X904281

KOGANEI

Monitor DTY-ZSU
Instruction Manual Ver. 1.0

Thank you for purchasing this Koganei product.
Before using it, be sure to read this manual and make sure you use it correctly.
Keep this manual in a safe place for future reference.

1. Specifications

Item		Model DTY-ZSU-D
Power	Power supply voltage	24 VDC±10%
	Consumption current	50 mA max.
Display	Value display	7-segment LED, 4 digit display
	Display cycle	Selectable: 500 ms, 1000 ms, 3000 ms
	Display values	Actual measurements: Display of actual measured values at each display cycle Maximum: Display of maximum value Average: Display of average value at each display cycle
Environment resistance	Operating temperature range	−10 to 50 °C [14 to 122 °F] (non-condensation, non-freezing)
	Storage temperature range	−20 to 80 °C [−4 to 176 °F] (non-condensation, non-freezing)
	Noise resistance	EN61000-4-4 EFT/B levels Power supply: ±1 kV (Level 2) DATA: ±1kV (Level 3)
	Dielectric strength	500 VAC for one minute
	Insulation resistance	100 MΩ minimum at 500 VDC
	Vibration resistance	10 to 55 Hz Each XYZ direction, two hours
	Shock resistance	294 m/S² [30 G] (non-repeated)
General	Materials	Case: PBT
	Weight	30 g [1.06 oz] (excluding cable)

2. Precautions

Wiring

- When using a power supply with a commercially available switching regulator, be sure to connect a power supply frame ground (F.G.) to earth.
- Be sure to connect the ionizer body to ground as well.
- After completing wiring work, check to make sure that all connections are correct.

Others

- Check fluctuations in the power supply to confirm they do not exceed the ratings before turning on the power.
- Avoid use during the transient state following power on (one second).
- Never use a needle or any other sharp pointed object to perform key operations.
- This product can be used with the DTY-BX01 Series ionizer only.
- This product cannot be used with the DTY-BX01 Series simple type ionizer.
  (Simple type ionizer models: DTY-BX01-200-N, DTY-BX01-400-N)

3. Included items

- Monitor unit (1 pc.)
- Instruction Manual (1 pc.)

Mounting bracket, protective cover, and cables are provided upon separate order.

4. Compatible ionizers

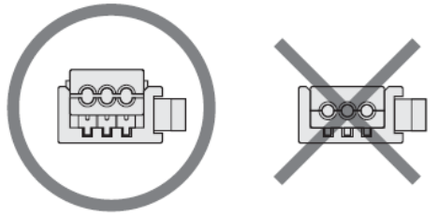
Ionizer type		Model	
External potential sensor type	Standard type	DTY-BX01-200	DTY-BX01-400
	Fan type	DTY-BX01-200-F	DTY-BX01-400-F
	Low particle generation type	DTY-BX01-200-L	DTY-BX01-400-L
Integrated potential sensor type	Standard type	DTY-BX01-200-B	DTY-BX01-400-B
	Fan type	DTY-BX01-200-FB	DTY-BX01-400-FB
	Low particle generation type	DTY-BX01-200-LB	DTY-BX01-400-LB

5. Installation

Connecting transmission cable connectors

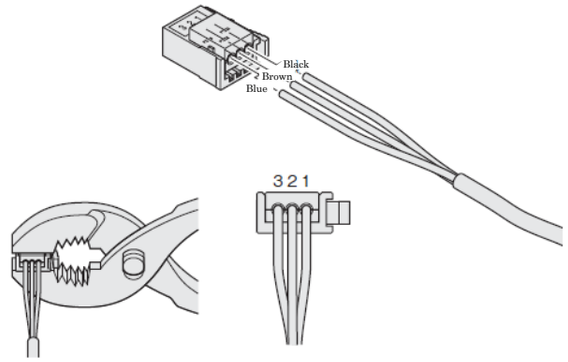
The cable and mini-clamp connector (male) are not connected when transmission cables are delivered, use the following procedure to connect them.

