This manual must be delivered to the end user.

For archival use

4-4-002

Created: July 2024

T.S.K High-Pressure Hot Air generator KD Series

Instruction Manual: Comprehensive Edition

● Be sure to read before use.

- ◆ Thank you very much for purchasing the TSK High-Pressure Hot Air Generator.
- ◆ Verify that the model number, part number, and voltage on the unit's nameplate match the ordered product.

TSK High-Pressure Hot Air

- KD-56H2
- KD-83H2
- KD-82H5

To help you use your hot air generator more conveniently,we have posted the'Convenient Features'for the TSK Hot Air Generator C Series on our website (under the main menu item "Product-Specific Instruction Manuals") .Product-Specific Instruction Manual

《Accessories》

- Glass tape for preventing air leaks: 1m × 1 roll
- Heat-resistant silicone gasket UC-85 × 1 piece
- ReFilter 81-P × 10 sheets per set (KD-82H5 only)

Kansai Electric Heat Corp.

1. Precautions for Use※ Be sure to check before use.

To ensure trouble-free operation of the hot air generator

◆ This section lists important precautions that have caused past malfunctions. Please verify that your usage method complies with these instructions.

- Always keep the demister filter (standard equipment) at the hot air generator's intake clean. Clogging of the filter may cause abnormal overheating inside the heater, potentially preventing operation.

- If the installation environment contains conductive airborne particles such as dust, powder, carbon fibers, oil, oil smoke, oil mist, moisture, or water vapor, these substances adhering to or entering the generator's operating interior may cause malfunctions.

- Flexible hose connections to the hot air generator's outlet or inlet will inevitably leak hot air due to the hose's properties. Leaked high-temperature hot air can flow back into the generator, damaging electronic components in the control panel. Use the enclosed air leak prevention glass tape when installing flexible hose connections to the outlet or inlet.

- Applying voltage to input terminals A1 to A10 and output terminals B8 to B10 will cause failure. Additionally, applying voltage exceeding the rated value to output terminals B1 to B7 will cause failure.

- Do not route service terminals near or bundle them with AC power lines, power cables, or harmonic lines. Noise can damage internal electronic components.

- Do not stop the hot air generator using an electromagnetic contactor or similar device installed on the primary side of the hot air generator. Surge voltage may damage internal electronic components.

- Induced lightning surges caused by lightning strikes can damage the hot air generator, cause malfunctions, or lead to accidents such as fires. If using the hot air generator in an area susceptible to lightning strikes, implement lightning protection measures, such as installing a surge arrester (lightning arrester).

- Always use commercial power with a sine wave (50/60Hz) for the hot air generator's power supply. Never use power from frequency converters or other sources producing distorted waves containing harmonics. Harmonics and noise can damage internal electronic components.

- Do not bend or alter the height of the temperature measurement sensor installed at the hot air generator outlet. Contact with the heater will cause a short circuit.

《熱風温度、設定温度、風量調節、タイマ表示部の表示文字一覧》

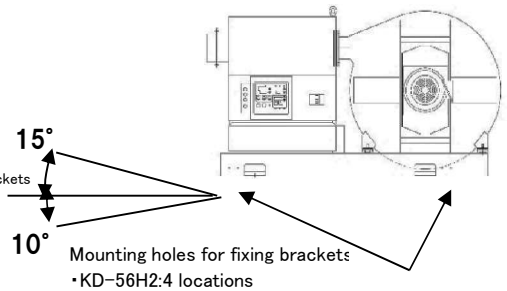
2. Installation

① Install the unit in a horizontal position.
Refer to the diagram on the right for front-to-back tilt specifications.
Also, ensure the unit is level horizontally.

② Secure the unit firmly using the included mounting brackets as needed.

●KD-56H2: Includes 4 L-shaped mounting brackets and 4 flat mounting brackets

●KD-83H2: 2 L-shaped mounting brackets included



Mounting holes for fixing brackets
・KD-56H2:4 locations
・KD-83H2:2 locations (center of

③ Locations where installation is not possible

- Place where back is stuck to wall etc.
- Place where height is more than 1000m
- Outdoor, and place where is exposed to the storm
- Place where acid and corrosiveness gas is floating
- Places of there are many dust
- Room where is tightly sealed and case inside
- Place where has vibration
- Upper part of generation thing
- Place where ambient temp. is more than 0 – +40℃.
- Neighborhood of combustible
- Place where ambient humidity is more than 85%R.H.
- Place where air pressure is low
- Place where has floating objects that pass electricity (Carbon fiber etc.)

④ When transporting, hoist using two eye bolts + one blower section for KD-56H2, and three eye bolts for KD-83H2 (see P.5). KD-82H5 must be moved using a lift (cannot be hoisted).

⑤ The casters on the KD-83H2 and KD-82H5 are for temporary movement during installation. Frequent movement after installation may cause malfunctions due to vibration. Secure the main unit firmly.

3. Piping

① Securely fasten all piping to the outlet and inlet ports.

Due to the nature of flexible hoses, hot air leakage will inevitably occur at the outlet or inlet connections. Leaked high-temperature hot air can flow back into the hot air generator, potentially damaging the electronic components inside the control panel. Use the enclosed air leak prevention glass tape to secure the flexible hose connections to the outlet or inlet.

Example of glass tape installation for

② Install piping as thick as possible, as short as possible, and with gentle bends.

③ Ensure the piping is adequately insulated.

④ Do not apply tensile load to the outlet flange of a fixed hot air generator equipped with an outlet flange.

⑤ Do not insert piping smaller than the outlet diameter into the outlet. The outlet sensor may bend and come into contact with the heater.

4. Power Supply

① Have a licensed electrician perform power connection and grounding work.

② Connect the power cord according to R (Red), S (White), T (Black), and Ground (Green).

③ Always use commercial power with a sine waveform (50/60Hz) for the hot air generator's power supply. Never use power sources with distorted waveforms containing harmonics. Also, take sufficient measures to prevent surge voltages and noise from entering the power supply.

④ Install a dedicated circuit. When installing a ground fault circuit interrupter (GFCI), determine the sensitivity current rating according to the table below.

Model	Earth Leakage Circuit Breaker (ELB) Sensitivity Current Guidelines
KD-56H2・83H2	100 mA
KD-82H5	200 mA

※ The sensitivity current for an earth leakage circuit breaker is generally about 10 times the initial leakage current.

⑤ When using a generator as the power source for the hot air generator, ensure the power supply provides a rated frequency with a sine waveform. If a power source without the rated frequency is supplied, normal temperature control may not be possible, potentially preventing hot air operation.

⑥ To prevent electric shock accidents, perform grounding work (Type D grounding for 300V or less; Type C

Caution Be cautious as excessively long wiring can cause voltage drop.

