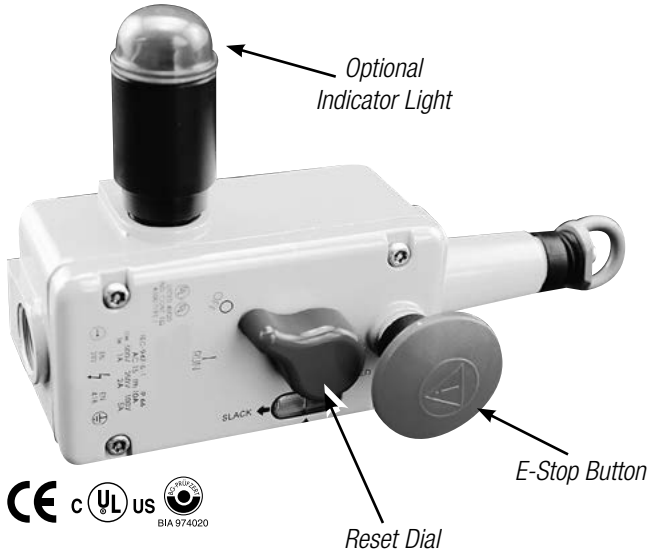
ROCKFORD SYSTEMS, LLC

CABLE AND PUSH-BUTTON E-STOP INSTALLATION MANUAL



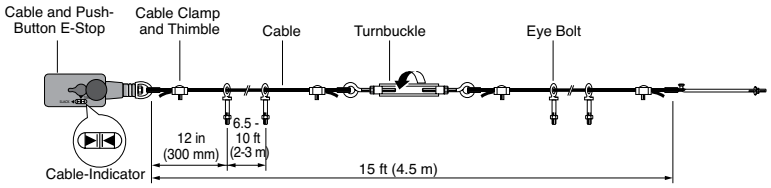
INTRODUCTION

This switch is a cable and push-button emergency-stop device. At the same time, it is used to provide an awareness means and emergency stopping device on exposed machinery, such as conveyors, packaging machinery, assembly lines, process equipment, transfer lines, rolling machinery, and other applications.

The switch has a unique cam operation of the contact mechanism to give rapid, positive operation of the contacts. This mechanism also provides a failure to the safe condition if the cable goes slack or is cut, but is immune to nuisance tripping due to machine vibration. Should the cable be pulled, the contacts are opened, isolating machine power, and the latch engages. The machine cannot restart until the hazard has been corrected and the switch is reset. The switch is reset by turning the blue reset dial from the off position to the run position. This switch also incorporates a cable-tension indicator. This indicator assists in installation and maintenance of the switch. A red mushroom-head emergency-stop button is provided on each switch. Optionally available is an indicator light as shown.

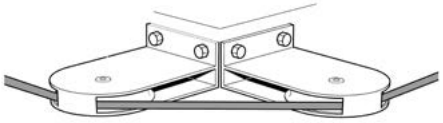
A cable tension kit, which includes thimbles, cable clamps and a turnbuckle, must be used with this switch. This kit includes the components to properly tension the cable. The cable should be supported by eye bolts every 6½ to 10 feet (2 to 3 m) along its length. An eye bolt should also be used about one foot from the switch to ensure that all emergency-pull movement is transmitted to the unit in a linear fashion (see Figure 1). If this assembly is to go around a corner, free-moving pulleys should be used (see Figure 2).

Figure 1



On cable runs over 15 feet, one switch should be installed at each ends of the cable.

Figure 2



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Manual No. KSL206

INSTALLATION

SWITCH INSTALLATION

1. Determine the mounting position for the switch.
2. Loosen and remove all cover screws using the furnished Torx bit. See Figure 3.
3. Drill and tap holes where the switch(es) will be mounted. Mount the switch(es) using four fasteners (not furnished). See Figure 3.
4. With the blue reset knob in the off position, replace the cover.
5. Push the red emergency-stop button. The switch should lock out. Reset the switch by turning the blue reset button on the cover to the run position (see Figure 4).

