

# PAH75D48 SERIES

# HANDBOOK



## POWER MODULE

**BEFORE USING THE POWER SUPPLY UNIT**

Pay attention to all warnings and cautions before using the unit. Incorrect usage could lead to an electrical shock, damage to the unit, or a fire hazard.

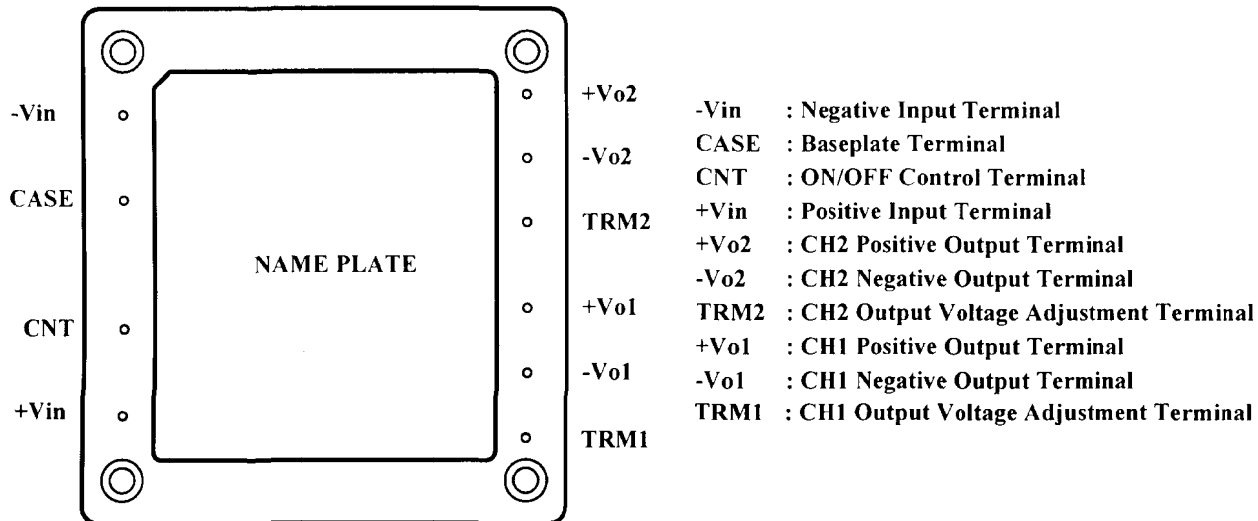
**WARNING**

- Do not touch heatsinks and case which may be hot.
- Confirm connections to input/output terminals and signal terminals are correct as indicated in instruction manual.
- Attach a fast blow type external fuse to each module to ensure safety operation and to acquire each safety standard approval.
- This power supply is designed for professional installation within an end use equipment.
- The input supply, 36~76Vdc must be isolated from the mains primary power supply by reinforced insulation in accordance with EN60950/UL1950.
- Do not inject abnormal voltage to output or signal pins. Especially, when inject negative voltage or voltage exceeding rated output voltage to output pins might cause damage to internal output capacitor (Functional Polymerized Capacitor).

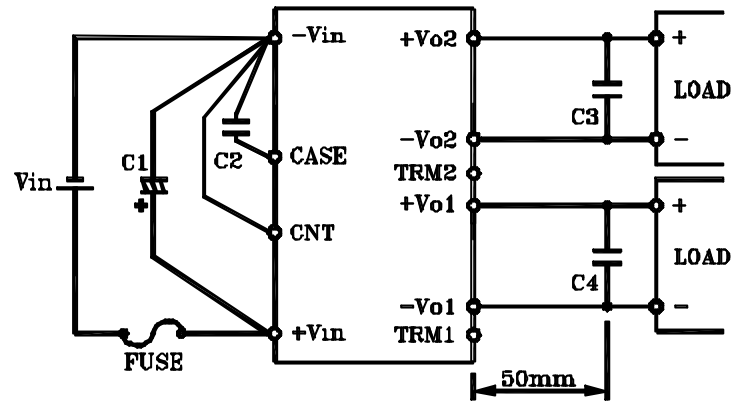
**NOTE : CE MARKING**

CE marking, when applied to a product covered by this handbook indicates compliance with the low voltage directive (73/23/EEC) as modified by the CE Marking Directive (93/68/EEC) in that it complies with EN60950.