- Check to make sure that the connector cover (lead wire holder) is raised above the body of the connector. Note that a connector whose cover is even with the body of the connector cannot be used.



- Insert the lead wires into the connector cover holes in accordance with the information in the table below. Check to make sure the lead wires are fully inserted as far as they will go by viewing the semi-transparent top cover of the connector (wire goes in about 9 mm [0.35 in]).
  * Note that supplying power while connections are incorrect will damage the control device and monitor you are using.

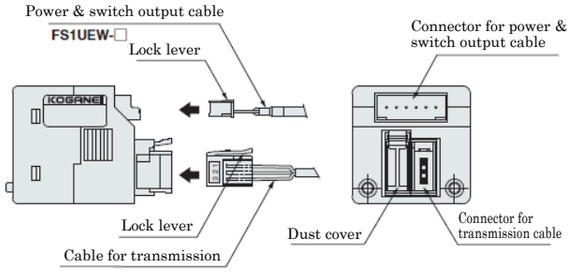
Number on connector	Wire color	Signal name
1	Black	TXD
2	Brown	RXD
3	Blue	0 V



- Taking care that lead wires do not come out of the connector, use pliers or some other type of hand tool to squeeze the cover and body of the connector until the cover is pressed into the body.
  Do not apply force in excess of 980.7 N [220 lbf].
  Connection is complete when the cover is even with the connector body.

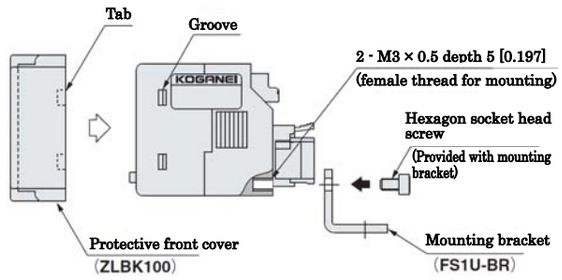
- Double check to make sure that wiring is correct.

Connecting and disconnecting power and transmission cables



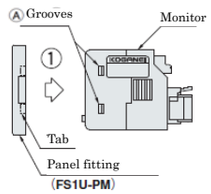
- To attach the power and transmission cables, position the lock lever as shown in the illustration, and then insert until they lock into place with the monitor side connector.
  For disconnection, press down fully on the lock lever as you hold the connector and pull to disconnect. At this time, take care not to apply undue force to the lead wires.
  Do not connect anything to unused connectors. Doing so can damage the monitor.

Attaching the protective front cover and bracket

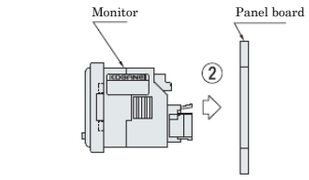


- Install the mounting bracket on the back of the monitor using the hexagon socket head screws (M3×0.5, 5 mm [0.197 in] long) to mount it.
  Use a tightening torque of 0.5 N・m [4.4 in・lbf]. Attach the protective front cover so that the tabs inside the cover enter the grooves on the inside. To remove the cover, hold the covers by the protrusions and remove them.

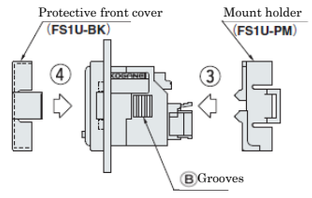
Attaching the front protective cover and parts for panel mount



① Attach the panel fitting to the front of the monitor.
At this time, the tabs on the inside of the panel fitting should go into the Ⓐ grooves on the monitor.

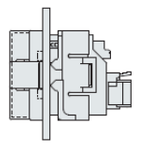


② Insert the monitor into the hole in the panel from the front.



