



Specification For Approval

Customer : _____
Description : DC48V Heater 1000W
Customer Part No. : _____ Rev. : _____
Delta Model No. : HEH100PA Rev : 01
Sample Issue No. : _____
Sample Issue Date : AUG.31,2015

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 : HEH100PA

REV.	DESCRIPTION	DRAWN	CHECKED			APPROVED	ISSUE DATE
			ME	EE	CE		
00	ISSUE SPEC	李武奇 05/12'15	李武奇 05/12'15	賴世育 05/12'15	-----	陳英琦 05/12'15	05/12'15
01	MODIFY DRAWING	李武奇 8/31'15	李武奇 8/31'15	涂雅森 8/31'15	-----	陳英琦 8/31'15	8/31'15

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Specification For Approval

Customer :

Description : DC48V Heater 1000W

Customer P/N :

rev. :

Delta model no. : HEH100PA

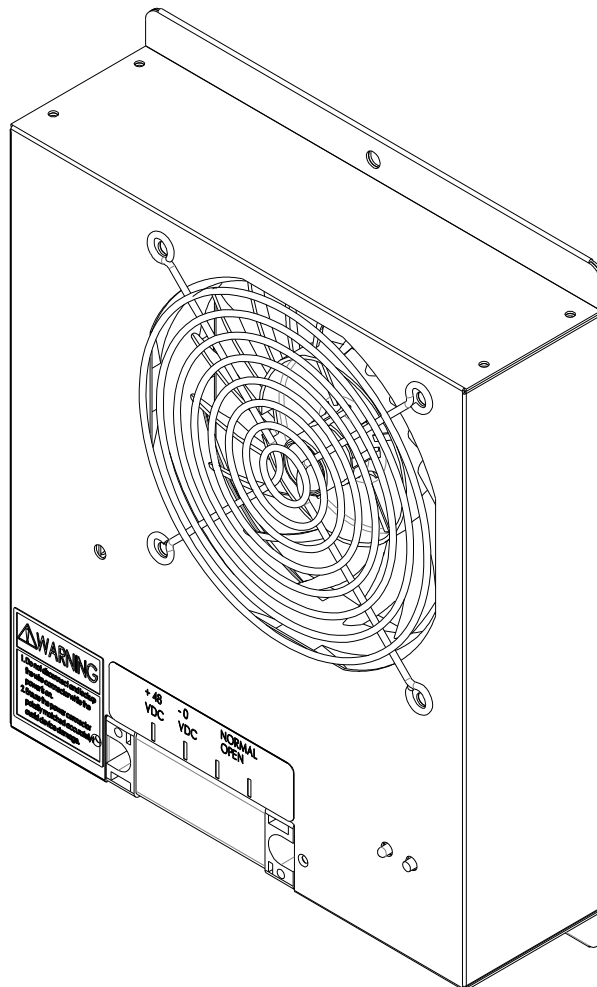
rev. : 01

Sample revision :

Issue no. :

Sample issue date :

Quantity : sets



Part no. :

Delta model no. : HEH100PA

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
		HEH100PA
Outline Dimension	Mm	240 H x 185 W x 57 D
Weight	Kg	1.5
Heating Capacity (*Note1)	W	1000±10%
Rated Voltage	VDC	48
Operating Voltage Range	VDC	40-60
Operataing status	N/A	LED indicator
Fan / Heater/ Sensor alarm	N/A	Dry contact

*Note1 : The Heating capacity (W) is defined as $W=V*A$ at 0 °C

W : power consumption

V: Operating Voltage

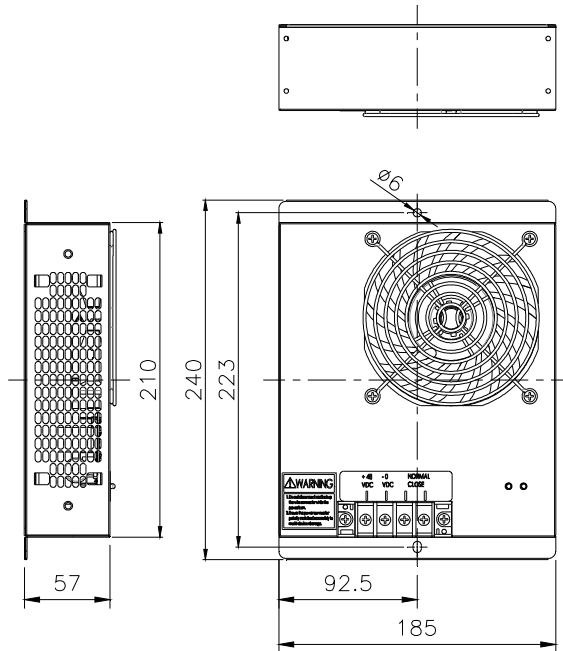
A : Operating current

Part no. :

