



## Specification For Approval

Customer : STD

Description : Thermoelectric cooler 200W

Customer part no : \_\_\_\_\_ Rev. : \_\_\_\_\_

Delta model no : HET200VC Rev. : 03

Sample issue no : \_\_\_\_\_

Sample issue date : Aug.12.2020

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

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

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

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Part no. :

Delta model no. : HET200VC

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Part no. :

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### Specification for approval

Customer : STD

Description : Thermoelectric cooler 200W

Customer P/N :

Rev. :

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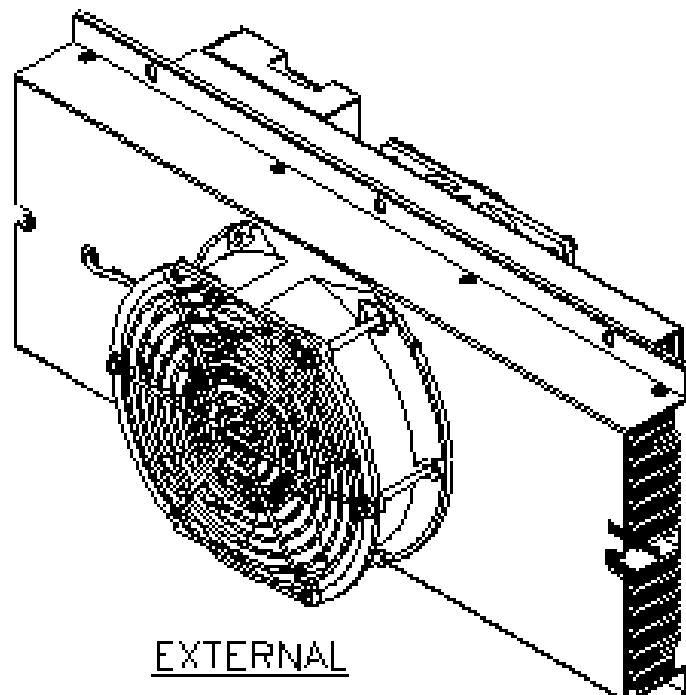
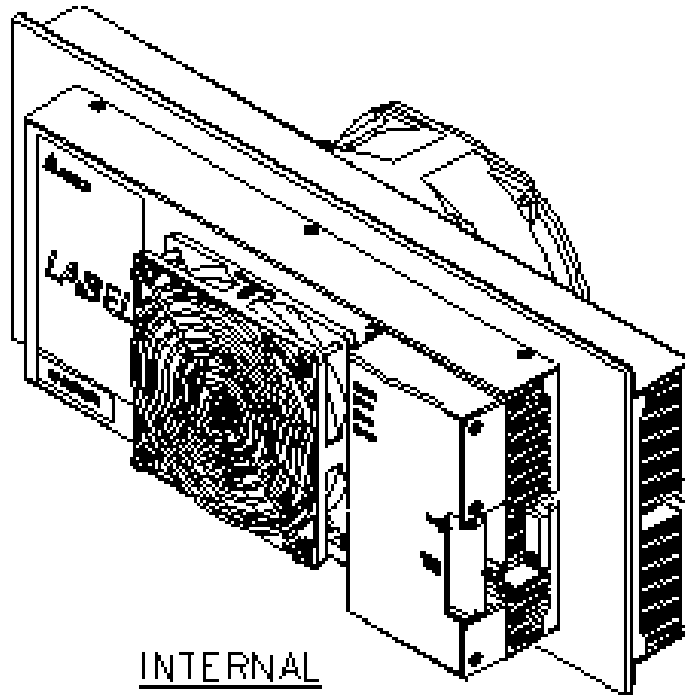
Rev. : 03

Sample revision :

Issue no. :

Sample issue date :

Quantity : sets



Part no. :

Delta model no. : HET200VC

## 1. Description

### 1-1. General description :

The Thermoelectric cooler (TEC) is designed for direct air to air heat removal in the cabinet. It is easy to be installed in the cabinet (recommended on the door of the cabinet) with the nuts.

The internal and external air circulation loops of the TEC Module are separated to prevent the entry of dust, humidity and dirt. The unit conforms to IP55 protection rating on the external air circuit.

