ANV ANV

# ANV ELECTRIC

## T2Z

## THREE-PHASE 2 WIRE POWER CONTROLLERS

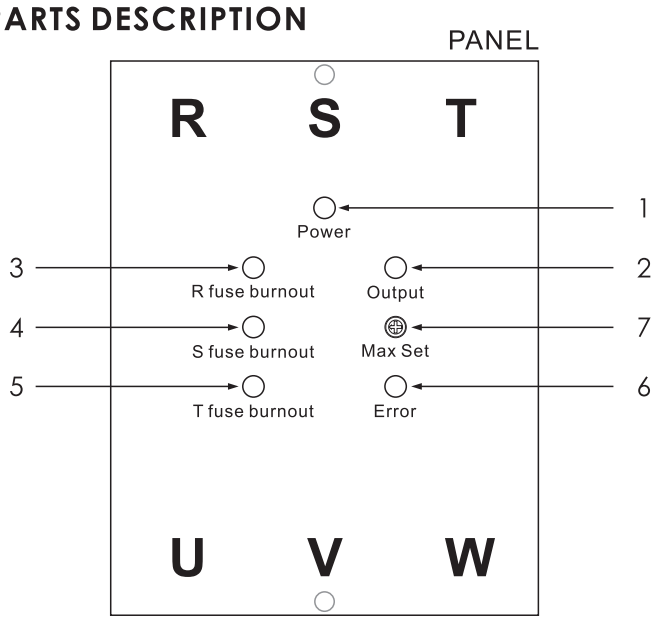
# MANUAL

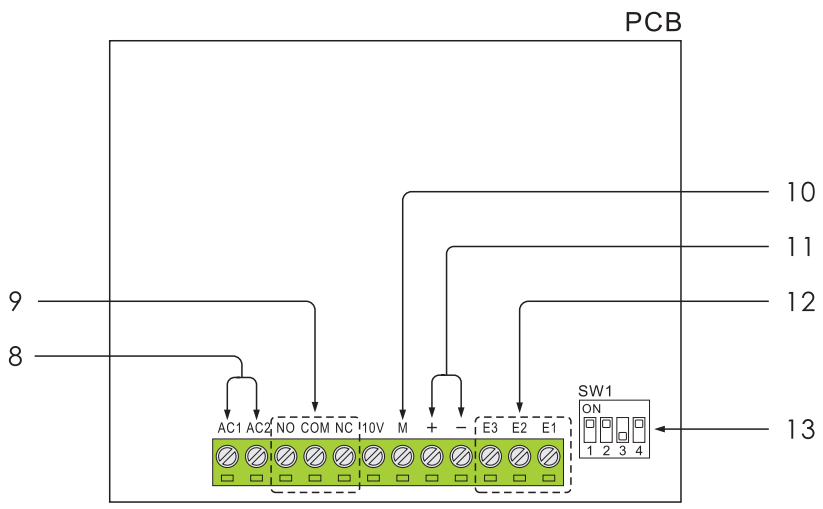
**⚠ WARNING** Indicating a message , If not complied, May cause a misoperation to cause a person to receive Damage or property damage.

This product will generate heat, please improve the cooling effect.
If not installed in the prescribed manner, May cause equipment failure, personal injury or unexpected accidents.

- ⚠ Do not contact the terminal when the power ON. Terminal cover must be installed after the wiring.
- ⃠ Do not use in places with flammable and explosive gas.
- ❗ When connecting to the terminals, use the specified wire size for each model power controller. Crimp terminal that conform to UL and CSA specifications must be used. Either use insulated crimp terminals or cover the crimp terminals with insulating sleeves.
- ❗ Fail-safe measures must be taken by the customer to ensure safety in the event of incorrect, missing, power interruptions, or other causes.
- ❗ Do not allow chips or filings from installation work, pieces of metal, or wire clippings to enter the power controller

