



# **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 when using the GX-3R Pro.

## 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

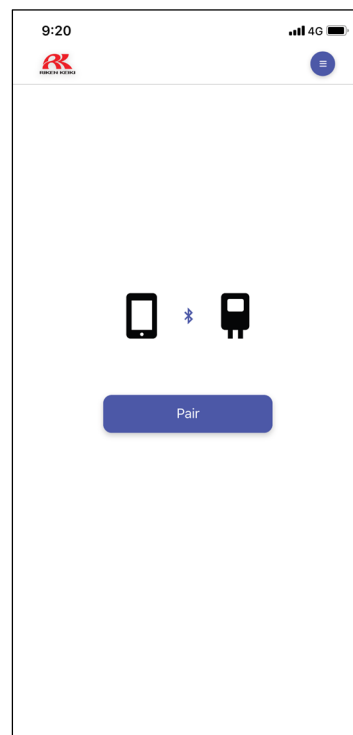
OS	OS versions supported
Android	6.0 or later
iOS	10.0 or later

### 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
  - Startup screen



### 3. Menu List

#### 3.1. When no detector is connected

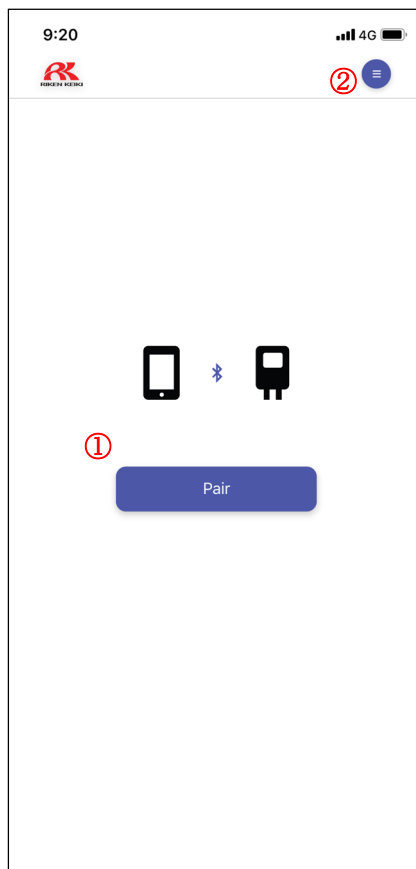
- Application settings
  - Group notification settings enable/disable
  - Notification Settings
  - Device notification settings enable/disable
  - Alarm sound enable/disable
  - Sound type
  - Alarm vibration enable/disable
  - Vibration type
  - Display settings (time)
  - Scheduling setting
  - Email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

#### 3.2. When a detector is connected

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

## 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.

<Starting for the first time>

Register Gmail account.

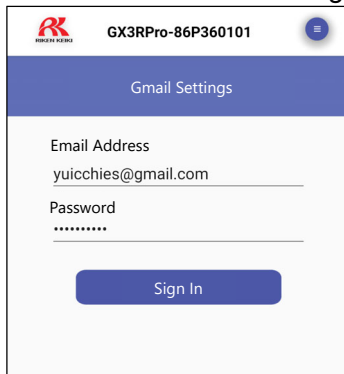
Each email will be sent through the registered account.

RK Link requires to register Gmail address and Gmail password. Follow the instructions on the screen and enter the Gmail address and Gmail password, then sign in.

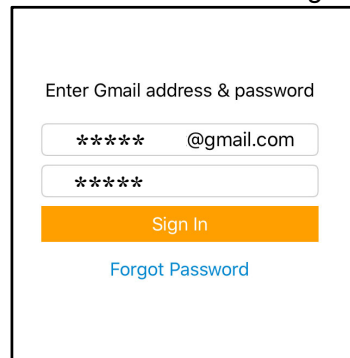
When the registration is complete, a notification will be sent to the registered email address. Confirm to have received this information before using the service.

