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RIKEN KEIKI

RK Link
Operating Manual

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1. Introduction

This operating manual describes the functions of the RK Link dedicated application for the portable gas monitor and how to use them. Please read this manual thoroughly before use to ensure correct use of the application.
Please note that the example screen displays given in this manual correspond to the Android version.

1.1. Operating system

Please check to ensure that the device you are using is running Android version 6.0 or later or iOS version 10.0 or later.

1.2. Google account required

RK Link includes an email sending function using Gmail. A Google account (Gmail address) is required to use the application.

1.3. Installation

Install RK Link from Google Play or App Store.

2. Preparations

2.1. Device preparations

2.1.1. Recommended operating system

OS	OS versions supported
Android	6.0 or later
iOS	10.0 or later

2.1.2. Smartphone preparations

1. Bluetooth: Enable Bluetooth in the Settings app.
2. Location information: Enable Location information in the Settings app.

2.2. Launching the application

① Launch the “RK Link” application.

- Icon

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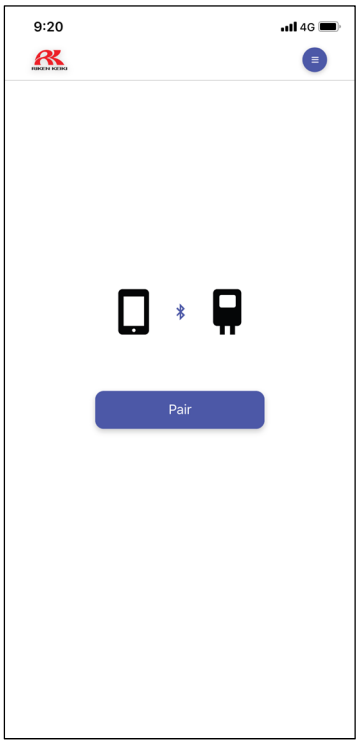
- Startup screen



3. Menu List

3.1. When no detector is connected

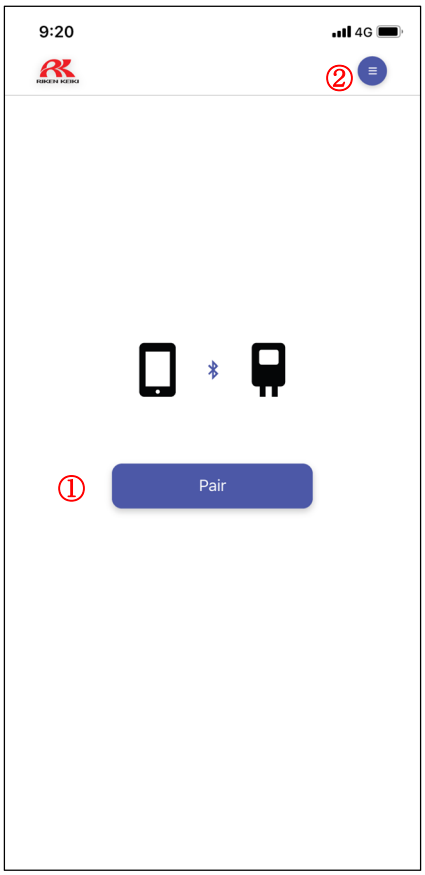
- Application settings
  - Group notification settings enable/disable
  - Notification Settings
  - Device notification settings enable/disable
  - Alarm sound enable/disable
  - Sound type
  - Alarm vibration enable/disable
  - Vibration type
  - Display settings (time)
  - Scheduling setting
  - Email notification settings
  - Owner information settings
- Version information
- Manual download

3.2. When a detector is connected

- Gas detector settings
  - Alarm settings
  - Calibration/Bump settings
  - Backlight setting
  - Logger data settings
- Detector information
- Application settings
  - Group notification settings enable/disable
  - Notification Settings
  - Device notification settings enable/disable
  - Alarm sound enable/disable
  - Sound type
  - Alarm vibration enable/disable
  - Vibration type
  - Display settings (time)
  - Scheduling setting
  - Email notification settings
  - Owner information setting
- Version information
- Pairing disconnection
- Download manual
- Detector search

4. Startup/Pairing/Real-time Screens

4.1. Top screen



Tap a button to jump to the corresponding function.

① Displays the menu. (See the menu list.)
② Displays the pairing method selection screen.

When RK Link starts up, it will automatically connect to the last connected device if the device is located nearby.

During operation, the pairing may be cut off unexpectedly. If this happens, try pairing the device again.

4.2. How to register a Google account

By registering a Google account, RK Link will send an email to a pre-defined email address when an alarm is triggered, etc. via the registered Google account.

Follow the steps below to set up your Google account by entering the Gmail address and password* to be used.

* The "password" is not the password for logging into your Google account, but the "app password" that you create while logged into your Google account. Please follow the steps below to create an app password.

< How to register a Google account >

(1) Log in to your Google account.

(2) Turn on the 2-Step Verification setting in “Security > How you sign in to Google > 2-Step Verification".

(3) Create the app passwords” at "2-step verification process > App passwords.

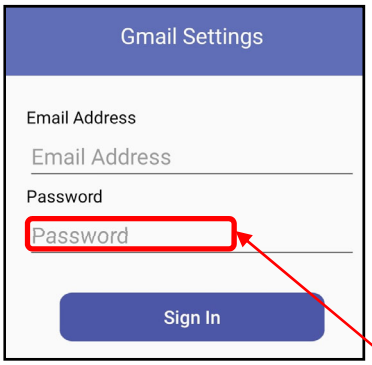
(4) Launch the "RK Link" application.

(5) Tap the menu icon "≡".

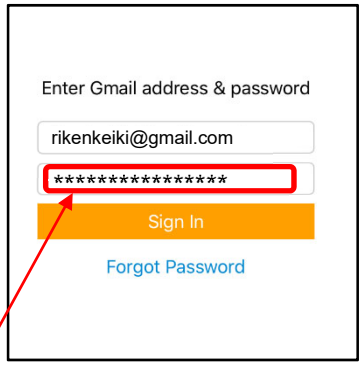
(6) In "Application settings > Notification Settings > Gmail Settings", enter the email address of the Google account to be registered in "Email Address" and the app password created in step (3) in "Password", and tap "Sign In".
(When copying and pasting the password displayed on the screen, copy and paste the password for each 4 digits; if you copy a 16-digit password at once, the space in each 4 digits will also be copied, and an error will appear and you will not be able to sign in when you tap "Sign In").