Caution Always disconnect the power supply before wiring or inspection. Even when the unit's breaker (NFB) is OFF, power remains supplied to the control circuit. Therefore, always disconnect the factory main power supply (primary side power supply). Working with the power connected may result in electric shock.

Caution If using a wall outlet for connection, ensure it has sufficient capacity. Avoid using wall outlets whenever possible, as they may overheat or fail due to aging-related contact issues or phase loss.

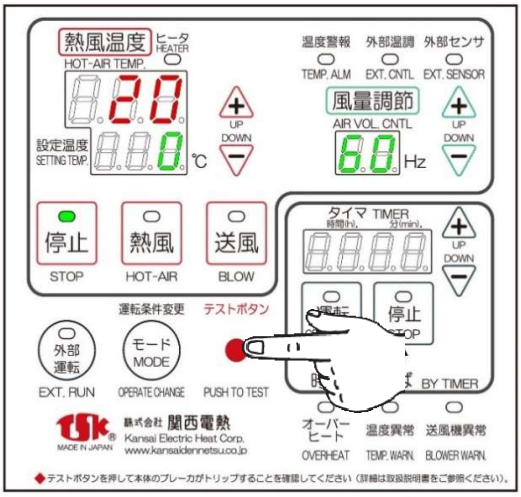
Caution The hot air generator is primarily designed for industrial environments. Use in residential settings may cause radio interference. In such cases, the user may be required to take appropriate measures to mitigate interference.

5. Maintenance and Inspection

Test Button

This test button verifies that the unit's breaker (NFB) trips correctly during overheating.
Once a month, with the unit powered on but not operating, press the test button for several seconds to confirm that the overheat lamp illuminates, the overheat operation indicator activates (see P.9), and the unit's breaker (NFB) trips.

After confirmation, turn off the main power supply (factory power) and the unit breaker (NFB), then turn them back on.



Intake Demi-Filter Inspection

A demi-filter is standard equipment on the intake of the hot air generator. Always inspect the demi-filter and clean it regularly. If the filter becomes clogged, the heater case may reach abnormally high temperatures, causing overheating or temperature abnormalities.

Storage

When storing the hot air generator for extended periods, take sufficient precautions against condensation and freezing. Condensation is particularly likely to occur during winter months as the ambient storage temperature drops. If condensation forms and the unit is stored in a low-temperature environment, it may freeze, potentially causing electrical component failure.

Self-Inspection

To ensure safer operation of this unit, we recommend performing a self-inspection when the usage period exceeds 10 years.

[Self-Inspection Items]

- Measurement of Insulation Resistance
- Measurement of Heater Current Value
- Inspection of Terminal Block Tightening
- Inspection and cleaning for foreign objects inside the control panel
- Inspection and cleaning for foreign objects inside the main unit and suction inlet
- Inspection of electrical component operation and heat generation
- Other visual inspections

※ For self-inspection, please contact your nearest licensed electrician.

Caution : Never perform an insulation withstand voltage test on this unit (already performed at the factory). Doing so may cause malfunction.

◆ Regarding electrical fires

After a momentary power interruption (e.g., power outage), the hot air generator automatically resumes operation within one second of the main power being restored. Therefore, to prevent electrical fires, we recommend installing a device that disconnects the primary power supply during disasters such as earthquakes. However, it is also possible to configure the hot air generator itself to prevent operation resumption after power restoration.

For the setting method, access our website: http://www.kansaidennetsu.co.jp

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Japanese → Main Menu → Technical Data

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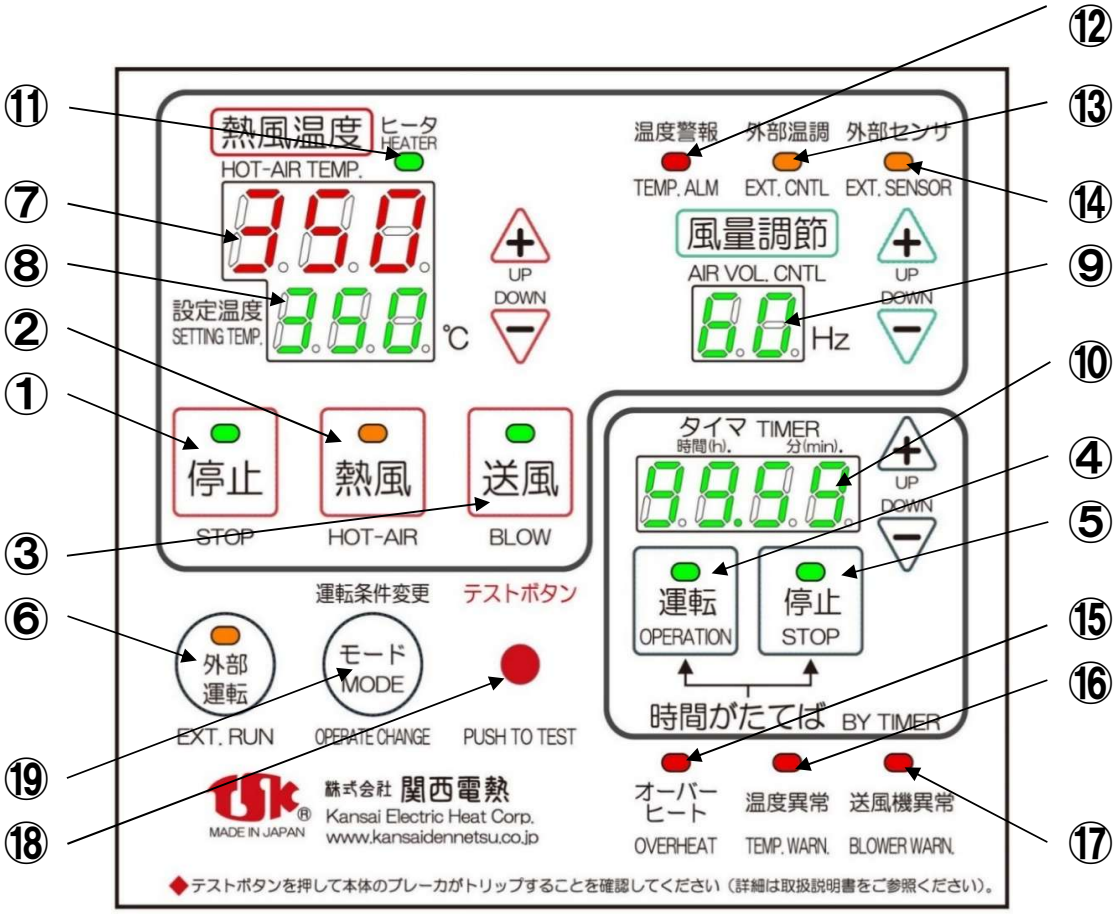
Please refer to the 'Power-On Fire Countermeasures' section within the Technical Data.

