

**Instruction Manual for:
Solenoid Key Release Unit and Time Delay Key Release Unit**

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Kirk Key Interlock Company

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Installation Instructions

Proper installation of key interlocks is a critical element of a key interlock system. It is essential that each SKPM, SKRU, or TDKRU be installed so that the key(s) cannot be released unless the equipment to which it is installed is in the proper position/condition. After installation of the interlocks, the complete interlock system should be tested sequentially by person(s) familiar with the entire system and its intended purpose. Any problems or discrepancies must be corrected prior to energization.

Each interlock is supplied with a key in each cylinder. These keys are needed during installation of the interlocks. Once the complete interlock system is installed, all extra keys must be removed from the system and destroyed or retained by a responsible person. There should only be enough keys to operate the interlock system sequentially. Kirk Key Interlock Company will not be responsible for extra keys left in the interlock system.

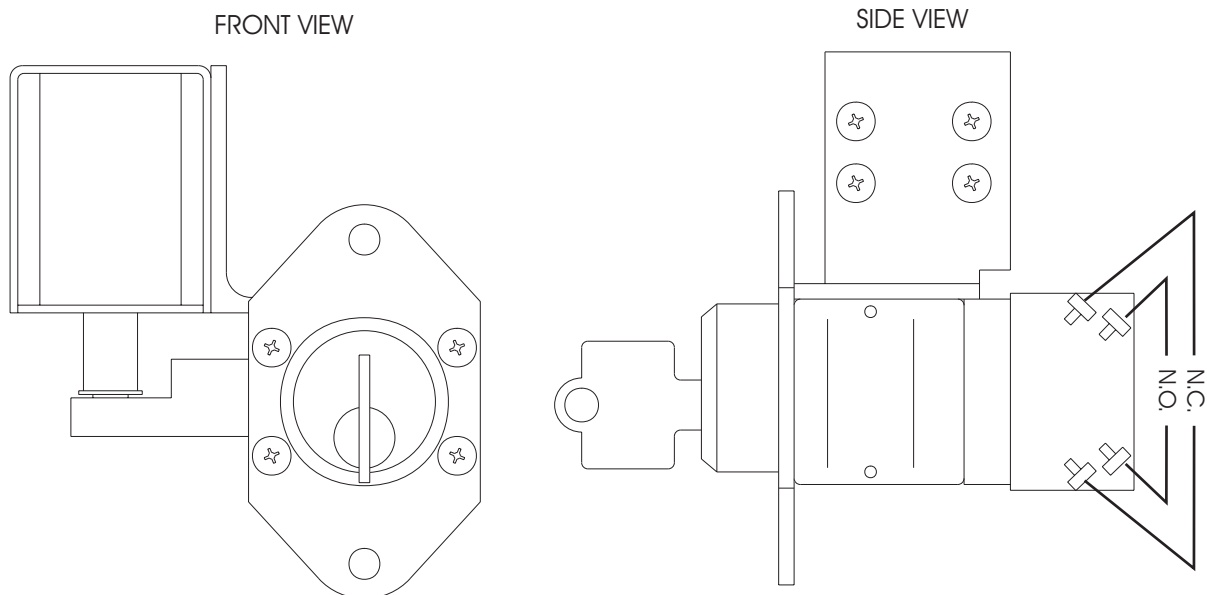
Instruction Manual for: Solenoid Key Release Unit and Time Delay Key Release Unit

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KIRK® Solenoid Panel Mounted (Type SKPM)

The SKPM consists of a keyed interlock, a solenoid, and a pair of auxiliary switches (2 N.O. and 2 N.C. contacts). The SKPM is designed to permit removal of the interlock key in response to an electric signal. Upon energizing the solenoid, the key can be turned and released. Turning the key operates the auxiliary switch.



SKPM Wiring Instructions

- 1) Mount SKPM in the panel or enclosure.
- 2) Connect solenoid leads to the appropriate circuit.
- 3) Wire the auxiliary contacts (if required).
- 4) Test the wiring to verify that the circuitry corresponds to the proper key position (trapped vs. free).

