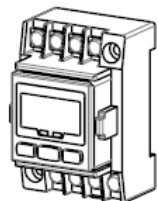




ORIGINAL INSTRUCTIONS

**Instruction Manual**  
**Intermittent control timer**  
**IZE110-X238**



The intended use of this product is to control a pulsed air supply for ionizers.

**1 Safety Instructions**

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>\*)</sup>, and other safety regulations.

\*) ISO 4414: Pneumatic fluid power - General rules relating to systems.  
ISO 4413: Hydraulic fluid power - General rules relating to systems.  
IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)  
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots.

- Refer to product catalogue, Operation Manual and Handling Precautions for SMC Products for additional information.
- Keep this manual in a safe place for future reference.

<b>Caution</b>	Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
<b>Warning</b>	Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
<b>Danger</b>	Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

**Warning**

- Always ensure compliance with relevant safety laws and standards.
- All work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.

**2 Specifications**

**2.1 Intermittent control timer specifications**

Model	IZE110-X238	
Power supply voltage	24 VDC +/-10% (with polarity protection)	
Current consumption	50 mA or less (single unit only)	
Connected valve	24 VDC 4 W or less	
OUTPUT	Maximum load current	80 mA
	Max applied voltage	30 VDC
	Residual voltage	1 V or less (at 80 mA load current)
	Short circuit protection	With short circuit protection
Trigger input	No-voltage input, Low level input 10 ms or more, Low level 0.4 V or less	
Indicator light	Green / Red LED	
Environmental	Enclosure rating	IP40
	Operating / Storage temperature range	Operation: 0 to 50 °C, Storage: -10 to 60 °C (with no freezing or condensation)
	Operation / Storage humidity range	35 to 85%RH (with no condensation)
	Withstand voltage	1000 VAC for 1 minute between terminals and housing
	Insulation resistance	50 MΩ or more (with 500 VDC measured via megohmmeter) between terminals and housing
	Vibration resistance	10 to 150 Hz at whichever is smaller of 1.5 mm amplitude or 98 m/s <sup>2</sup> acceleration, in X, Y, Z direction for 2 hrs. each (De-energized)
Impact resistance	100 m/s <sup>2</sup> in X, Y, Z directions 3 times each (De-energized)	
Material	Front case: PBT, Rear case: Modified PPE	
Weight (Body)	50 g	

**Warning**

Special products (-X) might have specifications different from those shown in this section. Contact SMC for specific drawings.

**3 Installation**

**3.1 Installation**

**Warning**

- Do not install the product unless the safety instructions have been read and understood.

**3.2 Product specifications**

**Warning**

- Use a UL-certified product for combined direct current power supply.
  - Limited voltage / current circuit in accordance with UL 508. A circuit in which power is supplied by a secondary coil of insulated transformer that meets the following conditions:
    - Maximum voltage (No load): 30 V rms (42.4 V peak) or less
    - Maximum current:
      - 8 A or less (including short circuit)
      - Limited by circuit protector (such as fuse) with the following rating.

Voltage without load (V peak)	Maximum current [A]
0 to 20 [V]	5.0
Over 20 [V] up to 30 [V]	100 / peak voltage

**3 Installation - continued**

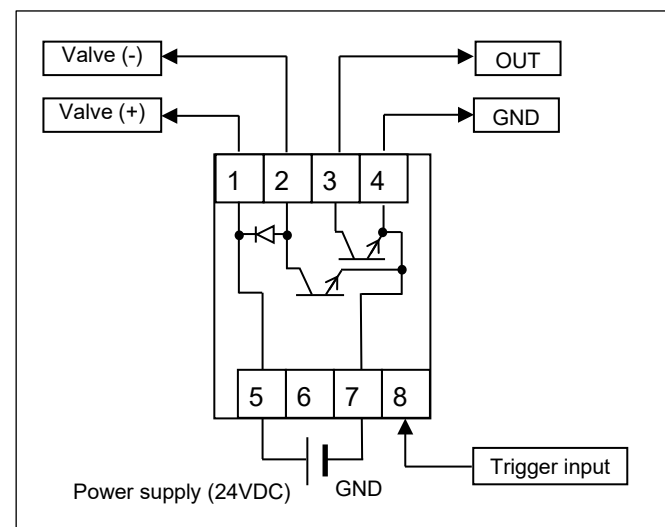
(2) Circuit (class 2) of maximum 30vrms (42.4V peak) or less, with UL1310 class 2 power supply unit or UL 1585 class 2 transformer.

- Use only the specified voltage. Otherwise failure or malfunction can result.
- Do not exceed the specified maximum allowable load. Otherwise it can cause damage or shorten the life of the product.
- Design the product to prevent reverse current when the circuit is open or the product is forced to operate for an operational check. Reverse current can cause malfunction or damage to the product.
- Set data stored by the product is not deleted, even if the power supply is disconnected.
- Do not use a load which generates a surge voltage. In order to actuate a surge generating load such as a solenoid valve or relay directly, use a load with a built-in surge absorption element.

