

## User's Guide

### SPS-1872-xx

### External Power Supply

### 18-60 VDC and 24-30 VRMS

SPS-1872-CC (*Conversion Center™*)

SPS-1872-DPS (*Dual PointSystem™*)

SPS-1872-PS (*PointSystem™*)

SPS-1872-SA (*Stand-Alone*)

**SPS-1872-CC**



**SPS-1872-SA**



**SPS-1872-PS**



**SPS-1872-DPS**



The Transition Networks SPS-1872-xx external power supply provides a wide range of input power (*18-60 VDC and 24-30 VRMS*) to accommodate most industrial, telecom, and commercial applications. The SPS-1872-xx can deliver 12 watts of power, enough to power all Transition Networks stand-alone media converters as well as the single-slot (*p/n CPSMC0100-20x*) and the dual-slot (*p/n CPSMC0200-2xx*) chassis.

The 18-60 VDC input allows for the installation of the SPS-1872-xx external power supply in all popular telecom, commercial, and industrial applications. The 24-30 VRMS input allows for installation of the SPS-1872-xx in remaining industrial applications as well as HVAC and building control environments.

The 'piggy-back' feature of the SPS-1872-CC, SPS-1872-PS, and SPS-1872-DPS allows it to physically attach to the media converter chassis and eliminate the power cable between the power supply and the media converter.

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## Installation and Service

All Installation and service must be performed by qualified service personnel.

Read and follow all warning notices and instructions marked on the product or included in the manual.

### Required Grounding

This product is intended to be used in a restricted access location. Connect the device to a 48 VDC SELV (*Safety Extra Low Voltage*) supply that is electrically isolated from the DC Source. The 48 VDC source is to be reliably connected to earth (*ground*). Equipment grounding is vital to ensure safe operation.

Prior to installation, use a voltmeter/ohmmeter to check the wiring for the presence of earth ground.

### Required Disconnect

A readily accessible disconnect device as part of the building installation shall be incorporated into the fixed wiring. The disconnect device (*a 48 VDC, 15 or 20A circuit breaker or switch*) must be included in the ungrounded supply conductor. Overcurrent protection must be a 15 or 20A, 48 VDC fuse or circuit breaker.

**CAUTION:** Ensure that the power source is NOT powered when connecting it to the SPS-1872-xx external power supply. Failure to observe this caution could result in damage to, and subsequent failure of, the SPS-1872-xx.

**CAUTION:** Wear a grounding device and observe electrostatic discharge precautions when installing or servicing the power supply module. Failure to observe this caution could result in damage to, and subsequent failure of, the power supply module.

**WARNING:** The SPS1872 must be attached to a limited current circuit with a non-hazardous energy level of less than 240VA and be located in a restricted access area. Failure to observe this warning could result in an electrical shock.

## Installation -- Continued

### SPS-1872-SA (*Stand Alone*)

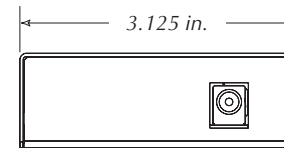
**NOTE:** The SPS-1872-SA external power supply is shipped with four (4) attached feet.

1. Place on any well-ventilated table-top or shelf with access to a power source with a range between 18-60 VDC or 24-30 VRMS.
2. Connect the barrel connector on the SPS-1872-SA to the power port of the media converter or similar device

### SPS-1872-CC / SPS-1872-PS / SPS-1872-DPS

The SPS-1872-CC, SPS-1872-PS, and SPS-1872-DPS are designed for three different types of media converters. Each has slightly different dimensions and each has the barrel connector in a different location to ensure that each power supply is used for the proper application.

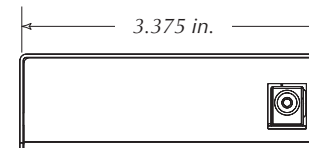
Note the differences between the three devices below:



SPS-1872-CC

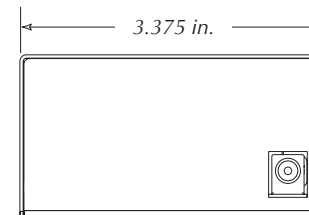
The SPS-1872-CC is designed for the Transition Networks Conversion Center™ media converter.

