

Critical Bus Synchronization Module

Maximizes Critical Power Availability



Advanced Features:

- ▶ Field proven design
- ▶ Fully automatic operation
- ▶ User definable settings
- ▶ Detailed status display
- ▶ Easy retrofit installation
- ▶ No increase in footprint or heavy cable links
- ▶ Operates with dissimilar UPS modules
- ▶ Transparent operation with UPS's
- ▶ Compatible with MGE Digital Static Transfer Switch
- ▶ Protects inductive loads from damage
- ▶ Eliminates risk of tripping breakers during transfer

Nothing assures the availability of critical power better than having a second independent power source always ready to assume the critical load. To ensure that both power sources are instantly transferable and available to the load, they must always be kept in phase with one another.

MGE's Critical Bus Synchronization (CBS) Module synchronizes the output of two **MGE** UPS modules, allowing seamless in phase transfer between power sources under all operating conditions. Without synchronization the value of an alternate power source can be negated, with out-of-phase transfers causing unacceptable power interruptions, breakers to be tripped, or even serious damage to inductive loads.

Critical load protection from the world's largest three phase UPS manufacturer

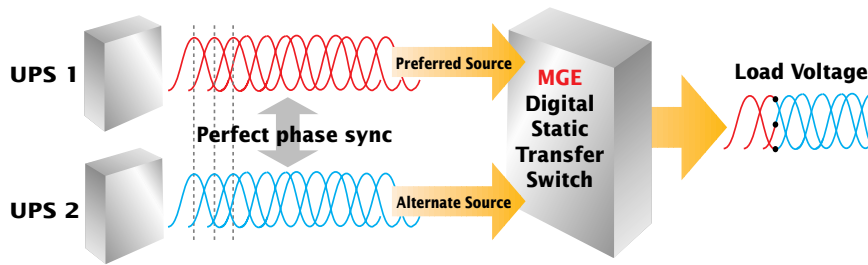
M G E
UPS SYSTEMS

Critical Bus Synchronization

The **CBS Module** synchronizes the outputs of two independent UPS systems under all operating conditions including when bypass power of one or both UPSs is not available, bypass power is available but sources are out of sync, or when both UPSs are operating on battery.

The **CBS Module** monitors the bypass and system output of both UPSs power sources, automatically activating a synchronization signal when required. User defined settings allow all system parameters to be adjusted to suit any tolerances. The module does not effect UPS performance and can be easily retrofitted onto existing installations without increasing UPS footprint. To ensure proper system performance & monitoring, well-defined status lights and simple to use controls are provided on the face of the module.

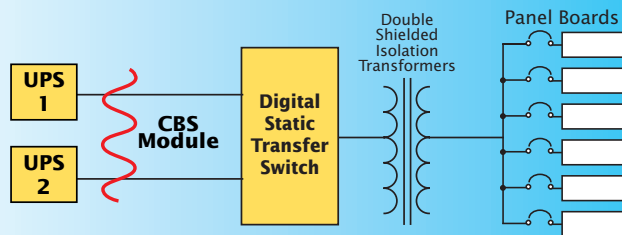
The solid concept for optimizing critical power availability



The **CBS Module** can be used in conjunction with the **MGE Digital Static Transfer Switch** or any manual transfer mechanism to guarantee perfect phase synchronization between sources.

Using dual UPS modules with guaranteed output phase synchronization doubles the already high power system MTBF. Combined with the MGE Digital Static Transfer Switch to automatically sense power quality deficiencies & transfer to a stable source, the CBS system achieves a level of power availability demanded by high-end mission critical operations.

Digital Static Transfer Switch with CBS Module Schematic



Specifications

Input Requirements

- ▶ Input Power: 3 phase, 3 wire
- ▶ Dry Contact (N/O): UPS On Bypass
- ▶ Dry Contact (N/O): UPS On Maintenance Bypass

Outputs

- ▶ Dry Contact (N/O): UPS Systems to inhibit transfer to Bypass
- ▶ SYNC signal: 3 phase, 3 wire
- ▶ Dry Contact: "SYNC CKT Activated" and "SYNC CKT Inhibited"

Display and Controls

- ▶ Indicators: System 1/2 Bypass available, Bypass 1 & 2 in sync, Systems in sync, Sync circuit activated, Sync circuit inhibited, System 1 synchronized to System 2, System 2 synchronized to System 1
- ▶ Controls: Sync Mode Select (Off or Auto), Master UPS Select (System 1 or System 2), Lamp Test

Settings

- ▶ Bypass Voltage Tolerance: Nominal Bypass Voltage +/- 20% (Default +/- 10%)
- ▶ Bypass 1 and Bypass 2 in sync: Phase angle setting is adjustable between 6°-20° (default is 9°)
- ▶ UPS Output Sync to Bypass: Phase angle is factory set at +/- 3° internal to UPS (not adjustable)
- ▶ Time Delay to activate the CBS: adjustable from 0.2 sec to 5 seconds (default is 0.2 sec)
- ▶ Time Delay to switch from CBS to Sync to Bypass: Adjustable between 0.2 sec and 5 seconds (default is 5 seconds)

Dimensions

- ▶ 14.4"W x 18.3"H x 6.2"D

Environmental

- ▶ Operating Temperature:-10C to 40C
- ▶ Relative Humidity: 0 to 95% non-condensing

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CBS 100
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