



Descriptive Report and Test Results

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REPORT: 2525812
PROJECT: 80122872

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Report pages reissued
 Att1 Photos added: 38-48
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PRODUCTS

CLASS 2811 03 - HEATERS-Air - Stationary Type
 CLASS 2811 83 - HEATERS-Air - Stationary Type - Certified to US Standards

Electric Air-Heater, household use, stationary type, grounded, cord-connected, rated 120 V, 60 Hz:

Part	Type	Model number	Electric Wattage Rating	Description
A	Wall-insert	SF103-AA SF103S-AA SF103-AAM Apollo AA Apo AA	1400 W or 1500 W	“AA” denotes 18, 18A, 18C&18X, 18D&18Y, 18E, 18G&18Z&18M&18N, 18R, 18F 23, 23C&23X, 23D&23Y, 23E, 23F, 23G&23Z&23M&23N&26M&26N, 23R, 23L, M23,26X, 26Y, 26Z, 26C, 26D, 26G, M26,28 ,28C,28D,28E,28F,28G,28X,28Y,28Z,28 M,28N, M28,35, 36IC, 36 & 42
A1	Wall-insert	SF103C-AA	1400 W or 1500 W	“AA” denotes 18C, 18D, 18E, 18G, 18Z, 23C, 23D, 23E, 23G, 23Z

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A2	Wall-insert	SF103B-AA	1400 W or 1500 W	“AA” denotes 18D, 18E, 18G, 23D, 23E & 23G
A3	Wall-insert	SF105-XXA SF105-XXAI	1400 W or 1500 W	“XX” denotes 18, 23, 26, 36, 42
A4	Wall-insert	SF105x-XX	1400 W or 1500 W	“x” denotes blank, S, B or C; “XX” denotes 18C, 18G, 18Y, 18T, 18M, 18F, 18E, 18R, 18X, 18GCC, 23C, 23G, 23Y, 23T, 23M, 23F, 23E, 23R, 23X, 23GCC, 26C, 26G, 26Y, 26T, 26M, 26F, 26E, 26R, 26X, 26GCC
B	Wall-insert	SF102-BB	1400 W or 1500 W	“BB” denotes 23, 26 W, 28 & 33
C	Wall-insert	SF104-CC	1400 W or 1500 W	“CC” denotes 23, 28, 30, 33, 36, 36W, 39, 45 & 58
D	Wall-insert	SF106-DD	1400 W or 1500 W	“DD” denotes 23, 28
E	Wall-mounted	SF301-EE	1400 W or 1500 W	“EE” denotes 26A, 37A, 35, 36WM, 36M, 36BT, 43BT, 50WM, 50M, 58WM, 58M, 58BT, 73BT, 74WM, 74M, 90WM, 90M
E1	Wall-mounted	SF310-42AX	1400 W or 1500 W	-
E2	Wall-mounted	SF311-XX 311-42-10 321-42-10	1400 W or 1500 W	“XX” denotes 16, 16e, 18, 20, 26, 28, 30, 33, 36, 36D, 42, 42D, 48 Suffix “A, B, C”, A - Flat-level touch screen; B - camber; C - represents the vertical model; OR without this code
F	Wall-inset	SF208-FF	1400 W or 1500 W	“FF” denotes 23, 23A, 26, 26A, 28, 28A, 33W, 33, 36
G	Wall-insert	SF230-AA	1400 W or 1500 W	“AA” denotes 23, 23A, 23AI
H	Wall-insert	SF122-GG Apollo AA Apo AA	1400 W or 1500 W	“GG” denotes 26AI, 26AIC, 26AICC, 26I, 26IC, 23AI, 23AIC, 23AICC, 23I, 23IC, 33AIC, 36AI
H1	Wall-insert	SF122C-GG	1400 W or 1500 W	“GG” denotes 23A, 23C, 23, 26, 26D, 26A, 26AC, 26ACC, 26AD, 33A, 36A
H2	Wall-insert	SF122C-GG	1400 W or 1500 W	“GG” denotes 26AI, 26AIC, 26I, 26IC, 23AI, 23I, 23IC, 30I, 36AI
H3	Wall-insert	SF122A-GG	1400 W	“GG” denotes 23A, 23C, 23, 26, 26D, 26A, 26AD, 36A
H4	Wall-insert	SF122A-GG	1400 W or 1500 W	“GG” denotes 26AI, 26AIC, 26I, 26IC, 23AI, 23I, 23IC, 30I, 36AI
H5	Wall-insert	SF122B-GG	1400 W	“GG” denotes 23, 23A, 23AD, 23C, 26, 26D, 26A, 26AC, 26ACC, 26AD, 26C, 30, 30A, 30C, 36, 36A, 36C
H6	Wall-insert	SF122B-GG	1400 W or 1500 W	“GG” denotes 26AI, 26AIC, 26I, 26IC, 23AI, 23AIC, 23I, 23IC, 30I, 30IC, 30AI, 36I, 36IC, 36AI
H7	Wall-insert	SF127X-XXXXXX SF127-23AI1D	1400 W or 1500 W	X denotes function codes, sizes, front frame, heating element or flame effect codes.
H8	Wall-insert	SF127M-42AI	1400 W or 1500 W	
H9	Wall-insert	SF127B-33AI	1400 W or 1500 W	Similar to model SF127-33AI in H7.
I	Wall-insert	SF122-HH	1400 W	“HH” denotes 23, 23A, 23AD, 23C, 26, 26D, 26A, 26AD, 26C, 33A, 36A

I1	Wall-insert	SF128y-XX	1400 W or 1500 W	“y” denotes blank or S, or B or C; “XX” denotes 23A, 23I, 23IC, 23AI, 23AIC, 23AICC, 26A, 26I, 26IC, 26AI, 26AIC, 26AICC, 30A, 30AI, 33A, 33AI, 36A, 36AI
J	Wall-insert	SF208-II	1400 W	“II” denotes 28I, 28IC
K	Wall-mounted	SF310-SS	1400 W or 1500 W	“SS” denotes 36A, 36AL, 36, 36M, 40, 42A, 42AL, 42, 42M, 48A, 48AL, 48, 48M.
K1	Wall-mounted	SF312-XX	1400 W or 1500 W	“XX” denotes 36, 42
K2	Wall-mounted	SF313-XX 313-XX-10	1400 W	“XX” denotes 36, 36A, 36AL, 42, 42A, 42AL, 54, 54A, 54AL Suffix A – plane, AL -Glass paste stainless steel; OR without this code
K3	Wall-insert	SF316-XX	1400 W	“XX” denotes 36, 42, 54, 16C, 36T, 42T, 54T, 30A, 36A, 42A, 44A, 50A, 58A, 60A, 30P, 36P, 42P, 44P, 50P, 58P, 60P, 30W, 36W, 42W, 44W, 50W, 58W, 60W. Suffix “A, C, P, T, W”, A - plane; C - represents the vertical model; P- with PP board; T - three glasses; W- with WiFi module; OR without this code

APPLICABLE REQUIREMENTS

C22.2 No. 46-13	-	Electric Air-Heaters
UL 2021 (4 th Edition)	-	Fixed and Location-Dedicated Electric Room Heaters

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Nameplate adhesive label material approval information:

(INT) CSA accepted or cURus Recognized adhesive type nameplate, material PET.

All markings shall be in accordance with the requirements of the local regulatory authorities and related standards.

The following markings must appear in a visible and permanent manner, but do not cover the openings and the screws so that your products will be easily identified and recognized in the field as being CSA Certified. And markings shall appear on CSA Accepted adhesive type nameplate(s) affixed to the enclosure:

- Submittor's name and/or CSA Master Contract Number "255895"
- CSA, CSAus or cCSAus Mark
- Model designation
- Rated voltage, frequency, rated input in watts
- Date code or serial number (denoting, at least, month and year of manufacture)
- The blower motor and synchronous motor is marked "Impedance Protected" or "Z.P."
- g*. CAUTION: High temperature, keep electrical cords, drapery, and other furnishings at least 3 feet (0.9 m) from the front of the heater and away from the side and rear.
ATTENTION - Haute température, risque d'incendie, tenez les câbles électriques, les rideaux et les autres objets mobiliers à au moins 3 pieds (0.9m) du devant de l'appareil et loin des côtés et du derrière.
- h*. CAUTION: A heater shall bear the cautionary marking shown as below:



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
NO USER-SERVICEABLE PARTS INSIDE



ATTENTION
RISQUE DE CHOC ÉLECTRIQUE
NE PAS OUVRIR
AUCUNE PIÈCE RÉPARABLE PAR L'UTILISATEUR À L'INTERIEUR

- i. CAUTION: INSTALL BOTTOM OF HEATER NOT LESS THAN 500 mm ABOVE THE FINISHED FLOOR.
and
INSTALLER LA PARTIE INFERIEURE DU RADIATEUR AU MOINS A 500 mm AU-DESSUS DU PLANCHER FINI.
Note: Use this marking for wall-mounted type heater only.

- *: The Warnings and Cautions shall be visible from a point 5 feet (1.5 m) above the floor and between 1 and 4 feet (0.3 and 1.2m) away from the front surface of the heater when the heater is placed in the intended use location.
The words Warnings and Cautions shall be in letters at least 3.2 mm high and shall be of permanent type and in a color that contrasts with that of the enclosure or background.

Important Safety Instructions: The following information appear in an instruction sheet, manual, booklet, or the like, provided with an appliance and are separated in format from other instructions, and shall appear before the operating instructions. The upper case letters in the instructions relating to the risk of fire, electric shock, and injury to persons shall be not less than 1/12 inch (2.1 mm) high and the lower case letters shall not be less than 1/16 inch (1.6 mm) high. The words "IMPORTANT INSTRUCTION" and "SAVE THESE INSTRUCTIONS" shall be in upper case letters not less than 3/16 inch (4.8 mm) high.

IMPORTANT INSTRUCTION

When using electrical appliance, basic precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

Read all instructions before using this heater.

- 1) This heater is hot when in use. To avoid burns, do not let bare skin touch hot surface. If provided, use handles when moving this heater. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, and curtains at least 3 feet (0.9 m) from the front of the heater and keep them away from the sides and rear.
- 2) Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
- 3) Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a reputable electrician before reusing.
- 4) Do not use outdoors.
- 5) To disconnect heater, turn controls to off, and turn off power to heater circuit at main disconnect panel (or operate internal disconnect switch if provided).
- 6) Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.
- 7) To prevent a possible fire, do not block air intakes or exhaust in any manner. Do not use on soft surfaces, like a bed, where openings may become blocked.
- 8) A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable liquids are used or stored.
- 9) Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
- 11) If heater may include an audible or visual alarm to warn that parts of the heater are getting excessively hot. If the alarm sounds (or illuminates), immediately turn the heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused high temperatures to have occurred. **DO NOT OPERATE THE HEATER WITH THE ALARM SOUNDING (OR ILLUMINATING).**
- 12) **"SAVE THESE INSTRUCTIONS"**

Operation: the instruction manual shall also include the following in separate section or sections:

- a) Instructions and cautionary statements for cleaning, user-maintenance, operations recommended by the manufacturer, such as lubrication or nonlubrication, and a warning to the user that any other servicing should be performed by an authorized service representative.
- b) Any heater employing a manually reset control shall be provided with instructions to the user regarding its operation.
- c) Specific instructions for the proper method of cord storage, total heater storage, and the like when the heater is not in use.

Remarks: The operating instructions shall contain all appropriate information needed to operate a heater properly, and shall be preceded by the heading "OPERATING INSTRUCTIONS," or the equivalent.

The operating instructions shall:

- a) Warn that the heater must be properly installed before it is used.
- b) Explain and describe the location, function, and operation of each control of the heater, including all user-operated devices intended to reduce the risk of fire, electric shock, or injury to persons; and warn against tampering with such devices.

MAINTENANCE INSTRUCTIONS:

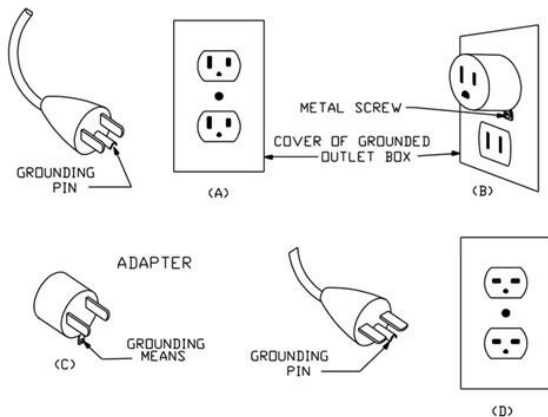
- a) The user maintenance instructions shall indicate when the heater shall be cleaned.
- b) The user maintenance instructions, shall state before cleaning, make sure the power has been turned off at the circuit breaker panel and that the heating element of the heater is cool.
- c) The user maintenance instructions shall not include operations that would require disassembly of the heater to accomplish.
- d) The user maintenance instructions, shall state what cleaning instrument should be used to clean the heater.

Grounding Instructions:

This heater is for use on 120 volts. The cord has a plug as shown at (A) in figure below.

An adaptor as shown at (C) is available for connecting three-blade grounding-type plugs to two-slot receptacles. The green grounding lug extending from the adaptor must be connected to a permanent ground such as a properly grounded outlet box.

The adaptor should not be used if a three-slot grounded receptacle is available.



NOTE: Adaptors are NOT for use in Canada

Heater Carton Information: The following information pertaining to the heater features and its use conditions shall be included on the external surface of the packaging of a heater. All information shall be grouped together and appear on one side, except the bottom, of the packaging.

- a) 120 V, 60 Hz, 1400 or 1500 W.
- b) Wall insert or Wall mounted or floor only.
- c) Information pertaining to the use of an extension cord (Avoid the use an extension cord because the extension cord may overheat and cause a risk of fire. However, if you have to use an extension cord, the cord shall be 3-wire cord with grounding type plug, No. 14 AWG minimum size and rated not less than 1875 watts.)
- d) This heater is hot when in use. To avoid burns, do not let bare skin touch hot surface. If provided, use handles when moving this heater. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, and curtains at least 3 feet (0.9 m) from the front of the heater and keep them away from the sides and rear.
- e) Do not use this heater wet or moist locations.

Note: Bilingual Markings for products with CSA Mark or cCSAus Mark.

Jurisdictions in Canada may require these markings to be also in French. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the products.

ALTERATIONS

- a. Marking as noted above.

FACTORY TESTS

- a. Dielectric Voltage-Withstand Test:
The equipment at the conclusion of manufacture, before shipment, shall withstand for one min, without breakdown, the application of 1000 V ac between live parts and exposed non-current-carrying metal parts. The factory test may be made at existing room temp. As an alternative a potential 20% higher may be applied for one second.

WARNING: The factory test specified may present a hazard of injury to personnel and/or property and should only be performed by persons knowledgeable of such hazards and under conditions designed to minimize the possibility of injury.

- b. Production Line Grounding Continuity Tests:
The manufacturer shall test, at the conclusion of manufacture and before shipment, each heater provided with a power supply cord incorporating a ground conductor to determine that electrical continuity exists between an exposed dead metal part of the heater and the grounding blade of the attachment plug. An indicating device, such as an ohmmeter, low voltage battery and buzzer combination, or the like, may be employed, in the test.

SPECIAL INSTRUCTIONS FOR FIELD SERVICES

1. Component descriptions marked with either the “(INT)” or “(INT*)” identifiers may be substituted with other components providing the requirements specified under the notes in the “Description” are complied with.

COMPONENT SPECIAL PICKUP

1. Component descriptions marked with the identifier “(CT)” are subject to annual pickup and Conformity Testing.

DESCRIPTION

Notes:

1. Component Substitution
 - a) Critical components (those identified by mfr name, cat no), which are NOT identified with either "INT" or "INT*" are not eligible for substitution without evaluation and report updating
 - b) The term "INT" means a "Certified" and/or "Listed" (or a "Recognized" and/or "Accepted") component may be replaced by one "Certified" and/or "Listed" by another certification organization accredited by the appropriate accreditation body or scheme requirements to the correct standard, for the same application; providing the applicable country identifiers are included and requirements in item "d" below are complied with.
 - c) The Term "(INT*)" means a "Recognized" and/or "Accepted" component may be replaced by a component that is CSA Certified. The applicable country identifiers shall be included, the requirements in item "d" below as well as any "conditions of suitability" for the component (as recorded in this descriptive report) shall be complied with;
 - d) Components which have been substituted, must be of an equivalent rating, configuration (size, orientation, mounting) and the applicable minimum creepage and clearance distances are to be maintained from live parts to bonded metal parts and secondary parts.
 - e) Substitution of a "Certified" and/or "Listed" component with a component that is "Recognized" or "Accepted" is not permitted without evaluation and report updating.
 - f) Substitution of a "Recognized" and/or "Accepted" component by one that is not CSA Certified is not permitted without a proper evaluation as well as a report update because the Conditions of Acceptance of the original component may be different than the Conditions of Acceptance of the substitute component.

Part A: Wall-insert, Models SF103-AA or SF103S-AA or SF103-AAM or Apollo AA or Apo AA (“AA” denotes 18, 18A, 18C& 18X, 18D&18Y, 18E, 18G&18Z&18M&18N, 18F, 18R, 23, 23C&23X, 23D&23Y, 23E, 23F, M23 23G&23Z&23M&23N&26M&26N, 23R, 23L, 26X, 26Y, 26Z, 26C, 26D, 26G, M26, 28, 28C, 28D, 28E, 28F, 28G, 28X, 28Y, 28Z, 28M, 28N, M28, 35, 36IC & 36, 42)

Note: the difference between SF103-AA and SF103-AAM is: Suffix M means crystal ember bed.

General: The subject models are similar in construction to each other except for the sizes. Refer to Att3 Drawing 1-10, 91-96, 134 for details.

1. Enclosure: Refer to Photo 1-2 and Att3 Drawings.
 - a. Bottom, Sides, Top and Back: Formed of painted sheet steel min 0.6 mm thick. See Att3 Drawing 1-10 for models’ dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	39	40 mm by 5 mm	Heater intake
	1	310 mm by 110 mm for Model SF103-18 and 18A 310 mm by 150 mm for Model SF103-18C 310 mm by 150 mm for Model SF103-18D 310 mm by 150 mm for Model SF103-18E 310 mm by 150 mm for Model SF103-18G&18M&18N,18Z,18M 310 mm by 110 mm for Model SF103-18 R 437 mm by 110 mm for Model SF103-23 437 mm by 150 mm for Model SF103-23C 437 mm by 150 mm for Model SF103-23D	Re-lamping location. Covered with molded sheet steel.

