Specification For Approval

Customer : _____

Description : DC 48V Heater 700W

Customer Part No. : _____ Rev. : ____

Delta Model No. : HEH070PA Rev : 04

Sample Issue No. : _____

Sample Issue Date : MAR.16 2017

Please send one copy of this specification back after you signed approval for production pre-arrangement

Approved by : _____

Date : _____

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*** SAMPLE HISTORY***

CUSTOMER:
CUSTOMER P/N:
DELTA MODEL : HEH070PA

REV.	DESCRIPTION	DRAWN	CHECKED			APPROVED	ISSUE DATE
			ME	EE	CE		
00	ISSUE SPEC	李武奇 05/02'12	李武奇 05/02'12	涂雅森 05/02'12	------	陳李龍 05/02'12	05/02'12
01	ISSUE SPEC	李武奇 11/17'16	李武奇 11/17'16	賴世育 11/17'16	------	楊家瑋 11/22'16	11/22'16
02	Modify section 1-2 inrush current to start current.	李明遠 12/16'16	李明遠 12/16'16	賴世育 12/16'16	------	楊家瑋12/16'16	12/21'16
03	Modify section 1-3 dimension and currut.	李明遠 2/13'17	李明遠 2/13'17	賴世育 2/13'17	------	楊家瑋 2/13'17	2/13'17
04	Add safety mark and start current.	李明遠 3/10'17	李明遠 3/10'17	賴世育 3/10'17	------	楊家瑋 3/10'17	3/16'17

Table of content

Part no. :

Delta model no. : HEH070PA

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Customer :

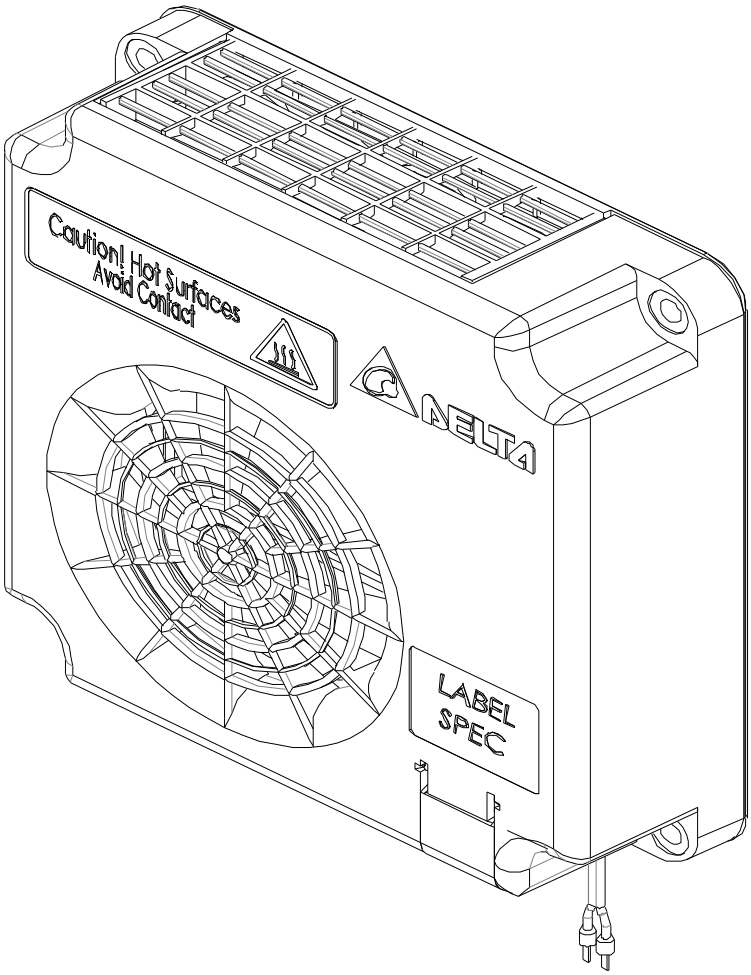
Description : DC48V Heater 700W

Customer P/N : rev. :

Delta model no. : HEH070PA rev. : 04

Sample revision : Issue no. :

Sample issue date :MAR.16 2017 Quantity : sets



Part no. :

Delta model no. : HEH070PA

1. Description

1-1. General description

The heater is designed for warming up air in the cabinet. It warms air to avoid equipment damaged at much lower temperature . The heater can be mounted on the wall of cabinet.

