

GX-A/GF-A Series Options

INSTRUCTION MANUAL

GXA-25 External fanless ionizer

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Introduction

This manual describes how the GXA-25 External fanless ionizer (static eliminator) work and how to get the most out of them in terms of performance. Read this manual thoroughly before using the ionizer and keep it at hand for future reference.

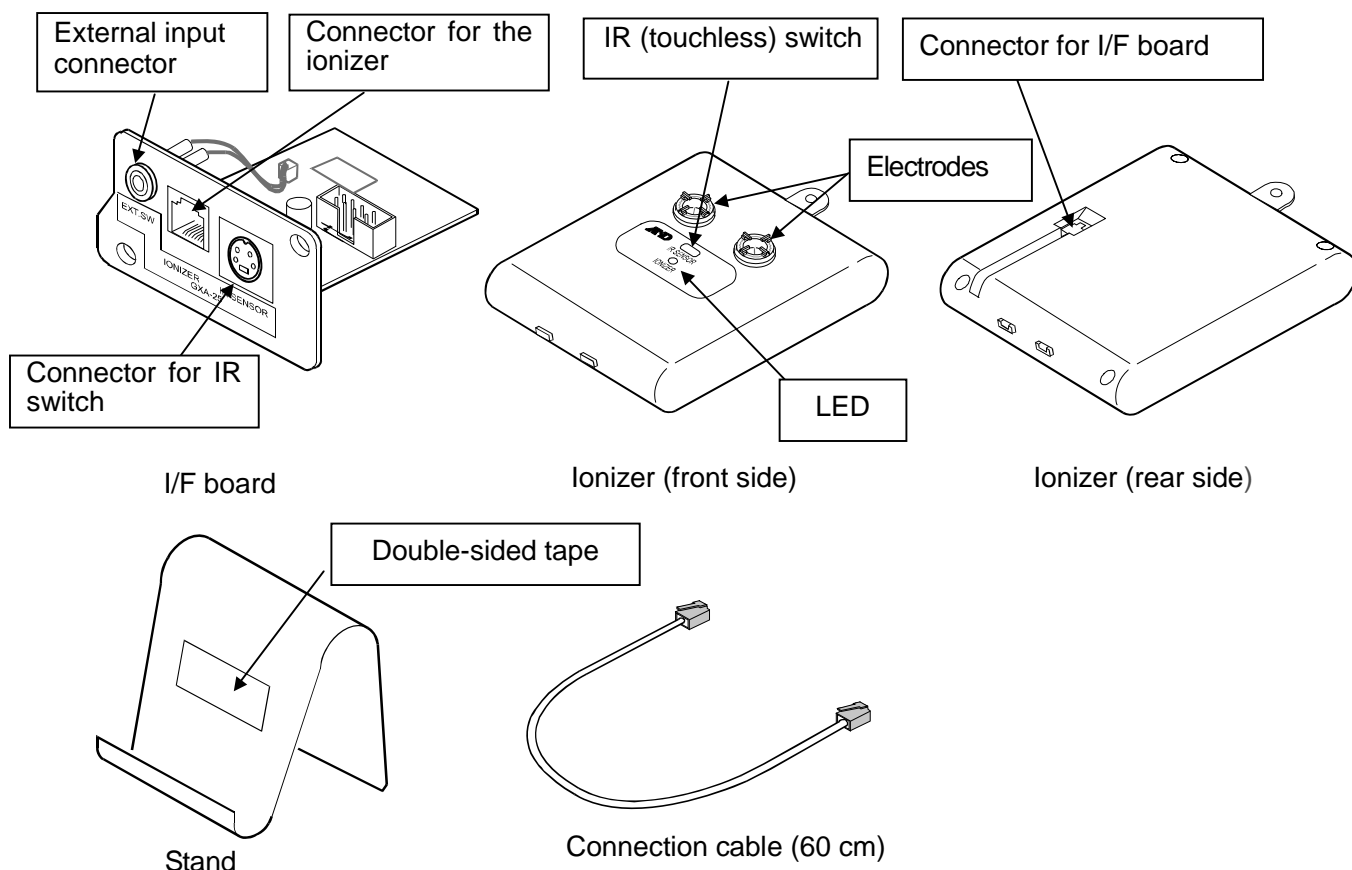
1 . Features of the Option

- A fanless DC ionizer (static eliminator) can eliminate static electricity from the weighing sample before the measurement, reducing weighing error.
(Bipolar ions are generated by DC corona discharge and the target is irradiated by those to neutralize it.)
- Each electrode unit of the ionizer is designed to be removed, cleaned and replaced.
- An IR (touchless) switch is attached to the ionizer, and neutralization can be started without touching the ionizer.