### 1-2. Main feature (Operating 24VDC at 25 ° C)

Main feature	Unit	Model Number
		HET200VC
Outline dimension	mm	400 H x 181 W x 169 D
Weight	Kg	6.0 ± 0.5
Cooling capacity ( $\Delta T = 0$ °C)	W	200
Heating capacity @-40 ° C	W	225
Rated voltage	VDC	24 (TYP.)
Operating voltage range	VDC	21-28
Rated Current (note1)	A	14.5 (MAX)
Actuality Current (note1)	A	12A(TYP.)
Rated Consumption (note1)	W	384 (MAX)
Operating temperature	°C	-40~55
Internal airflow rate	cfm	85 (TYP.)
External airflow rate		115 (TYP.)
Acoustic noise at 1M : (Sound pressure)	dB-A	61.0 dB-A(Typ.)
		65.0(Max.)

Cooling and heating capacity is for internal side.

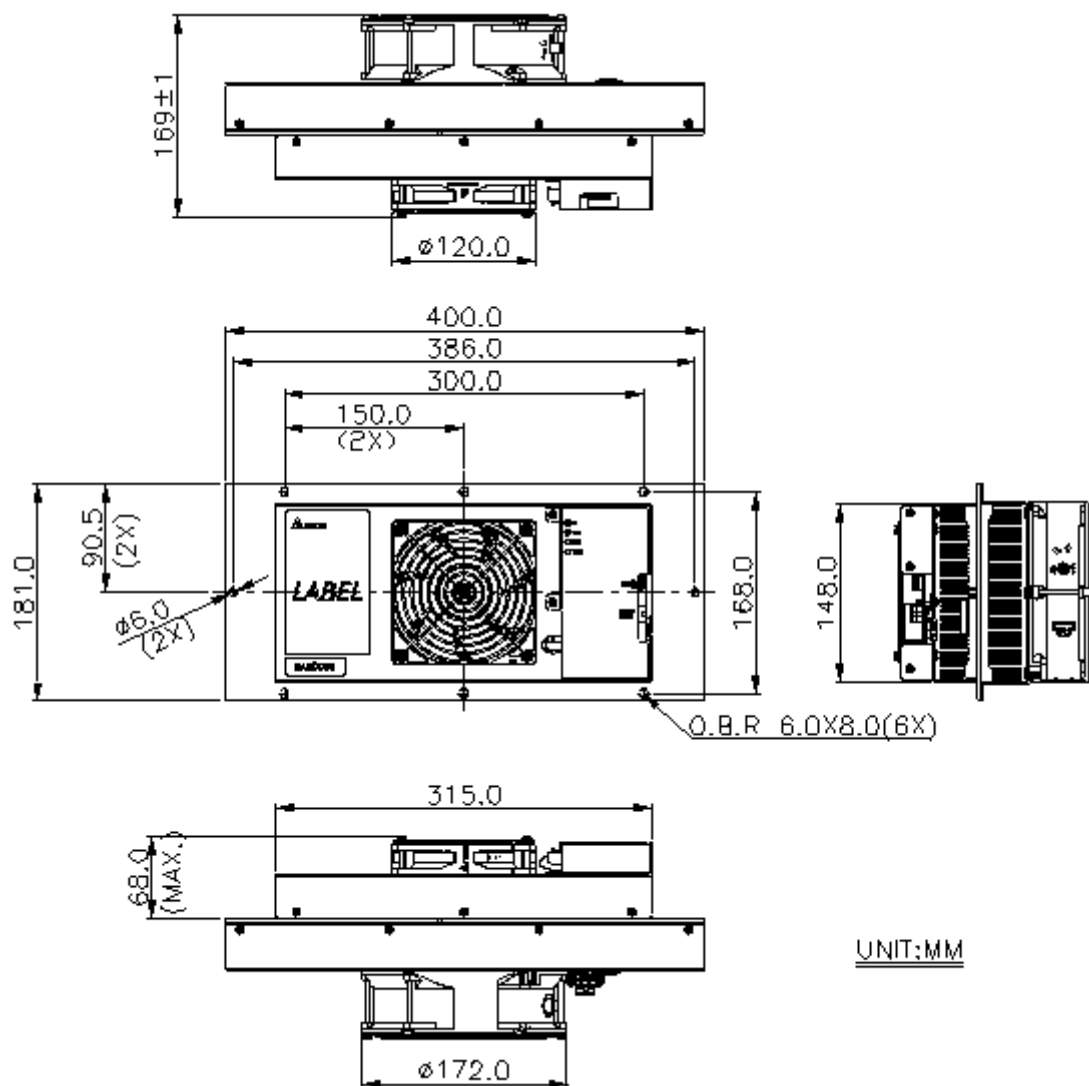
note1: Measure at ambience temperature 25 ° C while TEC module cooling status stable current.