NOTE: The key is held in the SKPM until the solenoid is energized. The drawing shows the position of the contacts when the key is held. Once the solenoid is energized and the key is rotated and released, the contacts will change state.

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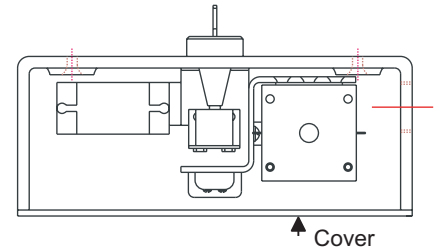
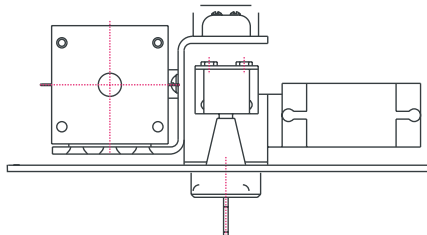
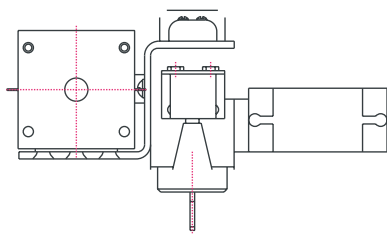
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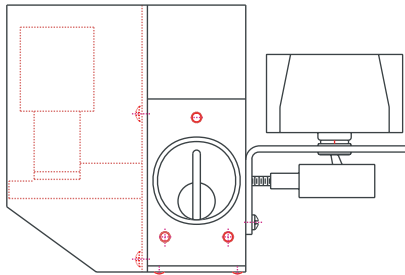
KIRK[®] Solenoid Key Release Unit (Type SKRU)

The SKRU consists of a keyed interlock, a solenoid, and a DPDT (quick-make, quick-break) auxiliary switch. The SKRU is designed to permit removal of a key (or keys) in response to an electric signal. A pushbutton and/or an indicating light are available options. All electrical components are wired out to a terminal block.

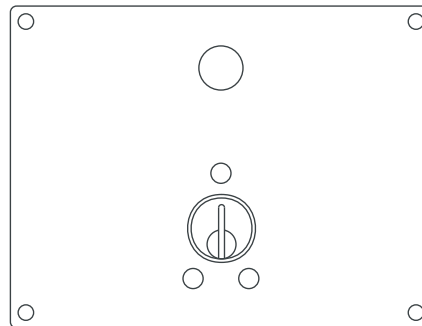
A single key SKRU is designed to have a key “trapped” in its lock until a signal is sent to the solenoid. When the solenoid is energized the key can be rotated and released. Turning the key operates the auxiliary switch. The released key can then be utilized in an interlock sequence. By returning and rotating the key, it once again becomes “trapped” and the auxiliary switch goes back to its original state.



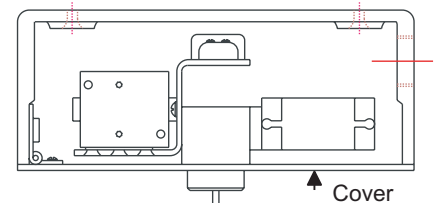
Housed
(Back Panel Mounted)



SKRU - Unhoused



SKRU - Unhoused
with front cover only
(Front and Top view)



Housed
(Front Panel Mounted)

