# T14-1PSP

The T14-1PSP is a power supply converter intended for use with the T14-1LW (or T14-1LH) Transport Hearing Loop Driver. It allows these hearing loop driver units to be used with 115 / 230 V AC mains supplies in static applications such as station concourses and platforms by providing a suitable 24 V DC supply to the loop driver.

The power supply is intended for mounting near to the T14-1 unit on standard DIN rail systems, e.g. inside equipment enclosures.

A 'ready relay' contact is provided if power supply monitoring is required.


## Compliance

Meets all relevant standards and norms to permit CE marking.
The T14-1PSP is suitable for installation more than 3m from the centreline of railway tracks, and will meet the requirements of EN50121-4 outside the '3m zone' when installed according to the instructions for use.

### Specification parameters:

| Parameter | Conditions | Nominal / Rated | Min | Max | Units |
|---|---|---|---|---|---|
| **Environmental** | | | | | |
| Ambient temperature | Nominal Input Voltage | | -40 | +71 | C |
| Derating | Nominal Input Voltage, from +61 to +71 C | | | 2.5 | % / C |
| Storage temperature | Non-operational | | -40 | +85 | C |
| Relative Humidity | Nominal Input V & Output I | | 20 | 95 | % RH |
| MTBF | To Bellcore Issue 6 @40 C, GB | 437,000 | | | hours |
| Altitude | To EN 62368-1 | | | 5 000 | M |
| Protection Degree | | IP 20 | | | |

| Parameter | Conditions | Nominal / Rated | Min | Max | Units |
|---|---|---|---|---|---|
| **Power ready relay contact** | | | | | |
| Contact closure threshold | Rising output V | | 17.6 | 19.4 | V DC |
| Contact rating | | | | 60<br>0.3 | V DC<br>A |
| Electrical Isolation | Contact to Functional Ground | | 500 | | V DC |

| Parameter | Conditions | Nominal / Rated | Min | Max | Units |
|---|---|---|---|---|---|
| **Internal / Operational Details** | | | | | |
| Switching Frequency | | 40 | | | kHz |

www.ampetronic.com
sales@ampetronic.com
support@ampetronic.com
phone +44 (0)1636 610062

## Specification parameters:

| Parameter | Conditions | Nominal / Rated | Min | Max | Units |
|---|---|---|---|---|---|
| **Power Input** | | | | | |
| Input Voltage | Auto-selects range | 115<br>230 | 90<br>180 | 132<br>264 | V AC<br>V AC |
| Input frequency | | 50-60 | 47 | 63 | Hz |
| Input current | Input 115 V AC, rated output I | 4.0 | | | A |
| | Input 230 V AC, rated output I | 1.55 | | | A |
| Inrush current | Input 115 V AC | | | 35 | A |
| | Input 230 V AC | | | 65 | A |
| Power Dissipation | Input V: 230 V AC, Output I: Nominal | | | 42 | W |
| Isolation Voltage | Input to output | | 3 000<br>4 242 | | V AC<br>V DC |
| Isolation Voltage | Input to Functional Ground | | 1 500<br>2 121 | | V AC<br>V DC |
| Isolation Resistance | Input to output @ 500 V DC | | 100 | | MOhms |
| Leakage current | Input to output<br>Input to Functional Ground | | | 0.25<br>35 | mA<br>mA |
| Input fuse | Internal | T8A/250 VAC | | | |
| Input Connection | 3-pole screw terminals<br>(L, N, E) | | 24<br>0.2 | 10<br>4.0 | AWG<br>$mm^2$ |
| Input connector max torque | | | | 9 | pound-inches |
| Surge protection | Varistor | IEC 61000-4-5 | | | |

| Parameter | Conditions | Nominal / Rated | Min | Max | Units |
|---|---|---|---|---|---|
| **Power Output** | | | | | |
| Output Voltage | | 24 | | | V DC |
| Output Current | Nominal Input Voltage | | | 12.5 | A |
| Output Power | Rated Continuous loading | | | 300 | W |
| Output Accuracy | Nominal Input V & Output I | | 0 | 1 | % |
| Output Regulation | across line and load variation | +/- 1.5 | | | % |
| Overload protection | Nominal Input Voltage | | 120 | 145 | % |
| Overvoltage protection | Nominal Input Voltage,<br>80% Rated Output Current | | 30 | 33 | V DC |
| Hold-up time | Input V: 115 / 230 V AC | | 25 / 30 | | ms |
| Isolation Voltage | Output to Functional Ground | | 500<br>710 | | V AC<br>V DC |
| Output Connection | 6-pole screw terminals<br>(24V,+24V, 0v, 0v, RdyA, RdyB) | | 24<br>0.2 | 10<br>4.0 | AWG<br>$mm^2$ |
| Output connector max torque | | | | 5.5 | pound-inches |
| Turn-on time | Nominal Input V & Output I plus 7000 uF load | | | 1 000<br>1 500 | ms<br>ms |
| Capacitive load | Nominal Input V & Output I | | | 7 000 | uF |
| Efficiency | Nominal Input V & Output I, 10% to 100% load | | 80 | 90 | % |

| Parameter | Conditions | Nominal / Rated | Min | Max | Units |
|---|---|---|---|---|---|
| **Physical** | | | | | |
| Dimensions | | L 124.5<br>W 85.5<br>D 123.6 | | | mm<br>mm<br>mm |
| Product Weight | | 1380 | | | g |
| Packaged Weight | | 1500 | | | g |
| Cooling | Free air convection<br>25mm space recommended on all sides | | | | |
| Installation position | Vertical possible derating in other directions | | | | |
| Pollution degree | | 2 | | | |

## Compliance:

UL/cUL/cTUVus: UL 508 listed, UL 60950-1 recognised, ISA 12.12.01 (class 1, Division 2, Groups A, B, C, D), UL 62368-1
TUV: EN 62368-1, EN 61558-1, EN 61558-2-16 (meets EN 60204-1)
CE : EN 55022 class B, EN 55024, EN 50121-4 * (outside the 3m zone)

** Compliance derived from other CE compliance standards & values declared/reported. See compliance documents for full details of all declared compliances.*