



## Specification For Approval

Customer : \_\_\_\_\_  
Description : Heat Exchanger 10W/K  
Customer Part No. : \_\_\_\_\_ Rev. : \_\_\_\_\_  
Delta Model No. : HEX010VA Rev : 05  
Sample Issue No. : \_\_\_\_\_  
Sample Issue Date : Nov 07 2019

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

Approved by : \_\_\_\_\_

Date : \_\_\_\_\_

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STATEMENT OF DEVIATION  
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NONE

DESCRIPTION :

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Specification For Approval

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Description : Heat Exchanger 10W/K

Customer P/N :

rev. :

Delta model no. : HEX010VA

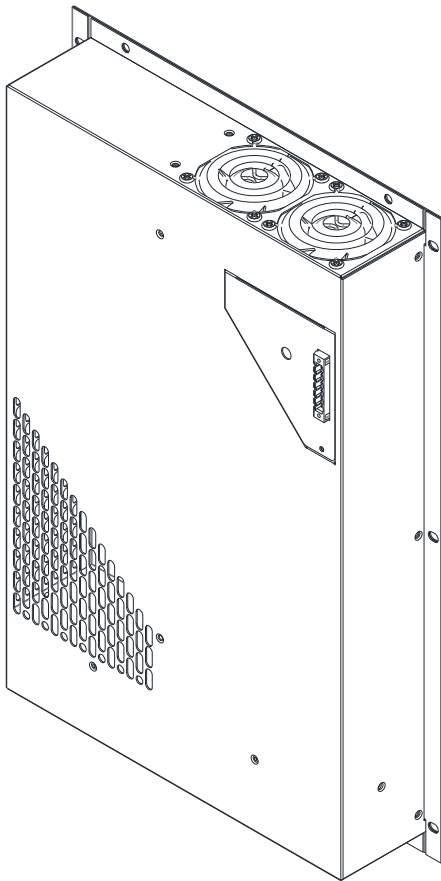
rev. : 05

Sample revision :

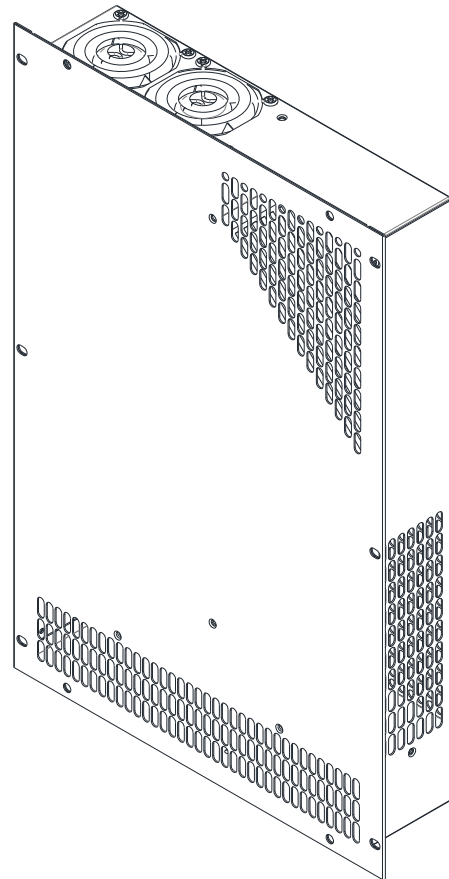
Issue no. :

Sample issue date :

Quantity : sets



Internal



External

Part no. :

Delta model no. : HEX010VA

## 1. Description

### 1-1. General description

The Heat Exchanger (HEX) is designed for direct air to air heat exchange to remove the heat from the cabinet . It is easy to be installed in the cabinet with the nuts. (Recommended on the door of the cabinet)

The internal and the external air circulation loops of the HEX are separated to prevent the introduction of dust, humidity and dirt.

The fan on the external air loop conforms to GR487 protection rating.