**\*The “Allow Less Secure Apps” setting must be enabled in your Google account security settings. Go to the Google website for more information on configuring this setting.**

Android version screen image



iOS version screen image

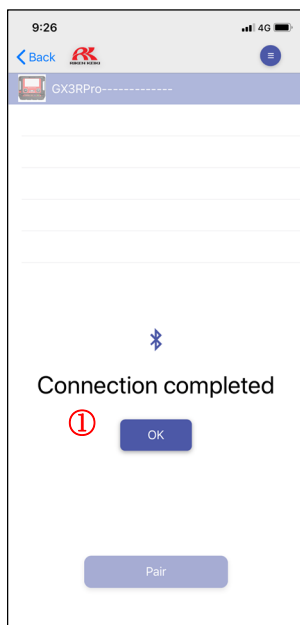


## 4.2. Pairing screen



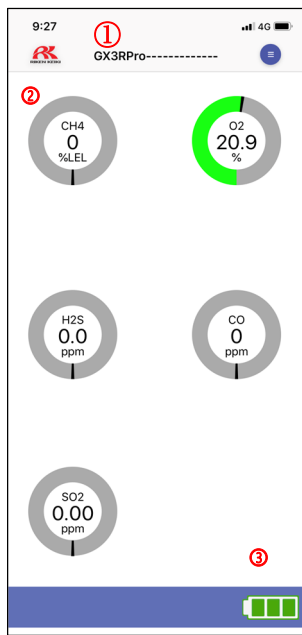
Detects and displays the device names of any detectors in the vicinity of your smartphone. Select a device name and tap the ① Pair button to pair with that device. The display returns to the top screen if no gas detector is found within a preset time.

## 4.3. 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.

#### 4.4. Real-time screen

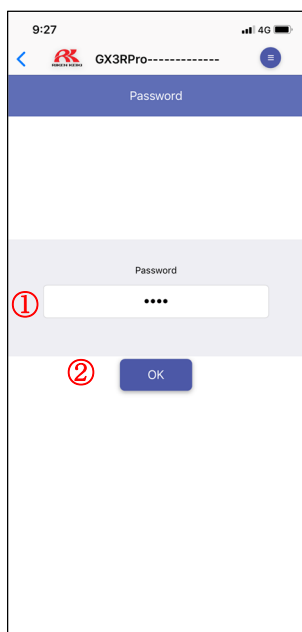


- ① Connected device name
- ② Gas information  
Displays the gas names, measured values, units, alarm colors, and maximum or minimum values.
- ③ Battery level

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.

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

### 5.1. Password entry screen



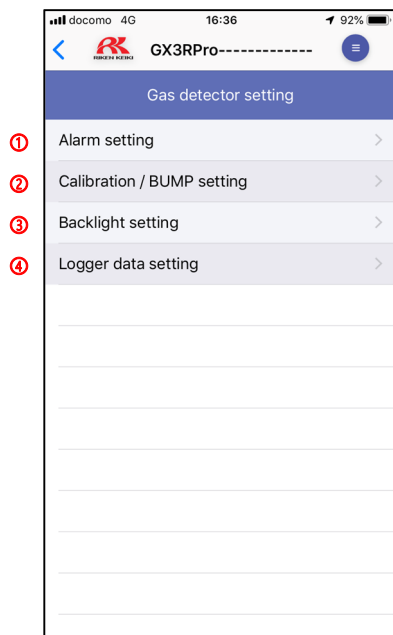
This is used to enter the user password for the detector required to modify the detector settings.

The settings cannot be edited without the correct password.

