

Liebert Static Transfer Switch
The Cornerstone of High-Availability Power Systems



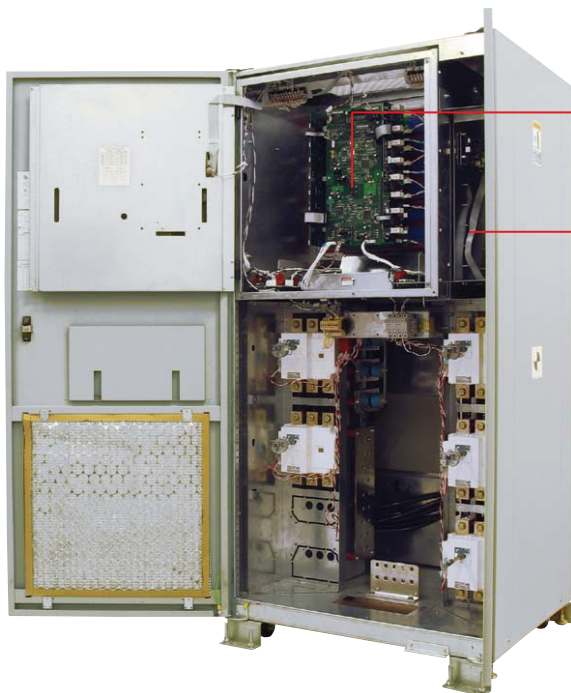
We're **Emerson Network Power**, backed by Emerson, a global company that brings technology and engineering together to provide innovative solutions for the benefit of our customers. We're the world leader in providing **Business-Critical Continuity™** to organizations like yours, enabled by our product and service centres of expertise.



Liebert is the market leader in dual-bus power systems, building the world's most reliable UPS and Static Transfer Switch products.

For maximum availability applications, the Liebert Static Transfer Switch solution provides an automatic, seamless transfer between your business-critical load and the outputs of two independent UPS Systems in a dual-bus power configuration.

The Power to Protect
Your Critical Operations



For Units up to 600 amps, the entire power and control module can be removed as an assembly

A Separate compartment for option modules provides safe and convenient field access.

Reliability

Triple logic redundancy for uninterrupted power control.

Liebert Static Transfer Switch Solution, with solid-state digital bus transfer, further extends the market leadership with design benefits unmatched by competitive products.

- 100% rated, fuseless design
- Flash memory enables firmware updates while supporting critical loads
- Rack-out control/power assembly on units up to 600A to allow maintenance, service, or full replacement
- True Internal Triple Redundancy of the logic DSP (Digital Signal Processing)
- Internal Dual-Bus Control Power, with two power supplies
- Input Surge Protection

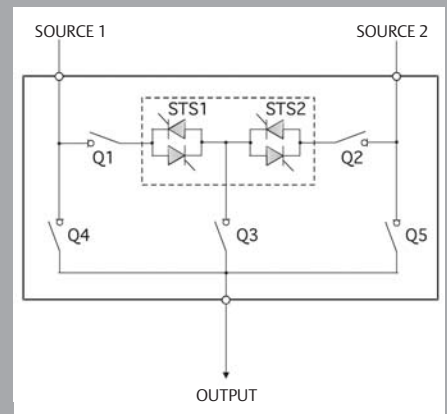
Product Overview

The Liebert Static Transfer Switch Solution, is enabling technology behind dual-bus power systems.

A Static Transfer Switch can be connected between the critical load and the outputs of two independent power sources.

If the primary should fail, the switch will automatically transfer the load to the surviving source.

One-Line Diagram

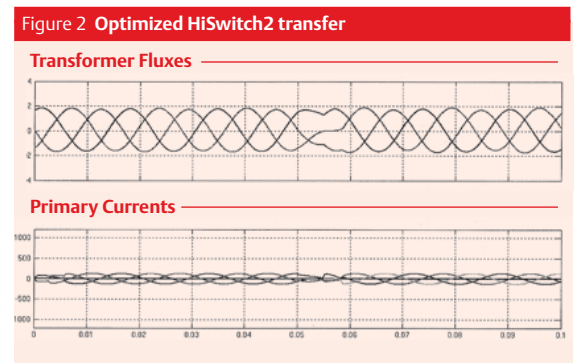
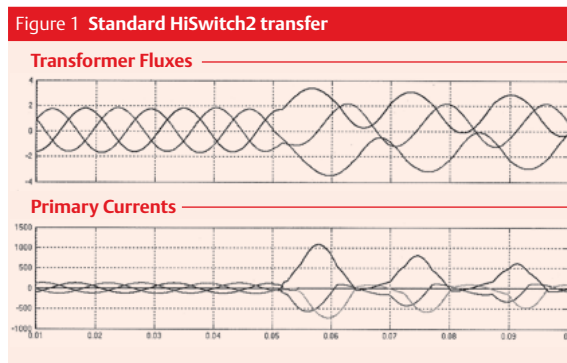




