

SECURITRON MK SERIES MORTISE KEYSWITCH PANELS INSTALLATION AND OPERATION INSTRUCTIONS

1. DESCRIPTION

The MK series Mortise Keyswitch Panel permits use of any standard **US 1-1/4" or 1-1/8" mortise cylinder** to operate a switch. A 1 1/2" cylinder can be used if a spacer ring is added to make it protrude 1/4" from the rear of the face plate. The MK can be used for electric lock control, alarm panel arming and similar requirements. The assembly supplied includes a face plate with mounted bicolor LED, bracketry and one or two switches. The user must supply the cylinder and cam as this is typically incorporated into a master key system.

The part numbering for the series works as follows: **MK** denotes a brushed stainless steel single gang outlet box cover mount and **MKN** denotes a stainless steel 1-3/4" narrow style plate. The unit is delivered standard with a spring loaded momentary SPDT switch. The addition of the suffix "A" denotes an alternate action switch.

A second switch ordered separately can be affixed to the unit so that turning the key left will depress one switch and turning it to the right will depress the other. Momentary and alternate switches may be combined on the same unit. To order extra switches, the Securitron part number for a momentary switch is **MKS**. For an alternate switch, (push on, push off), the part number is **MKSA**. The addition of the suffix, "**2**" denotes a DPDT switch (MK2, MK2SA etc).

2. ASSEMBLY AND PHYSICAL INSTALLATION

Once you have the cylinder you plan to use, note that it has a cam which is turned by the key. Numerous cams are supplied by various cylinder manufacturers but they come in two main types: bat and cloverleaf. The MK series is designed to work with **any cam** which simplifies installation. It is however necessary for the switch to be mounted in the back bracket by the installer at **an appropriate position to suit the cam**. This is why the unit is delivered with the switch unmounted.

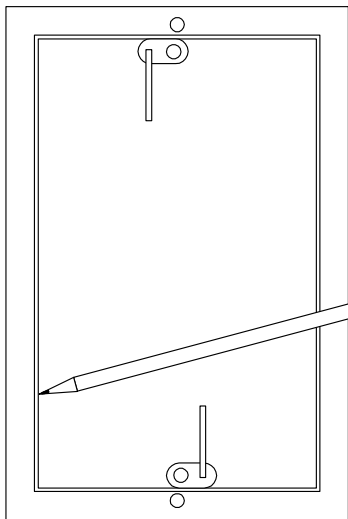
You must therefore start by assembling the unit including the face plate, cylinder, back bracket and switch and make sure that the cam operates the switch reliably before mounting the unit on the wall. Referring to the drawing, note that the switch can be mounted on the right or the left hole in the back bracket. This will result in operation by turning the key to the right or the left respectively. Bat type cams are generally preferred. **The switch height in the mounting hole should be set so that the cam makes reliable contact with the switch and fully depresses it.** Experimentation will show you the correct position. With a cloverleaf cam, the cam's shoulder can operate the switch when it's mounted in the left or right hole. With some cloverleaf cams, the switch can be mounted in the center hole with operation being obtained when the key is turned to either the right or left. After you are satisfied, freeze the position of the switch with the included hardware being sure to use the lock washer.

Note that when you install the brass ring-nut to hold the cylinder in position within the back bracket, **use the supplied threadlock in the capsule on the brass ring-nut threads.** This will prevent the assembly from loosening up over time. The complete assembly may then be attached to the wall or back box utilizing the #6 Spanner or standard screws furnished.

Note that for use on drywall, the single gang versions of the MK come with a **black plastic mounting frame**. This clamps itself to the drywall and then allows you to screw the MK's single gang plate to it. To install the mounting frame, you must prepare a rectangular cut-out in the drywall using a drywall saw. To mark for sawing, the mounting frame acts as its own template. Hold the frame against the wall and trace around the inside with a pencil. The rectangle you mark out will be smaller in size than the cut-out you will require because of the thickness of the

lip of the mounting frame which extends into the drywall. To compensate for this, simply cut along the outside of the marked rectangle as the thickness of the drywall saw blade is about the same as the thickness of the mounting frame lip. See Figure 1 below.

FIG. 1: INSTALLING THE DRYWALL MOUNTING FRAME



TO MARK FOR CUTTING, LAY THE MOUNTING FRAME AGAINST THE DRYWALL AND TRACE AROUND THE INSIDE WITH A PENCIL. THEN, USE YOUR DRYWALL SAW ON THE **OUTSIDE** OF THE LINE TO COMPENSATE FOR THE THICKNESS OF THE LIP.

3. ELECTRICAL CONNECTIONS

The switch will have color coded wires soldered to it as follows: White = Common; Red = Normally Closed; Blue = Normally Open. The bicolor LED (Securitron part number 030-12500) can illuminate red or green and has 3 wires attached to it: Red, Green and Black. Black is common DC negative. Red is the +VDC input to illuminate red. Green is the +VDC input to illuminate green. Note that the black wire has 2 resistors on it. **If the resistors are left as they are, the LED will operate on 24 volts. For 12 volt operation, remove the outer resistor.** With this set up, you can use either color for your indicator or even alternate red and green to show 2 different conditions. The LED's could be operated, for instance, from an SPDT switch to change colors. **You cannot, however, drive both sides of the LED at the same time** (the indicator would show orange) or the resistors will be overloaded. If you need to be able to drive both colors at the same time to display a third (orange) condition, remove both resistors on the black wire and connect individual resistors on the red and green wires. The values would be: 620 Ohms 1/2 watt for 12 volts and 1300 Ohms 1 watt for 24 volts.