*For more information on how to register the 2-step verification process and create the app passwords, please refer to Google's website.

Display example (Android ver.)



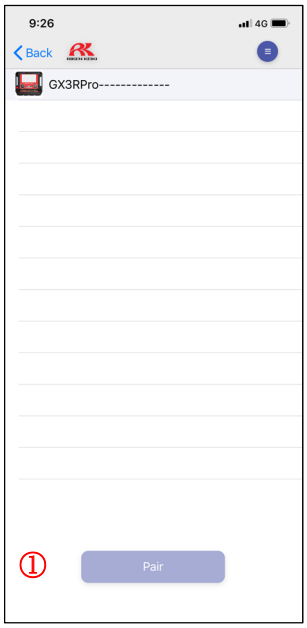
Display example (iOS version)



Enter the App Passwords (16-digit)

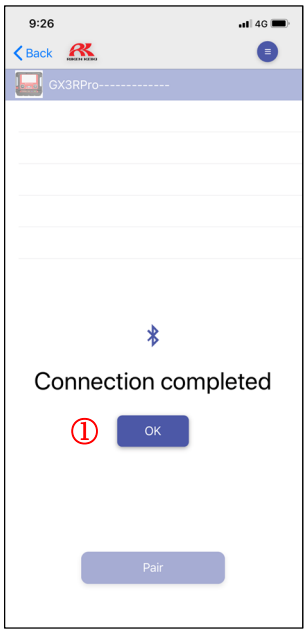
Once your Google account has been registered, an email ("Notice of RK Link E-mail Address Registration Completed") will be sent to your registered address. After registering, please confirm that you have received the notification before use.

4.3. Pairing screen



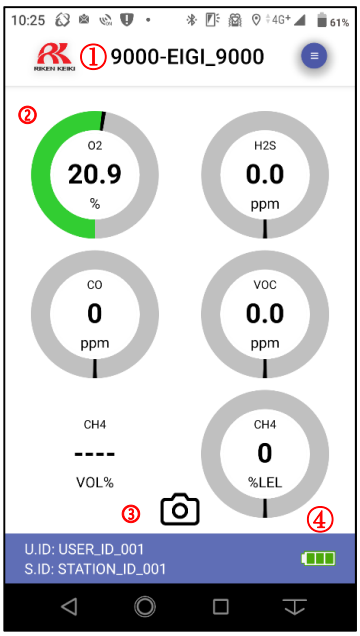
Detects and displays the device names of any detectors in the vicinity of your smartphone.
Select a device name and tap the ① Pair button to pair with that device.
The display returns to the top screen if no gas detector is found within a preset time.

4.4. Pairing outcome screen



This indicates whether the connection to the detector has been made.
Tap the ① OK button if the connection is successful to display the real-time screen.
Tap the ① OK button if the connection fails to return to the pairing screen.

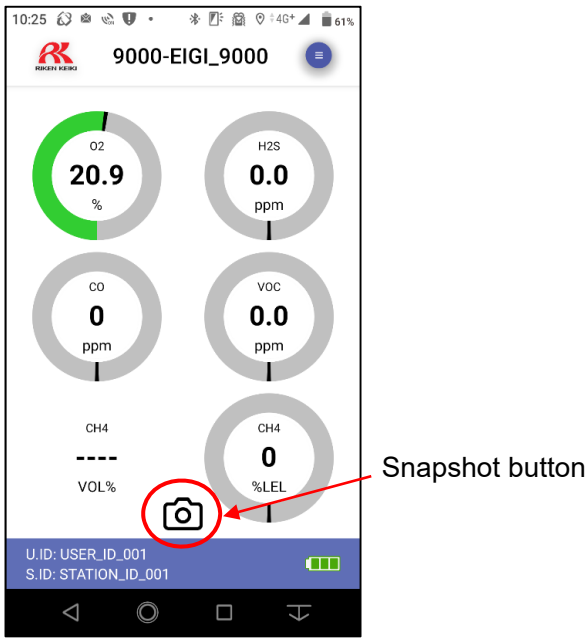
4.5. Real-time screen



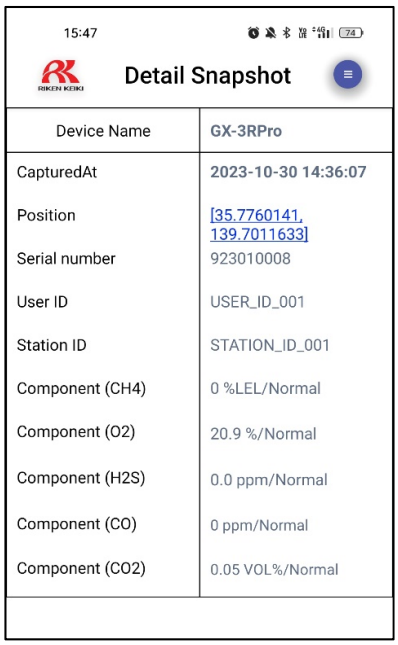
① Connected device name
② Gas information
Displays the gas names, measured values, units, alarm colors, and maximum or minimum values.
③ Snapshot button
Measurement results can be recorded. See "4.6. Snap Logger Function" for details.
④ Battery level

If you leave your smartphone unattended with this application running, be sure to have the [Real-time screen] displayed. Leaving the smartphone unattended with another screen displayed may result in problems issuing notifications. This is due to Android and iOS power-saving features.

4.6. Snapshot function



Display example (Real-time screen)



Display example (Detail Snapshot)

Tap the Snapshot button to save the date/time/position/measurer (user ID)/measurement location (station ID)/measured value at the moment of tap in the application. Saved data can be viewed in the app or sent in CSV format via email.

