Wed. 100	Sat. 100
24	Sat. 100	Mon. 100	Thu. 100	Sun. 100
25	Sun. 100	Tue. 100	Fri. 100	Mon. 100
26	Mon. 100	Wed. 100	Sat. 100	Tue. 100
27	Tue. 100	Thu. 100	Sun. 100	Wed. 100
28	Wed. 100	Fri. 100	Mon. 100	Thu. 100
29	Thu. 100	Sat. 100	Tue. 100	Fri. 100
30	Fri. 100	Sun. 100	Wed. 100	Sat. 100
31		Mon. 100	Thu. 100	

Note: Only if counting is effective, setting is effective.

Save
Cancel
Remove

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 – mail server settings

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

The screenshot shows the 'Mail Server Settings' configuration page in the Flex Signal interface. The page title is 'Mail Server Settings' and it includes a sub-header: 'You can set the mail server settings of Flex Signal.' The form contains the following fields and controls:

- Sender's e-mail address: Text input field.
- Outgoing mail server (SMTP): Text input field.
- Outgoing mail server port number: Text input field with the value '25'.
- Authentication method: Dropdown menu with 'No authentication' selected.
- SSL: Dropdown menu with 'None' selected.
- Username: Text input field.
- Password: Text input field.
- Test sending mail address: Text input field.
- Buttons: 'Save', 'Cancel', 'Initialize', and 'Test send'.

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	Mail Server Settings 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.

(13) Event settings – Signal light notification settings

Specify the settings for notification to the external signal lamp used at event notification.

You can set the signal light notification settings of Flex Signal.

No.	Notification type	IP address	Port No.	Notice signal	Buzzer	URL	Delete
1	IP address		10000	None	BuzzerOFF		<input type="checkbox"/> Test send
2	IP address		10000	None	BuzzerOFF		<input type="checkbox"/> Test send
3	IP address		10000	None	BuzzerOFF		<input type="checkbox"/> Test send
4	IP address		10000	None	BuzzerOFF		<input type="checkbox"/> Test send
5	IP address		10000	None	BuzzerOFF		<input type="checkbox"/> Test send

Buttons: Save, Cancel, Delete, Add

Figure 20: Signal light notification settings

Table 11: Description of Signal light notification settings

No.	Item	Description
1	Signal light notification setting	Notification type Specify the signal lamp notification category. To use the IP address, port number, notification lamp, and buzzer, select "IP address." To use the URL, select "URL."
2	Signal light notification setting	IP address Specify the IP address of the external signal lamp to which event notification is sent from Flex Signal.
3	Signal light notification setting	Port No. Specify the port number of the external signal lamp.
4	Signal light notification setting	Notice signal Select the signal lamp that lights up or flash at event notification.
5	Signal light notification setting	Buzzer Specify to sound the buzzer at event notification.
6	Signal light notification setting	Test send Sends the signal lamp notification to the specified IP address. The notification lamp and buzzer follow the settings on this screen.
7	Signal light notification setting	URL Specify the URL to which event notification is sent from Flex Signal. * For details on the URL to be specified, see the manual for your network display lamp available from PATLITE.
8	Signal light notification setting	Test send Sends the signal lamp notification to the specified URL.
9	Add	— Adds one row to specify the settings for signal lamp notification.
10	Save	— Registers settings.

1 1	Cancel	—	Discards the current edits to the settings and updates the registration.
1 2	Delete	—	Deletes the setting.

(14) Event settings - event notice settings

Specify the event notification settings.

Flex Signal | MENU | Operation monitoring

Mail Server Settings
Signal Light Notification Settings
Event Notice Settings

You can set the event notice settings of Flex Signal.