- ① Password entry area
- ② OK button

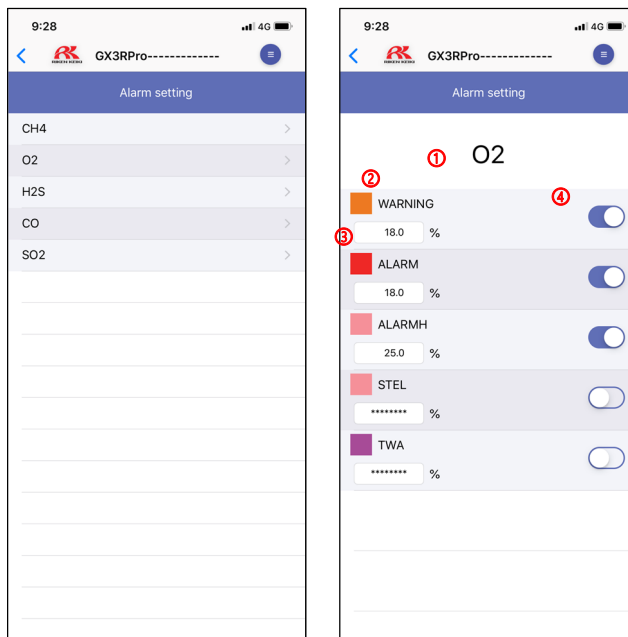
The password is determined by the detector and can only be changed from the detector. The default detector password setting is "0000".

## 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.

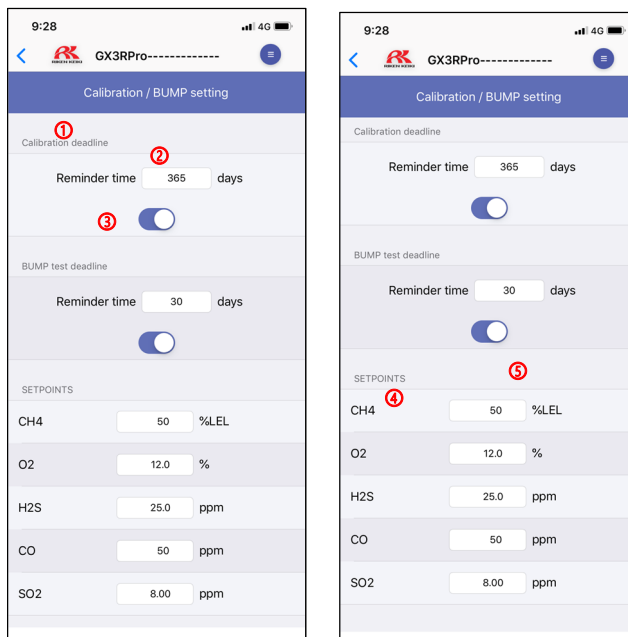
### 5.3. Alarm setting screen



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

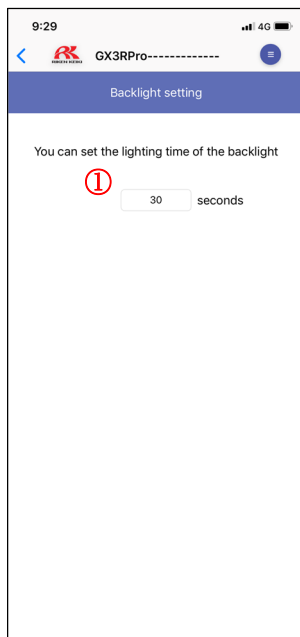
- ① Gas name
- ② Alarm type (WARNING, ALARM, ALARMH, STEL, TWA)
- ③ Alarm setpoint  
This is used to set the alarm setpoint.
- ④ Alarm notification switch  
Enable the alarm notification switch to send notification when an alarm occurs.

## 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

9:29 4G

< GX3RPro-----

Logger data setting

Interval trend cycle  
① 300

Station ID  
② rikenkeiki

User ID  
③ eigi-shisaku1

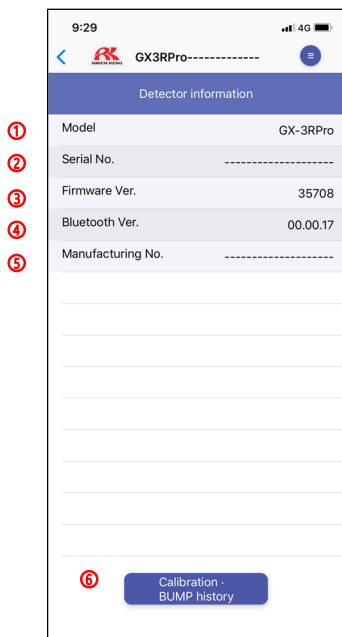
Serial No.  
④ -----

⑤ SEND

- 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.

