

Portable Odor Level Indicator

XP-329IIIR

Instruction Manual

- Keep this manual for easy reference.
- Carefully read this manual prior to use.

NEW COSMOS ELECTRIC CO., LTD.

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Introduction

Thank you for purchasing the XP-329IIIR portable odor level indicator.

Various odors are present in our environment. We live unconsciously, surrounded by odors, such as food odor, exhaust smells from factories, flower scents, and perfumes. These odors continuously move with the airflow and do not stay in one place. People tend to regard odor as a single thing, but an odor is composed of various substances. A mixture of multiple odors can intensify or create a different odor depending on the level of each constituent, or sometimes cancel each other, resulting in almost no odor.

The XP-329IIIR unit is easy to use and is equipped with more functions as compared to the conventional XP-329 series units. It can detect a time-varying odor as an extremely rarefied gas at the parts per billion (ppb) level, providing an indication of slight variation in odor, which is difficult to detect with the human sense of smell, with digital numbers ranging from 0000 to 2000.

Package Contents

Please check that the following items are in the package (all in the carrying case). If any items are missing or damaged, please contact New Cosmos or its authorized representative for replacement.



Odor level indicator
x 1



Charcoal filter
x 1



Drain filter
x 1



Sampling probe
x 1



Tube connector
x 1



Teflon tube
x 1



Filter element (10pcs)
x 2



Activated carbon
x 2



AA battery
x 4



Dedicated AC adaptor
x 1



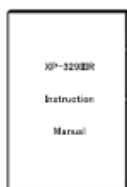
Dedicated cable
x 1



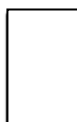
Carrying case
x 1



Cosmos Data Logger program
(installation CD) x 1



Instruction manual
x 1



Inspection certificate
x 1

Note: A charcoal filter, a drain filter, and a sampling probe have been pre-installed in the odor level indicator when shipped out.

Quick Start Guide

This section provides quick reference guide for using this product. For further details, refer to the page shown in parentheses.

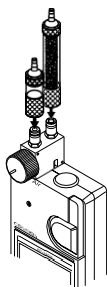
⚠ WARNING This product does not have explosion-proof construction. Use this product in a non-hazardous area (including replacement of batteries: → Page 9).

⚠ CAUTION To avoid the possibility of damaging or poisoning the sensor, do not use this product for the following gases:

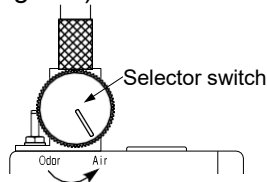
- Highly concentrated particulate tar, such as smoke from cigarettes - Halides, such as chlorine
- Highly concentrated chlorides and strong acids - Oxidative gases, such as ozone and NOx
- Intense odors and highly concentrated gases (especially sulfides) - Steam, such as oil mist
- Silicone compounds produced from hair sprays, silicone adhesives, silicone tubes, etc.

A. Measurement preparation

(1) Attach the charcoal filter and the drain filter. (→ Page 22)

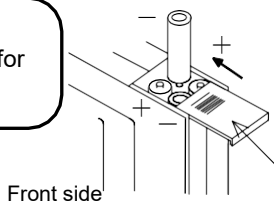


(2) Set the selector switch to Air. (→ Page 22)



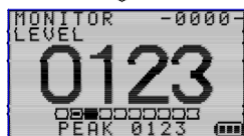
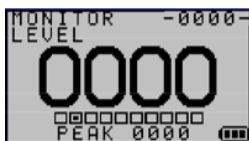
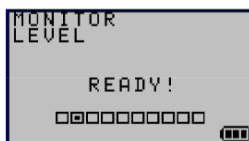
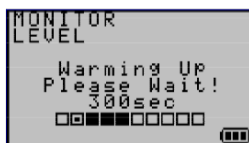
(3) Insert the batteries. (→Page 43)

⚠ CAUTION Do not remove the charcoal filter except for replacement.



Position the cover of the battery compartment at the point approximately 1 cm away from the end, and then close the cover by sliding it in the arrow direction while pressing down on the batteries, as shown in the illustration.

B. Measurement procedure



- (1) Turn on the power.

Push the POWER button  for 3 seconds. (→ Page 23)

A warm-up process begins at this point.

- (2) Check that  is displayed.

When the warm-up process is complete,  is displayed.

NOTE

- When the product is turned on immediately after the power is turned off once to finish measurement, or when the product is used every day, the warm-up process may be completed within 5 minutes.
- If necessary, the measuring mode should be changed on the mode select screen during the countdown period of 300 seconds. (→ Page 33)

- (3) Set the zero-base.

Push the SET button . (→ Page 25)

After the zero-base is set,  is displayed.

- (4) Measure the odor level.

Set the selector switch to Odor. (→ Page 25)

An odor is sampled, and the intensity level is measured and displayed.

- (5) Draw clean air.

Set the selector switch to Air. (→ Page 27)

- (6) Check that the intensity level is decreased.
(→ Page 28)

Check that the indicated value is decreased to a value at or near the zero-base.

- (7) Turn off the power.

Push the POWER button  for 3 seconds. (→ Page 28)

1. Instructions for Proper Use

Carefully read this instruction manual for proper and effective use of the product. In addition, this instruction manual should be stored in a readily available location for quick and easy reference, if necessary.

1.1. Symbols used in this manual

This manual uses Warning, Caution and Note symbols to draw attention to procedures, materials, methods, and processes, which require particular attention.

 WARNING	Indicates a potentially hazardous situation that may result in death or serious injury.
 CAUTION	Indicates a hazardous situation that may result in minor injury or property damage.
 NOTE	Provides information on product handling.

1.2. Icons used in this manual

The meanings of the icons in this instruction manual are as follows:

	Indicates the illuminated LCD area.
	Indicates the blinking LCD area.
	Indicates the POWER button.
	Indicates the MODE button.
	Indicates the SET button.
	Indicates the REC button.

1.3. Terms and definitions

The definitions of terms in this instruction manual are as follows:

Odor

For a fragrant smell, the odor is classified as a scent, and for a very unpleasant smell, the odor is classified as malodorous. In this instruction manual, both terms are expressed as Odor.

Clean air

This means clean air purified by a charcoal filter.

Zero-base setting (ZERO-BASE SET)

This means setting of the zero-base, which is the reference point in measurement, after drawing clean air prior to the measurement.

Monitoring mode (MONITOR)

This measuring mode continuously displays measured values in real time. This mode is used in measurements performed by tracking odors that vary with time. The peak value is always displayed at the lower part of the measured value.

Batch mode (BATCH)

This measuring mode displays the peak value for 1 minute. This mode is used to obtain the results of odors measured one-by-one. This is helpful for the measurement of two or more odors sampled at the site using optional sampling pumps and sampling bags, measurement in which odors of solid/liquid substances are put into sample bottles, or other similar measurements.

Level indication (LEVEL)

This indicates odor intensity using digital numbers 0000 to 2000. The level value is a value measured in the level indication mode.

Sensor protection (AUTO OFF)

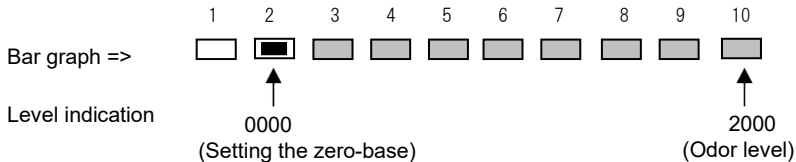
Long-term sampling of intense odors or high concentration gas may cause damage to, or malfunction of, the sensor due to poisoning; These may occur during continuous monitoring or unattended measurement. To prevent these, this product is equipped with the sensor protection function. When OVER LEVEL is continuously displayed for 1 minute or longer, the power supply is automatically turned off.

* When this function must be disabled for certain measurements, set this function to OFF on the mode select screen; however, note that disabling this function may have an adverse effect on the sensor.

1.4. Sensor-output bar graph meter

The state of the odor (sensor) is displayed with a bar graph meter.

- When the selector switch is set to Air (draw clean air): the state of the zero-base is displayed.
- When the selector switch is set to Odor (sampling of odors): the odor intensity is displayed.

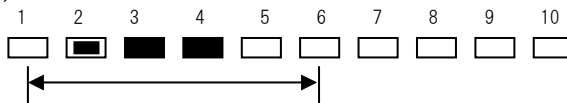


This product is calibrated so that the 2nd dot from the left is used for the zero-base, and the 10th dot from the left (or the rightmost dot) illuminates when the level value reaches 2000 (at full scale).

* Bar graph meter for sensor output in setting of the zero-base (after the warm-up process)

(1) Dot area available for setting zero-base

The 1st through 6th dots in the bar graph meter can be used for the setting range of the zero-base in which measurement can be correctly performed;

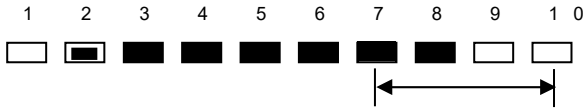


- The 1st dot illuminates when the zero-base is lower than the calibrated value; and
- The 6th dot illuminates when replacement of activated carbon or inspection is necessary in the near future.

In addition, when the zero-base is set to a right-side dot (3rd to 5th dots) from the dot for calibration (2nd dot), the measuring range is narrowed little by little, and the level value does not include a value up to 2000.

(2) Inspection alert area (**non-measurable area**)

The inspection alert area, or **non-measurable** area, is identified by the 7th to the last dot in the bar graph meter.



After the warm-up period, $\begin{array}{c} \diagup \\ \text{High} \end{array} \begin{array}{c} \text{READY!} \\ \text{Level} \end{array} \begin{array}{c} \diagdown \\ \text{Base!} \end{array}$ is displayed to notify that correct measurement cannot be performed in the area. This is attributed to contamination (sensor deterioration) on the sensor surface. When the zero-base is set in this area, correct measurement cannot be performed. In addition, the measuring range is also extremely narrowed.

If $\begin{array}{c} \diagup \\ \text{High} \end{array} \begin{array}{c} \text{READY!} \\ \text{Level} \end{array} \begin{array}{c} \diagdown \\ \text{Base!} \end{array}$ is repeatedly displayed after the warm-up period, request maintenance (inspection and adjustment) from your local dealer.

* For substances that may lead to deterioration (damage and poisoning) of the sensor, see page 9.

Instructions for Proper Use

1.5. Precautions for use

Please read the following precautions carefully for correct use.



WARNING

- **This product does not have explosion-proof construction. Use this product in a non-hazardous area (including replacement of batteries). Non-hazardous area**

A hazardous area is a location in factories or other workplaces where an atmosphere (hazardous atmosphere) within the explosion limits is or may be generated by a mixture of explosive gas, the amount of which is sufficient to cause an explosion or fire, and air. In contrast, a non-hazardous area is a location where electric facilities are established, and the location has no possibility of generating a hazardous atmosphere, whether under the usual conditions or unusual conditions.

- **Only use the supplied dedicated AC adaptor (100-240 VAC).**

Using an AC adaptor other than the supplied one may cause a fire.

- **Do not connect or disconnect the power plug of the AC adaptor when your hands are wet.**

This may cause an electric shock.

- **Do not put a heavy object on the power cord of the AC adaptor. In addition, do not break or damage the power cord.**



CAUTION

- **To avoid causing damage or poisoning the sensor, do not use this product for the following gases:**

- Highly concentrated odors and gases (especially sulfides)
- Silicone compounds produced from hair sprays, silicone adhesives, silicone tubes, etc.
- Highly concentrated particulate tar, such as cigarette smoke
- Steam, such as oil mist

- **To avoid corrosion of the catalyst on the surface of the sensor components, resulting in damage to the sensor, do not use this product for the following gases:**

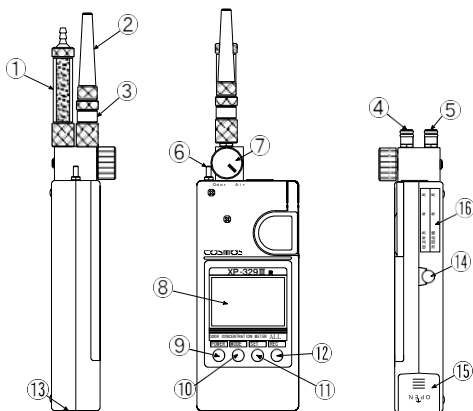
- Highly concentrated chlorides and strong acids

**CAUTION**

- Do not use this product for the following gases, which will cause the sensitivity to be minus, and at the same time, may cause temporary poisoning, corrosion, and damage to the sensor.
 - Halides, such as chlorine
 - Oxidative gases, such as ozone and NOx
- Do not use this product in the vicinity of any devices that generate electric waves, such as a mobile phone. Otherwise, normal operation and indications may not be provided.
- Even when this product is to be unused for an extended period of time, turn on the product once every 6 months and check that the pump normally works (by running the pump for approx. 3 minutes). If it is unused for an extended period of time, the grease inside the pump motor may become hardened, resulting in a motor malfunction.
- This product comprises precision components. To avoid possible damage to the product, be sure to adhere to the following precautions:
 - Do not disassemble, modify, or repair the product.
 - Avoid strong impacts and vibrations.
 - Do not store or otherwise expose the product to high temperature and high humidity.
 - Do not draw liquids, such as water. In addition, keep the product away from contact with liquids, such as water.
 - Do not wipe with benzene, thinner, or a wet cloth. (Wipe with a soft cloth when maintenance or cleaning.)
 - Do not apply strong pressure to the sampling port and the outlet of this product.
- Observe the measuring method.
- Correctly insert batteries according to the indicated polarity. When batteries are dead, replace all four batteries at the same time with the same type of new batteries. Be aware that if dead batteries remain in the product for a long period of time, this may cause battery liquid leakage. When this product is not expected to be used for one month or more, remove the batteries.
- When the AC adaptor is used, pay attention not to apply excessive force on the part/area where the plug is connected to this product.
- Test results obtained by this product cannot be used as public data prescribed in the Offensive Odor Control Law.
- Dispose of used product and components in accordance with the applicable laws and regulations.

2. Component Names and Functions

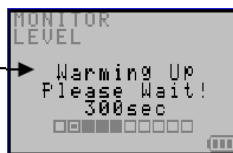
2.1. Odor level indicator



No.	Name	Function
1	Charcoal filter	Purifies air for setting the zero-base.
2	Sampling probe	Probe for sampling the odor of the measuring object.
3	Drain filter	Has a built-in filter element to remove dust, dirt, etc.
4	Odor inlet port	Draw the odor of the measuring object.
5	Air inlet port	Draw clean air.
6	Outlet port	Discharge the odor and clean air drawn.
7	Selector switch	Allows the drawing passage to be switched (Air <=> Odor).
8	LCD	Displays the odor intensity, the sensor warm-up time, the mode select screen, the battery level, etc.
9	POWER button	Turn the power to ON/OFF. In addition, this is used to reset the peak value in measurement in the monitoring mode.
10	MODE button	Switch the LCD to the mode select screen. In addition, this is used to change the measuring mode.
11	SET button	Set the zero-base. In addition, this is used to accept the items selected on the mode select screen, to reset the zero-base in measurement in the monitoring mode, to release the peak-hold function in measurement in the batch mode, etc.
12	REC button	Select items on the mode select screen. Used to start/stop recording measured values and to delete the recorded data.
13	Input/Output terminal	Connects a commercially available recorder or PC with the dedicated cable. Serves as analog output terminal or RS-232C I/O terminal.
14	AC adaptor connection port	Used to connect a dedicated AC adaptor.
15	Battery compartment	Houses four AA batteries.
16	Label indicating calibration year and month	A label indicating the calibration year and month and the next inspection year and month.