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### 1-3. Dimension

#### 1-3-1 Drawing



(1) Material : case aluminum sheet , t=1.5mm

(2) Finish : Power paint 75~120um,

(3) Color : RAL 7032

(4) Dimension tolerance:

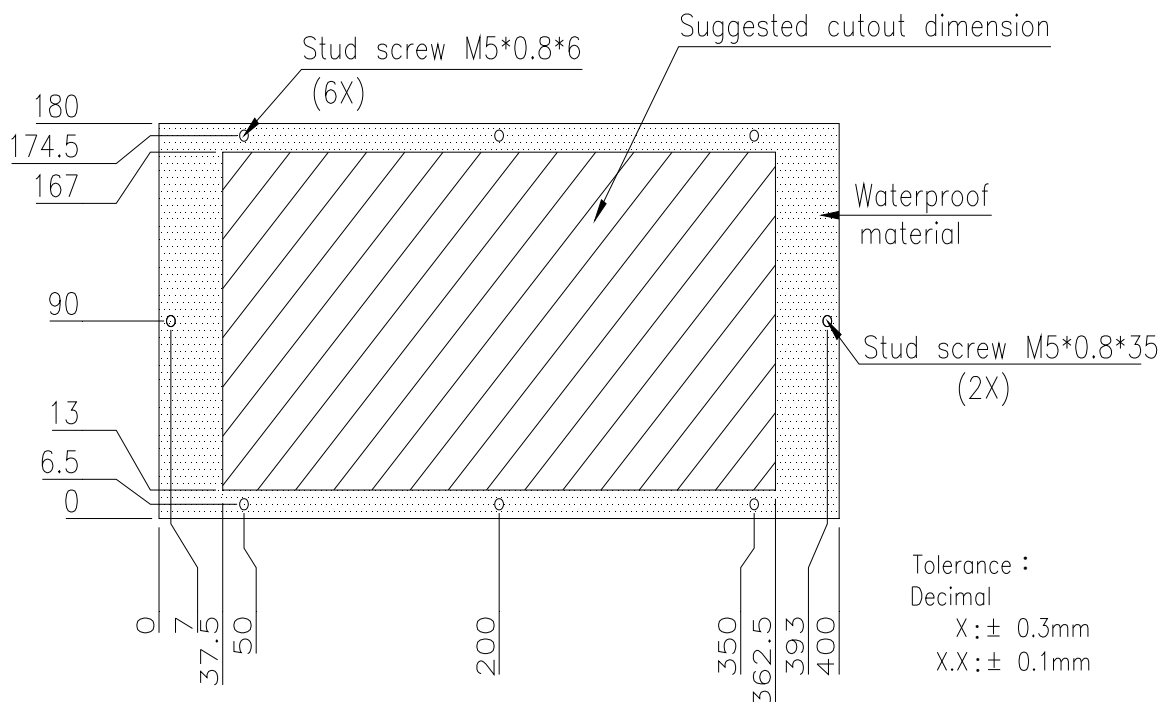
X.X [X.XX] : ± 1.0mm [0.04"]

X.XX [X.XXX] : ± 0.3mm [0.012"]

Part no. :

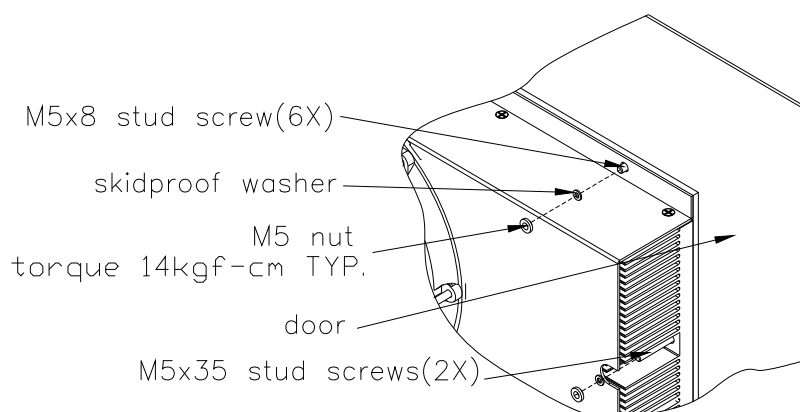
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### 1-3-2 Mounting panel cutout