*The Snapshot button is enabled when the user ID and station ID are set. To use the Snapshot function, set the user ID and station ID in "7. Application Settings" For details on how to set the ID, see "7.6. Snapshot Settings".

Snapshot button ： Valid Invalid

< How to display Detail Snapshot >

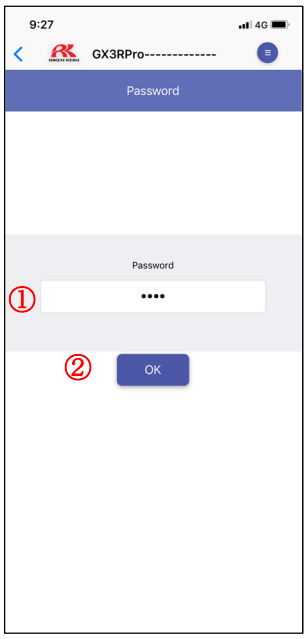
(1) Tap “≡” in the upper right corner of the screen.

(2) Go to "App Settings > Snap Logger Display" to display the list, and tap any data.

For details, see "7.7. Snapshot Display".

5. Gas detector settings (displayed only with GX-3R Pro)

5.1. Password entry screen

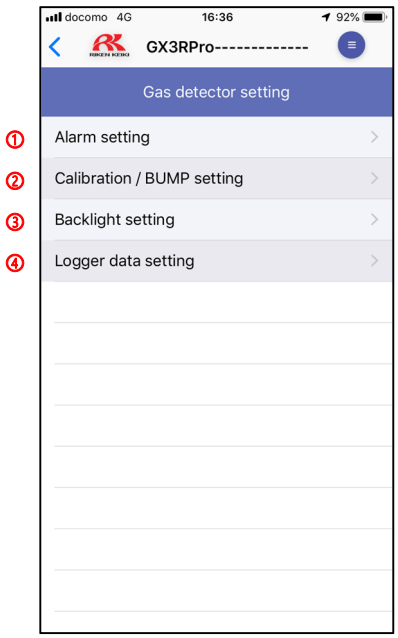


This is used to enter the user password for the detector required to modify the detector settings.
The settings cannot be edited without the correct password.

① Password entry area
② OK button

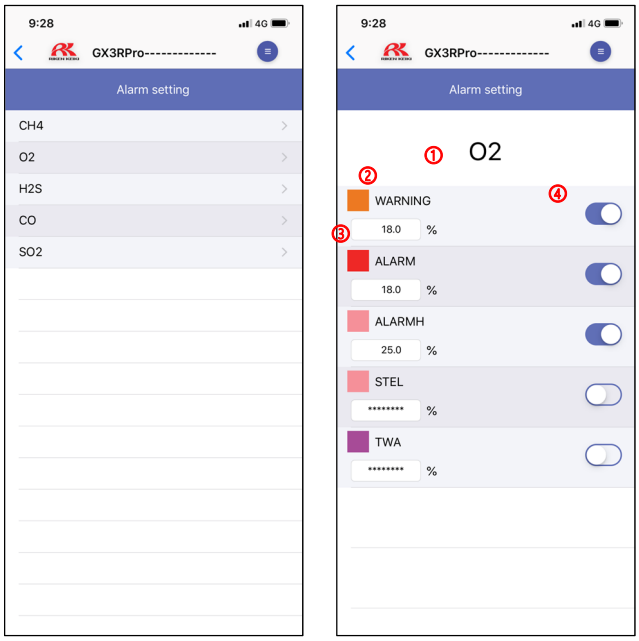
The password is determined by the detector and can only be changed from the detector.
The default detector password setting is “0000”.

5.2. Settings list screen



① Displays the Alarm setting screen.
② Displays the Calibration/Bump setting screen.
③ Displays the Backlight setting screen.
④ Displays the Logger data setting screen.

5.3. Alarm setting screen



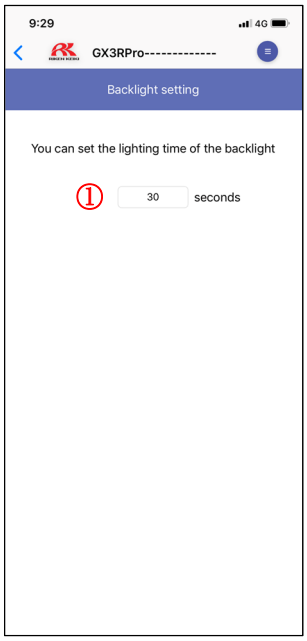
Displays the names of the gases currently being measured.
Select the gas name to display the Alarm setting screen for the gas.

① Gas name
② Alarm type (WARNING, ALARM, ALARMH, STEL, TWA)
③ Alarm setpoint
This is used to set the alarm setpoint.
④ Alarm notification switch
Enable the alarm notification switch to send notification when an alarm occurs.

5.4. Calibration/Bump setting screen

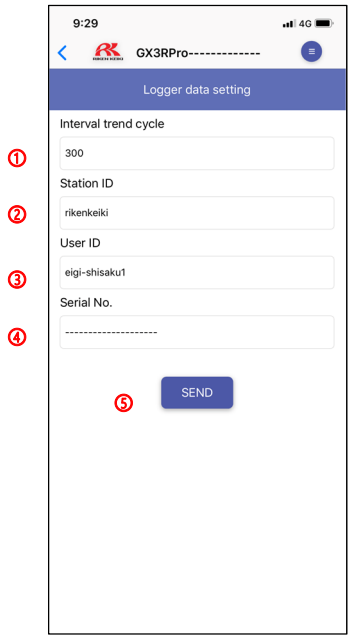
① Item name
② Reminder time input area
③ Notification setting switch
Enable the notification setting switch to issue a reminder.
④ Gas name
⑤ Gas concentration value input area
This is used to set gas concentrations for calibration and bump testing.