		437 mm by 150 mm for Model SF103-23E 437 mm by 150 mm for Model SF103-23G&23M&23N,23F,23Z 437 mm by 110 mm for Model SF103-23R 437 mm by 110 mm for Model SF103-23L 513mm by 150 mm for Model SF103-26C, 26D, 26G. 563 mm by 150 mm for Model SF103-28,28C, 28D, 28E,28F,28G, 28M. 730 mm by 80 mm for Model SF103-35 800 mm by 80 mm for Model SF103-36 800 mm by 80 mm for Model SF103-36IC 975 mm by 80 mm for Model SF103-42.	
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Remarks: Optional Barrier sensor switch may be provided, refer to Photo-24.

- b. **Front Frame:** Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3 mm min. thick, or wire screens provided, secured to Front Frame with tabs. Openings as below:

Locations	Openings	Dimensions	Purpose
Front	2 for Model SF103-18 and 18A, SF103-18C&18X, SF103-18R, SF103-23, SF103-23C, SF103-23R, SF103-23X, SF103-26C, SF103-26X, SF103-28, SF103-28C and SF103-28X.	30.5 mm by 11.2 mm	Switches location
	1 for Model SF103-18D&18Y, SF103-18E, SF103-23D,SF103-23E SF103-23F,SF103-23Y,SF103-23,SF103-26Y,SF103-26D,SF103-28D,SF103-28E,SF103-28F,SF103-28Y	66.5 mm by 19.4 mm	
	1 for Model SF103-18G, SF103-18Z,SF103-18M, SF103-23G, SF103-23Z, SF103-23M, SF103-23N, SF103-26G, SF103-26M, SF103-26N, SF103-26Z, SF103-28G, SF103-28M, SF103-28N, SF103-28Z	66.5 mm by 30.4 mm	
	2 for Model SF103-23L	Φ 8 mm	
	1 for Model SF103-35, SF103-36 and SF103-36IC	152.3mm by 15.7 mm	
	40 for Model SF103-18 and 18A 40 for Model SF103-18C 40 for Model SF103-18X 40 for Model SF103-18R	38 mm by 5 mm	

	<p>32 for Model SF103-18D 32 for Model SF103-18Y 32 for Model SF103-18E 32 for Model SF103-18G&18Z&18M&18N 56 for Model SF103-23 56 for Model SF103-23C&23X 56 for Model SF103-23R 56 for Model SF103-23L 44 for Model SF103-23D&23Y,23E,23F,23G&23Z&23M&23N 66 for Model SF103-26C, 26X. 54 for Model SF103-26D, 26G, 26M, 26N, 26Y, 26Z 73 for Model SF103-28, 28C, 28X 61 for Model SF103-28D,28E,28F,28G,28Y,28M, 28N,28Z</p>		
	<p>1 for Model SF103- 18, 18C& 18X , 18D&18Y, 18E, 18G&18Z&18M&18N, 18R, 23, 23C&23X, 23D&23Y, 23E, 23F, 23G&23Z&23M&23N&26M&26N, 23R, 23L, 26X, 26Y, 26Z, 26C, 26D, 26G, 28, 28C, 28D, 28E, 28F, 28G, 28X, 28Y, 28Z, 28M, 28N, (Alternate Heater exhaust)</p>	<p>332 mm by 38mm, spot-welded with wire screen, 1 mm thick, LWO 6 mm, SWO 3 mm.</p>	
	<p>1 for Model SF103-35, SF103-36 and SF103-36IC</p>	<p>630 mm by 40 mm, spot-welded with wire screen, 1 mm thick, LWO 6 mm, SWO 3 mm.</p>	
	<p>1 for Model SF103-42</p>	<p>780 mm by 40 mm, spot-welded with wire screen, 1 mm thick, LWO 6 mm, SWO 3 mm.</p>	

Remarks: Optional Decorative front frame of louvered shape provided, Refer to Att3 Drawings – 141 for details.

2. Power Supply Cord: (INT) UL and cUL Listed.
 Plugcap: Type 5-15 P, rated 125 V, 15 A.
 Rating: SJT or HPN or HPN-R cord, 16/3 AWG, rated 300 V, 105 C.
 Length: 1.8 m min, 2.4 m max.

Alternate Power Supply Cord: (INT) UL and cUL Listed.

Plugcap: Type 1-15 P, rated 125 V, 15 A.

Rating: SJT or HPN or HPN-R cord, 16/2 AWG, rated 300 V, 105 C.

Length: 1.8 m min, 2.4 m max.

3. Strain Relief Bushing: UR Recognized. (E107293)
Manufacturer: HEAVY POWER CO LTD.
Designation: 6N3-4 or 6N-4 or 4N-4 or 6P3-4.
Mounting: Secured to enclosure through a suitably sized double “D” shaped hole.

Alternate Strain Relief Bushing: UR Recognized. (E98707)

Manufacturer: KAI SUH SUH ENTERPRISE CO LTD.

Designation: SR-F51 or SR-F41 or F42.

Mounting: Secured to enclosure through a suitably sized double “D” shaped hole.

Alternate Strain Relief Bushing: UR Recognized. (E84074)

Manufacturer: HUA WEI INDUSTRIAL CO LTD

Designation: 6B3-2.

Mounting: Secured to Heater Assembly Shell through a suitably sized double “D” shaped hole.

4. Bonding: The green conductor from the power supply cord is terminated to a certified, closed loop connector and then is secured to metal support by a M4 screw and nut, star washer and flat washer. The screw serves no other purpose than to provide a grounding point for the appliance.

5. Quick Connect:(INT) cURus Recognized.

Type: Crimp type, uninsulated.

Rating: Suitable for 16~22 AWG.

6. Wire Connector: (INT) cURus Recognized.

Type: Insulated, closed-end pressure crimp-on type.

Rating: 250 V, 105 C, suitable for 16 AWG and 18 AWG

7. Internal Wiring: (INT) cURus Recognized.

- a. Heating Element supply: AWM I A/ 3122 or 1322, 18 or 16 AWG, 300 V, 200 °C or AWM I A/ 1015, 18 or 16 AWG, 600 V, 105 °C.
- b. Self-hold Thermostat supply: AWM I A/ 3122 or 1322, 18 or 16 AWG, 300 V, 200 °C or AWM I A/ 1015, 18 or 16 AWG, 600 V, 105 °C.
- c. Blower Motor supply: AWM I A/ 1322 or 3122, 18~26 AWG, 300 V, 200 °C or AWM I A/ 1015 or 3135, 18~22 AWG, 600 V, 105 °C or AWM I A/ 1017, 18~22 AWG, 600 V, 80 °C.
- d. Synchronous Motor supply: AWM I A/ 3122 or 1322, 22 AWG, 300 V, 200 °C or AWM I A/ 1015, 22 AWG, 600 V, 105 °C.
- e. Lamp holder supply: AWM I A/ 3122 or 1322 or 1015, 18~26AWG, 600 V, 105 °C or AWM I A/ 1007, 18~26 AWG, 300 V, 80 °C.

Note: Protected sleeving was employed where the internal wiring crosses over sharp edges.

8. Switch: cURus Recognized. (E176026)
Manufacturer: SHENZHEN BAOKEZHEN ELECTRONICS CO LTD.
Designation: SC792-6 or SC792-1.
Rating: 250 V ac, 15 A.
Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.
Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E104190)

Manufacturer: LIGHT COUNTRY CO LTD.

Designation: R495KDFT2.

Rating: 250 V ac, 15 A.

Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.

Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E236875)

Manufacturer: ZHE JIANG BEI ER JIA ELECTRONIC CO LTD.

Designation: PS8C.

Rating: 125 V ac, 20 A.

Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.

Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E238776)

Manufacturer: Zhejiang Guanbao Electronic Co., Ltd.

Designation: XCK-012, XCK-019.

Rating: 250 V ac, 16 A.

Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.

Mounting: Secured to enclosure front by snap-fit.

8A. Switch: cURus Recognized. (E176026)

Manufacturer: SHENZHEN BAOKEZHEN ELECTRONICS CO LTD.

Designation: SC792-6 or SC792-1.

Rating: 250 V ac, 15 A.

Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.

Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E104190)

Manufacturer: LIGHT COUNTRY CO LTD.

Designation: R495KDFT2.

Rating: 250 V ac, 15 A.

Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.

Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E236875)

Manufacturer: ZHE JIANG BEI ER JIA ELECTRONIC CO LTD.

Designation: PS8C.

Rating: 125 V ac, 20 A.

Type: SPST, provided with optional pilot light, red in colour.

Connection: Connected in the non-identified conductor of the power supply cord.

Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E238776)

Manufacturer: Zhejiang Guanbao Electronic Co., Ltd.
Designation: XCK-012, XCK-019.
Rating: 250 V ac, 16 A.
Type: SPST, provided with optional pilot light, red in colour.
Connection: Connected in the non-identified conductor of the power supply cord.
Mounting: Secured to enclosure front by snap-fit.

PCB Control Panel: (INT) UL Recognized.
Material: Glass Fiber Phenolic.
Flame Rating: UL 94 V-0.
Mounting: Secured to enclosure front with screws.
Consists of the following critical components soldered on it:

- a. LED1~LED8: rated 2.1 V dc, 30 mA.
- b. Transformer: Not provided. Alternately, a High Frequency Transformer provided.
High Frequency Transformer:
Insulation Class: 130 C.
Core: Homocentric squares ferrite core. Overall dimension 15 mm by 14 mm by 6 mm.
Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)
Winding (Magnet Wire): SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO., LTD (E335841) TIW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

N1, 0.12 mm dia,160 turns; N2, 0.3 mm dia,22 turns; N3, 0.15 mm dia,22 turns;
Mounting: Soldered to Main PCB via pin terminals.

- 8B. Alternate: With simple remote control circuit boards.
Remarks: This alternate switch applied for model 103-18R and SF103-23R.

PCB Control Panel: (INT) UL Recognized.
Material: Glass Fiber Phenolic.
Flame Rating: UL 94 V-0.
Mounting: Secured to enclosure front with screws.
Consists of the following critical components soldered on it:

- a. Relay (RLY1): cURus Recognized (E333244).
Manufacturer:ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.
Designation: BPD-SS-112DM/BRD-SS-112LM
Rating: 12 V dc coil, contact 125 V ac, 15 A, 100,000 operations.

Alternate: Same electric rating but with different supplier, listed as below
Manufacturer DONGGUAN SANYOU (E190598), SRD-S-112DM/SJ-S-112D
Manufacturer YUEQING MEISHUO ELECTRIC CO.LTD (E313266), SRD-S-112DM
Manufacturer XIAMEN HONGFA (E134517), JQC-3FF/HF3FF/HF3FF-M

Relay (RLY1): cURus Recognized (E134517).
Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD.
Designation: HF2160
Rating: 12 V dc coil, contact 125 V ac, 30 A, 100,000 operations.

Alternate: Same electric rating but with different supplier, listed as below
Manufacturer: DONGGUAN SANYOU (E190598), SLC-S-112DM / SLA-S-112DMJ / SLI-S-112DM.

Manufacturer SHENZHEN YUANZE ELECTRIC CO LTD (E341498), Y90-SS-112DM1

Manufacturer ANHUI MINGGUANG LIF (E333244), BT92-SS-112DM

- b. X Capacitor (Optional): cURus Recognized (E466405)
Manufacturer: DONGGUAN WEIQING ELECTRONIC CO LTD.
Designation: MPX.
Rating: 1.5 uF, 275 V.

Alternate X Capacitor (Optional): cURus Recognized (E149075)
Manufacturer: HUA JUNG COMPONENTS CO LTD.
Designation: MKP.
Rating: 1.5 uF, 275 V.

Alternate Capacitor: Model CBB22, Rated 1.5 uF, 275 V.

- 8C. Main PCB: (INT) cURus Recognized.

Material: Glass Fiber Phenolic.

Flame Rating: UL 94 V-0 or V-1.

Dimension: 1.6 mm thick, overall dimension 108 or 125 mm by 100 mm.

Mounting: Secured to metal support with 4 screws, molded plastic spacers provided 9.5 mm min spacing to metal support.

Consist of the following main critical components soldered on it:

- a. X Capacitor (MC1): cURus Recognized (E147776).
Manufacturer: DAIN ELECTRONICS CO LTD.
Designation: MPX.
Rating: 0.1 uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E227157).
Manufacturer: SHUNDE DAHUA ELECTRIC CO LTD.
Designation: HD.
Rating: 0.1 uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E183780).
Manufacturer: ULTRA TECH XIPHI ENTERPRISE CO LTD.
Designation: HQX.
Rating: 0.1 uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E345487).
Manufacturer: GUANGDONG FENGMING ENTERPRISE TECH CO LTD.
Designation: MKP or MKP-X2
Rating: 0.1 uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E345487).
Manufacturer: GUANGDONG FENGMING ENTERPRISE TECH CO LTD.
Designation: MKP or MKP-X2
Rating: 0.47 uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E227157).
Manufacturer: Foshan Shunde Beijiao Huada Electronic Industrial Co Ltd.
Designation: HD/X2
Rating: 0.47 uF, 250V.

Alternate X Capacitor (MC1): cURus Recognized (E314875).
Manufacturer: Shenzhen Su Rong Capacitors Co., Ltd.
Designation: MPX/MKP
Rating: 0.47 uF, 250V.

- b. Fuse: cURus Recognized (E221465).
Manufacturer: SHENZHEN LANSON ELECTRONICS CO LTD.
Designation: 5D or SMT.
Rating: 250 V, 2A.

Alternate: Same electric rating but with different supplier, listed as below
Manufacturer: ZHONG SHAN LANBAO ELECTRICAL CO LTD (E213695), RFI-20F
Manufacturer: HOLLYLAND CO LTD (E156471), 50T/50F
Manufacturer: XC ENTERPRISE (SHENZHEN) CO LTD (E249609), 5F or 3F
Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD (E324232), L5F or 5TE.

Alternate: cURus Recognized (E221465).
Manufacturer: SHENZHEN LANSON ELECTRONICS CO LTD.
Designation: 5D or SMT.
Rating: 250 V, 2.5A.

Alternate: cURus Recognized (E324232).
Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD
Designation: L5F or 5TE.
Rating: 250 V, 2.5A.

Alternate: cURus Recognized (E324232).
Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD
Designation: L5F or 5TE.
Rating: 250 V, 2A.

Alternate: cURus Recognized E300003).
Manufacturer: Dongguan Better Electronics Technology Co.,Ltd
Designation: 332
Rating: 250 V, 2A.

- d. Relay (RLY2, RLY3): cURus Recognized (E345228).
Manufacturer: WANGRONG ELECTRONIC (SHENZHEN) CO LTD.
Designation: RJ-SS-112DM
Rating: 12 V dc coil, contact 250 V ac, 5A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E341498).
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD.
Designation: Y32F-SS-112DM
Rating: 12 V dc coil, contact 250 V ac, 5A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E134517).

Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD
Designation: JZC-32F or HF3FF / HF3FF-M.
Rating: 12 V dc coil, contact 125 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E179745).
Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.
Designation: SJ-S-112DM.
Rating: 12 V dc coil, contact 250 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E333244).
Manufacturer: ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.
Designation: BJ-SS-112DM
Rating: 12 V dc coil, contact 125 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E313266).
Manufacturer: YUEQING MEISHUO ELECTRIC CO.LTD
Designation: MPA-S-112-A
Rating: 12 V dc coil, contact 125 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E333244).
Manufacturer: ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.
Designation: BPD-SS-112DM/BRD-SS-112LM
Rating: 12 V dc coil, contact 125 V ac, 15 A, 100,000 operations.

Alternate: Same electric rating but with different supplier, listed as below
Manufacturer: DONGGUAN SANYOU (E190598), SRD-S-112DM/SJ-S-112D
Manufacturer: YUEQING MEISHUO ELECTRIC CO.LTD (E313266), SRD-S-112DM
Manufacturer: XIAMEN HONGFA (E134517), JQC-3FF/HF3FF/HF3FF-M
Manufacturer: SHENZHEN YUANZE (E341498), Y3F-SS-112DM / Y3F-SS-112HMF
Manufacturer: NINGBO TIANBO GANGLIAN (E173485), HJR-3FF-S-H or TRCDL-12VDC-S-H.
Manufacturer: GUANGDONG SHUNDE WO MORNING PRECISION ELECTRONIC CO LTD (E468064), HRA-S-12DA

Relay (RLY1, RLY2, RLY3): cURus Recognized (E134517).
Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD.
Designation: HF2160
Rating: 12 V dc coil, contact 125 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E190598).
Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.
Designation: SLC-S-112DM / SLA-S-112DMJ / SLI-S-112DM.
Rating: 12 V dc coil, contact 240 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E341498).
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD
Designation: Y90-SS-112DM1
Rating: 12 V dc coil, contact 277 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E358149).
Manufacturer: YUEQING MEISHUO ELECTRIC CO LTD
Designation: PQ4-S-112D / MPQ4-S-112D-A

Rating: 12 V dc coil, contact 240V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E345228).

Manufacturer: WANGRONG ELECTRONIC (SHENZHEN) CO LTD.

Designation: RA2-112LM-S

Rating: 12 V dc coil, contact 250 V ac, 30A, 100,000 operations.

Alternate Relay (RLY1): cURus Recognized (E321783).

Manufacturer: Dongguan Golden Electrical Appliance Co Ltd

Designation: GN-1A-12L

Rating: 12 V dc coil, contact 125 V ac, 16 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E341498).

Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD

Designation: YTA-SS-112DM

Rating: 12 V dc coil, contact 125 V ac, 16 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E476814).

Manufacturer: NINGBO XINCHUANGZHI ELECTRIC APPLIANCE CO.,LTD

Designation: SCH-152F-1A-12S

Rating: 12 V dc coil, contact 250 V ac, 16 A, 100,000 operations.

- e. Transformer: cURus Recognized (E303659).
Manufacturer: FOSHAN CITY SHUNDE DISTRICT YANG WEI ELECTRONIC APPLIANCE CO LTD.
Designation: YW48Z-B0264.
Rating: Primary 120 V, 60 Hz, secondary 12 V, 500 mA x 2.
Mounting: Secured to Main PCB with 2 plastic strips.