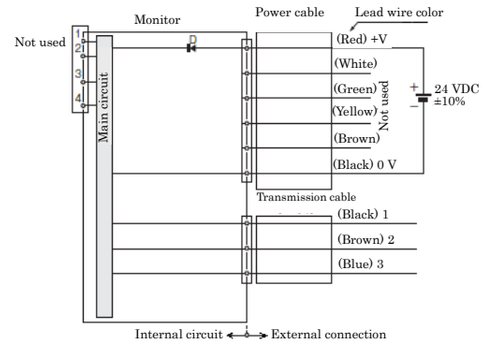
③ From step ② , insert the mount holder so that it hooks on the Ⓑ grooves of the monitor.

④ Attach the protective front cover.

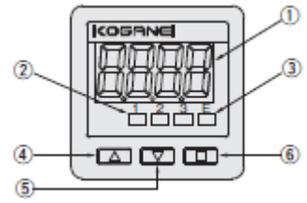


* For disassembly, use a screwdriver to remove the mount holder and perform steps in the reverse order of assembly.

6. Wiring diagram



7. Nomenclature and functions

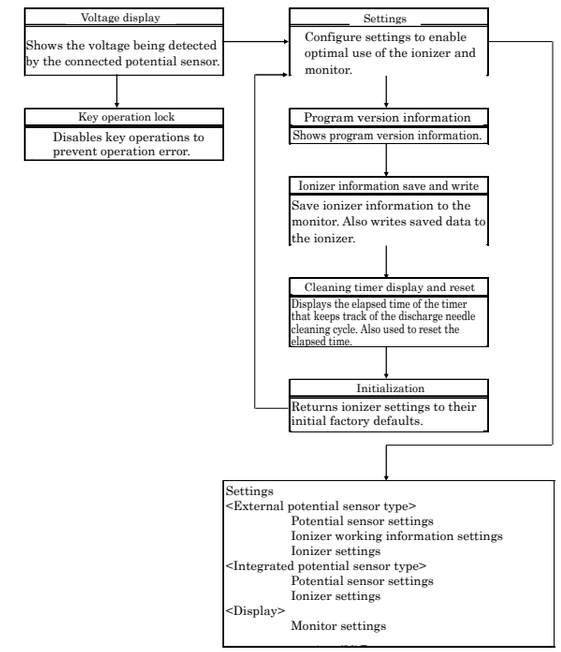


No.	Name	Description
①	Display	Shows detected voltage value, settings, and errors
②	Sensor indicators	Shows which sensor's voltage is being displayed
③	Error indicator	Lights when an error has occurred
④	Up button (△)	Used for settings and to change the sensor indicators
⑤	Down button (▽)	Used for settings and to change the sensor indicators
⑥	Mode button (□)	Used to do various settings

When this sensor indicator is lit:	This is being shown by the display:
LED_1_	Voltage value of the sensor connected to external potential sensor connector _sen.1 of the ionizer.
LED_2_	Voltage value of the sensor connected to external potential sensor connector _sen.2 of the ionizer.
LED_3_	Voltage value of the ionizer's integrated potential sensor.

8. Voltage display and settings

• Voltage display and setting overview



• Voltage display

The voltage display appears after monitor power is turned on.

You can determine which potential sensor value is indicated on the voltage display by checking the sensor indicator LEDs.

Step	Monitor unit operation	7-segment display	Remarks
1	△	8888	Voltage display External potential sensor (sen.1)
2	△	8888	Voltage display External potential sensor (sen.2)
3	△	8888	Voltage display External potential sensor (integrated)

*1: Pressing [▽] returns to the previous voltage display.

• Setting options and how to configure them

Changing a setting initially displays the change in red. The displayed setting becomes green when you apply it.

Procedures for configuring settings shown below start from the voltage display.

You can return to the voltage display at any time while configuring settings by pressing the up, down, and mode buttons at the same time.

Monitor settings

Use the procedure below to configure or change monitor display settings.

