

**Key Interlock Switches
NEMA Standard Models****Contents**

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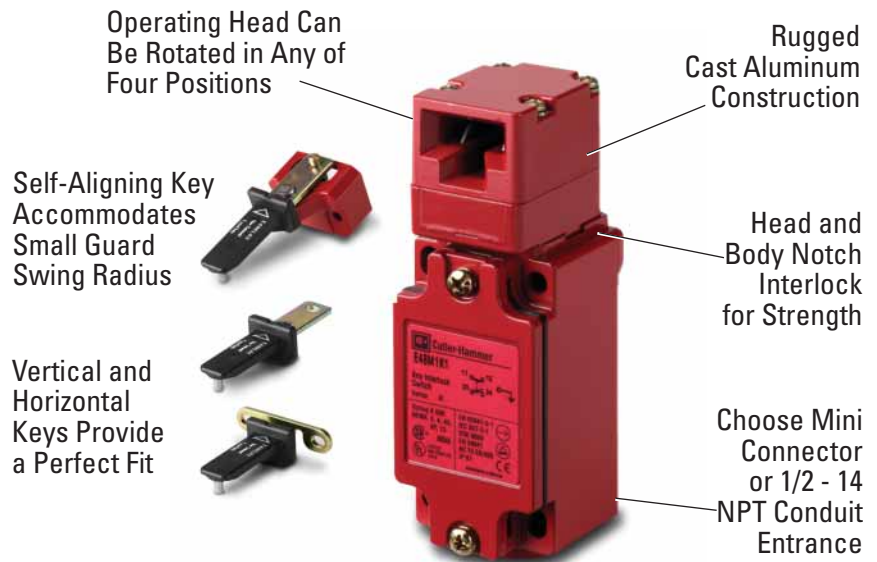
The Cutler-Hammer® E48 Safety Key Interlock Limit Switch by Eaton's electrical business is designed to be used with movable guards or covers which must be closed for operational safety. The key portion of the switch is affixed to the movable door, cover or other such guard. The switch itself is mounted to a rigid portion of the machine. When the guard is opened, the key is removed from the switch, thereby *positively breaking* the normally closed contacts. This interrupts the control circuit, stopping machine operation.

Ratings and Approvals

- UL Listed
- CSA Certified
- TUV
- IEC 947-5-1
- EN60947-5-1
- NEMA A600 (UL/CSA Pilot Duty)
- Direct Opening N.C. contacts per EN60947-5-1 →




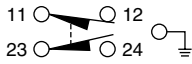
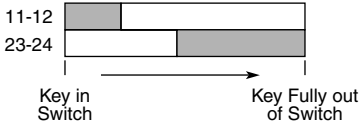
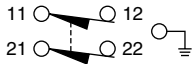
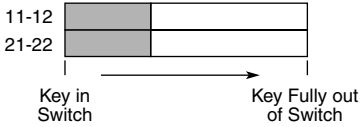
Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.

**Heavy-Duty Safety Interlock Switch
for Reliable Machine Operator Protection****Product Features**


- Three simultaneous mechanical actions occur when the key is inserted into the operating head to make it difficult to defeat with common tools
- Rugged cast aluminum body stands up to harsh industrial environments
- Three actuating key styles for mounting flexibility including a self-aligning version
- Choose from 1N.O.-1N.C. or 2N.C. DPDB contacts
- Operating head and switch body interlock for strength and a sure fit
- Four unique head mounting positions
- 1/2 – 14 NPT conduit entrance
- All models meet UL, CSA, European and International requirements

For Customer Service in the U.S. call **1-877-ETN CARE (386-2273)**,
in Canada call **1-800-268-3578**.
For Application Assistance in the U.S. and Canada
call **1-800-426-9184**.




Model Selection — Key Interlock Switches

Circuit ①	Contacts	Contact Operation 	Wiring Type (Connectors Only)	Catalog Number
				1/2 – 14 NPT Conduit Entrance
1N.O.-1N.C. DPDB slow action			Normal	E48M1K1
2N.C. DPDB slow action			Normal	E48M1K0

① N.O. and N.C. contacts are defined with the key fully engaged in the switch.

 Stocked product, typical order quantities guaranteed in stock.

Model Selection — Actuating Keys (must be ordered separately)

	Minimum Key Insertion Radius	Catalog Number
Horizontal 	47 inches (1200 mm)	E48KL01
Vertical 	47 inches (1200 mm)	E48KL02
Adjustable 	5.9 inches (150 mm)	E48KL03

 Stocked product, typical order quantities guaranteed in stock.

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Specifications

Description	Specification
Ambient Temperature	Operation: -40° to 176°F (-40° to 80°C) minimum temperature is based upon absence of freezing water or moisture
Enclosure Ratings	NEMA Type 3, 4, 4X, 6P, 13. IP67 conforming to IEC 529 NOTE: Care must be taken that contaminants do not enter the actuating key area as this may prevent the switch from performing to specifications.
Ambient Humidity	95% maximum, non-condensing
Housing Material	Die-cast aluminum
Vibration Resistance	10G in both vertical and horizontal axis (from 10 to 500 Hz) conforming to IEC 68-2-27
Shock Resistance	30G in both vertical and horizontal axis conforming to IEC 68-2-27
Mechanical Life	1 million operations minimum
Electrical Life	500,000 operations minimum (10A, 250V AC resistive load)
Short Circuit Protection	Recommended: 10A fuse (type gl) (IEC 269)
Rated Insulation Voltage	600V AC (IEC 946-5-1)
Electric Shock Protection	Insulation Class I (IEC 536)
Operating Force (extraction)	4.4 ft-lb minimum (19.6 N)
Release Force (insertion)	4.41 ft-lb minimum (19.6 N)
Total Travel	0.91 inch minimum (23 mm)
Pretravel	0.39 ± 0.20 inches minimum (10 ± 5 mm)
Direct Opening Force	4.41 ft-lb minimum for safe operation (19.6 N)
Operating Speed	0.1 mm/s to 0.5 m/s
Operating Frequency	30 operations/minute maximum

Rated Voltage	Current			Maximum VA	
	Thermal Continuous	Make	Break	Make	Break
120V AC	10A	60A	6.0A	7200 VA	720 VA
240V AC	10A	30A	3.0A	7200 VA	720 VA
480V AC	10A	15A	1.5A	7200 VA	720 VA
600V AC	10A	12A	1.2A	7200 VA	720 VA