Alternate Transformer: cURus Recognized (E226968).

Manufacturer: DONGGUAN YINLI ELECTRONICS CO LTD.

Designation: YL-48-1351000B.

Rating: Primary 120 V, 60 Hz, secondary 12 V, 1000 mA.

Mounting: Secured to Main PCB with 2 plastic strips.

Alternate Transformer: cURus Recognized (E303659).

Manufacturer: FOSHAN CITY SHUNDE DISTRICT YANG WEI ELECTRONIC APPLIANCE CO LTD.

Designation: YW41Z-A0287.

Rating: Primary 120 V, 60 Hz, secondary 12 V, 600 mA.

Mounting: Secured to Main PCB with screw and nuts.

Alternate Transformer: cURus Recognized (E303659)

Manufacturer: FOSHAN CITY SHUNDE DISTRICT YANG WEI ELECTRONIC APPLIANCE CO LTD.

Designation: YW41Z-A0231.

Rating: Primary 120 V, 60 Hz, secondary 12 V, 500 mA.

Mounting: Secured to Main PCB with 2 plastic strips.

Alternate Transformer: cURus Recognized (E226968).

Manufacturer: DONGGUAN YINLI ELECTRONICS CO LTD.

Designation: YL-41-090500B.

Rating: Primary 120 V, 60 Hz, secondary 12 V, 500 mA.
Mounting: Secured to Main PCB with 2 plastic strips.

Alternate Transformer: cURus Recognized (E303659)
Manufacturer: FOSHAN CITY SHUNDE DISTRICT YANG WEI ELECTRONIC APPLIANCE CO LTD.
Designation: YW35Z-A0200
Rating: Primary 120 V, 60 Hz, secondary 12 V, 250 mA.
Mounting: Secured to Main PCB with 2 plastic strips.

Alternate Transformer: cURus Recognized (E226968).
Manufacturer: DONGGUAN YINLI ELECTRONICS CO LTD.
Designation: YL-35-120250B.
Rating: Primary 120 V, 60 Hz, secondary 12 V, 250 mA.
Mounting: Secured to Main PCB with 2 plastic strips.

8D. Main PCB: (INT) cURus Recognized. (Same as item 8C described in PART A except for the following:)

e. Transformer: Not provided. Alternately, a High Frequency Transformer provided.

e*. High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 20 mm by 20 mm by 6 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): AM PACIFIC ELECTRIC WIRE & CABLE CO LTD (E142108), 2UEW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

N1, 0.35 mm dia,64 turns; N2, 0.23 mm dia,12 turns; N3, 0.5 mm dia,7 turns; N4, 0.25 mm dia,9 turns.

Mounting: Soldered to Main PCB via pin terminals.

Alternate High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 20 mm by 20 mm by 6 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO.,LTD (E335841) TIW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

E1, 0.19 mm dia,54 turns; N1, 0.25 mm dia,85 turns; E2, 0.025 mm dia,1.1 turns; N2, 0.5 mm dia,14 turns; N3, 0.19 mm dia,21 turns.

Mounting: Soldered to Main PCB via pin terminals.

8E. Alternate: Push button type. With simple remote control circuit boards.

Remarks: This alternate switch applied for model SF103-18D, SF103-18E, SF103-23D and SF103-23E.

PCB Control Panel: (INT) UL Recognized.

Material: Glass Fiber Phenolic.

Flame Rating: UL 94 V-0.

Dimension: 100 or 120 mm by 53.5 mm.

Mounting: Secured to enclosure front with screws.

Consists of the following critical components soldered on it:

a. X Capacitor (MC1): cURus Recognized (E147776).

Manufacturer: DAIN ELECTRONICS CO LTD.

Designation: MPX

Rating: 0.1 uF, 275 V.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: SHUNDE DAHUA ELECTRIC CO LTD (E227157), HD.

Manufacturer: ULTRA TECH XIPHI ENTERPRISE CO LTD (E183780), HQX.

Manufacturer: GUANGDONG FENGMING ENTERPRISE TECH (E345487), MKP-X2

b. Fuse: cURus Recognized (E221465).

Manufacturer: SHENZHEN LANSON ELECTRONICS CO LTD.

Designation: 5D or SMT.

Rating: 250 V, 2.5A.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: ZHONG SHAN LANBAO ELECTRICAL CO LTD (E213695), RFI-20F

Manufacturer: HOLLYLAND CO LTD (E156471), 50T/50F

Manufacturer: XC ENTERPRISE (SHENZHEN) CO LTD (E249609), 5F or 5TE

c. Relay (RLY1): cURus Recognized (E333244).

Manufacturer: ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.

Designation: BPD-SS-112DM/BRD-SS-112LM

Rating: 12 V dc coil, contact 125 V ac, 15 A, 100,000 operations.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: DONGGUAN SANYOU (E190598), SRD-S-112DM/SJ-S-112D

Manufacturer: YUEQING MEISHUO ELECTRIC (E313266), SRD-S-112DM

Manufacturer: XIAMEN HONGFA (E134517), JQC-3FF/HF3FF/HF3FF-M

Manufacturer: SHENZHEN YUANZE ELECTRIC CO., LTD (E341498), Y3F-SS-112DM

Manufacturer: NINGBO TIANBO GANGLIAN ELECTRONICS CO., LTD (E173485), HJR-3FF-S-H or TRCDL-12VDC-S-H

Manufacturer: GUANGDONG SHUNDE WO MORNING PRECISION ELECTRONIC CO LTD (E468064), HRA-S-12DA.

Relay (RLY1): cURus Recognized (E134517).

Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD.

Designation: HF2160

Rating: 12 V dc coil, contact 125 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1): cURus Recognized (E190598).

Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.
Designation: SLC-S-112DM / SLA-S-112DMJ/SLI-S-112DM
Rating: 12 V dc coil, contact 240V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1): cURus Recognized (E341498).
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD
Designation: Y90-SS-112DM1
Rating: 12 V dc coil, contact 277V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1): cURus Recognized (E333244).
Manufacturer: ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.
Designation: BT92-SS-112DM
Rating: 12 V dc coil, contact 240V ac, 30 A, 100,000 operations.

- d. Transformer: Not provided. Alternately, a High Frequency Transformer provided.

High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 16 mm by 15 mm by 4.5 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO., LTD. (E335841) TIW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

N1, 0.15 mm dia,138 turns; N2, 0.15 mm dia,40 turns; N3, 0.3 mm dia,30 turns; N4, 0.19mm dia,32 turns.

Mounting: Soldered to Main PCB via pin terminals.

- 8F. Main PCB: (INT) cURus Recognized. (Same as item 8C described in PART A except for the following:

Material: Glass Fiber Phenolic.

Flame Rating: UL 94 V-0.

Dimension: 1.6 mm thick, overall dimension 125 mm by 100 mm.

Mounting: Secured to metal support with 4 screws, molded plastic spacers provided 9.5 mm min spacing to metal support.

Consist of the following main critical components soldered on it:

- e. Transformer: Not provided. Alternately, a High Frequency Transformer provided.

e*. High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 20 mm by 20 mm by 6 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): AM PACIFIC ELECTRIC WIRE & CABLE CO LTD (E142108), 2UEW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

N1, 0.35 mm dia,64 turns; N2, 0.23 mm dia,12 turns; N3, 0.5 mm dia,7 turns; N4, 0.25 mm dia,9 turns.

Mounting: Soldered to Main PCB via pin terminals.

Alternate High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 20 mm by 20 mm by 6 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): SHENZHEN DARUN SCIENCE AND TECHNOLOGY CO., LTD (E335841) TIW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

E1, 0.19 mm dia,54 turns; N1, 0.25 mm dia,85 turns; E2, 0.025 mm dia,1.1 turns; N2, 0.5 mm dia,14 turns; N3, 0.19 mm dia,21 turns.

Mounting: Soldered to Main PCB via pin terminals.

- f. Optional Wifi/Bluetooth Module: Rated 5 V. Refer to Att1 Photo -24.

- 8G. Alternate: Push buttons (K1, K2, K3, K4). Rated 12 V, 50 mA. Refer to ILL 14-16. To be used with following described Main PCB.

Remarks: This alternate control system (Push buttons + main PCB) applied for model SF103S-AA

Main PCB: (INT) UL Recognized. Refer to ILL 14-16.

Material: Glass Fiber Phenolic.

Flame Rating: UL 94 V-0.

Dimension: 109 mm by 53.5 mm.

Mounting: Secured to supporting position with screws.

Consists of the following critical components soldered on it:

- a. Relay (RLY1): cURus Recognized (E173485).
Manufacturer: NINGBO TIANBO GANGLIAN ELECTRONICS CO.,LTD.
Designation: TRCDL-12VDC-S-H
Rating: 12 V dc coil, contact 125 V ac, 15 A, 100,000 operations.
Alt: cURus Recognized (E341498).
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD
Designation: YTA-SS-112DM
Rating: 12 V dc coil, contact 125 V ac, 16 A, 100,000 operations.

Relay (RLY2): cURus Recognized (E341498).
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD
Designation: Y32F-SS-112DM
Rating: 12 V dc coil, contact 250 V ac, 5 A, 100,000 operations.

Alt: cURus Recognized (E190598).
Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD
Designation: SRD-S-112DM
Rating: 12 V dc coil, contact 125 V ac, 15 A, 100,000 operations.

- b. Fuse link: cURus Recognized (E249609).
Manufacturer: XC ELECTRONICS (SHENZHEN) CORP LTD.
Designation: 5TE.
Rating: 250 VAC, T2.5A.

Alt: cURus Recognized (E300003)
Manufacturer: Dongguan Better Electronics Technology Co., ltd.
Designation: 932.
Rating: 250 VAC,T2.5A.

- c. X Capacitor: Recognized (E345487)
Manufacturer: GuangdongFengming Electronic Tech Co.,Ltd.
Designation: MKP-X2.
Rating: AC275V, 0.1uF, T105/85, X2.

Alt: Recognized (E466405)
Manufacturer: Dongguan Weiqing Electronic Co., Ltd.
Designation: MPX.
Rating: AC275V, 0.1uF, T105/85, X2.

Alt: Recognized (E319615)
Manufacturer: XIANGTAI ELECTRONIC (SHENZHEN) CO LTD.
Designation: MKP/MPX
Rating: AC275V, 0.1uF, T105/85, X2.

- d. Transformer (T1): Accepted by application.
Manufacturer: DOUBLE-WELL ELECTRONIC FACTORY
Designation: HS-EE13/01.
Rating: 120 V input, 12 V output. Insulation Class: B.

Bobbin: Chang Chun plastics co.,ltd (E59481), Phenolic,V-0, 150°C, Min 0.75mm thickness.
Wire: SHANTOU SHENGANG ELECTRONICS INDUSTRIAL CO LTD (E239508), UEW/155, QA-x/155, 130°C
TIW WIRE: GUANGZHOU CITY ZHI CHANG ELECTRONIC TECHNOLOGY CO LTD (E353227) , LSTIW-F, 130°C
TUBE: SHENZHEN WOER HEAT SHRINKABLE MATERIAL CO LTD (E203950), WF
Insulation tape: SHENZHEN XINHUAHUI PLASTIC & INSULATION MATERIAL CO LTD (E328315), PET, 130°C.
VARNISH: ZHUHAI CHANGXIAN CHEMICAL TECHNOLOGY CO LTD (E335405), E962, 130°C.

9. Faux Fire Assembly: Consists of the following:

- a. Lamp holder: UL and cUL Listed. (E309774)
Manufacturer: ZHONGSHAN HENGLAN HAO YANG ELECTRICAL ACCESSORY FACTORY.
Designation: HY4101 or HY4101B.
Rating: 125 V, 75 W.
Mounting: Secured to “L” shaped metal bracket with screw.
Remarks: Candelabra incandescent lamp provided, type B, rated 120 V, 40 W, or LED lamp provided, rated 120 V, 3~5W.

Alternate: Same electric rating but with different supplier, listed as below
Manufacturer: ZHONGSHAN GUZHEN ZHONGXING (E306858), ZHX-208 or ZHX-218.
Manufacturer: HUN POOL ENTERPRISE CO LTD (E127322), TC-167.
Manufacturer: Zhongshanhenglanruicheng electrical factory (E304097), E12-106

Manufacturer: Zing ear enterprise co ltd (E92501), ZE-301B.

Alternate Flame Effect: Made of LEDs. With total 6 LEDs, each rated 2.1 V, 0.06 W. LED board combined with switching power supply board. Details refer to ILL-10.

- b. Synchronous Motor: cURus Recognized. (E212993)
Manufacturer: ZHAOQING LONGTOU ELECTRIC TECHNOLOGY CO., LTD.
Designation: TY-50B.
Rating: 120 V, 50 / 60 Hz, ≤ 4 W, 15/18 rpm or 120 V, 60 Hz, ≤ 4 W, 18 rpm.
Protection: Impedance protected.
Mounting: Secured to the bracket with two screws.
Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: FOSHAN SHUNDE HENGXING (E199324), TYJ50-8A.

Manufacturer: GAOYAO CITY HENGJUN ELECTRICAL (E242178), TY-50

Manufacturer: CREATIVE MOTOR MFG CO LTD (E307927), TYC50

Manufacturer: FOSHAN HUILI HARDWARE APPLIANCE CO LTD (E226728), TYC50

Manufacturer: ZHAOQING CITY KAILI ELECTRIC APPLIANCE CO LTD (E352884), TY-50B

Alternate Synchronous Motor: Accepted.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: TY-50.

Rating: 120 V, 50 / 60 Hz, ≤ 4 W, 15/18 rpm or 120 V, 60 Hz, ≤ 4 W, 18 rpm.

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate Synchronous Motor: Accepted.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: TY-35.

Rating: 12V, 0.2A

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate Synchronous Motor: Accepted by applicant. Refer to ILL 64 for construction details.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: MP24J-A.

Rating: 12V DC.

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

- c. Flame Panel: Made of painted sheet steel, 0.5 mm thick.
- d. Projection Screen: Made of PP, flame rating UL 94 HB @ 0.8 mm. Measured 1 ~2 mm thick.
Note: This projection screen is optional for certain models, details refer to model drawings-134.
- e. Decorative Faux Log: Unsaturated polyester flame rating UL 94 HB @ 0.8 mm. Measured 2.5 mm thick

Alternate Decorative Faux Log: PP, flame rating UL 94 HB @ 0.8 mm. Measured minimal 1mm thick.

Alternate Decorative Faux Log: PVC, flame rating UL 94 HB @ 0.8 mm. Measured minimal 0.7mm thick.

Alternate Decorative Faux Log: Decorative ember bed, made of Crystal.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
Material Designation: PA66 or metal.
Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
Dimensions for plastic: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
Dimensions for metal: 0.5 mm thick min, overall dim when assembled 35 mm by 30mm.
Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 195 or 218 or 270 mm by 35 or 30 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick, 192 or 218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 85 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-85-P.
Rating: 125 VAC, 16 A, 10,000 operations, 85 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Thermal cut-off (Optional): cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
Designation: SPF139.
Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
Mounting: Riveted to Housing.

11. Fan Assembly:

- a. Blower Motor: cURus Recognized. (E343126)
Manufacturer: FOSHAN LEPUDA MOTOR CO LTD.
Designation: PLD48-120.
Rating: 120 Vac, 60 Hz, 15 W.

Enclosure: Open.
Insulation Class: class B.
Protection: Impedance protection. ZP marked on the motor.
Type: Shaded pole, induction motor.
Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: cURus Recognized. (E317753)
Manufacturer: KELI MOTOR GROUP CO LTD.
Designation: YJ48-16E-0005
Rating: 120 Vac, 60 Hz, 15 W.
Enclosure: Open.
Insulation Class: class B.
Protection: Impedance protection. ZP marked on the motor.
Type: Shaded pole, induction motor.
Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: cURus Recognized. (E327392)
Manufacturer: SHEN ZHEN ZHAOLI MOTOR LTD.
Designation: YJ48/200.
Rating: 120 Vac, 60 Hz, 14.5 W.
Enclosure: Open.
Insulation Class: class B.
Protection: Impedance protection. ZP marked on the motor.
Type: Shaded pole, induction motor.
Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: cURus Recognized. (E301565)
Manufacturer: NINGBO YIKADE ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD.
Designation: YJ48B1
Rating: 110~120 Vac, 60 Hz.
Enclosure: Open.
Insulation Class: class H.
Protection: Thermally protected.
Type: Shaded pole, induction motor.
Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: Accepted by test
Manufacturer: Zhongshan Sunshine Electrical Appliance Tech Co., Ltd
Designation: YJ48-120
Rating: 120 Vac, 60 Hz, 15 W
Enclosure: Open.
Insulation Class: class B (E204719 or E343527)
Construction details refer to Att2 ILL 25-26.

Alternate Blower Motor: cURus Recognized. (E522415)
Manufacturer: Foshan Yuanjing Zhuoli Motor Co Ltd.
Designation: YJ48-120E.
Rating: 120 Vac, 60 Hz, 15 W
Enclosure: Open.
Insulation Class: class B.
Protection: Impedance protection. ZP marked on the motor.
Type: Shaded pole, induction motor.

Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: cURus Recognized. (E311594)

Manufacturer:Zhuogao Motor Manufacturing Co.,Ltd.

Designation: YJ48-15E

Rating: 120 Vac, 60 Hz, 15 W.

Enclosure: Open.

Insulation Class: class B.

Protection: Impedance protection. ZP marked on the motor.

Type: Shaded pole, induction motor.

Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: Accepted by test. Refer to ILL 62-63 for construction details.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: ZL12.

Rating: 12V, 0.3A.

Enclosure: Open.

Insulation Class: class A.

Protection: Impedance protected.

Type: Shaded pole, induction motor.

Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: Accepted by test. Refer to ILL 58-61 for construction details.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: ADC8025.

Rating: 12V, 0.15A

Enclosure: Open.

Insulation Class: class A.

Protection: Impedance protected.

Type: Shaded pole, induction motor.

b. Blower Wheels:

Material: Sheet aluminum.

Dimension: 0.5 mm thick min, overall 60 or 48 or 40mm OD, 20 mm ID, 180 or 200 or 250 or 300 mm deep. Consists of 2~5 sections, each section has 20 or 22 blades spaced equally, each blade is 0.5 mm thick, 11 mm wide by 70~100 mm long.

Mounting: Secured to the rotating shaft with by fitted press.

