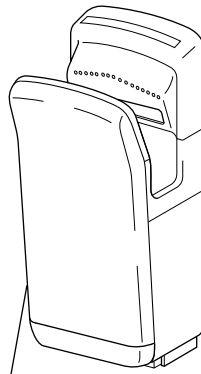


HAND DRYER

HAND BOOK

FOR DEALERS

Model: JT-SB216DS-W-AUS



Nameplate

Repair work should be performed by the manufacturer, its service agent or similarly qualified person in order to avoid a hazard.

Notice:










The term of validity is one year from the issued date.



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Safety precautions

- Please read the following items carefully before using this product, and perform the maintenance and repair work of the product correctly and safely.
- The types and levels of the dangers from mishandling this product are categorized and indicated by the signs shown below.

 Warning		Items that may cause death or serious injury if the product is mishandled.
<p>◇ Caution for electric shock If it is absolutely necessary to inspect the circuitry while turning on electricity, exercise caution not to touch live parts.</p> <p>(Touching live parts may cause electric shock.)</p> <div style="text-align: right;">  Caution for electric shock </div>	<p>◇ Turn off the power</p> <ul style="list-style-type: none"> • Be sure to turn off the ground fault circuit interrupter and the power switch of the product's main body prior to starting repair work. (The charge voltage in the circuitry remains for another minute or so, even after the power is turned off and the LED is unlit; therefore, wait for at least 1 minute before disassembling the product.) <div style="text-align: right;">  Implement by always following instructions </div>	
<p>◇ Modification prohibited Never modify the product.</p> <p>(Modifying may cause electric shock, fire, and/or injury.)</p> <div style="text-align: right;">  Prohibited </div>	<p>(Not turning off the power may cause electric shock.)</p>	
<p>◇ Conduct electric work correctly</p> <ul style="list-style-type: none"> • Use the designated electric wires, and conduct electric work according to the Electrical Equipment Technical Standard, Internal Wiring Regulation, and Installation Work Guide. • Be sure to check whether the terminals and fixed wiring are securely connected. <p>(Improper connection or installation may cause electric shock and/or fire.)</p> <div style="text-align: right;">  Implement by always following instructions </div>	<p>◇ Use proper parts and tools Use the parts listed in the service parts list of the subject model with appropriate tools when repairing.</p> <p>(Using improper parts and tools may cause electric shock, fire, and/or injury.)</p> <div style="text-align: right;">  Implement by always following instructions </div>	
<p>◇ Scratches and deterioration Be sure to replace scratched and/or deteriorated fixed wiring and lead wires.</p> <p>(They may cause electric shock and/or fire.)</p> <div style="text-align: right;">  Implement by always following instructions </div>	<p>◇ Check insulation Upon completing repair work, always measure an insulation resistance. Verify that it is at least 1 MΩ, and then turn on the power.</p> <p>(Inadequate insulation may cause electric shock.)</p> <div style="text-align: right;">  Implement by always following instructions </div>	
	<p>◇ Avoid misuse</p> <ul style="list-style-type: none"> • This appliance is not intended for use by young children or infirm persons unless they are adequately supervised by a responsible person to ensure that they can use the appliance safely. • Young children should be supervised to ensure that they do not play with the appliance. <div style="text-align: right;">  Implement by always following instructions </div>	

 Caution		Items that may cause injury and/or damage to buildings and/or fixtures if the product is mishandled.
<p>◇ Wear gloves Always wear a pair of gloves during inspection or repair work.</p> <p>(Not wearing gloves may cause injury.)</p> <div style="text-align: right;">  Implement by always following instructions </div>		

Items to check during repair work

- Inspect the condition of the earth. Correct it if improperly grounded. Also, check to see if a ground fault circuit interrupter is being installed. If not, install one.
- Check to see whether or not the air filter and the drain tank are installed securely in place.
- Do not leave a towel or other object in the hand-drying area.
- Never place any object on the main body nor cover it.
- Make sure that the product is not being used in any of the following locations:
 - Locations where the temperature can exceed 0°C to 40°C.
 - Locations where the humidity can exceed 5%RH to 95%RH.
 - Locations where the unit may come into direct contact with water.
 - Locations where the unit is under direct or strong sunlight. (May cause sensor to malfunction.)
 - Locations where there is a lot of condensation.
 - Do not use with chemicals (detergents, etc.) on your hands. (This may reduce the productive life of the unit.)
 - Do not use in locations where corrosive, neutral, or reductive gases are present. (This may reduce the productive life of the unit and/or cause malfunctions.)
 - Locations where salt damage may occur.
 - Places lower than -20m or higher than 2000m above sea level.

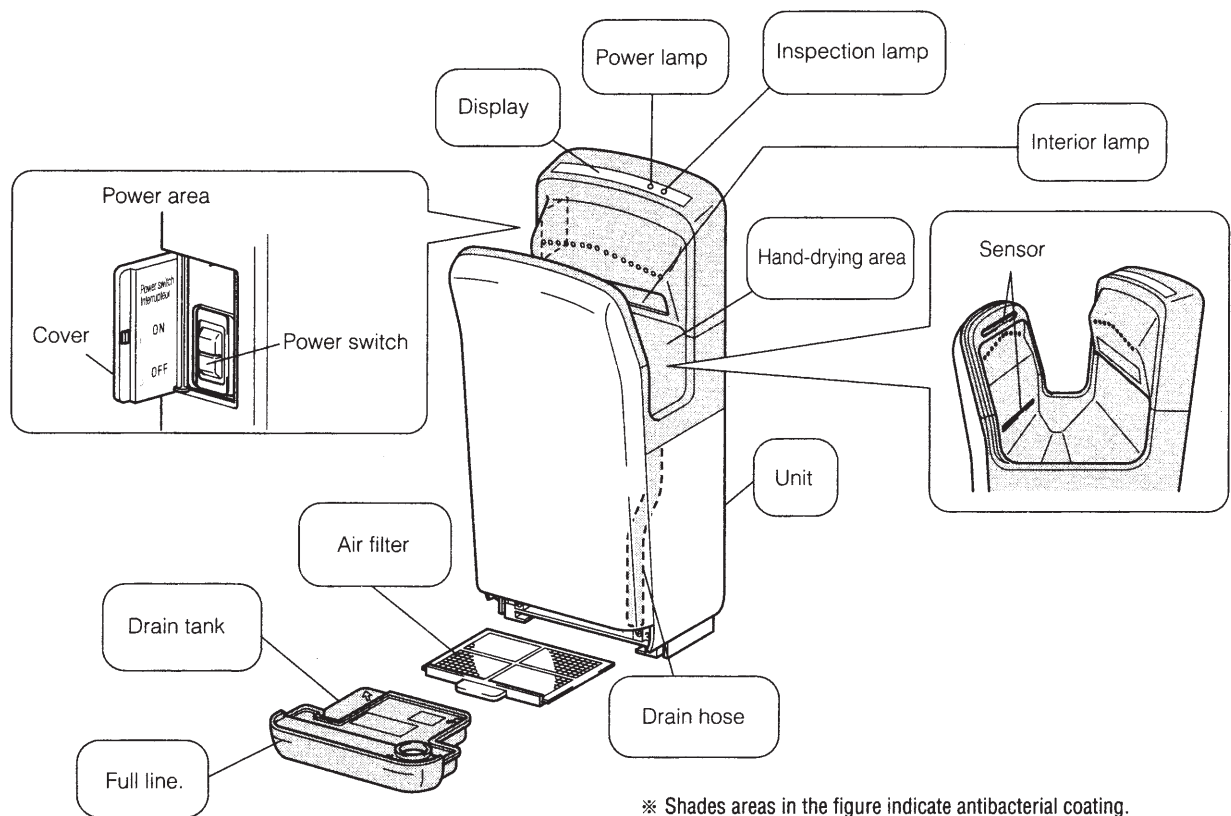
- Upon completing repair work, verify that the product operates normally. Clean the product's main body and surrounding area, and notify the customer of the completion of the repair work.

1. Features

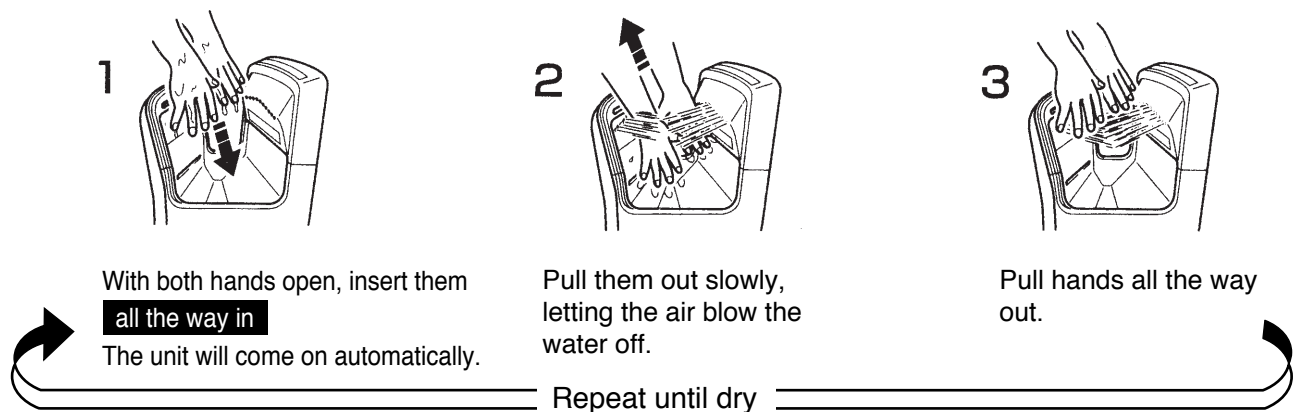
- ① Speed drying
Equipped with a turbo fan, the hand dryer blows away drops of water on the hands with a high-speed jet air from a large air volume, high-speed rotary DC brush-less blower, thus quickly drying the hands.
- ② Easy to use
The rubbing of the hands is no longer necessary. With the hand dryer, you can dry both hands by just inserting and then removing them slowly.
- ③ Hygienic
 - The hand dryer is automatically started by a sensor. Thus, there is no need to touch the hand dryer with your wet hands. It is very hygienic.
- ④ Antibacterial
 - The hand dryer uses a silver inorganic substance; thus, maintaining an antibacterial effect for an extended period of time.
 - The hand dryer meets the antibacterial effect standard defined by the Society of Industrial Technology for Antimicrobial Articles (SIAA).
- ⑤ Easy maintenance
The hand dryer does not require a paper or cloth towel, thus eliminating the dumping of paper waste and the exchanging of towels. Also, the hand dryer is easy to clean.
- ⑥ Highly safe with mischievous use prevention timer
To prevent continuous operations of the hand dryer by mischievous use or malfunction, it has a built-in timer that automatically stops drying upon reaching a specific period of time.
- ⑦ Economical
The monthly electricity expense is the only expense the hand dryer requires. Thus, it is extremely economical for use over an extended period of time.