6. Names and Functions of Components

Operation Panel (Common to All Models)



① Stop Switch
This switch stops fan operation and hot air operation, and cancels timer operation.

② Hot Air Switch
Pressing the switch starts hot air operation.

③ Fan Switch
Press the switch to start fan operation.

④ Timer Operation Switch
Press the switch to set the time when operation will start after the set time has elapsed. After setting, press the hot air switch.

⑤ Timer Stop Switch
Press the switch to set the time at which operation will stop after the set time has elapsed. After setting, press the hot air switch.

⑥ External Operation Switch
By pressing and holding the switch (2 seconds), operation can be performed via the external operation signal and the external heater on/off signal.

⑦ Hot Air Temperature Display
Displays the outlet temperature. When the operating condition is switched to an external sensor, it displays the temperature of the external sensor.

⑧ Set Temperature Display
Displays the outlet temperature setpoint. When the operating condition is switched to an external sensor, it displays the external sensor's setpoint.

⑨ Airflow Adjustment Display
Displays the set value for air volume adjustment (frequency setting).

⑩ Timer Setting Display
Displays the set timer duration. Counts down as time elapses.

⑪ Heater Lamp
Indicates the heater's ON/OFF status by lighting or flashing.

⑫ Temperature Alarm Lamp
If a temperature alarm setting is entered, it will light up when the temperature reaches the alarm setting value.

⑬ External Temperature Control Lamp
This lamp illuminates when the operating condition is switched to external temperature control.

⑭ External Sensor Lamp
Lights up when the operating condition is switched to external sensor.

⑮ Overheat Lamp
Lights up when the heater case reaches an abnormally high temperature, causing the breaker (NFB) to trip.

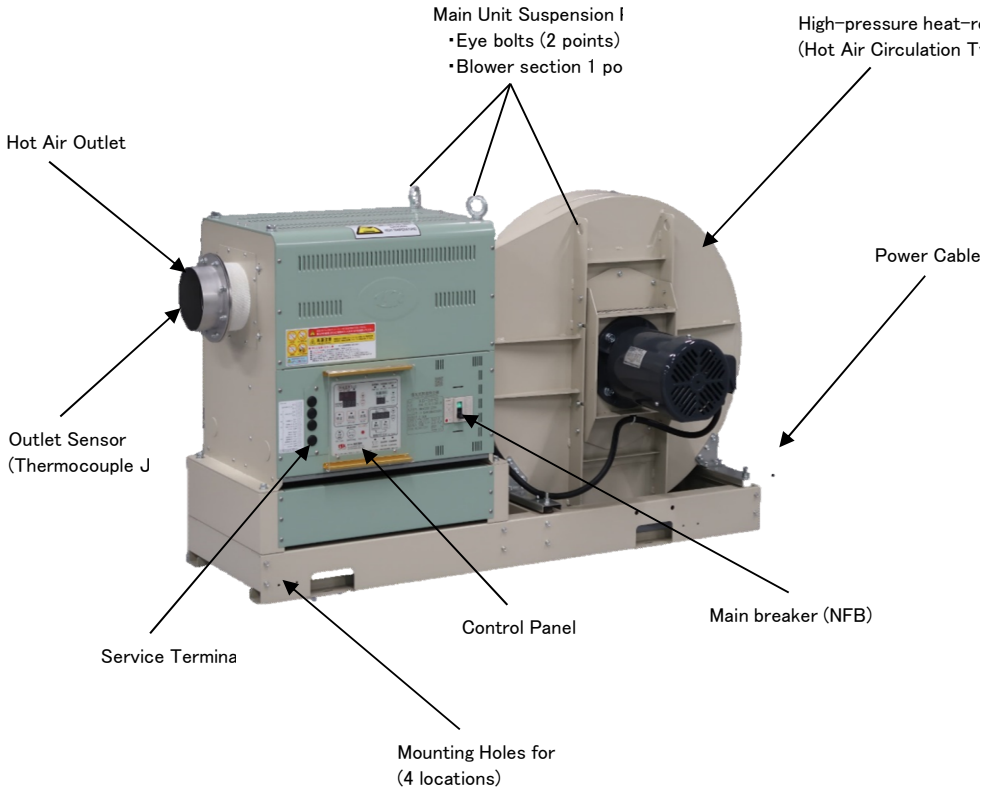
⑯ Temperature Abnormal Lamp
Lights up when the discharge temperature is high or the intake temperature exceeds the blower's allowable temperature, causing the breaker (NFB) to trip or switching to blower operation.

⑰ Blower Abnormal Lamp
Lights up when the blower is overloaded, stopping operation.

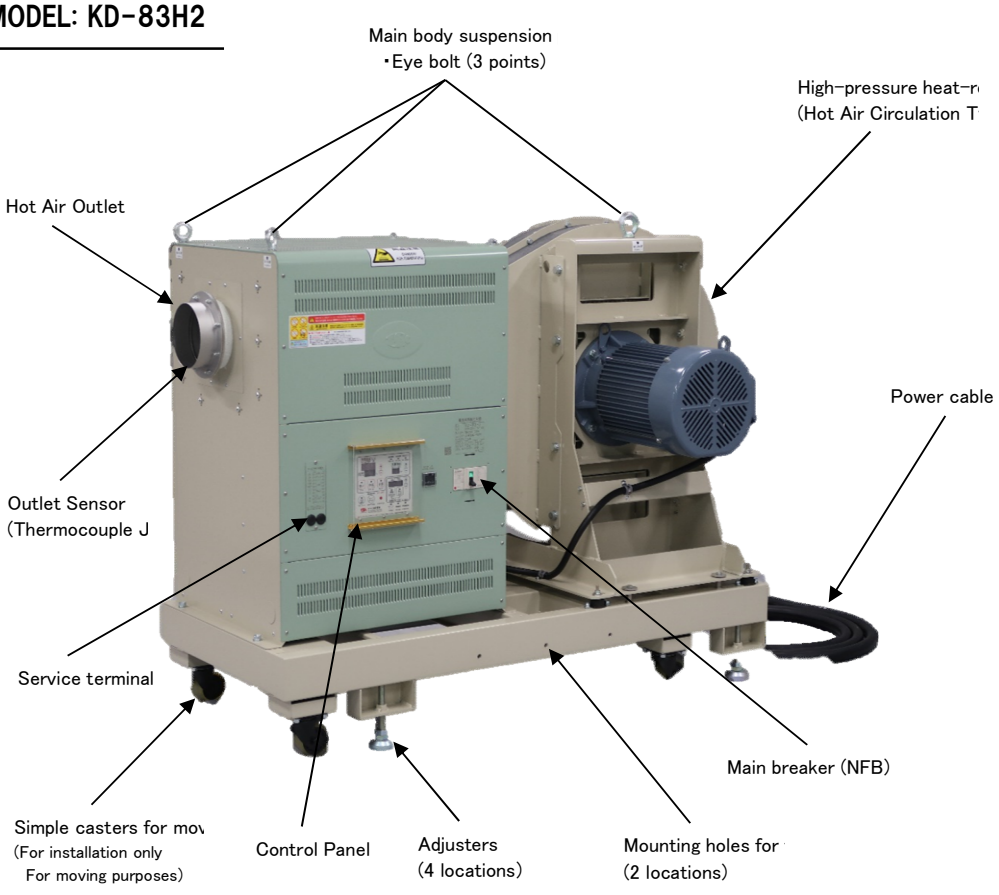
⑱ Test Button
Pressing the button trips the breaker (NFB).