- Power is supplied from the balance to allow the ionizer to be operated without using an AC adapter.
- PRINT or RE-ZERO or the neutralization function for the ionizer can be operated by using the accessory foot switch (AX-SW137-PRINT or AX-SW137-REZERO).

Static electricity

In general, when the ambient humidity is less than 45%RH, powders, paper, plastic, nonconductors, etc., easily become charged with static electricity. The influence of the static electricity may cause a weighing error of several milligrams. The ionizer effectively neutralizes the electrical charge.

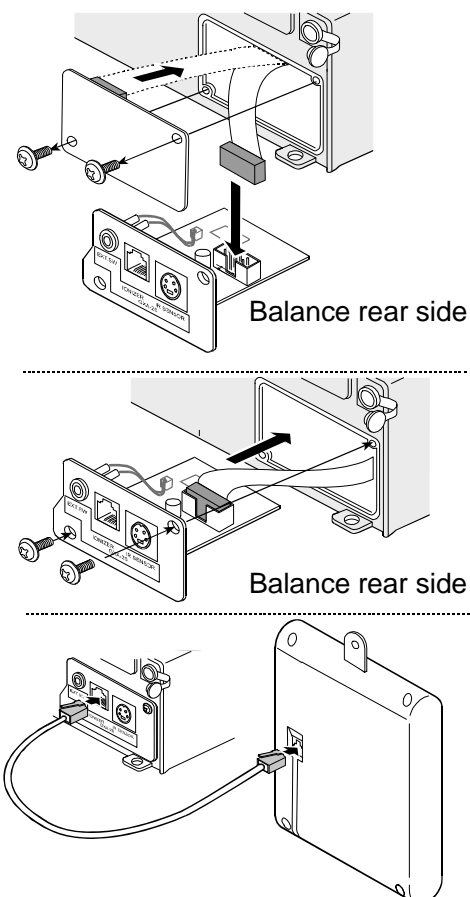
1.1. Part Names



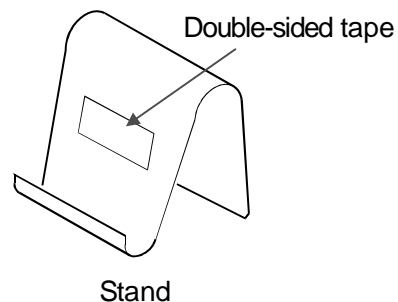
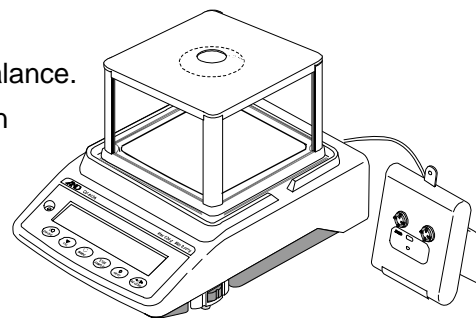
1.2. How to Install

Caution Disconnect the AC adaptor before installing the option to the balance.