2. Names and functions of the hand dryer's components

2-1 Configuration diagram and appearance diagram



2-2 Operating procedure



■ Inspection lamp

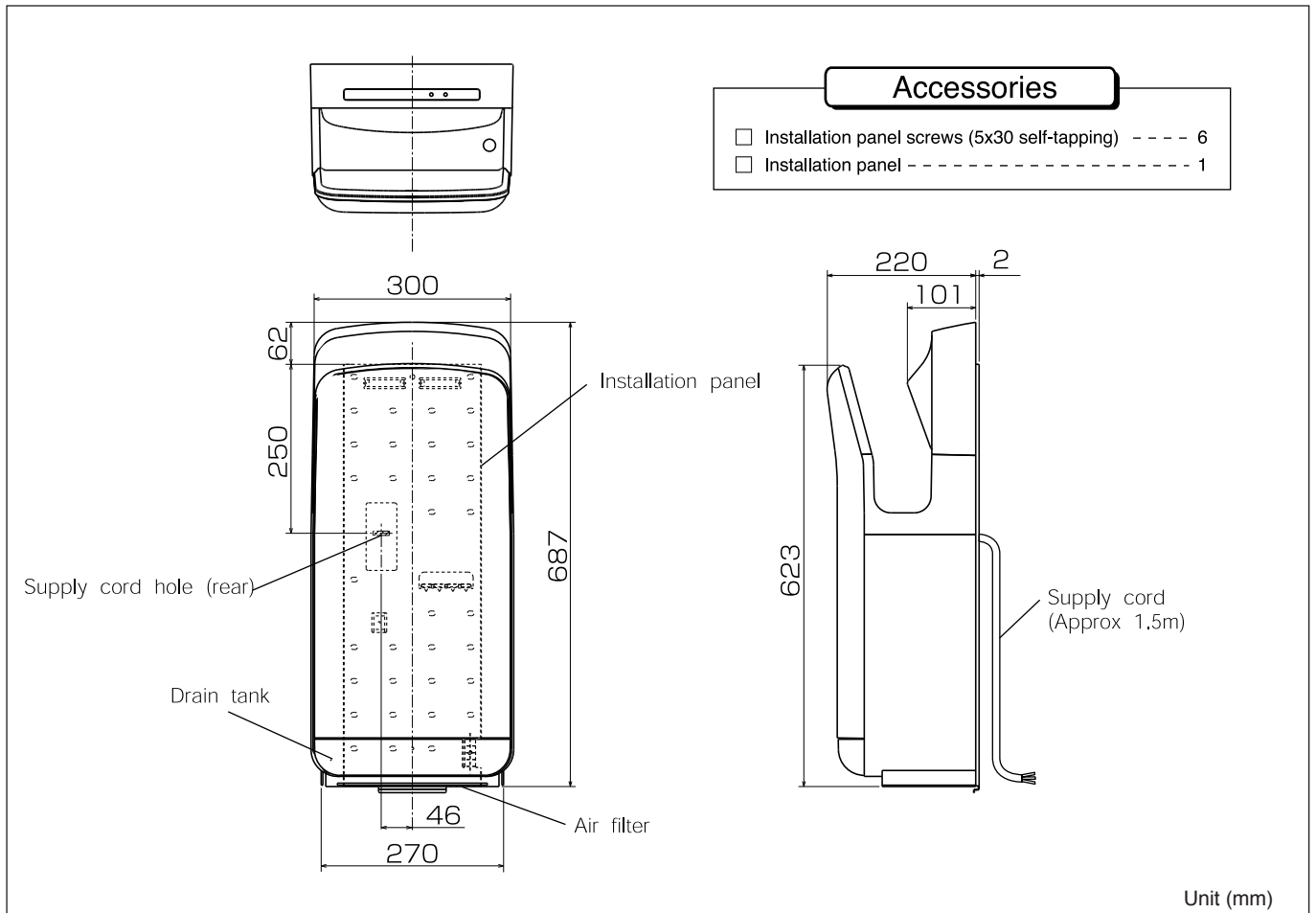
When a malfunction or error occurs, the inspection lamp on the right side of the display will either light up or flash. Turn the power switch off, wait approximately 40 seconds until all the lamps in the display go off, and then turn the power back on. If the inspection lamp is still on or flashing, turn off the power, shut off the ground-fault circuit interrupter, and contact your dealer.

3. Specifications

Model	Voltage (Vac)	Frequency (Hz)	Phase	Power consumption (W)	Current (A)	Weight (kg)	Dimensions (W × D × H) (mm)
JT-SB216DS-W-AUS	220-240	50-60	single-phase	650	4	11	300 × 220 × 687

●The drain tank capacity is 0.8 ℓ .

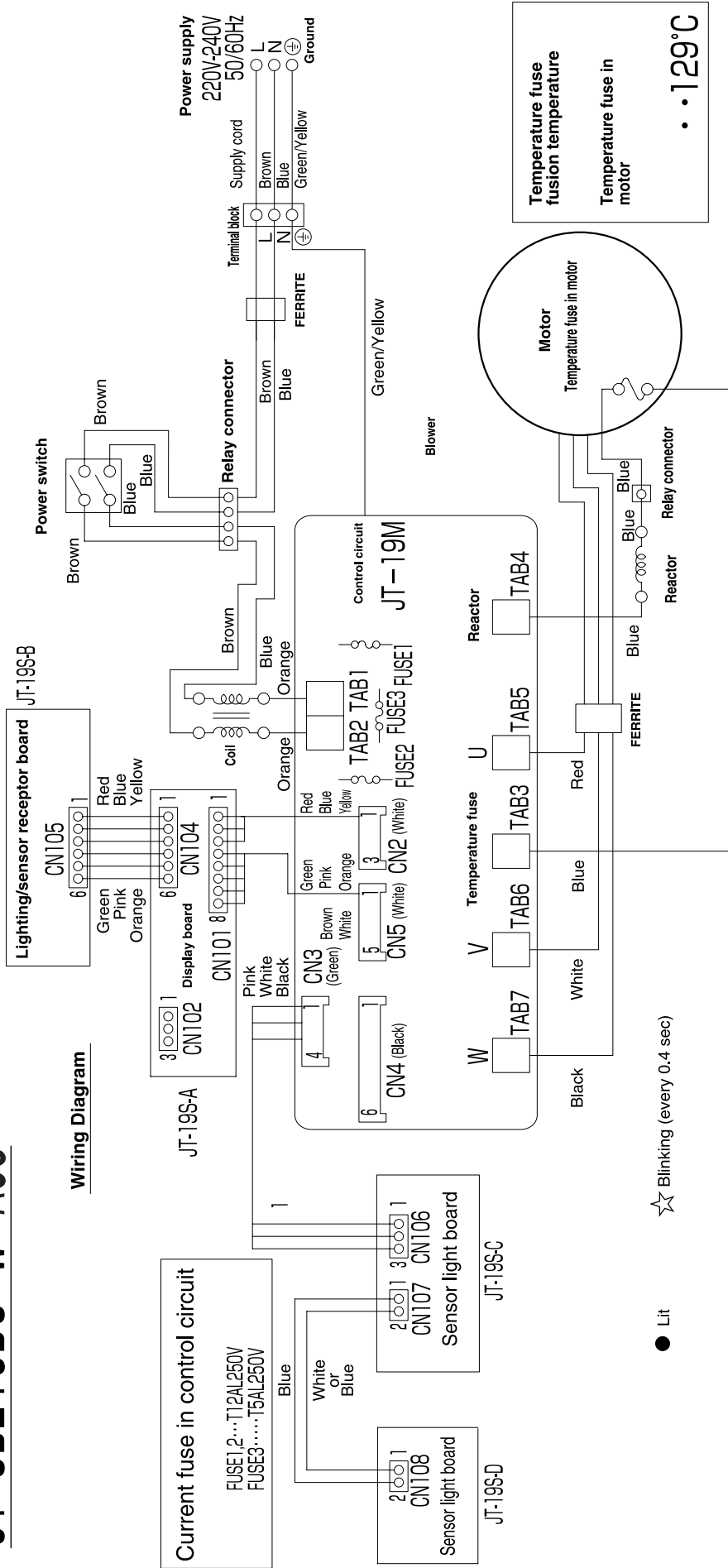
4. Dimensions



5. Wiring diagrams

JT-SB216DS-W-AUS

Wiring Diagram



● Lit ☆ Blinking (every 0.4 sec)

○ Unlit * Blinking (every 0.1 sec)

Malfunction location quick reference chart (The display LED light is displayed in the blinking location)

Power supply LED	Inspection LED	Detected content	Cause
○	○	Motor overspeed error, step-out error	Air filter, blower, control circuit
☆	○	Motor lock error	Blower, control circuit
○	○	Overcurrent detected	Blower (short circuit), control circuit (overcurrent)
○	☆	Overvoltage detection, undervoltage detection	Overvoltage impress, undervoltage impress, control circuit
☆	☆	Heat sink overheating	Air filter, control circuit (PTC)
●	☆	Current detection circuit error	Control circuit
●	*	Microcontroller error	Control circuit
☆	●	Tamper-proof timer	Continuous operation, sensor window dirty, sensor misalignment
●	●	Fuse fusion	Control circuit current fuse, motor temperature fuse

6. Troubleshooting

Precautions when diagnosing malfunctions:

- When servicing, be sure to recreate the malfunction 2 to 3 times before initiating repairs.
- When servicing, always keep proper footing.
- When servicing, make sure that the cord is pulled out of the outlet, or the breaker is off if no mains connector is built in the product, so as no electrical shock or injury to occur. Pay sufficient attention when working on the product.
- Always connect the power wire properly.
- When removing the circuit board, always hold it at both ends and remove carefully so as not to apply force to the surface mounted parts.
- When removing the circuit board, be careful of the metal edges on the board.
- When inserting or extracting pin connectors on the circuit board, hold the entire housing. Do not pull on the lead wires.
- If a malfunction of the printed circuit board is suspected, check for any broken copper-printed pattern, burnt or discolored parts.
- Be sure to restore same settings as those on the one just replaced.