[Settings]

1	Display cycle setting	Select the display cycle for the voltage display. Options: 500, 1000, 3000 (ms) Initial factory default: 500 ms
2	Display value setting	Select either actual measured value or average value. Initial factory default: Actual measured value
3	Decimal point position	Specify the number of displayed decimal places.

[Setting procedure]

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	▽	dPSE	
4	□	dPI	
5	□	500	
6	△ ▽	500	Display interval 500, 1000, 3000 (ms)
7	□	500	Displayed value becomes green, setting is complete.
8	□	dPSE	
9	□	dPI	
10	△	dPu	
11	□	nouu	
12	□	nouu	Display setting nouu : Actual value
13	△ ▽	nouu	AuE : Average value
14	□	nouu	Displayed value becomes green, setting is complete.
15	□	dPSE	
16	□	dPI	
17	▽	dot	
18	□	.	
19	△ ▽	.	Decimal point position
20	□	.	Displayed value becomes green, setting is complete.
21	□	dPSE	
22	△ □ (Press at same time) Twice	8888	Returns to potential display.

Potential sensor settings

These settings provide information that allows correct display of values detected by a potential sensor.

Be sure to configure these settings whenever using a potential sensor.

[Settings]

1	Potential sensor (sen.1) Potential sensor (sen.2) Potential sensor (integrated) Working distance	Input the distance from the target to the potential sensor (measuring window). Measurement values are compensated in accordance with the distance. Input range: 50 mm to 150 mm [1.97 to 5.91 in] (10 mm [0.39 in] increments) Initial factory default: 50 mm [1.97 in]
2	Potential sensor (sen.1) Measurement range	Normally use a range of 2 kV. You need to switch to the 20 kV range in ion polarity control static charge removal mode when an external type potential sensor connected to the potential sensor connector (sen.1) produces an out of 2 kV range. (The potential sensor unit also needs to be switched.) Modes: 2 kV or 20 kV Initial factory default: 2 kV
3	Potential sensor (sen. 2) Measurement range	Use the initial factory default setting. This setting does not need to be changed. Initial factory default: 2 kV

Note: The integrated potential sensor type is 2 kV range only.

[Setting procedure]

External potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	□	SEn1	Potential sensor (sen.1) settings
4	□	LEn	Working distance setting
5	□	050	
6	△ ▽	050	Input range: 50 to 150 mm [1.97 to 5.91 in]
7	□	050	Displayed value becomes green, setting is complete.
8	□	SSEt	
9	□	SEn1	Potential sensor (sen.1) settings
10	□	LEn	
11	△	rAn	Potential sensor (sen.1) measurement range setting
12	□	2	
13	△	2	Measurement range Select 2 or 20 (kV).
14	□	2	Displayed value becomes green, setting is complete.
15	□	SSEt	Potential sensor (sen.2) settings not required -> To step 31
16	□	SEn1	
17	△	SEn2	Potential sensor (sen.2) settings
18	□	LEn	Working distance setting
19	□	050	
20	△ ▽	050	Input range: 50 to 150 mm [1.97 to 5.91 in]
21	□	050	Displayed value becomes green, setting is complete.
22	□	SSEt	
23	△ □ (Press at same time) Twice	8888	Returns to potential display.

Integrated potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	□	SEn1	Potential sensor (sen.1) settings
4	□	LEn	Working distance setting
5	□	050	
6	△ ▽	050	Input range: 50 to 150 mm [1.97 to 5.91 in]
7	□	050	Displayed value becomes green, setting is complete.
8	□	SSEt	
9	□	SEn1	
10	△	SEn3	Potential sensor (integrated) settings
11	□	LEn	Working distance setting
12	□	050	
13	△ ▽	050	Input range: 50 to 150 mm [1.97 to 5.91 in]
14	□	050	Displayed value becomes green, setting is complete.
15	□	SSEt	
16	△ □ (Press at same time) Twice	8888	Returns to potential display.

Configuring ionizer setting information (Input required only for external potential sensor type.)

