

# Installation Instructions

Original Instructions



## Lifeline 4 Cable-pull Safety Switch

Catalog Numbers 440E-H13070, 440E-Lx



**ATTENTION:** Read this document and the documents that are listed in the Additional Resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wire instructions and requirements of all applicable codes, laws, and standards. Suitably trained personnel are required to install, adjust, put into service, use, assemble, disassemble, and maintain this equipment in accordance with the applicable code of practice. If this equipment is used in a manner that is not specified by the manufacturer, the protection that is provided by the equipment can be impaired.



**WARNING:** Do not defeat, tamper, remove, or bypass this unit. Severe injury to personnel could result.

### Introduction



**ATTENTION:** Installation must be in accordance with the following steps and stated specifications and must be carried out by suitably competent personnel. Adherence to the recommended maintenance instructions forms part of the warranty.

It is required that installation is in accordance with these instructions and implemented by qualified personnel.

This device is intended to be part of the safety-related control system of a machine. Before installation, a risk assessment must be performed to determine whether the specifications of this device are suitable for all foreseeable operational and environmental characteristics of the application. See the Specifications for certification information and ratings.

Use appropriate screws, bolts, or nuts that are fitted by tools to mount the switch to avoid the risk of tampering. Do not over torque the mounting hardware.

### Technical Specifications

Attribute	Standard	Stainless Steel
<b>Safety Ratings</b>		
Standards	IEC 60947-5-5, ISO 13850, IEC 60947-5-1 Emergency stop device in accordance with ISO 13850	
Functional safety data	See publication <a href="#">SAFETY-SR001</a> in <a href="#">Additional Resources on page 4</a> .	
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives <a href="#">rok.auto/certifications</a>	
<b>Outputs</b>		
Safety contacts <sup>(1)</sup>	<ul style="list-style-type: none"> <li>Standard: 2 N.C. direct-opening action</li> <li>Extended length: 3 N.C. direct-opening action</li> </ul>	2 N.C. direct-opening action
Auxiliary contacts	<ul style="list-style-type: none"> <li>Standard: 2 N.O. direct-opening action</li> <li>Extended length: 1 N.O. direct-opening action</li> </ul>	2 N.O.
Thermal current ( $I_{th}$ )	10 A	
Rated insulation voltage (Ui)	500V	
Switching current @ voltage, min	3 mA @ 18V DC	
<b>Operating Characteristics</b>		
Operating voltage	24V DC +10%/-15% Class 2 SELV or PELV power supply	
Cable span between switches, max	<ul style="list-style-type: none"> <li>Standard: 75 m (246 ft)</li> <li>Extended length: 75...125 m (146...410 ft)</li> </ul>	75 m (246 ft)
Tensioning force to run position	103 N (23.17 lbf) typical 6	
Tensioning force to lockout	188 N (42.3 lbf) typical	
Operating force, min	<125 N (28.1 lbf) at 300 mm (11.8 in.) deflection	
Actuation frequency, max	1 cycle/s	
Mechanical life	1,000,000 operations	
<b>Environmental</b>		
Enclosure type rating	IP66	IP66, IP67, IP69K
Operating temperature	-25...+80 °C (-13...+176 °F)	
<b>Physical Characteristics</b>		
Housing material	Heavy-duty painted zinc-based die-cast alloy (LM24)	Stainless steel 316
Indicator material	Glass-filled nylon	Acetal
Eye nut material	Stainless steel	Stainless steel
Weight	630 g (1.38 lb)	1442 g (3.17 lb)
Color	Yellow body, blue Reset button	Unpainted metal

(1) The safety contacts are described as normally closed (N.C.) that is, with the guard closed, actuator in place (where relevant) and the machine able to be started.

### Utilization Category

Attribute	Standard and Stainless Steel			
A600/AC-15 (Ue)	600V	500V	240V	120V
A600/AC-15 (Ie)	1.2 A	1.4 A	3.0 A	6.0 A
DC-13 (Ue)	24V			
DC-13 (Ie)	2 A			

## Mounting

Use M5 or #10-32 bolts to mount the sensor to the frame of the machine.