* The names of the parts indicated are compatible with those listed under the "Name of part" in the chapter "Parts list".

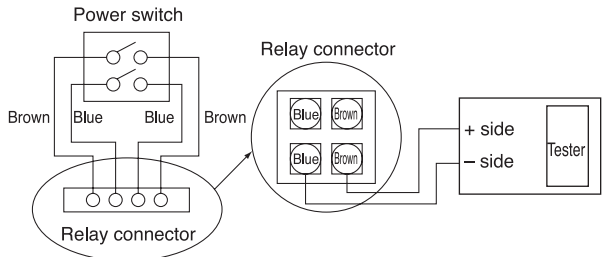
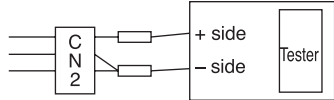
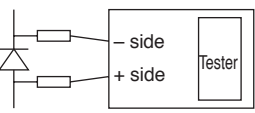
Description of error modes below

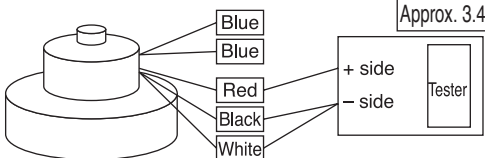
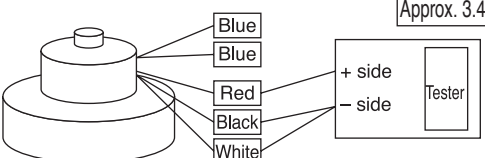


LED1 LED2

- [○] Lit
- [●] Unlit
- [☆] Blinking (0.4 sec on/0.4 sec off)
- [*] Fast blinking (0.1 sec on/0.1 sec off)

Error mode display	Cause	Check procedure and action to take														
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>LED1</td> <td>LED2</td> </tr> <tr> <td>Power</td> <td>Inspection</td> </tr> <tr> <td style="text-align: center;">●</td> <td style="text-align: center;">●</td> </tr> </table> <p>(No display, no operation)</p>	LED1	LED2	Power	Inspection	●	●	<p>1.Power off</p> <p>2.Current fuse</p> <p>3.Motor temperature fuse</p>	<ul style="list-style-type: none"> • Is the power supply connected? • Is the power switch on? • Measure the resistance between the current fuses on the control board. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Measured value</td> <td>Decision/action</td> </tr> <tr> <td style="text-align: center;">0Ω</td> <td style="text-align: center;">Normal</td> </tr> </table> <p>* Replace the control board if the measured resistance value is other than the normal value shown in the table at right.</p> <ul style="list-style-type: none"> • Is the motor's lead wire connector connected? • Measure the resistance between the motor's two "blue" lead wires. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Measured value</td> <td>Decision/action</td> </tr> <tr> <td style="text-align: center;">0Ω</td> <td style="text-align: center;">Normal</td> </tr> </table> <p>* Replace the motor if the measured resistance value is other than the normal value shown in the table at right.</p>	Measured value	Decision/action	0Ω	Normal	Measured value	Decision/action	0Ω	Normal
LED1	LED2															
Power	Inspection															
●	●															
Measured value	Decision/action															
0Ω	Normal															
Measured value	Decision/action															
0Ω	Normal															

Error mode display	Cause	Check procedure and action to take															
<table border="1"> <tr><td>LED1</td><td>LED2</td></tr> <tr><td>Power</td><td>Inspection</td></tr> <tr><td>●</td><td>●</td></tr> </table> <p>(No display, no operation)</p>	LED1	LED2	Power	Inspection	●	●	<p>4.Power switch</p> <p>5.Control circuit</p>	<ul style="list-style-type: none"> Unplug the relay connector, and measure the resistance at two places between each pair of the power switch's "brown" and "blue" lead wires.  <p>Resistance value</p> <table border="1"> <tr> <td>Power switch ON</td> <td>: Approx. 0 Ω</td> </tr> <tr> <td>Power switch OFF</td> <td>: Approx. ∞ Ω</td> </tr> </table> <p>Replace the power switch if the measured resistance values are other than those at left.</p> <ul style="list-style-type: none"> Replace the control circuit if other than above. 	Power switch ON	: Approx. 0 Ω	Power switch OFF	: Approx. ∞ Ω					
LED1	LED2																
Power	Inspection																
●	●																
Power switch ON	: Approx. 0 Ω																
Power switch OFF	: Approx. ∞ Ω																
<table border="1"> <tr><td>LED1</td><td>LED2</td></tr> <tr><td>Power</td><td>Inspection</td></tr> <tr><td>●</td><td>●</td></tr> </table> <p>(Operates, but no display)</p>	LED1	LED2	Power	Inspection	●	●	<p>1.Display board</p> <p>2.Control circuit</p>	<ul style="list-style-type: none"> Is the sensor's lead wire connector (CN2) connected? Unplug the control circuit's CN2 (3-pin connector), measure the voltage between pins 1 and 2 as well as pins 1 and 3 of the CN2 by diode check (measure on the lead wire side).  <table border="1"> <thead> <tr> <th>Measured value</th> <th>Decision/action</th> </tr> </thead> <tbody> <tr> <td>1.5 to 1.8V</td> <td>Normal</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Replace the control circuit if other than above. 	Measured value	Decision/action	1.5 to 1.8V	Normal					
LED1	LED2																
Power	Inspection																
●	●																
Measured value	Decision/action																
1.5 to 1.8V	Normal																
<table border="1"> <tr><td>LED1</td><td>LED2</td></tr> <tr><td>Power</td><td>Inspection</td></tr> <tr><td>☆</td><td>☆</td></tr> </table> <p>(Heat sink overheat)</p>	LED1	LED2	Power	Inspection	☆	☆	<p>1.Filter clogged with dust</p> <p>2.PTC operation (control circuit)</p> <p>3.Control circuit</p>	<ul style="list-style-type: none"> Is the filter clogged with dust and the like? → If so, clean the filter. Are the temperatures of the control circuit and electronic parts too high? → If so, turn OFF the power switch and lower the temperatures to normal temperatures (40 °C or less). Replace the control circuit if other than above. 									
LED1	LED2																
Power	Inspection																
☆	☆																
<table border="1"> <tr><td>LED1</td><td>LED2</td></tr> <tr><td>Power</td><td>Inspection</td></tr> <tr><td>☆</td><td>●</td></tr> </table> <p>(Mischievous use prevention timer)</p>	LED1	LED2	Power	Inspection	☆	●	<p>1.Continuous operation</p> <p>2.Stained sensor's windows</p> <p>3.Disengaged sensor</p> <p>4.Displaced sensor's board positions</p> <p>5.Sensor light emitting/receiving diode failure</p> <p>6.Control circuit</p>	<ul style="list-style-type: none"> When the operation time exceeds 30 seconds, the operation stops by the activated mischievous use prevention timer. Are the sensor's three windows stained? Is the sensor's lead wire connector connected? Are the sensor's board positions displaced (top/bottom light emitting boards, light receiving board)? Measure the forward voltages of the LEDs on the top/bottom light emitting boards and the photo diode (PHD) on the light receiving board with a measuring device that has a diode check function.  <table border="1"> <thead> <tr> <th>Item name</th> <th>Measured value</th> <th>Decision</th> </tr> </thead> <tbody> <tr> <td>LED</td> <td>0.9 to 1.2V</td> <td>Normal</td> </tr> <tr> <td>Photo diode</td> <td>0.5 to 0.8V</td> <td>Normal</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Replace the top/bottom light emitting boards and the light receiving board if the measured values are other than the normal values shown in the table above. Replace the control circuit if other than above. 	Item name	Measured value	Decision	LED	0.9 to 1.2V	Normal	Photo diode	0.5 to 0.8V	Normal
LED1	LED2																
Power	Inspection																
☆	●																
Item name	Measured value	Decision															
LED	0.9 to 1.2V	Normal															
Photo diode	0.5 to 0.8V	Normal															