When using an ionizer in ion polarity control mode, ion control enables optimal static charge removal in accordance with the input information. These settings let you configure and change the workpiece movement speed, potential sensor/ionizer working distance, and workpiece size. Optimum static charge removal information that was pre-configured from a computer running support software can be modified on the monitor unit.

* Use support software to adjust ionizer static charge removal.
  Static charge removal cannot be adjusted with the monitor unit.

Use the settings below to configure settings according to distance.

[Settings]

1	Workpiece movement speed *1	Input the movement speed of the static charge removal target. Input 0 mm/s [0 in/sec] for a target that is stopped or has a movement speed of less than 100 mm/s [3.94 in/sec]. Input range: 0 to 1000 mm/s [0 to 39.4 in/sec] Initial factory default: 1000 mm/s [39.4 in/sec]
2	Distance between potential sensor and ionizer *2	Input the distance from the center of the potential sensor connected to the sen.1 connector of the ionizer unit to the center of the ionizer. Input range: 200 to 3000 mm [7.87 to 118 in] Initial factory default: 3000 mm [118 in]
3	Distance between potential sensor (sen.1) and potential sensor (sen.2) *3	Input the distance from the center of the potential sensor connected to the sen.1 connector of the ionizer unit to the center of the potential sensor connected to the sen.2 connector. Input range: 400 to 6000 mm [15.75 to 236 in] Initial factory default: 6000 mm [236 in]
4	Distance/time selection	Select distance. Initial factory default: Working distance
5	Workpiece size*4	Input the static charge removal target size as the size of a circle that connects the opposing corners of the target. Input range: 50 to 300 mm [1.97 to 11.81 in] Initial factory default: 300 mm [11.81 in]

*1: Set a value that corresponds to the movement speed of the target.

*2: The distance between the potential sensor (sen.1) and ionizer should be at least *** mm.

*3: The potential sensor (for judgment) connected to the ionizer's potential sensor connector (sen.2) should be located after passing through a location (downstream) from the ionizer.

*4: If the size of the target is 50 mm [1.97 in] or less, input 50 mm [1.97 in]. So also, if the size of the target is 300 mm [11.8 in] or greater, input 300 mm [11.8 in]. For a target that is a continuous object like film, etc., input 300 mm [11.8 in].

[Setting procedure]

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE1	
4	□	SPd	
5	□	1000	
6	△ ▽	1000	Workpiece movement speed 0 to 1000 mm/s [0 to 39.4 in/sec]
7	□	1000	Displayed value becomes green, setting is complete.
8	□	PSE1	
9	□	SPd	
10	△	SI	
11	□	SIL	
12	□	3000	
13	△ ▽	3000	Distance between potential sensor and ionizer 0 to 3000 mm [0 to 118 in]
14	□	3000	Displayed value becomes green, setting is complete.
15	□	PSE1	
16	□	SPd	
17	△	SI	
18	△	SS	
19	□	SSL	
20	□	6000	

To step 21

From step 20

21	△ ▽	6000	Distance between potential sensor (sen.1) and potential sensor (sen.2) 0 to 6000 mm [0 to 236 in]
22	□	6000	Displayed value becomes green, setting is complete.
23	□	PSE1	
24	□	SPd	
25	▽	obS	
26	▽	Lort	
27	□	LE	
28	▽	LE	LE :Select (distance)
29	□	LE	Displayed value becomes green, setting is complete.
30	□	PSE1	
31	□	SPd	
32	▽	obS	
33	□	300	
34	△ ▽	300	Workpiece size 50 to 300 mm [1.97 to 11.81 in]
35	□	300	Displayed value becomes green, setting is complete.
36	□	PSE1	
37	△ □ (Press at same time) Twice	8888	Returns to potential display.