Figure 3

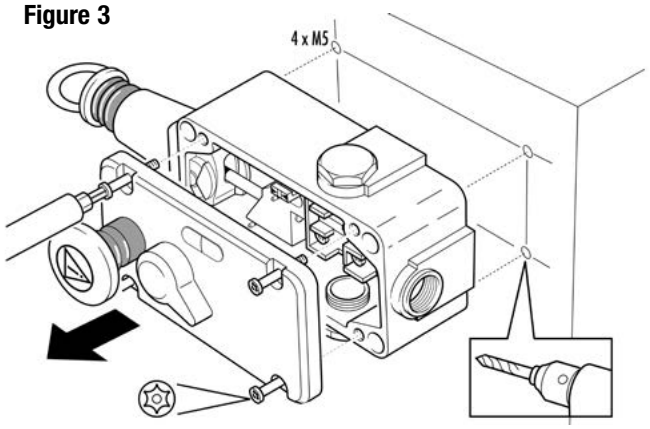
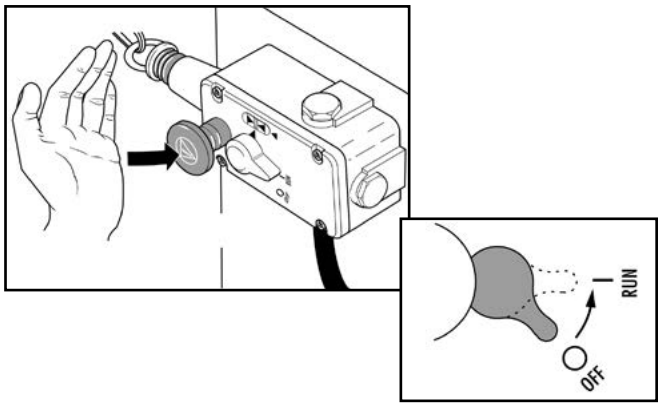


Figure 4



CABLE INSTALLATION

1. Pass a thimble through the eye of the switch.
2. Thread one end of the PVC-covered cable through a cable clamp.
3. Wrap the cable around the thimble and back through the cable clamp. See Figure 5. Lock the cable in position by tightening the cable clamp.
4. Install an eye bolt 12 inches from the end of the switch and one eye bolt every 6½ to 10 feet after that.
5. Extend the adjusting eyes on the turnbuckle. At approximately half the total cable span, mount the turnbuckle to the cable. Thread the cable through a cable clamp, through one end of the turnbuckle, and back through the cable clamp. Lock the cable in position by tightening the cable clamp.
6. Repeat steps 1-5 at the other end of the installation using a hook bolt.
7. Tension the cable. The turnbuckle has a left-hand thread at one end and a right-hand thread at the other. When rotating the turnbuckle body, the cable will slacken or tighten at both ends simultaneously. The black tension mark within the red arrows should be in the center of the window on each switch when the switch is tensioned properly. See Figure 6.
8. Set the blue reset knob to the run position. Perform a test procedure by pushing the red emergency-stop button and then resetting the reset button (blue button) before putting the switch into operation.

Figure 5

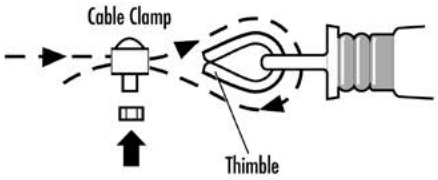


Figure 6

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Make sure the system is correctly installed and working before the machine is put back into production.

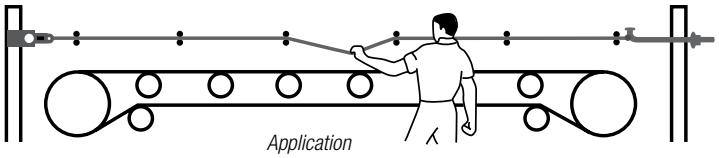
TECHNICAL SPECIFICATIONS

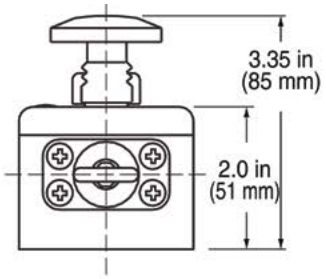
Safety Contacts ..... 2 NO
Auxiliary Contacts .....2 NC
Switching Ability .....1 A @ 500 V AC, 2 A @ 250 V AC
5A @ 100 V AC, 0.5 A @ 250 V DC 1 A @ 125 V DC, 2 A @ 24 V DC
Case ..... Heavy-Duty Die-Cast Alloy
Operating Temperature .....-13° to 176°F
(-25° to 80°C)
Operating Force.....< 28 lb (12 in deflection)
Tensioning Force to Run Position..... 23 lb Typical
Tensioning Force to Lockout.....42 lb Typical

Safety contacts are NO when the E-stop button is pushed, or if the cable is slack or pulled as shown in the illustration below.