**3.3 Wiring**

**Warning**

- Wire the product correctly. Incorrect wiring can cause malfunction or damage the product.
- Do not perform wiring while the power is ON. Otherwise damage to the internal parts can result, causing malfunction.
- Do not route wires and cables together with power or high voltage cables. Route the wires of the product separately from power or high voltage cables to prevent noise and surge from entering the product.
- Confirm proper insulation of wiring. Poor insulation (interference with other circuits, poor insulation between terminals etc.) can apply excessive voltage or current to the product causing damage.
- Depending on the circuit used, insulation may not be maintained when operation is forced, allowing reverse current to flow, which can malfunction and damage the product.



- Valve specification: 24 VDC 4 W or less  
 OUT specification: Maximum load current 80 mA  
 Maximum load voltage: 30 VDC  
 Residual voltage 1 V or less (Load current 80 mA)
- Terminal No.6 - Do not use.
  - Terminal No.1 and 5 are connected internally.
  - Terminal No.4 and 7 are connected internally.
  - OUT terminal is NPN open collector output.
  - Trigger input is a voltage-free input. It is turned on when connected to GND. It turns off when not connected to GND.

**3 Installation - continued**

**3.4 Adjustment and Operation**

**Warning**

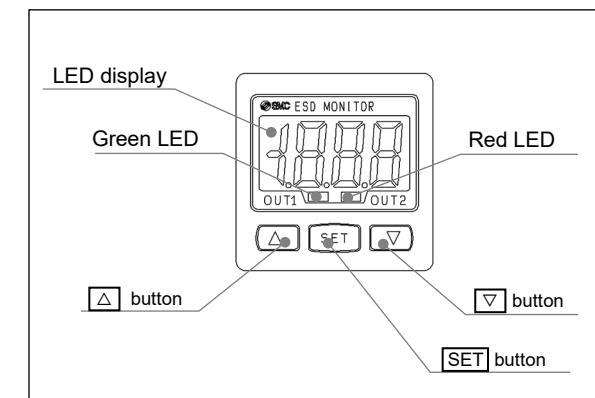
- Do not short-circuit the load. Although error is displayed when the product load has a short circuit, a generated over current may lead to damage to the output circuit.
- Do not press the setting buttons with a sharp pointed object. This may damage the buttons.
- Perform settings suitable for the operating conditions. Incorrect setting can cause operation failure.
- Do not touch the LCD during operation. The display can vary due to static electricity.

**3.5 Environment**

**Warning**

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- Do not install in a location subject to vibration or impact in excess of the product's specifications.
- Do not mount in a location exposed to radiant heat that would result in temperatures in excess of the product specifications.

**4 Name and Function of Individual Parts**



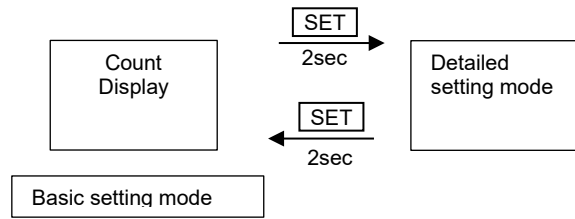
Item	Description
LED Display	Displays the current count value and set values.
Green LED	LED is ON when the frequency or ON time is set, or valve is operating (confirmed by the count display).
Red LED	LED is ON during duty ratio setting or OFF time setting.
UP $\Delta$ button	Changes the set mode and increases the value.
DOWN $\nabla$ button	Changes the set mode and decreases the value.
SET button	Sets the operation mode.

## 5 Operation

- Connect terminal No.5 to 24 VDC, terminal No.7 to GND, and terminal No. 1 and 2 to the valve.
  - When terminal No.8 (trigger) is connected to GND, the valve operates for the time previously set by the timer.
  - Terminal No.3 (OUT) provides an output signal while the valve is operating.
  - The time set for the timer, frequency (or ON time), or duty ratio (or OFF time) can be changed using the setting screen.
- The valve operation is stopped and the timer value is cleared when terminal No.8 (trigger) is disconnected from GND, even within the time set by the timer.
  - To restart the valve after the time set by the timer, disconnect terminal No.8, then connect to GND again.