Remarks: Fan housing provided.

Part A1: Wall-insert, Models SF103C-AA (“AA” denotes 18C, 18D, 18E, 18G, 18Z, 23C, 23D, 23E, 23G, 23Z)

General: The subject models are similar in construction to each other except for the sizes. Refer to Att3 Drawing 1-10, 97-98 for details.

1. Enclosure: Refer to Att3 Drawings.

a. Bottom, Sides, Top and Back: Formed of painted sheet steel min 0.6 mm thick. See Att3 Drawing 1-10 for models’ dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	39	40 mm by 5 mm	Heater intake

	1	310 mm by 150 mm for Model SF103C-18C 310 mm by 150 mm for Model SF103C-18D 310 mm by 150 mm for Model SF103C-18E 310 mm by 150 mm for Model SF103C-18G 310 mm by 150 mm for Model SF103C-18Z 437 mm by 150 mm for Model SF103C-23C 437 mm by 150 mm for Model SF103C-23D 437 mm by 150 mm for Model SF103C-23E 437 mm by 110 mm for Model SF103C-23G 437 mm by 110 mm for Model SF103C-23Z	Re-lamping location. Covered with molded sheet steel.
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- b. **Front Frame:** Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3 mm min. thick, or wire screens provided, secured to Front Frame with tabs. Openings as below:

Locations	Openings	Dimensions	Purpose
	1 for Model SF103C-18D, SF103-18E, SF103C-23D SF103-23E	66.5 mm by 19.4 mm	Switches location
	30 for Model SF103C-18C 30 for Model SF103C-18D 30 for Model SF103C-18E 40 for Model SF103C-18G 40 for Model SF103C-18Z 44 for Model SF103C-23C 44 for Model SF103C-23D 44 for Model SF103C-23E 44 for Model SF103C-23G 44 for Model SF103C-23Z	38 mm by 5 mm	Heater exhaust.
	1 for Model SF103-23E (Alternate Heater exhaust)	332 mm by 38mm, spot-welded with wire screen, 1 mm thick, LWO 6 mm, SWO 3 mm.	

8. **Switch:** cURus Recognized. (E176026)
 Manufacturer: SHENZHEN BAOKEZHEN ELECTRONICS CO LTD.
 Designation: SC792-6 or SC792-1.
 Rating: 250 V ac, 15 A.
 Type: SPST, provided with optional pilot light, red in colour.
 Connection: Connected in the non-identified conductor of the power supply cord.
 Mounting: Secured to enclosure front by snap-fit. -

Alternate Switch: cURus Recognized. (E104190)
 Manufacturer: LIGHT COUNTRY CO LTD.
 Designation: R495KDFT2.
 Rating: 250 V ac, 15 A.
 Type: SPST, provided with optional pilot light, red in colour.
 Connection: Connected in the non-identified conductor of the power supply cord.
 Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E236875)

Manufacturer: ZHE JIANG BEI ER JIA ELECTRONIC CO LTD.
Designation: PS8C.
Rating: 125 V ac, 20 A.
Type: SPST, provided with optional pilot light, red in colour.
Connection: Connected in the non-identified conductor of the power supply cord.
Mounting: Secured to enclosure front by snap-fit.

Alternate Switch: cURus Recognized. (E238776)
Manufacturer: Zhejiang Guanbao Electronic Co., Ltd.
Designation: XCK-012, XCK-019.
Rating: 250 V ac, 16 A.
Type: SPST
Connection: Connected in the non-identified conductor of the power supply cord.
Mounting: Secured to the Cabinet by snap-fit.

8C. PCB Control Panel: Same as item 8C or 8F described in Part A.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
Material Designation: PA66.
Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V, 1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick, 192 or 218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 85 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-85-P.
Rating: 125 VAC, 16 A, 10,000 operations, 85 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.
 Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
 Mounting: Riveted to Housing.

Part A2: Wall-insert, Models SF103B-LL (“LL” denotes 18D, 18E, 18G, 23D, 23E& 23G)

General: The subject models are similar in construction to each other except for the sizes. Refer to Att3 Drawing 1-10, 98-99 for details.

1. Enclosure: Refer to Photo 1-2 and Att3 Drawings.
 - a. Bottom, Sides, Top and Back: Formed of painted sheet steel min 0.6 mm thick. See Att3 Drawing 1-10 for models’ dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	39	40 mm by 5 mm	Heater intake
	1	310 mm by 150 mm for Model SF103C-18D 310 mm by 150 mm for Model SF103C-18E 310 mm by 150 mm for Model SF103C-18 G 437 mm by 150 mm for Model SF103C-23D 437 mm by 150 mm for Model SF103C-23E 437 mm by 110 mm for Model SF103C-23G	Re-lamping location. Covered with molded sheet steel.

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3 mm min. thick, or wire screens provided, secured to Front Frame with tabs. Openings as below:

Locations	Openings	Dimensions	Purpose
	1 for Model SF103C-18D, SF103-18E, SF103C-23D SF103-23E	66.5 mm by 19.4 mm	Switches location
	30 for Model SF103C-18C 30 for Model SF103C-18D 30 for Model SF103C-18E 40 for Model SF103C-18G 44 for Model SF103C-23C 44 for Model SF103C-23D 44 for Model SF103C-23E 44 for Model SF103C-23G	38 mm by 5 mm	Heater exhaust.
	1 for Model SF103-23E (Alternate Heater exhaust)	332 mm by 38mm, spot-welded with wire screen, 1 mm thick, LWO 6 mm, SWO 3 mm.	

8C. PCB Control Panel: Same as item 8C or 8E described in Part A.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
 Material Designation: PA66.

Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
Mounting: Secured to blower motor housing with screws.

- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V,1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick,192 or218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 85 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-85-P.
Rating: 125 VAC, 16 A, 10,000 operations, 85 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
Designation: SPF139.
Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
Mounting: Riveted to Housing.

Part A3: Wall-insert, Models SF105-XXA and SF105-XXAI (“XX” denotes 18, 23, 26, 36, 42)

General: The subject models are similar in construction to each other except for the sizes. Model SF105XXA and SF105-XXAI are similar in construction to model SF103-23Y described in part A except for the shape of frame, refer to Att3 Drawing 149 for details and Drawing 134 for comparison. The critical openings as below:

Openings as below:

Locations	Openings	Dimensions	Purpose
Enclosure back	39	40 mm by 5 mm	Heater intake
Enclosure front	30	38 mm by 5 mm	Heater exhaust

Part A4: Wall-insert, Models SF105x-XX (“x” denotes blank, S, B or C; “XX” denotes 18C, 18G, 18Y, 18T, 18M, 18F, 18E, 18R, 18X, 18GCC, 23C, 23G, 23Y, 23T, 23M, 23F, 23E, 23R, 23X, 23GCC, 26C, 26G, 26Y, 26T, 26M, 26F, 26E, 26R, 26X, 26GCC)

General: The subject models are similar in construction to each other except for the sizes. Model SF105x-XX are similar in construction to model SF103-AA described in part A except for the shape of frame, with same critical components as listed above and PCB details refer to attachment. Refer to Att1 Photos 44-46, Att2 Illustrations 50-57, Att3 Drawings 173-181 for construction details.

Openings listed as below:

Locations	Openings	Dimensions	Purpose
Enclosure back	38	40 mm by 5 mm	Heater intake
Enclosure front	28	40 mm by 5 mm	Heater exhaust

Part B: Wall-insert, Models SF102-BB (“BB” denotes 23, 26 W, 28 & 33)

General: The subject models are similar in construction to each other except for the sizes. The subject models are similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Photo 3 -4 and Att3 Drawing 11-14.

a. Top, Bottom, Sides/Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See Att3 Drawing 11-14 for the subject models’ dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
top	60	45 mm by 5 mm	Heater intake
Back	1	300 mm by 220 mm for Model SF102-23 350 mm by 220 mm for Model SF102-26W 400 mm by 220 mm for Model SF102-28 520 mm by 260 mm for Model SF102-33	Re-lamping location. Covered with molded sheet steel.
Sides	2	90 mm by 31 mm	Plastic handles position.

The plastic handle were of flame rating UL 94 5VA @ 2.0 mm, RTI=90 C, Press-fitted to the opening.

b. Front: Formed of Tempered glass,4 mm thick, or wire screens provided, secured to Sides/Back with tabs.

8. Switch: Not provided.

9. Faux Fire Assembly: Consists of the following:

a. Light Assembly:

- i. Ember LED: 5~50 provided. Each rated 2 V, 7.5 mW.
- ii. Flame LED: 5~50 provided. Each rated 2 V, 7.5 mW.

10A. Heater Element Assembly: Same as item 10 described in PART A except for the following:

e. Self-hold Thermostat: cURus Recognized. (E309745)
 Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
 Designation: H20 or H20U or H20X
 Rating: 125 VAC, 15 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-100-P.

Rating: 125 VAC, 16 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

10B. Alternate Heater Element Assembly: Consists of the following:

- a. Heating Element: Three provided.
Material: OCr25A15A(Ni20Cr80).
Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
Rating: 120 V, 60 Hz, 450 W.
Location: Located centrally within Heater Element Housing.
- b. Heater Element Sheath:
Material: Quartz.
Dimensions: 1.0 mm thick, OD 12 or 10mm, ID 10 or 8 mm, 209mm long.
- c. End Seals:
Material: Ceramic.
Dimensions: Overall 19 or 18 mm dia by 18 or 15 mm.
Location: Completely seals Heater Element Sheath ends with rivets.
- d. Cold Pin:
Material: SUS304
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.
- e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.
- f. Housing/Barrier: Shape as Photo 6-7. Made of formed sheet metal. Secured together with screws.
- g. Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 100 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-100-P.

Rating: 125 VAC, 16 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Auto-reset Thermostat: cURus Recognized. (E332374)

Manufacturer: FUSHAN JIEYANG ELECTRONIC CO LTD.

Designation: KSD301.

Rating: 125 VAC, 16 A, 10,000 operations, 40 C.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

- 12. Remote Control: Infrared control. Refer to Photo 10.

Part C: Wall-insert, Models SF104-CC (“CC” denotes 23, 28, 30, 33, 36, 36W, 39, 45 & 58)

General: The subject models are similar in construction to each other except for the sizes. The subject models are similar in construction to Model SF103-AA described in Part A except for the following:

- 1. Enclosure: Refer to Att3Drawing 15-22 for details.

- a. Top, Bottom, Sides and Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See Att3 Drawing 15-22 for all models’ dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Sides	2	90 mm by 31 mm	Plastic handles position.
Top	60	45 mm by 5 mm	Components compartment

- b. Front: Formed of painted molded sheet steel min 0.6 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass, 4 mm thick or wire screen provided, secured to Front Frame with tabs.

- 8. Switch: Not provided.

- 9. Faux Fire Assembly: Consists of the following:

- a. Light Assembly:

- i. Ember LED: 5~50 provided. Each rated 2 V, 7.5 mW.
- ii. Flame LED: 5~50 provided. Each rated 2 V, 7.5 mW.

- 10A. Heater Element Assembly: Same as item 10 described in PART A.

- 10B. Alternate Heater Element Assembly: Consists of the following:

- a. Heating Element: Three provided.

Material: OCr25A15A(Ni20Cr80).
Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
Rating: 120 V, 60 Hz, 450 W.
Location: Located centrally within Heater Element Housing.

- b. Heater Element Sheath:
Material: Quartz.
Dimensions: 1.0 mm thick, OD 12 or 10mm, ID10 or 8 mm, 209mm long.
- c. End Seals:
Material: Ceramic.
Dimensions: Overall 19 or 18 mm dia by 18 or 15 mm.
Location: Completely seals Heater Element Sheath ends with rivets.
- d. Cold Pin:
Material: Nickel.
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.
- e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.
- h. Housing/Barrier: Shape as Photo 6-7. Made of formed sheet metal. Secured together with screws.
- i. Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 100 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-100-P.
Rating: 125 VAC, 16 A, 10,000 operations, 100 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

12. Remote Control: Infrared control. Refer to Photo-10.

Part D: Wall-insert, Models SF106-DD (“DD” denotes 23, 28)

General: The subject models are similar in construction to each other except for the sizes. The subject models are similar in construction to Model SF103-AA described in Part A except for the following:

- 1. Enclosure: Refer to Photo 6 and Att3 Drawing 23-34.

- a. Top, Bottom, Sides and Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See Att3 Drawing 23-34 for both models' dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Sides	4	Louver shaped, 50 mm long by 5 mm (Max Minor Dim.)	Components compartment
Top	60	45 mm by 5 mm	Components compartment

- b. Front: Formed of painted molded sheet steel min 0.6 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass provided, 4 mm thick, secured to Front Frame with tabs.

- c. Heat Barrier: Refer to Att6 Drawing-1.

8. Switch: Not provided.

9. Faux Fire Assembly: Consists of the following:

- a. Light Assembly:

- i. Ember LED: 5~50 provided. Each rated 2 V, 7.5 mW.
- ii. Flame LED: 5~50 provided. Each rated 2 V, 7.5 mW.

- 10.e. Self-hold Thermostat: cURus Recognized. (E309745)
 Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
 Designation: H20 or H20U or H20X
 Rating: 125 VAC, 15 A, 10,000 operations, 100 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
 Manufacturer: AUONE ELECTRONIC MFG LTD.
 Designation: AUT-100-P.
 Rating: 125 VAC, 16 A, 10,000 operations, 100 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
 Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
 Designation: SPF139.
 Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
 Mounting: Riveted to Housing.

12. Remote Control: Infrared control. Refer to Photo 10.

Part E: Wall-mounted, Model SF301-EE ("EE" denotes 26A, 37A, 35, 36WM, 36M, 36BT, 43BT, 50WM, 50M, 58WM, 58M, 58BT, 73BT, 74WM, 74M, 90WM, 90M.)

Note: the suffix "M" means wooden front frame with tempered glass instead of metal frame with tempered glass.

General: The subject models are similar in construction to each other except for the sizes. The subject models are similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Photo 7-9 and Att3 Drawing 35-48.
 - a. Top, Bottom, Sides/Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See Att3 Drawing 35-48 for dimensions. Openings as below:

For Model SF301-26A:

Locations	Openings	Dimensions	Purpose
Back	40 for Model SF301-26A	48 mm by 4 mm	Heater intake
	3 for Model SF301-26A	Louver shaped, 77mm long by 2.5 mm (Max Minor Dim.)	Heater intake
	18 for Model SF301-26A	Louver shaped, 50mm long by 2.5 mm (Max Minor Dim.)	Components compartment
Sides	1 for Model SF301-26A	35.2mm by 30 mm	Components compartment
Bottom back	38 for Model SF301-26A	28mm by 5mm	Heater intake
	1 for Model SF301-26A	222mm by 51 mm welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

For Model SF301-37A:

Locations	Openings	Dimensions	Purpose
Back	60 for Model SF301-37A	35 mm by 5 mm	Heater intake
Top	1 for Model SF301-37A	269.4mm by 40.4 mm welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

For Model SF301-35:

Locations	Openings	Dimensions	Purpose
Back	60	35 mm by 5 mm	Heater intake
	20	Louver shaped, 26 mm long by 6 mm (Max Minor Dim.)	Components compartment
Sides	20	Louver shaped, 26 mm long by 6 mm (Max Minor Dim.)	Components compartment
Top	276	4.5 mm by 4.5 mm	Heater exhaust

For models with suffix “WM”:

Locations	Openings	Dimensions	Purpose
Bottom back	30	55 mm by 5 mm	Heater intake
Bottom sides	10	60 mm by 5 mm	Heater intake
Bottom front	37	36.5 mm by 5 mm	Heater exhaust

For models with suffix “BT”:

Locations	Openings	Dimensions	Purpose
Bottom	2	187 mm by 20 mm for Model SF301-36BT 276 mm by 20 mm for Model SF301-43BT 466 mm by 20 mm for Model SF301-58BT 659 mm by 20 mm for Model SF301-73BT	Heater intake
	1	400mm by 20 mm, welded with wire screen, SWO 3 mm by LWO 6 mm,	Heater exhaust

b. Front: Formed of painted molded sheet steel min 0.6 mm thick. Welded together and secured to enclosure sides with screws. Or made of wooden front frame with tempered glass. One piece of Tempered glass provided, 4~6 mm thick, secured to Front Frame with tabs.

8A. Alternate: Not provided.

8D. Main PCB: (INT) cURus Recognized. (Same as item 8C described in PART A except for the following:)

e. Transformer: Not provided. Alternately, a High Frequency Transformer provided.

e*. High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 20 mm by 20 mm by 6 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): AM PACIFIC ELECTRIC WIRE & CABLE CO LTD (E142108), 2UEW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

N1, 0.35 mm dia, 64 turns; N2, 0.23 mm dia, 12 turns; N3, 0.5 mm dia, 7 turns; N4, 0.25 mm dia, 9 turns.

Mounting: Soldered to Main PCB via pin terminals.

9. Faux Fire Assembly: Consists of the following: (Same as item 9 described in PART A except for the following)

a. Light Assembly:

i. Ember LED: 5~50 provided. Each rated 2 V, 7.5 mW.

ii. Flame LED: 5~50 provided. Each rated 2 V, 7.5 mW.

10.e. Self-hold Thermostat: cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 85C or 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-85-P or AUT-100-P.
 Rating: 125 VAC, 16 A, 10,000 operations, 85 C or 100 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
 Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
 Designation: SPF139.
 Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
 Mounting: Riveted to Housing.

- 12. Remote Control: Infrared control.

Part E1: Wall-mounted, Model SF310-42AX

General: The subject model is identical in construction to Model SF301-37A described in part E except for the following:

- 1. Enclosure: Refer to Photo 25 and Att3 Drawing143.
 - a. Top, Bottom, Sides/Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See APhoto 25 and Att3 Drawing143 dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Front	82	40 mm by 5 mm	Heater intake
Top	35	40 mm by 5 mm	Heater exhaust
	60	25 mm by 4 mm	Components compartment

Part E2: Wall-mounted, Model SF311-XX, 311-42-10 and 321-42-10 (“XX” denotes 16, 16e, 18, 20, 26, 28, 30, 33, 36, 36D, 42, 42D, 48; Suffix “A, B, C”, A - Flat-level touch screen; B - camber; C - represents the vertical model; OR without this code)
 Note: for model SF311-36D, SF311-42D and 321-42-10, everything remains the same as model SF311-36, SF311-42 and 311-42-10 but providing an optional supporting foot or tabletop stand. Refer to Att3 Drawings 157-160.