⑲ Mode Switch
Use this to change operating conditions.

MODEL: KD-56H2



MODEL: KD-83H2



7. Service Terminal

● All models are equipped with input and output service terminals as standard. Use as needed.

[Applicable Models] **KD-56H2**

RC : Connector for Remote Controller Connection

This connector is for connecting the remote cable when using the optional remote controller.

E.S+
E.S- : External Sensor Input Terminal Block

Connect terminal K+ of external sensor K350A to E.S+, and K- to E.S- (Tightening torque: 0.5 N·m)

《Input Terminal》

Mini Terminal Block (Applicable Wire: Shielded Wire, AWG 24-16, Stripping length: 7-9 mm) Torque: 0.4 N·m

Required Tools: No. 1 Phillips screwdriver or 3 mm flathead screwdriver

E.C+
E.C- : External Temperature Control Input Terminal

Use when controlling temperature with another temperature controller. Input SSR drive reverse operation output (DC 11-24 V). In this case, use the unit's temperature controller as an outlet temperature upper limit limiter.

E.R : External Operation On/Off Terminal

Used when operating/stopping the blower fan via an external signal. The input is compatible with contact outputs (terminal voltage DC 12V, 3.6mA or less).

E.H : External Heater On/Off Terminal

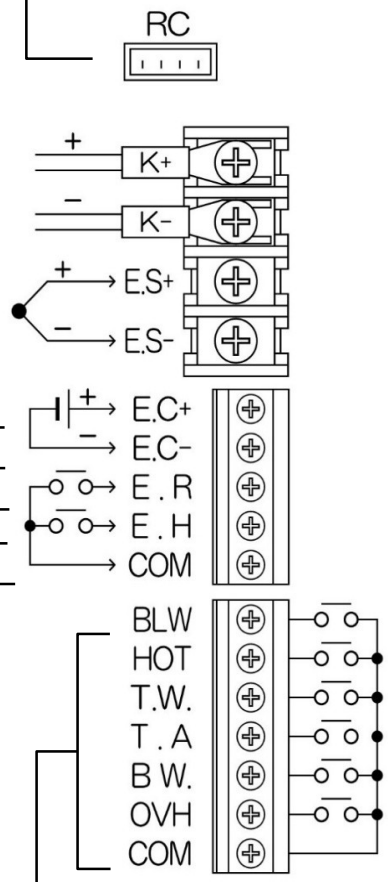
Used when turning the heater on/off via an external signal. Input is compatible with contact outputs (terminal voltage DC 12V, 3.6mA or less).

COM : Input Common Terminal

Common terminal for the external operation ON/OFF terminal E.R and the external heater ON/OFF terminal E.H.

※ The terminal voltage for the External Operation On/Off Terminal E.R and External Heater On/Off Terminal E.H is DC 12V, 3.6mA or less. Therefore, prepare a relay or similar device with contact capacity capable of switching this voltage.

※ When using external operation or external heater input, press the external operation switch on this unit to change to external operation mode.



《Output Terminals》 Contact capacity: DC 5V, 10mA or more; DC 30V, 1A or less. Total output common: 3A or less (voltage-free contact signal output).

Mini Terminal Block (Applicable Wire: Shielded Wire, AWG 24-16, Stripped Length 7-9 mm) Tightening Torque: 0.4 N·m

Required Tools: No. 1 Phillips screwdriver or 3 mm flathead screwdriver

BLW	:	Blower Output Terminal	This terminal turns ON when the blower is operating.
HOT	:	Hot Air Output Terminal	This terminal turns ON during hot air operation.
T.W.	:	Temperature Abnormal Output Terminal	This terminal turns ON when a temperature abnormality occurs.
T.A	:	Temperature Alarm Output Terminal	This terminal turns ON when a temperature alarm is output.
BW.	:	Blower Abnormal Output Terminal	This terminal turns ON when a blower fan abnormality occurs.
OVH	:	Overheat Output Terminal	This terminal turns ON during overheating.
COM	:	Output Common Terminal	

※Since the output terminals do not have a protection circuit, do not wire inductive loads (such as solenoid valves or conductors).

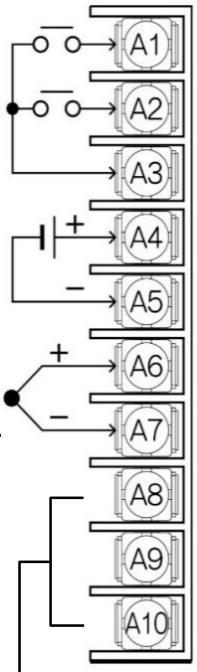
Caution : When using service terminals, always disconnect the power supply before wiring. Wiring while energized may cause electric shock. Also, always reinstall the terminal cover after wiring.

Caution : Avoid adjacent wiring or bundling of service terminals with AC power lines, power lines, or

[Applicable Models]　KD-83H2・82H5

*Only the KD-82H5 comes standard with the remote controller RCT-10MC.

《Input Terminal》M3 20P Terminal Block Upper Row: Tightening Torque: 0.5 N·m



A1 : External Operation On/Off Terminal
Used to start/stop the blower fan via an external signal. Input is compatible with contact outputs (terminal voltage DC 24V, 7mA or less).

A2 : External Heater On/Off Terminal
Used to turn the heater on/off via an external signal. Input is compatible with contact outputs (terminal voltage DC24V, 7mA or less).

A3 : Input Common Terminal
This is the common input terminal for the external operation ON/OFF terminal A1 and the external heater ON/OFF terminal A2.

A4・A5 : External Temperature Control Terminal ※1
Used when controlling temperature with another temperature controller. Input an SSR drive reverse operation output (DC 11 to 24V). In this case, use the unit's temperature controller as an outlet temperature upper limit limiter (A4 → +, A5 → −).