Calibration date / time	Before calibration	After calibration	Calibration concentration	Calibration interval
CH4 2019 02/12	14	14	50	321
100%LEL 2019 02/12				
O2 2019 02/12	10.5	10.6	12.0	321
40.0% 2019 02/12				
H2S 2019 02/12	8.0	14.7	25.0	321
200.0ppm 2019 02/12				
CO 2018 01/01	0	0	50	Now
2000ppm 2018 01/01				
SO2 2018 01/01	0.00	0.00	8.00	Now
100.00ppm 2018 01/01				

BUMP Date and time	BUMP concentration	BUMP test concentration	BUMP interval
CH4 2019 02/12	14	14	Now
100%LEL 2019 02/12			
O2 2019 02/12	10.6	10.6	Now
40.0% 2019 02/12			
H2S 2019 02/12	14.7	14.7	Now
200.0ppm 2019 02/12			

Calibration date / time	Before calibration	After calibration	Calibration concentration	Calibration interval
CH4 2019 02/12	14	14	50	321
100%LEL 2019 02/12				
O2 2019 02/12	10.5	10.6	12.0	321
40.0% 2019 02/12				
H2S 2019 02/12	8.0	14.7	25.0	321
200.0ppm 2019 02/12				
CO 2018 01/01	0	0	50	Now
2000ppm 2018 01/01				
SO2 2018 01/01	0.00	0.00	8.00	Now
100.00ppm 2018 01/01				

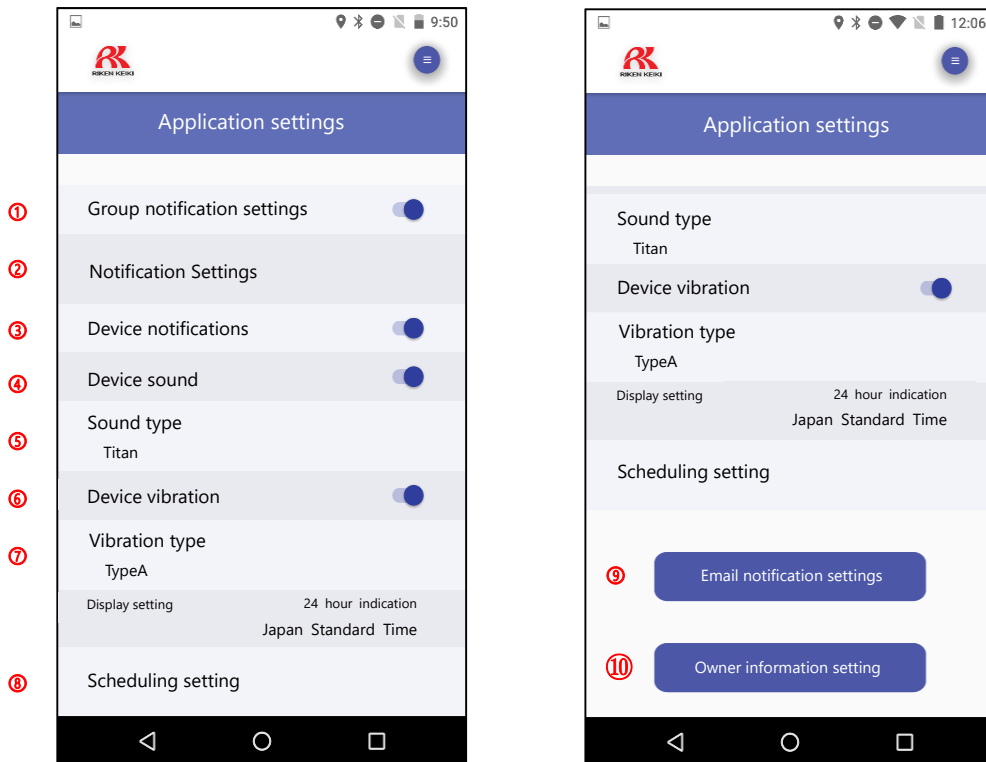
  

BUMP Date and time	BUMP concentration	BUMP test concentration	BUMP interval
CH4 2019 02/12	14	14	Now
100%LEL 2019 02/12			
O2 2019 02/12	10.6	10.6	Now
40.0% 2019 02/12			
H2S 2019 02/12	14.7	14.7	Now
200.0ppm 2019 02/12			
CO 2018 01/01	0	0	Now
2000ppm 2018 01/01			
SO2 2019 02/12	26.60	25.00	Now
100.00ppm 2019 02/12			