2.2. LCD

Indication of messages and measured values



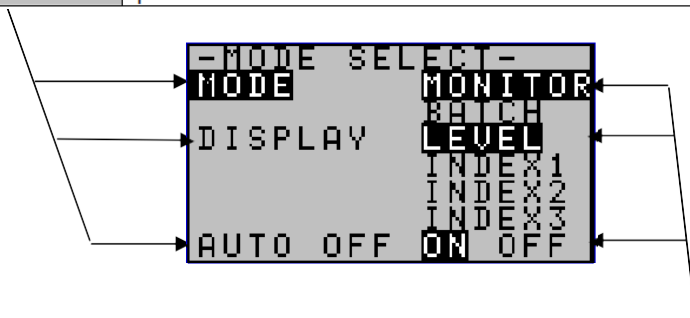
No.	Display	Description
1	Warming Up Please Wait! 300 sec	The product is in the process of warming up. Please wait 300 seconds before use. The warm-up takes 5 minutes after the power is turned on. A countdown from 300 to 0 seconds is performed on the display. * The warm-up may be completed within 5 minutes when the product is turned on immediately after the power is turned off once to finish measurement or when used every day.
2	READY!	The product is ready to start. This indicates that the product is warmed up and ready to start measurement.
3	READY! High Level Base!	READY: ATTENTION! This message appears when the 7 th or subsequent dot from the left of the sensor-output bar graph meter illuminates after completion of a warm-up. This indicates a high level zero-base and the necessity of replacement of activated carbon or inspection of the product. (→ Page 24 or 41)
4	STANDBY!	Measurement is in the standby mode. This message appears when measurement is in the standby mode after the zero-base is set in the batch mode.
5	MEASURE...	Measurement occurring in the batch mode. This message blinks during measurement in the batch mode.
6	CLEANING	Sensor cleaning after measurement results are displayed. This message blinks during sensor cleaning after the measurement results are displayed in the batch mode.
7	BASE RESET ERROR	Base reset error. This message appears when the SET button is pushed immediately after the selector switch is changed from Odor to Air.
8	STOP SUCTION!	Suction stop. This message blinks when an odor that has an adverse effect on the sensor is drawn. This also appears in case of sensor disconnection.
9	OVER LEVEL	Upper measurement limit exceeded. This message blinks when the measurable concentration range is exceeded, such as when an intense odor is drawn. This also appears in case of sensor disconnection.
10	- P C -	PC communication This appears when the power is turned on in the communication mode.
11	- ON LINE -	Line connected. This appears when a PC is connected with the instrument.
12	1025 (example)	Measurement in level indication shows measured values in the form of 4 numeric values. When the sensor output is in the minus direction with respect to the zero-base, the output is displayed as a minus value (example: - 025).

Component Names and Functions

Mode select screen

The selection method to the mode select screen (go to page 33)

No.	Display	Description	Manual operation button
1	MODE	Selection of one of two measuring modes: the monitoring mode (MONITOR) and the batch mode (BATCH).	MODE button 
2	DISPLAY	This should be always set to LEVEL.	
3	AUTO OFF	Highlighted during selection of ON/OFF of the sensor protection.	



No.	Display	Description	Manual operation button
1	MONITOR	Highlighted during selection of the monitoring mode in which measured values are continuously displayed in real time.	REC button 
	BATCH	Highlighted during selection of the batch mode in which the peak value is displayed for 1 minute.	
2	LEVEL	Highlighted during selection of the level indication in which the odor intensity is displayed using digital numbers 0000 to 2000.	
	INDEX (1, 2, 3)	Not available outside Japan.	
3	ON	Highlighted when the sensor protection is ON.	
	OFF	Highlighted when the sensor protection is OFF.	

Indication during measurement

No.	Display	Description	
1	MONITOR	These are the measuring modes.	Displayed when the monitoring mode is selected.
2	BATCH		Displayed when the batch mode is selected.

No.	Display	Description
1	-0028- (Example)	When there is already data recorded in the memory, the last memory number is displayed. In addition, when data is recorded in monitoring mode, the memory number blinks.
2	-FULL-	When memory is full and additional data cannot be stored, the product will not record, FULL blinks, and a buzzer sounds as notification.
3	-0000-	This notation appears when nothing is stored in memory.



No.	Display	Description
1	REC (60s)	This message blinks while data is being stored in memory. The number in parentheses denotes the recording interval in seconds. The interval can be selected from 1, 3, 10, 30, or 60 seconds (effective only in the monitoring mode → Page 47).

No.	Display	Description	
1	LEVEL	Measured value indication mode	Displayed when the level indication is selected in which the odor intensity is indicated by 0000 to 2000 (always set to LEVEL).
2	INDEX1		Not available outside Japan.
3	INDEX2		
4	INDEX3		

Component Names and Functions

No.	Display	Description	
1		Battery indicator (Indications for available time*)	Approx. 70 minutes or more (When new batteries are used, the available time is approx. 8 hours.*)
2			Approx. 30 minutes
3			Approx. 10 minutes
4			Less than approx. 10 minutes (The battery icon blinks to notify the need for battery replacement. After a period of time, the operation stops and the buzzer continues sounding. Displayed items other than the battery icon disappear.)

* Conditions: Alkaline battery, working temperature of 20°C, and the selector switch in an extraction mode set to Air.

No.	Display	Description
1	H	May be displayed in the upper right section of the measured value when measurement is started with the display message "READY! High Level Base!" (→ Page 26)



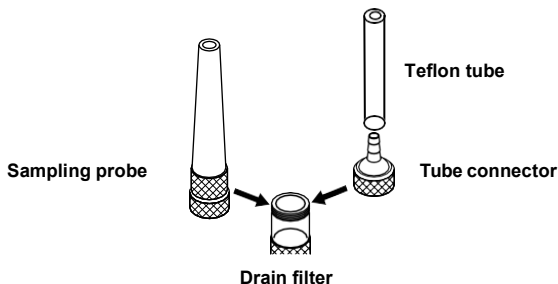
No.	Display	Description
1	PEAK○○○○	During measurement in the monitoring mode, the peak value during measurement is displayed.
2	PEAK HOLD	Displayed during measurement in the batch mode.

No.	Display	Description
1		The state of the sensor is displayed using the bar graph meter (as a guideline). The 2 nd dot from the left is the factory default base (0000), and the rightmost dot is the highest level (2000).

2.3. Sampling probe

Attachment for drawing the odor of the measuring object.

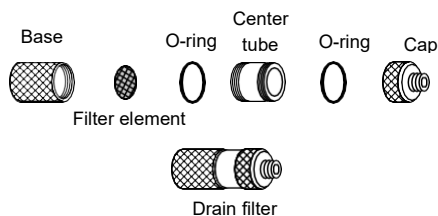
Attach the sampling probe to the end of the drain filter during measurement of odors in the atmosphere, or by attaching the tube connector to the end of the drain filter during measurement with a sampling bag or similar container connected. (See the illustration below)



2.4. Drain filter

A filter element is contained in the drain filter to remove dust, dirt, and other debris. The filter element is attached to the base with the O-ring. (See the illustration below)

When any contamination is visually observed, replace the filter element.



NOTE

Long-term use causes contamination of the filter element in the drain filter. A contaminated filter element has an adverse effect on measurement because: the pump suction quantity is decreased; the measured value becomes difficult to return to the zero-base; and correct measurement cannot be performed since odors sticking to the filter element are mixed with the target odor. If contamination is visually observed, replace with a new one.

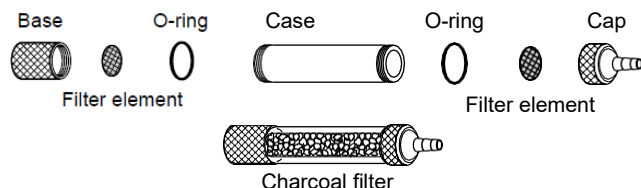
- Instructions for replacing the filter element (→ Page 39)

Component Names and Functions

2.5. Charcoal filter

This purifies air in the atmosphere to supply clean air. The clean air is used for setting the zero-base or cleaning the sensor. The charcoal filter has a structure in which a base is attached to a case, activated carbon is filled, and then a cap is attached. A filter element is attached to each of the base and the cap with an O-ring to seal the activated carbon. (See the illustration below)

Simultaneously replace the activated carbon and 2 filter elements approximately once every month.



- CAUTION**
- When turning the power ON, always attach the charcoal filter and the drain filter.
 - Do not remove the charcoal filter, except during replacement.

NOTE

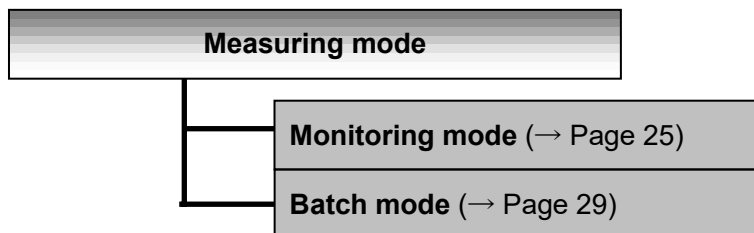
Decrease in the odor removal capacity of activated carbon makes supply of clean air difficult. Replace with new activated carbon approximately once every month.

- Replacement method for activated carbon (→ Page 41)

3. Measurement

3.1. General description of measurement method

This product has the following two types of measurement methods. Select a measuring mode and a measured-value indication mode most suitable for your desired measurement.



NOTE

- When the power is turned on, the product starts in the measuring mode used for the last measurement. The default at the time of purchase is the monitoring mode.
- The measuring mode is changed on the mode select screen. (→ Page 33)

Measuring mode

Monitoring mode (MONITOR)

This measuring mode continuously displays measured values in real time. This mode is used in measurements performed by tracking odors that vary with time. The peak value is always displayed at the lower part of the measured value.

Batch mode (BATCH)

This measuring mode displays the peak value for 1 minute. This mode is used to obtain the results of odors to be measured one-by-one. This mode is helpful for measurement of each of two or more odors sampled at the site, measurement in which odors of solid/liquid substances are put into sample bottles, or other similar measurements.

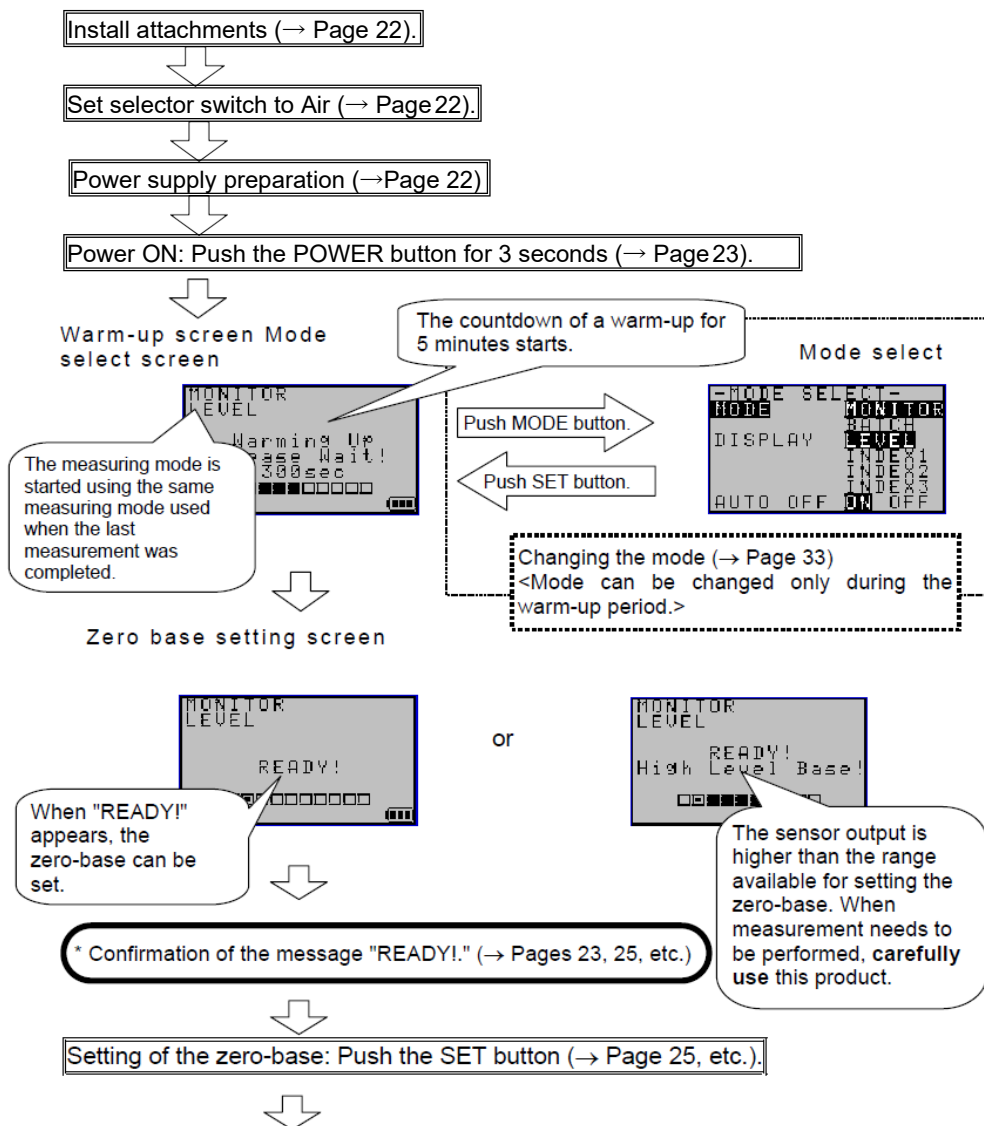
Indication of measured values

Level indication (LEVEL)

This indicates odor intensity using digital numbers 0000 to 2000. The level value is a value measured in the level indication mode.

Operating procedure flow

In this section, a series of operating procedures of this product is outlined by means of a flow chart. For details and precautions during measurement, carefully read page 22 and the subsequent pages before using this product.



Measurement in the monitoring mode



START: Set the selector switch to Odor (→ Page 25).

Level indication



The odor intensity is displayed.

END: Set the selector switch to Air (→ Page 27).



Check that the level indication is close to 0 (→ Page 28).

Power OFF: Push the POWER button for 3 seconds (→ Page 28).

Measurement

Measurement in the batch mode

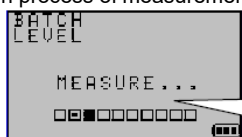
STANDBY! Screen



In the batch mode, a measurement standby state is displayed.

START: Set the selector switch to Odor (→ Page 29).

Screen in process of measurement



No numeric value is displayed for 1 minute of measuring time.

Level indication

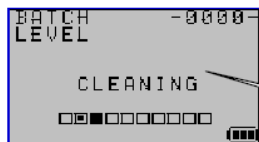


The peak value is displayed after the measuring time of 1 minute is completed.

Peak-hold Release: Push the SET button (→ Page 31).

END: Set the selector switch to Air → (Page 31).

Cleaning screen



Continue measurement.

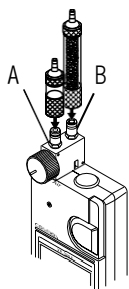
Return to base-setting screen
(→ The asterisk [*] on page 19).

Confirmation of message "READY! (→ Page 32).

The sensor is cleaned. After cleaning, the message READY! appears.

Power OFF: Push the POWER button for 3 seconds (→ Page 32).

3.2. Measurement preparation

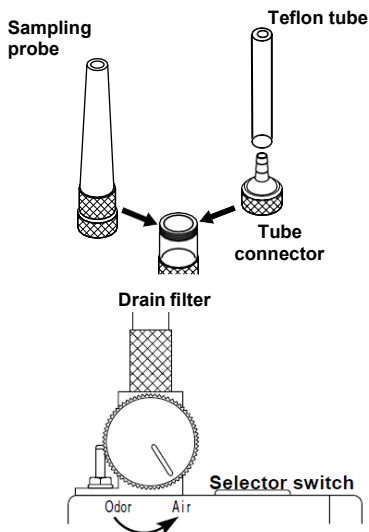


- (1) Attach the drain filter to port (A) at the upper part of the unit for drawing odor, and attach the charcoal filter to port (B) for drawing air.



CAUTION

- When turning the power on, always attach the charcoal filter and the drain filter. When attaching no filters, dust, dirt, and other debris are drawn and may cause failure of the selector switch or the pump.
- Be especially careful not to remove the charcoal filter, except for replacement.



- (2) Attach the sampling probe or the tube connector to the end of the drain filter.

NOTE

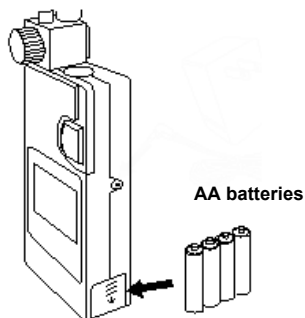
The sampling probe is used when odors in the atmosphere are measured, and the tube connector is used when odors are measured with a sampling bag or a sample bottle connected. Select the appropriate attachment according to the measuring method.

- (3) Set the selector switch to Air to prepare drawing of clean air.

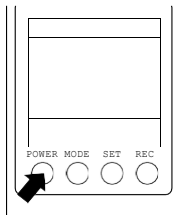
NOTE

The selector switch is turned counterclockwise to the end.

- (4) Insert batteries to this product, or connect the dedicated AC adaptor.



3.3. Starting measurement

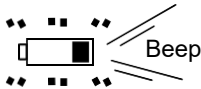


- (1) Turn on the power and begin warm-up.
Push the POWER button  for 3 seconds to turn on the power.



CAUTION Check that the charcoal filter and the drain filter are attached to a given position.

NOTE



Check that the battery indicator mark on the LCD illuminates. When the battery indicator blinks and the buzzer sounds, temporarily turn off the power once and replace with the same type of new batteries, or use the dedicated AC adaptor.



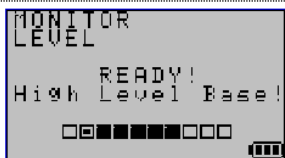
- (2)  is displayed and warm-up is performed for 5 minutes until the countdown indication reaches 0 seconds.