Event Notice Settings Add

No.	Notified	Target detail	Notice event	Delay time (s econds)	Notice action	Destination mail address	Message	Delete
1	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
9	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
10	<input type="text"/>	alarm signal	Occurrence	0	E-mail	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Save Cancel Delete

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	Event notice settings Destination mail address	Specify the email address to which notification is sent. This item can be specified only when "Notice action" is "E-mail" notification. You can specify multiple email addresses by separating them with commas (.). You can enter up to 100 characters.	
7	Event notice settings Message	Specify the body of the notification email. This item can be specified only when "Notice action" is "E-mail" notification. You can enter up to 100 characters.	
8	Add	—	Adds one row to specify the settings for event notification.
9	Save	—	Registers settings.
1 0	Cancel	—	Discards the current edits to the settings and updates the registration.
1 1	Delete	—	Deletes the setting.

(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.

Flex Signal MENU Operation monitoring

DefectiveProductsSettings
- SignalNo.1 ~ 10
1 (Manufacturing line A Inspect
2 (Manufacturing line A Inspection
3 (Manufacturing line A Inspection
4 (Manufacturing line A Inspection
5 (Manufacturing line A Inspection
6 (Manufacturing line A Inspection
7 (Manufacturing line A Inspection
8 (Manufacturing line A Inspection
9 (Manufacturing line A Inspection
10 (Manufacturing line A Inspectio
+ SignalNo.11 ~ 20
+ SignalNo.21 ~ 30

You can set the defective products of the signal tower 1.

Defective Products Settings

Setting method Select Type Input text

Select Type alarm count

Input text

Day	2023, 3		2023, 4		2023, 5		2023, 6	
1	Wed.	0	Sat.	0	Mon.	0	Thu.	0
2	Thu.	0	Sun.	0	Tue.	0	Fri.	0
3	Fri.	0	Mon.	0	Wed.	0	Sat.	0
4	Sat.	0	Tue.	0	Thu.	0	Sun.	0
5	Sun.	0	Wed.	0	Fri.	0	Mon.	0
6	Mon.	0	Thu.	0	Sat.	0	Tue.	0
7	Tue.	0	Fri.	0	Sun.	0	Wed.	0
8	Wed.	0	Sat.	0	Mon.	0	Thu.	0
9	Thu.	0	Sun.	0	Tue.	0	Fri.	0
10	Fri.	0	Mon.	0	Wed.	0	Sat.	0
11	Sat.	0	Tue.	0	Thu.	0	Sun.	0
12	Sun.	0	Wed.	0	Fri.	0	Mon.	0
13	Mon.	0	Thu.	0	Sat.	0	Tue.	0
14	Tue.	0	Fri.	0	Sun.	0	Wed.	0
15	Wed.	0	Sat.	0	Mon.	0	Thu.	0
16	Thu.	0	Sun.	0	Tue.	0	Fri.	0
17	Fri.	0	Mon.	0	Wed.	0	Sat.	0
18	Sat.	0	Tue.	0	Thu.	0	Sun.	0
19	Sun.	0	Wed.	0	Fri.	0	Mon.	0
20	Mon.	0	Thu.	0	Sat.	0	Tue.	0
21	Tue.	0	Fri.	0	Sun.	0	Wed.	0
22	Wed.	0	Sat.	0	Mon.	0	Thu.	0
23	Thu.	0	Sun.	0	Tue.	0	Fri.	0
24	Fri.	0	Mon.	0	Wed.	0	Sat.	0
25	Sat.	0	Tue.	0	Thu.	0	Sun.	0
26	Sun.	0	Wed.	0	Fri.	0	Mon.	0
27	Mon.	0	Thu.	0	Sat.	0	Tue.	0
28	Tue.	0	Fri.	0	Sun.	0	Wed.	0
29	Wed.	0	Sat.	0	Mon.	0	Thu.	0
30	Thu.	0	Sun.	0	Tue.	0	Fri.	0
31	Fri.	0			Wed.	0		