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

## 7. Application Settings

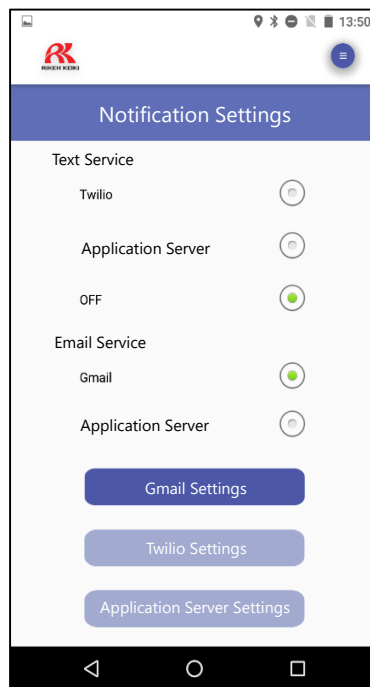
### 7.1. Application settings screen



- ① **Group notification settings**  
Enables or disables group notifications.  
Enable group notifications to transmit emails to the address set in ⑦ Email notification settings when an alarm occurs.
- ② **Notification Settings**  
Set when using SMS (short message service) via Gmail and an external service.
- 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.

- ⑨ Email notification settings  
Displays the Email notification settings screen.
- ⑩ Owner information setting  
Displays the Owner information setting screen.

## 7.2. Notification Settings



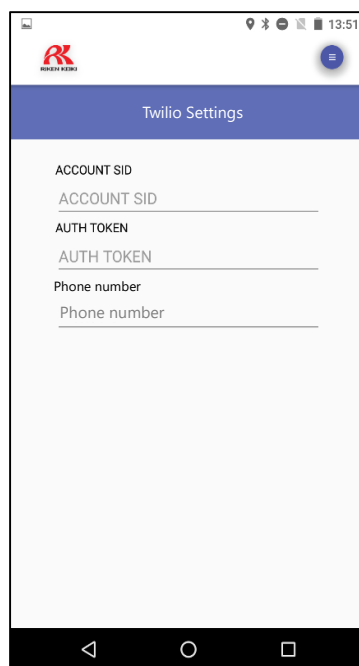
- ① Text service  
Select an external service (paid service) to be used when using SMS (Short Message Service).
- ② Email Service  
Choose Gmail or an external service (paid service) to send emails.

### 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-0000: +8190-xxxx-0000

Transmission and transmission groups are handled in the same way as for email.

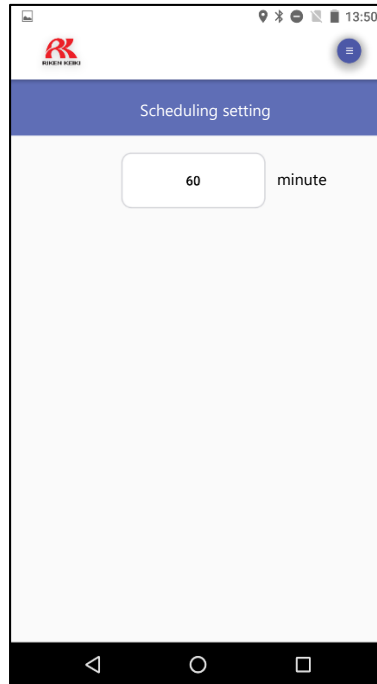
The application automatically recognizes the recipient as an email address or phone number and sends an email to the former and an SMS to the latter.

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 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.