ORDERING INFORMATION

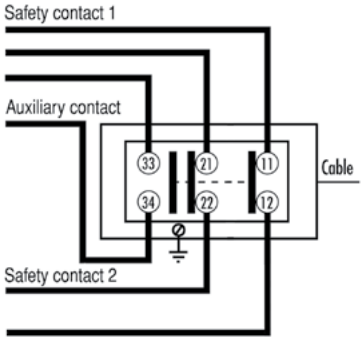
Part No.	Description
6024884	Cable and Push-Button E-Stop Device Only
CML510	Cable and Push-Button E-Stop Assembly (Consists of cable and push button e-stop, indicator light, 115-V AC bulb, 7 yards of red PVC-covered steel cable, turnbuckle, hook bolt, 4 cable thimbles, and 4 cable clamps

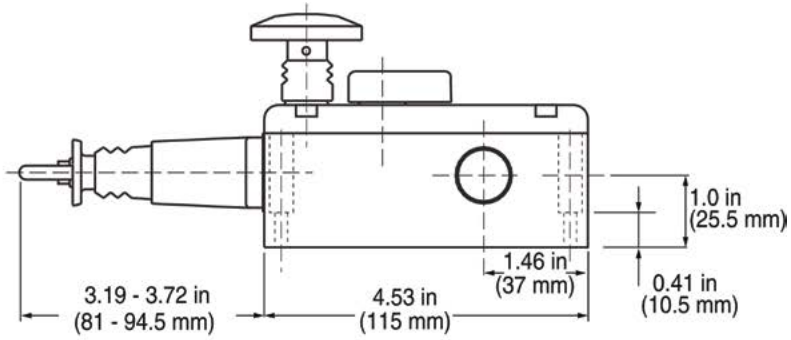

Application

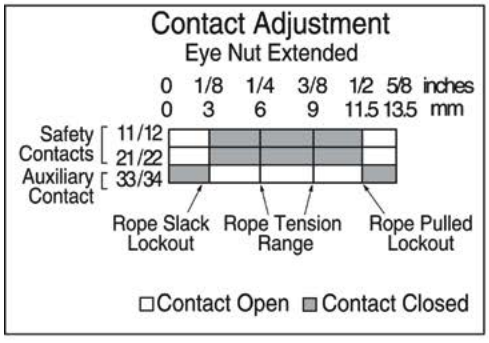


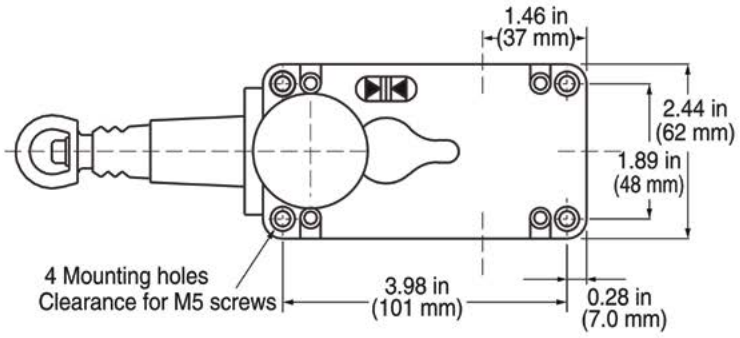
Connection details

Run condition









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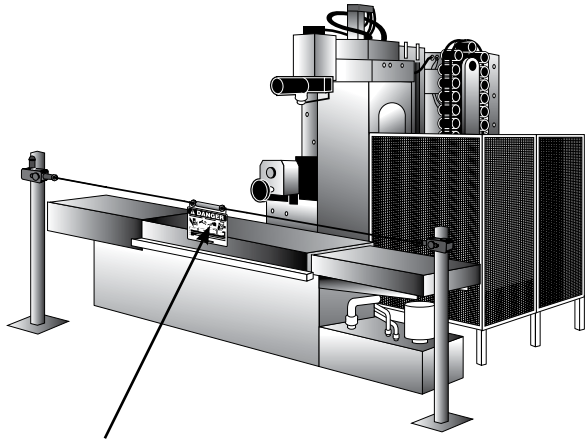
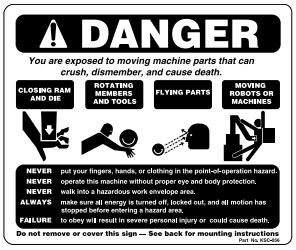
OPTIONAL ACCESSORIES