Error mode display	Cause	Check procedure and action to take										
<table border="1"> <tr> <td>LED1</td> <td>LED2</td> </tr> <tr> <td>Power</td> <td>Inspection</td> </tr> <tr> <td>☆</td> <td>○</td> </tr> </table> <p>(Motor lock)</p>	LED1	LED2	Power	Inspection	☆	○	<p>1.Motor</p> <p>2.Control circuit</p>	<ul style="list-style-type: none"> • Measure the winding resistance. (Measure the resistance values between "black and white," "red and black," and "white and red" wires of the 1-pin connector coming from the motor.) * Replace the motor if the measured values are other than the normal value shown in the table at right. <table border="1"> <tr> <td>Measured value</td> <td>Decision</td> </tr> <tr> <td>Approx. 3.4 to 3.7Ω</td> <td>Normal</td> </tr> </table>  <ul style="list-style-type: none"> • Replace the control circuit if other than above. 	Measured value	Decision	Approx. 3.4 to 3.7Ω	Normal
LED1	LED2											
Power	Inspection											
☆	○											
Measured value	Decision											
Approx. 3.4 to 3.7Ω	Normal											
<table border="1"> <tr> <td>LED1</td> <td>LED2</td> </tr> <tr> <td>Power</td> <td>Inspection</td> </tr> <tr> <td>○</td> <td>☆</td> </tr> </table> <p>(Overvoltage, low voltage, power supply frequency detection)</p>	LED1	LED2	Power	Inspection	○	☆	<p>1.Excess voltage applied</p> <p>2.Low voltage</p> <p>3.No power supply frequency</p> <p>4.Control circuit</p>	<ul style="list-style-type: none"> • Is a rated power supply voltage of 220 to 240 V being applied? • Is a rated power supply voltage of 220 to 240 V being applied? • Is a power supply frequency 50 or 60 Hz? • Replace the control circuit if other than the above. 				
LED1	LED2											
Power	Inspection											
○	☆											
<table border="1"> <tr> <td>LED1</td> <td>LED2</td> </tr> <tr> <td>Power</td> <td>Inspection</td> </tr> <tr> <td>●</td> <td>*</td> </tr> </table> <p>(Microcomputer RAM abnormality)</p>	LED1	LED2	Power	Inspection	●	*	<p>1.Control circuit</p>	<ul style="list-style-type: none"> • Replace the control circuit. 				
LED1	LED2											
Power	Inspection											
●	*											
<table border="1"> <tr> <td>LED1</td> <td>LED2</td> </tr> <tr> <td>Power</td> <td>Inspection</td> </tr> <tr> <td>●</td> <td>○</td> </tr> </table> <p>(Overcurrent detection)</p>	LED1	LED2	Power	Inspection	●	○	<p>1.Motor</p> <p>2.Control circuit</p>	<ul style="list-style-type: none"> • Measure the winding resistance. (Measure the resistance values between "black and white," "red and black," and "white and red" wires of the 1-pin connector coming from the motor.) * Replace the motor if the measured values are other than the normal value shown in the table at right. <table border="1"> <tr> <td>Measured value</td> <td>Decision</td> </tr> <tr> <td>Approx. 3.4 to 3.7Ω</td> <td>Normal</td> </tr> </table>  <ul style="list-style-type: none"> • Replace the control circuit if other than above. 	Measured value	Decision	Approx. 3.4 to 3.7Ω	Normal
LED1	LED2											
Power	Inspection											
●	○											
Measured value	Decision											
Approx. 3.4 to 3.7Ω	Normal											
<table border="1"> <tr> <td>LED1</td> <td>LED2</td> </tr> <tr> <td>Power</td> <td>Inspection</td> </tr> <tr> <td>●</td> <td>☆</td> </tr> </table> <p>(Current detection circuit abnormality)</p>	LED1	LED2	Power	Inspection	●	☆	<p>1.Control circuit</p>	<ul style="list-style-type: none"> • Replace the control circuit. 				
LED1	LED2											
Power	Inspection											
●	☆											

[Reference data] LED display list

	Description	LED1	LED2	Main cause of occurrence
		Power	Inspection	
When normal	Power switch OFF	●	●	
	Power switch ON	○	●	
Abnormal 1	Mischievous use prevention timer	☆	●	Continuous operation, sensor stained/disengaged
Abnormal 2	Motor rotating excessively, out of step	○	○	Main circuit, motor demagnetized
	Motor startup error, locked	☆	○	Main circuit, motor's wire open/disconnected
	Overcurrent	●	○	Main circuit, motor short-circuited
	Overvoltage, low voltage, no power supply frequency	○	☆	Main circuit, power supply, 5A-fuse blown out (excess voltage applied)
	Fin overheating	☆	☆	Main circuit, no fin, operated at high temperature
	Current detection circuit abnormality	●	☆	Main circuit
	Microcomputer abnormality	●	※	Main circuit
Abnormal 3	Blown fuse	●	●	Current fuse, temperature fuse, power supply

[○] Lit [☆] Blinking (0.4 sec on/0.4 sec off)
 [●] Unlit [※] Fast blinking (0.1 sec on/0.1 sec off)

7. How to call

Phenomenon 1	Phenomenon 2	Action to take
1.No air comes out after inserting the hands.	<ul style="list-style-type: none"> • The indicator lamps on the display are not lit. • The right indicator lamp on the display is blinking. 	<ul style="list-style-type: none"> • Turn ON the power switch. • Because the hand dryer was operated over 30 seconds, the safety device was activated, thus automatically stopping the unit. • Are foreign particles and/or stains attached to the sensor part? • Is the hand dryer exposed to direct sunlight? * Change the installation location, or block sunlight with sunshade so that the sensor part is not exposed to direct sunlight.
2.The airflow is too low to dry the hands quickly.		<ul style="list-style-type: none"> • Is the filter closed with dust? (Clean the filter as often as once a week.)
3.Water leaks from the hand dryer.		<ul style="list-style-type: none"> • Is the drain tank full with water? (If so, drain water.) * If the hand dryer is operated with the drain tank full, water may soak into the main body. To prevent this, an overflow hole is provided in the drain tank. • Is the drain tank installed properly?
4.Air does not come out immediately after turning on the power and inserting the hands.		<ul style="list-style-type: none"> • After the power switched is turned on, the hand dryer needs one second to charge the control circuit. Therefore, the hand dryer does not blow air during this period.
5.Odor emanates from the hand dryer.		<ul style="list-style-type: none"> • Is the drain tank full with water? (If so, drain water.) • Is there any foreign particle inside the drain tank? (Remove the foreign particle.)

8. Technical notes

- By employing a mono-form design, the hand dryer blends into various shapes of architectural spaces.
- By using an angular nozzle, the hand dryer reduces air blow back, making it more comfortable to use.
- The joint of the hand insertion section has been reduced by half. It minimizes the clogging of dust in the joint, making cleaning much easier.
- The hand insertion section, drain tank and drain hose are treated by an antimicrobial process, improving hygiene.

9. Overhaul procedure

Precautions when overhauling the unit:

- Before replacing parts, take steps in accordance with the instructions listed in the chapter "Troubleshooting".
 - When servicing, always keep proper footing.
 - When servicing, make sure that the cord is pulled out of the outlet, or the breaker is off if no mains connector is built in the product, so as no electrical shock or injury to occur. Pay sufficient attention when working on the product.
 - Always connect the power wire properly.
 - Make sure that the proper functioning of the unit is restored when the repair is complete.
- * The names of the parts indicated are compatible with those listed under the "Name of part" in the chapter "Parts list".

(1) Turning power off

- ① Shutdown the unit.
- ② Turn off the breaker on the distribution board.

(2) Power switch

- ① Pull out the drain tank, and then remove the front panel clamping screws (two special silver screws 4 x 16, indicated by ○).



- ② Remove the connector cover clamping screw (one PTT screw 4 x 16, indicated by ○).



- ③ Remove the relay connector (indicated by ○).



④ Remove the maintenance cover clamping screws (marked by ▽) (five special black screws 4 x 16, indicated by ○).



⑤ Pull out the maintenance cover, and then remove the switch cover clamping screw (one PTT screw 4 x 16, indicated by ○).



⑥ Open the lid of the switch cover, and then remove the switch clamping screw (one PPT screw 3 x 10, indicated by ○).



(3) Display board

① Perform the same work as in steps ① through ④ of (2) above.

② Pull out the maintenance cover, and then remove the display board lead wires (indicated by ○).

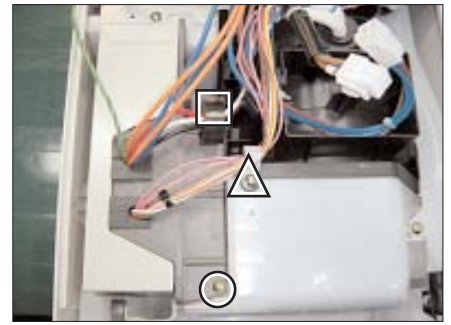


③ Remove the display board from the mounting spacers (indicated by ○).



(4) Control board

- ① Perform the same work as in steps ① through ③ of (2) above.
- ② Remove the control board clamping screw (one PTT screw 4 x 16, indicated by ○).
- ③ Remove the cord clip clamping screw (one PTT screw 4 x 16, indicated by △).
- ④ Remove the line filter clamping screw (one PTT screw 4 x 16, indicated by □).



- ⑤ Remove the terminal cover clamping screw (one PTT screw 4 x 16, indicated by ○).



- ⑥ Remove the earth lead wire (green / yellow) from the terminal.



- ⑦ Pull out the control board, and then remove the control board cover clamping screw (one PTT screw 4 x 6, indicated by ○).

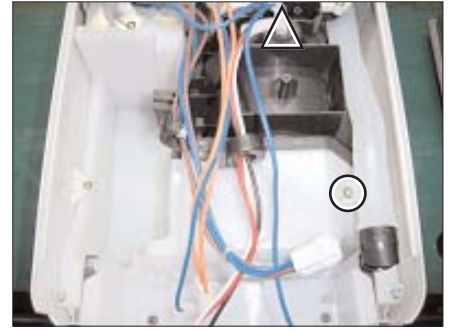


- ⑧ Remove the control board lead wires, and then remove the bushing (indicated by ○).



(5) Blower

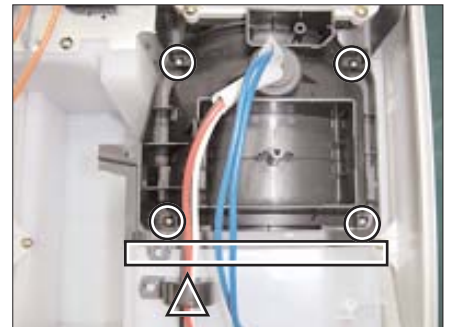
- ① Perform the same work as in steps ① through ③ of (4) above.
- ② Remove the drain hose clamping screw (one PTT screw 4 x 16, indicated by ○).
- ③ Remove the bushing (indicated by △).
*When installing the bushing, be sure to securely inlay it all the way to the base.