Note that this device is slightly narrower than the other two devices.



SPS-1872-PS

The SPS-1872-PS is designed for the Transition Networks PointSystem™ media converter.



SPS-1872-DPS

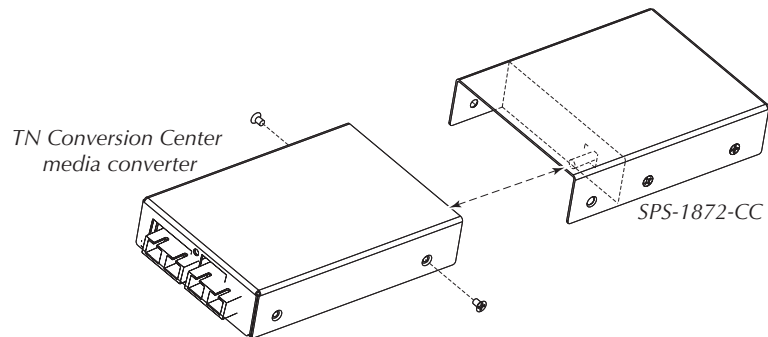
The SPS-1872-DPS is designed for the Transition Networks Dual PointSystem™ media converter.

Note that this device is taller than the other two devices.

## Installation -- Continued

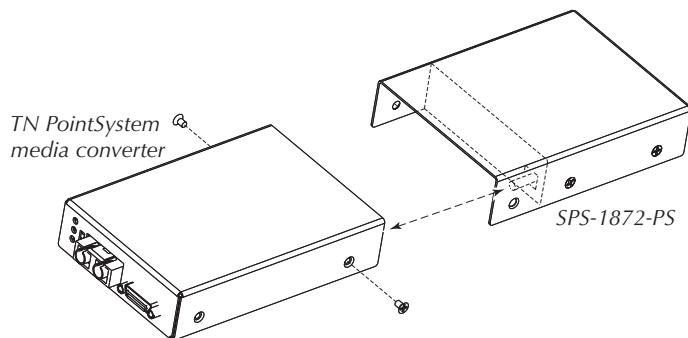
### SPS-1872-CC (*Conversion Center*™)

1. Remove the left-rear and right-rear screws from the *Conversion Center*™ media converter.
2. Connect the barrel connector on the SPS-1872-CC to the power port of the media converter. The flange of the SPS-1872-CC should slide over the rear of the media converter as the two devices are connected. The screw holes on the left and right sides should align.
3. Secure the two devices together by replacing the two screws on either side of the SPS-1872-CC.



### SPS-1872-PS (*PointSystem*™)

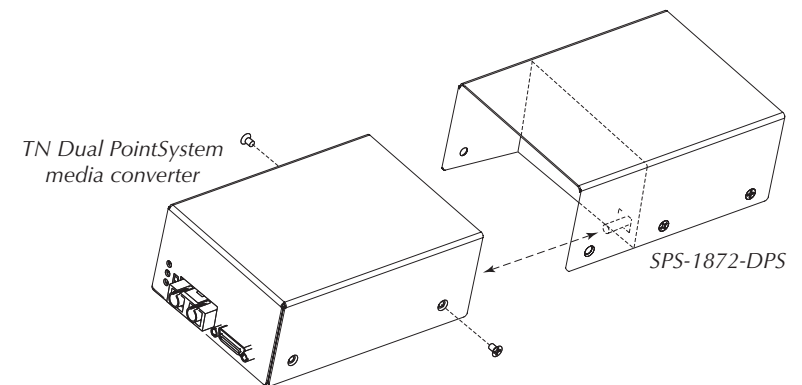
1. Remove the left-rear and right-rear screws from the *PointSystem*™ media converter.
2. Connect the barrel connector on the SPS-1872-PS to the power port of the media converter. The flange of the SPS-1872-PS should slide over the rear of the media converter as the two devices are connected. The screw holes on the left and right sides should align.
3. Secure the two devices together by replacing the two screws on either side of the SPS-1872-PS.