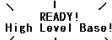
NOTE

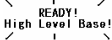
- The warm-up is completed within 5 minutes and  may be displayed.
- The measuring mode can be changed during the warm-up operation, if necessary. (→ Page 33)



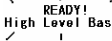
- (3)  appears and the setting of the zero-base becomes available.

NOTE

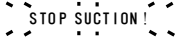
When  is displayed after a warm-up operation, the sensor output is higher than the range available for setting the zero-base.

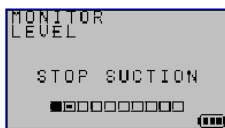
- Check the following items and perform the appropriate measures.
(→ Page 76)
 - Is the selector switch set to Air?
 - Has the scheduled replacement time of activated carbon expired?
- Even when  is displayed, measurement can be continued by pushing the SET button ; however, the measurement error becomes larger.

This product is calibrated so that the level ranging from 0 to 2000 is displayed (in the bar graph of the bottom of the screen, a right end dot hits 2000) as the factory default setting. When measurement is performed with the base set at a higher level than the level of calibration (the 2nd dot from the left of the bar graph) in the use of this product, the level value does not indicate up to 2000.

- If  is repeatedly displayed after a warm-up, request maintenance (inspection adjustment) from the dealer from which you made the purchase or our nearest sales office described on the back cover.



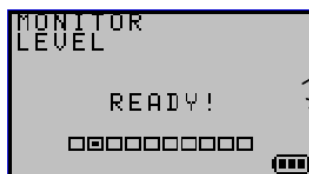
When  blinks and a buzzer sounds for 1 minute after warm-up starts:



 Beep-beep-beep

Immediately turn off the power supply. Then, change the selector switch to Air, and turn the power supply on again. Next, clean the sensor with clean air for 10 minutes or more. In an undesirable atmosphere that includes wafting odors or the like, move to an airy outdoor environment, and then perform the operation. Refer to related matters in Section 11 "Before calling for repair service" (→ Page 75) for further instructions.

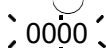
3.4. Measurement in the monitoring mode

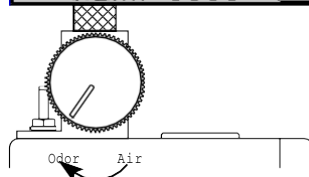


(1) Check that  is displayed.

Beep



(2) Push the SET button . The zero-base is set and  is displayed.



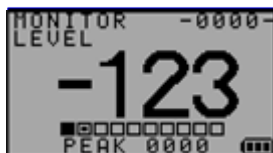
(3) Set the selector switch to Odor to start odor measurement.



(4) The odor intensity is displayed.

NOTE

(Example)



When the sensor output is at a point in the minus direction with respect to the sensor output obtained in setting the zero-base, a minus value is displayed. In addition, a minus value is displayed when compounds containing halogen elements, such as chlorine and fluorine, which are gases causing minus interference, are sampled, or when oxidative gas, such as ozone, NOx, and the like, is sampled. Set the selector switch to Air to draw atmospheric air (open air). (→ Page 78)

NOTE

- "H" may be displayed in the upper right area of the measured value.



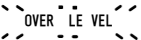
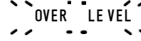
- This is displayed when the SET button  is pushed, and the sensor output is higher than the range available for setting the base. (→ Page 78)
- When the SET  button is pushed and the sensor output is within the range available for setting the base, "H" is not displayed in the upper right area of the measured value, even when  is displayed.
- After completion of measurement, follow the Note described on page 28 to turn off the power supply.

- The peak value is reset by pushing the POWER button  within 3 seconds.
The peak value is reset with a buzzer sound.



- When several odor samples are being measured, set the selector switch to Air and return the indicated value to near the zero-base before each measurement. When the sensor output is at a point in the minus direction with respect to the sensor output obtained in setting the zero-base, a minus value is displayed. Check that any odor causing minus interference is not sampled, and wait until the indicated value becomes stable. Then, reset the zero-base (→ Page 36). In addition, when the measurement is further continued, repeat the operation outlined in step (3) and the subsequent steps on page 25.
- In measurement of an environmental sample or the like, measurement with higher repeatability can be performed by sampling the odor into a sampling bag and making a measurement in the odor-free atmosphere.

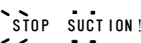
Measurement

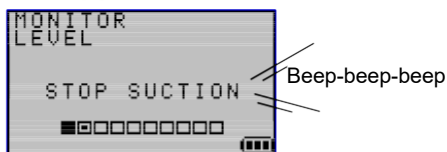
- CAUTION** • When  blinks and a buzzer sounds immediately after the SET button is pushed after completion of a warm-up:
- When  blinks and a buzzer sounds during measurement:



Immediately change the selector switch to Air to draw clean air for 10 minutes or more. An intense odor exceeding the measurable range is sampled.

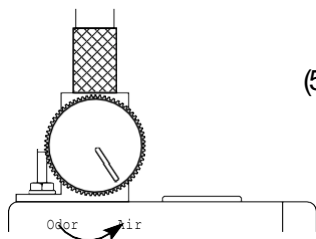
Refer to related matters in section 11 "Before calling for repair service" (→ Page 75) for further instructions.

- When  blinks and a buzzer sounds:



Immediately turn off the power supply. Then, change the selector switch to Air, and turn on the power supply. Next, clean the sensor with clean air for 10 minutes or more. Gases causing minus interference (gases having an adverse effect on the sensor characteristics, such as halogenides and oxidative gases, including ozone and NOx) may be sampled.

Refer to related matters in section 11 "Before calling for repair service" (→ Page 75) for further instructions.



- (5) Set the selector switch to Air.

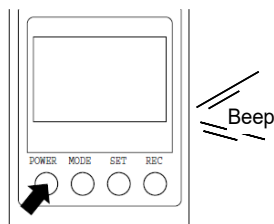


- (6) Check that the indicated value is decreased down to near the zero-base.

NOTE

The value may not return to the zero-base depending on the measuring object and the surrounding environment. In such a case, check that the level value is 100 or less, and then proceed to the power-supply shutdown procedure.

* When the power supply is turned off, the sensor needs to be aerated with clean air to recover the indicated value. As a recovery guideline, the level indication needs to be 100 or less for conditioning this product.



- (7) Push the **POWER** button  for 3 seconds. Then, the power is turned off and measurement is completed.

NOTE

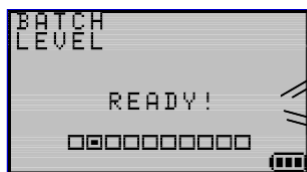
"H" displayed in the upper right area of the measured value means that measurement was not correctly performed. For the next measurement, set the selector switch to Air to turn on the electricity for 10 minutes or more, and then turn off the power supply. (→ Page 78.)

**CAUTION**

Before turning off the power, always set the selector switch to Air to draw clean air, and then turn off the power. In addition, be sure to attach a charcoal filter to the air inlet port, and set the selector switch to Air during storage.

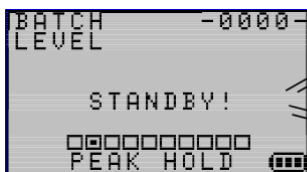
Measurement

3.5. Measurement in the batch mode



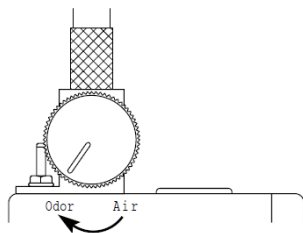
- (1) Check that  is displayed.

Beep



Blip

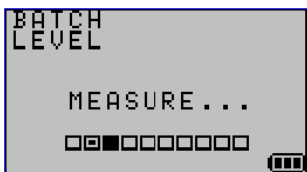
- (2) Push the SET button . Then,  is displayed, and the zero-base is set.



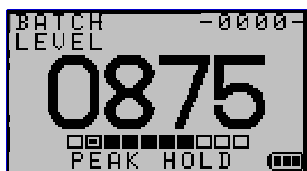
- (3) Set the selector switch to Odor to start the measurement of odors.

NOTE

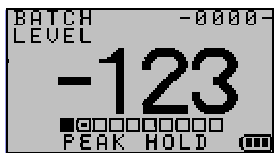
- After  illuminates, set the selector switch to Odor within 1 minute. When 1 minute or more passes, return to  with a buzzer sound.
- Do not operate the selector switch during measurement.



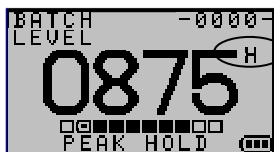
- (4)  blinks and measurement is performed for 1 minute.

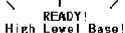


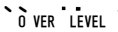
- (5) The peak value is displayed after 1 minute.

NOTE


(Example)



- When the sensor output is at a point in the minus direction with respect to the sensor output obtained in setting the zero-base, a minus value is displayed. In addition, a minus value is displayed when compounds containing halogen elements, such as chlorine and fluorine, which are gases causing minus interference, are sampled or when oxidative gas, such as ozone, NOx, and the like, is sampled. Set the selector switch to Air to draw atmospheric air (open air). (→ Page 78)
- "H" may be displayed in the upper right area of the measured value. 
 - This is displayed when the SET button  is pushed, and the sensor output is higher than the range available for setting the base. (→ Page 78)
 - When the SET button  is pushed and the sensor output is within the range available for setting the base, "H" is not displayed in the upper right area of the measured value even when  is displayed.
 - After completion of measurement, follow Note described on page 28 to turn off the power supply.

CAUTION When  blinks and a buzzer sounds during measurement,:

Immediately stop sampling and push the SET button  to release the peak-hold function. Then, set the selector switch to Air to draw clean air for 10 minutes or more. An intense odor exceeding the measurable range is sampled.

Refer to related matters in section 11 "Before calling for repair service" (→ Page 75) for further instructions.

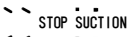


Beep-beep-beep

Measurement



CAUTION

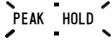
When  blinks and a buzzer sounds:

Immediately turn off the power supply. Then, change the selector switch to Air and turn on the power supply. Next, clean the sensor with clean air for 10 minutes or more. Gases causing minus interference (gases having an adverse effect on the sensor characteristics, such as halogenides and oxidative gases, including ozone and NOx) may be sampled. Refer to related matters in section 11 "Before calling for repair service" (→ Page 75) for further instructions.

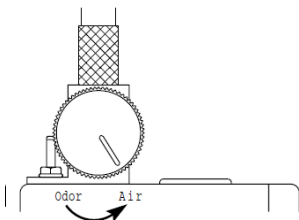


Beep-beep-beep

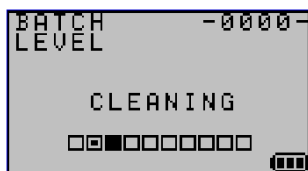


- (6) Release the peak-hold function. When the SET button  is pushed,  disappears.

- (7) Set the selector switch to Air.



- (8) After a period of time,  blinks.



NOTE

- **CLEANING** is displayed only when the sensor output decreases due to clean air drawn after the selector switch is set to Air. This may therefore take some time.
- When the sensor output is close to the zero-base at a time when the SET button  is pushed, the indication **CLEANING** is skipped and **READY!** is immediately displayed.

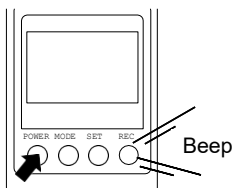


(9) Cleaning is completed and **READY!** is displayed.

Beep

NOTE

When the measurement is continued, repeat the operation outlined in step (1) and the subsequent steps on page 29.



(10) Push the POWER button  for 3 seconds to turn off the power.

Beep

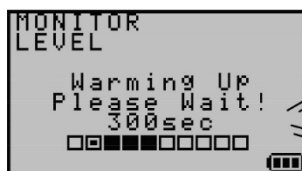
NOTE

"H" displayed in the upper right area of the measured value means that measurement was not correctly performed. For the next measurement, set the selector switch to Air to turn on the power for 10 minutes or more, and then turn off the power supply. (→ Page 78.)

**CAUTION**

Before turning off the power, always set the selector switch to Air to draw clean air, and then turn off the power. In addition, be sure to attach a charcoal filter to the air extraction port, and set the selector switch to Air during storage.

4. How to Setup and Change the Measuring Mode



- (1) Push the MODE button  during the countdown of .

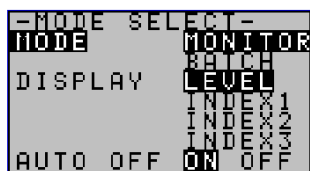
NOTE

When the power is turned on, the product is started in the same measuring mode with the same measured-value indication as set at the last operation.

Push the MODE button  during the countdown of 300 seconds, and confirm and change the settings on the mode select screen.

- Note that, after the countdown is complete and  is displayed, the measuring mode cannot be set or changed on the mode select screen. (The sensor protection can always be switched between ON and OFF during measurement.)

* The warm-up may be completed within 5 minutes, and  may be displayed when the product is turned on immediately after the power is turned off once to finish measurement or when used every day. Be careful when changing the measuring mode.



- (2) The screen switches to the mode select screen.

NOTE

On this screen, the measuring mode and the sensor protection can be set up.



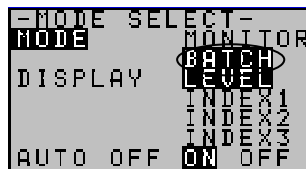
- (3) Select the monitoring mode or the batch mode.

The highlighted part is changed in the following order each time the MODE button

 is pushed:

→MODE → DISPLAY → AUTO OFF.

Highlight **MODE**.



- (4) The highlighted part changes between **MONITOR** and **BATCH** each time the **REC** button ☐ is pushed.

Select and highlight **MONITOR** or **BATCH**.



- (5) Select the level indication or the odor index indication.

Push the MODE button ☐ to highlight **DISPLAY**.



- (6) The highlighted part changes between **LEVEL** and **INDEX1** each time the **REC** button ☐ is pushed.

Select and highlight **LEVEL**.

NOTE

Outside Japan, always select **LEVEL**.



- (7) Accepting the set data for each item.

When the SET button ☐ is pushed, all set data is accepted, and the screen returns to the countdown screen or **READY!** is displayed. For the countdown screen, the remaining time is counted down.

5. Other Functions

5.1. Peak-hold function



During measurement of time-varying odors, the peak value is newly measured and displayed at all times. During measurement in the monitoring mode, the peak value is always displayed at the lower part/area of the measured value until such time when the current peak value is reset. (In batch mode, the measured value is the peak value for 1 minute)

How to reset the peak value during measurement in monitoring mode



- (1) Push the POWER button  during measurement (for less than 3 seconds).



- (2) The peak value resets and a buzzer sounds.

5.2. Zero-base reset

The zero-base can be reset when a minus value is displayed or the indicated value is not decreased after measurement, even when clean air is drawn for a period of time, however, note that this may cause a larger measurement error.



- (1) Check that the selector switch is set to Air, and push the SET button  for 3 seconds.

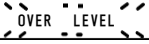
- (2) The zero-base resets and a buzzer sounds.

NOTE

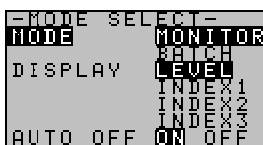
- When the odors with minus interference (compounds containing halogen elements, such as chlorine and fluorine, or oxidative gas, such as ozone, NOx, and the like) are sampled, draw the atmospheric (open) air first (→ Pages 25 and 78).
- If the zero-base is reset while the indicated value is decreasing, an error may occur in the next measurement. Check that any odor causing minus interference is not sampled, and wait until the indicated value becomes stable. Then, reset the zero-base.
- In addition, when the SET button  is pushed immediately (within 30 seconds) after the selector switch is changed from Odor to Air,  appears.
- See the following page for a measure to be taken if the indicated value will not decrease even when clean air is drawn for a period of time after measurement. (→ Page 80)

5.3. Sensor protection

Long-term sampling of intense odors or high concentration gases may cause damage or poisoning of the sensor. These may occur during continuous monitoring or unattended measurement. To prevent these, this product is equipped with the sensor protection function.

When  is continuously displayed for 1 minute or longer, the power supply is automatically turned off.

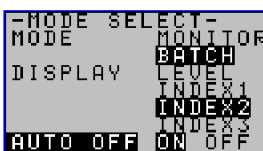
* When this function inevitably needs to be disabled for measurement, set this function to OFF on the mode select screen; however, note that disabling of this function may have an adverse effect on the sensor.



- (1) Push the MODE button  to display the mode select screen.



- (2) Push the MODE button  to highlight **AUTO OFF**.



- (3) The highlighted part changes between ON and OFF each time the REC button  is pushed.
Select and highlight **ON** or **OFF**.

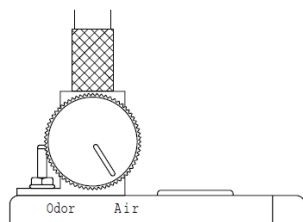
- (4) Accept the set data.
The set data is accepted by pushing the SET button .