**1. TERMINAL EXPLANATION**



## 2. BASIC CONNECTION



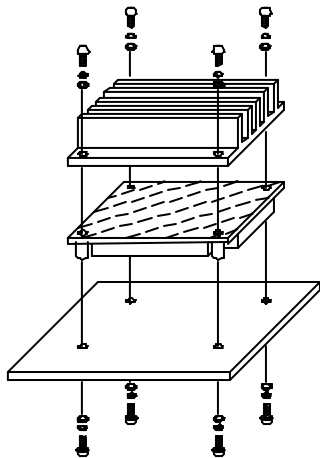
Fuse : External Fuse                      C2 : High Withstand Voltage Ceramic Capacitor  
 C1 : Electrolytic Capacitor            C3,C4 : Ceramic Capacitor  
 Note : The Basic Connection shown is for Control ON/OFF Logic Low

## 3. WITHSTAND VOLTAGE

This power module is designed to withstand 1.5kVDC input-output and 1.5kVDC input-baseplate for each 1 minute.

## 4. MOUNTING DIRECTION

### 4-1. Circuit Board Mounting



- 1) The power module is fixed to printed circuit board by 4 positions through the M3 tapping holes in the resin case side. Recommended torque is 5.5kgcm.
- 2) The M3 mounting tapping holes of the power module are connected to the baseplate. FG (Frame Ground) can be taken by these tapping holes.
- 3) Mounting Holes on Printed Circuit Board
  - Input/Signal/Output Terminal Pin ( $\phi 1.0\text{mm}$ )
    - Hole Diameter :  $\phi 1.5\text{mm}$
    - Land Diameter :  $\phi 3.5\text{mm}$
  - Note : For Pins +Vo2 & TRM1, the Land Diameter at the solder side needs to reduce to  $\phi 2.5\text{mm}$  in order to avoid touching to Land Diameter of M3 Mounting Tap.
  - M3 Mounting Tap (FG)
    - Hole Diameter :  $\phi 3.5\text{mm}$
    - Land Diameter :  $\phi 6.5\text{mm}$
- 4) Recommended Printed Circuit Board is a double sided glass epoxy ( $t=1.6\text{mm}$ ) with through holes

#### 4-2. Recommended Soldering Condition

Recommended soldering temperature is as follows.

- (1) Soldering dip : 260°C within 10 seconds  
Pre-heat condition : 110°C 30~40 seconds
- (2) Soldering iron : 350°C within 3 seconds