A6/A7 : External Sensor Terminal
Connect terminal K+ of external sensor K350A to A6 and K− to A7.

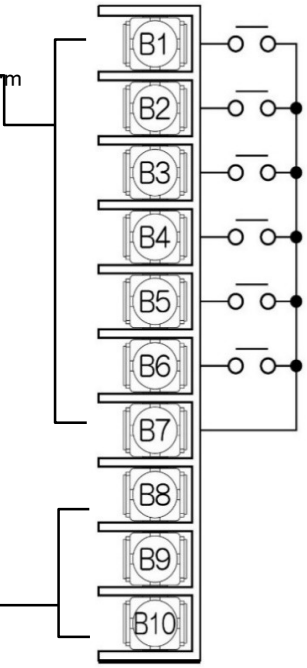
※ The terminal voltage for external operation ON/OFF terminal A1 and external heater ON/OFF terminal A2 is DC 24V, 7mA or less. Therefore, prepare a relay or similar device with contact capacity capable of switching this voltage.

※ When using external operation or external heater input, press the external operation switch on this unit to change to external operation mode.

A8・A9・A10 : Terminals for Remote Controller Connection
This connector is for connecting the remote cable when using the optional remote controller (for remote controller communication).

《Output Terminal》M3 20P Terminal Block Upper Row: Tightening Torque: 0.5 N·m

Contact capacity: DC 5V, 10mA or more; DC 30V, 1A or less
Output common total: 3A or less (voltage-free contact signal output)



B1 : Blower Output Terminal
This terminal turns ON when the blower is operating.

B2 : Hot Air Output Terminal
This terminal turns ON during hot air operation.

B3 : Temperature Abnormal Output Terminal
This terminal turns ON when a temperature abnormality occurs.

B4 : Temperature Alarm Output Terminal
This terminal turns ON when a temperature alarm is output.

B5 : Blower Abnormal Output Terminal
This terminal turns ON when the blower motor outputs an abnormal signal.

B6 : Overheat Output Terminal
This terminal turns ON during overheating.

B7 : Output Common Terminal

B8・B9・B10 : Terminals for Remote Controller Connection
Terminals for connecting the remote control cable when using the optional remote controller (for remote controller power supply).

※ The remote controller power terminals B9-B10 carry a DC 24V voltage. Do not short-circuit these terminals under any circumstances. Short-circuiting will cause failure.

Caution : When using service terminals, always disconnect the power supply before wiring. Wiring while energized may cause electric shock. Also, always reinstall the terminal cover after wiring.

Caution : Avoid adjacent wiring or bundling of service terminals with AC power lines, power lines, or harmonic lines.

Output Status Overview for Each Output Terminal

KD-56H2

Hot Air Generator Operation	Blower Output Terminal BLW	Hot Air Output Terminal HOT	Temperature Abnormal Output Terminal T.W.	Temperature Alarm Output Terminal T.A	Blower Abnormal Output Terminal BW.	Overheating Output Terminal OVH
Normal Stop	OFF	OFF	OFF	OFF	OFF	OFF
Fan Operation	ON	OFF	OFF	OFF	OFF	OFF
Hot Air Operation	ON	ON	OFF	OFF	OFF	OFF
Cooling Operation	ON	OFF	OFF	OFF	OFF	OFF
Temperature Alarm Output	ON	ON	OFF	ON	OFF	OFF
Overheating	OFF	OFF	OFF	OFF	OFF	ON
Overheat Sensor Burnout	OFF	OFF	OFF	OFF	OFF	ON
When discharge temperature exceeds upper limit	OFF	OFF	ON	OFF	OFF	OFF
When suction temperature exceeds upper limit	ON	OFF	ON	OFF	OFF	OFF
Discharge port sensor burnout	OFF	OFF	ON	OFF	OFF	OFF
Intake Sensor Burnout	OFF	OFF	ON	OFF	OFF	OFF
Hot air generator internal temperature abnormality	ON	OFF	ON	OFF	OFF	OFF
Blower Abnormal	OFF	OFF	OFF	OFF	ON	OFF
External sensor burnout	OFF	OFF	OFF	OFF	OFF	OFF
Reverse Connection of Temperature Sensors / Negative Temperature Detection	OFF	OFF	OFF	OFF	OFF	OFF

KD-83H2・82H5

Hot Air Generator Operation	Blower Output Terminal B1	Hot Air Output Terminal B2	Temperature Abnormal Output Terminal B3	Temperature Alarm Output Terminal B4	Blower Abnormal Output Terminal B5	Overheating Output Terminal B6
Normal Stop	OFF	OFF	OFF	OFF	OFF	OFF
Fan Operation	ON	OFF	OFF	OFF	OFF	OFF
Hot Air Operation	ON	ON	OFF	OFF	OFF	OFF
Cooling Operation	ON	OFF	OFF	OFF	OFF	OFF
Temperature Alarm Output	ON	ON	OFF	ON	OFF	OFF
Overheating	OFF	OFF	OFF	OFF	OFF	ON
Overheat Sensor Burnout	OFF	OFF	OFF	OFF	OFF	ON
When discharge temperature exceeds upper limit	OFF	OFF	ON	OFF	OFF	OFF
When suction temperature exceeds upper limit	ON	OFF	ON	OFF	OFF	OFF
Discharge port sensor burnout	OFF	OFF	ON	OFF	OFF	OFF
Intake Sensor Burnout	OFF	OFF	ON	OFF	OFF	OFF
Hot air generator internal temperature abnormality	ON	OFF	ON	OFF	OFF	OFF
Blower Abnormal	OFF	OFF	OFF	OFF	ON	OFF
Pressure Abnorm(KD-82H5 only)	OFF	OFF	OFF	OFF	ON	OFF
External sensor burnout	OFF	OFF	OFF	OFF	OFF	OFF
Reverse Connection of Temperature Sensors / Negative Temperature Detection	OFF	OFF	OFF	OFF	OFF	OFF

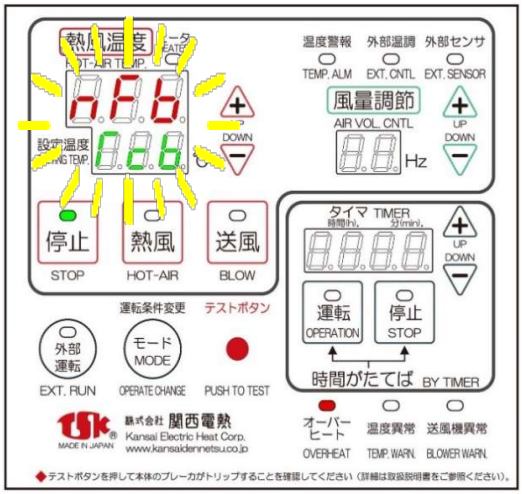
8. Fault Detection

◆KD-83H2 and 82H5 models sound a buzzer simultaneously with abnormality detection. the buzzer will stop once the abnormality is cleared.