- ④ Remove the relay connector (indicated by ○).



- ⑤ Remove the blower cover clamping screws (four PTT screws 4 x 16, indicated by ○).
* When installing the blower cover, be sure to securely inlay the part indicated by □.
* Once the blower cover is installed, slide the line filter (indicated by △) over the lead wires (red, white and black) of the blower.



- ⑥ Remove the blower.
*Replace the packing of the disassembled part with a new one.
* When replacing the packing, be careful not to twist it.



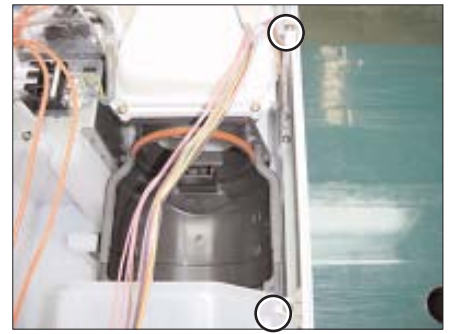
(6) Light emitting board (top)

- ① Perform the same work as in step ① of (2) above.
- ② Remove the cover clamping screws for light emitting board (top) (two PTT screws 4 x 16, indicated by ○), and disconnect the lead wires of the light emitting board.

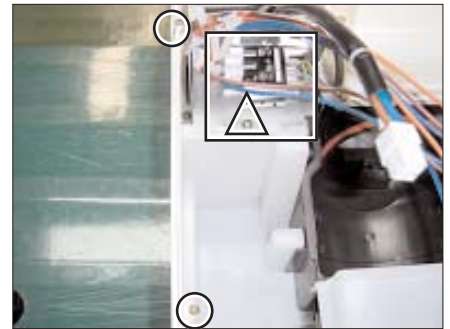


(7) Light emitting board (bottom)

- ① Perform the same work as in steps ① through ⑥ of (5) above.
- ② Perform the same work as in steps ① and ② of (6) above.
- ③ Remove the right side panel clamping screws (two PTT screws 4 x 16, indicated by ○).



- ④ Remove the left side panel clamping screws (two PTT screws 4 x 16, indicated by ○).
- ⑤ Remove the reactor clamping screw (one PTT screw 4 x 16, indicated by △).
- ⑥ Remove the reactor (indicated by □).



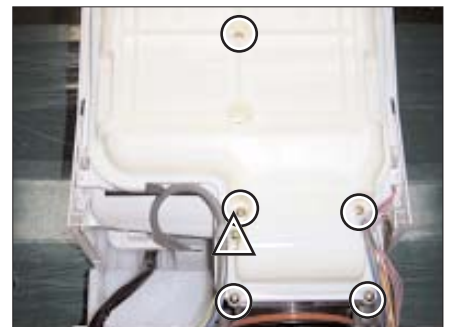
- ⑦ Remove the left reinforcing plate clamping screws (four PTT screws 4 x 16, indicated by ○; one PPT screw 4 x 16, indicated by △).



- ⑧ Remove the right reinforcing plate clamping screws (four PTT screws 4 x 16, indicated by ○; one PPT screw 4 x 16, indicated by △).



- ⑨ Remove the panel (front) clamping screws (five PTT screws 4 x 16, indicated by ○).
- ⑩ Remove the cord clamping screw (one PTT screw 4 x 16, indicated by △).

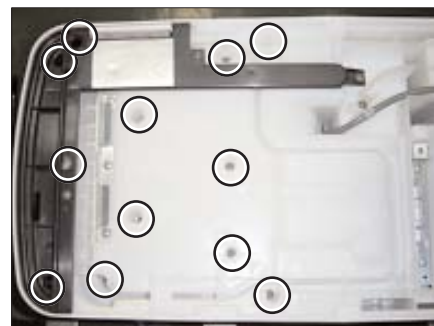


- ⑪ Remove the board fixing plate clamping screws (two PTT screws 4 x 16, indicated by ○).
- ⑫ Remove the light emitting board (bottom) from the board fixing plate, and disconnect the lead wires.



(8) Light receiving board

- ① Perform the same work as in steps ① through ⑫ of (7) above.
- ② Reverse the main body, remove the clamping screws (twelve special black screws 4 x 16, indicated by ○) from the rear surface, and then reverse the main body back to the original position again.



- ③ Remove the panel (center).



- ④ Remove the duct (T-shaped) clamping screws (three PTT screws 4 x 16, indicated by ○).



⑤ Remove the panel (rear).

- * Be careful not to drop the water immersion protective rubber (indicated by ○).
- * Replace the packing of the disassembled part with a new one.
- * When replacing the packing, be careful not to twist it.



⑥ Remove the light receiving board holder clamping screws (two PTT screws 4 x 16, indicated by ○).

- * Replace the packing of the disassembled part with a new one.
- * When replacing the packing, be careful not to twist it.



⑦ Remove the light receiving board from the holder. Remove the two claws (indicated by ○).

- * Replace the packing of the disassembled part with a new one.
- * When replacing the packing, be careful not to twist it.

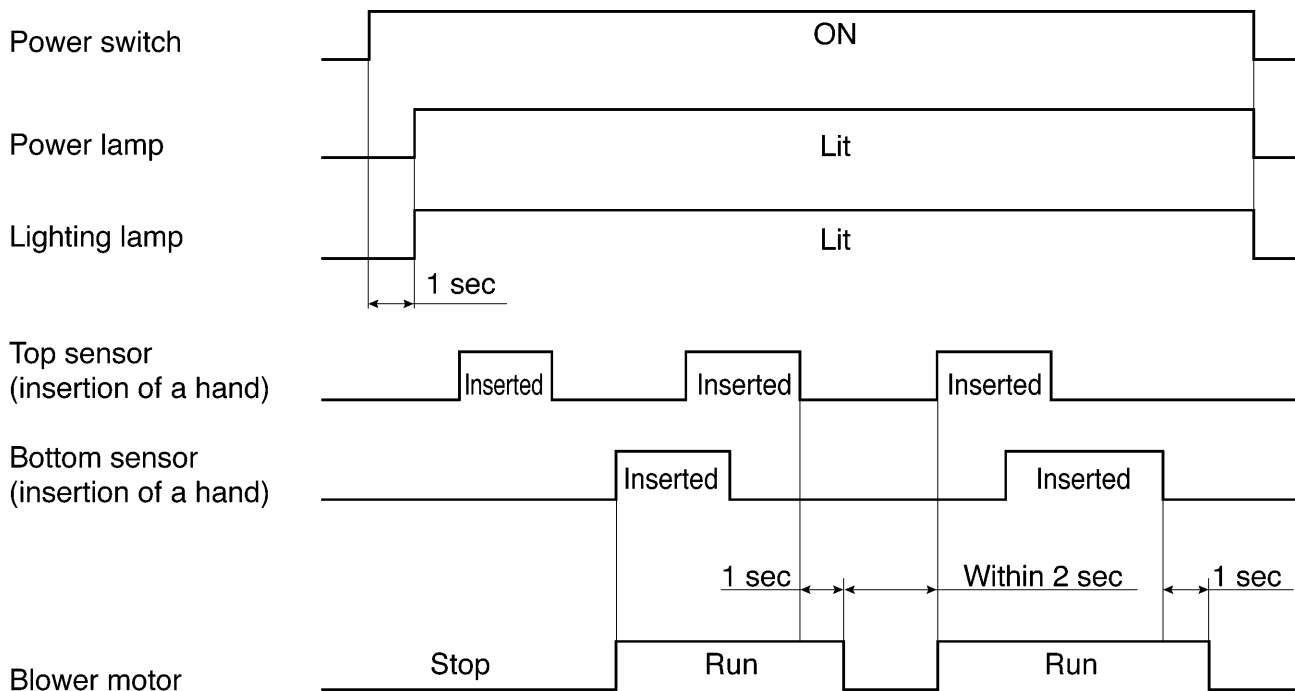


*Precautions when replacing Product

Cautions:

- Reverse the order to replace the Product.
- Make sure that the proper functioning of the unit is restored when the repair is complete.

10. Sequence timing chart



11. Description of circuit operation

(1) Precautions for turning ON/OFF the power switch

- ① When the power switch is turned ON, the power indicator lamp (LED1) and lighting lamps (LED3 to LED6) are lit after one second, and the hand dryer can then be operated.
 - If the power switch is turned OFF (or if power failure occurs) while the blower motor is rotating, in order to protect the circuitry, the hand dryer will not operate for five seconds the next time the power switch is turned ON (or power failure is recovered) when the hands are inserted.
 - The hand dryer does not operate when the hands are inserted while the power indicator lamp and lighting indicator lamps are unlit. The microcomputer (IC1) performs initial settings such as determining the power supply frequency and setting the hand detection sensor's sensitivity.
- ② When the power switch is turned OFF, the power indicator lamp and lighting lamps are unlit, and the operation of the hand dryer is disabled.
 - It requires approximately 60 seconds for the voltage in the circuitry to discharge. Therefore, wait at least 60 seconds before plugging/unplugging the connector or replacing the circuitry.
 - If an abnormality occurs, the hand dryer continues to show error display until electric power in the circuitry finishes discharging (i.e., until the microcomputer resets) even after the power switch is turned OFF.
- ③ In regions where the power supply voltage is either 220 VAC or 230 VAC, the air volume and power consumption in the initial operation after the power switch is turned ON may be lower than those in the second and succeeding operations, although it is within the normal ranges.
 - The hand dryer detects the power supply voltage and sets the blower motor output so that the rated air volume and power consumption are used with each power supply voltage of 220 VAC, 230 VAC or 240 VAC.
 - The hand dryer determines the power supply voltage and sets the blower motor output in the following cases:
 - When 15 seconds have elapsed after the power switch is turned ON
 - When the blower motor has stopped in the event the hand dryer was operated within 15 seconds
 - Immediately after the power switch is turned ON, the hand dryer cannot detect an accurate power supply voltage because of the effect of the rush current. Therefore, the blower motor output is temporarily set at 240 VAC.
 - When the hand dryer is operated within 15 seconds of turning ON the power switch, it is operated at either 220 VAC or 230 VAC with a setting of 240 VAC in regions where the power supply voltage is either 220 VAC or 230 VAC. Therefore, the air volume and power consumption will slightly decrease.