Save Cancel Remove

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.
1 0	Defective Products Color pattern 7 (count)	Set the number of occurrences of the statuses indicated by component colors 7.
1 1	Defective Products Color pattern 8 (count)	Set the number of occurrences of the statuses indicated by component colors 8.
1 2	Defective Products Color pattern 9 (count)	Set the number of occurrences of the statuses indicated by component colors 9.
1 3	Defective Products Color pattern 10 (count)	Set the number of occurrences of the statuses indicated by component colors 10.
1 4	Defective Products Color pattern 11 (count)	Set the number of occurrences of the statuses indicated by component colors 11.
1 5	Defective Products Color pattern 12 (count)	Set the number of occurrences of the statuses indicated by component colors 12.
1 6	Defective Products Color pattern 13 (count)	Set the number of occurrences of the statuses indicated by component colors 13.
1 7	Defective Products Color pattern 14 (count)	Set the number of occurrences of the statuses indicated by component colors 14.
1 8	Defective Products Color pattern 15 (count)	Set the number of occurrences of the statuses indicated by component colors 15.
1 9	Defective Products Color pattern 16 (count)	Set the number of occurrences of the statuses indicated by component colors 16.
2 0	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.
2 1	Save	— Registers settings.
2 2	Cancel	— Discards the current edits to the settings and updates the registration.
2 3	Remove	— Deletes settings.

(16) Comment settings

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

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

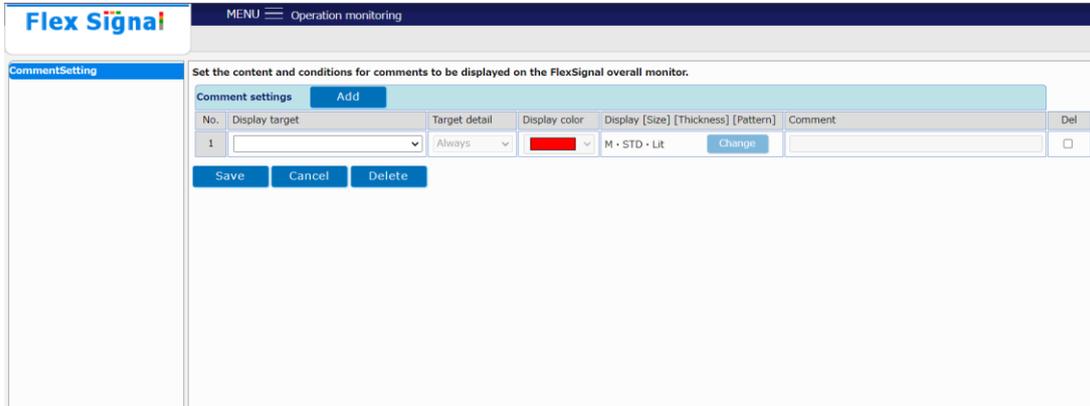


Figure 23: Comment settings

Table 14: Description of Comment settings

No.	Item		Description
1	Comment Settings	Display target	<p>Sets the signal lights for which comments are to be displayed.</p> <ul style="list-style-type: none"> • 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”. <p>*Initial value: Blank</p>
2	Comment Settings	Target detail	<p>Sets the details of the signal lights for which comments are to be displayed.</p> <ul style="list-style-type: none"> • 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”. <p>*Initial value: Always</p>
3	Comment Settings	Display Color	<p>Select the text color of the comments to be displayed.</p> <p>*Initial value: Red</p>
4	Comment Settings	Display	<p>Select the “size,” “thickness,” and “pattern” of the comments to be displayed.</p> <ul style="list-style-type: none"> ■ Change button. <p>Click the Change button to display the “Display Method Settings” popup.</p>

			<p>■ Label</p> <p>Displays abbreviations for the “size,” “thickness,” and “pattern” being set.</p> <p>*Initial value: M • STD • Lit</p>
5	Comment Settings	Comment	<p>Sets the content of comments to be displayed. The number of characters that can be entered is 100.</p> <p>*Initial value:Blank</p>
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.