1. Remove the two screws from the panel. Pull gently the cable and option board from the balance.
2. Peel off the connector that is affixed to the panel with double-sided tape and insert it into the socket of the option board.
3. Attach the option board to the balance. Secure with the two screws removed in step 1.
4. Connect using the connection cable (60 cm) between the I/F board and Ionizer.



- Place the ionizer on the stand and set it up on the side of the balance.
(Secure the ionizer to the stand using the double-sided tape on the stand if necessary)



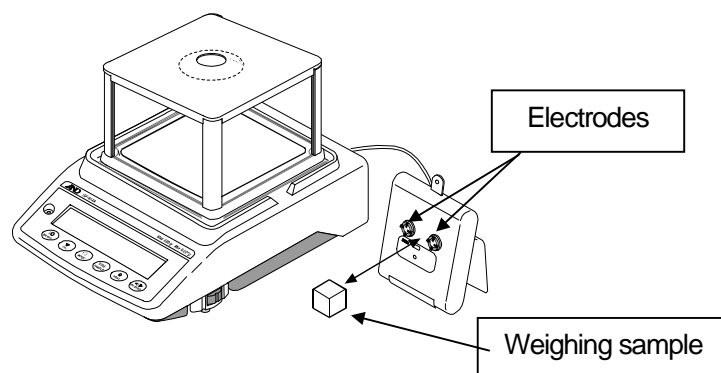
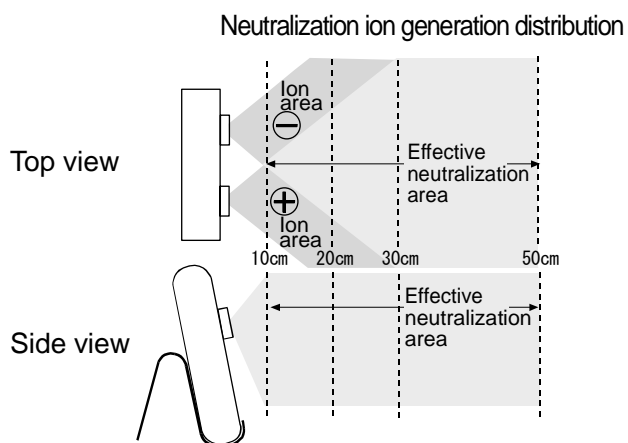
1.3. How to Use

Note

- Keep a space between electrodes and the weighing sample. Placing the sample too close to an electrode may cause the sample to become charged.
- The electrodes must not be touched with tweezers, etc. while neutralizing.

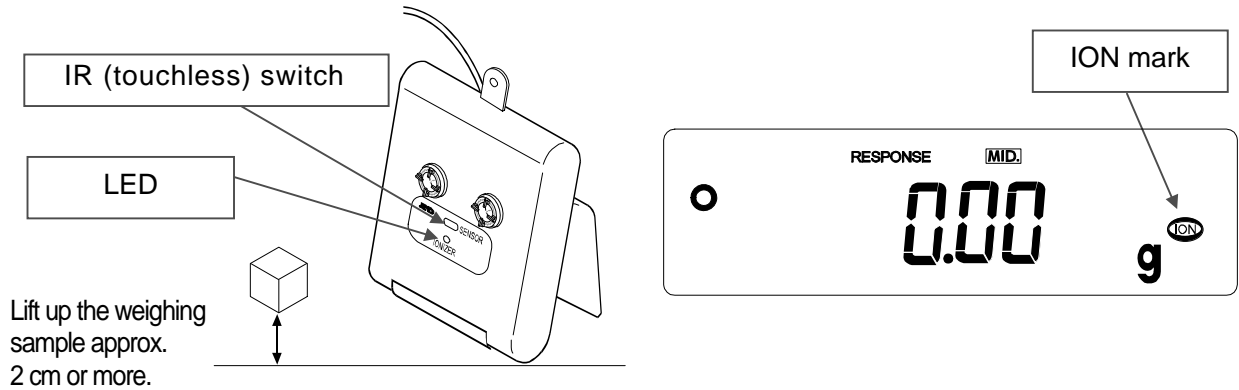
- Place the weighing sample to be neutralized in front of the ionizer.