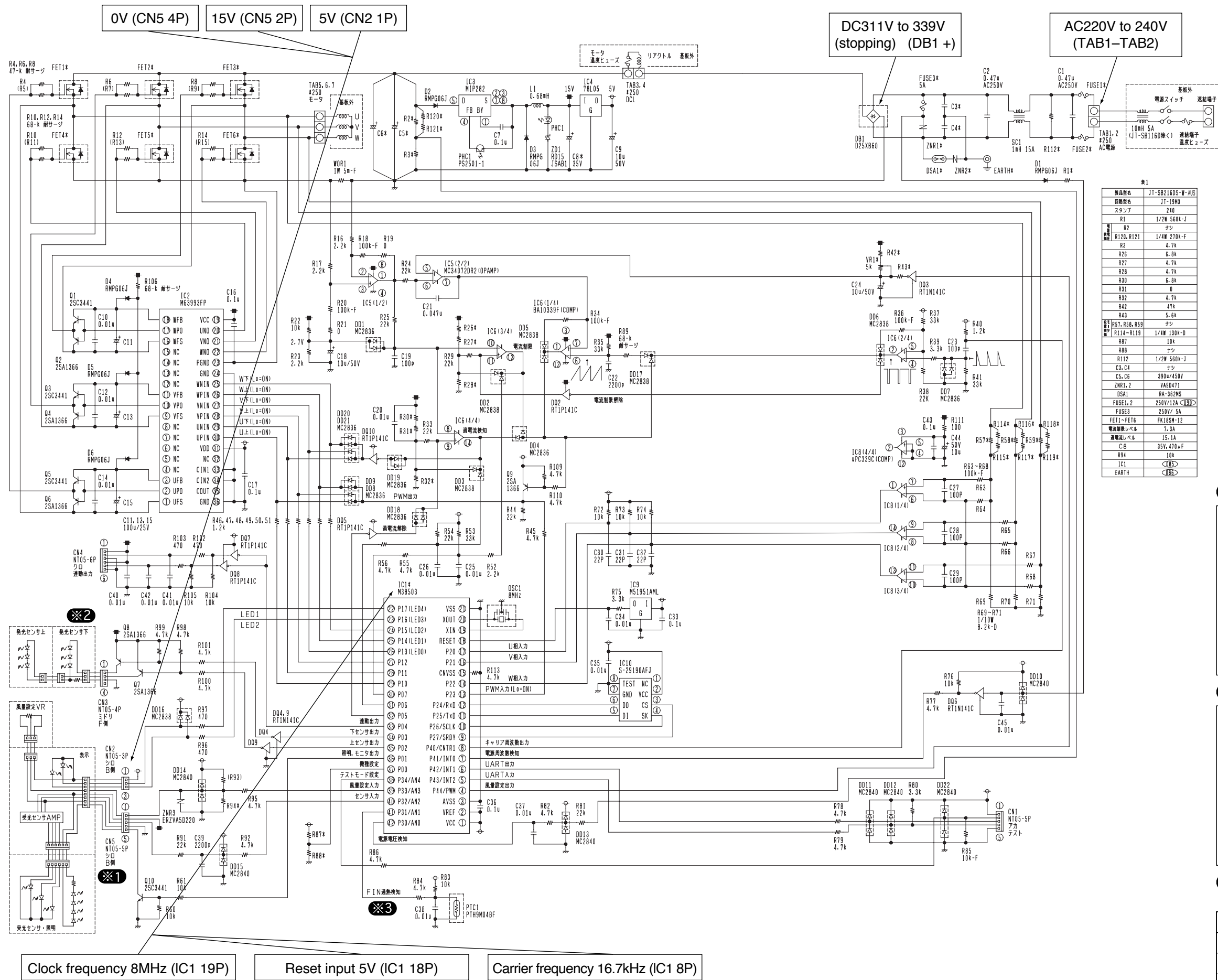
(2) Hand detection and hand dryer operation

- ① Each of the top and bottom hand detection sensors is an infrared radiation sensor mainly consisting of a light emitting sensor (infrared LED) and a light receiving sensor (photodiode).
- ② The light emitting sensors of the top and bottom hand detection sensors continuously emit pulses.
- ③ When a hand is inserted into the hand-drying area, the lights from the light emitting sensors are blocked; thus, there will be no output from the light receiving sensors. Through this, the hand dryer detects that a hand has been inserted into the dryer.
- ④ When the bottom hand detection sensor detects a hand, the blow motor is turned ON and the operation starts.
- ⑤ Once the operation has started, it continues as long as either the top or bottom hand detection sensor detects a hand.
- ⑥ After that, if one second elapses while both the top and bottom hand detection sensors do not detect a hand, the blower motor is turned OFF, and the operation stops.
- ⑦ The hand dryer continuously operates up to 30 seconds.
 - Once 30 seconds have elapsed, the hand dryer stops operating even if the top or bottom hand detection sensor detects a hand.
 - This is a feature that assumes the presence of a foreign matter in the hand-drying area. The hand dryer will resume its operation when a hand is removed once and then inserted again.

(3) Control of the blower motor

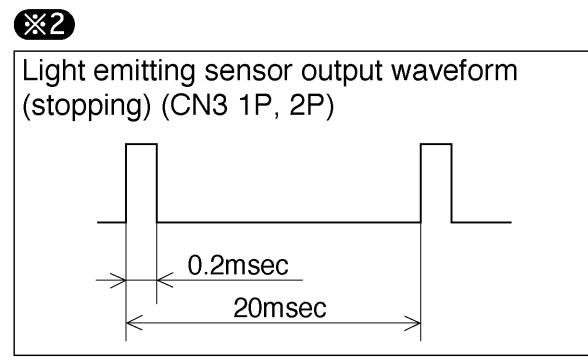
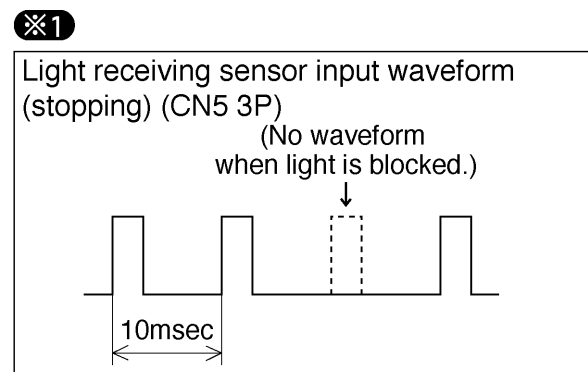
- ① A DC brushless motor is used as a blower motor. It does not have a Hall sensor that detects the position of the rotor. Instead, it is driven by determining the position of the rotor and the direction of rotation by the back electromotive force (voltage) of the motor winding.
- ② The microcomputer (IC1) drives the blower motor by controlling the MOSFET (driving transistor) at a power stage via the drive IC (IC2).

12. Circuit diagram and items to check



※1

部品名	JT-SB216DS-N-AUS
部品番号	JT-19M3
スタンプ	240
R1	1/2W 560k-J
R2	ナット
R120, R121	1/4W 270k-F
R2	4.7k
R26	6.8k
R27	4.7k
R28	4.7k
R30	0
R31	0
R32	4.7k
R42	47k
R43	5.6k
R57, R58, R59	ナット
R114-R119	1/4W 130k-D
R87	10k
R88	ナット
R112	1/2W 560k-J
C3, C4	ナット
C5, C6	390u/450V
ZNR1, 2	VA90471
DSA1	RA-362MS
FUSE1, 2	250V/12A <DB>
FUSE3	250V/ 5A
FET1-FET6	FK185M-12
電流検出レベル	7.3A
過電流レベル	15.1A
C8	35V, 470uF
R94	10k
IC1	<DB>
EARTH	<DB>