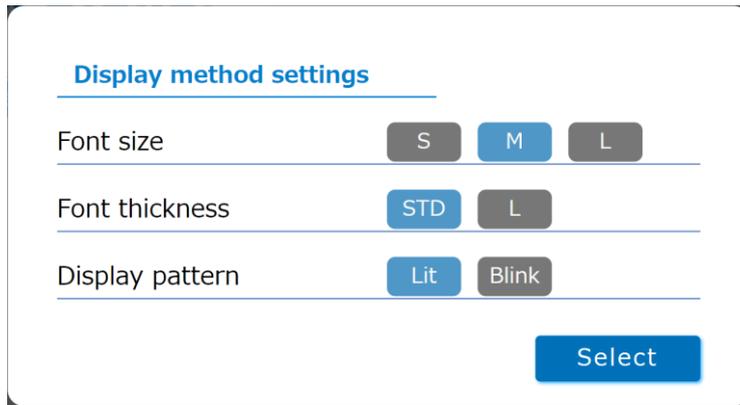


Figure 24: Comment settings – Display method settings

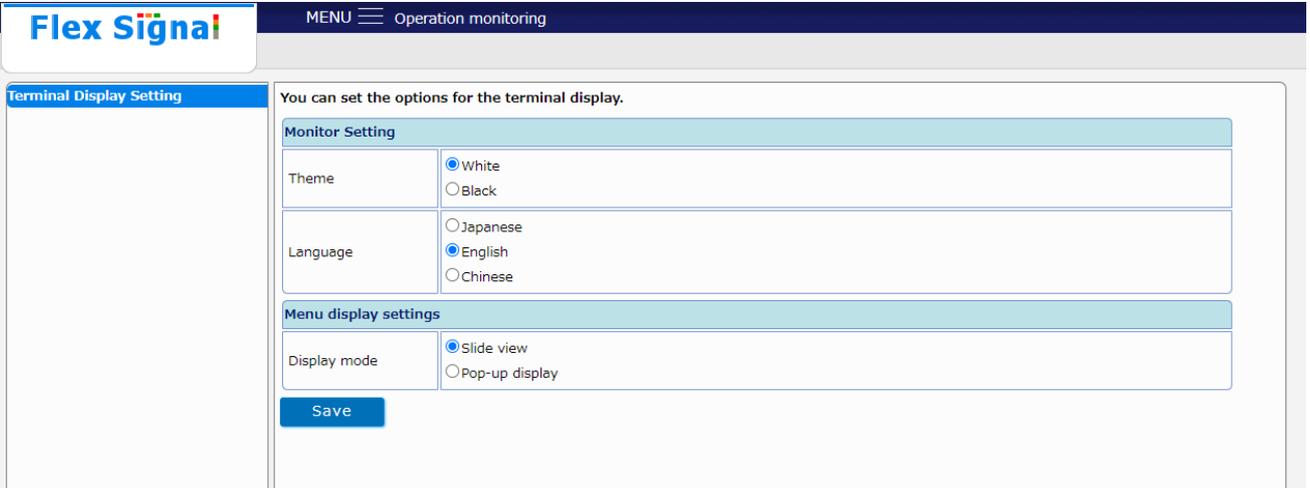
Table 15: Description of Comment settings– Display method settings

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.



The screenshot shows the 'Terminal Display Setting' screen in the Flex Signal interface. The top navigation bar includes the 'Flex Signal' logo and 'MENU' with 'Operation monitoring' selected. The main content area is titled 'Terminal Display Setting' and contains the following settings:

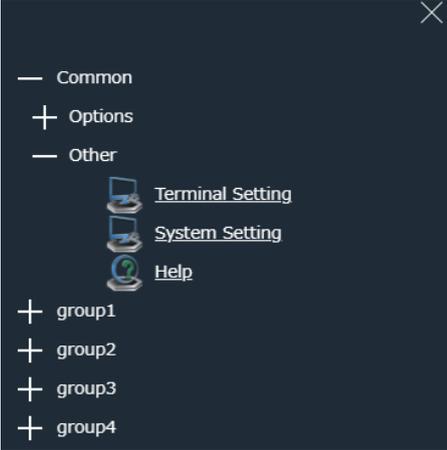
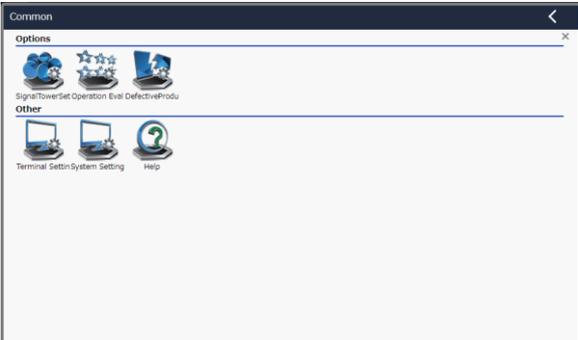
Monitor Setting	
Theme	<input checked="" type="radio"/> White <input type="radio"/> Black
Language	<input type="radio"/> Japanese <input checked="" type="radio"/> English <input type="radio"/> Chinese

Menu display settings	
Display mode	<input checked="" type="radio"/> Slide view <input type="radio"/> Pop-up display

A 'Save' button is located at the bottom of the settings area.

Figure 1: Terminal display settings

Table 1: Description of terminal display settings

No.	Item	Description
1	Monitor setting	Theme
1	Monitor setting	Specify the screen theme. Select the base color. The selected theme applies only to the terminal currently accessing the screen.
2	Monitor setting	Language
2	Monitor setting	Specify the screen language. The selected language applies only to the terminal currently accessing the screen.
3	Menu display settings	Display mode
3	Menu display settings	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	—
4	Save	Registers settings.

(2) System settings – System Information

Specify the settings related to the system.

The screenshot shows the 'System settings' page in the Flex Signal application. The page has a dark blue header with the 'Flex Signal' logo on the left and 'MENU > Operation monitoring' on the right. Below the header, there is a sidebar on the left with 'System settings' and 'Password settings' listed. The main content area is titled 'Set options for the system.' and contains a 'CSV settings' section. This section has a label 'CSV' and two radio button options: 'Normal' (which is selected) and 'Old format'. A blue 'Save' button is positioned below the radio buttons.

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.

Set password options.	
Password settings	
Signal tower setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Operation evaluation setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Defective products setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Basic setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Display setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Event setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Comment setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Alarm setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Camera setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Watch setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Barcode master setting	<input checked="" type="radio"/> ON <input type="radio"/> OFF

Save

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.

The screenshot displays the 'System Information' page of the Flex Signal web interface. The page is titled 'System Information' and includes a confirmation communication status section. The main content area is divided into several sections: 'System information', 'Manual', 'License', 'Receiver status', and 'Transmitter status'. The 'System information' section shows product details like name, version, and copyright. The 'Manual' section lists various user guides. The 'License' section displays keys and an authentication status. The 'Receiver status' section shows a single receiver at IP 192.168.0.1 with a 'Disconnected' status. The 'Transmitter status' section lists 10 inspection processes, all of which are 'Disconnected'.

System information	
Product name	Flex Signal
Version	14.2.0
Copyright	TOKAI-SOFT Co.,Ltd.

Manual	
FlexSignal Dashboard Setup Manual Rev3.0 .ja	
FlexSignal LA6-POE接続設定資料 Rev1.1	
FlexSignal Manual Rev14.1 .ja	
FlexSignal PC Change Manual Rev1.2 .ja	
FlexSignal Setup Manual Rev8.2 .ja	
FlexSignal Troubleshooting Rev4.13 .ja	
FlexSignal Update Manual Rev5.1 .ja	

License	
Customer key	00000-00000-00000-00000
Setup key	B692C-072EE-54AE5-9525F
Authentication key	<input type="text"/> <input type="button" value="Auth."/>
	Authenticated
Edition	STD
Volume	Signal tower 30 unit
SubSystem	
Setup Date	2023-06-12 19:48

Receiver status	
<input checked="" type="radio"/> All <input type="radio"/> Connecting <input type="radio"/> Disconnected <input type="radio"/> Cutting	
192.168.0.1	Disconnected

Transmitter status	
<input checked="" type="radio"/> All <input type="radio"/> Connecting <input type="radio"/> Disconnected <input type="radio"/> Cutting	
Inspection 01 proces	Disconnected
Inspection 02 proces	Disconnected
Inspection 03 proces	Disconnected
Inspection 04 proces	Disconnected
Inspection 05 proces	Disconnected
Inspection 06 proces	Disconnected
Inspection 07 proces	Disconnected
Inspection 08 proces	Disconnected
Inspection 09 proces	Disconnected
Inspection 10 proces	Disconnected

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.