At this time, the weighing sample to be neutralized must be kept in a range of approx. 10 cm to 30 cm from the electrodes as shown in the figure below.



2. Bring your hand close to the IR (touchless) switch located at the center of the ionizer.

When the IR switch responds to the hand, the ION mark on the balance's display and the ionizer's LED light up and neutralization starts. When an interval (three seconds at factory settings) set in the balance's function settings beforehand has passed, neutralization stops automatically. While neutralizing, make sure that the weighing sample is lifted up approx. 2 cm or more and is neutralized until the ION mark at the balance's display and the LED at the ionizer turn off.



- When a balance with a minimum display of 0.001g is used, the balance operates using a minimum display of 0.01g while the ionizer is operated, and then the balance automatically returns to the previous weighing mode when operations for the ionizer are completed..
- While neutralizing, make sure that the weighing sample is lifted up and is neutralized until the ION mark at the balance's display and the LED at the ionizer turn off. Failure to do so may result in the weighing sample not being sufficiently neutralized and cause weighing errors.
- The neutralization interval can be changed using the balance's function settings. (Refer to "2. Function Settings of the Balance")

(Reference) at 4kV electrical charge

Distance	10 cm	20 cm	30 cm
Neutralization interval	1 second	3 seconds	10 seconds

- If the IR switch is kept at ON after neutralizing, the ionizer indicates a warning by blinking the LED.
- When the neutralization interval is set to "manual", the ionizer can only be controlled externally. The "manual" neutralization interval is up to 10 minutes.

1.5. Controlling the Ionizer Externally

By using the foot switch (AX-SW137-PRINT or AX-SW137-REZERO), PRINT or RE-ZERO or the neutralization function for the ionizer can be operated.

- Connect the foot switch to the external input connector.
- By selecting “Functions for the external connector (EX PRt)” or “Functions for the external connector (EX PRt)” for “Neutralization function (ION Fnc)” in the balance’s function settings, key functions can be assigned to the terminal for the AX-SW137-PRINT (sold separately) or AX-SW137-REZERO (sold separately).
- Press the foot switch while the ionizer is operated to stop neutralization.

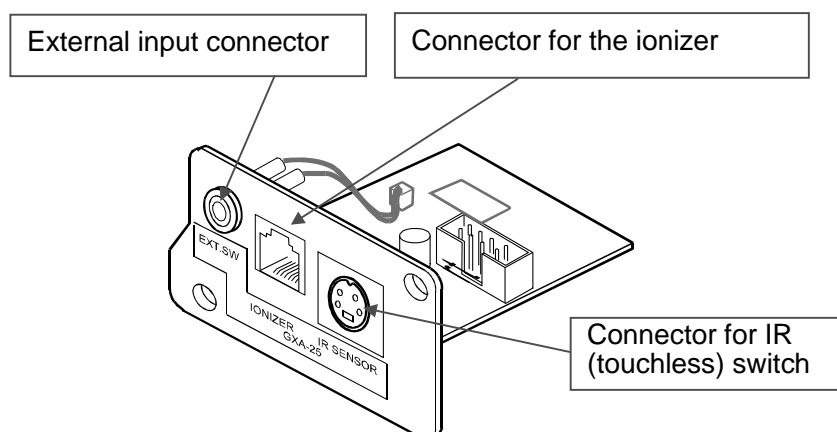
When the AX-SW137-PRINT is connected to the balance

Class	Item	Parameter	Details and usage	
ION Fnc	EX PRt	□	ION key	Assigns a key for starting neutralization to the AX-SW137-PRINT. (The IR switch at the ionizer becomes unavailable.)
		• /	PRINT key	Assigns the function of the balance’s PRINT key.