User needs to prepare below tool and components for assembly

- Phillips screw driver x 1pcs
- Screw driver for M5 nut x 1pcs
- M5x8 stud x 6pcs
- M5x35 stud x 2pcs
- The screw driver securing torque is 14 kgf-cm



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#### 1-4. Maintenance

- 1-4-1. Be sure to disconnect power supply before disassembly TEC module from customer cabinet.
- 1-4-2. Please refer to Delta authorized engineers for TEC module component replacement service, no allow unauthorized personnel to repair the unit.
- 1-4-3. If the replacement by user himself is necessary, please refer to the exploded drawing shown as previous page and below description for disassembly.

External fan: Disassemble mounting screw of external fan via screw driver & pull out the connector.

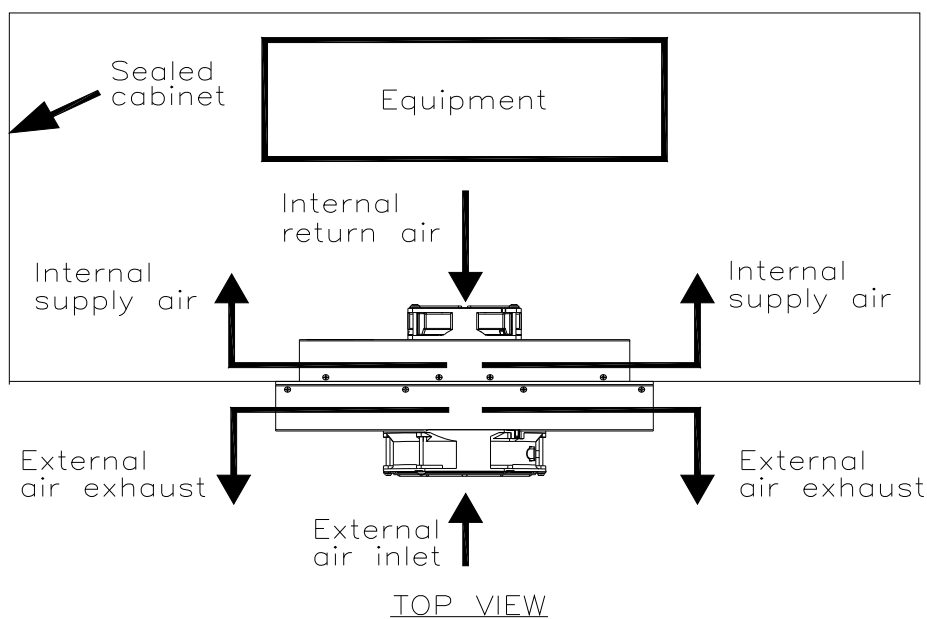
Internal fan: Disassemble mounting screw of internal fan via screw Driver & pull out the connector.

Controller: Need to disassemble internal fan first , then pull-out all cable connection on controller , take off mounting screw of controller finally .

TEC device: Due to TEC device have waterproof sealant protection and thermal conductive compound with heat-sink, please kindly ship back to Delta for replacement.

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

The thermal exchange path is shown in the figure below.



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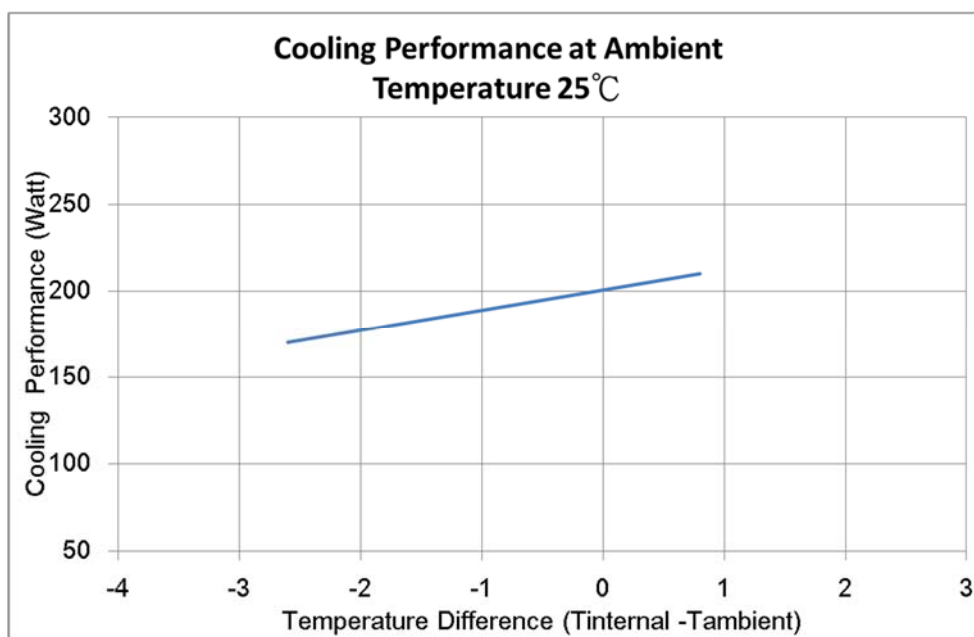
## 2. Electrical specification