General: The subject models are similar in construction to each other except for the sizes. The subject model is similar in construction to Model SF301-EE described in Part E except for the following:

- 1. Enclosure: Refer to Photo 26-27 & 33-36 and Att3 Drawing144 &151-153 &157-160 & 184-197 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws.

Openings For models with suffix “A, B or without this code” as below:

Locations	Openings	Dimensions	Purpose
Enclosure top	54	40 mm by 3-5 mm	Heater intake

Enclosure front	80	35 mm by 3-5 mm	Heater exhaust
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Openings For models with suffix C as below:

Locations	Openings	Dimensions	Purpose
Enclosure top	42	40 mm by 3 mm	Heater exhaust
Enclosure top	34	25 mm by 3 mm	Heater intake
Enclosure back	24	35 mm by 3-5 mm	Heater intake

8C. Main PCB: (INT) cURus Recognized.

Material: Glass Fiber Phenolic.

Flame Rating: UL 94 V-0 or V-1.

Dimension: 1.6 mm thick, overall dimension 140 mm by 70mm.

Mounting: Secured to metal support with 4 screws, molded plastic spacers provided 9.5 mm min spacing to metal support.

Consist of the following main critical components soldered on it:

- a. X Capacitor (MC1): cURus Recognized (E345487).
 Manufacturer: GuangDong FengMing Electronic Tech CO LTD.
 Designation: MKP or MKP-X2.
 Rating: 0.22uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E308832).
 Manufacturer: FoshanShende CG Electronic Industry CO.,LTD.
 Designation: MKP or MKP-X2.
 Rating: 0.22uF, 275 V.

Alternate X Capacitor (MC1): cURus Recognized (E208107).
 Manufacturer: SHANTOU HIGH-NEW ZONE SONGTIAN ENTERPRISE Co.,LTD.
 Designation: MKP or MKP-X2.
 Rating: 0.22 uF, 275 V.

- b. Fuse: cURus Recognized (E221465).
 Manufacturer: SHENZHEN LANSON ELECTRONICS CO LTD.
 Designation: 5D or SMT.
 Rating: 250 V, 2A.

Alternate cURus Recognized (E221465).
 Manufacturer: SHENZHEN LANSON ELECTRONICS CO LTD.
 Designation: 5D or SMT.
 Rating: 250 V, 2.5A.

Alternate cURus Recognized (E324232).
 Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD
 Designation: L5F or 5TE.
 Rating: 250 V, 2.5A.

Alternate cURus Recognized (E324232).
 Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD
 Designation: L5F or 5TE.

Rating: 250 V, 2A.

Alternate cURus Recognized E300003).

Manufacturer: Dongguan Better Electronics Technology Co.,Ltd

Designation: 332

Rating: 250 V, 2A.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: ZHONG SHAN LANBAO ELECTRICAL CO LTD (E213695), RFI-20F

Manufacturer: HOLLYLAND CO LTD (E156471), 50T/50F

Manufacturer: XC ENTERPRISE (SHENZHEN) CO LTD (E249609), 5F or 3F or 3T

Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD (E324232), L5F or 5TE.

d. Relay (RLY2, RLY3): cURus Recognized (E134517).

Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD

Designation: JZC-32F or HF3FF / HF3FF-M.

Rating: 12 V dc coil, contact 125 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E179745).

Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.

Designation: SJ-S-112DM.

Rating: 12 V dc coil, contact 250 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E333244).

Manufacturer: ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.

Designation: BJ-SS-112DM

Rating: 12 V dc coil, contact 125 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY2, RLY3): cURus Recognized (E313266).

Manufacturer: YUEQING MEISHUO ELECTRIC CO.LTD

Designation: MPA-S-112-A

Rating: 12 V dc coil, contact 125 V ac, 10 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E333244).

Manufacturer: ANHUI MINGGUANG LIF ELECTRONIC APPLIANCES CO LTD.

Designation: BPD-SS-112DM/BRD-SS-112LM

Rating: 12 V dc coil, contact 125 V ac, 15 A, 100,000 operations.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: DONGGUAN SANYOU (E190598), SRD-S-112DM/SJ-S-112D

Manufacturer: YUEQING MEISHUO ELECTRIC CO.LTD (E313266), SRD-S-112DM

Manufacturer: XIAMEN HONGFA (E134517), JQC-3FF/HF3FF/HF3FF-M

Manufacturer: SHENZHEN YUANZE (E341498), Y3F-SS-112DM / Y3F-SS-112HMF

Manufacturer: NINGBO TIANBO GANGLIAN (E173485), HJR-3FF-S-H or TRCDL-12VDC-S-H.

Manufacturer: GUANGDONG SHUNDE WO MORNING PRECISION ELECTRONIC CO LTD (E468064), HRA-S-12DA

Relay (RLY1, RLY2, RLY3): cURus Recognized (E134517).

Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD.

Designation: HF2160

Rating: 12 V dc coil, contact 125 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E190598).
Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.
Designation: SLC-S-112DM / SLA-S-112DMJ / SLI-S-112DM.
Rating: 12 V dc coil, contact 240 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E341498).
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD
Designation: Y90-SS-112DM1
Rating: 12 V dc coil, contact 277 V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E358149).
Manufacturer: YUEQING MEISHUO ELECTRIC CO LTD
Designation: PQ4-S-112D / MPQ4-S-112D-A
Rating: 12 V dc coil, contact 240V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E341498).
Manufacturer: Shenzhen Yuanze Electric Co.,LTD
Designation: Y3U-SS-112LM
Rating: 12 V dc coil, contact 250V ac, 17A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E333244).
Manufacturer: AFE Electronic Appliances Co. Ltd
Designation: BRF-SS-112DM
Rating: 12 V dc coil, contact 250V ac, 17A, 100,000 operations.

Alternate Relay (RLY1, RLY2, RLY3): cURus Recognized (E358149).
Manufacturer: Zhejiang Meishuo Electric Technology Co Ltd
Designation: MPH-S-112-A-2F
Rating: 12 V dc coil, contact 250V ac, 10A or 17A, 100,000 operations.

Alternate Relay (RLY1): cURus Recognized (E321783).
Manufacturer: Dongguan Golden Electrical Appliance Co Ltd
Designation: GN-1A-12L
Rating: 12 V dc coil, contact 125 V ac, 16 A, 100,000 operations.

e. High Frequency Transformer:

Insulation Class: 130 C.

Core: Homocentric squares ferrite core. Overall dimension 21 mm by 21.5 mm by 6 mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=155 C)

Winding (Magnet Wire): AM PACIFIC ELECTRIC WIRE & CABLE CO LTD (E142108), 2UEW, 130 °C.

Alternate Winding (Magnet Wire): DONG GUAN YIDA INDUSTRIAL CO LTD (E344055), QA-1, 130 °C.

N1, 0.35 mm dia,64 turns; N2, 0.23 mm dia,12 turns; N3, 0.5 mm dia,7 turns; N4, 0.25 mm dia,9 turns.

Mounting: Soldered to Main PCB via pin terminals.

10.e. Self-hold Thermostat (For resistance wire element): cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 85C or 105C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat (For resistance wire element): cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-85-P or AUT-105-P.

Rating: 125 VAC, 16 A, 10,000 operations, 85C or 105 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Self-hold Thermostat (For infrared element): cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 130C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat (For infrared element): cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-130-P.

Rating: 125 VAC, 16 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Part F: Wall-inset, Models SF208-FF (“FF” denotes 23, 23A, 26, 26A, 28, 28A, 33W, 33, 36)

General: The subject models are similar in construction to each other except for the sizes. The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att3 Drawing 49-56.
 - a. Bottom, Sides, Top and Back: Formed of painted sheet steel min 0.6 mm thick. See Att3 Drawing 49-56 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1	330 mm by 220 mm for Model SF208-23, SF208-23A 390 mm by 220mm for Model SF208-26, SF208-26A	Re-lamping location. Covered with

		404 mm by 220 mm for Model SF208-28, SF208-28A, 500 mm by 248 mm for Model SF208-33W, SF208-33. 580 mm by 220 mm for Model SF208-36	molded sheet steel.
	15 for Model SF208-33W, SF208-33.	Louver shaped, 90 mm by 4.5 mm for Model (Max Minor Dim.)	Heater intake
Sides	2	90 mm by 31 mm	Plastic handles position.
Top	60	45 mm by 5 mm	Components compartment
	88	43.5mm by 3.5 mm	Heater intake
Front	25	42 mm by 5 mm for Model SF208-23, SF208-26, SF208-28, SF208-36.	Heater exhaust
	91	32.5mm by 5 mm for Model SF208-33W, SF208-33.	Heater exhaust
	1	540 mm by 56 mm, for Model SF208-23A, 600 mm by 56 mm, for Model SF208-26A 674 mm by 56 mm, for Model SF208-28A 152 mm by 16 mm, for Model SF208-33W 152 mm by 16 mm, for Model SF208-33 Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust compartment
Locations	Openings	Dimensions	Purpose
Back	1	330 mm by 220 mm for Model SF208-23, SF208-23A 390 mm by 220mm for Model SF208-26, SF208-26A 404 mm by 220 mm for Model SF208-28, SF208-28A, SF208-33W 580 mm by 220 mm for Model SF208-36	Re-lamping location. Covered with molded sheet steel.
Sides	2	90 mm by 31 mm	Plastic handles position.
Top	60	45 mm by 5 mm	Components compartment
Front	25	42 mm by 5 mm for Model SF208-23, SF208-26, SF208-28, SF208-33W, SF208-36.	Heater exhaust
	1	540 mm by 56 mm, for Model SF208-23A, 600 mm by 56 mm, for Model SF208-26A 674 mm by 56 mm, for Model SF208-28A Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

b. Front Frame: Formed of painted molded sheet steel min 0.6 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick provided, secured to Front Frame with tabs.

8. Switch: Not provided.

8A. Alternate: Not provided.

8C. PCB Control Panel: Same as item 8C described in Part A.

9. Faux Fire Assembly: Same as item 9 described in part D.

- 10. Heater Element Assembly: Same as item 10 described in part D.
- 10A. Alternate Heater Element Assembly: Same as item 10.A described in part D
- 10.e. Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 85C or 100 C or 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-85-P or AUT-100-P.
Rating: 125 VAC, 16 A, 10,000 operations, 85 C or 100 C or 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
Designation: SPF139.
Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
Mounting: Riveted to Housing.
- 11. Fan Assembly: Same as item 11 described in part D.
- 12. Remote Control: Infrared control. Refer to Photo 10.

Part G: Wall-insert, Models SF230-AA, (AA denotes 23, 23A, 23AI)

General: The subject modelSF230-23 is similar in construction to Model SF103-AA described in Part A except for the following:

- 1. Enclosure: Refer to Photo 12-13.
 - a. Top, Bottom, Sides and Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See Att3 Drawing 57 for model dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Sides	2	90 mm by 31 mm	Plastic handles position.
Top	60	45 mm by 5 mm	Components compartment

- b. Front: Formed of painted molded sheet steel min 0.6 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass, 4 mm thick or wire screen provided, secured to Front Frame with tabs.

Enclosure for model SF230-23A, SF230-23AI: Refer to Att3 Drawings 142 for specific dimensions and constructions. Openings as below:

Locations	Openings	Dimensions	Purpose
Sides	2	90 mm by 31 mm	Plastic handles position.
Top	60	45 mm by 5 mm	Components compartment. Air intake.
Front	1	200 mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heat exhaust.

8. Switch: Not provided.

8A. Alternate: Not provided.

9. Faux Fire Assembly: Consists of the following:

a. Light Assembly:

- i. Ember LED: 5~50 provided. Each rated 2 V, 7.5 mW.
- ii. Flame LED: 5~50 provided. Each rated 2 V, 7.5 mW.

10A. Heater Element Assembly– Infrared element (for SF230-23 only): Consists of the following:

a. Heating Element: Three provided.

Material: OCr25A15A(Ni20Cr80).

Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.

Rating: 120 V, 60 Hz, 450 W.

Location: Located centrally within Heater Element Housing.

b. Heater Element Sheath:

Material: Quartz.

Dimensions: 1.0 mm thick, OD 11 mm, ID 8 mm, 209 mm long.

c. End Seals:

Material: Ceramic.

Dimensions: Overall 18 mm dia by 15 mm.

Location: Completely seals Heater Element Sheath ends with rivets.

d. Cold Pin:

Material: Nickel.

Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.

Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.

e. Leads: (INT) cURus Recognized.

Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.

Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.

f. Self-hold Thermostat: cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-100-P.

Rating: 125 VAC, 16 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Heater Element Assembly – Infrared element (for SF230-23AI only): Same as the above description for model SF230-23 except for the thermostat temperature set at 130 C.

10B. Alternate Heater Element Assembly – Resistance element (for SF230-23 only): Consists of the following:

a. Heater Element Bracket: cURus Recognized. (E41797)

Material Designation: PA66.

Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.

Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.

Mounting: Secured to blower motor housing with screws.

b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 195 or 218mm by 35 mm.

c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C.

d. Heating Element Support: Four provided, made of mica, 0.7 mm thick, 192 or 218 mm by 12 mm.

e. Self-hold Thermostat: cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-100-P.

Rating: 125 VAC, 16 A, 10,000 operations, 100 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Alternate Heater Element Assembly– Resistance element (for SF230-23A only): Same as the above description for model SF230-23except for the thermostat temperature set at 105 C.

12. Remote Control: Infrared control. Refer to Photo 10.

Part H: Wall-insert, models SF122-GG or Apollo AA or Apo AA (“GG” denotes 26AI, 26AIC, 26AICC, 26I, 26IC, 23AI, 23AIC, 23AICC, 23I, 23IC, 33AIC, 36AI)

General: The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att3Drawing 58-75.

- a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 58-65 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122-26AI, SF122-26AIC, SF122-26AICC, SF122-26I, SF122-26IC, SF122-33AIC	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122-36AI,	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122-23AI, SF122-23AIC, SF122-23AICC, SF122-23I, SF122-23IC	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	30 for Model SF122-36AI, 25 for Model SF122-26AI, SF122-26AIC, SF122-26AICC, SF122-26I, SF122-26IC 20 for Model SF122-23AI SF122-23AIC SF122-23AICC SF122-23I SF122-23IC	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
Sides	2 for Model SF122-26AI, 2 for Model SF122-26AIC, 2 for Model SF122-26AICC, 2 for Model SF122-23AI	90.5 mm by 30.5 mm	Plastic handles position.

	2 for Model SF122-23AIC 2 for Model SF122-23AICC 2 for Model SF122-33AIC		
	4 for Model SF122-26AI SF122-26AIC SF122-26AICC SF122-23AI SF122-23AIC SF122-23AICC	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1 for Model SF122-26AI SF122-26AIC SF122-26AICC SF122-23AI SF122-23AIC SF122-23AICC SF122-33AIC	220 mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust
Front	1 for Model SF122-26I SF122-26IC SF122-23I SF122-23IC	233mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

- 2. Power Supply Cord: (INT) UL and cUL Listed.
 Plugcap: Type 5-15 P, rated 125 V, 15 A.
 Rating: SJT or HPN or HPN-R cord, 16/3 AWG, rated 300 V, 105 C.
 Length: 1.8 m min, 2.4 m max.

- 8. Switch: Not provided.

- 8A. Alternate: Not provided.

- 8C. PCB Control Panel: Same as item 8C or 8F described in Part A.

- 9. Faux Fire Assembly: Same as item 9 described in Part D

- 10. Heater Element Assembly: Consists of the following:
 - a. Heating Element: Three provided.
 Material: OCr25A15A(Ni20Cr80).
 Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
 Rating: 120 V, 60 Hz, 470 W.
 Location: Located centrally within Heater Element Housing.

 - b. Heater Element Sheath:
 Material: Quartz.
 Dimensions: 1.0 mm thick, OD 12 or 10mm, ID10 or 8 mm, 215mm long.

 - c. End Seals:

- Material: Ceramic.
Dimensions: Overall 19 mm dia by 18mm.
Location: Completely seals Heater Element Sheath ends with rivets.
- d. Cold Pin:
Material: SUS304
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.
- e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.
- f. Housing/Barrier: Shape as Photo 15. Made of formed sheet metal. Secured together with screws.
- g. Self-hold Thermostat: cURus Recognized. (E48909)
Manufacturer: TRIUMPH FORTUNE LTD.
Designation: A72.
Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.
- Alternate Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.
- Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
Manufacturer: SENSATA TECHNOLOGIES.
Designation: TH21CA171.
Rating: 250 VAC, 13 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.
- Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-130-P.
Rating: 125 VAC, 16 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.
- Optional Thermal cut-off: cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
Designation: SPF139.
Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

- 11. Fan Assembly: Same as item 11 described in Part A
- 12. Remote Control: Infrared control. Refer to Photo-10.

Part H1: Wall-insert, models SF122C-GG (“GG” denotes 23A, 23C, 23, 26, 26D, 26A, 26AC, 26ACC, 26AD, 36A), rated 120 V, 60 Hz, 1400 W.

General: The subject model is same in construction to model SF122-26AI described in Part H except the following.

- 1. Enclosure: Refer to Att3 Drawing 100-103 for dimensions.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 76-77 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122C-26A SF122C -26AC SF122C -26ACC SF122C-26D SF122C-26AD SF122C-26	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122C-36A	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122C-23A SF122C-23C SF122C-23	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	30 for Model SF122C-36A 25 for Model SF122C-26A SF122C -26AC SF122C -26ACC SF122C-26D SF122C-26AD SF122C-26 20 for Model SF122C-23A SF122C-23C SF122C-23	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	4	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1	220 mm by 31mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heater exhaust

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
Material Designation: PA66.
Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V, 1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick, 192 or 218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E48909)
Manufacturer: TRIUMPH FORTUNE LTD
Designation: A72.
Rating: 125 VAC, 15 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
Manufacturer: SENSATA TECHNOLOGIES.
Designation: TH21CA121.
Rating: 250 VAC, 13 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-105-P.
Rating: 125 VAC, 16 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Part H2: Wall-insert, models SF122C-GG (“GG” denotes 26AI, 26AIC, 26I, 26IC, 23AI, 23I, 23IC, 30I, 36AI)

General: The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att3 Drawing 100-102.

a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 58-65 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122C-26AI, SF122C-26AIC, SF122C-26I, SF122C-26IC	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122C-23AI, SF122C-23AIC, SF122C-23I, SF122C-23IC	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122C-36AI	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	25 for Model SF122C-26AI, SF122C-26AIC, SF122C-26I, SF122C-26IC 20 for Model SF122C-23AI SF122C-23AIC SF122C-23I SF122C-23IC SF122C-30I SF122C-36AI	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	2	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1 for Model SF122C-26AI SF122C-26AIC, SF122C-23AI SF122C-23AIC SF122C-30I SF122C-36AI	220 mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heater exhaust

	1 for Model SF122C-26I SF122C-26IC SF122C-23I SF122C-23IC	233mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm. or SWO 15 mm by LWO 7 mm.	Heater exhaust
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- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

- 8. Switch: Not provided.