8-1 Overheating

If the heater case reaches an abnormally high temperature, it is detected as overheating. If the overheat sensor for heater case temperature control is disconnected, it is detected as burnout. This causes the main breaker (NFB) to trip, stopping all operations (in the case of insufficient airflow overheat prevention, only operation stops).

● During Overheat



The overheat lamp (red) illuminates, and 'nFb' flashes in the hot air temperature display section while 'Tcb' flashes in the set temperature display section.

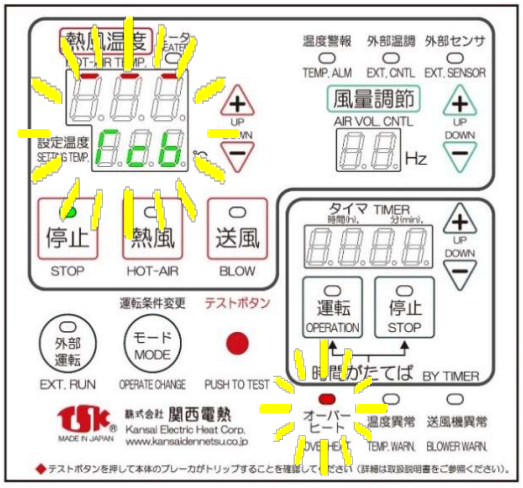
《Main Causes》

- Clogged intake mesh or filter
- Fan motor lockup due to foreign object intrusion
- Insufficient exhaust openings in the furnace body, etc.
- High resistance (pressure loss) at the outlet due to proximity of the workpiece, etc.

《Resolution Method》

After eliminating the cause of overheating and allowing sufficient cooling, turn OFF both the main power supply (factory power) and the unit breaker (NFB), then turn them back ON.

● Overheat Sensor Burnout



Theheat lamp (red) flashes,'-----' flashesin the hot air temperature section, and 'Tcb' flashes in the set temperature section.

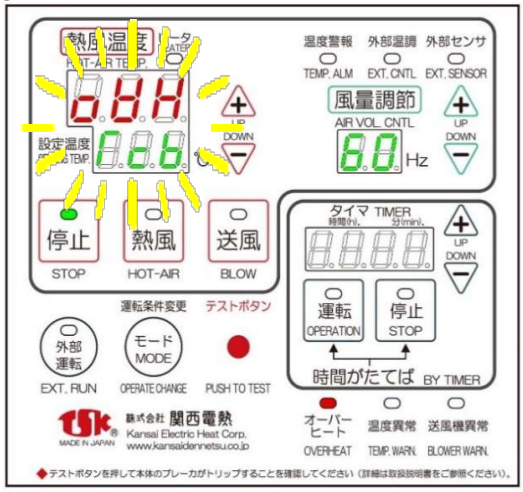
《Main Causes》

- Overheat Sensor Disconnection
- Overheat Sensor Wiring Disconnection
- Overheat Sensor Wiring Connector Disconnection

《Resolution Method》

Turn off the primary power supply and request repair.

● Insufficient Airflow Overheat(KD-72H3 to 82H5 only)



The overheat lamp (red) illuminates, and 'oVH' flashes in the hot air temperature display while 'Tcb' flashes in the set temperature display.

This activates when airflow decreases for any reason and the internal heater temperature exceeds the set discharge temperature by a certain amount. It is compatible with the above overheat condition, but depending on usage conditions, either one will activate.

《Main Causes》

- Same cause as the above overheat

《Resolution Method》

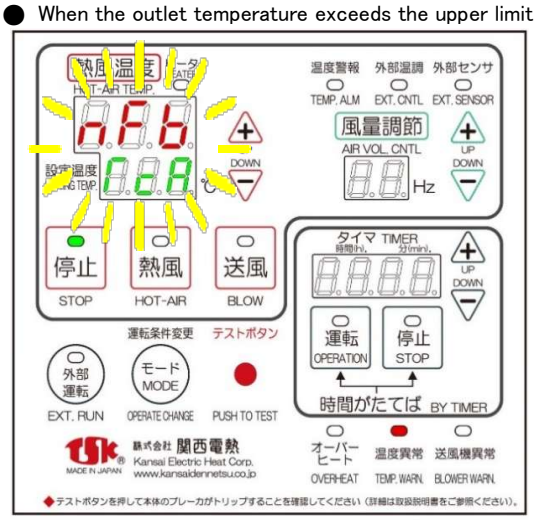
After eliminating the cause of the overheat and allowing sufficient cooling, turn OFF the main power supply (factory power) and the unit breaker (NFB), then turn them back ON.

Do not restart operation until the cause of the overheat has been eliminated.

8-2 Temperature Abnormal

If the outlet temperature exceeds the upper limit or the intake temperature exceeds the upper limit, the hot air generator will stop or switch to fan-only operation. Operation will also stop in case of sensor burnout (e.g., sensor wire breakage) or abnormal internal temperature within the hot air generator.

● When the outlet temperature exceeds the upper limit



The temperature abnormality lamp (red) will illuminate, 'nFb' will flash in the hot air temperature display section, 'TcA' will flash in the set temperature display section, and the main breaker (NFB) will trip, stopping all operation.

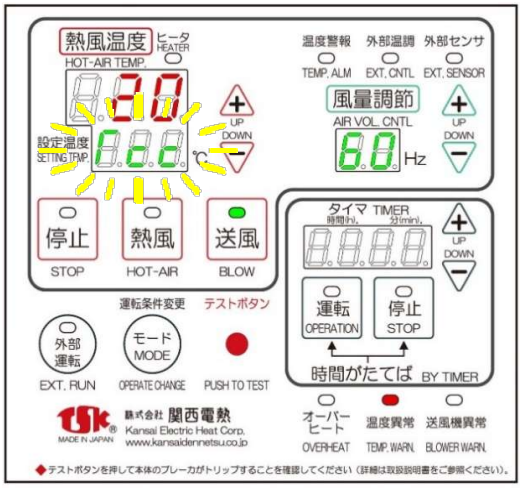
《Main Causes》

- Exhaust Temperature Upper Limit Exceeded When Using External Sensor
- Airflow reduction due to excessive pressure loss
- Airflow reduction due to clogged intake mesh or filter

《Resolution Method》

After eliminating the cause of the outlet temperature limit being exceeded and allowing sufficient cooling, turn off the main power supply (factory power) and the unit breaker (NFB), then turn them back on.