1-2. Main feature & Model number

Main feature	Unit	Model Number
		HEH070PA
Outline Dimension	Mm	150 H x 145 W x 43 D
Weight	Kg	0.5
Heating Capacity (*Note1)	W	700±10%
Rated Voltage	VDC	48
Rated Current	A	14.5 (at 48VDC)
Operating Voltage Range	VDC	46-56
Opertaing Temperature range	℃	-40 ~ +40
Start current	A	22(max.)
Mounting Location	N/A	Wall / Bottom

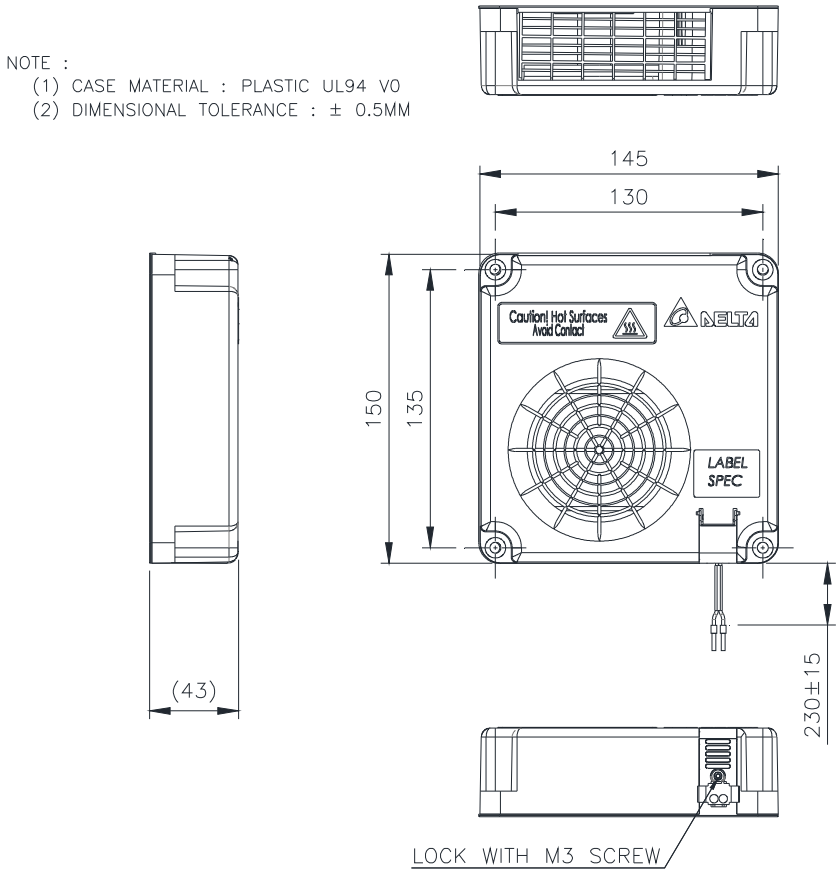
*Note1 : The Heating capacity (W) is defined as W=V*A at 20 ℃

W : power consumption

V: Operating Voltage

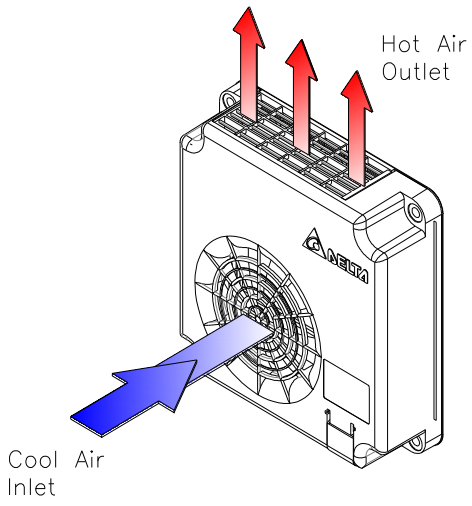
A : Operating current

1-3. Dimension



1-4. Airflow baffle

The cool air flow into the heater , and warm up by PTC heating element inside of case , then flow out into the system .