CAUTION

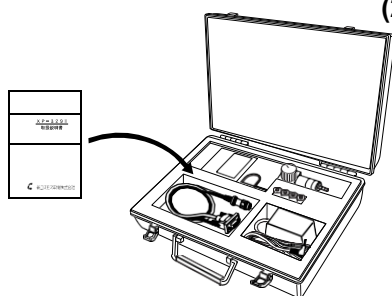
When the sensor protection is activated during measurement, turn on the power, and draw clean air for 10 minutes or more with attention to the atmosphere. Then, continue measurement or turn off the power supply.

6. Storage



- (1) After the power is turned off, check that the charcoal filter is attached and that the selector switch is set to Air.

CAUTION Before turning off the power, always set the selector switch to Air to draw clean air, and then turn off the power.



- (2) Place the odor level indicator and accessories into the given positions in the carrying case for storage.

CAUTION

- Do not expose this product to high temperatures and high humidity for long periods of time.
- Avoid rapid changes in temperature and humidity. Otherwise, the performance of the product may be impaired.
- Do not store or expose the product to any of the following environmental factors:
 - Exhaust gas exists from combustion equipment, such as a vehicles.
 - Smoke, such as that from a cigarette, or any other intense odor.
 - Gas from silicone compounds (generated from silicone putty, silicone tubes, hair sprays, etc.) exists.
- Avoid large pressure changes that may damage the product, such as a loss of sensor performance.
- When the product is not expected to be used for a long period of time, always remove the batteries from the unit.

7. Replacement of Consumables

The replacement consumable parts are listed in the table below. For ordering, please provide us with the part name, purchase unit, and quantity.

Part name	Quantity required for one replacement	Purchase unit
Filter element	1 pc per drain filter	10 or 50 pcs
	2 pcs per charcoal filter	
Activated carbon	1 pack	1 set (5 packs)

* The warranty period for consumable parts is one year from the date of purchase. The warranty terms and conditions are the same as those for the product (portable odor level indicator).

* Activated carbon should be used before the expiration date marked on the package.

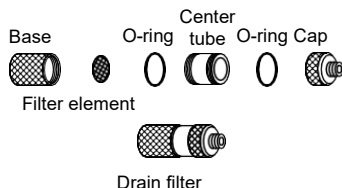
CAUTION For filters and activated carbon, use genuine parts. Parts used other than genuine products may result in incorrect measurements.

NOTE The common parts are the filter elements used for the drain filter and the charcoal filter.

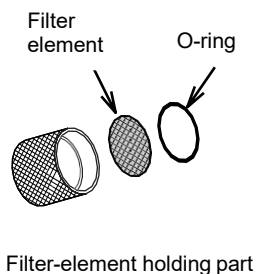
7.1. Replacement of filter element in drain filter

NOTE

- Long-term use causes contamination of the filter element in the drain filter. A contaminated filter element has an adverse effect on measurements because the pump suction quantity is decreased, the measured value becomes difficult to return to the zero-base, and correct measurement cannot be performed since odors sticking to the filter element are mixed with the target odor. If contamination is visually observed, replace the filter element with a new one.
- The base of the drain filter (shown in the illustration below) is a screw-type, which is attached/removed by turning each part and the center tube in the opposite direction of each other. The screwed part is turned in the same direction as general screws.



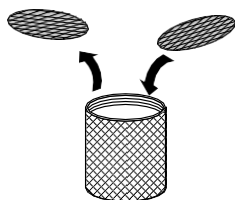
Drain filter



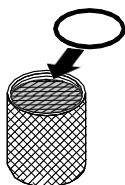
- (1) Turn and remove the base part of the drain filter.

- (2) Remove the O-ring with a screwdriver or tweezers.

CAUTION Pay attention not to damage or lose the O-ring.



- (3) Replace the filter element.



- (4) Attach the O-ring again with care so that the filter element is not loosened.

- (5) Assemble the drain filter just as before.

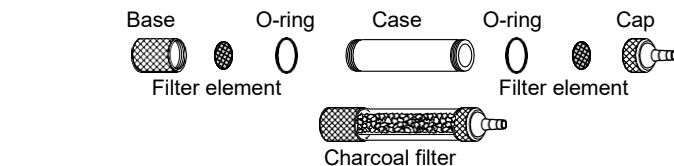
CAUTION In assembling the drain filter, take care not to tighten the base excessively.

7.2. Replacement of activated carbon

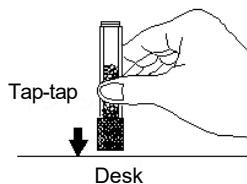
NOTE

- Activated carbon can be used for approximately 1 month after the pack is opened if used and stored in a clean-air environment.
 - * Replacement time depends on the operating conditions. If **READY!** **High Level Base!** is frequently displayed after a warm-up, or a return to the zero-base takes a long time, do not wait for one month and replace the activated carbon immediately.
- The odor removal capacity of activated carbon is influenced by temperature and humidity. When using this product in an environment with high ambient temperature and high humidity, the odor removal capacity is decreased and **'READY !'** may be difficult to be displayed. When using the product during the summertime, avoid direct sunlight. When using the product in dry conditions, such as during the winter, the activated carbon needs to be adapted to the temperature and the humidity at the measuring site. Even after the usual warm-up is finished, continue the warm-up more than 15 minutes at the measurement site with the selector switch set to Air.
- When replacing activated carbon, replace with our genuine product within the expiration date for use. In addition, replace the filter elements in the charcoal filter (1 element for each of two locations) at the same time.
- The base and the cap of the charcoal filter (shown in the illustration below) are attached/removed in the same way as the drain filter.

Charcoal filter



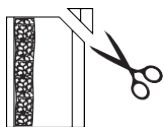
- (1) Turn and remove the cap of the charcoal filter, take out the activated carbon to empty the case. (Dispose of used activated carbon as flammable garbage.)
- (2) Turn and remove the base.
- (3) Replace the filter elements for the base and the cap. (The replacement method is the same as that of the drain filter. See Page 39 for further details.)
- (4) Tighten and assemble the base just as before.



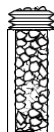
- (5) When new activated carbon is inserted into the case in the range of 50% to 80% of the case, hold the case in a vertical position and tap the case on the desk approximately 10 times to eliminate unnecessary clearance between pieces of activated carbon.

**CAUTION**

- Always charge activated carbon from the cap side. Charging from the base side may cause failure in measurement.
- Pay attention not to spill activated carbon.

NOTE

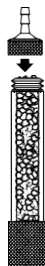
When opening a new pack of activated carbon, do not cut the pack open too much, but cut in a slanting direction along the cut-line.



- (6) Fill the case with activated carbon.

NOTE

A sack/container of activated carbon contains the necessary amount for each replacement. Any space in the case may result in an error of repeatability or of the measured value. Shake the case so as not to form any space in the replacement area. Although the activated carbon may form spaces during the replacement depending on the filling condition, fill the case while visually checking that there is no space.



- (7) Tighten and assemble the cap as before.

**CAUTION**

When assembling the charcoal filter, take care not to tighten the base and cap too extensively.

7.3. Replacement of batteries



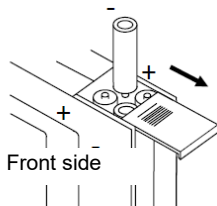
WARNING

Be sure to replace batteries in a nonhazardous area. **Nonhazardous area**

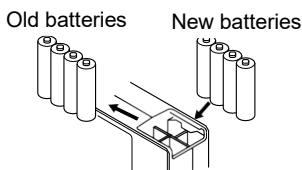
A hazardous area refers to a location in factories or other working places where an atmosphere (hazardous atmosphere) within the explosion limits is or may be generated by a mixture of explosive gas, the amount of which is sufficient to cause explosion or fire, and air. In contrast, a non-hazardous area is a location where electric facilities are established, which has no possibility that a hazardous atmosphere may be generated, whether under the usual conditions or unusual conditions.

NOTE

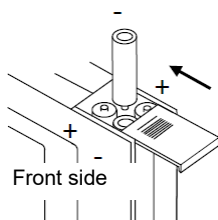
- Do not mix new batteries with old batteries. Replace all batteries with new batteries.
- Replace the batteries taking care not to set the batteries in the wrong direction with respect to the indicated polarity with (+) and (-) in the battery compartment.
- Use AA batteries.
- For the guideline of battery available time, refer to the illustration of the battery indicator on Page 15.



- (1) While slightly pressing down on the cover of the battery chamber, open the cover by sliding in the arrow direction.



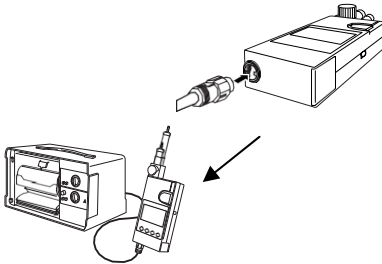
- (2) Replace the batteries. Remove the old batteries, and insert the new batteries according to the indication of the polarity in the battery chamber.



- (3) Position the cover of the battery chamber at a point approximately 1 cm apart from the fully closed position while pressing down the batteries, and then, close the cover by sliding in the arrow direction.

8. Analog Output

Analog output terminal



Data can be recorded by connecting to a commercially available recorder with the dedicated cable.

*A recorder needs to be provided by the end user. Use the one with input impedance of 400k ohm or more.

The analog output is made as follows:

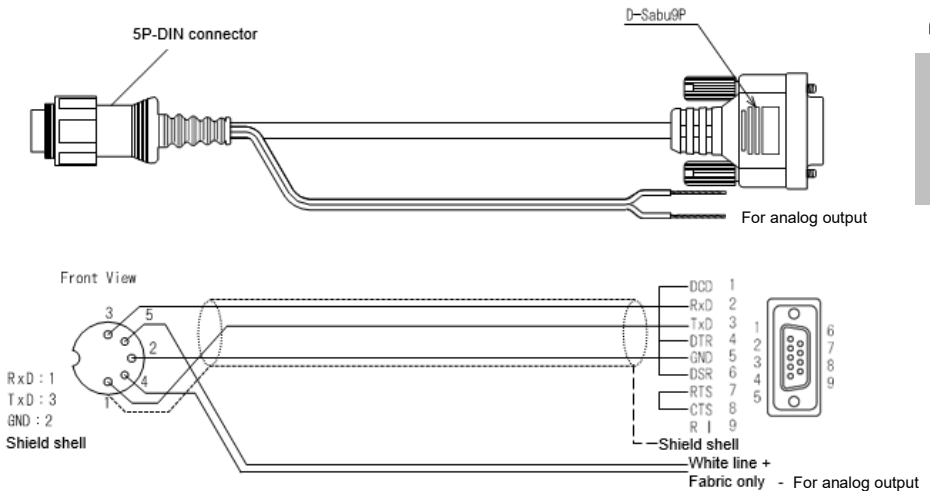
The analog output is produced only when a measured value is displayed. When the measured value is not displayed or a minus value is displayed, the output is 0 mV.

For level indication

Indicated values from 0000 to 2000 correspond to an output ranging from 0 to 200 mV.

- In increments of 0.1 mV (corresponding to level indication 1).

- When **OVER LEVEL** blinks, 204.8 mV is output.



Dedicated cable (supplied with the product)

9. Digital Input/Output

RS-232C input/output terminal

The built-in memory of this portable odor level indicator can record up to 8,188 data logs in the monitoring mode and up to 4,095 data logs in the batch mode. For processing the recorded data logs from a PC, connect the RS-232C input/output terminal of the odor level indicator to the PC with the dedicated cable and use the Cosmos Data Logger program.

Digital Input/Output Method

In the monitoring mode

The measured value is always output. When the measured value is negative, "0" is displayed.

In the batch mode

The measured value is output and displayed simultaneously. When "OVER LEVEL" blinks, "****" is displayed.

RS-232C output is always produced.

The measured value can therefore be transferred to a PC by connecting the dedicated cable*1 and using Windows Hyper Terminal*2.

Additionally, the recording function enables the recording of measured data in the odor level indicator. The measured data can be transmitted from the indicator to a PC via the Cosmos Data Logger program.

*1 Use the dedicated cable supplied with the product.

*2 For the operation of Windows Hyper Terminal, refer to the instruction manual of the PC.

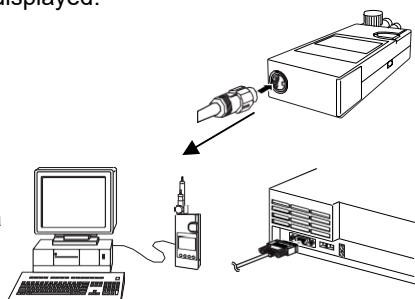
Output data format of RS-232C is as follows:

- 4 digits (fixed) – Output per 0.5 seconds – Output with ASCII code from a high-order digit (Example: For "1234," 31, 32, 33, 34, CRLF)

The settings for the communications port on the PC are as follows:

Bits per second	38400
Data bit	8
Parity	None
Stop bit	1
Flow control	None

When there is no RS-232C port on the PC, please follow the instructions given on the next page.



USB serial cable connection (For a PC without an RS-232C port)

If your PC is not equipped with an RS-232C port but has a USB port, the USB port can be used for communication with an external device. For using the USB port, a commercially available USB serial cable is additionally required. Select a USB serial cable with a Type-A USB connector on one end and a D-sub 9-pin male RS-232C connector on the other end. The table below lists the recommended USB serial cables along with the OS with which their operation has been verified. However, we cannot provide a guarantee of functionality depending on the PC model or peripheral devices because of the characteristics of the USB serial cable.

In addition, when connecting a USB serial cable to a PC for the first time, the driver for the USB serial cable may need to be installed. Refer to the instruction manual for the cable and install the driver before starting communication.

Recommended USB serial cables

	ELECOM UC-SGT2
OS	Windows 11
Operation with OS	Verified

9.1. Recording data

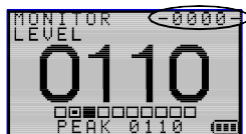
Various settings (e.g., including recording interval setting, data transfer) can be performed via the Cosmos Data Logger program on your PC.

9.1.1. Recording data in monitoring mode

In the monitoring mode, data is recorded at the recording interval set by the supplied Cosmos Data Logger program. The interval from

when the REC button  is pushed until the button is pushed again is recorded as a data group, and the memory number is increased by one: No. 1, 2, 3, and so on.

(1) During the process of measurement



NOTE A memory number is displayed in the upper right area of the screen during measurement in the monitoring mode. In the example on the left, no data is recorded.

(2) Push the REC button . Data recording starts.



NOTE A memory number is displayed in the upper right area of the screen, and REC is displayed below the memory number to indicate that recording is in process. The value in parentheses is the recording interval. In the left example, the interval is 60 seconds.



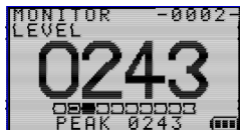
REC blinks, and the data between step (2) and (3) is recorded.

(3) Push the REC button again.



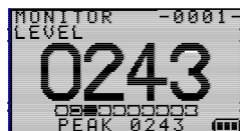
NOTE REC located in the lower part on the upper right of the screen disappears to notify that recording is completed. The indication in the upper part on the upper right indicates that the data (continuously recorded at intervals of 60 seconds) in the memory number 1 remains in the odor level indicator.

- (4) Record data repeatedly. Repeat steps (2) and (3).



NOTE

The data continuously recorded from when the REC button  was pushed until the button is pushed again is recorded in the product as the memory number 2.



- (5) Delete the data. When the REC button  is pushed for 3 seconds, the data recorded in the last memory number is deleted.

NOTE

When data in all memory numbers needs to be deleted collectively, connect this product to a PC and delete data via the Cosmos Data Logger program. (→ Page 61)

9.1.2. Recording data in batch mode

For data recording in the batch mode, a measured value (single data) is recorded by pushing the REC button  with the measured value displayed.



(1) Screen after a measured value is displayed

NOTE

A memory number is displayed in the upper right area of the screen after a measured value is displayed in the batch mode.
In the left example, no data is recorded.



(2) Push the REC button . The measured value is recorded.

NOTE

The memory number in the upper right area of the screen changes to 1. In the batch mode, the measured value is recorded when the REC button



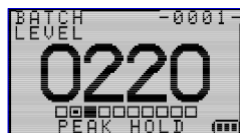
is pushed.



(3) A measured value is recorded by performing the operation outlined in step (2) after the next measurement.

NOTE

The measured value is recorded each time the REC button  is pushed, and the memory number in the upper right area of the screen increases in increments of 1.



(4) Deleting recorded data. When the REC button is pushed for 3 seconds, the data recorded in the last memory number is deleted.

NOTE

When the data in all memory numbers needs to be deleted collectively, connect this product to a PC, and delete data via the Cosmos Data Logger program. (→ Page 61)

9.1.3. When memory is full

- (1) The number of data logs that can be recorded in the product is 12,283 data logs in total: up to 8,188 data logs in monitoring mode and up to 4,095 data logs in batch mode.