SKRU - Housed

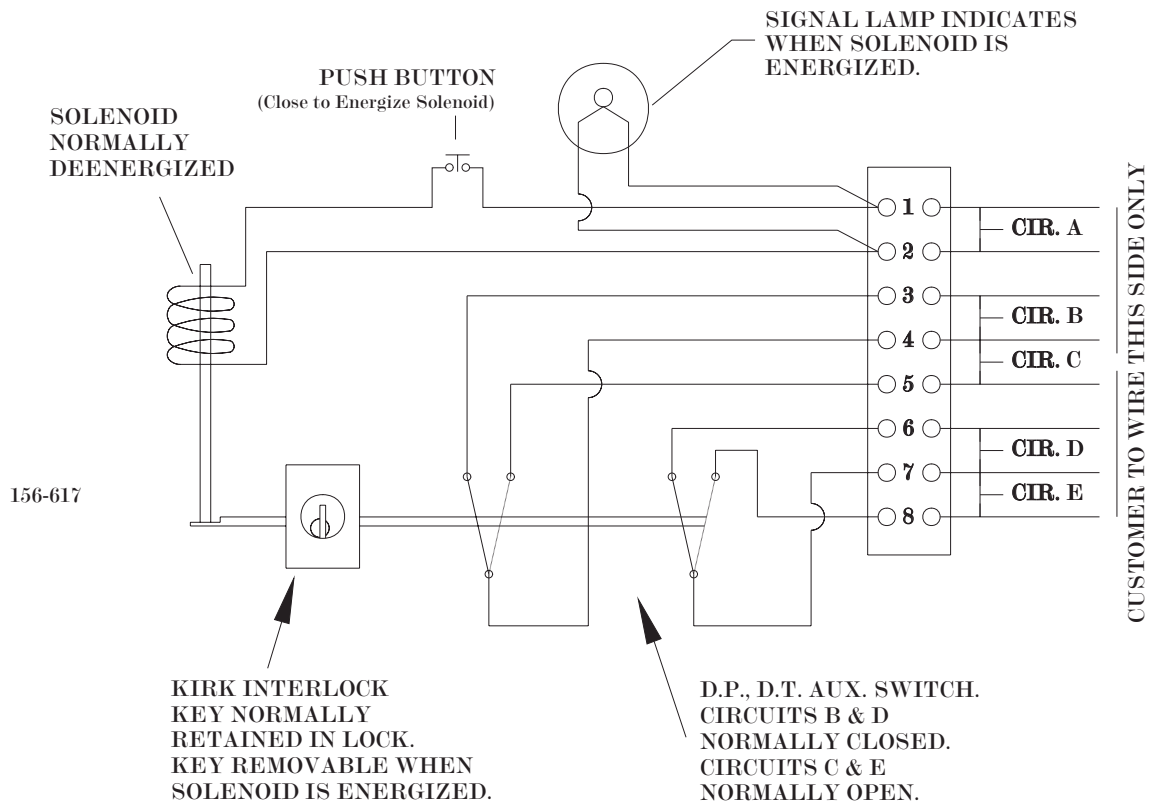
The SKRU is available 1) unhoused, 2) unhoused with front cover only, or 3) housed in an aluminum box with two conduit openings. See the examples above. Two key SKRUs are available two ways; 1) with both keys released upon energization of the solenoid or, 2) requiring an initiating key and a signal to the solenoid to enable release of a previously held key. It is important that the installer understand the entire interlock system and its intended purpose.

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KIRK® Solenoid Key Release Unit (Type SKRU) Wiring Diagram



Note: the above wiring diagram includes the pushbutton and indicating light. Call the factory or visit our website (www.kirkkey.com) for the wiring diagram that applies to your specific application.

SKRU Wiring Instructions

- 1) Mount the SKRU in the panel or enclosure.
- 2) Wire all circuits according to the appropriate wiring diagram.
- 3) Test the wiring to verify that the circuitry corresponds to the proper key position (trapped vs. free).