## ■ PARTS DESCRIPTION




| SYMBOL | | NAME | FUNCTION |
|---|---|---|---|
| Power | 1 | Power indicator | When operating power (AC1, AC2) is powered, Red indicator lights up. |
| Output | 2 | Output indicator | When the SCR is output, Green indicator lights up. |
| R fuse burnout | 3 | R Fuse burnout indicator | R fuse burnout, Yellow indicator lights up. |
| S fuse burnout | 4 | S Fuse burnout indicator | This phase has no fuse, so the indicator never light up. |
| T fuse burnout | 5 | T Fuse burnout indicator | T fuse burnout, Yellow indicator lights up. |
| Error | 6 | Failure indicator | Overheat or fuse burnout Yellow indicator lights up. |
| ⊗ Max Set | 7 | Output voltage adjustable | Adjust the output voltage according to user demand. |
| AC1 AC2 | 8 | Operating power terminal | Input voltage AC 220V±10% 50/60Hz. |
| NO COM NC | 9 | Failure output contact | Failure output contact: common terminal and normal open terminal and normal close terminal |
| M | 10 | Controller output terminal | External VR control. Terminal M output DC 5V/100mA. SW1 must be set to 0~5V. |
| + − | 11 | TC terminal | Connect the Temperature Controller and the input signal must be set to 4~20mA. |
| E3 E2 E1 | 12 | External VR terminal | Input signal adjustment range is 0~100%. When the VR on the panel is 0%, the external VR has no effect. Short E3 and E2 when external VR is no use. |
| SW1 | 13 | Input signal DIP switch | See the INPUT SIGNAL SETTING. |

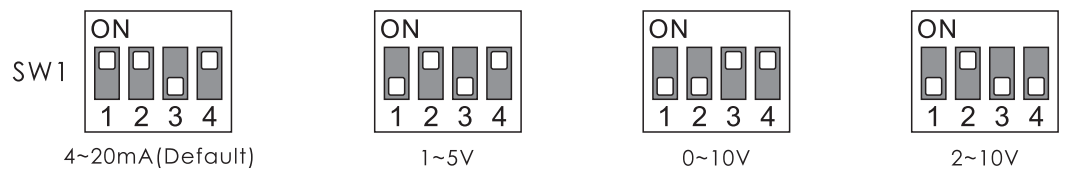
## ■ NOTICE

1. Must have a qualified person perform the installation work.
2. Loose screws may cause sparks. Please tighten the screws according to the specified torque.
3. In order to avoid personal injury or fire accidents caused by this product failure, please consider safety and pay attention to the overall system heat dissipation, anti-heating, anti-misoperation and other safety design.
4. Heat sink is hot and can cause burns. Do not touch anything other than the product setting button during power-on or immediately after power-off.