1-5. Mounting orientation

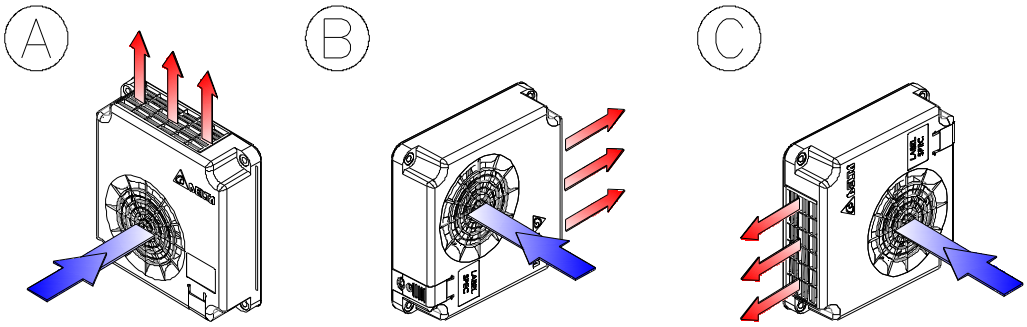
1-5-1 Vertical mounting

Orientation condition:

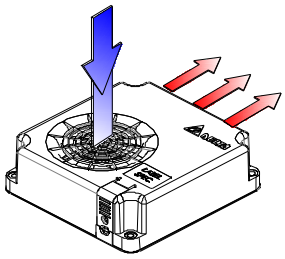
A: Hot air flow blow upward

B: Hot air flow blow backward

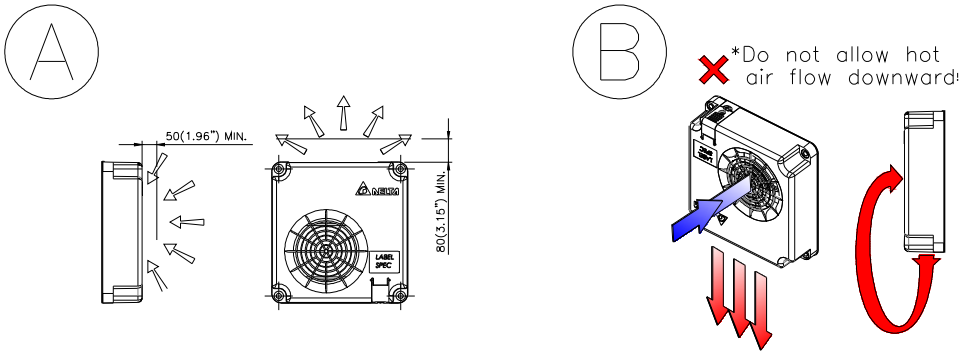
C: Hot air flow blow forward



1-5-2 Horizontal mounting



*Note: minimum gap on both cool air inlet and warm air outlet to avoid warm air have standstill to affect mechanical thermostat and cutoff thermo fuse judgement and cause higher temperature to damage the heater



2. Electrical specification

2-1. Electrical connection

Power input : DC power input with blade terminal.

Red wire : DC +48V input

Black wire : DC -0V input

3. Environmental condition

3-1. Operating temperature

-40℃to +40℃

3-2. Storage temperature

-40℃to +75℃

3-3. Humidity

0 ~ 90% RH, non-condensing

3-4. Ingress Protection rating

IP20(IEC60529)

3-5. MTBF

The L10 Fan life is expected to be at least 80,000 hours continuous operation at 40℃with 15 ~ 65%RH .@ label rated vol tage.

4 Reliability table

Test item	Condition
High temperature	IEC 60068-2-2
Low temperature	IEC 60068-2-1
High temp. /High humidity	IEC 60068-2-14 TEST Nb
Temperature cycle	IEC 60068-2-3
Vibration	ETSI 300 019-1-4 CLASS 4.1
Package bump	IEC 60068-2-29

5 Safety Certification

6. Warranty

Delta Electronics, Inc warrants **one year (twelve months)** from the date of shipment , this warranty covers customer below application :

- Customer follows Delta specification to install and operate the product.
- The product and any parts do not be modified (including both mechanical and electrical modification) by customer themselves .

This warranty cover only repair, replacement or refund for defective Delta products does not include any loss of data or any costs associated with determining the source of system problems, costs for transportation, removal or reinstallation of equipment or labor for repairs or replacement made in the field.

Application Notice

1. Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.
2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.
3. Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fan was hard-dropped to the production floor.
4. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.
5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.
6. lt is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.
7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.
8. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.
9. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.
10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.
11. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.
12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.
13. Be certain to connect an " 4.7μF or greater" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.