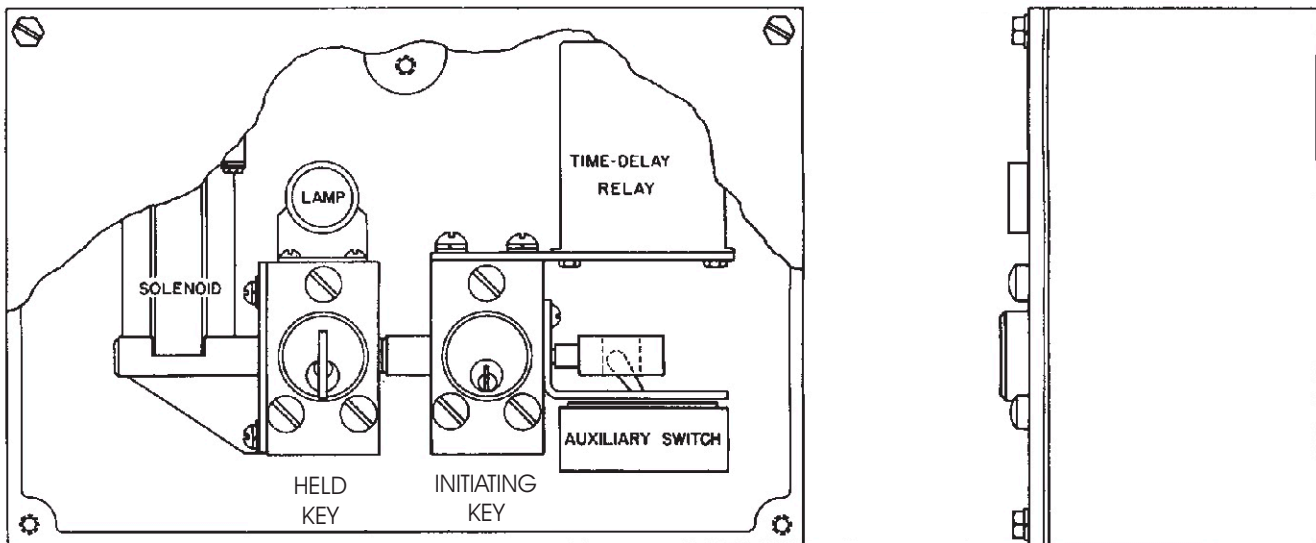
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KIRK[®] Time Delay Key Release Unit (Type TDKRU)

The TDKRU is comprised of two key interlocks, a timing device, a solenoid, and an indicating light. The unit is available housed in an aluminum enclosure or unboxed with front cover only. All electrical components are wired out to a terminal block. See the wiring diagram on page 6.



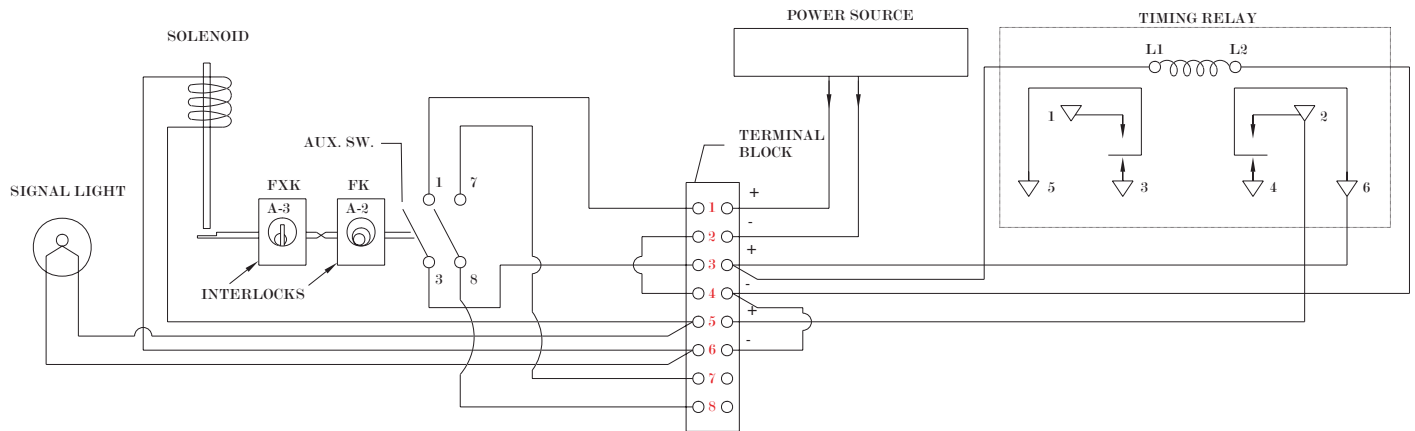
The TDKRU is a two key device. The secondary key is held in the unit until the initiating key is inserted and turned starting the time delay sequence. The initiating key will come from an interlock on the equipment being de-energized (such as a capacitor bank or rotating equipment). Inserting and rotating the initiating key begins the time delay sequence. After the predetermined delay, the indicating light illuminates permitting the secondary key to be turned and released thereby trapping the initiating key in the TDKRU. The secondary key can now be safely utilized on related key interlocked equipment (such as a ground switch or access door).