5.5. Backlight setting screen



① This is used to set how long the backlight stays lit.
Setting range: 0 to 255 seconds

5.6. Logger data setting screen

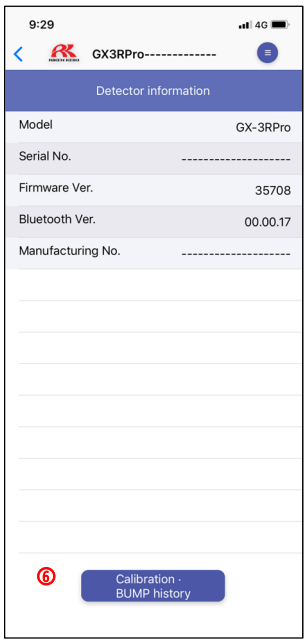


① Interval trend cycle input area
This is used to set the interval trend cycle.
This can be set to 10, 20, 30, 60, 180, 300, or 600 seconds.
② Station ID input area
This is used to set the station ID.
③ User ID input area
This is used to set the user ID.
④ Serial No. display area
⑤ Send button

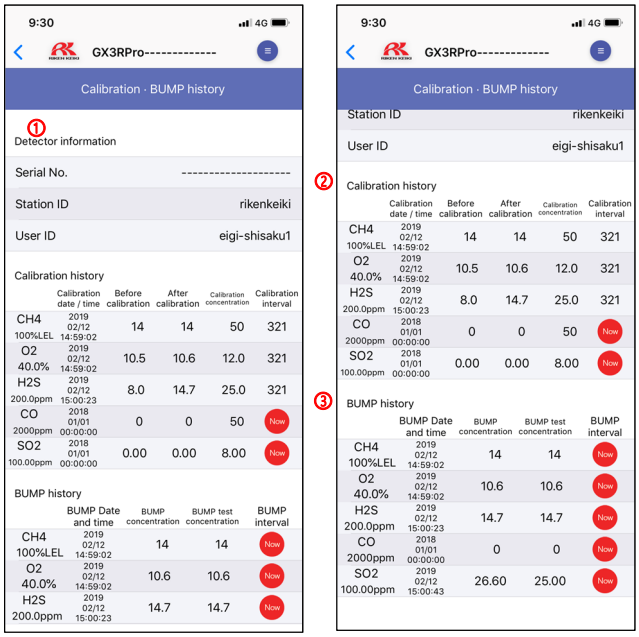
④ Serial No. cannot be changed.

6. Detector Information

6.1. Detector information display screen



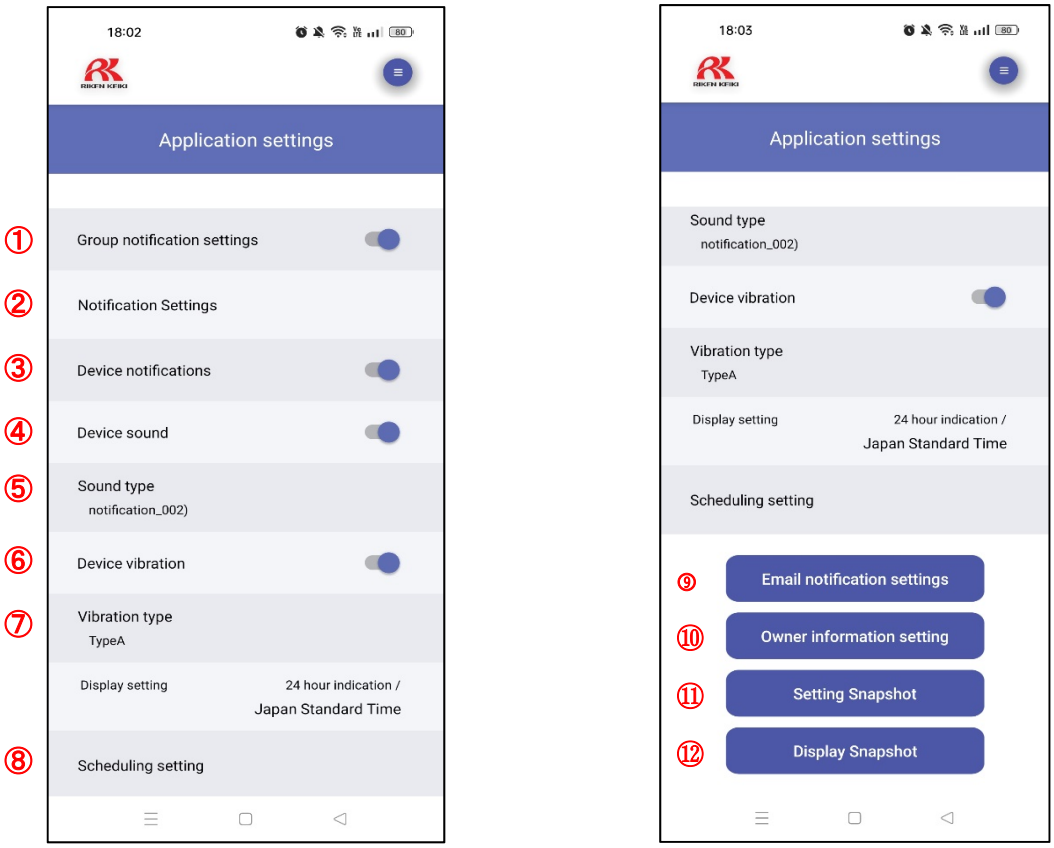
① Model display area
② Serial No. display area
③ Firmware Ver. display area
④ Bluetooth Ver. display area
⑤ Manufacturing No. display area
⑥ Calibration/Bump history button (displayed only with GX-3R Pro)
Displays the Calibration/Bump history screen.



① Detector information display area
② Calibration history display area
③ Bump history display area

7. Application Settings

7.1. Application settings screen



① Group notification settings
Enables or disables group notifications.
Enable group notifications to transmit emails to the address set in ⑦Email notification settings when an alarm occurs.

② Notification Settings
Set when using SMS (short message service) via Gmail and an external service.
(See “7.2. Notification Settings”.)

③ Device notifications
Enables or disables device notifications.
Enable device notifications to display notifications in the smartphone notification area.

④ Device sound
Enables or disables the smartphone alarm sound.

⑤ Sound type
Select the smartphone alarm sound.

⑥ Device vibration
Enables or disables smartphone alarm vibration.

⑦ Vibration type
Select the alarm vibration type.