In monitoring mode, the memory number information (→ Page 47) and the measured value data at the time of recording are recorded on one memory number. For the measured value data, 1 data log is used for each sampling. (Example: When data recorded for 5 minutes at intervals of 1 second are stored in memory number 1, the capacity for 300 data logs is used.) In addition, for memory number 2 or higher, the storage capacity for 2 data logs is used to record the new memory number information. Therefore, the number of measured value data that can be recorded on the product is decreased in increments of 2 data logs each time the memory number increases. Note that recordable time depends on the recording interval and the number of memory numbers. (In batch mode, the memory number and the measured data at the time of recording are also recorded; however, the number of measured value data does not decrease with the increase of the number of memory numbers.)

Guidelines for recording interval and recordable time in monitoring mode with no data recorded are as follows:

Recording interval	Recordable time
1 second	Approx. 2 hours and 10 minutes
3 seconds	Approx. 6 hours and 40 minutes
10 seconds	Approx. 22 hours and 30 minutes
30 seconds	Approx. 2 days, 20 hours and 10 minutes
60 seconds	Approx. 5 days, 16 hours and 20 minutes

- (2) When the storage capacity exceeds the maximum recordable number of data logs, "-FULL-" is displayed in the upper right area on the screen, and no data can be recorded until the recorded data are deleted.



- (3) Setup of recording interval (→ Page 72) and collective deletion of memory (→ Page 61)

10. Cosmos Data Logger Program

NOTE

- The instructions for typical installation, setting, operation, and uninstallation procedures using a standard Windows 10 system are provided below. For Windows of other versions, indications on the screen may be different from those given in this manual.
- Windows and Excel are registered trademarks of Microsoft Corp. in the U.S.A.
- The term “logging interval” used in Section 10 represents “recording interval”.
- The term “detector” used in Section 10 represents this product (odor level indicator).

10.1. Compatible OS and hardware

The following items are required to use the Cosmos Data Logger program.

- * OS
Windows 11 (Operation with other OS versions has not been verified.)
- * Hard disk drive
Hard disk drive's free space: 60 MB or more
- * CD-ROM drive
CD-ROM drive that enables the reading of CDR data (for installing the COSMOS Data Logger program from a CDR)
- * USB port
USB 1.1 or higher



CAUTION

Before installing this program, run Windows Update and install the latest Windows service pack.

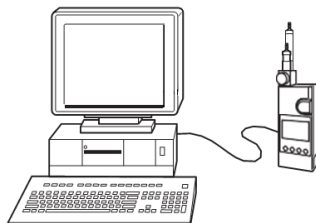
10.2. Features of Cosmos Data Logger program

Data memory function setup

The recording interval (logging interval) can be set and collective data deletion from the memory is possible.

Measured data transfer

Data can be output to a CSV file.



10.3. Installation of Cosmos Data Logger program

CAUTION Before installing this program, close all other programs.

(1) Insert the installation CD into the CD-ROM drive of the PC.

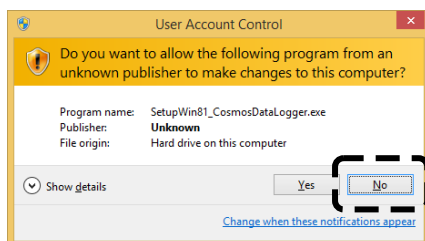
Double-click on “SetupWin11_10_CosmosDataLogger.exe” in the installation CD to run the installer.

The language selection screen may appear if your PC is multilanguage compatible. If it appears, select the desired language.

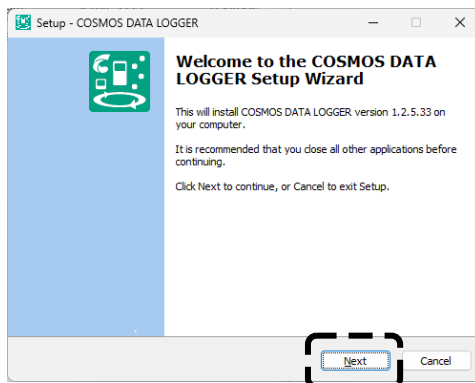
NOTE

If a security-related warning appears, click on “Yes”, “Execute”, “Continue”, or “Agree” to continue the installation.

If it takes more than 10 minutes to copy the setup files, it is recommended to stop the installation and temporarily disable anti-virus software, etc. Do not forget to enable it later for security.

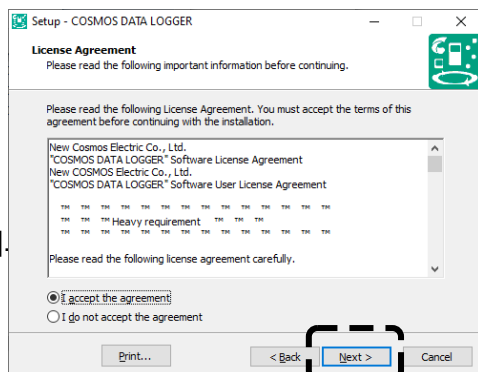


(2) The 'COSMOS DATA LOGGER Setup Wizard Start' screen appears. Click on [Next >].



Cosmos Data Logger Program

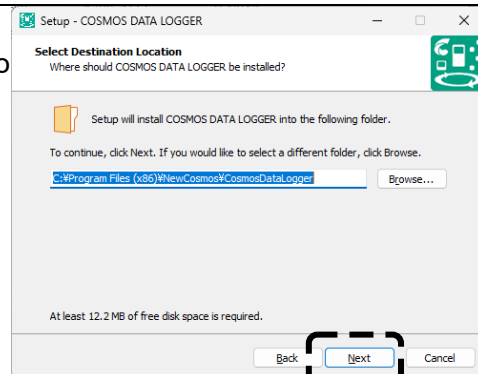
- (3) The 'License Agreement' screen appears. Scroll down the screen and read all the terms of the agreement carefully. If you consent to all the terms of the agreement, select "I accept the agreement", and click on [Next >].



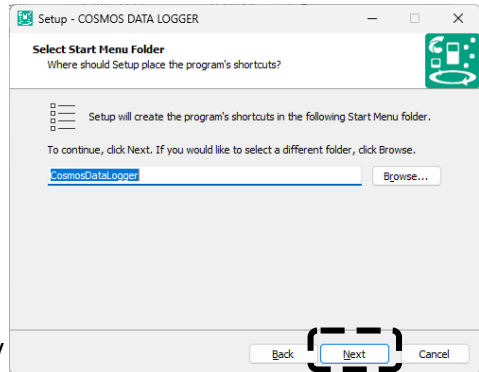
CAUTION

Before installing or using this program, carefully read all the terms of the license agreement. You are licensed to use this program only if you accept all the terms of the agreement.

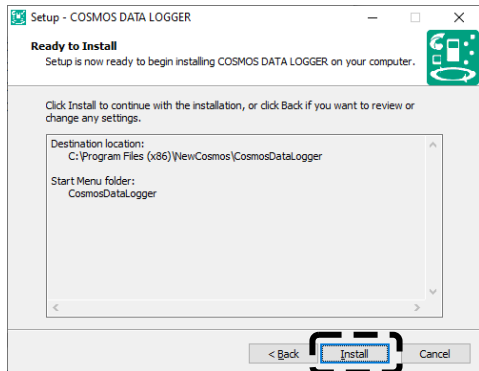
- (4) The 'Select Destination Location' screen appears. Select a folder to install the program. If the default setting is good, click on [Next >]. To install the program in a different folder, click on [Browse], and then select a desired folder. After a folder to install the program is designated, click on [Next >].



- (5) The 'Select Start Menu Folder' screen appears. Select a directory where the program icon is to be created.
- If the default setting is good, click on [Next >].
- To create the program icon in a different directory, click on [Browse], and then select a desired directory. After a directory is designated, click on [Next >].

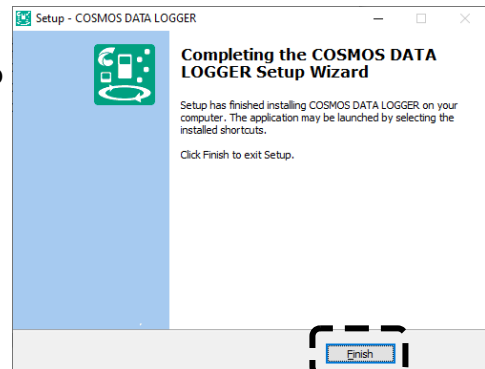


- (6) The 'Ready to Install' screen appears. Confirm the settings, and click on [Install]. Installation starts.

**NOTE**

The program itself is saved in the folder designated in Step (4) above. The icons created in the start menu and on the desktop are short-cut icons. They may be moved or deleted.

- (7) The display changes to the 'COSMOS DATA LOGGER Setup Wizard completion' screen. Click on [Finish] to end the installation.



10.4. Uninstallation of Cosmos Data Logger program

To uninstall, click Start, select All Apps, search for "COSMOS DATA LOGGER" in the list, right-click the app, and select Uninstall. Even if the software is uninstalled, the measurement data will not be deleted. The measurement data is saved in the :\\ProgramData\\CosmosDataLogger\\Data" folder.

10.5. Startup of Cosmos Data Logger program

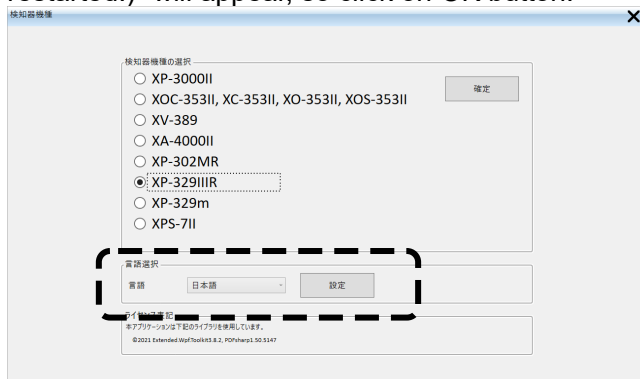
PC preparation: Before startup of this program, it is recommended to close other programs. If a communication error occurs, close resident programs in the task tray, too.



CAUTION

This program cannot be operated while any other program is using the same communication port. Close such a program before using this program.

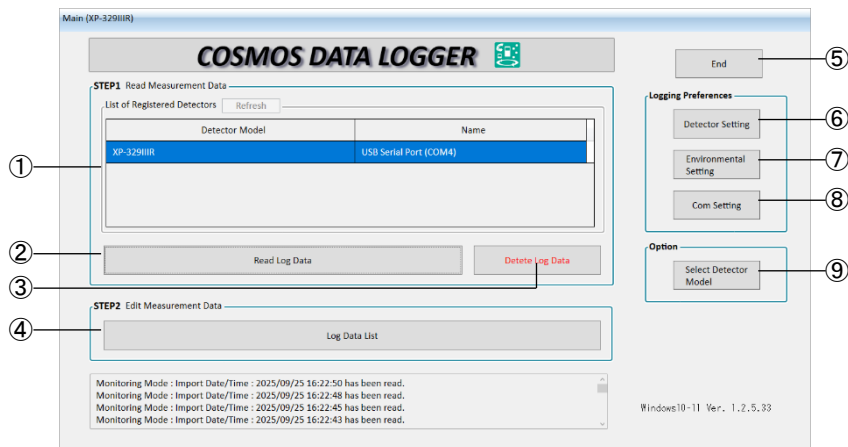
- (1) Select "COSMOS DATA LOGGER" from the start menu or double-click on the COSMOS DATA LOGGER icon on the desktop to start the Cosmos Data Logger program.
- (2) The detector selection screen will appear. Select English as the display language and click the Save button. If a dialog box with the message "Do you want to change the language?(The application will be restarted.)" will appear, so click on OK button.



- (3) Set the detector type to "XP-329IIIR", and click on the [Select] button for confirmation. The main menu appears.

10.6. Main menu

The buttons and indications on the main menu are described below.

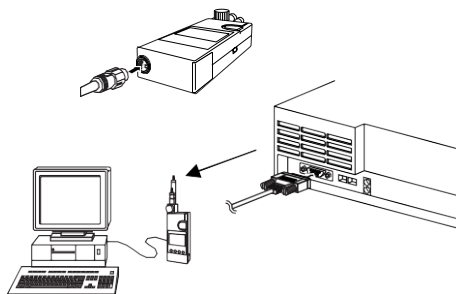


Item	Button/indication	Function
1	List of registered detectors	Displays a list of detector types and names of registered detectors Used to select a detector whose log data are to be read or deleted
2	[Read Log Data] button	Used to read log data from the detector selected from the list. The data is saved at the same time as it is read (→ Page 60)
3	[Delete Log Data] button	Used to delete all log data from the detector selected from the list
4	[Log data list] button	Used to view a list of measurement data read from the detectors (→ Pages 63 and 64)
5	[End] button	Used to close the Cosmos Data Logger program
6	[Detector setting] button	Used to change the logging interval of the detector that is currently connected to the PC, or to create an odor index table (→ Page 72)
7	[Environmental setting] button	Used to specify whether to automatically delete log data from the detector upon reading it (→ Page 74)
8	[COM setting] button	Used to select the COM port to be connected to the detector (→ Page 59)
9	[Select a detector model] button	Used to set the detector type to XP-329IIIR (→ Page 75)

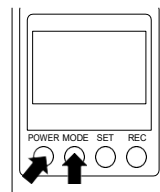
10.7. COM setting

Select the COM port for connecting to the detector (odor level indicator).

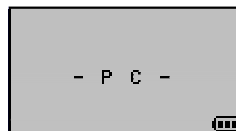
- (1) Connect the detector to the PC with the dedicated cable.



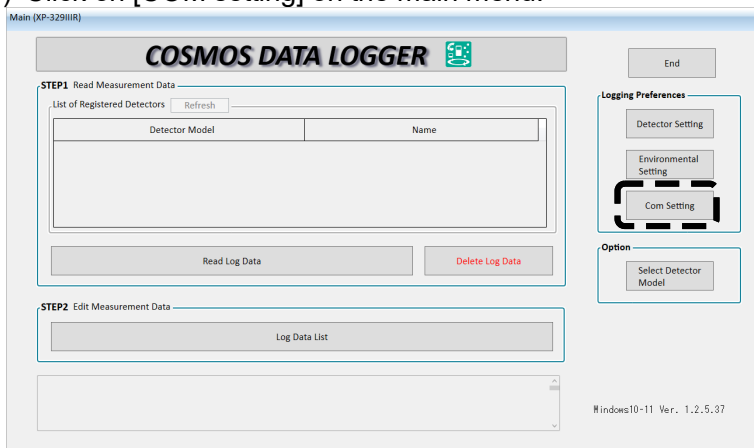
- (2) While holding the MODE button , press and hold the POWER button  for 3 seconds to turn on the unit in the communication mode.



- (3) Check that " - PC - " is displayed on the screen of the detector. Start the Cosmos Data Logger program.



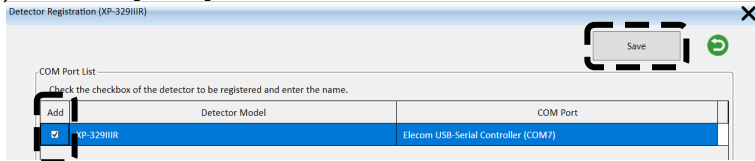
- (4) Click on [COM setting] on the main menu.



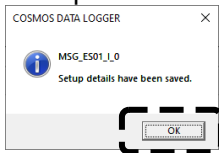
Cosmos Data Logger Program

(5) Check the box for the COM port to which the detector is connected.

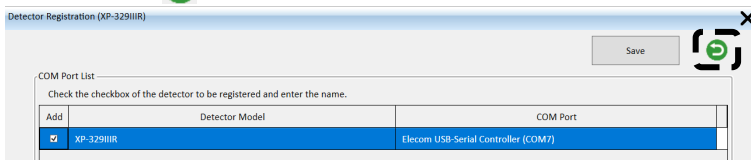
(6) Click on [Save].



(7) “Setup details have been saved” is displayed. Click on [OK].



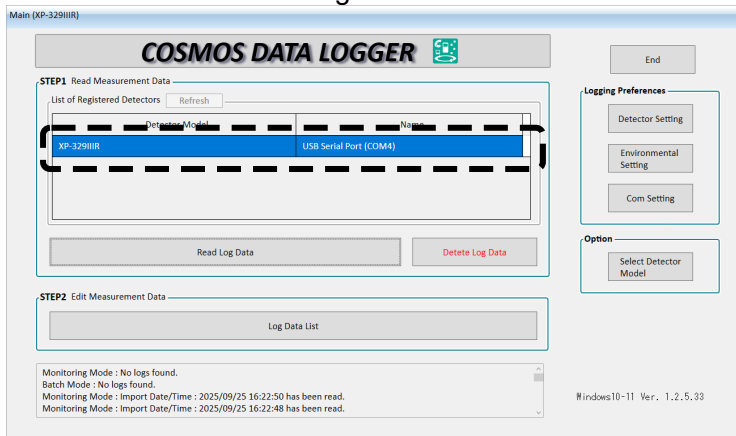
(8) Click on the  button to return to the main menu.



