

Preparation for start-up

1. Check that the battery level is sufficient.
2. Check that the filter and filter tube in the gas sampling probe are free of dust or clogging.
3. Check that there is no bend or hole in the gas sampling hose and relay tube.
4. Check that the main unit, relay tube, filter tube, gas sampling hose, and gas sampling probe are connected properly in this order.



How to use

1. How to start the gas monitor

Keep the POWER switch pressed for three seconds or more.

If it beeps 30 seconds later from the power on, it is the detection mode.

2. Air calibration

Press and hold the AIR switch. Release it after the display shows "RELEASE" below. When the zero adjustment is successfully completed, END is displayed, and the reading value turns to zero (20.9% for O₂).

CAUTION: Perform it in fresh air.

3. How to detect

In the detection mode, put the gas sampling probe close to the detection area and take the reading on the display.

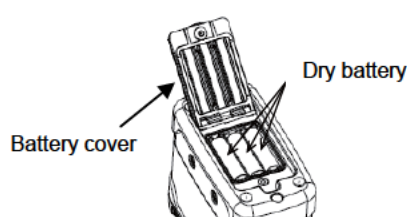
4. How to exit

Make the gas monitor draw in fresh air. After the display returns to zero (or 20.9% for oxygen), keep the POWER/ENTER switch pressed until the power is turned off.

5. Replacing dry batteries / Recharging of Li-ion batteries

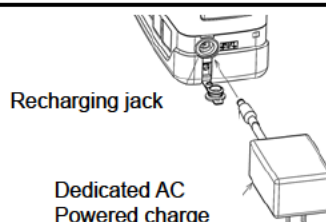
[Dry battery unit]

Replace all the three batteries with new ones paying attention to the polarities of batteries.



[Li-ion battery unit]

Put the plug of the AC powered charger into the recharging jack of the gas monitor.



CAUTION: Replace and recharge batteries in a non-hazardous area.

Note: Regarding detail, refer to instruction manual.

Troubleshooting

Symptoms	Causes	Actions
<u>The power cannot be turned on.</u>	The battery level is too low.	Lithium ion battery unit: Charge the battery unit in a non-hazardous area. Dry battery unit: Replace all the three dry batteries with the new ones in a non-hazardous area.
	The power switch was not pressed long enough.	For power-on, keep the POWER switch pressed until a beep is heard (about two seconds).
	Improper installation of the battery unit	Check whether the battery unit is properly attached to the main unit.
<u>Abnormal operations</u>	Disturbances by sudden surge noise, etc.	Turn off and restart the indicator/alarm unit.
<u>Key operations are disabled.</u>	Disturbances by sudden surge noise, etc.	In a non-hazardous area, remove the battery unit once, and reinstall the battery unit, and turn on the power to perform operations.
<u>System abnormalities</u> 『FAIL SYSTEM』	A circuit abnormality occurred.	Request RIKEN KEIKI for repair.
<u>Sensor abnormalities</u> 『FAIL SENSOR』	A sensor has failed.	Request RIKEN KEIKI to replace the sensor. (Only at power-on, press the RESET switch to continue the operation using gas sensors except the sensor which has failed.)
<u>A low battery voltage alarm is triggered.</u> 『FAIL BATTERY』	The battery level is low.	Lithium ion battery unit: Turn off the power and charge the battery unit in a non-hazardous area.
		Dry battery unit: Turn off the power and replace the dry batteries with new ones in a non-hazardous area.
<u>A low flow rate alarm is triggered.</u> 『FAIL LOW FLOW』	Water or oil, etc. was drawn in.	Check the gas sampling hose for any damage or mark of drawn water or oil, etc.
	The gas sampling hose is clogged.	Check the gas sampling hose for connections, clogging, twisting, etc.
	The gas detector was powered on at a low temperature or has not been used for a long time.	Turn on the power several times. The pump may start operating.
	The pump has deteriorated.	Request RIKEN KEIKI to replace the pump.
<u>Air calibration impossible</u> 『FAIL AIR CAL』	Fresh air is not supplied around the gas detector.	Supply fresh air.
<u>The reading rises (drops) and it remains so.</u>	Drifting of sensor output	Perform the air calibration.
	Presence of interference gas	Check if any interference gas, such as solvent, etc., is present and take an appropriate action.
	Slow leak	A very small amount of the gas to be detected may be leaking (slow leak). Ignoring it may cause dangers.
	Environmental changes	Perform the air calibration.
In particular, the galvanic cell type is affected by the air pressure.		

This simply helps to find the causes of malfunctions which frequently occur. If the gas monitor shows a failure which is not explained in this manual, or still has malfunctions even though troubleshooting are taken, please contact RIKEN KEIKI.

Since this is a safety unit,

Perform a maintenance once or more for every six months to maintain the performance as a safety unit.