- 8A. Alternate: Not provided.

- 8C. PCB Control Panel: Same as item 8C or 8F described in Part A.

- 9. Faux Fire Assembly: Same as item 9 described in Part D

- 10. Heater Element Assembly: Consists of the following:
 - a. Heating Element: Three provided.
Material: OCr25A15A(Ni20Cr80).
Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
Rating: 120 V, 60 Hz, 470 W.
Location: Located centrally within Heater Element Housing.

 - b. Heater Element Sheath:
Material: Quartz.
Dimensions: 1.0 mm thick, OD 12 or 10mm, ID10 or 8 mm, 215mm long.

 - c. End Seals:
Material: Ceramic.
Dimensions: Overall 19 mm dia by 18mm.
Location: Completely seals Heater Element Sheath ends with rivets.

 - d. Cold Pin:
Material: SUS304
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.

 - e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.

 - f. Housing/Barrier: Shape as Photo 15. Made of formed sheet metal. Secured together with screws.

 - g. Self-hold Thermostat: cURus Recognized. (E48909)
Manufacturer: TRIUMPH FORTUNE LTD.
Designation: A72.
Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
Manufacturer: SENSATA TECHNOLOGIES.
Designation: TH21CA171.

Rating: 250 VAC, 13 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-130-P.

Rating: 125 VAC, 16 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
Designation: SPF139.
Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
Mounting: Riveted to Housing.

- 11. Fan Assembly: Same as item 11 described in Part A
- 12. Remote Control: Infrared control. Refer to Photo-10.

Part H3: Wall-insert, models SF122A-GG (“GG” denotes 23A, 23C, 23, 26, 26D, 26A, 26AD, 36A), rated 120 V, 60 Hz, 1400 W.

General: The subject model is same in construction to model SF122-26AI described in Part H except the following. Refer to Att3 Drawing 66 for dimensions.

- 1. Enclosure: Refer to Att3Drawing 103-104.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 76-77 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122A-26A SF122A-26	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.

	1 for Model SF122A-36A	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122A-23A SF122A-23	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	30 for Model SF122A-36A 25 for Model SF122A-26A SF122A-26D SF122A-26AD SF122A-26 20 for Model SF122A-23A SF122A-23C SF122A-23	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	4	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1	220 mm by 31mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heater exhaust

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
Material Designation: PA66.
Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V,1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick,192 or218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E48909)
Manufacturer: TRIUMPH FORTUNE LTD
Designation: A72.
Rating: 125 VAC, 15 A, 10,000 operations, 105C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
Manufacturer: SENSATA TECHNOLOGIES.
Designation: TH21CA121.
Rating: 250 VAC, 13 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-105-P.
Rating: 125 VAC, 16 A, 10,000 operations, 105 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)
Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.
Designation: SPF139.
Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.
Mounting: Riveted to Housing.

Part H4: Wall-insert, models SF122A-GG (“GG” denotes 26AI, 26AIC, 26I, 26IC, 23AI, 23I, 23IC, 30I, 36AI)

General: The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att3Drawing 103-104.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 58-65 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122A-26AI, SF122A-26AIC, SF122A-26I, SF122A-26IC	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122A-23AI, SF122A-23AIC, SF122A-23I,	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.

	SF122A-23IC		
	1 for Model SF122A-36AI	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	25 for Model SF122A-26AI, SF122A-26AIC, SF122A-26I, SF122A-26IC 20 for Model SF122A-23AI SF122A-23AIC SF122A-23I SF122A-23IC SF122A-30I SF122A-36AI	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	2	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1 for Model SF122A-26AI SF122A-26AIC, SF122A-23AI SF122A-23AIC SF122A-30I SF122A-36AI	220 mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heater exhaust
	1 for Model SF122A-26I SF122A-26IC SF122A-23I SF122A-23IC	233mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm. or SWO 15 mm by LWO 7 mm.	Heater exhaust

b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

8. Switch: Not provided.

8A. Alternate: Not provided.

8C. PCB Control Panel: Same as item 8C or 8F described in Part A.

9. Faux Fire Assembly: Same as item 9 described in Part D

10. Heater Element Assembly: Consists of the following:

a. Heating Element: Three provided.
Material: OCr25A15A(Ni20Cr80).
Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
Rating: 120 V, 60 Hz, 470 W.
Location: Located centrally within Heater Element Housing.

b. Heater Element Sheath:
Material: Quartz.

Dimensions: 1.0 mm thick, OD 12 or 10mm, ID10 or 8 mm, 215mm long.

- c. End Seals:
Material: Ceramic.
Dimensions: Overall 19 mm dia by 18mm.
Location: Completely seals Heater Element Sheath ends with rivets.

- d. Cold Pin:
Material: SUS304
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.

- e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.

- f. Housing/Barrier: Shape as Photo 15. Made of formed sheet metal. Secured together with screws.

- g. Self-hold Thermostat: cURus Recognized. (E48909)
Manufacturer: TRIUMPH FORTUNE LTD.
Designation: A72.
Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
Manufacturer: SENSATA TECHNOLOGIES.
Designation: TH21CA171.
Rating: 250 VAC, 13 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-130-P.
Rating: 125 VAC, 16 A, 10,000 operations, 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

11. Fan Assembly: Same as item 11 described in Part A

12. Remote Control: Infrared control. Refer to Photo-10.

Part H5: Wall-insert, models SF122B-GG (“GG” denotes 23, 23A, 23AD, 23C, 23, 26, 26D, 26A, 26AC, 26ACC, 26AD, 26C, 30, 30A, 30C, 36, 36A, 36C), rated 120 V, 60 Hz, 1400 W.

General: The subject model is same in construction to model SF122-26AI described in Part H except the following. Refer to Att3 Drawing 66 for dimensions.

1. Enclosure: Refer to Att3Drawing 105-110.

a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 76-77 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122B-26A SF122B-26AC SF122B-26ACC SF122B-26D SF122B-26AD SF122B-26 SF122B-26C	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122B-36A SF122B-36 SF122B-36C	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122B-23A SF122B-23C SF122B-23 SF122B-23AD	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	30 for Model SF122B-36A SF122B-36 SF122B-36C	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
	25 for ModelSF122B-26A SF122B-26AC SF122B-26ACC SF122B-26D SF122B-26AD SF122B-26 SF122B-26C		
	20 for Model SF122B-23A SF122B-23C SF122B-23 SF122B-23AD		

Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	4	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1	220 mm by 31mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heater exhaust

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
 Material Designation: PA66.
 Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
 Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
 Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V,1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick,192 or218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E48909)
 Manufacturer: TRIUMPH FORTUNE LTD
 Designation: A72.
 Rating: 125 VAC, 15 A, 10,000 operations, 105 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
 Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
 Designation: H20 or H20U or H20X
 Rating: 125 VAC, 15 A, 10,000 operations, 105 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
 Manufacturer: SENSATA TECHNOLOGIES.
 Designation: TH21CA121.
 Rating: 250 VAC, 13 A, 10,000 operations, 105 C.
 Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-105-P.

Rating: 125 VAC, 16 A, 10,000 operations, 105 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Part H6: Wall-insert, models SF122B-GG (“GG” denotes 26AI, 26AIC, 26I, 26IC, 23AI, 23AIC, 23I, 23IC, 30I, 30IC, 30AI, 36I, 36IC, 36AI)

General: The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att3Drawing 111-118.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 58-65 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122B-26AI, SF122B-26AIC, SF122B-26I, SF122B-26IC	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122B-23AI, SF122B-23AIC, SF122B-23I, SF122B-23IC	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122B-36AI SF122B-36IC SF122B-36I	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	25 for Model SF122B-26AI, SF122B-26AIC, SF122B-26I, SF122B-26IC	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
	20 for Model SF122B-23AI SF122B-23AIC SF122B-23I SF122B-23IC		
	30 for Model SF122B-36I SF122B-36IC SF122B-36AI		
	30 for Model SF122B-30I SF122B-30AI		

	SF122B-30IC		
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	2	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1 for Model SF122A-26AI SF122A-26AIC, SF122A-23AI SF122A-23AIC SF122A-30I SF122A-36AI	220 mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm or SWO 15 mm by LWO 7 mm.	Heater exhaust
	1 for Model SF122A-26I SF122A-26IC SF122A-23I SF122A-23IC	233mm by 50 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm. or SWO 15 mm by LWO 7 mm.	Heater exhaust

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

8C. PCB Control Panel: Same as item 8C or 8F described in Part A.

9. Faux Fire Assembly: Same as item 9 described in Part D

10. Heater Element Assembly: Consists of the following:

- a. Heating Element: Three provided.
Material: OCr25A15A(Ni20Cr80).
Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
Rating: 120 V, 60 Hz, 470 W.
Location: Located centrally within Heater Element Housing.
- b. Heater Element Sheath:
Material: Quartz.
Dimensions: 1.0 mm thick, OD 12 or 10mm, ID10 or 8 mm, 215mm long.
- c. End Seals:
Material: Ceramic.
Dimensions: Overall 19 mm dia by 18mm.
Location: Completely seals Heater Element Sheath ends with rivets.
- d. Cold Pin:
Material: SUS304
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.
- e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.

f. Housing/Barrier: Shape as Photo 15. Made of formed sheet metal. Secured together with screws.

g. Self-hold Thermostat: cURus Recognized. (E48909)

Manufacturer: TRIUMPH FORTUNE LTD.

Designation: A72.

Rating: 125 VAC, 15 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized. (E54813)

Manufacturer: SENSATA TECHNOLOGIES.

Designation: TH21CA171.

Rating: 250 VAC, 13 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-130-P.

Rating: 125 VAC, 16 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

11. Fan Assembly: Same as item 11 described in Part A

12. Remote Control: Infrared control. Refer to Photo-10.

Part H7: Wall-insert, models SF127X-XXXXXX and SF127-23AI1D (X denotes function codes, sizes, front frame, heating element or flame effect codes. Details as below)

Suffix "X"	Denoting	Character be used
First "X"	Function code	B-With Bluetooth; C-Tilting board switch; W-Belt wifi function, S-Induction switch; OR without this code

Second and Third "X"	Product size code	18, 23, 26, 28, 30, 33, 36, 40 and 42
Fourth "X"	Product shape code	A—plane; B—positive camber; C—negative camber; OR without this code
Fifth "X"	Heating Element code	I—Infrared quartz tube OR without this code—Resistance Heating element
Sixth and Seventh "X"	Flame effect code	1D—4D OR without this code 1D—No reflection in front of fake firewood 2D—There's a reflector in front of the fake firewood CC- Means crystal ember bed.

General: The subject models are similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att1 Photos 22-23 and Att3Drawing 135 to 140.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 135-140 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	10 for 18" model	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment
	15 for 23" models	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	
	20 for 26", 28" model	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	
	25 for 30", 33" model	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	
	25 for 30", 33" model	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	
	30 for 36", 40", 42" model	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
Top	72	45 mm by 5 mm	Air intake
Front	1 for 18" model	200 mm by 32 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm	Heater exhaust
	1 for 23", 26", 28", 30", 33", 36", 40" and 42" model	220 mm by 32mm, Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

- e. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mm thick provided, secured to Front Frame with tabs.
- 8C. PCB Control Panel: Same as item 8C or 8F described in Part A for all models except SF127-18 described in details as below item 8C-1.
- 8C-1. PCB Control Panel: (INT) UL Recognized.

Material: Glass Fiber Phenolic.

Flame Rating: UL 94 V-0.

Mounting: Secured to metal support with 4 screws, molded plastic spacers provided 9.5 mm min spacing to metal support.

Remarks: this PCB applied for model SF127-18 only.

Consist of the following main critical components soldered on it:

- a. Relay (RLY1 (HEAT)): cURus Recognized. (E190598)
Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.
Designation: SLI-S-112DM
Rating: Contact 12 V dc coil, contact 250V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1 (HEAT)): cURus Recognized. (E134517)
Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD .
Designation: HF2160
Rating: Contact 12 V dc coil, contact 250V ac, 30 A, 100,000 operations

Alternate Relay (RLY1 (HEAT)): cURus Recognized. (E341498)
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD.
Designation: Y90-SS-112DM
Rating: Contact 12 V dc coil, contact 250V ac, 30 A, 100,000 operations.

Alternate Relay (RLY1 (HEAT)): cURus Recognized. (E235027)
Manufacturer: ZHENJIANG CLION RELAY CO LTD.
Designation: HHC67H-30A-1Z-12VDC
Rating: Contact 12 V dc coil, contact 250V ac, 30 A, 100,000 operations.

- b. Relay (RLY2 (HEAT)): cURus Recognized. (E190598)
Manufacturer: DONGGUAN SANYOU ELECTRICAL APPLIANCES CO LTD.
Designation: SJ-S-12DM
Rating: Contact 12 V dc coil, contact 250 V ac, 5 A, 100,000 operations.

Alternate Relay (RLY2 (HEAT)): cURus Recognized. (E341498)
Manufacturer: SHENZHEN YUANZE ELECTRIC CO LTD .
Designation: Y32F-SS-112DM
Rating: Contact 12 V dc coil, contact 250 V ac, 5 A, 100,000 operations.

- f. Transient Voltage Surge Suppressors: cURus Recognized. (E472470)
Manufacturer: XIANGTAI ELECTRONIC (SHENZHEN) CO LTD
Designation: 471KD10/ 10D331K
Rating: AC330V.

Alternate Transient Voltage Surge Suppressors: cURus Recognized. (E315524)
Manufacturer: LIEN SHUN LECTRONICS CO LTD.
Designation: 10D471K/10D331K
Rating: AC470V.

- d. X Capacitor (MC1): cURus Recognized (E345487).
Manufacturer: Guangdong Fengming Electronic Tech Co.,Ltd.
Designation: MKP
Rating: 0.22uF, 275V.

Alternate X Capacitor (MC1): cURus Recognized (E199069).

Manufacturer: HsuanTai ElectricCo.,Ltd.

Designation: MCY.

Rating: 0.22uF, 275V.

Alternate X Capacitor (MC1): cURus Recognized (E222911).

Manufacturer: TENTA ELECTRIC INDUSTRIAL CO LTD.

Designation: MEX.

Rating: 0.22uF, 275V.

Alternate X Capacitor (MC1): cURus Recognized (E357475).

Manufacturer: XIANGTAI ELECTRONIC (SHENZHEN) CO LTD.

Designation: MKP/MPX.

Rating: 0.22uF, 275V.

e. Fuse: cURus Recognized (E221465).

Manufacturer: XC ELECTRONICS (SHENZHEN) CORP LTD.

Designation: 5F or 5TE.

Rating: 250 V, 2.5A.

f. High Frequency Transformer:

Insulation Class: CLASS B.

Core: Homocentric squares ferrite core. Overall dimension 17.5 mm by 17.5mm by 13.5mm.

Bobbin: Single concentric bobbing, material Fabricated plastic, average 2 mm thick, 13 mm OD by 16 mm long. (Material Flame Rating: UL 94 V-0, RTI=150 C)

Winding (Magnet Wire): SHENZHEN CHENGWEI INDUSTRY CO LTD (E227475) UEW-B, 130 °C.

Alternate Winding (Magnet Wire): NINGBO JINTIAN NEW MATERIAL CO LTD (E227047), XUEW, 130 °C.

N1, 0.15 mm dia, 138 turns; N2, 0.15 mm dia, 1 Layer; N3, 0.35 mm dia, 20 turns; N4, 0.15 mm dia, 1 Layer; N5, 0.15 mm dia, 32 turns;

Mounting: Soldered to Main PCB via pin terminals.

9. Faux Fire Assembly: Same as item 9 described in Part A except for the synchronous motor as listed following.

b, Synchronous Motor: cURus Recognized. (E212993)

Manufacturer: ZHAOQING LONGTOU ELECTRIC TECHNOLOGY CO., LTD.

Designation: TY-50B.

Rating: 120 V, 50 / 60 Hz, ≤4 W, 15/18 rpm or 120 V, 60 Hz, ≤4 W, 18 rpm or 110-120 V, 50 / 60 Hz, ≤4 W, 10/12 rpm.

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate Synchronous Motor: cURus Recognized. (E199324)

Manufacturer: FOSHAN SHUNDE HENGXING MICRO MOTOR CO LTD.

Designation: TYJ50-8A.

Rating: 120 V, 50 / 60 Hz, ≤4 W, 15/18 rpm or 120 V, 60 Hz, ≤4 W, 18 rpm or 110-120 V, 50 / 60 Hz, ≤4 W, 10/12 rpm

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate Synchronous Motor: cURus Recognized. (E242178)

Manufacturer: GAOYAO CITY HENGJUN ELECTRICAL APPLIANCE CO LTD.

Designation: TY-50.

Rating: 120 V, 50 / 60 Hz, ≤ 4 W, 15/18 rpm or 120 V, 60 Hz, ≤ 4 W, 18 rpm or 110-120 V, 50 / 60 Hz, ≤ 4 W, 10/12 rpm

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate Synchronous Motor: Accepted.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: TY-50.

Rating: 120 V, 50 / 60 Hz, ≤ 4 W, 15/18 rpm or 120 V, 60 Hz, ≤ 4 W, 18 rpm or 110-120 V, 50 / 60 Hz, ≤ 4 W, 10/12 rpm

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate: Same electric rating but with different supplier, listed as below

Manufacturer: FOSHAN SHUNDE HENGXING (E199324), TYJ50-8A.

Manufacturer: GAOYAO CITY HENGJUN ELECTRICAL (E242178), TY-50

Manufacturer: CREATIVE MOTOR MFG CO LTD (E307927), TYC50

Manufacturer: FOSHAN HUILI HARDWARE APPLIANCE CO LTD (E226728), TYC50

Manufacturer: ZHAOQING CITY KAILI ELECTRIC APPLIANCE CO LTD (E352884), TY-50B

Alternate Synchronous Motor: Accepted.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: TY-35.