## Installation -- Continued

### SPS-1872-DPS (*Dual PointSystem*™)

1. Remove the left-rear and right-rear screws from the *Dual PointSystem*™ media converter.
2. Connect the barrel connector on the SPS-1872-DPS to the power port of the media converter. The flange of the SPS-1872-DPS should slide over the rear of the media converter as the two devices are connected. The screw holes on the left and right sides should align.
3. Secure the two devices together by replacing the two screws on either side of the SPS-1872-DPS.



## Installation -- Continued

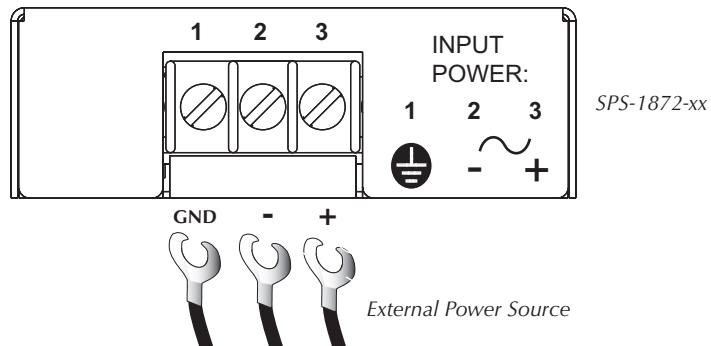
### Supplying Power to the SPS-1872-xx

CAUTION: The power source MUST BE TURNED OFF when connecting it to the SPS-1872-xx external power supply. Failure to observe this caution could result in damage to, and subsequent failure of, the SPS-1872-xx and any attached device.

To supply power to the SPS-1872-xx:

1. Ensure that external power source is truned OFF.
2. Connect the positive (+) terminal of the power source to the positive terminal on the SPS-1872-xx (*marked with a "3"*). Turn the terminal screw clockwise to secure it.
3. Connect the negative (-) terminal of the power source to the negative terminal on the SPS-1872-xx (*marked with a "2"*). Turn the terminal screw clockwise to secure.
4. Connect the ground terminal of the power source to the ground terminal on the SPS-1872-xx (*marked with a "1"*). Turn the terminal screw clockwise to secure.
5. Power on the external power source.

WARNING: The SPS1872 must be attached to a limited current circuit with a non-hazardous energy level of less than 240VA and be located in a restricted access area. Failure to observe this warning could result in an electrical shock.



## Maintenance

### Replacing the Fuse

CAUTION: The external power source MUST BE POWERED OFF when replacing the fuse to the SPS-1872-xx external power supply. Failure to observe this caution could result in damage to, and subsequent failure of, the SPS-1872-xx and any attached device.

**NOTE:** Replace the fuse only with one of the same size and rating.

To replace the fuse in the SPS-1872-xx external power supply:

1. Ensure that the external power source is turned OFF.
2. Remove and retain the four (4) screws that secure the cover to the SPS-1872-xx external power supply.
3. Carefully lift the cover from the SPS-1872-xx.
4. Locate the fuse on the SPS-1872-xx (*see the picture below*).
5. Carefully remove the fuse the from the fuse holder.
6. Install a same size and rating replacement fuse in the fuse holder.
7. Carefully slide the cover onto the SPS-1872-xx.
8. Replace the four (4) retained screws that secure the cover to the SPS-1872-xx.
9. Power on the external power source.

## Technical Specifications

For use with Transition Networks Model SPS-1872-xx or equivalent.

Product is certified by the manufacturer to comply with DHHS Rule 21/CFR, Subchapter J applicable at the date of manufacture.