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KIRK[®] Time Delay Key Release Unit (Type TDKRU) Wiring Diagram



TDKRU Wiring Instructions

- 1) Mount the TDKRU in the panel or enclosure.
- 2) Wire all circuits according to the wiring diagram.
- 3) Test the wiring to verify that the circuitry corresponds to the proper key position (trapped vs. free).
- 4) Set the timing to the proper delay setting.
- 5) Test to verify the proper time delay.

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Key Control

IMPORTANT - To ensure correct operation of the KIRK® interlock system it is necessary to remove all loosely or removably held keys before operating the equipment on which the interlocks are mounted. There should only be enough keys to operate the interlock system sequentially.

The keys removed from the KIRK® interlocks should be returned to Kirk Key Interlock Company, North Canton, Ohio, or retained by authorized personnel for use as spare keys.

The spare keys must not be normally available to operating personnel, since the use of these keys, where not specifically required, will result in incorrect operation of the equipment on which the interlocks are mounted. Any spare keys should be given to operating personnel only, if and when the corresponding operating key has been destroyed.

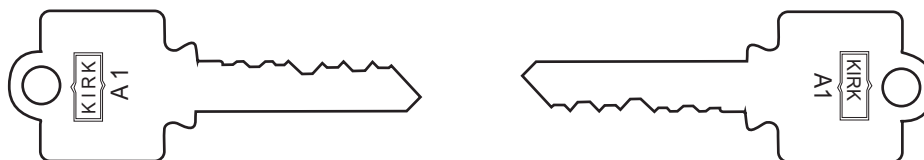
ADDITIONAL KEYS will be provided **ONLY** with proper authorization from the ultimate user to which the specific key combination has been assigned.

Duplicate Keys

Each interlock is supplied with a key in its lock. These keys are needed during installation of the interlocks on equipment. This then provides more keys than are actually necessary for operation of the interlock system.

When the interlocks have been installed, all extra keys should be removed from the system and destroyed or retained by authorized personnel. If additional keys are required because of loss or damage, they can be supplied only on the purchaser's authorized order. To order additional or replacement keys, please:

- 1) Copy the duplicate key release form on pages 9 and 10 of this manual, or print from <http://www.kirkkey.com>.
- 2) Complete the form and sign your name.
- 3) Fax the form to Kirk Key Interlock Company for immediate delivery, at 330-833-1528.



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Service and Maintenance

Lubrication - Interlocks should be periodically lubricated with a small amount of dry powdered graphite. **Do not use oil of any type** as the oil will collect dirt and "foul" the lock cylinder so that it will not operate. Apply a small amount of graphite to the key and insert the key into the lock cylinder. Work the key in and out and turn the key several times in order to distribute the graphite inside the lock cylinder. **Kirk Key Interlock Company cannot warranty interlocks that have been oiled.**

Kirk Key Interlock Company offers a Graphite Lubrication Kit (part number GL-1) complete with instructions for use. The powdered graphite is supplied in a plastic tube that can be "squeezed" to force a small amount of graphite into the lock cylinder. As described above, work the key in and out and turn the key a few times in order to distribute the graphite inside the lock cylinder.

NOTE: Stainless steel dust covers should be utilized to protect the lock cylinders when located outdoors or in a demanding environment. Dust covers are available separately and can be easily added to any interlock.

Factory Service - Under normal operating conditions, KIRK® interlocks should not require any maintenance service, other than graphite lubrication. However, if refurbishment or replacement should be required, contact Kirk Key Interlock Company, North Canton, Ohio. All factory service will be performed as quickly as possible to minimize your down time.

Any damaged or malfunctioning interlock should be returned to Kirk Key Interlock Company, North Canton, Ohio. If this is not possible and replacement locks are required, the following information must be forwarded to Kirk Key Interlock Company:

- 1) Lock Number - obtain from the face of lock cylinder.
- 2) S.O. Number - obtain from nameplate on interlock
- 3) Item Number - obtain from nameplate on interlock
- 4) Key Interchange Number (if applicable) - obtain from the face of lock cylinder.

