



Two ac inputs ~ one ac output    Automatic transfer switch    Compact

Model	
ATs-1000	
30 amperes	3600 VA
3600 watts	120 volts
ATs-1000-40A	
40 amperes	4800 VA
4800 watts	120 volts

# Automatic Transfer Switch

**TSi** Power's ATs Series user customizable automatic transfer switches (ATS) are for enabling the use of **redundant** power sources, such as small uninterruptible power systems feeding industrial controls, PLC cabinets, internet servers, telecom systems, etc.



## Typical ATs applications

Designed for situations where reliability and predictability matter to the enterprise. Examples: telecommunications equipment, rectifiers, cell sites, file servers, routers, digital copiers, office machines, industrial controllers (PLC), automatic test equipment (ATE), laboratory analyzers and other sensitive, specialized microprocessor-based equipment.

## Key ATs benefits

If the ATs DIP Switch is set to "Fast transfer" (20ms typical transfer time) mode, then when redundant power sources are present, it can replace an expensive UPS system and battery banks for most computers, telecommunication, and industrial equipment (*since switchmode power supplies used in most new electronics equipment provide a minimum of 20ms in capacitor hold-up time under full load conditions*).

If a 'positive power break' is needed during the transfer, then the ATs may be set to "Slow transfer" (1 second) mode to ensure a full 1 second ac power outage during transfer.

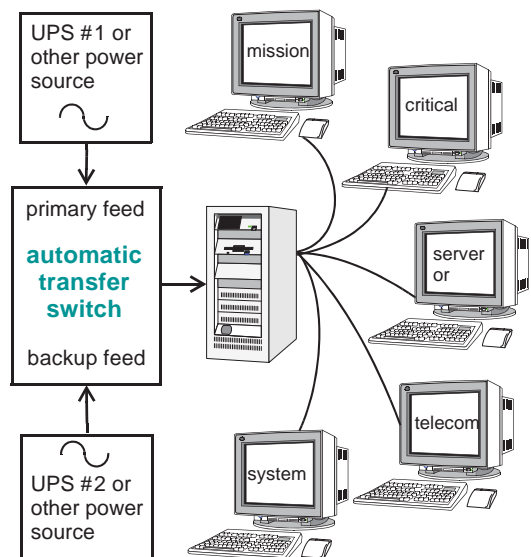
Also, **the two ac sources do not have to be synchronized** since the ATs is designed to switch between two asynchronous ac sources without damage to itself or to equipment powered by switchmode power supplies.

## How the ATs works

The ATs is fed by two independent ac power sources. When the primary power source detector circuit senses a loss of power on the primary circuit, it immediately switches the load over to the backup power source feed in less than 20 ms. Upon restoration of primary power, the ATs will switch back in less than 20ms. This is fast enough to be invisible to computer switch-mode power supplies.

## Key ATs features

- Enables redundant UPS, backup generators or other ac power sources to be used for a single load.
- Less than a 20ms transfer time from source A to source B.
- User selectable transfer times of 20ms, 40ms or 1 second.
- Built-in circuit breakers
- Designed to handle out-of-phase and/or asynchronous ac sources
- Rack-mountable
- LED status indicators
- DB9 communications interface
- Audible alarms with enable/disable switch



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Automatic transfer switch



ATs rear view with knockout covers off ready to hardwire



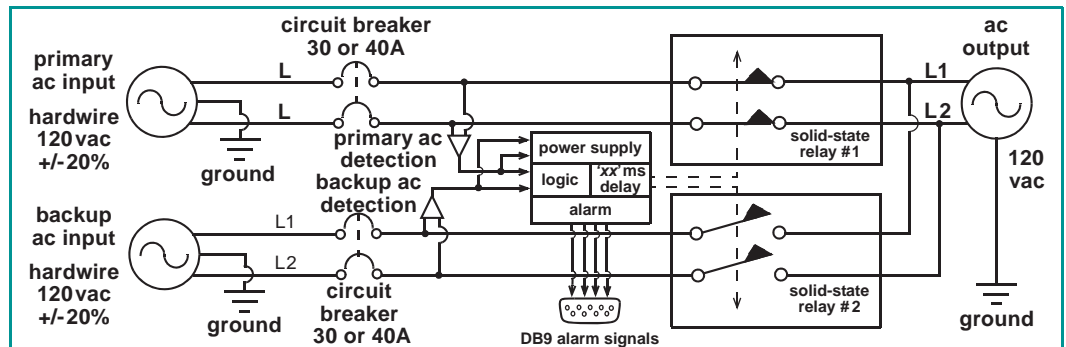
Knockout covers and cable glands for line cords shown

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Specification	ATs-1000 (30A)	ATs-1000-40A
<b>Electrical</b>		
Capacity in VA (watts)	3600VA (3600W) maximum	4800VA (4800W) maximum
Switching technology	Solid-state relays (SSR's)	
<b>Input</b>		
Nominal voltage	120 volts ac single phase	
Primary ac voltage	95 to 135 volts ac	
Backup ac voltage	95 to 135 volts ac	
Frequency range	47 to 63 Hz	
Over-current protection	User resettable circuit breaker	
Circuit breaker ratings	30 amperes	40 amperes
Typical transfer time	20ms, 40ms or 1000ms (user selectable)	
Transfer time selection	Via an internal four position DIP switch (factory set at 20ms)	
Input/output wire size	10mm <sup>2</sup> (AWG8) minimum	
Ac input	Hardwire terminals (optional ~ plugs and receptacles)	
<b>Output</b>		
Nominal voltage	120 volts ac, single phase	
Load regulation	Better than 2% from no load to full load	
Power efficiency	98% or higher	
Ac distribution	Hardwire terminals (plugs and receptacles optional). Hardwired units must be installed by a qualified electrician.	
Indicators	Green LED for primary ac presence, yellow LED for backup ac presence, flashing red LED for loss of primary or backup ac.	
Audible alarms	Buzzer beeps when loss of primary or backup ac occurs.	
Audible alarm switch	Audible alarm (buzzer) and enable/disable switch.	
Alarm contacts	A rear-mounted DB-9 connector sends loss of primary ac and loss of backup ac signal for external power status monitoring.	
<b>Physical</b>		
Dimensions	406mm (16") wide x 83mm (3.25") high x 305mm(12") deep	
Weight	7kg (15 lbs)	
Rack mount options	<p><b>Front mount kits:</b> For a 19" rack: use # MK-5019A For a 23" rack: use # MK-5023A For a 24" rack: use # MK-5024A</p> <p><b>Center mount kits:</b> For a 19" rack: use # MK-5019F For a 23" rack: use # MK-5023F For a 24" rack: use # MK-5024F</p> <p><b>Wall or Floor mount kits:</b> use # MK-5000C</p>	
<b>Environmental</b>		
Ambient temperature	0° to 40°C (32° to 104°F). 10 to 90% relative humidity (non-condensing).	
<b>Warranty</b>		
Warranty	Two year limited warranty, parts and labor.	



ATs system architecture