Rating: 12V, 0.2A

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

Alternate Synchronous Motor: Accepted by applicant. Refer to ILL 64 for construction details.

Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.

Designation: MP24J-A

Rating: 12V DC

Protection: Impedance protected.

Mounting: Secured to the bracket with two screws.

Remarks: Twisted shaft provided with PVC reflective film fastened on it.

10. Alternate Heater Element Assembly (Infrared tube): Consists of the following:

Note: for model SF127-18, only resistance wire heater element can be applied as described in PART A item 10; for other models, resistance wire heater element or infrared tube heater element can be applied.

a. Heating Element: Three provided.

Material: OCr25A15A(Ni20Cr80).

Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
Rating: 120 V, 60 Hz, 470 W.
Location: Located centrally within Heater Element Housing.

- b. Heater Element Sheath:
Material: Quartz.
Dimensions: 1.0 mm thick, OD 12 or 10mm, ID 10 or 8 mm, 215mm long.
- c. End Seals:
Material: Ceramic.
Dimensions: Overall 19 mm dia by 18mm.
Location: Completely seals Heater Element Sheath ends with rivets.
- d. Cold Pin:
Material: SUS304
Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.
- e. Leads: (INT) cURus Recognized.
Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.
- f. Housing/Barrier: Shape as Photo 15. Made of formed sheet metal. Secured together with screws.
- g. Self-hold Thermostat: cURus Recognized. (E48909)
Manufacturer: TRIUMPH FORTUNE LTD.
Designation: A72.
Rating: 125 VAC, 15 A, 10,000 operations, 105 C or 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
Designation: H20 or H20U or H20X
Rating: 125 VAC, 15 A, 10,000 operations, 105 C or 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)
Manufacturer: SENSATA TECHNOLOGIES.
Designation: TH21CA171.
Rating: 250 VAC, 13 A, 10,000 operations, 105 C or 130 C.
Mounting: Riveted to Housing (Item 10.b).
Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)
Manufacturer: AUONE ELECTRONIC MFG LTD.
Designation: AUT-130-P.

Rating: 125 VAC, 16 A, 10,000 operations, 105 C or 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

11. Fan Assembly: Same as item 11 described in Part A

12. Remote Control: Infrared control. Refer to Photo-10.

Part H8: Wall-insert, model SF127M-42AI

General: The subject model is same in construction to model SF127-42AI except for the following:

- 1. Enclosure: Refer to Att1 Photo-28 and Att3 Drawing145-147 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws.

Openings as below:

Locations	Openings	Dimensions	Purpose
Enclosure back	30	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake
Enclosure front	1	220 mm by 32mm, Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust
Enclosure top	72	45 mm by 5 mm	Heater intake

Part H9: Wall-insert, model SF127B-33AI

General: The subject model is same in construction to model SF127-33AI except for the following:

- 1. Enclosure: Refer to Att1 Photo 29-32 and Att2 Illustrations 17-24, and Drawing-155&156 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws.

Openings as below:

Locations	Openings	Dimensions	Purpose
Enclosure back	-	None	None
Enclosure front	1	260 mm by 40 mm for heater exhaust, covered with slotted openings, refer to Drawing- xx for dimensions.	Heater exhaust

Enclosure top	42*2	45 mm by 5 mm	Heater intake
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11. Fan Assembly:

- a. Blower Motor: cURus Recognized. (E301565)
 Manufacturer: NINGBO YIKADE ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD.
 Designation: YJ61B2.
 Rating: 100~120 Vac, 60 Hz, 15 W.
 Enclosure: Open.
 Insulation Class: class H.
 Protection: Impedance protected.
 Type: Shaded pole, induction motor.
 Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: cURus Recognized. (E343126)
 Manufacturer: FOSHAN CITY SHUNDE DISTRICT LEPUDA MOTOR CO LTD.
 Designation: PLD48-120.
 Rating: 120 Vac, 60 Hz, 15 W.
 Enclosure: Open.
 Insulation Class: class B.
 Protection: Impedance protection.
 Type: Shaded pole, induction motor.
 Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: Accepted by test
 Manufacturer: Zhongshan Sunshine Electrical Appliance Tech Co., Ltd.
 Designation: YJ48-120.
 Rating: 120 Vac, 60 Hz, 15 W.
 Enclosure: Open.
 Insulation Class: class B (E204719 or E343527)
 Construction details refer to Att2 ILL 25-26.

Alternate Blower Motor: cURus Recognized. (E522227)
 Manufacturer: Foshan Yuanjing Zhuoli Motor Co Ltd.
 Designation: YJ61-120E
 Rating: 120 Vac, 60 Hz
 Enclosure: Open.
 Insulation Class: class B.
 Protection: Impedance protection. ZP marked on the motor.
 Type: Shaded pole, induction motor.
 Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: cURus Recognized. (E311594)
 Manufacturer: Zhuogao Motor Manufacturing Co., Ltd.
 Designation: YJ48-15E
 Rating: 110-120 Vac, 60 Hz
 Enclosure: Open.
 Insulation Class: class B.
 Protection: Impedance protection. ZP marked on the motor.
 Type: Shaded pole, induction motor.
 Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: Accepted by test. Refer to ILL 62-63 for construction details.
 Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.
 Designation: ZL12.
 Rating: 12V, 0.3A
 Enclosure: Open.
 Insulation Class: class A.
 Protection: Impedance protected.
 Type: Shaded pole, induction motor.
 Mounting: Secured to blower motor housing with mechanical ways.

Alternate Blower Motor: Accepted by test. Refer to ILL 58-61 for construction details.
 Manufacturer: ZHONGSHAN SUNSHINE ELECTRICAL APPLIANCE TECH CO LTD.
 Designation: ADC8025.
 Rating: 12V, 0.15A
 Enclosure: Open.
 Insulation Class: class A.
 Protection: Impedance protected.
 Type: Shaded pole, induction motor.

Part I: Wall-insert, models SF122-HH (“HH” denotes 23, 23A, 23AD, 23C, 26, 26D, 26A, 26AD, 26C, 33A, 36A)

General: The subject model is same in construction to model SF122-26AI described in Part H except the following. Refer to Att3 Drawing 66 for dimensions.

1. Enclosure: Refer to Att3Drawing 76-81.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.5 mm thick. See Att3 Drawing 76-77 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1 for Model SF122-26A 1 for Model SF122-26C 1 for Model SF122-26 1 for Model SF122-26D 1 for Model SF122-26AD	500 mm by 200 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122-36A	773 mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
	1 for Model SF122-23A 1 for Model SF122-23C 1 for Model SF122-23 1 for Model SF122-23D	460 mm by 185 mm	Re-lamping location. Covered with molded sheet steel.
	30 for Model SF122-36A	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Air intake.
	25 for Model SF122-26A SF122-26C SF122-26 SF122-26D SF122-26AD		
20 for Model SF122-23A SF122-23C SF122-23			

	SF122-23AD		
Sides	2	90.5 mm by 30.5 mm	Plastic handles position.
	4	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	72	45 mm by 5 mm	Components compartment
Front	1	220 mm by 31mm, Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

- b. Front Frame: Formed of painted molded sheet steel min 0.5 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
 Material Designation: PA66.
 Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
 Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
 Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V,1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick,192 or218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E48909)
 Manufacturer: TRIUMPH FORTUNE LTD
 Designation: A72.
 Rating: 125 VAC, 15 A, 10,000 operations, 105C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
 Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
 Designation: H20 or H20U or H20X
 Rating: 125 VAC, 15 A, 10,000 operations, 105 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized. (E54813)
 Manufacturer: SENSATA TECHNOLOGIES.
 Designation: TH21CA121.
 Rating: 250 VAC, 13 A, 10,000 operations, 105 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-105-P.

Rating: 125 VAC, 16 A, 10,000 operations, 105 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Part II: Wall-insert, models SF128y-XX (“y” denotes blank or S, or B or C; “XX” denotes 23A, 23I, 23IC, 23AI, 23AIC, 23AICC, 26A, 26I, 26IC, 26AI, 26AIC, 26AICC, 30A, 30AI, 33A, 33AI, 36A, 36AI)

General: The subject models are of same construction except for the sizes. The subject models are similar in construction to model SF122-HH described in part I, but with thinner depth and DC motors, also alternating thermostat setting at 135 °C.

1. Enclosure: Refer to Att1 Photos 47-48, Att2 Illustration 50-57, Att3 Drawing 182-183 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. Openings as below:

Locations	Openings	Dimensions	Purpose
Enclosure back	5*3	Louver shaped, 90 mm long by 5 mm (Max Minor Dim.)	Heater intake
Enclosure front	72	218 mm by 48 mm for heater exhaust, covered with wire screen.	Heater exhaust
Enclosure top	36*2	45 mm by 5 mm	Heater intake

Part J: Wall-insert, models SF208-II (“II” denotes 28I, 28IC), rated 120 V, 60 Hz, 1400 W.

General: The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to Att3Drawing 82-90 and Photo 16-18.
 - a. Bottom, Top, Sides and Back: Formed of painted sheet steel min 0.6 mm thick. See Att3 Drawing 67-74 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	1	400mm by 220 mm	Re-lamping location. Covered with molded sheet steel.
Sides	2	90.5 mm by 30.5mm	Plastic handles position.

	8	Louver shaped, 50 mm long by 5 mm (Max Minor Dim.)	Components compartment intake.
Top	64	45 mm by 5 mm	Components compartment
Front	1	252 mm by 49 mm, Welded with wire screen, SWO 3 mm by LWO 6 mm.	Heater exhaust

b. Front Frame: Formed of painted molded sheet steel min 0.6 mm thick. Welded together and secured to enclosure sides with screws. One piece of Tempered glass 3~5 mmthick, or wire screens provided, secured to Front Frame with tabs.

8. Switch: Not provided.

8A. Alternate: Not provided.

8C. PCB Control Panel: Same as item 8C described in Part A.

9. Faux Fire Assembly: Same as item 9 described in Part D.

10. Heater Element Assembly: Consists of the following:

a. Heating Element: Three provided.
 Material: OCr25A15A(Ni20Cr80).
 Dimension: 0.6 mm dia, measured 29.5 ohm at 25 C.
 Rating: 120 V, 60 Hz, 470 W.
 Location: Located centrally within Heater Element Housing.

b. Heater Element Sheath:
 Material: Quartz.
 Dimensions: 1.0 mm thick, OD 12 mm, ID 8 mm, 215mm long.

c. End Seals:
 Material: Ceramic.
 Dimensions: Overall 19 mm dia by 18mm.
 Location: Completely seals Heater Element Sheath ends with rivets.

d. Cold Pin:
 Material: SUS304
 Dimensions: Overall 19 mm by 7.5 mm by 0.8 mm.
 Connection: One end is crimped to the Heating Element. The other end is crimped to Leads.

e. Leads: (INT) cURus Recognized.
 Type: AWM I A/ 3122, 16 AWG, 300 V, 200 °C, VW-1.
 Connection: One end is terminated in certified wire connector. The other end is terminated to Cold Pin as described above.

f. Housing/Barrier: Shape as Photo 16. Made of formed sheet metal. Secured together with screws.

g. Self-hold Thermostat: cURus Recognized. (E48909)
 Manufacturer: TRIUMPH FORTUNE LTD.
 Designation: A72
 Rating: 125 VAC, 15 A, 10,000 operations, 130C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)

Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized.(E54813)

Manufacturer: SENSATA TECHNOLOGIES.

Designation: TH21CA171.

Rating: 250 VAC, 13 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-130-P.

Rating: 125 VAC, 16 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

11. Fan Assembly: Same as item 11 described in Part A.

12. Remote Control: Infrared control

Part K: Wall-mounted, Model SF310-SS (“SS” denotes 36A, 36AL, 36, 36M, 40, 42A, 42AL, 42, 42M, 48A, 48AL, 48, 48M)

Note: the suffix “M” means wooden front frame with tempered glass instead of metal frame with tempered glass.

General: The subject models are similar in construction to each other except for the sizes. The subject model is similar in construction to Model SF103-AA described in Part A except for the following:

1. Enclosure: Refer to-Att3 Drawing 25-133 and 161.

a. Top, Bottom, Sides/Back: Formed of painted sheet steel min 0.6 mm thick. Secured together with screws. See Att3 Drawing 125-133 for dimensions. Openings as below:

Locations	Openings	Dimensions	Purpose
Back	20	Louver shaped, 53 mm long by 3.4 mm (Max Minor Dim.)	Components compartment intake.
	15	45 mm by 5 mm	Components compartment intake.
Front	30 x 2	60 mm by 3 mm	Components compartment opening
	228	31 mm by 5 mm	Heat air intake opening
TOP	10	45 mm by 3 mm.	Components compartment intake.
	24 (Optional)	Louver shaped, 53 mm long by 3.4 mm (Max Minor Dim.)	Components compartment intake
Bottom	45	44 mm by 5 mm	Heater exhaust. Wire screen provided, 6 mm LWO by 3 mm SWO.

- b. Front: Tempered glass, 6 mm or 4 mm thick, overall dimension 913.7 mm by 440 mm. Molded mounting bracket secured to tempered glass with glass cement. The glass was then secured to enclosure with screws.

8C. PCB Control Panel: Same as item 8C or 8F described in Part A.

9. Faux Fire Assembly: Same as item 9 described in Part D

10. Heater Element Assembly: Consists of the following:

- a. Heater Element Bracket: cURus Recognized. (E41797)
 Material Designation: PA66.
 Flame rating: UL 94 V-0 @ 1.5 mm, RTI = 130 C.
 Dimensions: 1.6 mm thick min, overall dim when assembled 47 mm by 40mm.
 Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.62 mm thick, overall dim when assembled 218 mm by 35 mm.
- c. Heating Element: Made of Fe-Cr wire, rated 675 W x 2. Two elements are connected in parallel, each element is made of 0.57 mm dia wire, 5.6 ohm/m at 25 C, rated 120 V,1350 W.
- d. Heating Element Support: Four provided, made of mica, 0.7 mm thick,192 or218 or 270 mm by 12 mm.
- e. Self-hold Thermostat: cURus Recognized. (E48909)
 Manufacturer: TRIUMPH FORTUNE LTD
 Designation: A72.
 Rating: 125 VAC, 15 A, 10,000 operations, 105C or 130 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E309745)
 Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.

Designation: H20 or H20U or H20X

Rating: 125 VAC, 15 A, 10,000 operations, 105 C or 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: Certified and UL Recognized. (E54813)

Manufacturer: SENSATA TECHNOLOGIES.

Designation: TH21CA121.

Rating: 250 VAC, 13 A, 10,000 operations, 105 C or 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-105-P.

Rating: 125 VAC, 16 A, 10,000 operations, 105 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat: cURus Recognized. (E179137)

Manufacturer: AUONE ELECTRONIC MFG LTD.

Designation: AUT-130-P.

Rating: 125 VAC, 16 A, 10,000 operations, 130 C.

Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

f. Thermal-cutoff: UL/CUL Recognized.

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C, 157 C.

Mounting: Riveted to Housing (Item 11.b).

Alternative Thermal-cutoff: UL/CUL Recognized.

Manufacturer: NEC SCHOTT COMPONENTS CORP.

Designation: SF139E、SF152E.

Rating: 250 VAC, 10 A, Tf = 142 C, 157 C.

Mounting: Riveted to Housing (Item 11.b).

Optional Thermal cut-off: cURus Recognized. (E225340)

Manufacturer: ZHONGSHAN SHENG PING THERMAL PROTECTORS CO LTD.

Designation: SPF139.

Rating: 125 VAC, 15 A, Tf = 142 C or 157 C.

Mounting: Riveted to Housing.

Part K1: Wall-mounted, Model SF312-XX (“XX” denotes 36, 42)

General: The subject models are similar in construction to each other except for the sizes. The subject model is similar in construction to Model SF310-SS described in Part K except for the following:

1. Enclosure: Refer to Att3 Drawing 148 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws.

Openings as below:

Locations	Openings	Dimensions	Purpose
Front	15 x 4	70 mm by 3 mm	Components compartment opening
	70	60 mm by 5 mm	Heat air intake opening
	1	170 mm by 40 mm	Control panel location
Back	22	Louver shaped, 53 mm long by 3.4 mm (Max Minor Dim.)	Heat air intake opening
	34	50 mm by 5 mm	Heat air intake opening
Bottom	45	50 mm by 5 mm	Heater exhaust. Wire screen provided, 6 mm LWO by 3 mm SWO.

10.e. Heater Element Assembly: Accepted in application. Consists of the following:

- a. Heater Element Bracket:
 Material Designation: Sheet steel
 Dimensions: 0.6-0.8 mm thick min
 Mounting: Secured to blower motor housing with screws.
- b. Housing: Two pieces provided, made of mica, 0.6-1 mm thick, overall dim when assembled 320mm by 35 mm.
- c. Heating Element #1: Made of Fe-Cr wire, rated 950 W. Element is made of 0.6 mm dia wire, 3.9 ohm/m at 25 C.
Heating Element #2: Quartz tube; Made of Fe-Cr wire, rated 400 W, element wire is made of 0.52 mm dia wire, 37Ω, 900°C melting point, overall dimension 320 mm by dia.10~dia.12mm
- d. Heating Element Support: Two provided, made of mica, 0.7 mm thick, 320 mm by 12 mm.
- e. Self-hold Thermostat (For infrared element): cURus Recognized. (E309745)
 Manufacturer: DONGGUAN SHUNHE ELECTRONIC CO LTD.
 Designation: H20 or H20U or H20X
 Rating: 125 VAC, 15 A, 10,000 operations, 130 C.
 Mounting: Riveted to Housing (Item 10.b).
 Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Alternate Self-hold Thermostat (For infrared element): cURus Recognized. (E179137)
 Manufacturer: AUONE ELECTRONIC MFG LTD.
 Designation: AUT-130-P.
 Rating: 125 VAC, 16 A, 10,000 operations, 130 C.
 Mounting: Riveted to Housing (Item 10.b).

Remarks: This thermostat acts as manual reset type. To reset the thermostat, disconnect the power by removing the plug from the wall receptacles.