### 2-1. Indicator & connector

Connector " -24V VDC " mate with JWT C4201WR0-2\*3PNL



### 2-2. Cooling Performance VS Temperature Difference



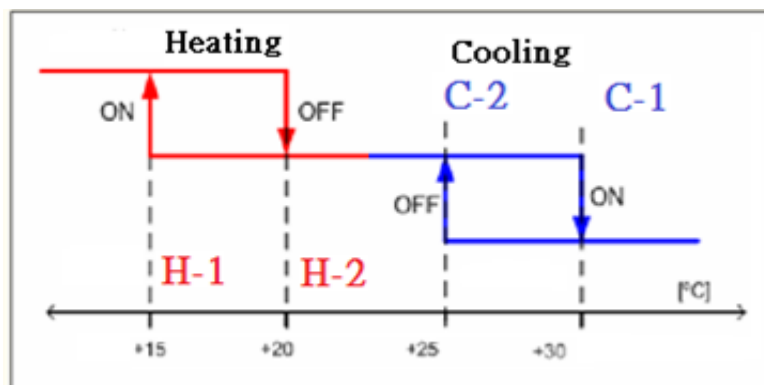
### 2-3. TEC work temperature range

TEC module has two work status, cooling and heating, according to the cabinet internal temperature (detect by on-board NTC). The default setting of TEC work temperature is as bellow picture.

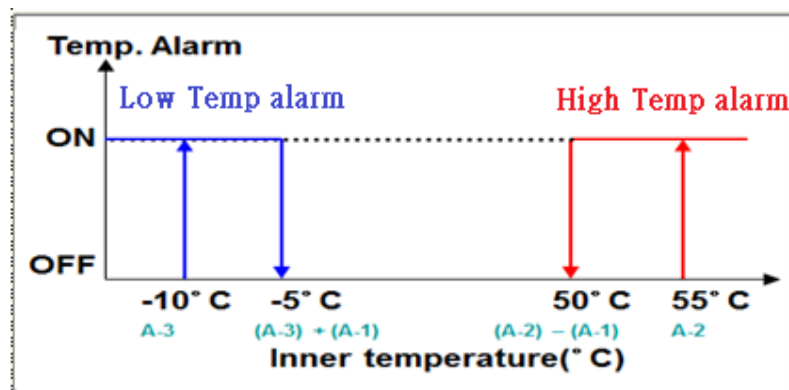


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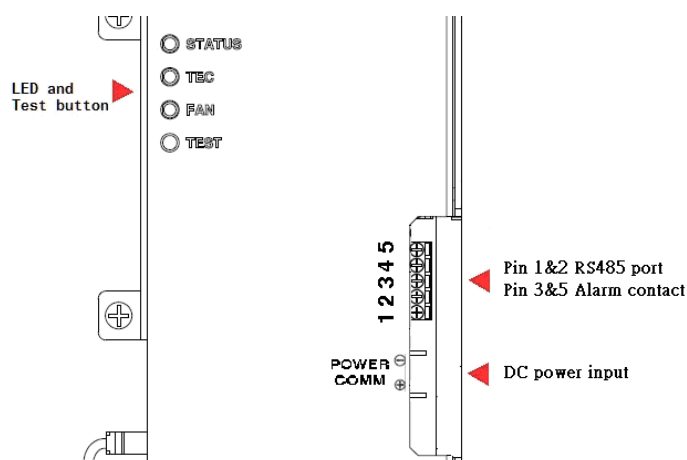
There is an alarm function for high temp & low temp. status. The alarm default temp point is as bellow:



Part no. :

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## 2-4. Interface



LED and Test button:

### ■ LED "STATUS"

- (Green) : TEC module work in cooling mode
- (Orange):TEC module work in heating mode
- (Dark): TEC module TEC function OFF

### ■ LED "TEC" \*

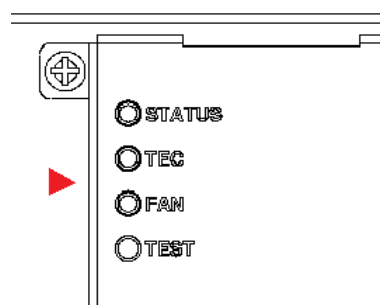
- (Green) : TEC normal
- (Red) : TEC failed
- (Blink green) : TEC normal in test process
- (Blink red) : TEC failed in test process or Sensor failed

### ■ LED "FAN"

- (Green) : Fan normal
- (Red) : Fan failed
- (Blink Green) : Fan normal in test process
- (Blink Red) : Fan failed in test process

### ■ CLEAN/TEST

There is an auto test button on control board, user can press this button to run heating and cooling process. The FAN & TEC LED will be blinking during this process. The process is about 3.5 min. User can turn off this function by pressing this button again.



Part no. :

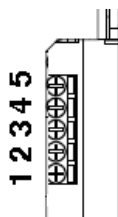
Delta model no. : HET200VC

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ISO RS485 port:

- Pin1 :RS485 A
- Pin2: RS485 B

Alarm dry contact: Contact  
(MAX. 60VDC, 400mA)



Pin 1&2 RS485 port  
Pin 3&5 Alarm contact rating

- Pin3 to pin4 “Close”:  
Normal
- Pin3 to pin4 “Open”:  
Fan, TEC, sensor filed, Temp alarm or power off
- Pin3 to pin5 “Open”:  
Normal
- Pin3 to pin5 “Close”:  
Fan, TEC, sensor failed, Temp alarm or power off

TEC module contain RS-485 communication function for adjust TEC temperature point. This function is only for factory setting or engineer test. If customer has any special application, please contact Delta to verify first.

Part no. :

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Delta model no. : HET200VC  
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### 3. Environmental conditions

#### 3-1. Operating temperature :

-40°C ~ +55°C ( -40°F ~ 131°F)

#### 3-2. Storage temperature :

-40°C ~ +65°C (-40°F ~ 149°F)

#### 3-3. Humidity

External air circuit: 0 ~ 100% RH

Internal air circuit: 0 ~ 90% RH

#### 3-4. Protection rating

IP55 (IEC60529) on external side with mounting on door.

#### 3-5. MTBF

Fan lifetime is expected to have a minimum L10 life of 80,000 hours  
continuous operation at 40°C with 15 ~ 65%RH at 48 voltage

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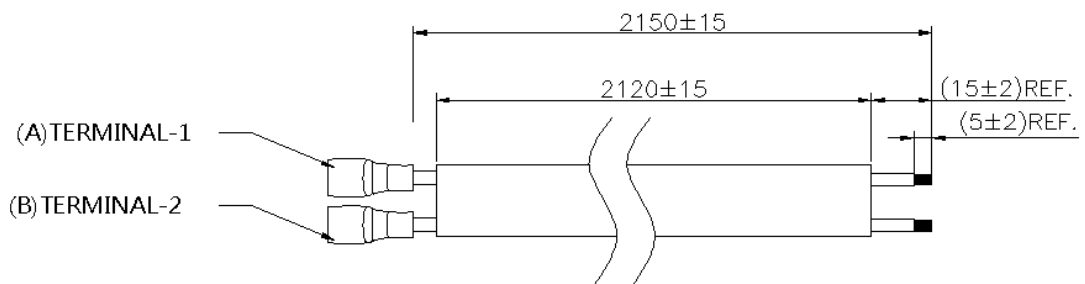
#### 4. Certified safety



#### 5. User cable

Each HET200VC will provide 1 cable with shipment.

##### 5-1 Power cable



PINOUTS	CABLE WIRE	CABLE WIRE
TERMINAL	COLOR	TYPE
TERMINAL-1	RED(+)	UL1015AWG#18
TERMINAL-2	BLACK(-)	