⑧ Scheduling setting
Indicated values are sent to the address registered in the notification settings by e-mail at the set interval.
(See “7.3. Scheduling setting”.)

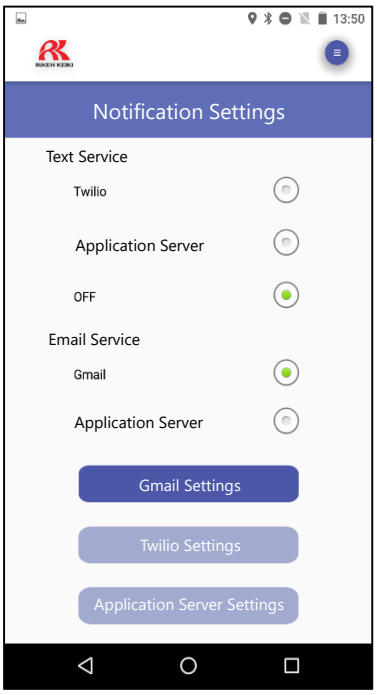
⑨ Email notification settings
Displays the Email notification settings screen.
(See “7.4. Email notification settings”.)

⑩ Owner information setting
Displays the Owner information setting screen.
(See “7.5. Owner information setting”.)

⑪ Setting Snapshot
Station ID and User ID can be set for the snapshot function.
(See "7.6. Setting Snapshot")

⑫ Display Snapshot
Snap loggers can be displayed and saved snap loggers can be converted to CSV format. (See "7.7. Display Snapshot".)

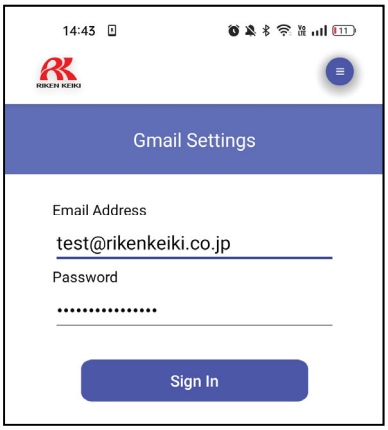
7.2. Notification Settings



① Text service
Select an external service (paid service) to be used when using SMS (Short Message Service).

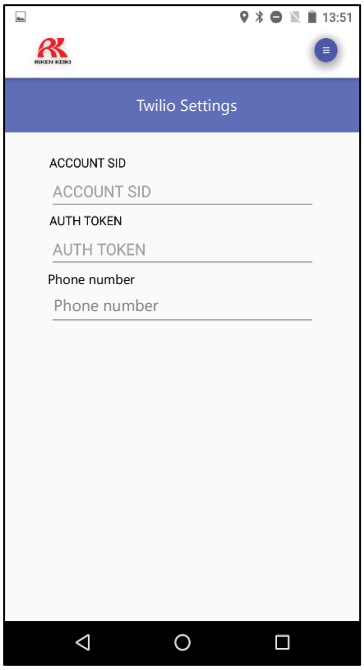
② Email Service
Choose Gmail or an external service (paid service) to send emails.

7.2.1 Gmail Settings



Enter the address and password of the Google account and sign in.
Each email will be sent through the registered account.

7.2.2 Twilio Settings



Set when using SMS (short message service) via an external service.
The following steps are required to use the SMS function:

① Contract with Twilio
The customer must conclude a contract with Twilio (https://twilio.kddi-web.com/) to obtain an account SID and auth token and purchase a dedicated SMS phone number.

② RK Link setup

<Application settings>
Notification Settings → Enable Twilio in Text Service
Enter the Twilio account details obtained in step ①.

<Email notification settings>
Enter the phone number for receiving SMS in the Email address input area in Email notification settings.
Enter the phone number. Use the international phone number format.

Example: For the cellphone number 090-xxxx-oooo: +8190-xxxx-oooo

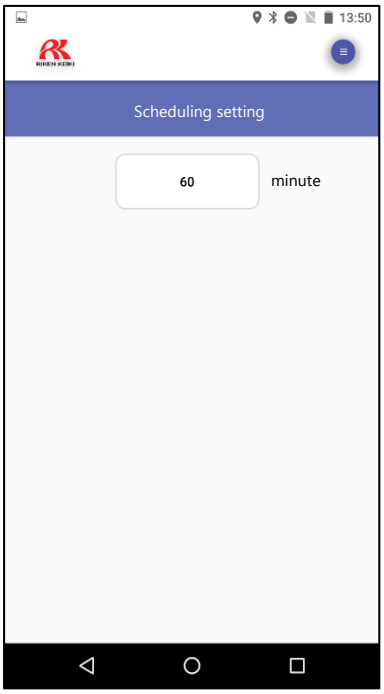
Transmission and transmission groups are handled in the same way as for email.
The application automatically recognizes the recipient as an email address or phone number and sends an email to the former and an SMS to the latter.

Note that the SMS transmission function may be restricted in certain countries. Please check the regulations for the specific country before use.

7.2.3 Application Server Settings

SMS (Short Message Service) and email functions can be used with external services (paid services). A contract with an external service is required to use this feature.