※3

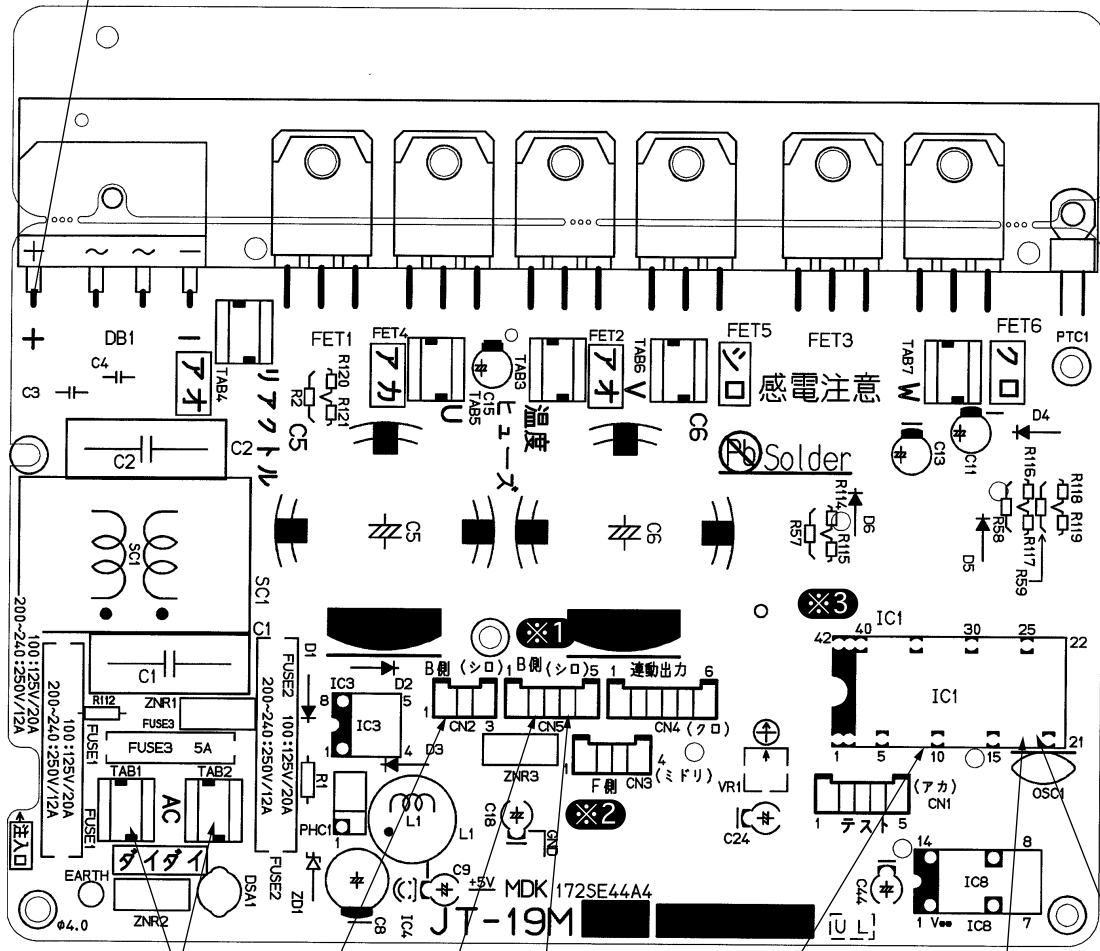
Fin overheating detection characteristics (IC1 41P AN1)

Temperature	PTC resistance value	AN1 input voltage
25°C	330 Ω or less	0.16 V or less
70°C	1.5 kΩ or less	0.65 V or less
80°C	2.2 kΩ or more	0.90 V or more

- ※1 Clock frequency 8MHz (IC1 19P)
- ※2 Reset input 5V (IC1 18P)
- ※3 Carrier frequency 16.7kHz (IC1 8P)

13. Board diagram and items to check

DC311V to 339V
(stopping) (DB1 +)



AC220V to 240V
(TAB1-TAB2)

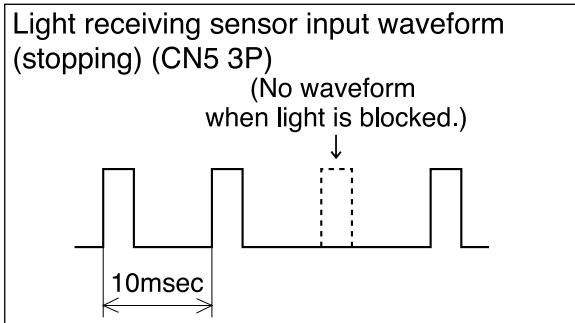
5V (CN2 1P)
0V (CN5 4P)

Carrier frequency 16.7kHz (IC1 8P)

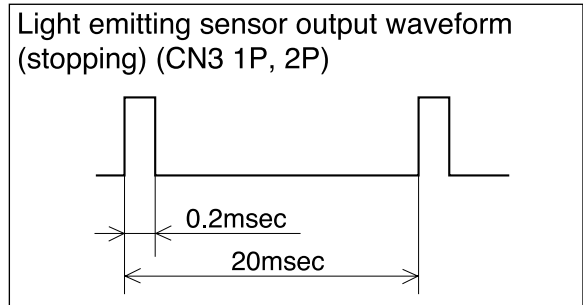
Clock frequency
8MHz (IC1 19P)

Reset input 5V (IC1 18P)

※1



※2



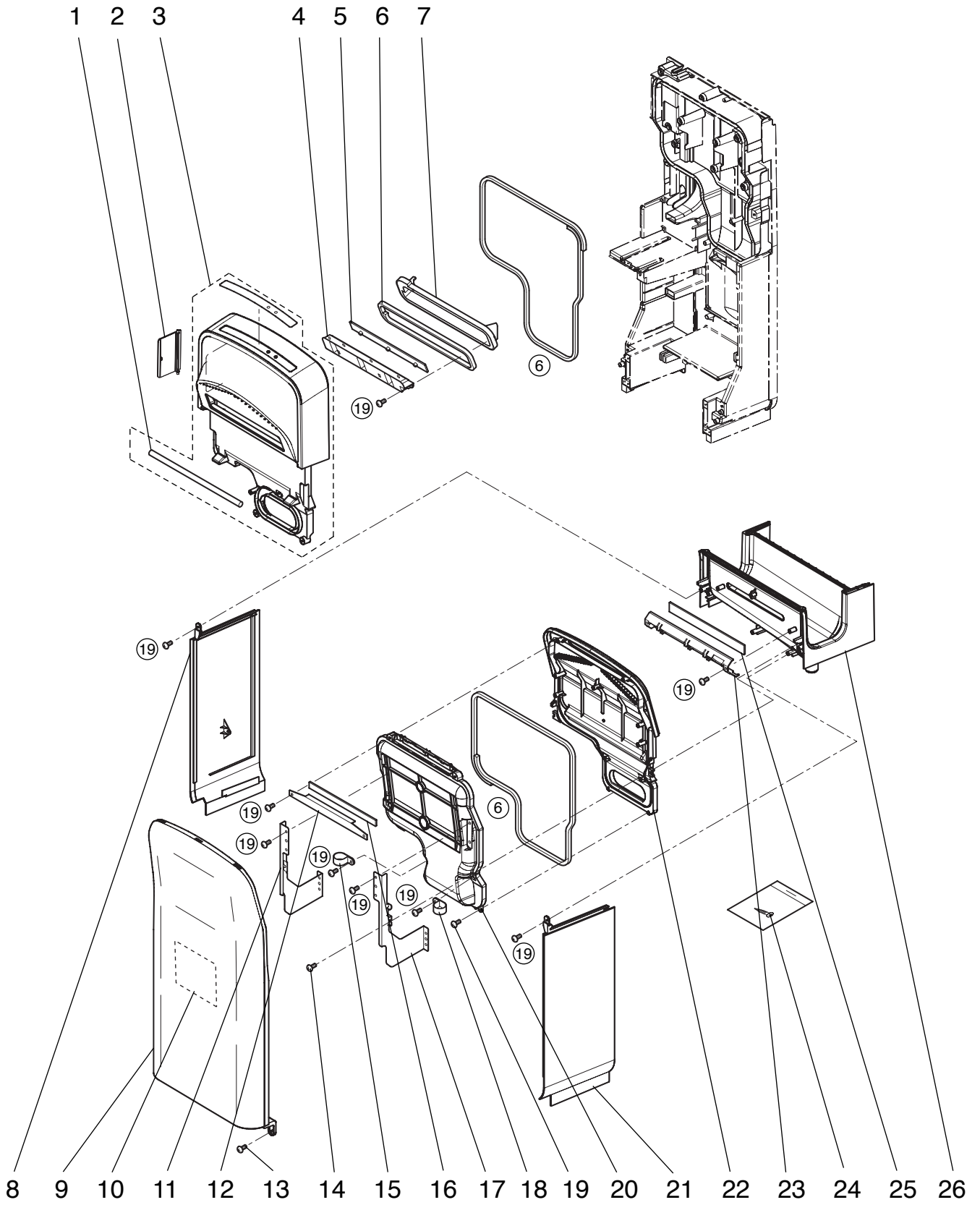
※3

Fin overheating detection characteristics (IC1 41P AN1)

Temperature	PTC resistance value	AN1 input voltage
25°C	330 Ω or less	0.16 V or less
70°C	1.5 kΩ or less	0.65 V or less
80°C	2.2 kΩ or more	0.90 V or more