## ■ SPECIFICATIONS

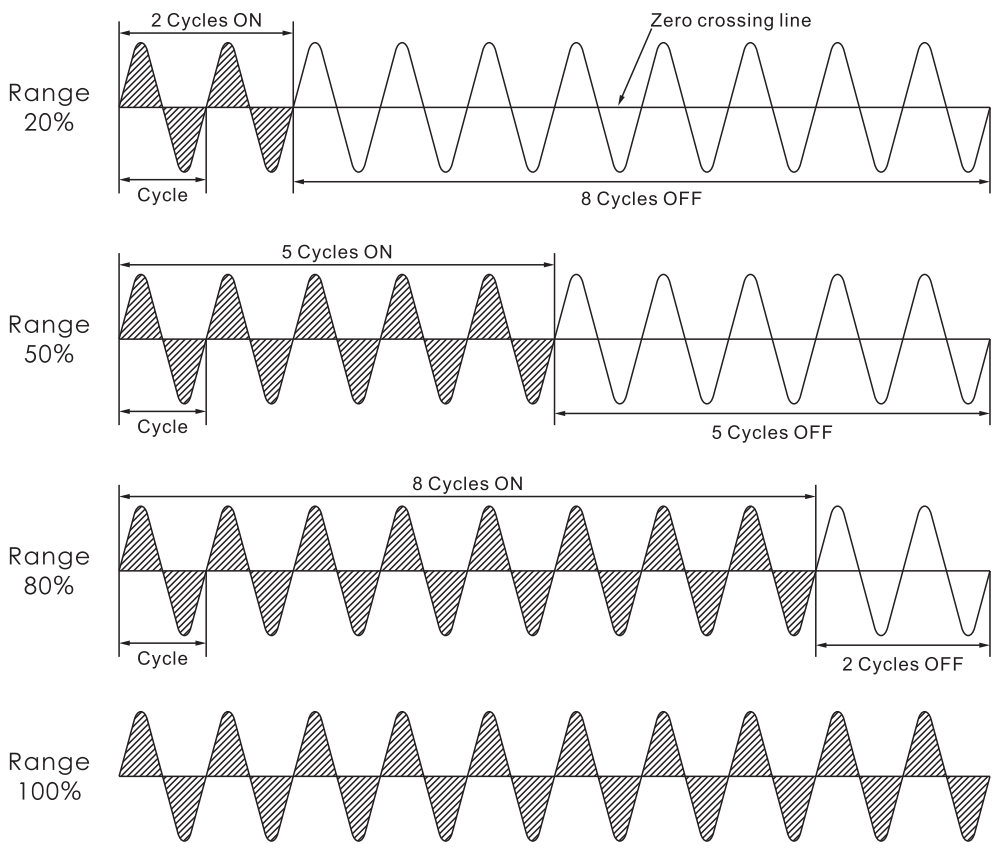
| MODEL | T2Z-□-□-□□□ |
|---|---|
| LOAD VOLTAGE | AC 220V, 380V, 415V, 440V, 480V 50/60Hz<br>AC 220~380V, 380~440V, 380~480V 50/60Hz |
| OPERATING VOLTAGE | AC 220V±10% 50/60Hz (110VAC order by user) |
| LOAD CURRENT | 25A, 35A, 50A, 60A, 80A, 100A, 125A, 160A, 180A, 200A |
| OUTPUT METHOD | Zero crossing control |
| OUTPUT VOLTAGE RANGE | 0~100% |
| INPUT CONTROL SIGNAL | DC 4~20mA/ 1~5V/ 0~10V/ 2~10V |
| FREQUENCY | 50/60Hz Auto Switching |
| FAILURE INDICATOR | Fuse burnout or overheat indicator |
| FAILURE OUTPUT CONTACT | 5A 250VAC resistive load (1a1b) |
| EXTERNAL VR | External VR (10K) |
| OVERHEAT PROTECTION | Automatic trip protection when overheated |
| FUSE BURNOUT DETECTION | Fuse burnout indicator |
| INSULATION RESISTANCE | 20MΩ or more between input terminals and case(ground) at DC 500V |
| DIELECTRIC STRENGTH | 2500VAC at 50/60Hz for 1 min between charged parts and noncharged parts |
| AMBIENT TEMPERATURE | -10℃~+50℃ |
| AMBIENT HUMIDITY | 45~90%RH |

## ■ INPUT SIGNAL SETTING




## ■ ZERO CROSSING CONTROL

Zero-crossing control mode - operates by turning the SCR's on only when the instantaneous value of the sinusoidal voltage is zero. Zero crossing control mode is ideally suited for SCR temperature controllers designed for purely resistive loads that can accommodate fast, full power on/off cycling.

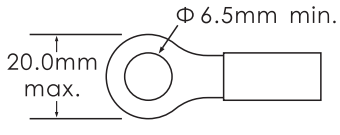



## ■ WIRING THE CONTROL TERMINAL BLOCK

Recommended wire specifications is AWG26~16. The wire coating peel length was 7 mm.
When using twisted wires, it is recommended that you attach a ferrule with an insulating cover that conforms to DIN 46228-4 and connect the ferrule to the terminal. The above applies to all models.

## ■ WIRING THE LOAD TERMINAL BLOCK

Be sure to connect the load terminals when wiring use the following crimp terminals.