### 1-2. Main feature

Main feature	Unit	Model Number
		HEX010VA
Outline Dimension	mm	415 H x 275 W x 65 D
Weight	Kg	4.5
Cooling Capacity (*Note 1)	W/K	10
Rated Voltage	VDC	24
Rated Current (*Note 2)	A	1.4
Operating Voltage Range	VDC	20~ 26
Operating Current	A	1.12
Operating Power	W	27
1.5 meter noise level (sound pressure)	dB-A	61.0

\*Note 1 : The cooling capacity (W/K or W/°C) is defined as  $Q / (T_I - T_A)$

Q : Heat dissipation (W) from inside

T<sub>I</sub> : Return temperature of internal air circuit (K OR °C)

T<sub>A</sub> : Ambient temperature of external air circuit (K OR °C)

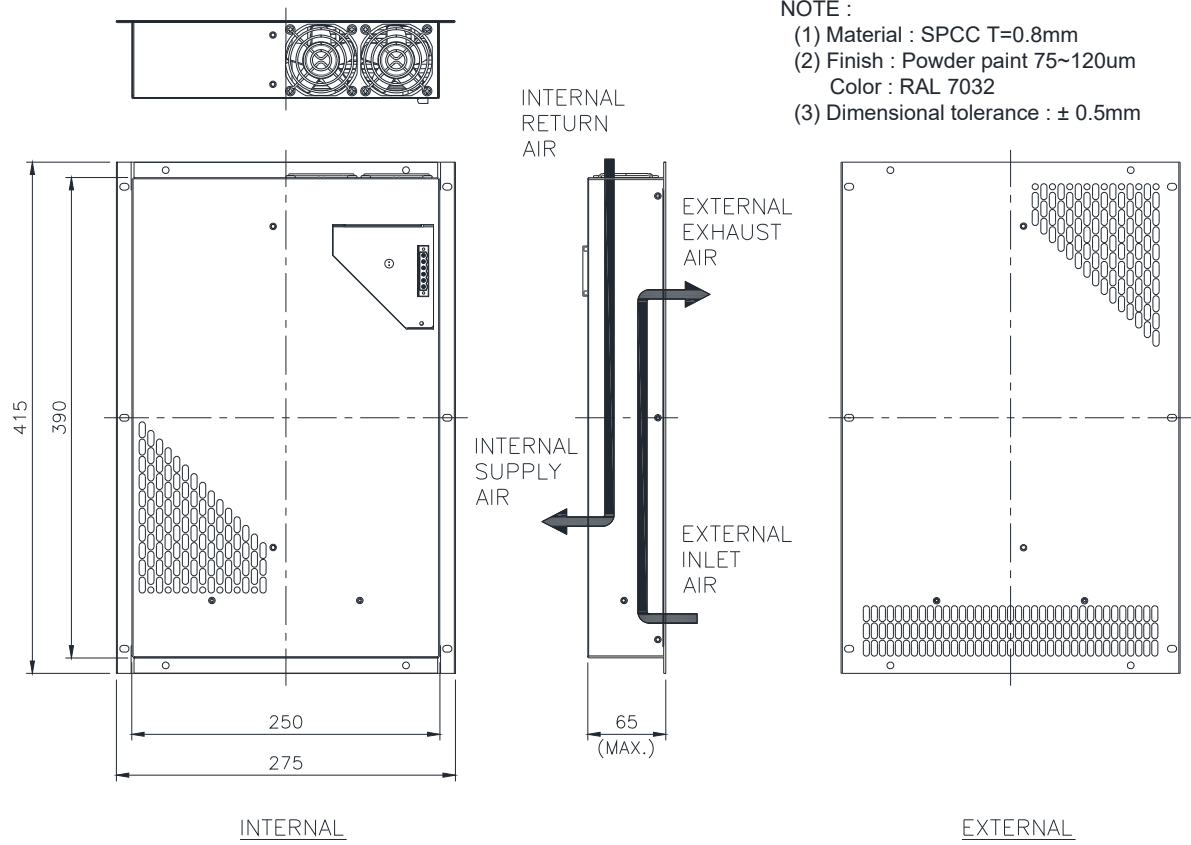
\*Note 2 : Rated current is announcement of safety

Part no. :