Flexibility

The solution for your configuration

- True Front-Access Design:** all mechanical and electronic components are accessible from the front of the unit. For installation and service no side or rear access is required.
- Optimized Transfer Option:** eliminates downstream transformer inrush saturation (patented algorithm), and greatly improves operation when used in primary side switching applications.



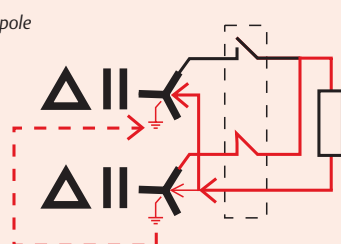
Figures 1 and 2: Show results for the standard HiSwitch2 vs. the optimized HiSwitch2 for the same condition (alternate source lags 120 degrees) respectively. The optimized transfer control algorithm minimizes the transformer saturation current resulting from an out of phase transfer.

- 3 and 4 pole switching** for a complete adaptive solution.

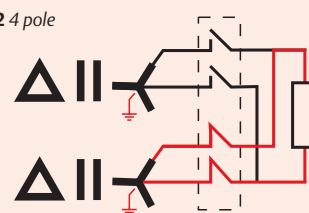
Neutral Switching

In the systems where the two sources are separately derived and independently grounded, the solution with a 3 pole static switch can cause objectionable load current flow in the protective earth conductor. A 4 pole static switch can easily solve this problem by switching also the neutral while transferring the load between the sources.

STS 3 pole



Hiswitch2 4 pole





Uninterrupted Power for
Uninterrupted Business Operations



Total cost of Ownership Advantages for your profitability

- Maintenance: optional color touch-screen LCD interface and quick Front-Access to mechanical elements reduce the time for commissioning and ordinary maintenance
- Optimized Transfer Option enhances Cost-Efficient System Operation
- 4 pole version avoids the need of a downstream transformer if there are two sources with a separate neutral grounding
- Top and bottom cable entry: no additional cabinet required and no additional cost
- Plug in optional boards to enhance your system reducing the initial cost



Optional Color Touch Screen Interface:

The color touch-screen LCD interface is simple and intuitive, and allows you to quickly check the status of the unit and identify problems.



Standard LED Panel

In case you need simplified version of interface, the standard LED panel is a good and economic solution for all users.

Communications and Product Options

Liebert Static Transfer Switch Solution has a wide choice of monitoring and communications options to keep you connected to your critical power protection system.