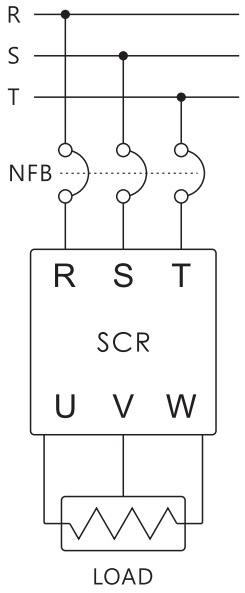



## ■ WEIGHT

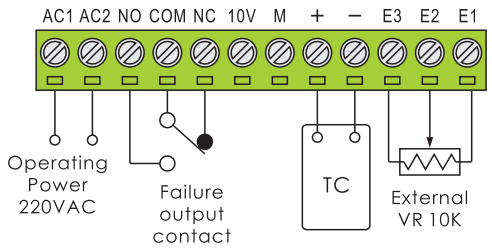
| T3P-□-□-025 /035 /050 | T3P-□-□-060 /080 /100 | T3P-□-□-125 /160 | T3P-□-□-180 /200 |
|---|---|---|---|
| Approx. 3100g | Approx. 3350g | Approx. 4600g | Approx. 5250g |

## CONNECTION DIAGRAMS

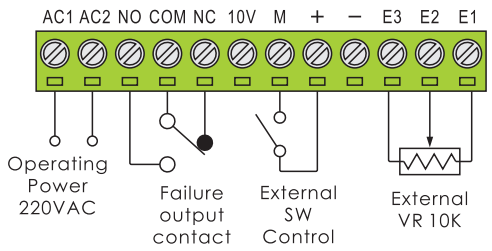
Three-phase power



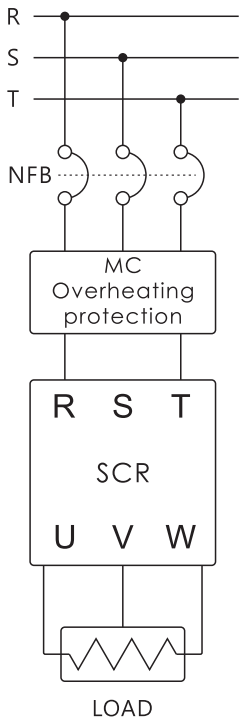

1. TC signal input, External VR control



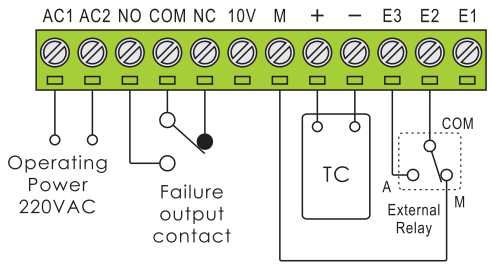

2. External SW control, External VR control



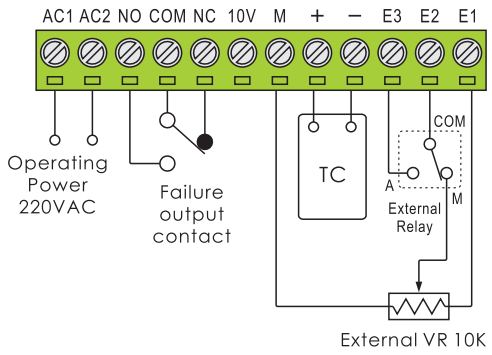

Three-phase power



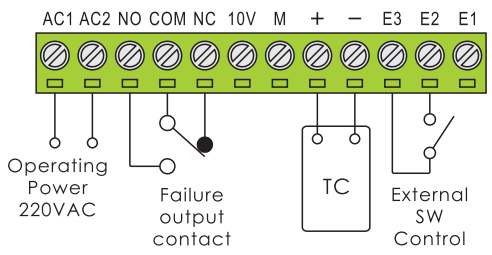

3. TC automatic control /Manual control




4. TC automatic control /External VR control




5. TC signal input, External SW control




NFB: No fuse Breaker
TC: Temperature Controller
A : Automatic(External Relay)
M: Manual(External Relay)

## FAST-ACTION FUSES

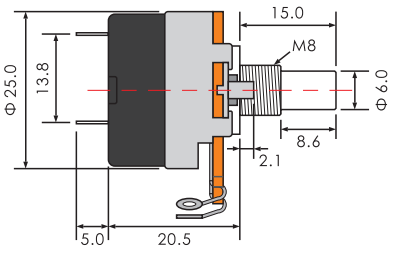
*ET,FE Series(77x17.1mm),
660GH125UL(76.7x18mm), 660GH200UL(98x25mm)