Part No.	Description
CMK039	Tension Kit (Consists of 1 turnbuckle, 1 hook bolt, 4 cable thimbles, and 4 cable clamps)
CMK064	Indicator Light Without Bulb
CTT335	24 V AC/DC Bulb for CMK-064 Indicator Light
CTT336	115 V AC Bulb for CMK-064 Indicator Light
5312998	M20 to 1⁄2" Conduit Adapter
FSL024	Red PVC-Covered Steel Cable/Yard
FSL028	Pulley
KSC056	Danger Sign for Miscellaneous Machines
KSC064	Danger Sign for Down-Acting Machines





Danger Sign KSC056
10" x 12" x .055" Thick
for Miscellaneous Machines

OR

Danger Sign KSC064
10" x 12" x .055" Thick
for Down-Acting Machines

Warranty

9. Limited Warranties.

9.1. (i) Subject to Section 8.1(ii) below, Rockford Systems makes to Customer the following sole and exclusive warranties with respect to Goods:

(a) with respect to Goods that are manufactured based on Customer specifications, at the time of shipment by Rockford Systems, the Goods sold under the Agreement that are manufactured by Rockford Systems pursuant to such specifications conform to such specifications set forth in the applicable Order Documentation; and

(b) at the time of shipment by Rockford Systems, the Goods sold under the Agreement that are manufactured by Rockford Systems are free from defects in material and workmanship.

(c) Rockford Systems's warranty is for a period of 1 year, and begins from date of shipment from Rockford Systems to the original purchaser.

This warranty does not include accessories, parts or equipment sold hereunder that are manufactured by someone other than Rockford Systems.

(ii) Every claim by Customer against Rockford Systems for breach of warranty with respect to the Goods shall be deemed waived by Customer unless written notice thereof is received by Rockford Systems within fifteen (15) days after discovery.

9.2. If Rockford Systems breaches either of the warranties set forth in Section 8.1(i) above, and written notice thereof is received by Rockford Systems from Customer within the applicable time period specified in Section 8.1(ii) above, Customer's sole and exclusive remedy and Rockford Systems's only obligation shall be, as Rockford Systems in its sole and exclusive judgment shall determine, the replacement of the nonconforming Goods, or an adjustment to the purchase price for the nonconforming Goods or the repair of the nonconforming Goods. All transportation charges related to replacement or repair of Goods shipped to Rockford Systems's plant or facility (or other place at Rockford Systems's direction) shall be prepaid by Customer. Rockford Systems shall be responsible for reasonable transportation charges back to Customer for Goods that have been replaced or repaired by Rockford Systems. Any replacement Goods or repaired Goods shall be subject to these Terms and Conditions.

9.3. THE EXPRESS WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES APPLICABLE TO THE SALE OF GOODS BY ROCKFORD SYSTEMS TO CUSTOMER PURSUANT TO THE AGREEMENT, AND THEY EXCLUDE ALL OTHER EXPRESS, ORAL OR WRITTEN WARRANTIES, AS WELL AS ANY WARRANTIES IMPLIED BY LAW WITH RESPECT TO THE GOODS, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PURPOSE, NOTWITHSTANDING ANY DISCLOSURE TO ROCKFORD SYSTEMS OF THE INTENDED USE OF THE GOODS.

9.4. Rockford Systems's warranties under Section 8.1(i) are void if repairs or modifications of the Goods are made by anyone other than Rockford Systems. Without limitation of the foregoing, Rockford Systems assumes no responsibility for and shall have no obligations to Customer because defects in any materials furnished by, or any faulty workmanship provided by, any party other than Rockford Systems.

9.5. Rockford Systems reserves the right to improve its products through changes in design or material without being obligated to incorporate such changes into products of prior manufacture. Customer cannot rely on any such changes as proof of insufficiency or inadequacy of prior designs of the Goods or material contained in the Goods.

9.6. If Customer grants to an end user of the Goods (or any other customer of Customer) any warranty that is greater in scope or time than the warranty and claims period stated herein, Rockford Systems shall not be liable beyond the scope of the limited warranty, the claim period, the damages and the remedies provided for under this Section.

9.7. Solely to the extent transferable, Rockford Systems assigns and transfers to Customer the original manufacturer's warranty on Goods sold hereunder that are not manufactured by Rockford Systems.