1 3	Transmitter status	Transmitter names	<p>Displays the transmission status of the transmitters already specified in the signal light settings.</p> <p>Displays the communication status between the transmitter and the receiver on the right side.</p> <p>Disconnected: The state in which the communication has never been established after starting the PC.</p> <p>Cutting: The communication is in an abnormal state.</p> <p>Abnormal connection (multiple connections): The state in which multiple receivers are connected.</p> <p>Connecting: The communication is in a normal state.</p> <p>*Please check the communication with the transmitter if “Disconnected”, “Cutting”, or “Abnormal connection (multiple connections)” is displayed.</p> <p>To display only the transmitters in the specified communication status, select from the buttons on the right side of the "Transmitter status" text.</p> <p>All: Displays all transmitters regardless of the status.</p> <p>Connecting: Displays only the transmitters which are being connected.</p> <p>Disconnected · Cutting: Displays only the receivers which are being disconnected, cut, or in abnormal connection (multiple connections).</p>
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(5) Help – confirmation communication status

Check the communication status of receivers and transmitters.

Check the communication status of the receiver and transmitter.

Date Time : Jun 13 2023 kinds : error system MAC address : search

start time	end time	kinds	message
2023/06/13 09:00:47	2023/06/13 09:01:09	system	FlexSignal start
2023/06/13 09:01:09	2023/06/13 12:12:37	error	Could not connect to receiver.
2023/06/13 12:13:36	2023/06/13 12:13:38	system	FlexSignal start
2023/06/13 12:13:38	2023/06/13 12:14:10	error	Could not connect to receiver.
2023/06/13 12:14:41	2023/06/13 12:14:41	system	Connected to receiver.
2023/06/13 12:14:44	2023/06/13 12:14:44	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB710
2023/06/13 12:14:54	2023/06/13 12:14:54	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB711
2023/06/13 12:14:57	2023/06/13 12:14:57	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB712
2023/06/13 12:15:05	2023/06/13 12:15:05	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB713
2023/06/13 12:15:07	2023/06/13 12:15:07	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB714
2023/06/13 12:15:09	2023/06/13 12:15:09	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB715
2023/06/13 12:15:10	2023/06/13 12:15:10	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB716
2023/06/13 12:15:22	2023/06/13 12:15:22	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB717
2023/06/13 12:15:25	2023/06/13 12:15:25	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB718
2023/06/13 12:15:32	2023/06/13 12:15:32	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB719
2023/06/13 12:15:35	2023/06/13 12:15:36	system	Transmitter disconnected. [Transmitter MAC address]00015CFFFEAB710
2023/06/13 12:15:36	2023/06/13 12:15:37	system	Transmitter disconnected. [Transmitter MAC address]00015CFFFEAB711
2023/06/13 12:15:37	2023/06/13 12:15:39	system	Transmitter disconnected. [Transmitter MAC address]00015CFFFEAB712
2023/06/13 12:15:39	2023/06/13 12:15:40	system	Transmitter disconnected. [Transmitter MAC address]00015CFFFEAB713
2023/06/13 12:15:40	2023/06/13 12:15:44	system	Transmitter disconnected. [Transmitter MAC address]00015CFFFEAB714
2023/06/13 12:15:47	2023/06/13 12:15:47	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB710
2023/06/13 12:15:49	2023/06/13 12:15:49	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB711
2023/06/13 12:15:50	2023/06/13 12:15:50	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB712
2023/06/13 12:15:53	2023/06/13 12:15:53	system	Transmitter connected. [Transmitter MAC address]00015CFFFEAB713

Figure 4: Confirmation communication status (AirGrid)

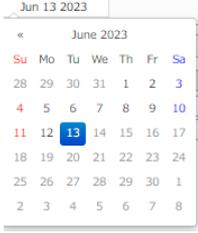
Check the communication status of the receiver and transmitter.