Delta model no. : HEX010VA

### 1-3. Dimension

#### 1-3-1. Dimension drawing



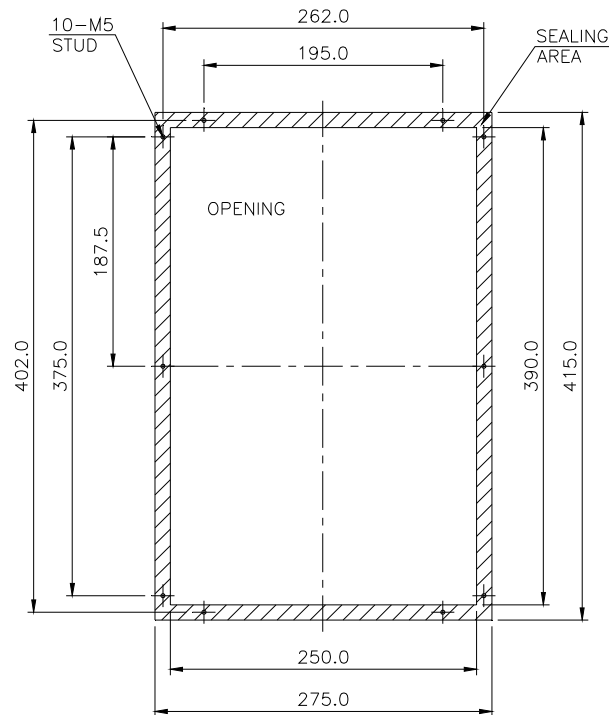
NOTE :

- (1) Material : SPCC T=0.8mm
- (2) Finish : Powder paint 75~120um  
Color : RAL 7032
- (3) Dimensional tolerance :  $\pm 0.5\text{mm}$

Part no. :

Delta model no. : HEX010VA

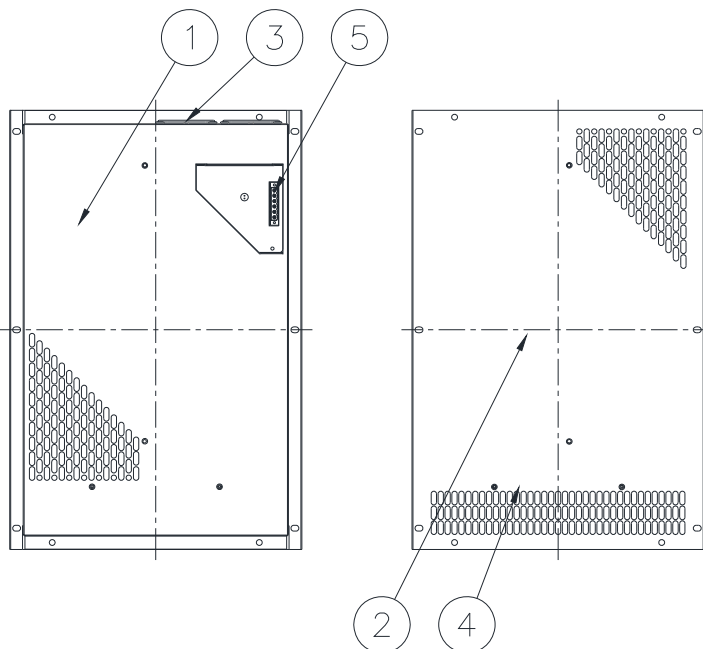
### 1-3-2 Mounting panel cutout



### 1-4. Configuration

The HEX is composed of the key components as the following :

Chassis , Heat exchange Core , Controller Internal/External fan tray.



Item	Q'ty	Description
1	1	Chassis
2	1	Heat exchange CORE
3	1	Internal fan tray
4	1	External fan tray
5	1	Controller