Delta model no. : HEH100PA

1-3. Dimension

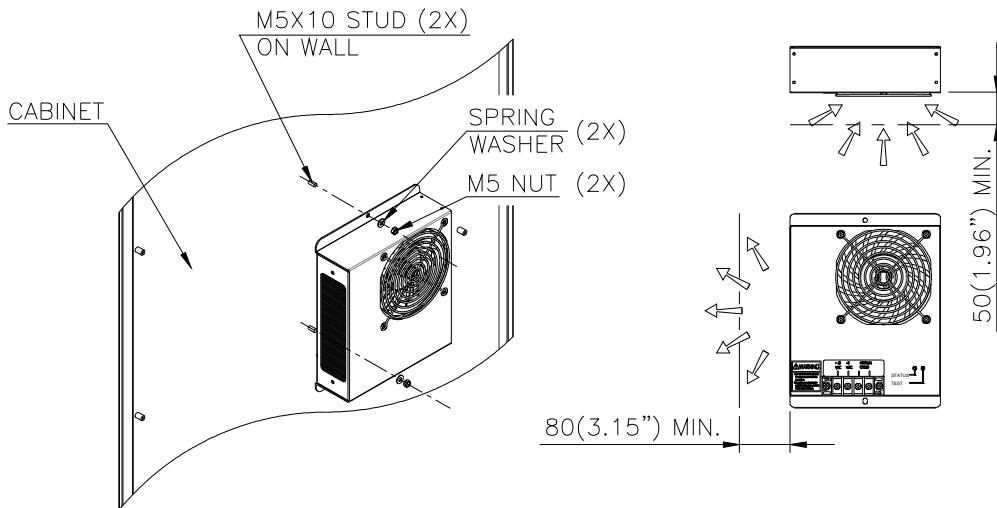
1-3-1 Drawing



NOTE :

- (1) Material : SGCC T=1.0mm
- (2) Finish : Powder paint 75~120um, Color 7032
- (3) Dimensional tolerance : ± 1.0 mm

1-3-2 Mounting



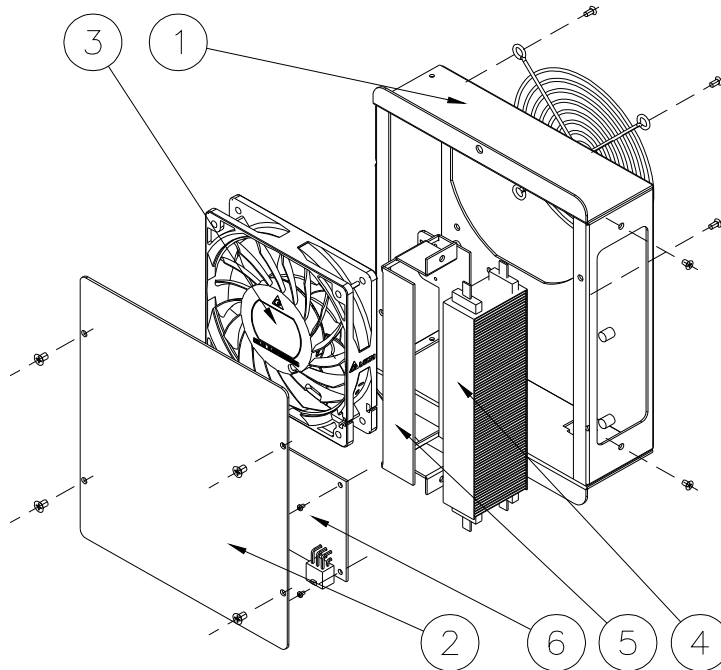
There is a minimum gap on both cool air inlet and warm air outlet to avoid warm air have standstill to affect mechanical thermostat and cutoff thermo fuse judgement and cause higher temperature to damage the heater

Part no. :

Delta model no. : HEH100PA

1-4. Configuration & Maintenance

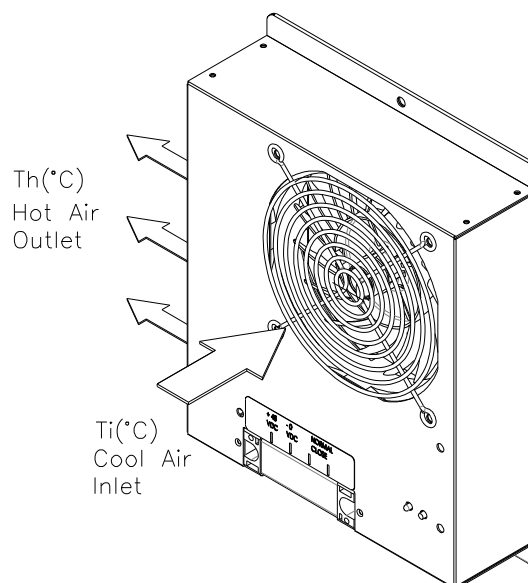
HEH100PA is composed by below part as drawing



NO.	Q'TY	Description
1	1	Case
2	1	Cover
3	1	Fan
4	1	PTC heating element
5	1	Bracket
6	1	Controller

1-5. 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 .