## 7.5. 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.

## 7.6. 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.

## 7.7. Owner information setting screen

9:35 4G

< GX3RPro

Owner information setting

name

①

company name

②

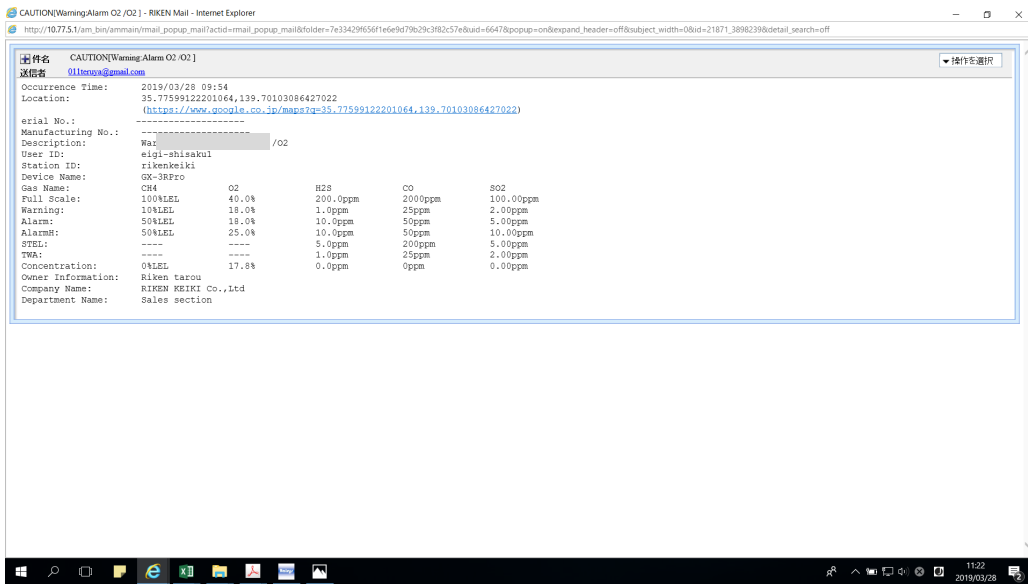
Department name

③

- 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.

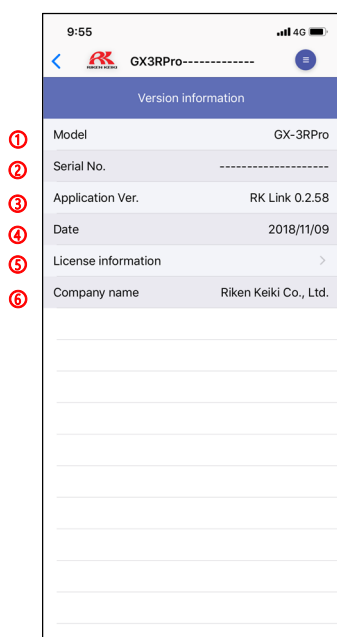
## 7.8. Sample email



- 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.

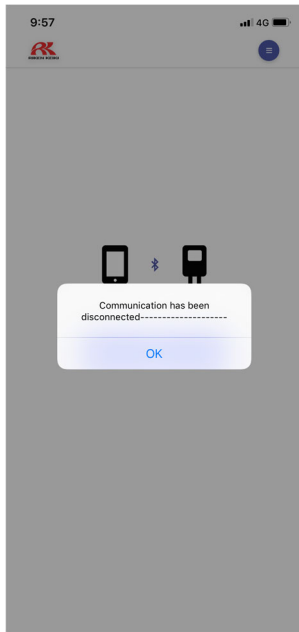
### 9.2. Bluetooth disconnection

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. (When using iOS)	Smartphone	The “Allow Less Secure Apps” setting may not have been enabled in your Google account security settings. Confirm that the setting is enabled before signing in again. Check the Google website for more information on how to configure this setting.
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.

## 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-2100 (TYPE A/B, TYPE AJ/B, TYPE E/B, TYPE EJ/B)

### [Precautions]

- Both Android and iOS devices require a Google account (Gmail address) to send emails.
  - \* With iOS, the “Allow Less Secure Apps” setting must be enabled in the Google account settings.
- 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