Figure 1 - Typical Mounting – Lifeline™ 4 Cable Pull Switch

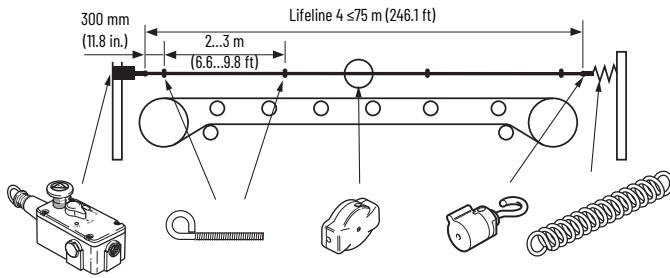
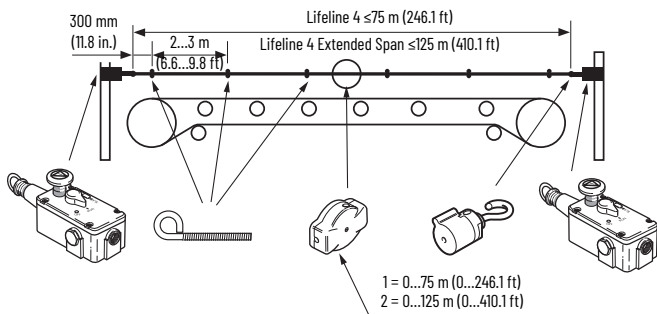


Figure 2 - Typical Mounting – Lifeline 4 Extended Span Cable Pull Switch



## Installation

If the application is in an area with large daily or seasonal temperature variations, you should set up the installation kit, and reset it as required, under median temperature conditions.

Figure 3 - Switch Installation

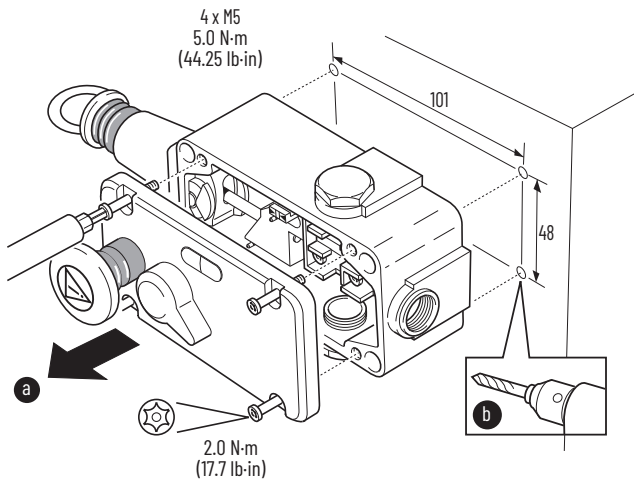
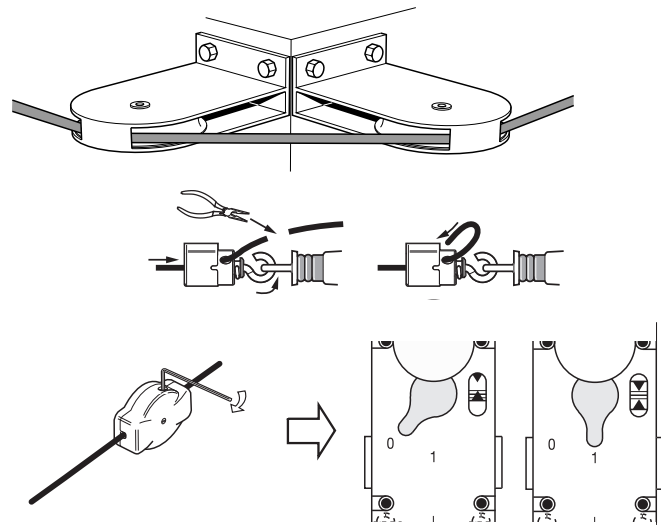


Figure 4 - Cable Installation



## Maintenance

Frequency	Description
Every week	<ul style="list-style-type: none"> <li>Check the correct operation of the switching circuit.</li> <li>Check for signs of abuse or tampering.</li> <li>Inspect the switch casing for damage. Of particular importance is damage, which causes loss of sealing at the lid or conduit entry.</li> </ul>
At least every 6 months	<ul style="list-style-type: none"> <li>Isolate all power.</li> <li>Remove the lid.</li> <li>Inspect all terminals for tightness.</li> <li>Clean out any accumulation of fine dirt and so on.</li> <li>Check for any sign of wear or damage, for example, cam assembly wear, contact oxidization and replace if apparent.</li> <li>Replace covers and tighten screws to specified settings.</li> <li>Reinstate the power and check for correct operation.</li> <li>Reapply tamper evident varnish or similar compound to fixings.</li> </ul>

## Repair



**ATTENTION:** If there is any malfunction or damage, no attempts at repair should be made. The unit should be replaced before machine operation is allowed. Do not dismantle the unit.

## UL508 Information

When used in elevated ambient temperature, the temperature rating of field wiring must not be less than ambient.