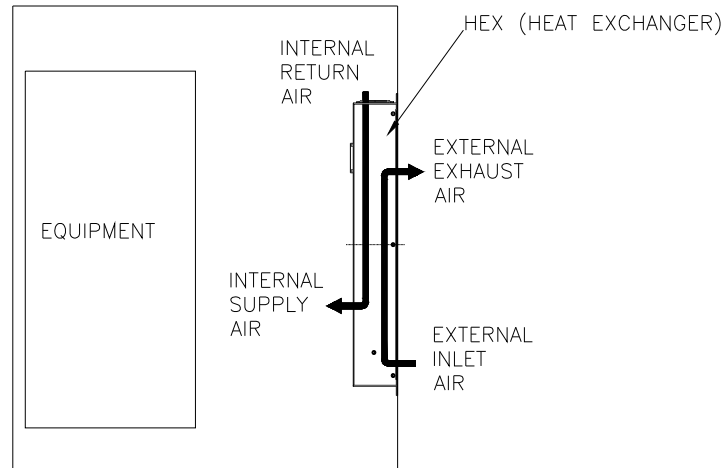


Part no. :

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### 1-5. Thermal path and Airflow baffle

With the forced convection using the axial fan , the warmer return air will be blowing into the HEX ,the cooler supply air will be used to cool down the system ; While on the opposite side , cooler air will be drawn into the lower inlet and bring the heat out from the upper outlet . The thermal exchange path is shown in the figure below.

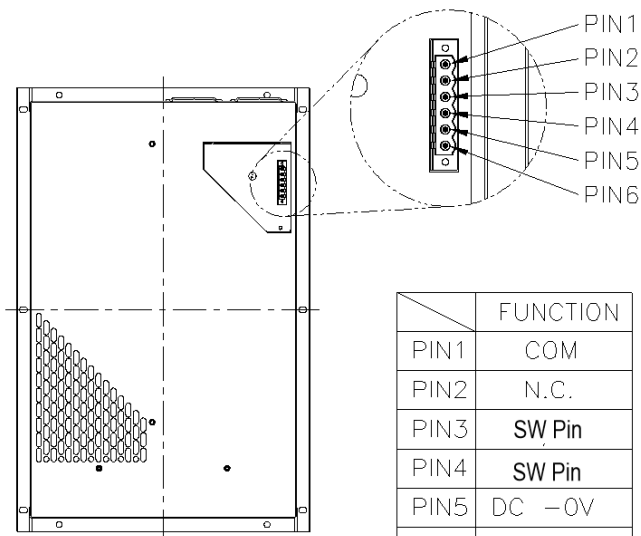


## 2. Electrical specification

### 2-1. Indicator & connector

on panel plate : 2EHDVM-06P

mate with : 2ESDVM-06P



	FUNCTION
PIN1	COM
PIN2	N.C.
PIN3	SW Pin
PIN4	SW Pin
PIN5	DC -0V
PIN6	DC +24V

PIN ASSIGNMENT

	ALARM LOGIC
FAN NORMAL	CLOSE
FAN LOCK	OPEN

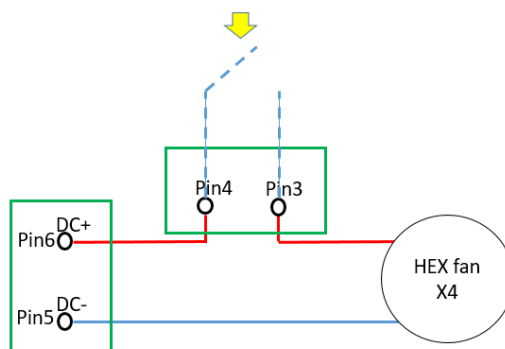
PIN1 & PIN2 ALARM SETTING

Part no. :

Delta model no. : HEX010VA

Pin3 and Pin4 is HEX fan power switching pin assignment , user have two connection options for HEX fan control

1. Short Pin3 and Pin4 to let HEX fan always run.
2. Connect with a thermostat for HEX fan ON/OFF by temperature control.



Note : the thermostat element rating have to meet the HEX rating

### 3. Environmental condition

#### 3-1. Operating temperature

-10°C to +65°C

#### 3-2. Storage temperature

-40°C to +75°C

#### 3-3. Humidity

External air loop : 0 ~ 100% RH

Internal air loop: 0 ~ 90% RH, non-condensing

#### 3-4. Ingress protection rating

IEC60529 IP55 (NEMA 3) on external side

#### 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 voltage

Part no. :

Delta model no. : HEX010VA

#### 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 (External side)	IEC60529 IP55 (NEMA 3)
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. 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.**