Use the settings below to configure settings according to travel time.
[Settings]

1	Workpiece movement speed *1	Input the movement speed of the static charge removal target. Input 0 mm/s [0 in/sec] for a target that is stopped or has a movement speed less than 100 mm/s [3.94 in/sec]. Input range: 0 to 1000 mm/s [0 to 39.4 in/sec] Initial factory default: 1000 mm/s [39.4 in/sec]
2	Travel time from potential sensor to ionizer *2	Input the travel time of the target from the center of the potential sensor connected to the sen.1 connector of the ionizer unit to the center of the ionizer. Input range: 0.01 to 30.00 s Initial factory default: 30.00 s
3	Travel time from potential sensor (sen.1) to potential sensor (sen.2) *3	Input the target travel time from the center of the potential sensor connected to the sen.1 connector of the ionizer unit to the center of the potential sensor connected to the sen.2 connector. Input range: 0.01 to 60.00 s Initial factory default: 60.00 s
4	Distance/time selection	Select time. Initial factory default: Working distance
5	Workpiece size *4	Input the static charge removal target size as the size of a circle that connects the opposing corners of the target. Input range: 50 to 300 mm [1.97 to 11.81 in] Initial factory default: 300 mm [11.81 in]

*1: Set a value that corresponds to the movement speed of the target.
*2: Set up the sensor and ionizer so that, calculated according to the movement speed, it will take at least 0.01 seconds of travel from the sensor connected to the ionizer's sen.1 connector to the ionizer. Note, however, that the setting distance between the potential sensor and ionizer is limited.
*3: The potential sensor (for judgment) connected to the ionizer's potential sensor connector (sen.2) should be located after passing through a location (downstream) from the ionizer.
*4: If the size of the target is 50 mm [1.97 in] or less, input 50 mm [1.97 in]. So also, if the size of the target is 300 mm [11.8 in] or greater, input 300 mm [11.8 in]. For a target that is a continuous object like film, etc., input 300 mm [11.8 in].

[Setting procedure]

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE1	
4	□	SPd	
5	□	1000	
6	△ ▽	1000	Workpiece movement speed 0 to 1000 mm/s [0 to 39.4 in/sec]
7	□	1000	Displayed value becomes green, setting is complete.
8	□	PSE1	
9	□	SPd	
10	△	SI	
11	□	SIL	
12	△	SIt	
13	□	10.00	
14	△ ▽	1000	Travel time from potential sensor to ionizer 0.01 to 30.00 (s)
15	□	10.00	Displayed value becomes green, setting is complete.
16	□	PSE1	
17	□	SPd	
18	△	SI	
19	△	SS	
20	□	SSL	

To step 21

From step 20

21	△	SSt	
22	□	2000	
23	△ ▽	20.00	Travel time from potential sensor (sen.1) to potential sensor (sen.2) 0.01 to 60.00 (s)
24	□	2000	Displayed value becomes green, setting is complete.
25	□	PSE1	
26	□	SPd	
27	▽	obS	
28	▽	Lort	
29	□	LE	
30	▽	tI	tI : Select (travel time)
31	□	tI	Displayed value becomes green, setting is complete.
32	□	PSE1	
33	□	SPd	
34	▽	obS	
35	□	300	
36	△ ▽	300	Workpiece size 50 to 300 mm [1.97 to 11.81 in]
37	□	300	Displayed value becomes green, setting is complete.
38	□	PSE1	
39	△ □ (Press at same time) Twice	8888	Returns to potential display.

Ionizer settings

Use these settings to configure or change ionizer ion polarity control start and stop, the alarm threshold value, and the cleaning timer time.
[Settings]

1	Ion polarity control start voltage	Input not necessary for normal use. Input a value here to start ion polarity control at a desired voltage. Input range: 500 to 1000 V Initial factory default: 1000 V
2	Ion polarity control stop voltage	Input not necessary for normal use. Input a value here to stop ion polarity control at a desired voltage. Input range: 50 to 490 V Initial factory default: 100 V
3	Alarm threshold voltage	Input the threshold voltage value as alarm trigger criteria for values detected by the potential sensor. Input range: 100 to 2000 V Initial factory default: 1000 V
4	Cleaning timer	Input the cleaning timer time. Setting a timer time of 0 disables the timer. Input range: 0 to 1000 hours (100-hour increments) Initial factory default: 0 (Timer off)

[Setting procedure]

Ion polarity control start/stop settings

Input not necessary for normal use.

External potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE1	
4	△	PSE2	
5	□	CS	
6	□	onS	
7	□	1000	
8	△ ▽	1000	Ion polarity control start voltage 500 to 1000 (V)
9	□	1000	Displayed value becomes green, setting is complete.
10	□	PSE2	
11	□	CS	
12	□	onS	
13	△	oFS	
14	□	100	
15	△ ▽	100	Ion polarity control stop voltage 50 to 490 (V)
16	□	100	Displayed value becomes green, setting is complete.
17	□	PSE2	
18	△ □ (Press at same time) Twice	8888	Returns to potential display.

Integrated potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE2	
4	□	CS	
5	□	onS	
6	□	1000	
7	△ ▽	1000	Ion polarity control start voltage 500 to 1000 (V)
8	□	1000	Displayed value becomes green, setting is complete.
9	□	PSE2	
10	□	CS	
11	□	onS	
12	△	oFS	
13	□	100	
14	△ ▽	100	Ion polarity control stop voltage 50 to 490 (V)
15	□	100	Displayed value becomes green, setting is complete.
16	□	PSE2	
17	△ □ (Press at same time) Twice	8888	Returns to potential display.

Alarm threshold voltage

External potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE1	
4	△	PSE2	
5	□	CS	
6	▽	CPtS	
7	▽	trS	
8	□	1000	
9	△ ▽	1000	Alarm threshold voltage 100 to 2000 (V)
10	□	1000	Displayed value becomes green, setting is complete.
11	□	PSE2	
12	△ □ (Press at same time) Twice	8888	Returns to potential display.

Integrated potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE2	
4	□	CS	
5	▽	CPtS	
6	▽	trS	
7	□	1000	
8	△ ▽	1000	Alarm threshold voltage 100 to 2000 (V)
9	□	1000	Displayed value becomes green, setting is complete.
10	□	PSE2	
11	△ □ (Press at same time) Twice	8888	Returns to potential display.

Cleaning timer time setting

Setting a cleaning timer time of 0 (h) disables the timer.

External potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE1	
4	△	PSE2	
5	□	CS	
6	▽	CPtS	
7	□	0000	
8	△ ▽	0000	Cleaning timer 0 to 1000 (h)
9	□	0000	Displayed value becomes green, setting is complete.
10	□	PSE2	
11	△ □ (Press at same time) Twice	8888	Returns to potential display.

Integrated potential sensor type

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	□	SSEt	
3	△	PSE2	
4	□	CS	
5	▽	CPtS	
6	□	0000	
7	△ ▽	0000	Cleaning timer 0 to 1000 (h)
8	□	0000	Displayed value becomes green, setting is complete.
9	□	PSE2	
10	△ □ (Press at same time) Twice	8888	Returns to potential display.

Other

Use these settings to save or write ionizer unit information, to initialize an ionizer, to display or reset cleaning timer elapsed time, to lock or unlock monitor unit keys, or to display the program version.

[Procedure]

Program version display

Displays ionizer and monitor unit program version information.

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	△	uEr	
3	□	8888 LED	**Ionizer version display**
4	△	8888 LED	**Display device version display**
5	△ □ (Press at same time) Twice	8888	**Returns to potential display.**

Ionizer information save

You can use the procedure below to save up to two sets of ionizer unit setting information in the monitor unit.
Writing ionizer information simplifies creation of an ionizer with the same settings.
Initial factory default settings are ionizer unit initial default settings.