● When suction temperature exceeds upper limit



The temperature abnormality lamp (red) will illuminate, the current discharge temperature will be displayed in the hot air temperature section, 'Tcc' will flash in the set temperature section, and the unit will enter fan operation mode.

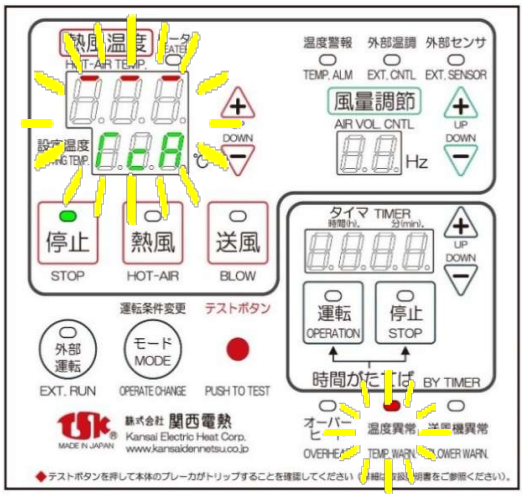
《Main Causes》

- When the hot air circulation temperature exceeds the maximum intake gas temperature of the hot air generator.

《Resolution Method》

Press the stop switch after the inlet temperature has dropped to clear the alarm.

● Discharge port sensor burnout



Theabnormality lamp (red) will flash,'---' will appearin the hot air temperature display, 'TcA' will flash in the set temperature display, the main breaker (NFB) will trip, and all operations will.

《Main Causes》

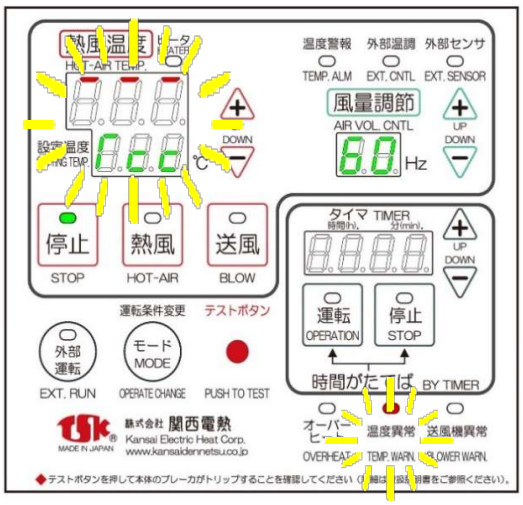
- Outlet Sensor Disconnection
- Outlet Sensor Wiring Disconnection
- Disconnection of outlet sensor wiring

《Resolution Method》

Turn off the primary power supply and request repair.

Caution: Always disconnect the main power supply (factory power) before checking wiring or making adjustments during an abnormality.

● When the inlet sensor burns out



The temperature abnormality lamp (red) flashes, "---" appearsin the hot air temperature section, "Tcc" flashes in the set temperature section, and allstop.

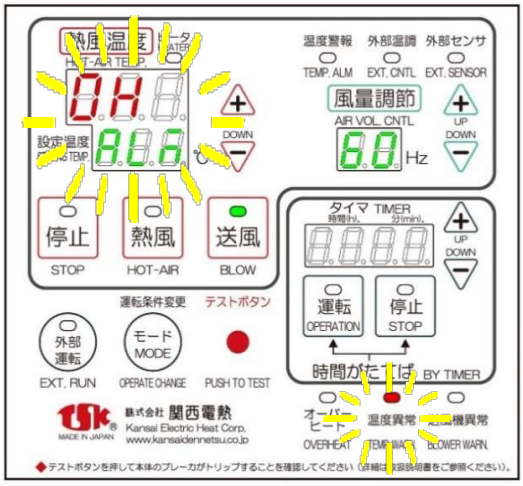
《Main Causes》

- Intake Sensor Disconnection
- Intake Sensor Wiring Disconnection
- Intake sensor wiring connector disconnection

《Resolution Method》

Turn the main breaker (NFB) OFF and request repair.

● Hot air generator internal temperature abnormality



The temperature abnormality lamp (red) flashes, 'OH' flashes on the hot air temperature display, 'ALM' flashes on the set temperature display, and the unit enters fan operation mode.

《Main Causes》

- High ambient temperature at hot air generator installation location
- Hot air leaking from the outlet flows back into the control panel
  Impact of furnace body heat dissipation
- temperature when installed above the furnace body

《Resolution Method》

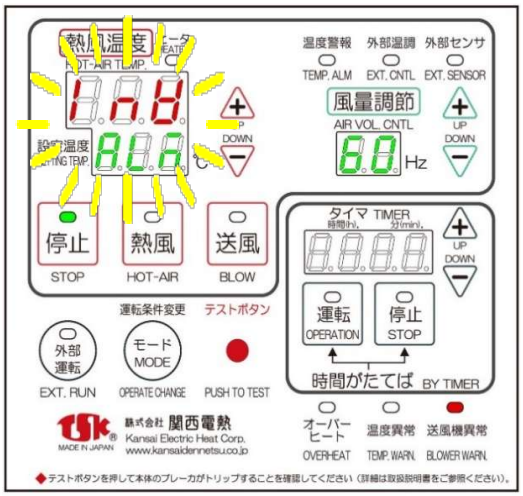
Stop operation using the stop switch. After the internal temperature of the hot air generator has dropped, turn the main breaker (NFB) OFF to clear the alarm.

Caution: Always disconnect the main power supply (factory power) before checking wiring or making adjustments during an abnormality.

8-3 Blower Abnormal

When the blower experiences overload, overcurrent, or lockup, all operation of the hot air generator will stop.

● Blower Abnormal Condition



The blower abnormality lamp (red) will illuminate, and 'InV' will flash in the hot air temperature display section, while 'ALM' will flash in the set temperature

《Main Causes》

- Bearing wear
- Abnormal Voltage (Non-Rated Voltage)
- Piping with high pressure loss
- Use of nozzles with extremely narrow openings

《Resolution Method》

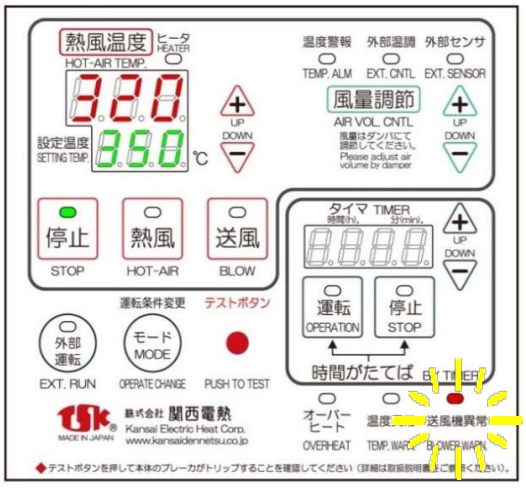
An abnormality will be displayed on the internal inverter panel*1. After confirming the displayed content, turn OFF the main unit breaker (NFB) and report the displayed content.