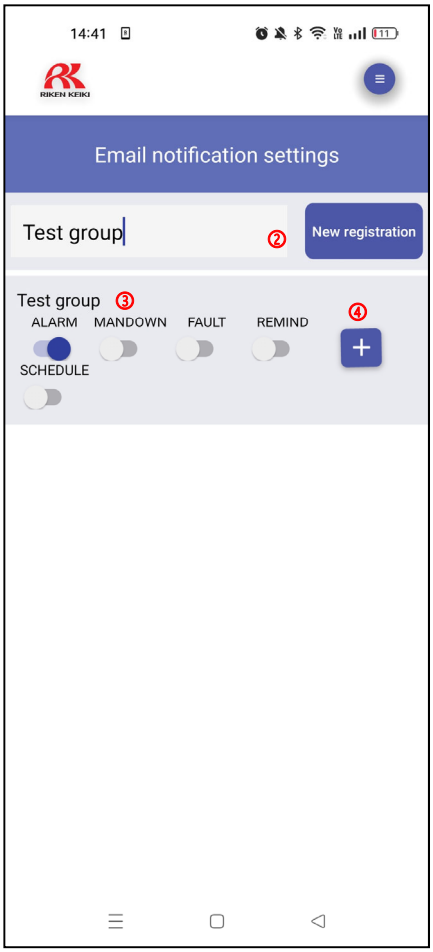
7.3. Scheduling setting

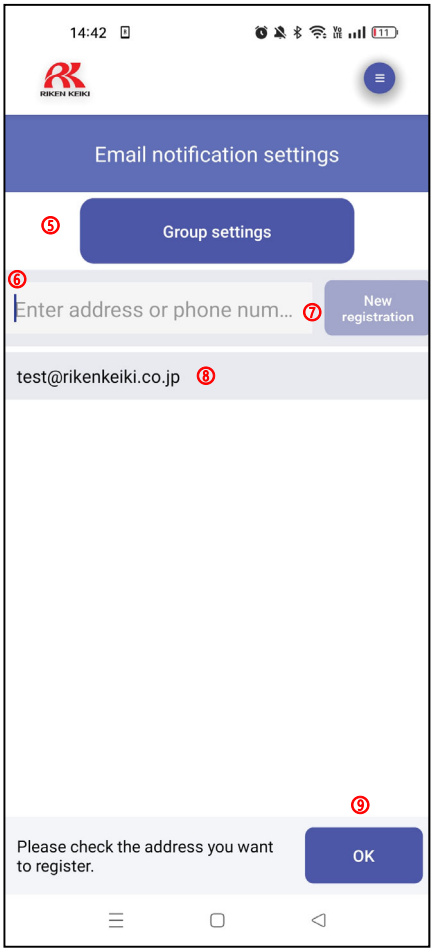


Indicated values are sent to the address registered in the destination setting by e-mail at a specified interval.
You can set the interval between 1 and 180 minutes.
The email is sent only when the real time screen is in the foreground (most foregrounded).
Even after exceeding the set interval, emails will not be sent at the set interval if the app is in the background (other apps are displayed in the foreground) or in a sleep state. In this case, email is sent when the real-time screen is set to foreground.

7.4. Email notification settings

7.4.1. Email notification settings screen





① Group name input area
This is used to enter a group name.

② New registration button
Registers the group name entered.

③ Alarm notification switches
Enables or disables alarm notifications for each group.

④ Group member setting button
Displays the group registered address screen.

⑤ Group settings button
Displays the Group settings screen.

⑥ Email address input area
This is used to enter an email address.

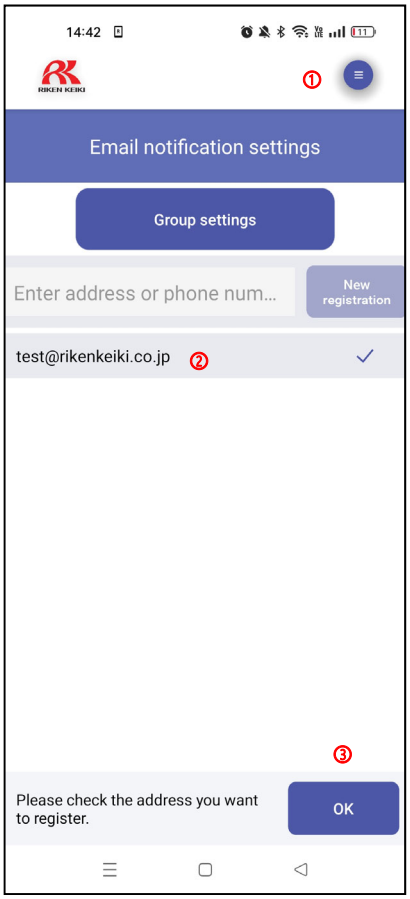
⑦ New registration button
Registers the email address entered.

⑧ Email address list
Lists up to 100 registered email addresses.

⑨ OK button
Registers the email addresses selected.

7.4.2. Delete registered address

Deletes a registered email address.



① Menu
Open the menu and select “Delete registered address”.

② Address selection area
Select email addresses to delete.

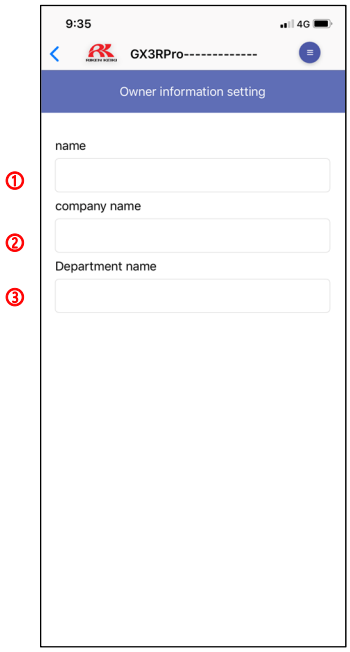
③ OK button
Deletes the email addresses selected.

7.4.3. Register from Phone Book

This adds email addresses registered in the Phone Book to the list of email addresses to which notifications are sent.

Open the menu at the top right of the screen and select “Register from Phone Book”.
Select the required addresses from the phone book displayed, then press the OK button to confirm.

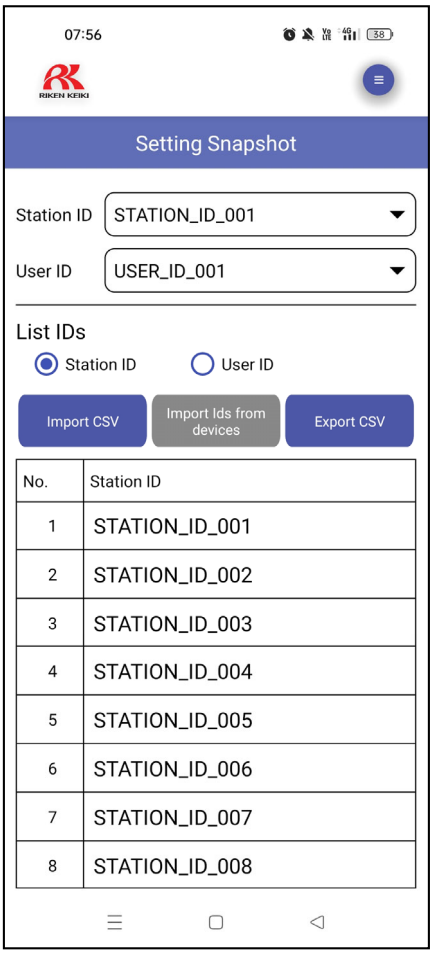
7.5. Owner information setting screen



① Name input area
This is used to set the name of the RK Link owner.
② Company name input area
This is used to set the company name of the RK Link owner.
③ Department name input area
This is used to set the department name of the RK Link owner.