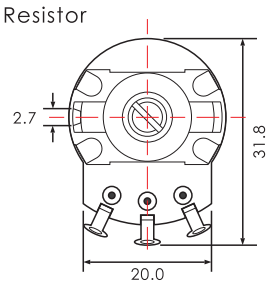
| Model | Specifications | |
|---|---|---|
| 25A | 35A/690V | 35ET |
| 35A | 56A/690V | 56ET |
| 50A | 63A/690V | 63ET |
| 60A | 80A/690V | 80ET |
| 80A | 100A/690V | 100FE |

| Model | Specifications | |
|---|---|---|
| 100A | 125A/660V | 660GH125UL |
| 125A | 80A/690V | 80ET x 2 |
| 160A | 200A/660V | 660GH200UL |
| 180A | 200A/660V | 660GH200UL |
| 200A | 125A/660V | 660GH125UL x 2 |

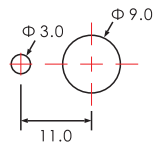
## ACCESSORIES (Order Separately)

**Type: PC-V10K** Variable Resistor

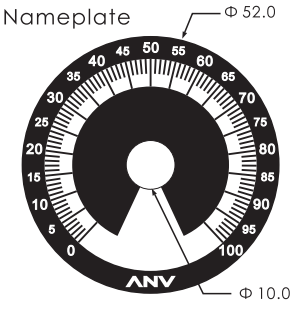


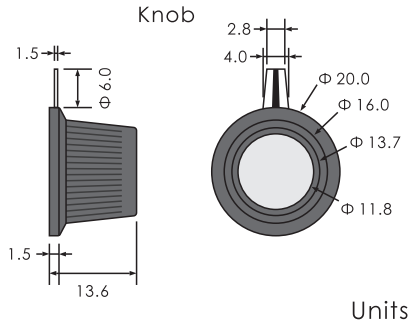

Mounting Holes




Nameplate




Knob