Part K2: Wall-mounted, Model SF313-XX or 313-XX-10 (“XX” denotes 36, 36A, 36AL, 42, 42A, 42AL, 54, 54A, 54AL; Suffix A – plane, AL -Glass paste stainless steel; OR without this code)

General: The subject models are similar in construction to each other except for the sizes. The subject model is similar in construction to Model SF310-SS described in Part K except for the following:

1. Enclosure: Refer to Att1 Photos 38-40, Att2 Illustration 31-35, Att3 Drawing 162-163 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws.

Openings as below:

Locations	Openings	Dimensions	Purpose
Top	4 x 4	Louver shaped, 78 mm long by 3.4 mm (Max Minor Dim.)	Components compartment opening
	46	40 mm by 4 mm	Heater exhaust opening
Back	38	40 mm by 4 mm	Heat air intake opening

Part K3: Wall-mounted, Model SF316-XX (“XX” denotes 36, 42, 54, 16C, 36T, 42T, 54T, 30A, 36A, 42A, 44A, 50A, 58A, 60A, 30P, 36P, 42P, 44P, 50P, 58P, 60P, 30W, 36W, 42W, 44W, 50W, 58W, 60W.

Suffix “A, C, P, T, W”, A - plane; C - represents the vertical model; P- with PP board; T - three glasses; W- with WiFi module; OR without this code)

General: The subject models are similar in construction to each other except for the sizes. The subject model is similar in construction to Model SF310-SS described in Part K except for the following:

1. Enclosure: Refer to Att1 Photos 41-43, Att2 Illustration 36-57, Att3 Drawing 164-172 for construction and dimension details. Formed of painted sheet steel min 0.6 mm thick. Secured together with screws.

TEST HISTORY

Edition: 1 (Project 2525812)

The following tests were conducted in accordance of CSA C22.2 No. 46-M1988 & UL2021 (2nd Ed.), and were with satisfactory result. Please refer to Test Data file for details.

Clauses refer to CSA C22.2 No. 46-M1988 &UL2021 (2nd Ed.) unless otherwise indicated.

Model under test: SF103-AA & SF102-BB, SF104-CC, SF106-DD, SF301-35, SF208-FF, SF230-23.				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	6.2	35	T	
Temperature (Normal)	6.4	37 & 39	T	
Dielectric Strength	6.5	47	T	
Two layers of Cheesecloth Drape Test	6.6.5.1	-	T	
Stalled Fan Test	6.6.5.5	42.3	T	
Drape Test	6.6.6.3	-	T	
Furniture Restriction Test	6.6.6.5	-	T	
Extreme Operating Voltage / Overvoltage Test	6.7	42.4	T	
Strain Relief	6.8	13.3	T	
Overload for Manually Operated Switches	6.9.3	-	T	
Physical Abuse Tests	6.11	-	T	
Leakage Current Test	6.13	36	T	
Continuous Operation Test:	-	39	T	See Temperature Normal
Vertical Wall Test	-	42.6	T	
Terry Cloth Drape Test	-	42.7	T	
Padded Surface Test:	-	42.10.1.2 & 42.10.1.3	T	
Curtain Drape Test	-	42.10.2	T	
Protection against personal Injury Test	-	54	T	
Vertical Wall Test	6.6.5.4	-	N	Not a portable heater
Air Discharge on Top Enclosure Drape Test	6.6.5.6	-	N	For floor-insert heater only
Six layers of Cheesecloth Drape Test	6.6.5.7	-	N	Not a portable heater
Air Filter Blocked Test	6.6.5.8	-	N	No heater air filter provided
Shredded Paper Test	6.6.6.7	-	N	Not a baseboard heater
Abnormal Temperature Tests for In-car Heaters	6.6.7	-	N	Not an in-car heater
Abnormal Input for Heaters with PTC Elements	6.6.8	-	N	No PTC Elements

Cold Ambient Start Up for Cord-connected Heaters with PTC Elements	6.6.9	-	N	No PTC Elements
Starting	6.6.10	-	N	No PTC Elements
Endurance for Manually Operated Switches	6.9.5	-	N	No such switches
Performance of Fusible Links:	6.10	-	N	No fusible links.
Flame Test for Nonmetallic Enclosures and supports	6.12	-	N	
Performance of Thermally Operated Controls	6.14	-	N	Self-hold thermostat is certified.
Performance of Heaters Having PTC Heater Elements:	6.15	-	N	No PTC heater elements.
Hydrostatic Test:	6.16	-	N	No parts under pressure.
Dropping Melted Particles Test	6.17	-	N	No perforated metal panels or wire screens.
Stability	6.18	51	N	Not a free-standing type heater.
Requirements for Cord Connected Double Insulated Electric Air Heaters:	7	-	N	Not a double insulated electric air heater.
Alarm Device Endurance Test:	-	41	N	No alarm devices for indication of limit control.
Abnormal Motor Temperature Test:	-	42.2	N	
Tip Over Test:	6.6.5.3	42.5	N	Wall-insert heater.
Litter:	-	42.8	N	Not a radiant type heater
Motor Overload and Stalled Motor	-	42.9	N	Motors are UL Recognized
Floor Insert Heaters	-	42.11	N	Wall-insert heater.
Ceiling Panel Heaters	-	42.12	N	Wall-insert heater.
Abnormal Ambient Test	-	42.13	N	
Endurance Test	-	43	N	No automatic control / assembly
Short Circuit Tests	-	44	N	No supplementary fuse provided
Overload Test - High Voltage Transformers	-	45	N	No high voltage transformer
Burnout Test - High Voltage Transformers	-	46	N	No high voltage transformer
Insulation Resistance Test	-	48	N	No thermal insulation provided
Rain Test	-	49	N	Not for outdoor use
Static Load Test	-	50	N	Not a floor insert heater
Stability of Cord Connected Floor Supported Heaters	-	51	N	Wall-insert heater.
Element Support Impact Tests	-	52	N	Not a freestanding heater
Test for Permanence of Cord Tag	-	53	N	No visibly glowing element provided
Strength of Adjustment Stop Test	-	55	N	Household use heater

Model under test: Motor PLD6115	Ratings:
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Test Requirements	C22.2 No 77-95	UL 2111 (1st Ed.)	T: Test W: Waived	Comments
<u>Locked Rotor Test</u>	5.4.5	7	T	
<u>Endurance</u>	5.6	16	W	Winding temperature did not exceed 100 C when locked rotor test

Edition: 2 (Project 2686260)

This project covers report correction and re-issued report.

Edition: 3 (Project 70027674)

Update Report 2686260 to add new models. Only the following testings were deemed necessary. Refer to CSA Documentum Test Data folder for details.

Model under test: SF122-26AI				Ratings: 120V 60Hz, 1500W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Furniture Restriction Test	7.6.5.5	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Strain Relief	7.8	13.3	T	P
Physical Abuse Tests	7.11	-	T	P
Leakage Current Test	7.12	35	T	P
Continuous Operation Test:	-	38	T	P
Vertical Wall Test	-	41.6	T	P
Terry Cloth Drape Test	-	41.7	T	P
Padded Surface Test:	-	41.10.1.2 & 41.10.1.3	T	P
Curtain Drape Test	-	41.10.2	T	P
Protection against personal Injury Test	-	53	T	P

Model under test: SF208-28I				Ratings: 120 V, 60 Hz, 1400 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF122-26A				Ratings: 120 V, 60 Hz, 1400 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Furniture Restriction Test	7.6.5.5	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Strain Relief	7.8	13.3	W	Testing conducted on PART A was considered as representative.
Physical Abuse Tests	7.11	-	W	Testing conducted on PART A was considered as representative.
Leakage Current Test	7.12	35	T	P
Continuous Operation Test:	-	38	T	P
Vertical Wall Test	-	41.6	T	P
Terry Cloth Drape Test	-	41.7	T	P
Padded Surface Test:	-	41.10.1.2 & 41.10.1.3	T	P
Curtain Drape Test	-	41.10.2	T	P
Protection against personal Injury Test	-	53	W	Testing conducted on PART A was considered as representative.

Edition: 4 (Project 70042119)

Update Report 2525812 to add new models, Model SF122-23AI&SF122-26AI were selected to be representative testing models and only the following tests were deemed necessary:

Clauses refer to CSA C22.2 No. 46-13& UL2021 (3rd Ed.) unless otherwise indicated.

Model under test: SF122-23AI				Ratings: 120V 60Hz, 1500W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Furniture Restriction Test	7.6.5.5	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Strain Relief	7.8	13.3	T	P
Physical Abuse Tests	7.11	-	T	P
Leakage Current Test	7.12	35	T	P
Continuous Operation Test:	-	38	T	P
Vertical Wall Test	-	41.6	T	P
Terry Cloth Drape Test	-	41.7	T	P
Padded Surface Test:	-	41.10.1.2 & 41.10.1.3	T	P
Curtain Drape Test	-	41.10.2	T	P
Protection against personal Injury Test	-	53	T	P

Model under test: SF122-26AI				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	W	Testing conducted on PART A was considered as representative.
Dielectric Strength	7.5	46	W	Testing conducted on PART A was considered as representative.
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Furniture Restriction Test	7.6.5.5	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Strain Relief	7.8	13.3	W	Testing conducted on PART A was considered as representative.
Physical Abuse Tests	7.11	-	W	Testing conducted on PART A was considered as representative.

Leakage Current Test	7.12	35	W	Testing conducted on PART A was considered as representative.
Continuous Operation Test:	-	38	T	P
Vertical Wall Test	-	41.6	T	P
Terry Cloth Drape Test	-	41.7	T	P
Padded Surface Test:	-	41.10.1.2 & 41.10.1.3	T	P
Curtain Drape Test	-	41.10.2	T	P
Protection against personal Injury Test	-	53	W	Testing conducted on PART A was considered as representative.

Edition: 5 (Project 70069147)

Below two models were considered as representative models. And the following testings were deemed necessary:

Clauses refer to CSA C22.2 No. 46-13& UL2021 (4th Ed.) unless otherwise indicated.

Model under test: SF122-23AI				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Furniture Restriction Test	7.6.5.5	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Strain Relief	7.8	13.3	T	P
Physical Abuse Tests	7.11	-	T	P
Leakage Current Test	7.12	35	T	P
Continuous Operation Test:	-	38	T	P
Vertical Wall Test	-	41.6	T	P
Terry Cloth Drape Test	-	41.7	T	P
Padded Surface Test:	-	41.10.1.2 & 41.10.1.3	T	P
Curtain Drape Test	-	41.10.2	T	P
Protection against personal Injury Test	-	53	T	P
Strength of Adjustment Stop		54	T	P

Model under test: SF103-18D				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived	Comments

			N: Not Applicable	
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P

Edition: 6 (Project 70084654)

Update Report 2525812 to add new models. The following testings were deemed necessary:

Clauses refer to CSA C22.2 No. 46-13& UL2021 (4th Ed.) unless otherwise indicated.

Model under test: SF103-23F, SF208-28IC				Ratings: 120 V, 60 Hz, 1400 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Edition: 7 (Project 70126229)

Update Report 2525812 to add new models and re-issue report. The following testings were deemed necessary:

Clauses refer to CSA C22.2 No. 46-13& UL2021 (4th Ed.) unless otherwise indicated.

Model under test: SF103C-18C				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	6.6.5.1	-	T	P
Stalled Fan Test	6.6.5.5	42.3	T	P
Drape Test	6.6.6.3	-	T	P
Furniture Restriction Test	6.6.6.5	-	T	P
Extreme Operating Voltage / Overvoltage Test	6.7	42.4	T	P
Strain Relief	6.8	13.3	T	P
Overload for Manually Operated Switches	6.9.3	-	T	P
Physical Abuse Tests	6.11	-	T	P

Leakage Current Test	6.13	36	T	P
Continuous Operation Test:	-	39	T	See Temperature Normal
Vertical Wall Test	-	42.6	T	P
Terry Cloth Drape Test	-	42.7	T	P
Padded Surface Test:	-	42.10.1.2 & 42.10.1.3	T	P
Curtain Drape Test	-	42.10.2	T	P
Protection against personal Injury Test	-	54	T	P

Model under test: SF122C-36A				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF310-SS				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Project 70171660

Update Report 2525812 to add new models. The following testings were deemed necessary:

Clauses refer to CSA C22.2 No. 46-13& UL2021 (4th Ed.) unless otherwise indicated.

Model under test: SF127-18 (Resistance heater element)				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P

Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF127-23 (Infrared heater element)				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF127-42(Infrared heater element)				Ratings: 120 V, 60 Hz, 1500 W
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Project 70196167

Update Report 2525812 to add new models, the new models are of wooden front frame instead of metal front frame, with a higher temp limit set point. The following testings were deemed necessary:

The following tests were conducted on Model SF301-36M in accordance with CSA C22.2 No. 46-13& UL2021 (4th Ed.), with satisfactory results.

Model under test: SF301-36M with temp. limit set at 135 degree C.				Ratings: 120 V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Tested W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Six-layers of Cheesecloth Drape Test	7.6.4.8	-	T	P
Terry Cloth Drape Test	-	41.7	T	P
Stability Test	7.17	50	T	P

Project 80000448

Update Report 255895-2525812 to alternate PCB and adding new models. The following tests were conducted on representative Models SF310-42A, SF311-36, SF127M-42AI in accordance with CSA C22.2 No. 46-13 and UL 2021 (4th Edition), with satisfactory results.

Model under test: SF310-42A				Ratings: 120V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF311-36				Ratings: 120V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF127M-42AI				Ratings: 120V, 60 Hz, 1500 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Construction Review:

Construction review performed with satisfactory results.

Project 80043582

Update Report 2525812 to alternate Main PCB, certified synchronous motors, and other report corrections (model SF103S-AA due to commercial reasons). The following tests were conducted on Models SF103S-23 in accordance with CSA C22.2 No. 46-13 and UL 2021 (4th Edition), with satisfactory results.

Model under test: SF103S-23				Ratings: 120V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Drape Test	7.6.5.3	-	T	P
Terry Cloth Drape Test	-	41.7	T	P
Protection against personal Injury Test	-	53	T	P

Construction Review:

Construction review performed with satisfactory results.

Project 80080566

Update Report 255895-2525812 to add touching control panel for 311, modify decorative crystal for 127 and 128, modify 103, add 105 (base on 103, same intake and exhaust openings).

Testing performed at CSA Group Guangzhou Lab.

The following testing performed on representative models SF311-16C and SF127B-33AI, with satisfactory results, according to CSA C22.2 No. 46-13 and UL 2021 (4th Edition).

Model under test: SF311-16C				Ratings: 120V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Drape Test	7.6.5.3	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF127B-33AI				Ratings: 120V, 60 Hz, 1500 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Drape Test	7.6.5.3	-	T	P
Terry Cloth Drape Test	-	41.7	T	P

Construction Review:

Construction review performed with satisfactory results.

Project 80092522

Update Report 255895-2525812 to alternate model number due to commercial reasons, and alternate certified components. Since those components are with same electrical ratings, no testings were deemed necessary.

Construction Review:

NA. No changing to model construction.

This Edition supersedes all previous editions.

Project 80122872

Update Report 255895-2525812 to alternate PCB for SF310-SS, change temperature limit setting, add models: SF3xx-yy (xx=13, 16, 17, 11), SF105 and SF128 series. The following testing on representative models SF313-36A, SF316-36T, SF105S-18G, SF128-23AICC are deemed necessary.

Model under test: SF313-36A				Ratings: 120 V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Continuous Operation Test:	-	38	T	P
Terry Cloth Drape Test	-	41.7	T	P
Protection against personal Injury Test	-	53	T	P

Model under test: SF313-36T				Ratings: 120 V, 60 Hz, 1400 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Continuous Operation Test:	-	38	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF105S-18G				Ratings: 120 V, 60 Hz, 1500 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Stalled Fan Test	7.6.4.6	41.3	T	P
Drape Test	7.6.5.3	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Continuous Operation Test:	-	38	T	P
Terry Cloth Drape Test	-	41.7	T	P

Model under test: SF128-23AICC				Ratings: 120 V, 60 Hz, 1500 W.
Test Requirements	C22.2 No. 46 Cl.	UL 2021 Par.	T: Test W: Waived N: Not Applicable	Comments
Rating	7.2	34	T	P
Temperature (Normal)	7.4	36 & 38	T	P
Dielectric Strength	7.5	46	T	P
Two layers of Cheesecloth Drape Test	7.6.4.1	-	T	P
Drape Test	7.6.5.3	-	T	P
Extreme Operating Voltage / Overvoltage Test	7.7	41.4	T	P
Continuous Operation Test:	-	38	T	P
Terry Cloth Drape Test	-	41.7	T	P

The following tests were conducted on Model ZL12 and ADC8025, in accordance with C22.2 No.113-18 and UL 507 (10th Ed., Dated May 27, 2020), with satisfactory results.

Model under test: ZL12				Rating: 12 Vdc, 0.3 A
Tests	C22.2 No. 113-18 Cl.	UL 507 (10 th Edition) Par.	T: Tested N: Not Applicable W: Waived	Comments
Rating / Input	6.3	45	T	P
Temperature	6.4, 6.11.1,	46,	T	P
Dielectric Strength	6.5	47	T	P
9. Requirements for component fans				
Rating	9.5.2	191.2	T	P
Temperature Test	9.5.3	191.3	T	P
Dielectric Strength Test	9.5.4	191.4	T	P
Locked Rotor Test	9.5.5	191.5	T	P
Reliability of electronic protection circuit	9.5.6	-	T	P
For UL 507 (10th ed.) only.				
Locked Rotor Test	--	50	T	P

Model under test: ADC8025				Rating: 12 Vdc, 0.15 A
Tests	C22.2 No. 113-18 Cl.	UL 507 (10 th Edition) Par.	T: Tested N: Not Applicable W: Waived	Comments
Rating / Input	6.3	45	T	P
Temperature	6.4, 6.11.1,	46,	T	P
Dielectric Strength	6.5	47	T	P
9. Requirements for component fans				
Rating	9.5.2	191.2	T	P
Temperature Test	9.5.3	191.3	T	P
Dielectric Strength Test	9.5.4	191.4	T	P
Locked Rotor Test	9.5.5	191.5	T	P
Reliability of electronic protection circuit	9.5.6	-	T	P
For UL 507 (10th ed.) only.				
Locked Rotor Test	--	50	T	P

Construction Review:

Construction review performed with satisfactory results.

This Edition supersedes all previous editions.

---End of Report---