The details set here will be included in the text of the email sent in the event of an alarm.

7.6. Setting Snapshot



The station/user ID can be set/edited.

< How to set ID >

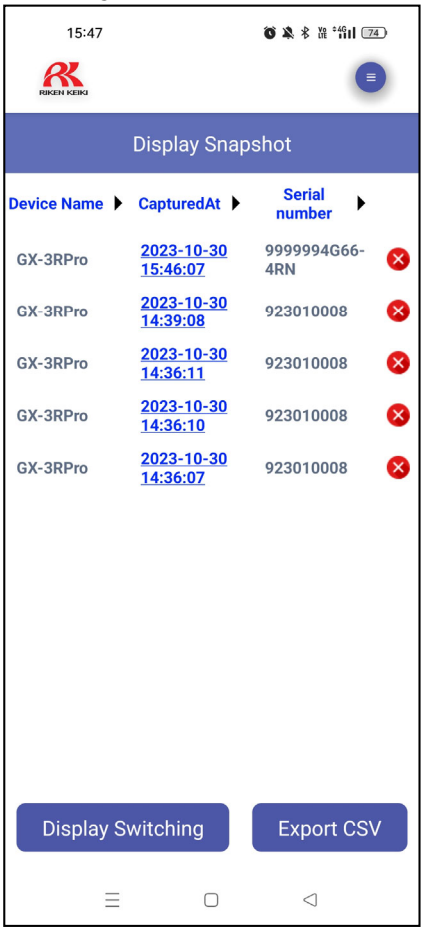
(1) Select "Station ID" or "User ID" in "List IDs".

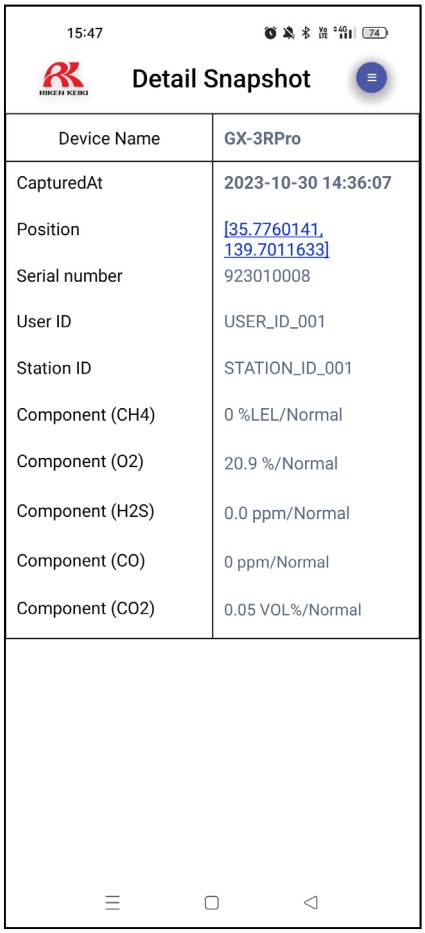
(2) Select either "Import CSV" (import ID list in CSV format) or "Import Ids from devices" (import ID information from the connected gas detector).
After reading the list, tap each ID to set it to any character.
(Selectable characters: 1 to 16, uppercase and lowercase alphabets, numbers, spaces, and symbols)

(3) Select any ID from the drop-down menu.

* If the ID list was edited in "Setting Snapshot", the ID list in the application will be edited.
It is not reflected in the ID list or the ID settings of the gas detector.
Once the list is loaded, it will be kept in the app even after the pairing with the gas detector is disconnected. The next time you pair with a gas detector, the ID setting in the app will be applied regardless of the ID setting of the gas detector.

7.7. Display Snapshot



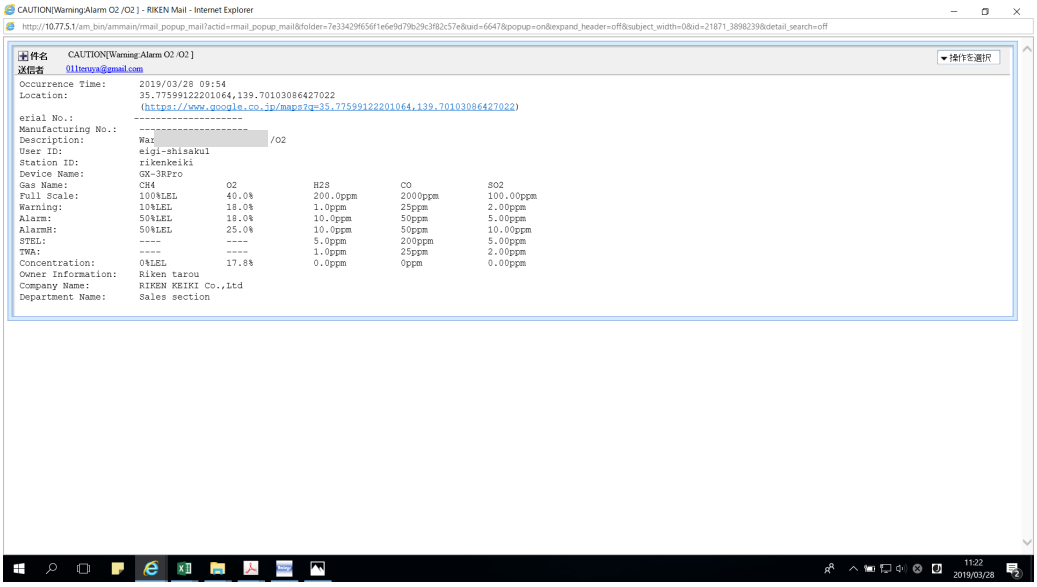


Displays saved the snapshots.
Tap "CapturedAt" of any data with the list displayed to view the details.
Tap the "Display Switching" button in the lower left corner of the screen to switch display items in the following order: "Serial number", "Station ID", and "User ID".