#### 4-3. Recommended Cleaning Condition

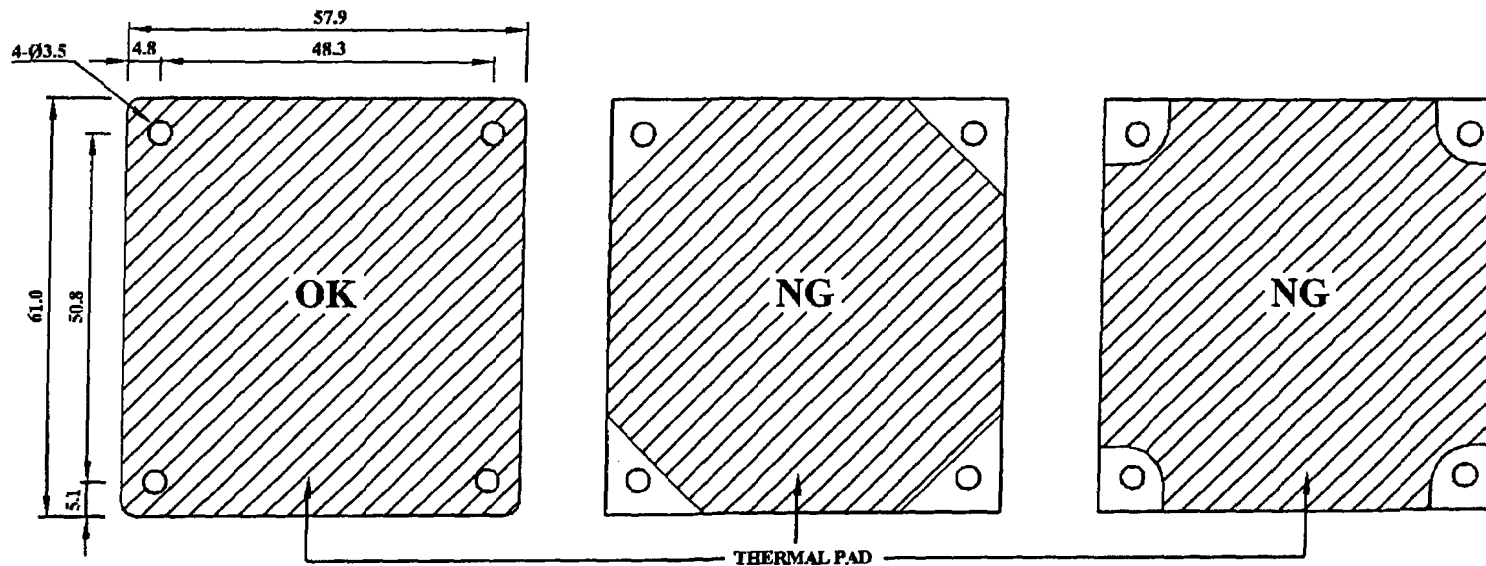
Recommended cleaning condition after soldering is as follows.

- Cleaning solvent : IPA (isopropyl alcohol)
- Cleaning Procedure : Use brush and dry the solvent completely

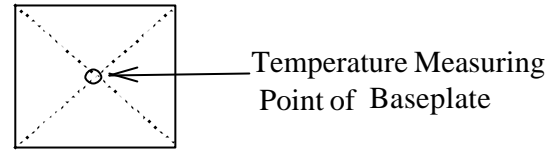
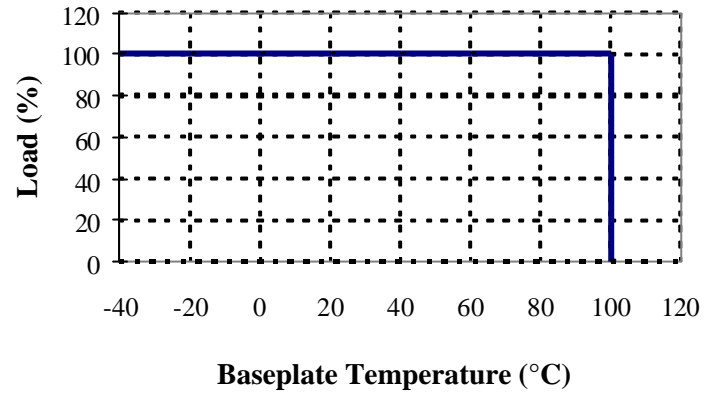
Note : For other cleaning methods, contact us.

#### 4-4. Heatsink Installation

- 1) The power module is fixed to the heatsink by 4 position through the M3 mounting tapped holes provided on the baseplate. It is recommended that the sequence to screw the 4 screws is in a diagonally manner and the recommended torque is 5.5kgcm.
- 2) Recommended hole diameter for heatsink = 3.5mm.
- 3) Use thermal grease or thermal sheet in between heatsink and baseplate to minimize the contact thermal resistance. However, make sure that the thermal grease or sheet is evenly applied and using no-warped heatsink in order to avoid any warpage on the baseplate.
- 4) Recommended thermal sheet is as shown below. Cutting the corner of thermal sheet is NOT advisable.



## 5. OUTPUT DERATING



## 6. EXTERNAL FUSE RATING

Fuse rating : PAH75D48 --- 250V 5A (Fast Blow Type)

## 7. NOTES

Over Current Protection operates > 105% of maximum DC output current.