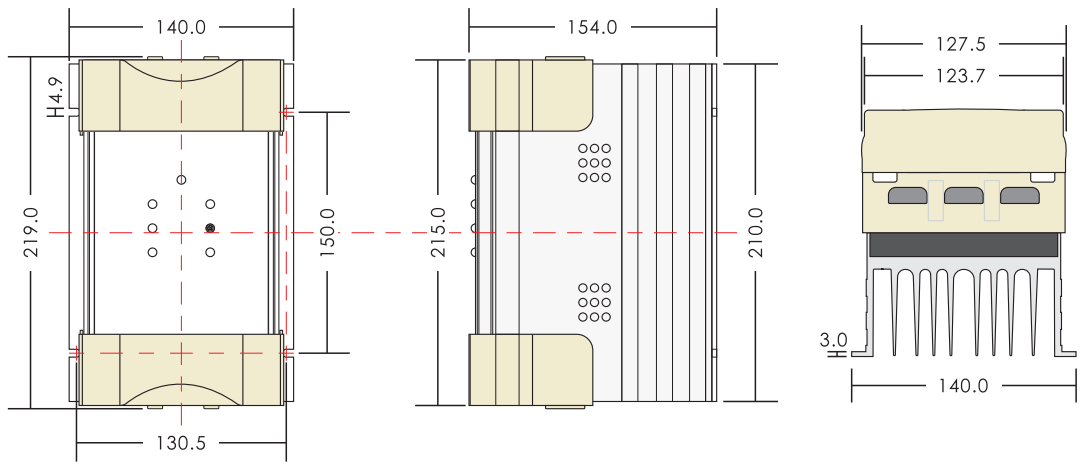

Units: mm

## TROUBLESHOOTING

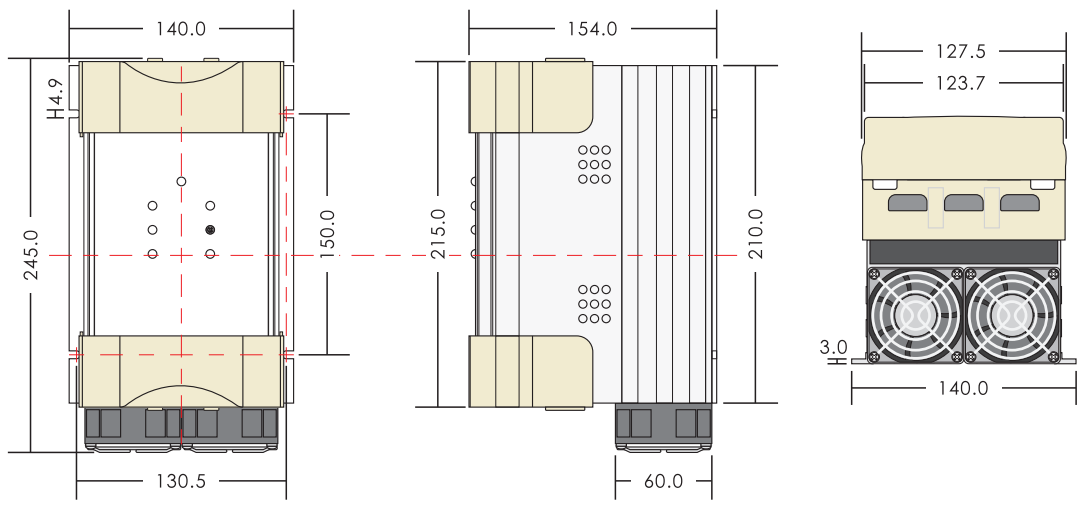
1. The fan does not work. When the heatsink temperature rises to 55 degrees C, the fan stops when it drops to 45 degrees C.
2. How many degrees of overheat protection. When the temperature rises to 90 degrees C,it will trip protection.
3. How to confirm that the SCR is good. Connect the operating power supply then measure (-) terminal and (M) terminal with the meter. The voltage value is 5VDC, or measure (-) terminal and E3, E2 voltage value is about 4.6~5VDC.
4. Can't fully load output. check input signal is correctly, or Max set adjustment knob does not go to the bottom.

