



# UNITED POWER

## *Series STS: Static Transfer Switch*

### Features

#### General

- Universal Application
  - Data Processing
  - Telecommunications
  - Industrial Plants
  - Power-generation Plants
  - Hospital/Airports
- Quality Design and Construction
- One Year Warranty
- UL 1008 Listed

#### Electrical

- 400-800 Amp Systems
- Quadruple Redundancy of Control Power Supplies
- High Speed Source Sensing & Transfer
- Separate Controls & Sensing for Alternative Preferred Sources
- All Digital Sensing
- Self Diagnostic Logic
- TVSS—C62.41 Cat. C3

#### Physical

- Small Footprint
- Cable Entry/Top & Bottom
- Front Access Operation
- Front/Rear Access for Service
- Redundant Cooling Fans

United Power's Static Transfer Switch (STS) is designed to protect against critical load shutdowns by assuring reliable, uninterrupted and instantaneous power transfers between two AC power sources. In the event of a power aberration on the preferred source, Series STS provides the ability to transfer to the alternate power source within four milliseconds. By assuring uninterrupted power to critical electrical loads, STS protects sensitive equipment from damage, guards against loss of data and ensures continuous operations.

United Power has combined innovative design strategies with cutting-edge technology in developing Series STS. The result is a 100% rated switch that provides quadruple redundancy as well as high speed source sensing and transfer. STS is equipped with on-board diagnostics that monitor each of the two input sources for any abnormal characteristics. STS also features separate sensing logic for preferred and alternate sources. Control logic performs cross-checking functions to ensure reliable and safe operation. Additionally, C62.41 C3 rated transient voltage surge suppression (TVSS) is integrated into all systems as well as redundant

cooling fans to ensure a maximum ambient temperature of 50°C.

Innovation in design has made United Power a technological leader in the critical power industry. Series STS is engineered to provide advanced solutions for critical power environments by maximizing system reliability and allowing system maintenance and repair without downtime!



Protection for sensitive electronic equipment is critical in today's high-tech manufacturing environments as well as in typical commercial data center applications. With ultra-fast transfer

capability between input sources, United Power Series STS is the perfect solution for enhanced reliability and uninterrupted power for critical applications.

## Static Transfer Switch Features

### Performance Features

- UL 1008 Listed
- <1/4 cycle transfer between AC power sources
- Quadruple redundancy of control power supplies
- Self diagnostic control logic
- All digital sensing
- Individually adjustable source set points
- Separate sensing logic for preferred and alternate sources
- Adjustable time delay with automatic transfer
- Thermal overload will not cause disruption of power to critical load
- Dual maintenance bypass
- Oversized SCRs ensure system reliability
- UL 1008 compliant interlocking scheme
- Standard draw-out molded case switches (MCS) for ease of maintenance
- Manual and automatic transfers
- Redundant cooling fans
- IEEE C62.41 Category C3 TVSS
- Top and bottom power wiring access
- Front access for normal operation
- Front and rear access for maintainability
- Dual-source LED display and control panel
- Full system monitoring capability
- RS-232/485 interface
- FCC Part 15 Class A
- NEMA ICS working standards

### Optional Features

- STS can be equipped with optional motor operators in each bypass path
- STS will provide closure of MCS bypass in the event of switch failure or source loss after preset time
- BEMF detector with the following operating modes:
  - Preset time delay
  - Select BEMF down to 52 Hz
  - No delay
- Circuit breakers in lieu of MCS
- Redundant output circuit breaker
- Modem with auto-dial capability

## Static Transfer Switch 400-800 Amps General Specifications

### Electrical

#### Source Voltages

- 480 VAC, 3 Phase, 3-Wire or 4-Wire Plus Ground
- 380/415 VAC, 3 Phase, 3-Wire or 4-Wire Plus Ground
- 600 VAC, 3 Phase, 3-Wire or 4-Wire Plus Ground
- 208 VAC, 3 Phase, 4-Wire Plus Ground

#### Voltage Operating Range

+20/-35% from Nominal

#### Source Frequency

- 60 Hz  $\pm 5\%$
- 50 Hz  $\pm 5\%$

#### Overload Capability

- 120% for 5 Minutes
- 150% for 30 Seconds
- 600% for 10 Cycles

#### Load Current Harmonic Content

Unlimited

#### Source Voltage Harmonic Content

- Maximum 5% THD or as acceptable to load
- Maximum 3% single harmonic or as acceptable to load

#### Voltage Transient Withstand

Up to 20,000 volt spike as defined by IEEE C62.41 Category C3

#### Over-Current Protection

- 50 kA interrupting capacity with MCS, plug-in or draw-out
- Optional circuit breakers with interrupting capability up to 100 kA

### Efficiency

99.0% minimum with 0.8 power factor load

### Audible Noise

<55 dBA @ 5 feet

### Environmental

#### Operating Ambient Temperature

0° C to 50° C

#### Storage Ambient Temperature

-40° C to 60° C

#### Relative Humidity

0 to 95% Non Condensing

#### Operating Altitude

Up to 2500 Meters

### Other Parameters

#### EMI Susceptibility

Radiated or conducted EMI generated is suppressed. Malfunction will not occur due to RFI or EMI generated by a hand held 2 watt 450 MHz Class FM transmitter located a minimum of 24" away from the product

#### Reliability

MTBF of not less than 400,000 hours under normal operating conditions

#### Cooling

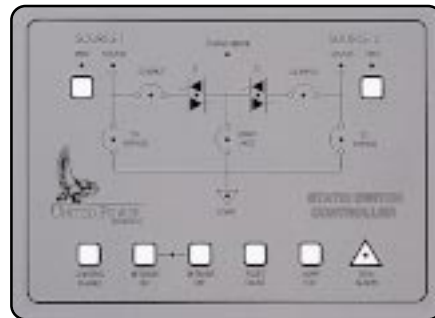
Cooling fans are redundant and the equipment will operate reliably when only one fan is operating

#### Enclosures

All systems are NEMA Type-1 metal enclosures

## Physical Specifications: Series STS Static Transfer Switch

Model	Continuous Current	Volts	Hertz	Width In	Depth In	Height In	Weight Lb	BTU/ Hour
STS 0426-01-01	421	208	60	34	34	69	1,400	4,800
STS 0435-01-01	421	380/415	50	34	34	69	1,400	4,800
STS 0446-01-01	421	480	60	34	34	69	1,400	4,800
STS 0466-01-01	421	600	60	34	34	69	1,400	4,800
STS 0626-01-01	631	208	60	50	34	69	1,800	7,500
STS 0635-01-01	631	380/415	50	50	34	69	1,800	7,500
STS 0646-01-01	631	480	60	50	34	69	1,800	7,500
STS 0666-01-01	631	600	60	50	34	69	1,800	7,500
STS 0826-01-01	842	208	60	50	34	69	1,900	10,000
STS 0835-01-01	842	380/415	50	50	34	69	1,900	10,000
STS 0846-01-01	842	480	60	50	34	69	1,900	10,000
STS 0866-01-01	842	600	60	50	34	69	1,900	10,000



Dual-source display/control panel.



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