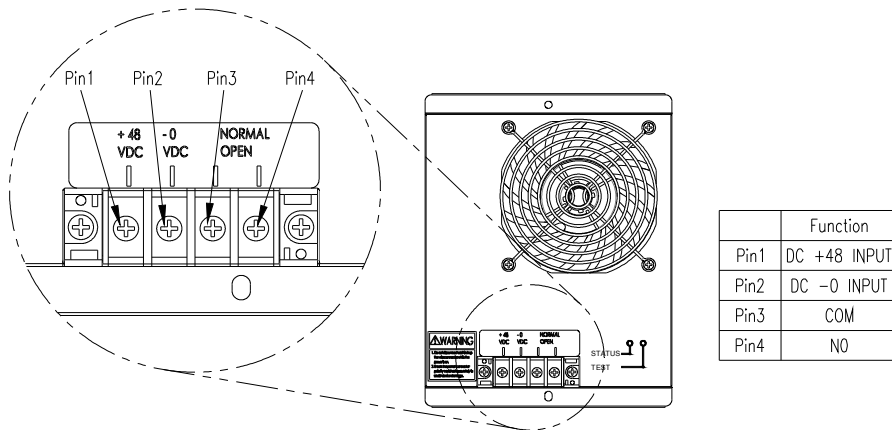


Part no. :

Delta model no. : HEH100PA

2. Electrical specification

2-1. Connection and LED indicator Connection



Dry contact : (Contact max. rating: **60VDC/50mA**)

Dry contact default setting for normal status is OPEN (N.O.) , the alarm output is CLOSE for below abnormal status .

Description	Definition
Connection	Pin 3 , 4
Fan & Heater & Sensor normal	OPEN
FAN or Heater or Sensor failed	CLOSE
Power OFF	CLOSE

LED indicator

	Status LED
Fan , heater or sensor is normal	GREEN
Fan , heater or sensor is failed	RED
Heater off	No light in dark

Part no. :

Delta model no. : HEH100PA

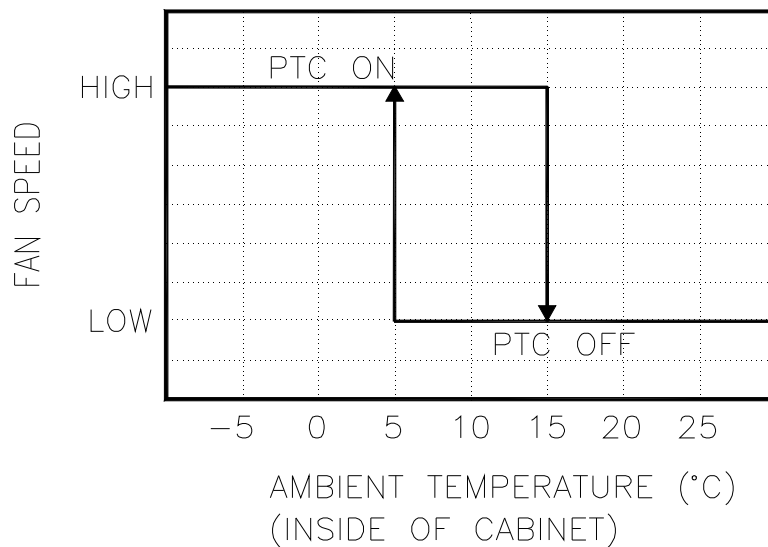
WARNING :

1. Do not disconnect and lockup the wire connector while the power is on.
2. Ensure the power connector polarity matched accurately to avoid device damage.



2-2. Standalone control mode

HEH100PA can detect the ambient temperature inside of cabinet to active PTC heating element itself to warm up the airflow . The ON/OFF vs cabinet temperature describes as below figure.



Part no. :

Delta model no. : HEH100PA

3. Environmental condition

3-1. Fan operating temperature

-40°C to +60°C

3-2. Storage temperature

-40°C to +75°C

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 70,000 hours continuous operation at 40°C 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
Ingress protection	IEC 60529 IP20
Package bump	IEC 60068-2-29

5. Safety Certification

To be defined



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. It 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.**