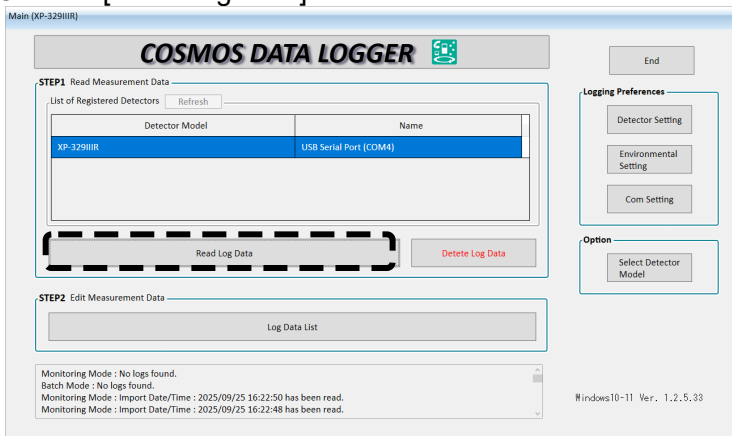
10.8. Reading log data from detector into PC

It is possible to read log data from the detector selected from the [List of registered detectors] on the main screen.

- (1) Select a detector whose log data are to be read.

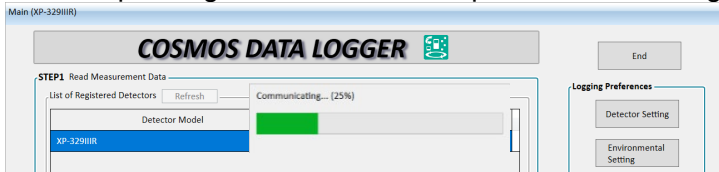


- (2) Click on [Read Log Data].



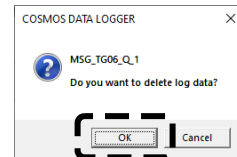
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- (3) The log data is read and saved into the PC.
Avoid operating the PC as much as possible the reading is underway.



- (4) After the reading is complete, the confirmation message appears to ask you if you want to delete the log data from the detector. To delete the data, click on [OK].

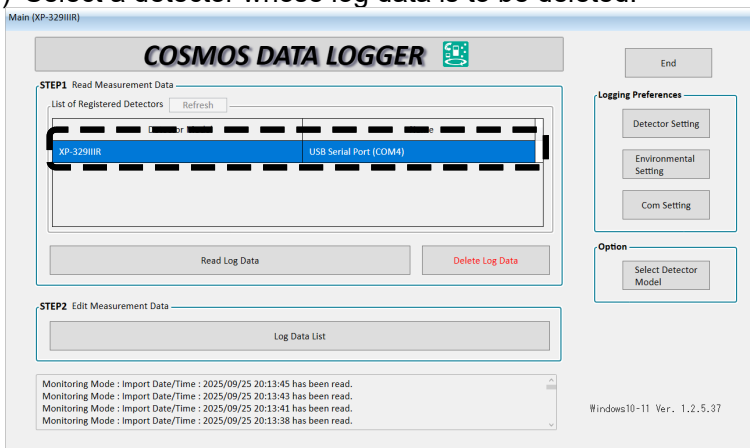
From the 'Environmental setting' screen, you can select the log deletion method: whether to automatically delete the data from the detector upon reading it or to confirm with you before deletion. Refer to page 74 for the procedure.



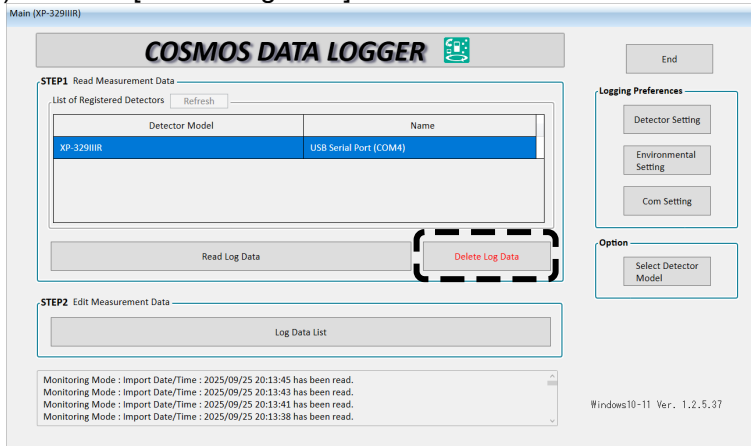
10.9. Deleting log data from detector

It is possible to delete all the log data from the detector selected from the [List of registered detectors] on the main screen.

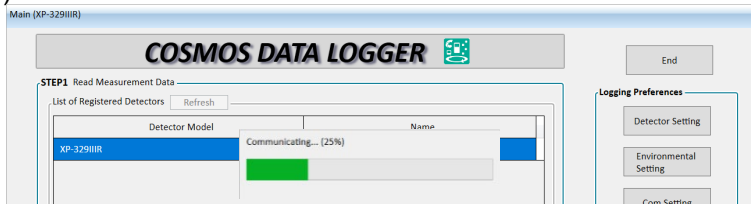
- (1) Select a detector whose log data is to be deleted.



(2) Click on [Delete Log Data].



(3) All the data has been deleted.

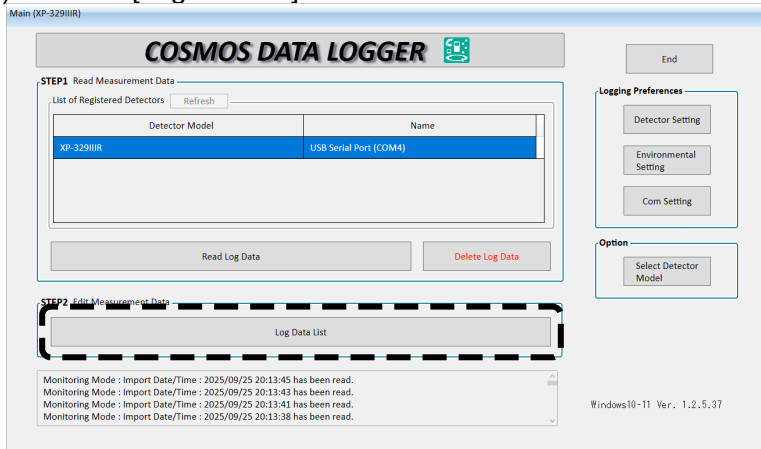


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10.10. Viewing a measurement data list

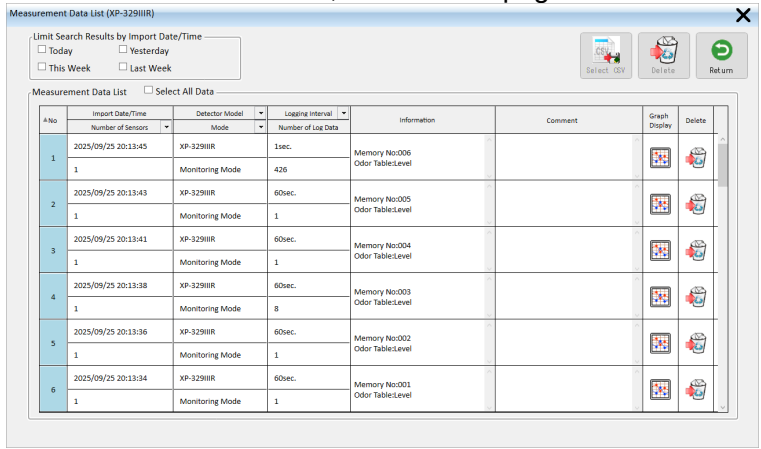
It is possible to view a measurement data list, display it in graph form, and output it into a csv file.

(1) Click on [Log data list] on the main menu.

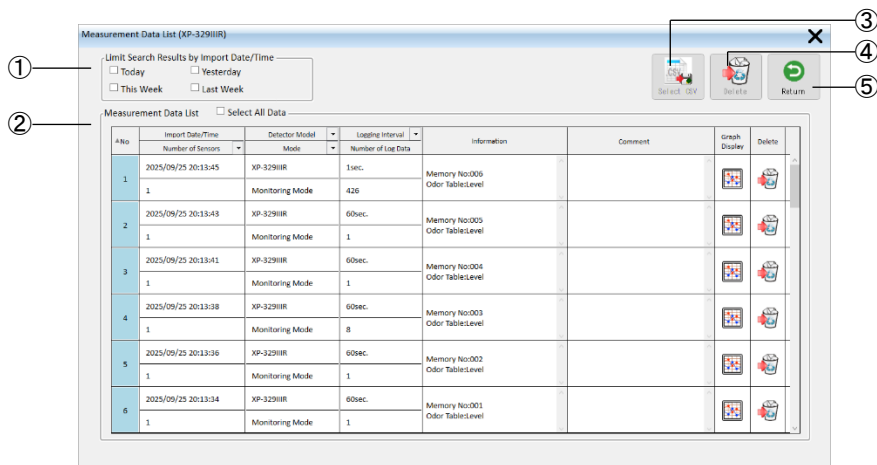


(2) 'Measurement data list' screen appears.

For details of this screen, refer to next page.



10.11. Measurement data list screen



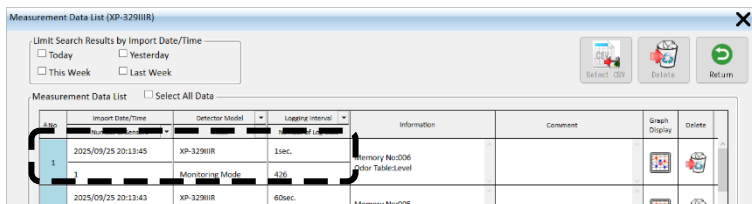
Item	Button/indication	Function
1	Search options	Used to narrow down to the target data by specifying the date when data has been read from a detector to a PC. More than one option can be selected at the same time. For example, both “Today” and “Yesterday” can be checked.
2	Measurement data list	Displays a list of measurement data that were read from detectors
	Select all data	Check this box to select all the data on the list
	No.	Numbered according to the import date/time in chronological order Clicking on [▼] (or [▲]) enables the measurement data to be sorted in the descending or ascending order.
	Import date/time	Date and time when the data has been read into PC
	Number of sensors subject to data logging	Number of sensors logged Click on [▼] and select the number of sensors from the pulldown menu, then the measurement data will be accordingly sorted.
	Detector model	Detector’s model Click on [▼] and select the detector model from the pulldown menu, then the measurement data will be accordingly sorted.

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	Mode	Detector's measuring mode Click on [▼] and select the detector's measuring mode (monitoring mode or batch mode) from the pulldown menu, then the measurement data will be accordingly sorted.
	Logging interval	Logging interval rate Click on [▼] and select the logging interval rate from the pulldown menu, then the measurement data will be accordingly sorted.
	Number of log data	Number of data logs
	Information	Displays the memory number and odor index table information
	Comment	Displays the comment entered from the graph screen
	Graph display	Clicking on this icon goes to the graph screen (→ Page 69)
	Delete	Clicking on this icon deletes the measurement data (→ Page 68)
3	[Select CSV] button	Used to output the selected measurement data to a CSV file (→ Page 71)
4	[Delete] button	Clicking on this button deletes selected measurement data (→ Page 68)
5	[Return] button	Clicking on this button returns you to the main menu

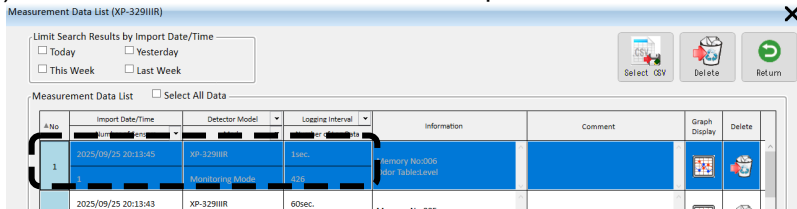
10.12. Measurement data selection

- (1) Select a measurement data by clicking anywhere in its corresponding field. For example, to select item No.1, click on any point in the dotted box, as shown in the figure below. To cancel the selection, click on the field again.

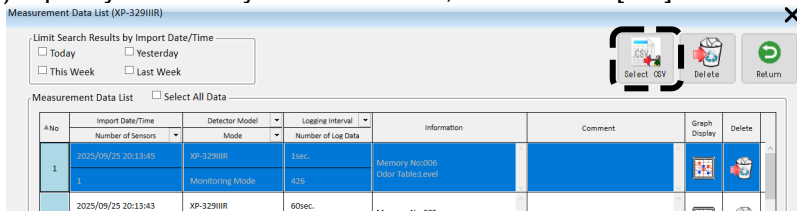


10.13. Output selected file to CSV file

- (1) Select a measurement data to be output to a CSV file.



- (2) Click on [Select CSV].
- (3) Specify a directory to save the file, and click on [OK].



Data file

The data file is automatically assigned a name based on the date and time when the data is read (imported) from a XP-329IIIR unit to a PC, in the following format: Detector model_measuring mode (M or B)_memory number_ Logging Data_import date and time (yyyymmddhhmmss) + .csv. For example, when the data is read from the XP-329IIIR unit into the PC starting from 8:54:00 on September 30th, 2020, the file name will be [XP-329IIIR_M_004_LoggingData_20200930085400.csv]. When the data was recorded in the batch mode, it will be [XP-329IIIR_B_004_LoggingData_20200930085400.csv].

NOTE

If a column is too small to display the data, you will see “###” in the cell. Adjust the column width to fit the data. Refer to your software’s instruction manual for ways to change the column width.

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The output data is written in Comma-Separated Values (CSV) format that is commonly used by spreadsheet software. Since the contents of the data are text characters, they can be opened, viewed, or printed with not only spreadsheet software but also word processor, text editor, and other related software. When MS Excel is installed on your PC, you can double-click a CSV file to open it in Excel. This is because the csv extension is linked to Excel. If you open the output CSV file in Excel, the data will be displayed as shown below. For viewing the data in graph form, refer to the instructions of Excel help function.

	A	B	C
1	Comment		
2	Memory No		3
3	Display Type(0:Level/1-3:Index/File:Odor Table File)		2
4	Recording interval[sec]		1
5			
6	Level	Odor index(equivalent value)	
7		50	2
8		50	2
9		54	2
10		54	2
11		58	2
12		56	2
13		56	2
14		59	2
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10.14. Measurement data deletion

 **CAUTION** Once measurement data is deleted, it cannot be restored. Before deleting any data, verify whether you need to do so.

(1) Select the measurement data that you want to delete.

Measurement Data List (XP-329IIIIR)

Limit Search Results by Import Date/Time

☐ Today

☐ Yesterday

☐ This Week

☐ Last Week

Select CSV

Delete

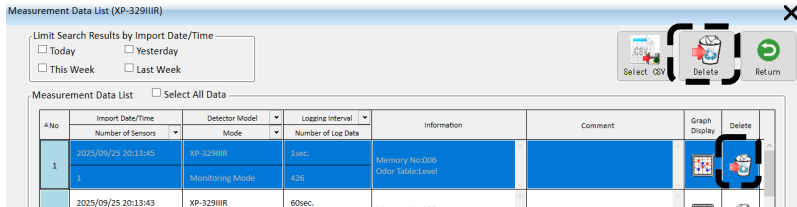
Return

Measurement Data List

Select All Data

A No	Import Date/Time	Detector Model	Logging Interval	Information	Comment	Graph Display	Delete
1	2025/09/25 20:13:45	XP-329IIIIR	1sec	Monitoring Mode	Memory No:006 Air Table:Level		
	2025/09/25 20:13:43	XP-329IIIIR	60sec				

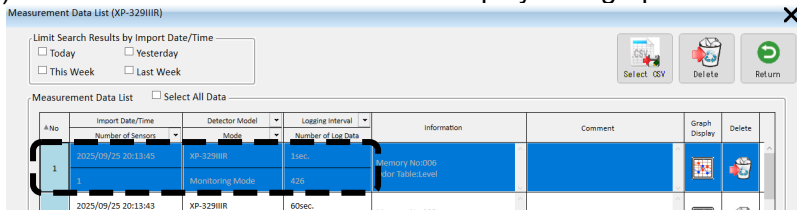
- (2) Click on the [Delete] button or the trashcan icon.
- (3) A dialog box indicating the completion of deletion appears. Click on [OK].



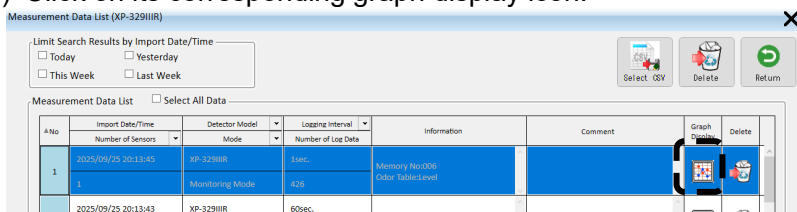
10.15. Graph display

It is possible to view a measurement data in graph form and output it into a csv file.