When the AX-SW137-REZERO is connected to the balance

Class	Item	Parameter	Details and usage	
ION Fnc	EX R	□	ION key	Assigns a key for starting neutralization to the AX-SW137-REZERO. (The IR switch at the ionizer becomes unavailable.)
		• /	RE-ZERO key	Assigns the function of the balance’s RE-ZERO key.

• indicates factory settings.

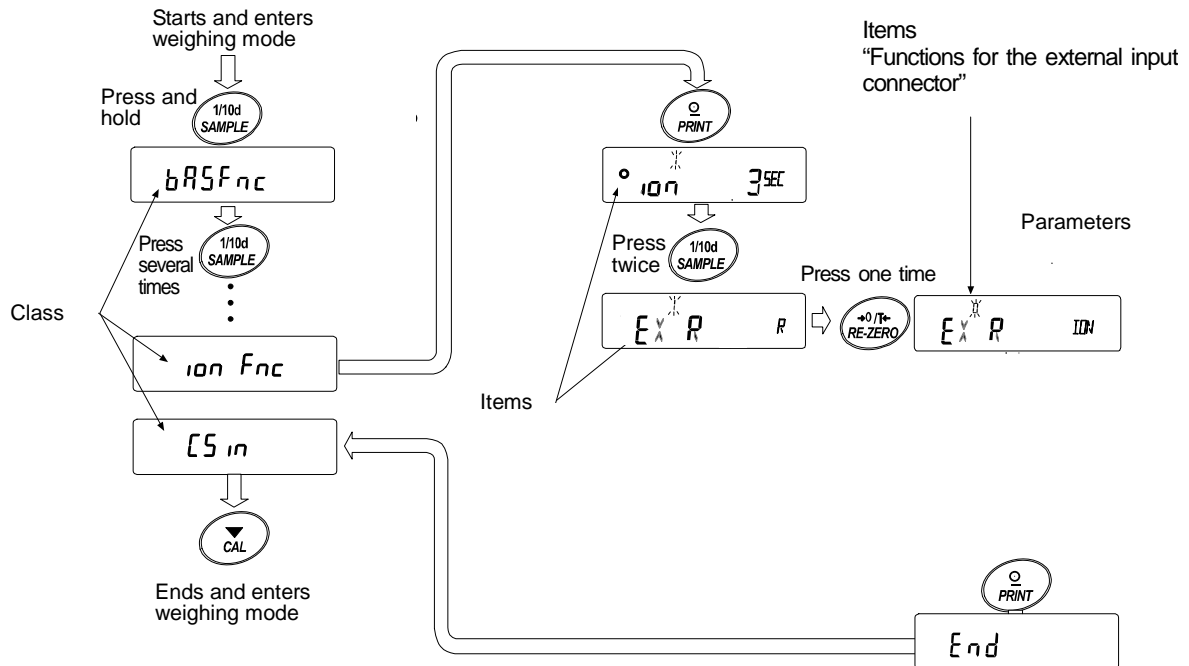


- The connector for the IR switch cannot be used with the GXA-25.

2. Function Settings of the Balance

The function table stores parameters that specify how to operate the balance, and it is used to monitor or update those parameters. These parameters are stored in memory even if the AC adaptor is removed and are retained until overwritten. Balance operations are specified by this table when using the GXA-25. The table menu consists of two layers as shown in the diagram below. The first layer is the "Class" and the second layer is the "Item". Each item stores a "parameter". The last displayed parameter is in effect. After the **PRINT** key is pressed, these updated parameters are applied to operations of the balance.

The following example is when "External input connector (AX-SW137-REZERO)" is set to the ION key.



Note: There are cases when operations cannot be made properly depending on settings and use conditions (use environment). Carefully confirm the contents to be changed before changing them.

2.1. Display for function settings and operation keys

	The indicates that the parameter displayed is in effect.
	Enters the function table when pressed and held in the weighing mode. Selects the class or item in the function table.
	Changes the parameter.
	Moves to an item in the class when a class is displayed. Stores the new parameter and displays the next class when an item is displayed.
	Cancel new parameter and displays the next class when an item is displayed. Exits the function table and returns to the weighing mode when a class is displayed.