## 6 Settings

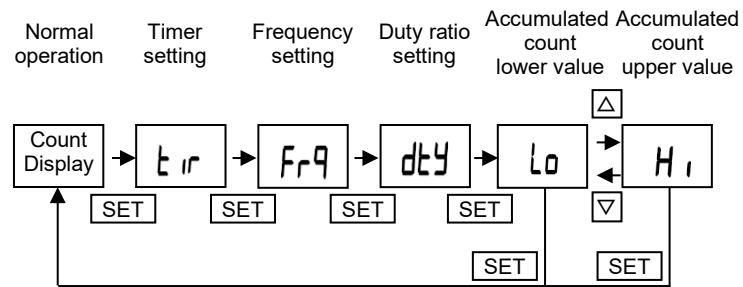
### 6.1 Setting mode switching



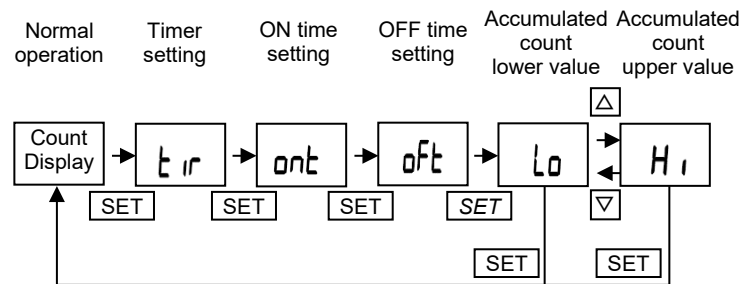
### 6.2 Basic setting mode

- Press the SET button to select each basic setting item. Press the Δ or ▽ button to change the set value in each setting mode. Press the SET button to update the value and complete the setting.
- Press the SET button in each setting mode for 2 seconds or longer to return to normal mode.

[Valve operation cycle selection: F\_d set to ON]



[Valve operation cycle selection: F\_d set to off]



## 6 Settings - continued

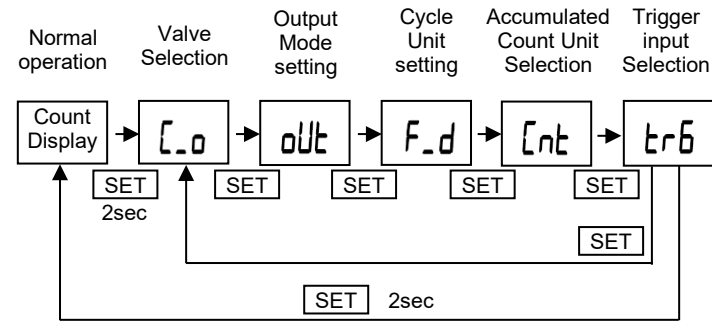
### 6.3 Detailed setting mode

Press the SET button for 2 seconds or longer in normal operation mode to move to the detailed setting mode.

Press the SET button to select each basic setting item.

Press the Δ or ▽ button to change the set value in each setting mode. Press the SET button to complete the setting.

\*: Press the SET button in each setting mode for 2 seconds or longer to return to normal mode.



### 6.4 Glossary

Refer to the operation manual on the SMC website (URL: <https://www.smcworld.com>) for contents indicated on the display.

## 7 How to Order

Refer to the operation manual or catalogue on the SMC website (URL: <https://www.smcworld.com>) for "How to Order" information.

## 8 Outline Dimensions (in mm)

Refer to the operation manual or catalogue on the SMC website (URL: <https://www.smcworld.com>) for the "Outline Dimensions".

## 9 Error Indication

When a malfunction or an error occurs, information about the affected part and type of error will be displayed.

Item	Display	Description	Countermeasure
Over current Error 1	Er 1	The valve supply load current has exceeded 160 mA.	Turn the power off and remove the cause of the over current.
Over current Error 2	Er 2	The switch output load current has exceeded 80mA.	Then supply the power again.
System error	Er 3	An internal data error has occurred.	Turn the power off and turn it on again. If the failure cannot be solved, contact SMC.

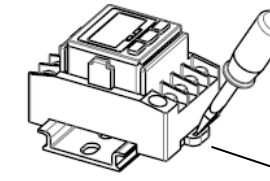
## 10 Maintenance

### 10.1 General maintenance

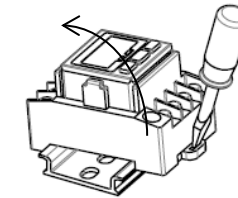
#### Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous.
- Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Do not disassemble the product, unless required by installation or maintenance instructions.
- When removing/replacing the IZE110-X238 for maintenance adhere to the following procedure (as illustrated).

Mounting on DIN rail



Removal from DIN rail



## 11 Limitations of Use

### 11.1 Limited warranty and disclaimer/compliance requirements

Refer to Handling Precautions for SMC Products.

## 12 Product Disposal

This product shall not be disposed of as municipal waste. Check your local regulations and guidelines to dispose of this product correctly, in order to reduce the impact on human health and the environment.

## 13 Contacts

Refer to [www.smcworld.com](http://www.smcworld.com) or [www.smc.eu](http://www.smc.eu) for your local distributor/importer.

## SMC Corporation

URL : <https://www.smcworld.com> (Global) <https://www.smc.eu> (Europe)  
 SMC Corporation, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan  
 Specifications are subject to change without prior notice from the manufacturer.  
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