- (1) Select a measurement data to be displayed in graph form.



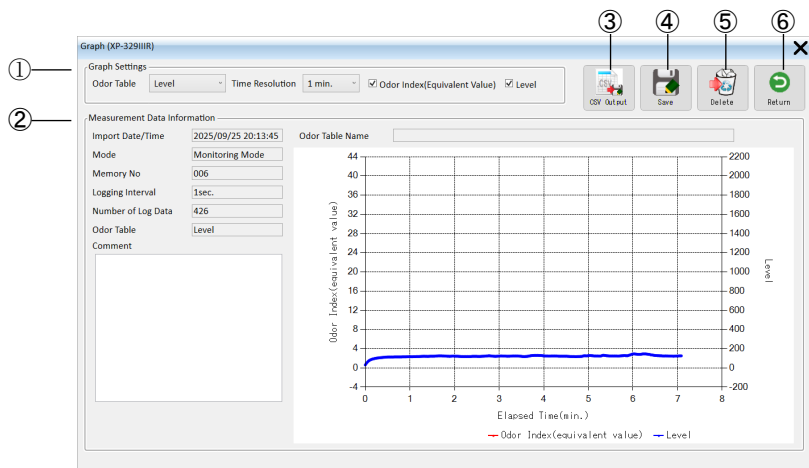
- (2) Click on its corresponding graph display icon.



- (3) The graph screen appears.

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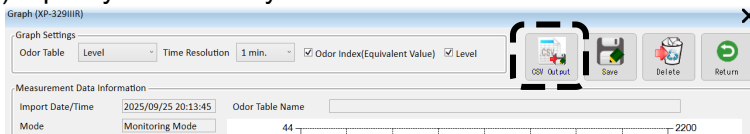
10.16. Graph screen



Item	Button/indication	Function
1	Graph settings	Used to select the conditions for graph display
	Odor table	(Unused)
	Time resolution	Select the unit of time to be displayed in the graph from the pulldown menu
	Odor index	(Unused)
	Level	(Unused)
2	Measurement data information	Measurement data details read from the detector
	Import date/time	Date and time when the data has been read into PC
	Mode	Measuring mode
	Memory №	
	Logging interval	Logging interval rate
	Number of log data	Number of data logs
	Odor table	(Unused)
	Comment	Enter a comment here, if any. Comment entered here will be displayed on the 'Measurement data list' screen.
3	[CSV output] button	Used to output the measurement data currently displayed in the graph to a CSV file (→ Page 71)
4	[Save] button	Used to save a comment that has been entered (→ Page 71)
5	[Delete] button	Used to delete the measurement data currently displayed in the graph (→ Page 71)
6	[Return] button	Clicking on this button returns you to the 'Measurement data list' screen

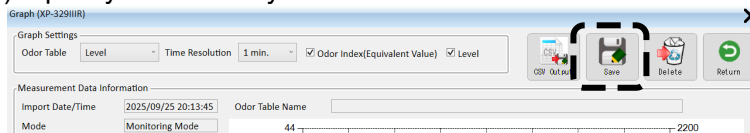
10.17. Output to CSV file

- (1) Click on the [CSV output] button.
- (2) Specify the directory where the data is to be saved. Click on [OK].



10.18. Comment saving

- (1) Enter a comment and then click on the [Save] button.
- (2) Specify the directory where the data is to be saved. Click on [OK].



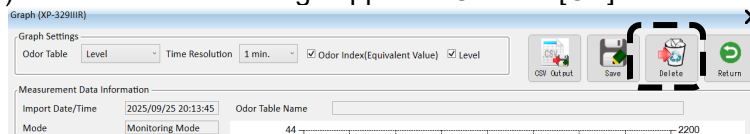
10.19. Measurement data deletion



CAUTION

Once measurement data is deleted, it cannot be restored.
Before deleting any data, verify whether you need to do so.

- (1) Click on the [Delete] button to delete the measurement data which is currently displayed.
- (2) A confirmation message appears. Click on [OK].

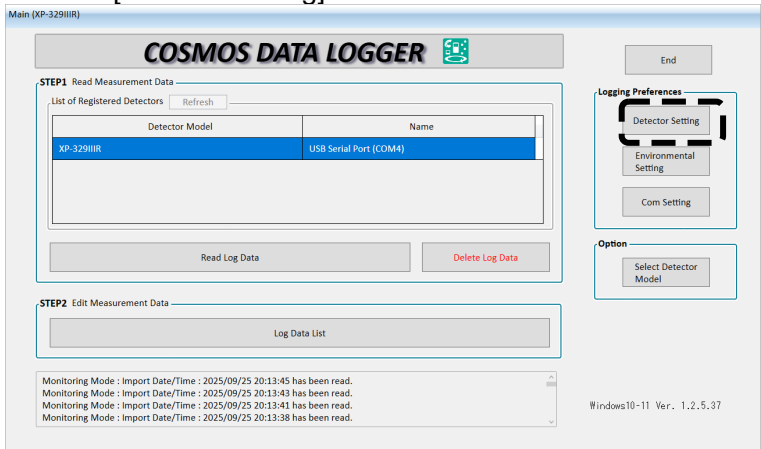


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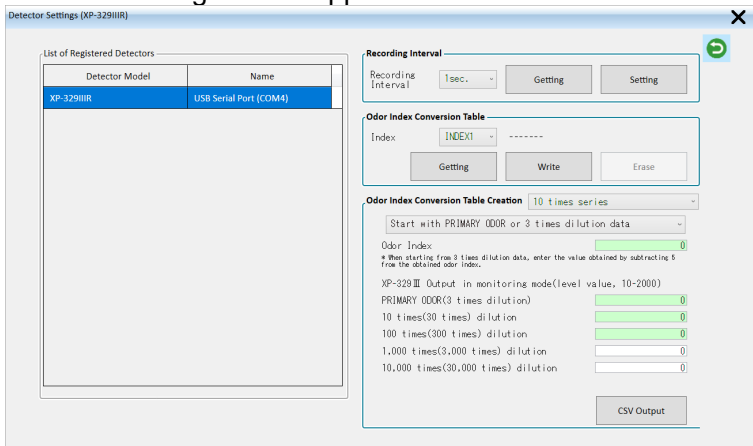
10.20. Detector setting

It is possible to change the logging interval and to create an odor index table.

- (1) Click on [Detector setting] on the main menu.

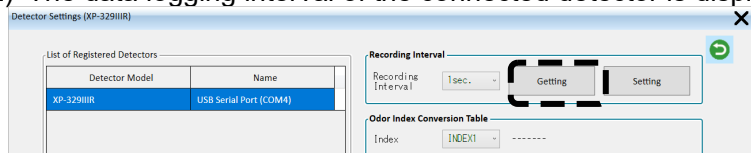


- (2) 'Detector setting' screen appears.



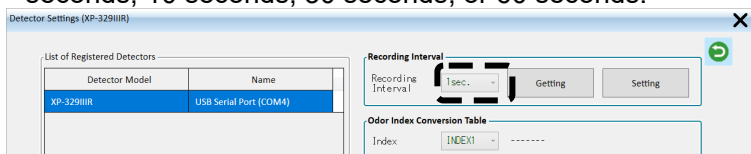
- To view the logging interval

- (1) Click on [Getting].
- (2) The data logging interval of the connected detector is displayed.

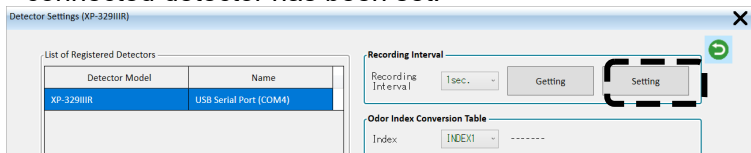


- To set the logging interval

- (1) Select a desired logging interval from the pulldown menu: 1 second, 3 seconds, 10 seconds, 30 seconds, or 60 seconds.



- (2) Click on [Setting] to confirm the selection. The logging interval of the connected detector has been set.



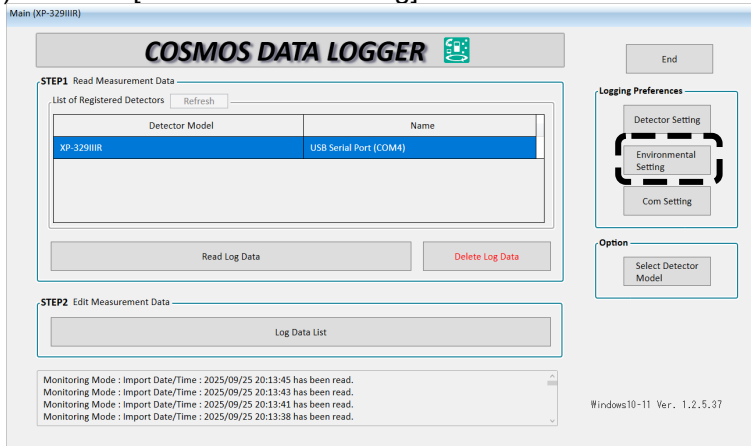
- Odor index table creation

This function is not available for the English version of odor level indicator.

10.21. Environmental setting

It is possible to select the log deletion method: whether to automatically delete the data from the detector upon reading it or to confirm with you before deletion.

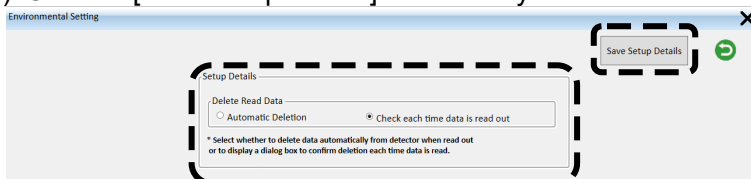
(1) Click on [Environmental setting] on the main menu.



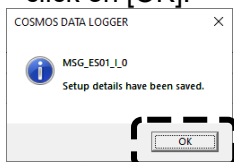
(2) The 'Environmental setting' screen appears.

Select the log data deletion method: You can set it to automatically delete the data from the detector upon reading it or to confirm with you before deletion.

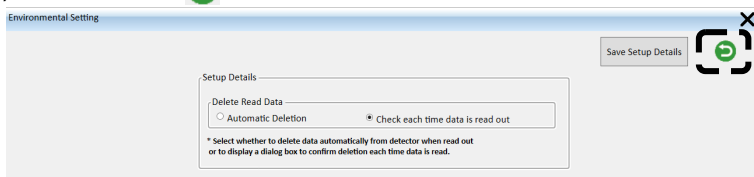
(3) Click on [Save setup details] to confirm your selection.



(4) A message appears, indicating "Setup details have been saved". Then, click on [OK].



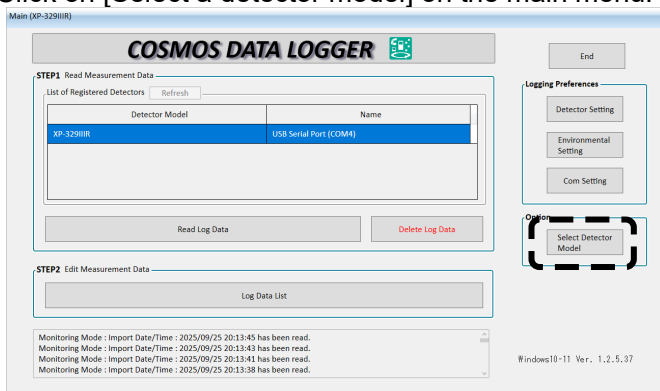
- (5) Click on the  button to return to the main menu.



10.22. Detector type setting

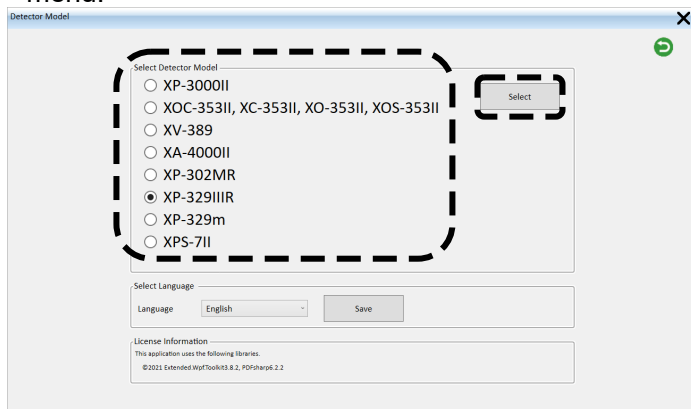
Set the detector type to “XP-329IIIR”.

- (1) Click on [Select a detector model] on the main menu.



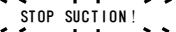
- (2) Select the detector type.
 (3) Click on the [Select] button to confirm the selection.

The detector type has been set, and the display returns to the main menu.



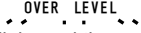
11. Before Calling for Repair Service

If you have a problem with the product, check the following table before calling for repair service. If the problems are not solved with the following solutions, contact your local dealer.

	Problem	Probable cause	Solution	Page
Measurement Preparation, Start	The power is not turned on.	At powering on, the period to keep pressing the POWER button is too short.	Continue pressing the POWER button for 3 seconds or more.	23
		Poor battery contact.	- Remove the battery compartment cover, and attach it again. - Replace the batteries with new ones of the same type.	43
		Battery orientation incorrect.	Reinsert the batteries in the correct orientation.	43
		The AC adaptor plug is not securely connected.	Securely connect the adaptor plug to the product.	10
	The measuring mode and measured value indication are already determined.	The measuring mode and measured value indication start in the last used condition.	- Change the measuring mode during a warm-up. If a warm-up is complete, turn the power off and on again, and change the mode.	23 33
	The measuring mode cannot be changed.	You are trying to change it at other time than during warm-up.	- Once you have the Mode Select screen, you can change the measured value indication at any time.	
	 appears 1 minute after power on.	With the selector switch set to Odor, the product sampled highly concentrated gas with minus interference (compounds containing halogen elements, such as chlorine or fluorine, or oxidized gas, such as ozone or NOx).	Turn the power off immediately. Next, check the presence of gas with minus interference. If the ambient atmosphere has gas with minus interference, move the product to a location with a clean atmosphere (such as well-ventilated outdoors). Turn the power on, keep the product energized for several minutes, set the selector switch to Air, and let the product draw the clean air for 10 minutes or more.	9 10 22 23 26 29
		With the selector switch set to Air, the product sampled gas with minus interference (<u>refer to above</u>) in such high concentrations that the charcoal filter could not remove the contents.	Turn the power off immediately. Next, check the presence of gas with minus interference. Move the product to a location with a clean atmosphere (such as well-ventilated outdoors), replace the activated carbon with new activated carbon, turn the power on with the selector switch set to Air, and let the product extract the clean air for 10 minutes or more. * For activated carbon, use our genuine product before its expiration date.	9 10 17 23 41 42
		The product is being used near a device generating radio waves, such as a transceiver.	Move the product away from the device generating radio waves, and turn the power off and on again.	10
		The sensor contains a broken wire.	Turn the power off, and contact local dealer or the store from which you made your purchase for repair service.	10

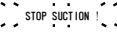
	Problem	Probable cause	Solution	Page
Measurement Preparation, Start	After a warm-up, not READY! but READY! High Level Base! appears.	The sensor output is higher than the range in which the zero-base can be set. Normal measurement cannot be conducted. Pressing the SET button can continue measurement, but the measurement error becomes extremely large. Refer to the following items. If repeatedly appears, contact local dealer or the store from which you made your purchase for repair service.		8 24
	* The shaded items are in common with the items for the next section "After replacement with new activated carbon, READY! will not appear."	At the time of purchase or if the product has not been used for a long period of time, odor molecules are on the surface of the sensor.	Let the product draw clean air with the present condition for about 10 minutes, and then turn the power off and on again.	22 23 28 32
		When finishing the last measurement, the power was turned off without cleaning the sensor adequately after sampling of highly concentrated odor.	Let the product draw clean air with the present condition for about 10 minutes, and then turn the power off and on again.	
		Warming up in an atmosphere exposed to direct sunlight	Move the product to a lower temperature location, such as the shade or indoors, and turn the power off and on again.	--
		Warming up in an atmosphere containing a strong odor	Move the product to a location with a clean atmosphere (such as well-ventilated outdoors), and turn the power off and on again.	--
		The charcoal filter is not installed on the Air inlet port.	Install the charcoal filter on the Air inlet port, and turn the power off and on again.	22
		The removal power of activated carbon is lowered and the selector switch is set to Air, but the product is sampling highly concentrated odor.	Replace the activated carbon with new activated carbon, and turn the power off and on again. * For activated carbon, use our genuine product before its expiration date.	41 42
		The base of the charcoal filter is loosened.	Tighten the base of the charcoal filter firmly, and turn the power off and on again.	41 42
		The selector switch is not set to Air.	Set the selector switch to Air, and turn the power off and on again.	22
		The filter element is soiled.	Replace the filter element with a new one, and turn the power off and on again. * Replace it at the same time when replacing the activated carbon.	39 40
		The product is being used near a device generating radio waves, such as a transceiver.	Move the product away from the device generating radio waves, and turn the power off and on again.	10
		The sensor is damaged and poisoned after sampling highly concentrated sulfides, silicone, tar, oil mist, etc.	Contact local dealer or the store from which you made your purchase for repair service.	9