※1 The inverter panel location varies by model.

- KD-56H2 : Inside thepanel(Open the operation panel to check.)
- KD-83H2 : Inside the rear panel of the main unit
- KD-82H5 : Inside the blower box at the bottom of the main unit

● Pressure Abnormal Condition(KD-82H5 only; KD-83H2 displays pressure only)

When the discharge-side air pressure exceeds the maximum continuous discharge pressure, the output 1 indicator light of the digital pressure sensor illuminates and an alarm sounds.



If the discharge air pressure remains above the maximum continuous discharge pressure for 10 minutes, the blower abnormality lamp (red) will flash and all operations will stop.
The hot air temperature section and set temperature section display the current discharge temperature and set temperature.

《Main Causes》

- Piping with significant pressure loss
- Use of nozzles with extremely narrow openings
- Excessive restriction of airflow due to valves, etc.

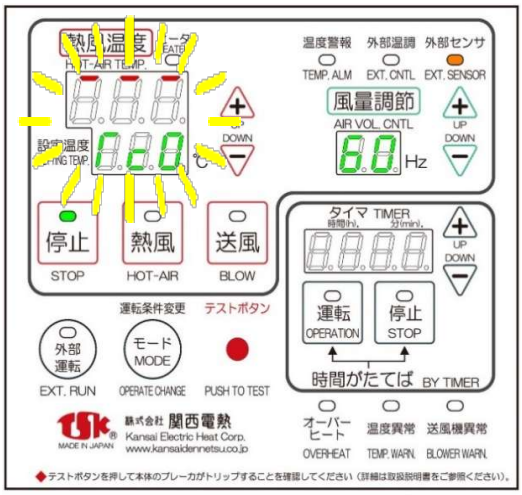
《Resolution Method》

After eliminating the cause and ensuring operation is possible below the maximum continuous discharge pressure, press the stop switch to reset.

Caution: Always disconnect the main power supply (factory power) before checking wiring or making adjustments during an abnormality.

● External Sensor Burnout

When using an optional external sensor to manage temperatures at a remote location, the hot air generator will stop if the external sensor burns out due to a broken wire or similar issue.



The hot air temperature display will "---", and the set temperature display will flash 'Tc0' (the external sensor lamp remains lit).

《Main Causes》

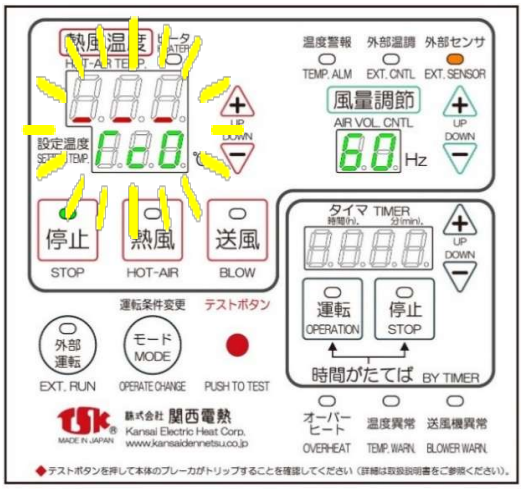
- External Sensor Disconnection
- External Sensor Compensation Wire Disconnection
- External sensor terminal disconnection
- External sensor mode misconfiguration (when external sensor is not in use)

《Resolution Method》

- After repairing the external sensor breakage and improving the wiring condition, press the stop switch to clear the error.
- If the external sensor is not in use, set the external sensor mode to OFF (refer to the Basic Operation section of the instruction manual on the homepage).

● Reverse connection of any temperature sensor or detection of negative temperatures

If any temperature sensor (including external sensors) is reverse-connected, or if a temperature of −15° C or lower is detected (internal temperature sensor only: −10° C), the hot air generator will stop.



The hot air temperature displaywill show '---', and the set temperature display will flash the respective sensor indicator.

- External Sensor : Tc0
- Outlet Sensor : TcA
- Internal Temperature Sensor : TcM
- Intake Sensor : Tcc
- Overheat sensor : Tcb

《Main Causes》

- Reverse Connection of External Sensors
- Reverse connection due to rewiring of each sensor (excluding external sensors)
- Ambient and intake temperatures are below freezing

《Resolution Method》

After checking the external sensor or improving the sub-zero conditions, press the stop switch to clear the alarm. For reverse connections other than the external sensor, please request repair.

Caution: Always disconnect the main power supply (factory power) before checking wiring or making adjustments during an abnormality.

Warranty

- The warranty period for this unit is three years from the date of purchase.
- If the unit malfunctions during normal use in accordance with the instruction manual within the warranty period, we will repair it free of charge based on the following terms. However, for service calls requiring travel over 50 km from our Osaka headquarters or Tokyo branch office, or to remote islands, actual expenses for transportation and lodging will be charged.
- We assume no responsibility whatsoever for any expenses, profits, losses, or other damages incurred as a result of this device.
- The warranty for repaired parts and workmanship is valid for three months after repair.
- The following cases are not covered by the warranty:
    - Failure or damage due to incorrect use, careless handling, or abnormal voltage.
    - Disassembled or modified items.
    - Damage caused by overheating not attributable to our product.
    - Damage, malfunction, or loss caused by lightning strikes, earthquakes, typhoons, floods, fires, or salt damage.
    - Rust formation or electrical leakage due to condensation.
    - Damage caused by dust, debris, lint, oil mist, etc.
    - Electrical leakage or malfunction caused by the adhesion of conductive carbon fibers or exposure
    - Failure or damage caused by transportation, moving, dropping, etc., after purchase.
    - Failure to settle payment.
    - Use not in accordance with the instruction manual.
- We will not bear the costs for the following:
    - Consumable parts, painting.
    - Inconvenience, loss, or secondary losses (e.g., telephone charges, compensation for lost business hours,commercial losses, etc.).
    - Transportation and lodging expenses incurred during on-site repairs.
- We cannot provide on-site repairs if the equipment is installed in locations that are difficult to access, dangerous, or at high elevations.
- This warranty is valid only within Japan.

  If our products purchased within Japan are exported overseas, the warranty will no longer apply.
  In such cases, warranty coverage will only apply to products returned to our factory for in-house repair.
  Furthermore, the customer shall bear all costs associated with import/export and transportation required for bringing the product in for repair and returning it after repair.

Inquiry regarding the hot-air generator ....

Homepage ***www.kansaidennetsu.co.jp***

or,

E-mail ***sales@kansaidennetsu.co.jp***