## DIMENSIONS (Units: mm)

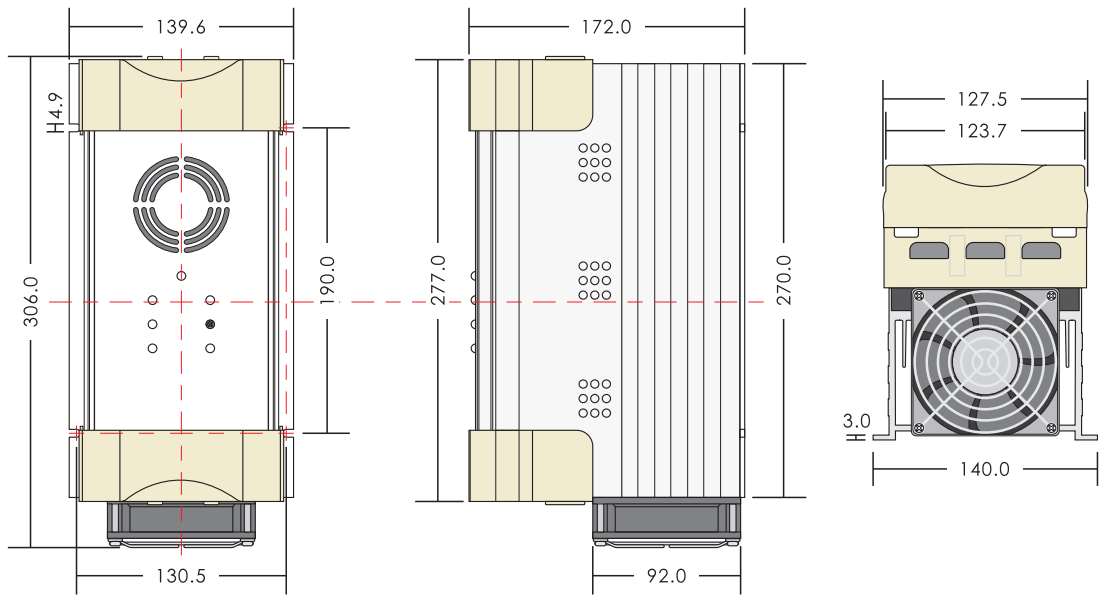
T2Z-□-□-025 /035 /050



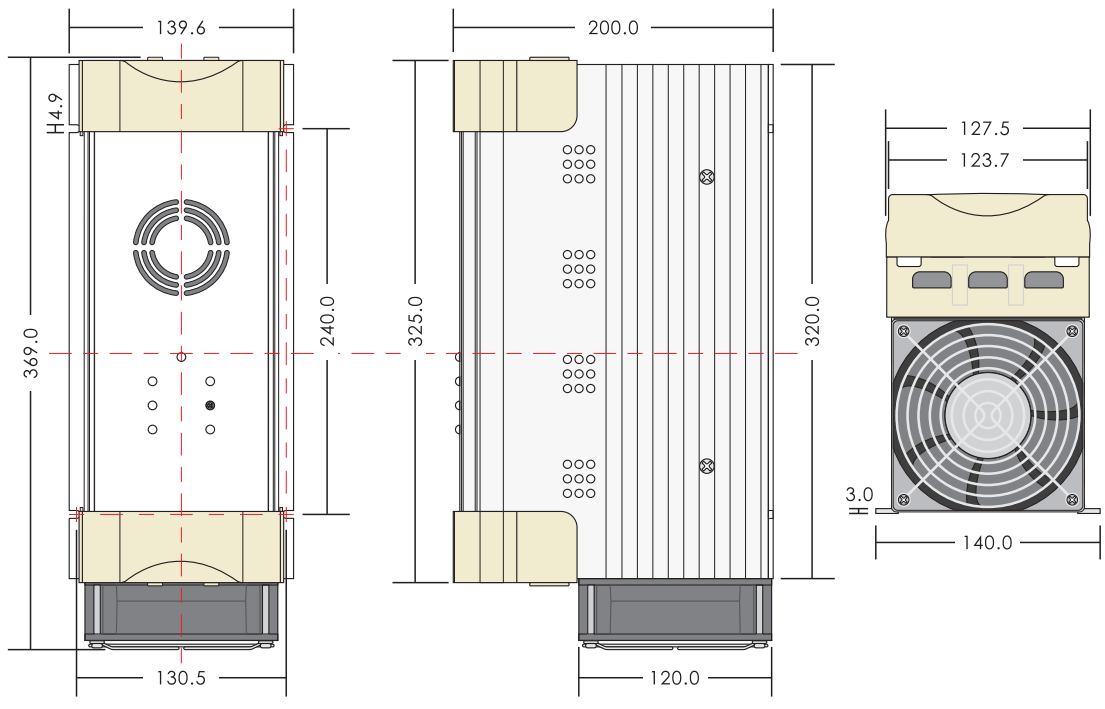

T2Z-□-□-060 /080 /100




T2Z-□-□-125 / 160

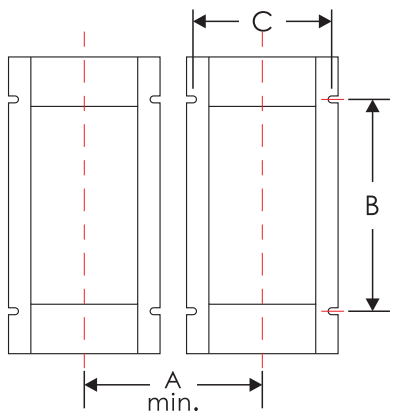



T2Z-□-□-180 /200




Mounting Holes

| Model | A | B | C |
|---|---|---|---|
| 25~100A | 160.0±0.2 | 150.0±0.2 | 130.5±0.2 |
| 125~160A | 160.0±0.2 | 190.0±0.2 | 130.5±0.2 |
| 180~200A | 160.0±0.2 | 240.0±0.2 | 130.5±0.2 |




PCAI01