In the Android version, you can delete data by tapping the "× button" on the right side of each data item.
For the iOS version, you can delete any data by swiping it sideways.

Saved data can also be exported in CSV format for list data.

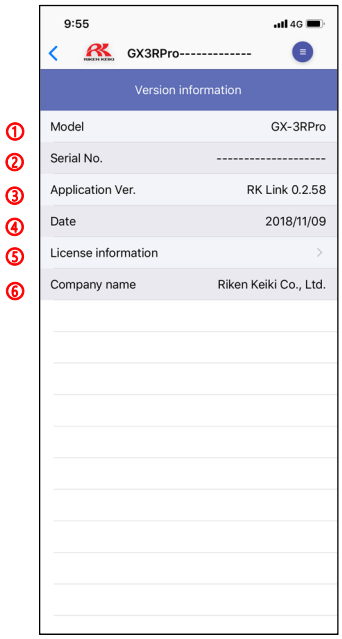
7.8. Sample email



- Title
  Indicates the alarm type and details.
- Occurrence Time
  Indicates the time the alarm occurred.
- Location
  Indicates the coordinates and URL for a map of the location (smartphone) where the alarm occurred.
  Tap on the URL to display the location where the alarm occurred.
- Serial No.
  Indicates the serial number.
- Manufacturing No.
  Indicates the manufacturing number.
- Description
  Indicates the alarm type and details.
- User ID
  Indicates the user ID set for the detector.
- Station ID
  Indicates the station ID set for the detector.
- Device Name
  Displays the model name of the detector.
- Gas Name
  Indicates the detection target gas(es).
- Full Scale
  Indicates the full scale for the detector.
- Warning
  Indicates the WARNING setpoint for the detector.
- Alarm
  Indicates the ALARM setpoint for the detector.
- Alarm H
  Indicates the ALARM H setpoint for the detector.
- STEL
  Indicates the STEL alarm setpoint for the detector.
- TWA
  Indicates the TWA alarm setpoint for the detector.
- Concentration
  Indicates the gas concentration at the time the alarm occurred.

- Owner Information
  Indicates the owner name set in RK Link.
- Company Name
  Indicates the company name set in RK Link.
- Department Name
  Indicates the department name set in RK Link.

8. Version Information Screen



① Model display area for the connected detector
② Serial No. display area
③ Application Ver. display area
④ Date display area
⑤ Displays the License information display screen.
⑥ Company name display area

9. Pairing Disconnection

9.1. Pairing disconnection

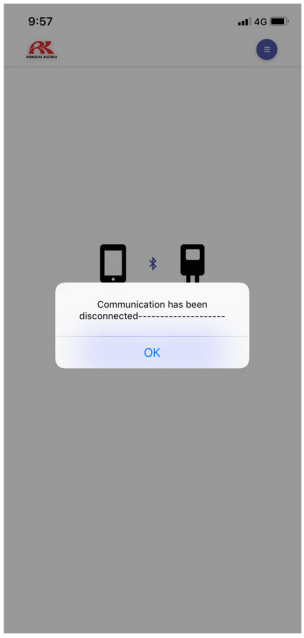
Disconnects the pairing connection.

9.2. Bluetooth disconnection

The display returns to the top screen if the connection with the detector is interrupted and cannot be re-established within a preset time.

9.3. Smartphone reminder alarm

Displays a popup (or notification if running in background) if the connection with the detector is interrupted.
*Not displayed for connections interrupted using Menu → Pairing Disconnection.



10. Download Manual

Downloads the operating manual. The download destination will vary depending on the smartphone.

11. Detector Search

Emits the alarm sound and lights up the LED on the detector.
The alarm stops automatically after 20 seconds.

12. Troubleshooting

12.1. Troubleshooting

Symptom	Corrective action	
Unable to sign in even when entering the correct Gmail address and Gmail password.	App	The "Password" field should not be your account password, but the "App Password" that you create when setting up 2-Step verification. For details, please refer to "4.2. How to register a Google account".
Unable to connect to gas detector	Gas detector	Check to confirm that the power is turned on.
		Check to confirm that the detector is in Bluetooth mode.
	Smartphone	Check to confirm that the Bluetooth settings are enabled.
		Check to confirm that a gas detector is present nearby.
Snapshot button is disabled. (Snapshot button icon has a diagonal line)	App	User ID and Station ID must be set in order to use the Snapshot function. Please refer to "7.6. Setting Snapshot" to set the IDs.

13. Specifications

[Operating environment]

Device type	Android	iPhone
Operating system	Android 6.0 or later*	iOS 10.0 or later
Required device functions	Bluetooth 4.2 or later (supports Bluetooth Low Energy)	
	Location information service	
	Notification service	

* Dark mode not supported

[Supported gas monitors]

GX-3R Pro, GX-9000, GX-9000H

[Precautions]

- Both Android and iOS devices require a Google account (Gmail address) to send emails.
  * 2-Step verification must be enabled in order to set up a Google account. For details, please refer to "4.2. How to register a Google account".
- Emails are sent using the smartphone packet communications. You may incur data communication charges with your carrier.
- Application permissions (e.g., Bluetooth, location information) must be enabled.
- The application requires access to storage, the address book, and location information.
- The pairing may be cut off unexpectedly during operation. In this case, please retry pairing the device.
- Before updating the device, please back up the device and test the installed apps to make sure there are no effects.

Revision history

Issue	Revision	Issue date
0	First issue	2019/3/27
1	Major upgrade including addition of SMS transmission function and supported GX-2100 model	2019/11/26
2	Major upgrade	2020/10/20
3	4.2. correction, target model GX-9000/GX-9000H added, snapshot function added	2023/11/9