Attribute	Value
Electrical spec of rating code	A600
Current, max	120V AC - make 60 A, break 6 A 240V AC - make 30 A, break 3 A
VA, max	Make 7200, break 720

### IMPORTANT

- Use copper conductors only.
- Use polymeric conduit only.
- Use one conduit entrance for field connections.

## Declaration of Conformity

This is to declare that the products that are shown in this document conform with the Essential Health and Safety Requirements (EHSRs) of the European Machinery Directive (2006/42/EC). These products also conform to EN 60947-5-1, EN 60947-5-5 (E-stop units only), EN ISO 13850, EN ISO 13849-1 and have Third-party Approval.

CCC certified products conform to GB 14048.5.

For a comprehensive certificate visit: [rok.auto/certifications](http://rok.auto/certifications).

## Approximate Dimensions

Figure 5 - Lifeline 4 Cable Pull Switch [mm (in.)]

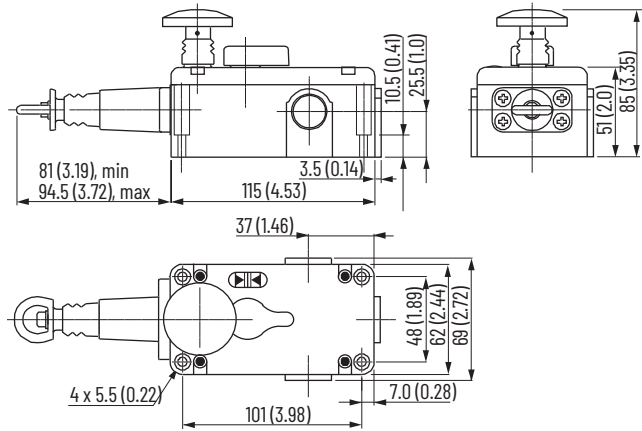
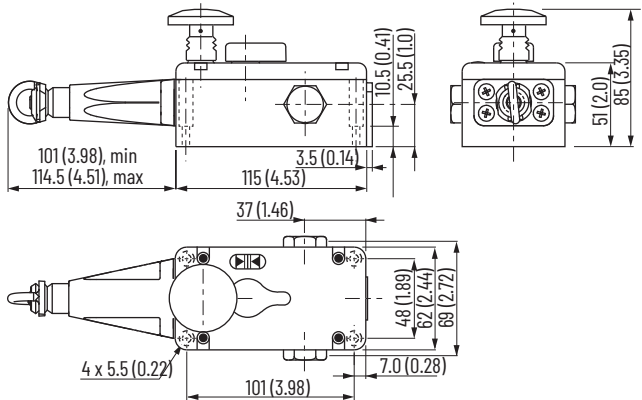
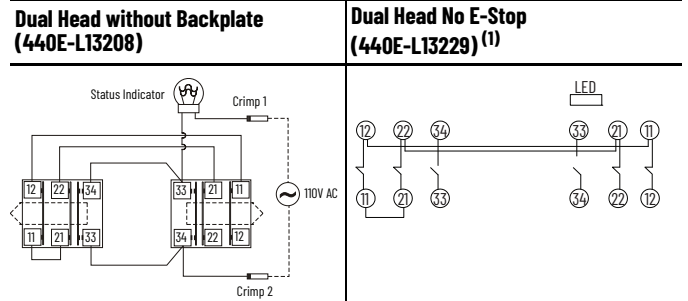
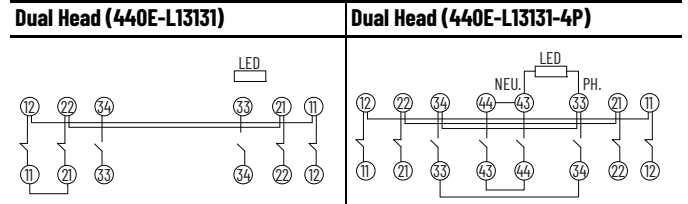
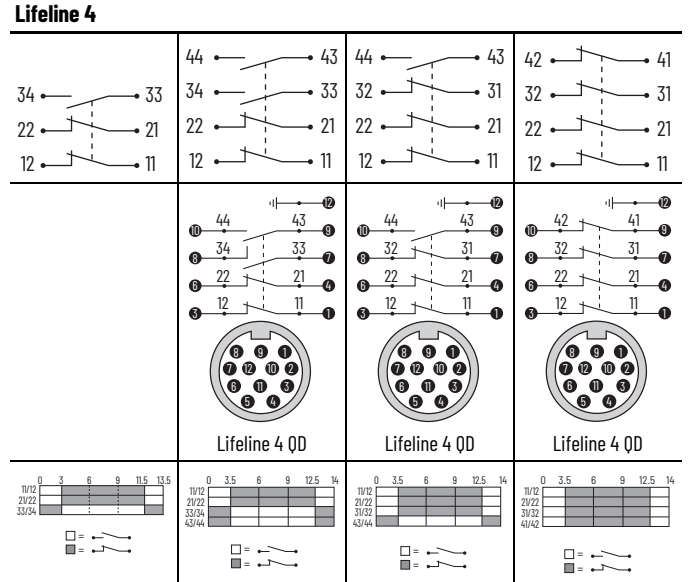