2.2. Items List

Note: Functions available differ by model of the balance.

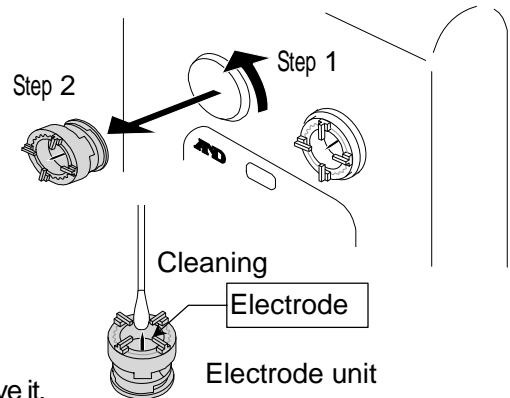
Class	Item	Parameter	Description
<i>bRSFnC</i> Environment, display			(Refer to balance's instruction manual.)
<i>CLAdj</i> Clock adjustment			
<i>CPFnC</i> Comparator			
<i>CP VALUE</i> Comparator value			
<i>CP BEEP</i> Comparator buzzer			
<i>dout</i> Data output			
<i>SIF</i> Serial interface			
<i>USB</i> USB interface			
<i>APPFnC</i> Application			
<i>MWFnC</i> Minimum weighing warning function			
<i>Unit</i> Unit			
<i>dSFnC</i> Specific gravity measuring function			
<i>ID</i> ID number setting			
<i>PASSWD</i> Password locking			
<i>Auto CAL*</i> Auto calibration			
<i>IONFnC</i> Static eliminator	<i>ION</i> Neutralization interval	0	1 second
		• 1	3 seconds
		2	10 seconds
		3	Manual for up to 10 minutes (Only external control is enabled. The ionizer's IR switch is disabled.)
	<i>EX PRt</i> Functions for the external input connector	0	ION key (The ionizer's IR switch is disabled.)
		• 1	PRINT key
<i>EX R</i> Functions for the external input connector	0	ION key (The ionizer's IR switch is disabled.)	
	• 1	RE-ZERO key	
<i>CS in*</i> Correction for internal weight value			(Refer to balance's instruction manual.)

* Applies only to GX-A series.

• indicates factory settings.

3. Maintenance of the Electrode Unit


- In general, when using the ionizer for a long time, dust and stains may stick to the electrodes. Clean them periodically to maintain performance.
- When pins of the electrode are rubbed down and the neutralization function does not recover after cleaning them, replace the electrodes with four new units. The standard life time is approximately 10000 hours.



Replacing Electrode Unit

- 1 Turn the electrode unit 45 degrees counterclockwise. Remove it.
- 2 Replace all two units with new ones at the same time.

Note

Do not remove and clean the electrodes while the  mark and the LED are flashing.

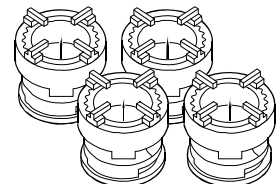
4. Specifications

Static elimination method	DC corona discharge (Bipolar)
Elimination range	Approx. 10 cm to 30 cm from the electrode
Elimination performance	1 sec. (at a distance of approx. 10 cm and 4kV electrical charge)
Ambient temperature and humidity	5 to 45 °C, 85% RH or less (No condensation)
Electrode	Tungsten (life time of approx. 10,000 hours)
Mass	Approx. 280 g (including the stand)

5. Option

Electrode Unit of the DC Static Eliminator AX-BM-NEEDLESET (4 pieces)

- Use these electrode units for replacement parts of the DC static eliminator built into the ionizer.
- Replace all two units with new ones at the same time.
- Refer to "3. Maintenance of the Electrode Unit " for the replacement.





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