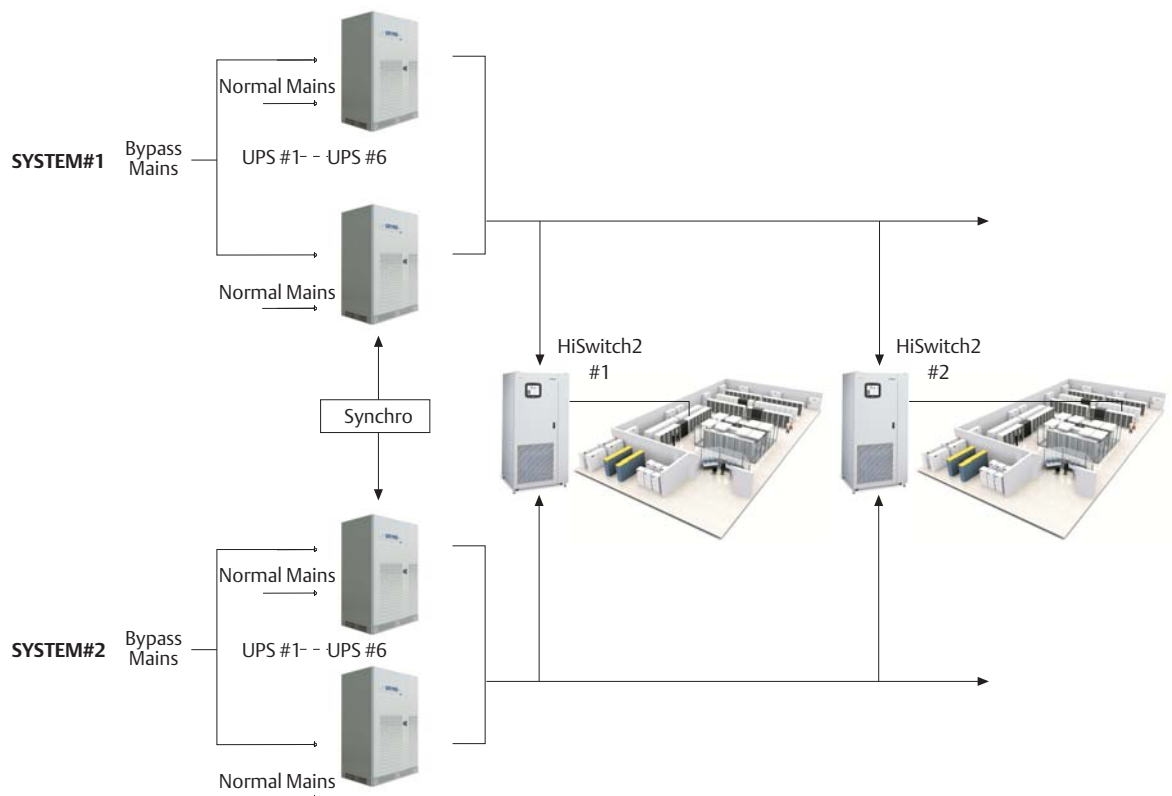
Communications

- RS-232 Terminal Port (standard)
- Internal Modem (standard)
- Input Contact Isolator (ICI) Board (optional)
- Programmable Relay Board (PRB) (optional only with LCD touch-screen display)
- Non-programmable relay board (optional only with LED display)
- Comms Board (optional, provides a SiteScan® Web system connection via an RS-422)
- Liebert OpenComms™ Network Interface Card NIC (optional, provides a connectivity TCP/IP)

Accessories

- Seismic Anchors
- Seismic Floor Stand
- Redundant Output Breaker
- Remote Source Selection
- Key Lockout Switch

Dual Bus System Configuration



Ensuring The High Availability of Mission-Critical Data And Applications



Technical Specifications

Model	Hiswitch2 (3 Pole)							Hiswitch2 (4 Pole)			
Rating	[A]	100	250	400	600	800	1000	250	400	600	
Dimension											
Width	[mm]	762	762	965	965	2134	2134	762	965	965	
Depth	[mm]	813	813	813	813	813	813	813	813	813	
Height	[mm]	1956	1956	1956	1956	1956	1956	1956	1956	1956	
Weight	[Kg]	354	354	544	544	1134	1134	364	524	564	
Voltage	[Vac]	L-N (L-L): 120 (208), 220 (380), 230 (400), 240 (415) (field selectable), +/- 10%									
Frequency	[Hz]	50 or 60 (field selectable), +/- 0.1/3.0									
Transfer Time		< 1/4 cycle									
Transfer Mode		Break Before Make					Phases: Break Before Make Overlap of Neutrals during the Transfer				
Overload Capability		110% for one hour, 125% for 10 minutes, 150% for 2 minutes									
Operating Temperature	[°C]	0 to 40									
Marking		CE mark									
Size of the neutral		-					1.5 In				
Noise Level	[dBA]	≤55 @ 1.5 m with acoustic alarm turned off									
Heat Output	[kW]	0.8	1.37	2.04	3.08	4.03	5.09	2.09	2.76	3.80	
Yield @ Nominal Current		> 99%									
Ventilation Redundancy		100% redundant fans									
Cable Entry		Top & Bottom									
Degree of Protection		IP20 (EN60529)									
Color		RAL 7035									



Emerson Network Power EMEA

Via Leonardo da Vinci 16/18
35028 - Piove di Sacco (PD) - Italy
tel. +39 0499719111 fax +39 0495841257
marketing.emea@emersonnetworkpower.com

Emerson Network Power EMEA Global Service

Via Leonardo da Vinci 16/18
35028 - Piove di Sacco (PD) - Italy
tel. +39 0499719111 fax +39 0499719045
service.emea@emersonnetworkpower.com

For our local contacts please visit us at:
www.eu.emersonnetworkpower.com

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The global leader in enabling business-critical continuity.

www.eu.emersonnetworkpower.com

marketing.emea@emersonnetworkpower.com

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