If you have alternate and momentary switches supplied, they are identified by the numbers stamped on the switch body:

(MK) Momentary = 8Y1021 *or* 106F

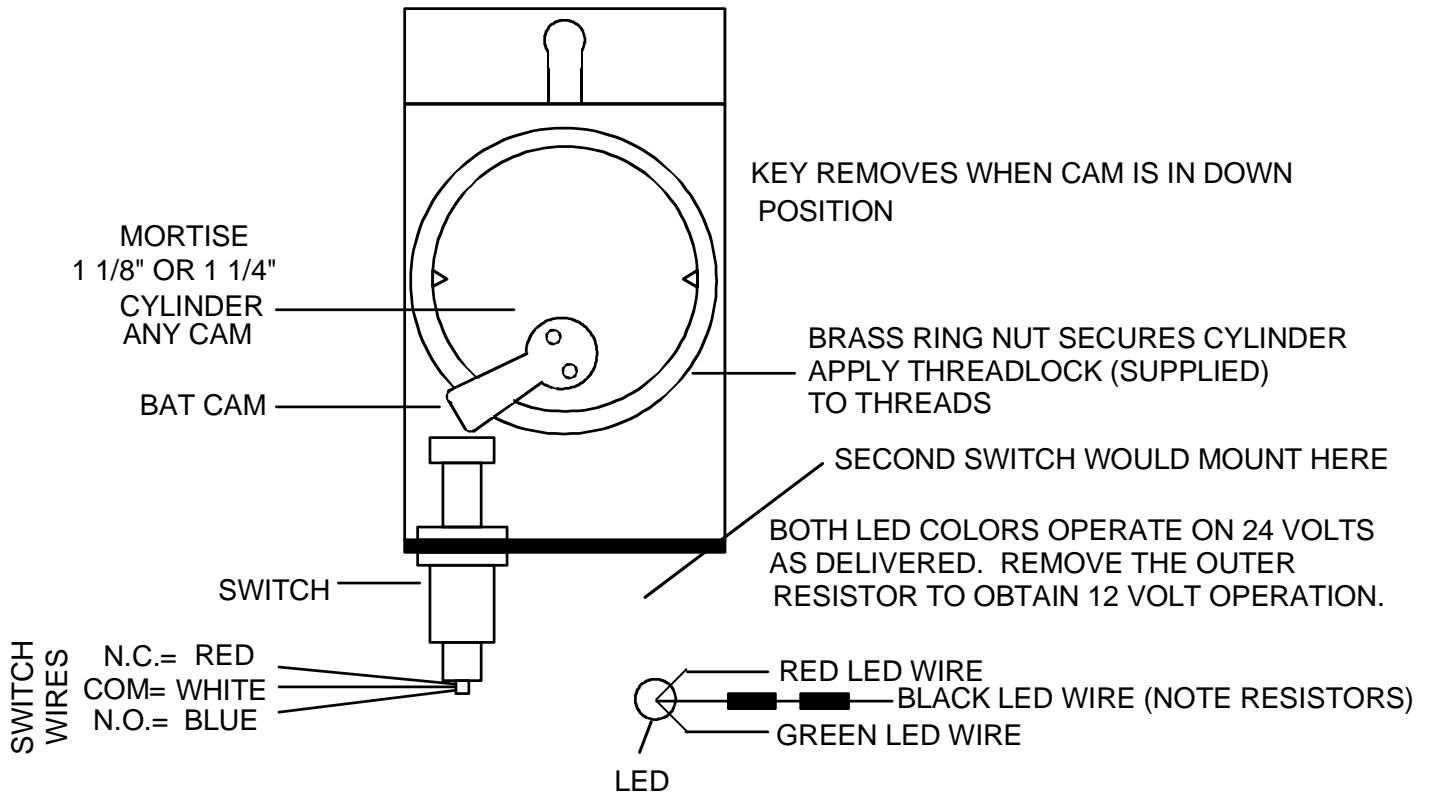
(MK2) Momentary = 8Y2021 *or* 206R

(MKA) Alternate = 8Y1011 *or* 106D

(MKA2) Alternate = 8Y2011 *or* 206N

The switch contacts will handle up to 3 amps of current. Note finally that the switch actuator has a black nylon cover on it. If the cover wears away, the assembly will still function as the switch actuator is steel under the cover.

FIG 2: MK PHYSICAL AND ELECTRICAL DETAILS



POSITION (UP OR DOWN) OF SWITCH IN MOUNTING HOLE IS SET TO CONFORM TO EXACT CAM USED. FOR INSTANCE, THE SWITCH NORMALLY MOUNTS HIGHER TO WORK WITH A BAT TYPE CAM (SHOWN) THAN WITH A CLOVERLEAF TYPE CAM. IN THE CASE OF SOME CLOVERLEAF CAMS, THE SWITCH MAY BE MOUNTED IN THE CENTER POSITION AND THE KEY WILL OPERATE THE SWITCH WHEN TURNED IN EITHER DIRECTION. YOU MUST EXPERIMENT WITH THE SWITCH MOUNTING POSITION TO BE SURE OF CONSISTENT FUNCTION. THEN LOCK THE SWITCH IN POSITION WITH THE LOCKING NUT HARDWARE.

APPLYING +VDC TO GREEN LED WIRE ILLUMINATES GREEN.
 APPLYING +VDC TO RED LED WIRE ILLUMINATES RED.
 BLACK WIRE IS DC COMMON NEGATIVE FOR LED.
 NOTE: LED COLORS MUST ONLY BE ILLUMINATED ONE AT A TIME.
 SEE SECTION 3 IN MANUAL (ABOVE) IF IT IS REQUIRED TO ILLUMINATE BOTH SIDES OF THE LED AT THE SAME TIME

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