Before Calling for Repair Service

	Problem	Probable cause	Solution	Page
Measurement Preparation, Start	After replacement with new activated carbon,  will not appear.	The sensor output is higher than the range in which the zero-base can be set. Refer to each of the shaded items and the following item among the items in "After a warm-up, not  but  appears." listed on Page 76.		41 42 76
		The activated carbon was replaced with a product other than our genuine product or one past its expiration date.	For activated carbon, use our genuine product before its expiration date.	
	After finishing a warm-up, the moment you press the SET button,  blinks and the buzzer sounds, with the selector switch set to Air.	The product is sampling such highly concentrated odors outside the measurement range that the charcoal filter cannot remove the contents.	After checking the presence of odors around the product, move the product to a location with a clean atmosphere (such as well-ventilated outdoors), and let the product extract the clean air for 10 minutes or more. After that, replace the activated carbon with new activated carbon, and turn the power off and on again. * For activated carbon, use our genuine product before its expiration date.	24 25 28 41 42
		The sensor contains a broken wire.	Turn the power off and contact local dealer or the store from which you made your purchase for repair service.	9 10
		For other causes and detailed causes and actions, refer to each item in "After a warm-up, not  but  appears." listed on Page 76.		76
	Measurement was started, but the measured value will not change.	The selector switch is not set to Odor.	Set the selector switch to Odor, and start measurement.	25
		Because measurement was started with  displayed, the indication will not rise when sampling odors.	Set the selector switch to Air, energize the product for 10 minutes or more, clean the sensor, and turn the power off. After that, turn the power on again, and make measurements with the normal  display.	76
		The concentration of odor is low (diluted).	- Prepare samples with some strong odors. (For solids and liquids, increase the amount of the sample.) - Some measurement samples may contain almost no odor and may not be different from clean air.	--
		The odor can be sensed by the olfactory sense, but it is too weak for the product to detect.	Cannot measure the odor.	--
	It takes a long time before  appears in the batch mode.	Operations for using buttons or the selector switch are not conducted properly according to the Instruction Manual.	After checking  , press the SET button. After  appears, set the selector switch to Odor.	29

	Problem	Probable cause	Solution	Page
Measurement Preparation, Start	(1) At the start of sample measurement in the monitoring mode, the display indicates a high value for the first several seconds. (2) During measurement in the batch mode, the display indicates an abnormally high value.	Because the last measured odor was highly concentrated, the odor remains in the drain filter, and the product is responding to the odor that reached the sensor when starting sampling in the Odor state.	With the selector switch set to Odor, let the product draw clean air, such as outside air. When the display is stabilized, turn the power off and on again, and take measurements. If there are multiple measurement targets, start with measuring odor that is assumed to have a low concentration.	--
	When pressing the SET button  to reset the zero-base,  appears.	The SET button  was pressed immediately after the selector switch was changed from Odor to Air.	Set the selector switch to Air, wait for 30 seconds or more, and then keep pressing the SET button  for 3 seconds or more to reset the zero-base.	36
During Measurement	"H" mark is displayed at the upper right of the measured value.	Measurement was started with the sensor output higher than the range in which the zero-base can be set. * Compared to when starting measurement with the normal READY ! the measurement error is larger.	- To clean the sensor surface adequately with clean air after measurement, energize the product for 10 or more minutes with the selector switch set to Air, and then turn the power off. - If  and "H" appear during a warm-up after performing the above action, turn the power off, place the selector switch to Air, turn the power on again, energize the product for 10 minutes or more, and take measurements. - If  and "H" appear many times during a warm-up, contact local dealer or the store from which you made your purchase for repair service.	28 32 41 42 76
	The indicated value is negative.	The product is extracting gas with minus interference (compounds containing halogen elements or oxidized gas, such as ozone or NOx).	Set the selector switch to Air, and clean the sensor with clean air for 10 minutes or more.	9 10 26 30
		If the sensor is still unstable after a warm-up, or if a low humidity environment/sample was measured, the sensor output is lowered from the time of the first set zero-base, and lower than the zero-base at this time.	- Check that the product is not sampling ~~odor~~ with minus interference, wait until the display stabilizes, and then reset the base. - For measurement in a winter dry environment, leave the selector switch set to Air after countdown, and conduct a warm-up in a measurement place for 15 minutes or more to adapt the activated carbon to the temperature and humidity.	36
		The removal power of activated carbon is lowered, and the activated carbon is giving off an odor.	Replace the activated carbon with new activated carbon. * For activated carbon, use our genuine product before its expiration dat	41 42

Before Calling for Repair Service

	Problem	Probable cause	Solution	Page
During measurement	During measurement,  appears.	The product is sampling highly concentrated gas with minus interference (compounds containing halogen elements, such as chlorine or fluorine, or oxidized gas, such as ozone or NOx).	Turn the power off immediately. Next, place the selector switch to Air, and clean the sensor with clean air for 10 minutes or more.	9 10 27 31
		There is a device generating radio waves nearby, such as a transceiver.	Move the product away from the device generating radio waves, and turn the power off and on again.	10
	During measurement,  blinks, and the buzzer sounds.	The product is sampling a strong odor outside the measurement range.	Set the selector switch to Air immediately, and allow the product to draw clean air for 10 minutes or more.	27 30
		The product is being used near a device generating radio waves such as a transceiver.	Move the product away from the device generating radio waves, and turn the power off and on again.	10 23
	The power was shut down without turning the power off.	Because the product sampled a strong odor outside the measurement range, and  kept flashing for 1 minute or more, the sensor protection function worked, and the power was automatically turned off.	Set the selector switch to Air, turn the power on, and allow the product to draw clean air for 10 minutes or more. * To disable the sensor protection function out of necessity for measurement, set the function to OFF on the Mode Select screen; however, note that disabling this function may adversely affect the sensor.	27 30 37
	As a result of measurement in the batch mode,  is displayed in the lower part of the measured value, which differs from that which is displayed in the monitoring mode.	In the batch mode,  is always displayed in the lower part of the measured value after measurement. In the batch mode, the measured value represents the peak value in 1 minute, and there is no numerical display, such as "PEAKxxxx" in the lower part of the measured value. If you release the peak hold by pressing the SET button after making measurement for 1 minute,  disappears.		15 30 31

	Problem	Probable cause	Solution	Page
After Measurement	When the selector switch is changed from Odor to Air, the indicated value increases, and this condition continues for a period of time.	Because the odor is weak, the difference of strength between the odor sample and air through activated carbon is small, and the indicated values are reversed depending on the conditions.	- Wait until the display is stabilized, and then reset the base. - Prepare samples with some strong odors. (For solids and liquids, increase the amount of the sample.)	36
		The removal power of activated carbon is lowered, and the activated carbon is giving off an odor.	Replace the activated carbon with new activated carbon. * For activated carbon, use our genuine product before its expiration date.	41 42
	(1) After measurement in the monitoring mode,  will not appear when placing the selector switch to Air.	The charcoal filter is not installed on the Air inlet port.	Install the charcoal filter on the air inlet port.	22
		The removal power of activated carbon is lowered.	Replace the activated carbon with new activated carbon, and turn the power off and on again. * For activated carbon, use our genuine product before its expiration date.	41 42
	(2) After measurement in the batch mode, the display will not return to  or  when placing the selector switch to Air.	The selector switch is not placed to Air.	Set the selector switch to Air.	22
		Operating in an atmosphere exposed to direct sunlight.	Move the product to a lower temperature location, such as the shade or indoors, and conduct operations.	--
		Operating in an atmosphere containing a strong odor.	Move the product to a location with a clean atmosphere containing no odors, and conduct operations.	
		The filter element is soiled.	Replace the filter element with a new one. * Replace it at the same time when replacing the activated carbon.	41 42
		Measured a highly concentrated odor (requiring time to remove the odor molecules from the sensor surface, depending on the constituents or concentration of odor).	The sensor surface has to be continuously cleaned. Wait for a period of time with the selector switch placed to Air.	--
		The sensor is damaged and poisoned after sampling highly concentrated sulfides, silicone, tar, oil mist, etc.	Contact local dealer or the store from which you made your purchase for repair service.	9
	When pressing the SET button  to reset the zero-base,  appears.	The SET button  was pressed immediately after the selector switch was changed from Odor to Air.	Set the selector switch to Air, wait for 30 seconds or more, and then keep pressing the SET button  for 3 seconds or more to reset the zero-base.	36

Before Calling for Repair Service

	Problem	Probable cause	Solution	Page
Others	Indications on the Measurement and Mode Select screens are not correct.	The software does not operate normally because of strong electromagnetic waves around the product.	Turn the power off and on again at a location without the effect of electromagnetic waves. If the problem is not solved, contact local dealer or the store from which you made your purchase for repair service.	10
	The CD drive does not recognize the supplied Cosmos Data Logger program (in installation CD).	The read side (the side with no label print) of the CD is soiled.	Wipe the dirt off the read side of the CD with a soft dry cloth, and insert the CD into the CD drive again. Be careful not to damage the read side of the CD.	52
		The read side (the side with no label print) has some scratches.	Contact local dealer or the store from which you made your purchase for repair service.	
	When connecting the product to a PC, "Communication Error" is displayed, and communication cannot be established.	The settings for the COM port or for the baud rate are wrong.	For which COM port is available, check the configuration of your PC. Set the baud rate to 38400 bps.	45 58
		Poor connection between the PC and the product.	Reconnect the PC and the product, restart both machines, and then establish communication.	--
		The drivers supplied with the USB serial cable are not installed on the PC.	Install the supplied drivers on the PC, and then establish communication.	46
		The software does not operate normally because it has been affected by strong electromagnetic waves.	Turn the power off and on again at a location without the effect of electromagnetic waves. If the problem is not solved, contact local dealer or the store from which you made your	10

12. Warranty

New Cosmos Electric Company Limited (New Cosmos) offers the following as the sole and exclusive limited warranty available to Customer.

This warranty is in lieu of, and customer waives, all other warranties of any kind or nature, expressed or implied, including without limitation, any warranty for merchantability or fitness for a particular purpose. The remedies set forth herein are exclusive.

New Cosmos warrants to the original purchaser and no other person or entity (customer) that gas detection product supplied by New Cosmos shall be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. This warranty does not include consumables, such as fuses, filters, etc. Certain other accessories not specifically listed here may have different warranty periods.

After examination of allegedly defective product return to New Cosmos, with freight prepaid, should the product fail to conform to this warranty, customer's only remedy and New Cosmos's only obligation shall be, at New Cosmos's sole option, replacement or repair of such non-conforming product or refund of the original purchase price of the non-conforming product. In no event will New Cosmos be liable for any other special, incidental or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of non-operation of the product.

This warranty is valid only if the product is maintained and used in accordance with New Cosmos's instructions and /or recommendations. New Cosmos shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own or authorized service personnel or if the warranty claim results from physical abuse or misuse of the product.

13. Periodic Inspection (Recommended)

This instrument is a precision instrument. To keep its accuracy, request your local dealer or representative for a periodic check at least once a year. The periodic maintenance will be performed after signing the periodical maintenance agreement.

Concerning the repairing of the instrument, please contact your local dealer.

14. Specifications

Model	XP-329IIIR
Measuring object	Fragrance and odor components
Measurement principle	High sensitivity indium oxide-base hot-wire sintered semiconductor sensor
Display type	LCD digital display (64 x 128 dot matrices) (Measured value, measuring mode, operating condition, battery level, number of data memories, sensor output level bar, status of communications channel, etc.)
Measuring mode	Monitoring mode / Batch mode
Measuring (detection) range	Level indication: 0 to 2000 [with the zero-base set to the 2 nd dot from the left of the sensor output bar graph meter]
Repeatability	Measured value $\pm 5\% \pm 1$ digit (under the same level indication)
Sampling method	Extractive type by a micro air pump. Sample flow rate: 400 ± 150 ml/min
Response time	90% response time: within 20 seconds (with a calibrated odor)
External output	Analog output Level indication: 0000 to 2000 corresponding to 0 to 200 mVDC (a level value of 1: 0.1 mV) (In the OVER LEVEL state, the output is approx. 204.8 mV.)
	Digital Input/Output: RS-232C, Direct output of indicated value (ASCII code) (In the OVER LEVEL state, the output is ****.)
External output terminal	DIN connectors for both analog output and digital input/output
Data memory capacity	Monitoring mode: up to 8,188 data logs Batch mode: up to 4,095 data logs
Operating temperature and humidity	Temperature: 0°C to 40°C; Humidity: 10 % to 80% RH (Non condensation.)
Storage temperature and humidity	Temperature: -10°C to 50°C; Humidity: up to 70% RH (Stored in the carrying case. No condensation.)
Dimensions	W84 x H190 x D40 mm (No protrusion included)
Weight	Approx. 640 g (including battery weight)
Power supply	AA alkaline battery x 4 pcs or dedicated AC adaptor (100-240 VAC)
Battery life	8 hours or more in continuous use (alkaline battery, normal room temperature and humidity, in sampling state with the selector switch set to Air); Battery life alarm provided by battery/voltage indication and beeping sound
Standard accessories	Charcoal filter, drain filter, sampling probe, tube connector, Teflon tube, carrying case, dedicated AC adaptor, dedicated cable, Cosmos data logger program (installation CD), AA alkaline battery (x4), activated carbon (x2), filter element (x10), instruction manual, and inspection certificate

The above specifications are subject to change without notice for performance improvement.

15. Optional Items (sold separately)

There are various optional items that are useful in measurement.

Tripod ZG-3

This is used to fix the odor level indicator in continuous measurement at one point.

Flat-surface odor collector HN-5 (made from stainless steel)

This is convenient in measuring odors from a planate object, such as a paper board or a wooden board.

Sampling Pump DC1-NA (with a cartridge-type sampling part)

A pump defined by means of the sampling method called direct sampling in the Offensive Odor Control Law. This is used when the pump and the sampling bag are connected to sample odors in the atmospheric air. In addition, this is used when measurement cannot be correctly performed at a site with strong wind. The suction flow rate of the pump is 15 to 20 L/min. It is also very convenient for preparing odor index translation tables.

* The suction pressure is very low, and therefore cannot be used for odor sampling at negative pressure.

Sampling bag (1 set: 6 bags) NB-310 F-type (made from polyester)

This is used to trap an odor when an odor is ready to be measured. The capacity is 10 L, and the outer diameter of the extraction port is 8 mm.

Odor bag for measuring sense-of-smell (1 set: 12 bags) NB-310 O-type (made from polyester)

This is used for measuring sense-of-smell, and the capacity of each odor bag is 3L. * This item cannot be used in sampling.

Teflon tube TP-1 (Teflon, ϕ 5mm x ϕ 4mm, 1m)

This is attached to the inlet port for use in measurement with a sample bottle or a flat-surface odor collector.

Sample bottle SB-200 (Bottle: glass; cover: Teflon; fuse connector: stainless steel)

This is used to measure odors of solid/liquid substances.

16. For Customers Using XP-329 Series

Some of the accessories and optional items of other XP-329 series units cannot be used with the XP-329IIIR unit. Before using them, please check for compatibility by referring to the table below.

Accessories

Part	Compatibility	Remarks
AC adaptor	×	Cannot be used with XP-329IIIR because voltage and connector shape are different.
External output connector	✓ and ×	Can be used for analog output. Cannot be used for digital input/output.
Sampling probe	✓	Can be used with XP-329IIIR. This item is also included in the XP-329IIIR package.
Filter element	✓	Can be used with XP-329IIIR.
Drain filter	×	Cannot be used with XP-329IIIR.

Optional items

Part	Compatibility	Remarks
Switching cock Deodorizing filter Charcoal filter	×	Cannot be used with XP-329IIIR.
Tripod Flat-surface odor collector Sample draw pump Sampling bag Odorbag for measuring sense-of-smell Teflon tube Recorder Sample bottle	✓	Can be used with XP-329IIIR.

Note: XP-329IIIR uses an upgraded sensor with less sensitivity to humidity and faster response time than the ones used in other XP329 series units. Therefore, the XP-329IIIR unit is calibrated before shipping, so as to show fewer differences compared to other XP-329 series. However, its sensitivity may differ slightly depending on the odor.

Revision History

Edition	Date	Revision
XP-329III RET (00)	November 2007	00 (initial issue)
XP-329III RET (01)	April 2021	01
XP-329III RET (02)	January 2024	02
XP-329III RET (03)	September 2025	03

- Additional copies of this manual may be purchased. Contact New Cosmos or its authorized representative for ordering.
- The contents of this manual are subject to change without notice.

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