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	△	uEr	
3	△	Pr9	
4	□	rEC	
5	□	1	
6	△	1	Select 1 or 2.
7	□	donE	Displayed value becomes green, setting is complete.
8	△ □ (Press at same time) Four times	8888	**Returns to potential display.**

Ionizer information write

This procedure writes saved ionizer information to the ionizer.
Initial factory default settings are ionizer unit initial default settings.

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	△	uEr	
3	△	Pr9	
4	□	rEC	
5	△	rItE	
6	□	1	
7	△	1	Select 1 or 2.
8	□	donE	Displayed value becomes green, setting is complete.
9	△ □ (Press at same time) Four times	8888	**Returns to potential display.**

Cleaning timer display/reset

The procedure below displays the current cleaning timer time.
The cleaning timer time can be reset to zero when required.

[Displaying the cleaning timer time]

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	▽	ALrS	
3	▽	CPt	
4	□	8888	Displays the elapsed time.
5	△ □ (Press at same time) Twice	8888	**Returns to potential display.**

[Resetting the cleaning timer time]

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	▽	ALrS	
3	▽	CPt	
4	□	8888	
5	▽	rSEt	Reset
6	□ (Hold down)	rSEt	Displayed value becomes green, setting is complete.
7	△ □ (Press at same time) Three times	8888	**Returns to potential display.**

Ionizer initialization

This procedure returns ionizer unit settings to their initial factory defaults.

Step	Monitor unit operation	7-segment display	Remarks
1	□	SEt	
2	▽	ALrS	
3	□	YES	Select YES or NO. Selecting YES executes initialization.
4	□	ALrS	Displayed value becomes green, setting is complete.
5	△ □ (Press at same time) Twice	8888	**Returns to potential display.**

Monitor key lock/unlock

Locking the monitor keys disables their operations.
Unlock the keys to re-enable them.
Key lock is valid only while the voltage display is shown.
The current key lock status is maintained even when monitor power is turned off, and restored when monitor power is next turned on. (The voltage display is also maintained.)

[Key lock]

Step	Monitor unit operation	7-segment display	Remarks
1	△ ▽ □ (Press at same time)	PrtC	Key protect

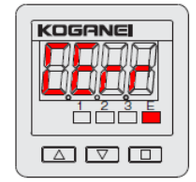
[Key unlock]

Step	Monitor unit operation	7-segment display	Remarks
1	△ ▽ □ (Press at same time)	UnLC	Key protect release

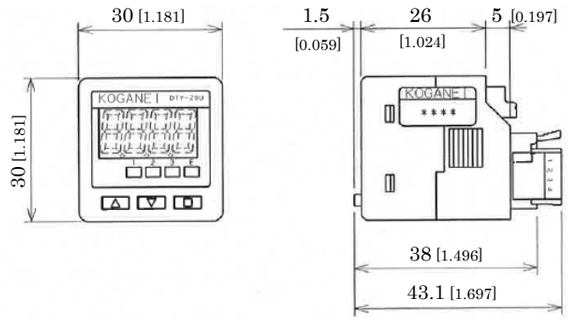
*1: Performing the above 3-key operations while settings are being configured will simply return to the voltage display, without performing a key lock operation. Make sure the voltage display is shown before performing the above operations.

9. Error indicator
The error LED lights and an error message appears on the display.
Only displayed in the voltage display screen.

Display	Meaning	Required action
PErr	Value detected by the potential sensor is out of range on the plus side.	Error is cleared automatically when values return to within the allowable range.
-Err	Value detected by the potential sensor is out of range on the minus side.	Error is cleared automatically when values return to within the allowable range.
iErr	Error output by the ionizer unit.	Clear the error on the ionizer unit.
CErr	Connection with the ionizer unit was not made or broken while transitioning between settings.	Check connections.
----	Potential sensor connection was not made or broken.	Check connections.



10. Outside dimensions



- For other information, detailed specifications, and precautions, see the product catalog.
- For inquiries about the product, contact Koganei Overseas Department noted below.

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