

ACCESSORY CTT CLOSED TRANSITION TRANSFER

DESCRIPTION

Closed Transition Transfer allows the automatic transfer switch to transfer between sources without interruption of power to the load. This is accomplished by synchronizing the two sources prior to transfer and performing a "make before break" transfer. Upon closure of the oncoming source the source from which power is being transferred is disconnected; the actual time the sources are paralleled is typically less than 100 milliseconds.

The closed transition or "make before break" transfer is possible only if both power sources are available and synchronized. If either of the sources are not available, the transfer switch reverts to an open transition or "break before make" transfer arrangement. Closed Transition Transfer is available on Dual Motor Operator and Insulated Case automatic transfer switches.

OPERATION

Closed Transition Transfer monitors and compares the frequency and phase angle of the power sources. When the alternate source's frequency and phase angle are within preset limits of the normal source, the sources will be paralleled and the alternate source will be disconnected within acceptable time limits. Again, the average time that the two sources are paralleled is under 100 milliseconds.

When offering closed transition transfer as an automatic transfer switch accessory, we feel that additional protective features should be added to ensure safety to the operator and equipment. Without exception, we provide all closed transition transfer switches with Reverse Power Relays on both sources. In addition, we provide an internal timer, which will trip the emergency source if both sources are paralleled for more than an acceptable time. As further redundant protection we will cross trip the normal switch if the emergency switch fails to properly open.

In addition to these protections, we include a Synchronize Fail Timer (SFT) that is factory set at 15 minutes. This timer is initiated once the closed transition is called for and will be reset upon completion of the transfer. If, however, for any reason the two sources are unable to slip into synchronization and the timer times out, the HMI will display "SFT timed out" and the trouble relay will change states. The transfer switch will remain in the "Automatic" mode and not be placed in a fault position even though the message will remain on the HMI until reset. This additional safety will help prevent total consumption of emergency fuel should synchronization not be achieved.

FEATURES

Closed Transition Automatic Transfer Switches are provided with the following features regardless of the selected transfer mode:

- Electrically Interlocked
- Millisecond timers to ensure paralleling time is minimal
- Cross Tripping devices as backup to normal transfer means
- Reverse Power Relays for both sources to prevent back feeding
- Synchronizing relay
- Fail to Synchronize Timer

Where applications require extended paralleling operation, soft loading/unloading, utility peak shaving or distributed generation, Lake Shore Automatic Transfer Switches and Switchgear can be tailored to meet these needs. Please consult your Lake Shore representative or the factory Sales Department for further information.

As in all applications which involve parallel operation with a utility grid, it is advised that the specific utility be consulted for prior approval on this type of application. Each utility has its own requirements and guidelines to be followed, such as additional protective relays. Please contact the Lake Shore Electric factory for products to meet such additional needs.