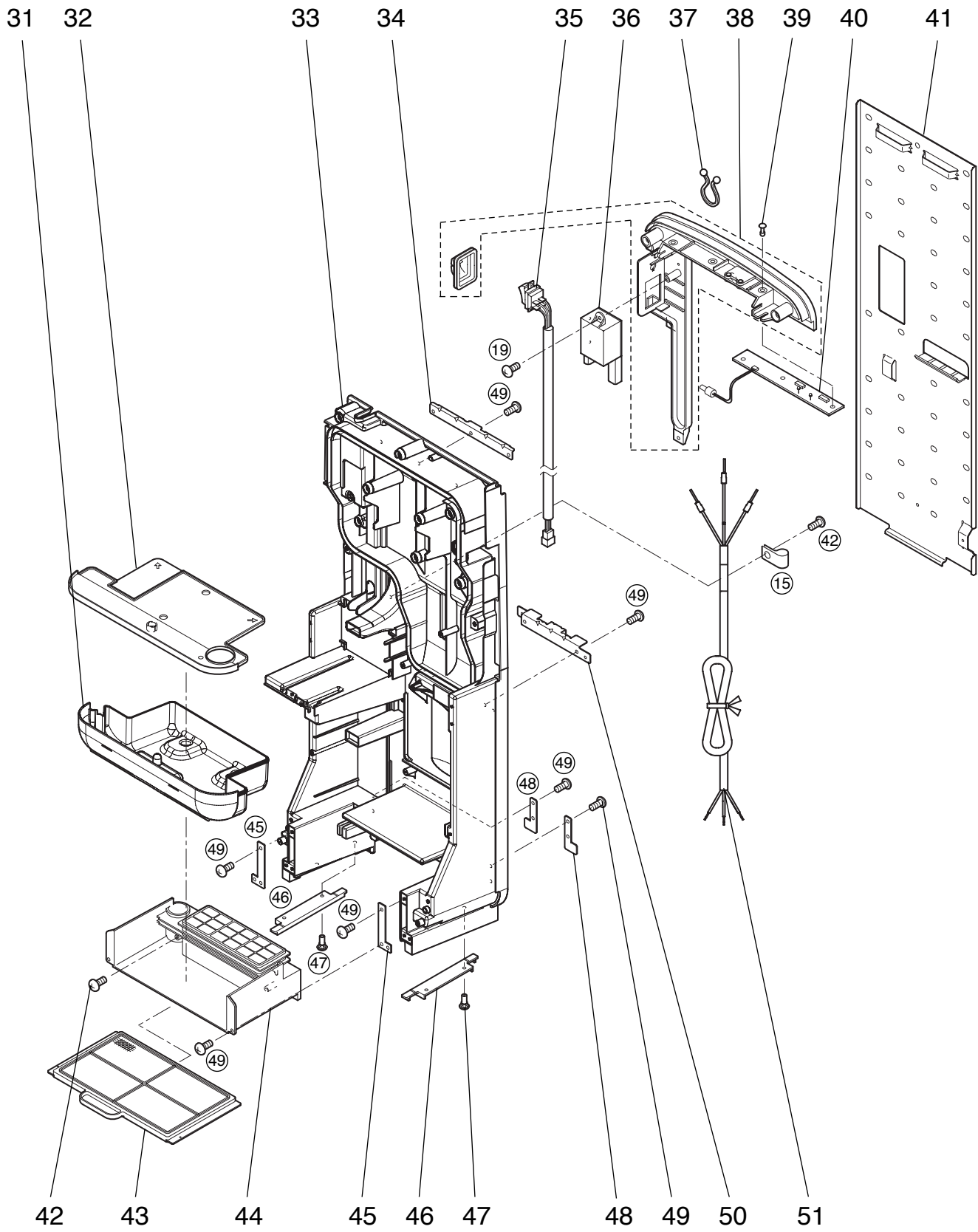
Model JT-SB216DS-W-AUS

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
1.	M45 632 853	Tube	1			
2.	M45 632 829	Switch door	1			
3.	Y45 610 806	Panel(back)	1			
4.	M45 632 828	Sensor fix plate	1		Lighting	
5.	M45 632 173	Light/sensor board	1	▲	JT-19S-B	
6.	M45 632 851	Packing	1		Black	
7.	M45 632 827	Sensor holder	1			
8.	M45 632 836	Side panel(left)	1			
9.	M45 632 800	Front panel	1			
10.	Y45 610 368	Wiring diagram	1			
11.	M45 632 822	Panel holder(left)	1			
12.	M45 641 810	Protect plate	1			
13.	M45 632 045	Special screw 4×16	2			
14.	H00 231 005	PPT screw 4×16	2			
15.	M45 225 224	Cord clip	2			
16.	M45 632 176	Sensor light board	1	▲	JT-19S-D	
17.	M45 632 823	Panel holder(right)	1			
18.	D40 038 344	Cord clip	2			
19.	H00 163 007	PTT screw 4×16	42			
20.	M45 632 832	Air supply duct	1			
21.	M45 632 837	Side plate(right)	1			
22.	Y45 609 802	Panel(front)	1			
23.	M45 632 831	Sensor fix plate	1		Light	
24.	M45 606 018	Special screw 5×30	6			
25.	M45 632 174	Sensor light board	1	▲	JT-19S-C	
26.	Y45 609 803	Panel(under)	1			



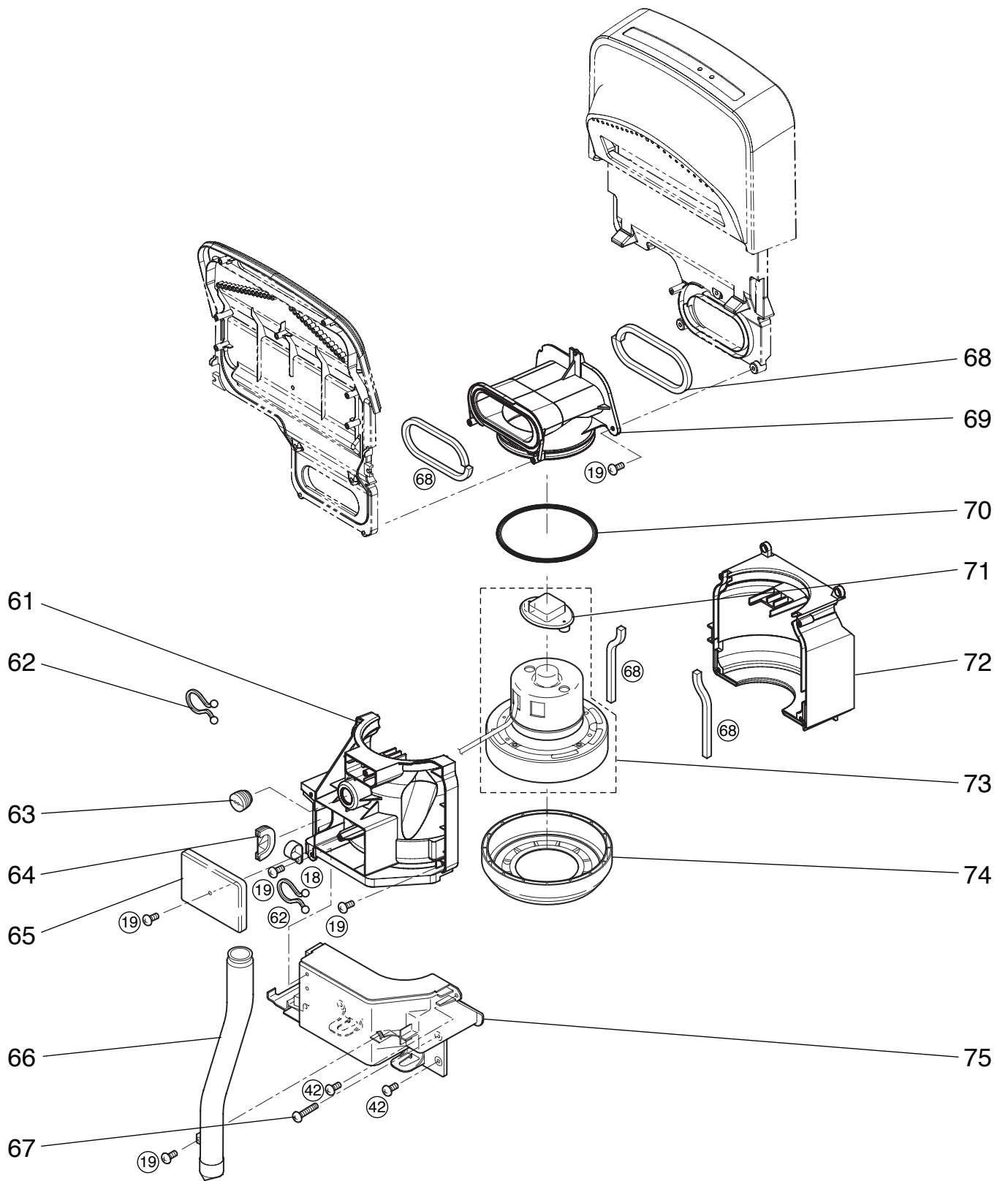
Model JT-SB216DS-W-AUS

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
31.	M45 632 815	Drain tank	1			
32.	M45 632 816	Tank cover	1			
33.	Y45 606 802	Base	1			
34.	M45 632 803	Hook(upper)	1			
35.	Y45 606 258	Switch	1	▲		
36.	M45 632 810	Switch cover	1			
37.	X40 256 228	Cord band	1			
38.	Y45 610 800	Maintenance cover	1			
39.	M45 606 095	Spacer	3			
40.	M45 632 172	Display board	1	▲	JT-19S-A	
41.	M45 632 802	Installation panel	1			
42.	D41 233 018	Special screw 4×16	18			
43.	M45 632 834	Filter	1	▲		
44.	M45 632 809	Tank base	1			
45.	M45 632 805	Support piece(front)	2			
46.	M45 632 808	Filter rail	2			
47.	M45 632 137	Rivet	2			
48.	M45 632 806	Support piece(back)	2			
49.	M45 632 047	Special screw 4×16	13			
50.	M45 632 804	Hook(under)	1			
51.	Y45 610 220	Cord	1	▲		



Model JT-SB216DS-W-AUS

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
61.	M45 632 813	Blower cover	1			
62.	D41 006 363	Lead band	2			
63.	M45 632 225	Cord bush	1			
64.	Y45 606 225	Cord bush	1			
65.	M45 632 839	Protect cover	1			
66.	M45 632 817	Drain pipe	1			
67.	M45 632 046	Special screw 4×50	1			
68.	M45 632 852	Packing	1		Grey	
69.	M45 632 833	Air exhaust duct	1			
70.	M45 632 229	O ring	1			
71.	M45 608 227	Blower stopper	1			
72.	M45 632 812	Blower case	1			
73.	Y45 606 400	Blower	1		▲	
74.	M45 632 230	Floating rubber	1			
75.	M45 632 814	Air supply cover	1			



Model JT-SB216DS-W-AUS

No.	Parts No.	Name of part	Q'ty pcs/unit	Critical for safety	Remarks	Price
81.	H00 000 487	PTT screw 4×8	3			
82.	M45 632 819	Cover	1			
83.	Y45 606 179	Reactor	1	▲		
84.	M45 632 821	Insulation sheet	1			
85.	M34 981 225	Cord bush	1			
86.	M45 632 818	Box(reactor)	1			
87.	K81 481 236	Terminal block	1	▲	3P	
88.	H00 141 005	PPT screw 4×20	1			
89.	Y45 606 219	Noise filter assy	1	▲		
90.	M45 632 835	Terminal cover	1			
91.	M45 632 226	Cord bush	1			
92.	H00 312 007	PTT screw 4×6	1			
93.	Y45 606 220	Lead wier(set)	1			
94.	M45 632 825	Board cover	1			
95.	M45 632 228	Cord bush	1			
96.	M45 632 227	Cord bush	1			
97.	Y45 606 171	Circuit board	1	▲	JT-19M3	
98.	Y45 606 180	Line filter	1	▲	ESD-R-25D-B	