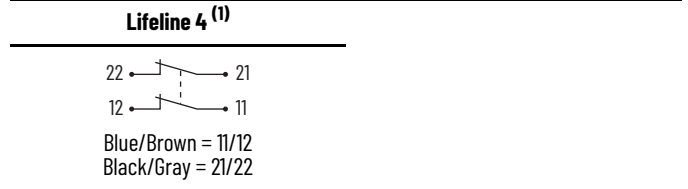
Figure 6 - Lifeline 4 Extended Span Cable Pull Switch [mm (in.)]



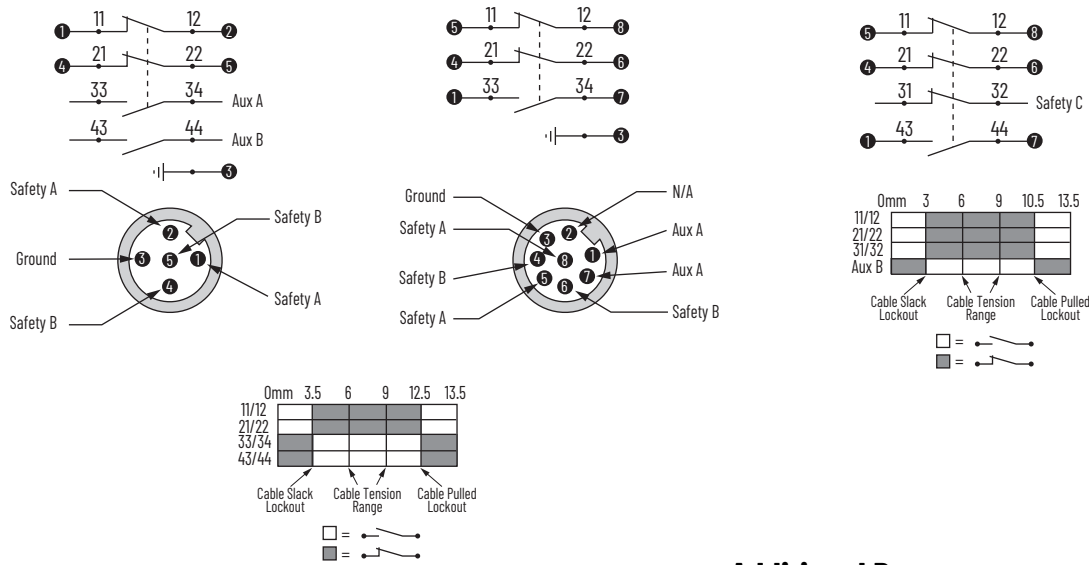
## Wiring



(1) Do not wire lamp. Only to be installed/screwed in.



(1) Cable 2 m (6.6 ft).



**Table 1 - Connector Ratings**

	Max Ratings		Applicable Standards
	AC	DC	
4-pin Micro (M12)	250V, 4 A	250V, 4 A	IEC 61076-2-101:2003
5-pin Micro (M12)	60V, 4 A	60V, 4 A	IEC 61076-2-101:2003
6-pin Micro (M12)	30V, 2 A	30V, 2 A	IEC 61076-2-101:2003
8-pin Micro (M12)	30V, 2 A	30V, 2 A	IEC 61076-2-101:2003
12-pin M23	63V, 6 A	63V, 6 A	IEC 61984:2001

### Additional Resources

To download publications, visit [rok.auto/literature](http://rok.auto/literature) and search for the following publication numbers.

Resource	Description
Functional Safety Data Sheet, publication <a href="#">SAFETY-SR001</a>	Provides functional safety data for Rockwell Automation products.
Product Certifications website, <a href="http://rok.auto/certifications">rok.auto/certifications</a>	Provides declarations of conformity, certificates, and other certification details.

## Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at [rok.auto/pec](http://rok.auto/pec).

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