Date Time : Jun 13 2023 kinds : error system IP address : search

start time	end time	kinds	message
2023/06/13 07:51:00	2023/06/13 07:51:00	system	Disconnected [IP address]172.16.100.110
2023/06/13 07:51:00	2023/06/13 07:51:00	system	connected [IP address]172.16.100.110
2023/06/13 08:03:00	2023/06/13 08:03:00	system	Disconnected [IP address]172.16.100.112
2023/06/13 08:03:00	2023/06/13 08:03:00	system	connected [IP address]172.16.100.112
2023/06/13 08:06:00	2023/06/13 08:06:00	system	Disconnected [IP address]172.16.100.135
2023/06/13 08:06:00	2023/06/13 08:06:00	system	connected [IP address]172.16.100.135
2023/06/13 08:27:00	2023/06/13 08:27:00	system	Disconnected [IP address]172.16.100.110
2023/06/13 08:27:00	2023/06/13 08:27:00	system	connected [IP address]172.16.100.110
2023/06/13 08:30:00	2023/06/13 08:30:00	system	Disconnected [IP address]172.16.100.113
2023/06/13 08:30:00	2023/06/13 08:30:00	system	connected [IP address]172.16.100.113
2023/06/13 08:34:00	2023/06/13 08:34:00	system	Disconnected [IP address]172.16.100.108
2023/06/13 08:34:00	2023/06/13 08:34:00	system	connected [IP address]172.16.100.108
2023/06/13 08:58:00	2023/06/13 08:58:00	system	Disconnected [IP address]172.16.100.104
2023/06/13 08:58:00	2023/06/13 08:58:00	system	connected [IP address]172.16.100.104
2023/06/13 09:12:00	2023/06/13 09:12:00	system	Disconnected [IP address]172.16.100.135
2023/06/13 09:12:00	2023/06/13 09:12:00	system	connected [IP address]172.16.100.135
2023/06/13 09:17:00	2023/06/13 09:17:00	system	Disconnected [IP address]172.16.100.103
2023/06/13 09:17:00	2023/06/13 09:17:00	system	connected [IP address]172.16.100.103
2023/06/13 09:44:00	2023/06/13 09:44:00	system	Disconnected [IP address]172.16.100.103
2023/06/13 09:44:00	2023/06/13 09:44:00	system	connected [IP address]172.16.100.103
2023/06/13 10:02:00	2023/06/13 10:02:00	system	Disconnected [IP address]172.16.100.110
2023/06/13 10:02:00	2023/06/13 10:02:00	system	connected [IP address]172.16.100.110
2023/06/13 10:04:00	2023/06/13 10:04:00	system	Disconnected [IP address]172.16.100.112
2023/06/13 10:04:00	2023/06/13 10:04:00	system	connected [IP address]172.16.100.112

Figure 5: Confirmation communication status (LA6-POE)

Table 4: Description of Confirmation communication status

No.	Item		Description
1	Date Time	—	<p>Select the target year, month and day on the calendar. When you click a date, the calendar appears.</p>  <p>*You can select from 30 days before to the current day (including the current day).</p>
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	—	<p>Displays logs that partially match the entered MAC address.</p> <p>* If it is blank, search by MAC address will not be performed.</p>
5	IP address	—	<p>Displays logs that partially match the entered IP address.</p> <p>* If it is blank, search by IP address will not be performed.</p>
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	<p>Displays the message of the log.</p> <p>*By clicking the log message whose kind is "error", a pop-up of the workaround will be displayed.</p>  <ol style="list-style-type: none"> 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".

