

INSTALLATION INSTRUCTIONS

TSP-3P Series Industrial Power Supply

Order Code	AC-Input Voltage Range	Output Boost Power max.	Output Nominal	Output Boost for 5 Seconds	recommended Circuit breaker / fuse
TSP 240-124-3PAC400	360Vac – 440Vac 47 – 63Hz	480 Watt	24.0Vdc / 10.0A	24.0Vdc / 20.0A	6A (Characteristic B)
TSP 480-124-3PAC400		960 Watt	24.0Vdc / 20.0A	24.0Vdc / 40.0A	
TSP 960-124-3PAC400		1920 Watt	24.0Vdc / 40.0A	24.0Vdc / 80.0A	
TSP 240-124-3PAC500	450Vac – 550Vac 47 – 63Hz	480 Watt	24.0Vdc / 10.0A	24.0Vdc / 20.0A	
TSP 480-124-3PAC500		960 Watt	24.0Vdc / 20.0A	24.0Vdc / 40.0A	
TSP 960-124-3PAC500		1920 Watt	24.0Vdc / 40.0A	24.0Vdc / 80.0A	

Order Code	Input Current	Order Code	Power Consumption
➤ TSP 240-124-3PAC400	0.50A typ Nominal Voltage	➤ TSP 240-124-3PAC400	19 Watt typ Nominal Voltage
➤ TSP 480-124-3PAC400	1.00A typ Nominal Voltage	➤ TSP 480-124-3PAC400	34 Watt typ Nominal Voltage
➤ TSP 960-124-3PAC400	1.88A typ Nominal Voltage	➤ TSP 960-124-3PAC400	68 Watt typ Nominal Voltage
➤ TSP 240-124-3PAC500	0.40A typ Nominal Voltage	➤ TSP 240-124-3PAC500	18 Watt typ Nominal Voltage
➤ TSP 480-124-3PAC500	0.77A typ Nominal Voltage	➤ TSP 480-124-3PAC500	32 Watt typ Nominal Voltage
➤ TSP 960-124-3PAC500	1.50A typ Nominal Voltage	➤ TSP 960-124-3PAC500	65 Watt typ Nominal Voltage

Operating temperature range: Natural Air Convection Cooling	-25°C – +70°C max -13°F – +158°F max
Output Power Derating:	above +55°C → 2.5%/K (6.0 ^W /°C) → TSP240-124-3PAC400/TSP240-124-3PAC500 above 131°F → 1.4%/°F (3.35 ^W /°F) → TSP240-124-3PAC400/TSP240-124-3PAC500 above +55°C → 2.5%/K (12.0 ^W /°C) → TSP480-124-3PAC400/TSP480-124-3PAC500 above 131°F → 1.4%/°F (6.7 ^W /°F) → TSP480-124-3PAC400/TSP480-124-3PAC500 above +55°C → 2.5%/K (24.0 ^W /°C) → TSP960-124-3PAC400/TSP960-124-3PAC500 above 131°F → 1.4%/°F (13.4 ^W /°F) → TSP960-124-3PAC400/TSP960-124-3PAC500
Output Power Derating:	330Vac → 360Vac I _{out max} = 100% Nominal 410Vac → 430Vac I _{out max} = 50% Nominal 430Vac → 450Vac I _{out max} = 100% Nominal
Storage temperature range:	-25°C – +85°C max -13°F – +185°F max
Power Back Immunity	35Vdc continuous and 40Vdc for 1second max.
Over Voltage Protection in single fault condition:	Typ 30Vdc → 33Vdc
Connections:	AC Input: Screw type terminal COMBI Recommended tightening torque 0.5 to 0.6Nm. DC Output: Screw type terminal COMBI Recommended tightening torque 0.5 to 0.6Nm.
	Output Signal: Screw type terminal COMBI Recommended tightening torque 0.5 to 0.6Nm.
Case material:	Aluminium (chassis) and Zinc-plated steel (cover)

Safety Instructions:

- Before installation read these instructions carefully and completely. This installation instruction cannot account for every possible condition of installation, operation or maintenance. Further information can be obtained from your local distributor office or from the product datasheet, which can be downloaded from our website: <http://www.tracopower.com/products/tsp3p.pdf>.
- These power supplies are constructed in accordance with the safety requirements of IEC /EN/UL 60 950-1, UL508, EN 60 204, EN 50178, EN 61558-2-8, CSA22.2-60950-1 and CSA22.2-107. They are approved (BG-mark) in accordance with EN 60 950-1, EN 50178, EN 60204 and fulfil the requirements of the Low Voltage Directive (LVD). They will be UL and cUL approved in accordance to UL60950-1 (recognised) and UL508 (listed) (Approvals pending).
- Before any installation, maintenance or modification work ensure that the main switch is switched off and prevented from being switched on again. Non-observance, touching of any live components or improper handling of this power supply can result in death, severe personal injury or substantial property damage. Proper and safe operation is dependent on proper storage, handling, installation and operation.
- Compliance with the relevant national regulations (in the USA, Europe and other countries) must be ensured. Before operation is started the following conditions must be ensured:
 - ❖ Connection to mains supply in compliance with national regulations (e.g. VDE0100 and EN50178).
 - ❖ By use of stranded wires, all strands must be fastened in the terminal blocks. (Potential danger of contact with the case)
 - ❖ Power supply and mains cables must be sufficiently fused.
 - ❖ Degree of protection = 1 according to IEC536. The non-fused protective earth connection must be connected to the FG terminal (Protection Class I).
 - ❖ All output wires must be rated for the power supply output current and must be connected with the correct polarity.
 - ❖ All output terminals have to be used
 - ❖ Sufficient cooling must be ensured.
- **Never work on the power supply if power is supplied!** Risk of electric arcs and electrical shock, which can cause death, severe personal injury or substantial property damage.
- **Warning:** Hazardous voltages and components storing a very substantial amount of energy are present in this power supply during normal operating conditions. However, these are inaccessible. Improper handling may result in an electric shock or serious burns! **Do not open the power supply until at least 5 minutes after it has been disconnected from the mains on all poles.**
 - ❖ Only trained personnel may open the power supply.
 - ❖ Do not introduce any objects into the power supply. The output voltage adjustment potentiometer may only be actuated using an insulated screwdriver.
 - ❖ Keep away from fire and water

Installation Instructions:

- This power supply is designed for professional indoor systems. In operation the power supply must not be accessible. It may be installed and put into service by qualified personnel only.
- Do not operate without PE connection! To comply with EMC and safety standards (CE mark, approvals) the power supply must be operated only if PE terminal is connected to the non-fused earth conductor.
- The correct mounting position for optimal cooling performance must be observed. **Do not cover any ventilation holes.** Leave a free space of minimum 80mm (3in.) above and below the power supply. Observe power derating.
- The internal fuses are not accessible, as it may not be replaced by the user. If any of this internal fuse has blown, the power supply has most properly an internal defect and, for safety reasons, must be shipped to the local distributor. In case this internal fuse has to be replaced in the field, replace only with same type and rating of fuse for continued protection against risk of fire.
- To comply with the ATEX directive (Ex nAC IIC T3) the following installation instructions have to be observed.
 1. The Series TSP-3PAC power supply units can be installed in Switch cabinets or protective housing that meet the requirements of EN 60079-15 or if applicable EN 60079-0 (housing protection type min. IP54)
 2. The permissible ambient temperature range is -25°C to +70°C [-4°F to 158°F]. Observe load derating above an Operating temperature of +55°C [-131°F]. and at a use at $V_{in} = 320Vac - 550Vac$.
 3. For installation in switch cabinets or in protective housings, it must be ensured that the stipulated maximum temperatures (T_a) are not exceeded on these power supplies.
 4. The power supply units are Unit Group II Category 3G components (ex components) as defined by RL 94/9/EG (ATEX 95) Appendix I. A separate conformity on the end-equipment which contains these components evaluation process must be performed.
 5. For use / Installation also the requirements defined in EN60079-14 must be observed.
- **Recycling:** The unit contains elements that are suitable for recycling, and components that need special disposal. You are therefore requested to make sure that the power supply will be recycled environment friendly at the end of its service life.