|   |   |
|---|---|
| Compliance                              | UL listed EN60950; FCC & CISPR class A; CE Mark   |
| Dimensions<br>(length x width x height) | SPS-1872-SA - 3.875 x 3.125 x 1.0 in (98 x 79 x 25 mm)<br>SPS-1872-CC - 4.625 x 3.125 x 1.062 in (117 x 79 x 27 mm)<br>SPS-1872-PS - 4.625 x 3.375 x 1.062 in (117 x 86 x 27 mm)<br>SPS-1872-DPS - 4.625 x 3.375 x 1.75 in (117 x 86 x 45 mm) |
| Power Distribution                      | 12.6 VDC at 1.0 A maximum   |
| Power Consumption                       | 6 W maximum @ 18 VDC input, 12.6 W output   |
| Efficiency                              | 70 % (typical)  |
| Noise and Ripple                        | ± 40 mV peak-to-peak  |
| MTBF                                    | >290,000 hours Belcore with typical load at 50°C ambient temperature (calculated according to Belcore).<br>>834,000 hours with typical load at 50°C ambient temperature (calculated according to MIL-HDBK-217F).                              |
| Environment                             | Tmra*: 0 to 50°C (32 to 122° F )<br>Storage Temp: -20 to 85°C<br>Humidity: 5 to 95%, non condensing<br>Altitude: 0 to 10,000 feet<br>(*Manufacturer's rated ambient temperature)  |
| Warranty                                | Lifetime  |

## Technical Specifications -- Continued

### Input:

|                   |  |
|-------------------|--|
| Input Voltage     | 18 - 60 VDC, 24 - 30 VRMS  |
| Isolation Voltage | (Dielectric withstand) Meets IEC 950 for one minute<br>1500 VAC: Output/Input<br>1500 VAC: Input/Safety GND<br>1500 VAC: Output/Case |

### Output:

|                      |   |
|----------------------|---|
| Output Voltage       | 12.6 VDC  |
| Output Current       | 1.0 A   |
| Load Regulation      | ±5% at 10% load to full-rated load  |
| Over Load Protection | (OLP) When the average power rating exceeds 125%-150% of the maximum power, the output voltage is reduced to a safe dissipation level. This action protects against output short circuit. |
| No Load Operation    | No damage to power supply when operating at no load.  |
| Transient Protection | No voltage spike at power-on, power-off, or power failure.  |

## Compliance Information

### UL Listed

C-UL Listed (Canada)

CISPR/EN55022 Class A + EN55024

### FCC Regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. In which case, the user will be required to correct the interference at the user's own expense.

### Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications. Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

### European Regulations

#### Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

#### Achtung !

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fall ist der Benutzer für Gegenmaßnahmen verantwortlich.

#### Attention !

Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.



In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.



CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentliches Telekommunikationsnetz in den EG-Mitgliedstaaten verstößt gegen die jeweiligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

## Contact Us

### Technical Support

Technical support is available 24 hours a day.

United States: **1-800-260-1312**

International: **00-1-952-941-7600**

### Transition Now

Chat live via the Web with Transition Networks Technical Support. Log onto [www.transition.com](http://www.transition.com) and click the Transition Now link.

### Web-Based Seminars


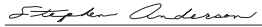
Transition Networks provides seminars via live web-based training. Log onto [www.transition.com](http://www.transition.com) and click the Learning Center link.

### E-Mail

Ask a question anytime by sending an e-mail to our technical support staff. [techsupport@transition.com](mailto:techsupport@transition.com)

### Address

Transition Networks  
6475 City West Parkway  
Minneapolis, MN 55344, U.S.A.  
telephone: 952-941-7600  
toll free: 800-526-9267  
fax: 952-941-2322

|  |  | <b>Declaration of Conformity</b>                    |  |
|--|--|---|--|
| Name of Mfg:   | Transition Networks  | 6475 City West Parkway, Minneapolis MN 55344 U.S.A. |  |
| Model:   | SPS-1872-xx External Power Supply  |   |  |
| Part Number:   | SPS-1872-SA, SPS-1872-CC, SPS-1872-PS, SPS-1872-DPS  |   |  |
| Regulation:  | EMC Directive 89/336/EEC   |   |  |
| Purpose:   | To declare that the SPS-1872-xx to which this declaration refers is in conformity with the following standards.                  |   |  |
|  | CISPR 22:1997+A1:2000; EN 55022:1998+A1:2000 Class A; FCC Part 15 subpart B; EN55024:1998; UL Listed                             |   |  |
|  | <i>I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).</i> |   |  |
|  |   | <u>May 23, 2006</u>                                 |  |
|  | Stephen Anderson, Vice-President of Engineering  | Date  |  |

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