

Key Interlock Specification Recommendations

By Kirk Key Interlock Company

Introduction

Because of the need for greater safety with regard to all classes of electrical equipment, Kirk Key Interlock Company is working with standards organizations to recognize that key interlocks are appropriate in many more circumstances than manufacturers and installation contractors are currently utilizing them.

Insurance underwriters acknowledge that interlocking is the most reliable and cost effective way to guard against operator error. When designing the specifications for electrical equipment and systems, Kirk Key Interlock encourages you to include key interlocks – the cost is insignificant and the benefit to the overall safety of your design will be greatly enhanced.

In addition to the examples shown below, Kirk Key Interlock Company has published Scheme Book #SB2003, which illustrates forty-two interlocking schemes covering a variety of applications. A copy of the Scheme Book is available for immediate downloading from our website (www.kirkkey.com).

Recommended Key Interlock Applications

The **CPT's drawer** (control potential transformer) or trunnion and the CPT's secondary overcurrent protection device shall be equipped with Kirk Key interlocks so that the secondary overcurrent protection must be opened or disconnected before the CPT drawer or trunnion can be moved to the disconnect or open position. (This is used when a CPT is in a drawer and a molded case circuit breaker is used for secondary overcurrent protection.)

The **fuse drawer** or trunnion and the control potential transformer's (CPT) secondary overcurrent protection device must be equipped with Kirk Key interlocks so that the secondary overcurrent protection must be opened or disconnected before the fuse drawer or trunnion can be moved to the disconnect or open position. (This is used when a larger CPT is fixed mounted and the fuses are mounted in a fuse drawer or trunnion.)

The **non-load break tie switch** must be equipped with a Kirk Key interlock coordinated with Kirk Key interlocks on all **main circuit breakers** feeding both sides of this switch such that this tie switch can not be opened until the main circuit breakers are key locked in the open position. This sequence also must prohibit the closing of this tie switch on an energized bus. (This is used when a non-load break switch is used functionally as a tie.)

The **non-load break switch** must be equipped with a Kirk Key interlock coordinated with a Kirk Key interlock mounted on the first downstream disconnecting device so that the non-load break switch cannot be opened until this downstream disconnecting device main is key locked in the open position. (This is to insure that a non-load break switch does not open under load.)

All **fused load break switches** must be equipped with Kirk Key interlocks so that all **doors** accessing the fuses cannot be opened unless the load break switch is key locked in the open position.

All **negative disconnect switches** must be equipped with Kirk Key interlocks coordinated with Kirk Key interlocks on the **DC main circuit breaker** so that the negative disconnect switch can not be opened unless the DC main circuit breaker is key locked in the open position. (This is used on transit systems.)

A Kirk Key interlock is required for all equipment that would be tagged out based on operation or maintenance safety procedures. This includes **safety switches, panel boards, electrical enclosures, molded case circuit breakers, medium voltage switches** and **circuit breakers** or any other electrical device that is de-energized or disconnected and cannot be operated due to safety. A hasp type lock is not acceptable.

A Kirk Key interlock is required for all **back doors** or **rear sheets** on medium voltage metal clad **switchgear** coordinated with Kirk Key interlocks mounted on the corresponding **circuit breaker(s)** such that the back door or sheet cannot be opened or removed unless the breaker is key locked in the open position. All possible back-feed sources must also be interlocked.

All **main breakers** shall be equipped with Kirk Key interlocks coordinated with Kirk Key interlocks on all **tie breakers** to prevent paralleling of the incoming lines.

All **disconnect switches** shall be supplied with Kirk Key interlocks coordinated to Kirk Key interlocks on all associated **main breakers** to prevent operation under load.

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