

INSTALLATION INSTRUCTIONS

TSPC Series Industrial Power Supply

Order Code	* Rated Input Voltage	Output Power max.	** Output	*** Output Voltage Adjustment Range	recommended Circuit breaker (Characteristic B)
TSPC 080-124	115Vac – 230Vac 50 – 60Hz selectable	80 Watt	24.0Vdc / 3.3A	24.0 – 28.0Vdc	6 – 16A
TSPC 120-124		120 Watt	24.0Vdc / 5.0A	24.0 – 28.0Vdc	6 – 16A
TSPC 240-124		240 Watt	24.0Vdc / 10.0A	24.0 – 28.0Vdc	10 – 16A
TSPC 480-124		480 Watt	24.0Vdc / 20.0A	24.0 – 28.0Vdc	16 – 25A

* Observe output current derating at operation below an input voltage of 100Vac (Boost Power below 115Vac)

** Maximum output current at $V_{out\ nom}$

*** Adjustable by potentiometer with a screwdriver.

Input current:	@ Vin=115Vac	@ Vin=230Vac	Power Consumption	@ Vin=115Vac	@ Vin=230Vac
➤ TSPC 080	1.70A typ.	1.00A typ.	➤ TSPC 080	94 Watt typ.	91 Watt typ.
➤ TSPC 120	2.50A typ.	1.40A typ.	➤ TSPC 120	134 Watt typ.	133 Watt typ.
➤ TSPC 240	5.10A typ.	2.20A typ.	➤ TSPC 240	270 Watt typ.	265 Watt typ.
➤ TSPC 480	9.10A typ.	3.60A typ.	➤ TSPC 480	535 Watt typ.	532 Watt typ.

Operational Input Voltage	AC: 85Vac – 132Vac / 187Vac – 264Vac, 50/60Hz (Observe derating)	
Operating temperature range: Natural Air Convection Cooling	–25°C up to +70°C max –13°F up to +158°F max	
Output Power Derating: above +60°C up to +70°C above 140°F up to 158°F below Vin = 100Vac above Vout = +24Vdc	–2.5%/°C –3.3%/V –5%/V	
Boost Power	120% Pout nom for unlimited time	
Boost Power Operating temperature range: Natural Air Convection Cooling	–25°C up to +60°C max –13°F up to +140°F max	
Output Power Derating in Boost Power: (Below +50°C [122°F] Operating Ambient temperature and Vout nom = 24Vdc)		
above +50°C up to +60°C above 122°F up to 140°F	–1.67%/°C	
below Vin = 100Vac up to 115Vac below Vin = 187Vac up to 220Vac	–1,3%/V (below Vin = 100Vac no Boost Power)	
above Vout = +24Vdc	–0,6%/V –5%/V	
Storage temperature range:	–25°C up to +85°C max –13°F up to +185°F max	
Connections: Input Output Signal	3 Screw type terminal Combi – Typ. Recommended tightening torque 0.5 to 0.6Nm 4 Screw type terminal Combi – Typ. Recommended tightening torque 0.5 to 0.6Nm 2 Screw type terminal Combi – Typ. Recommended tightening torque 0.2 to 0.3Nm	
Wire Size: Input & Output Signal	0.5mm ² – 4.0mm ² [AWG 20 – AWG 10] 0.08mm ² – 2.0mm ² [AWG 28 – AWG 24] TSPC480- 1.0mm ² – 2.0mm ² [AWG 17 – AWG 10]	
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/tspc.pdf>.
- These power supplies are constructed in accordance with the safety requirements of IEC/EN/UL60950, EN60204, EN50178, UL508, IEC/EN/UL60079-15 (Protection Type "n" Class O, Zone 2, AEX nC II T4 U. They will be approved (BG-mark) in accordance with EN60950, EN50178 and fulfil the requirements of the Low Voltage Directive (LVD). They will be UL and cUL approved in accordance to UL508 (listed). Safety 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 = I according to IEC536. The non-fused protective earth connection must be connected to the PE terminal (Protection Class I).
 - ❖ All output wires must be rated for the power supply output current and must be connected with the correct polarity.
 - ❖ 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 50mm (2in.) above and below the power supply. Observe power derating.
- The internal fuse is not accessible, as it may not be replaced by the user. If 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 following installation instructions have to be observed.
 1. The Series TSPC 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 -20°C to +70°C [-4°F to 158°F]. Observe load derating above an Operating temperature of +40°C [104°F] and at a use at $V_{in} = 85V_{ac} - 100V_{ac}$.
 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. When assembling and maintenance the pluggable terminals its always must be completely pushed in. In particular the snap-in locking devices at the pluggable terminals are to be examined for correct locking. Terminals with defective snap-in locking devices may not be used.
 5. 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.
 6. For use / Installation also the requirements defined in EN60079-14 must be observed.
- **Note:** This unit contains an input voltage selection switch. Select switch marking 115 represents input voltage range 85-132VAC and 230 represents input voltage range 187-264VAC. Do not change the input voltage from 115Vac to 230Vac without disconnecting the input supply line first and setting the input voltage selection switch to the correct input voltage range.
- **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.