

## Two-Hand Control Devices

# Zero-Force™ Touch Buttons

### 800Z Heavy Industrial



### Description

The heavy industrial Bulletin 800Z Zero-Force Touch Buttons are designed for use by machine control systems requiring the use of two hands. An interlinked sensor surface weaves two capacitive sensors in offset planes for superior product sensitivity.

The 800Z touch buttons are ergonomically designed to require for ease of operation. No force is required to operate the switch; simply touching the surface of the switch will initiate an output. The 800Z can detect the hand through most industrial gloves.

The contour of the 800Z touch buttons serves two purposes; it easily conforms to the shape of the hand while helping prevent defeatability when two-hand control is needed.

Two bi-coloured diagnostic LEDs provide guidance during operation. The power/fault LED blinks at different rates to provide diagnostic information to the user. The 800Z detects the presence of a hand during power-up, noise, and conductive film build-up over time.

### Features

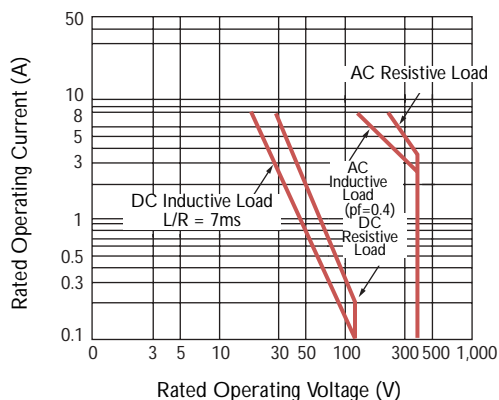
- Zero Force to operate
- Ergonomic design
- EMC protection
- Diagnostic LEDs
- Replaceable Relays

### Specifications

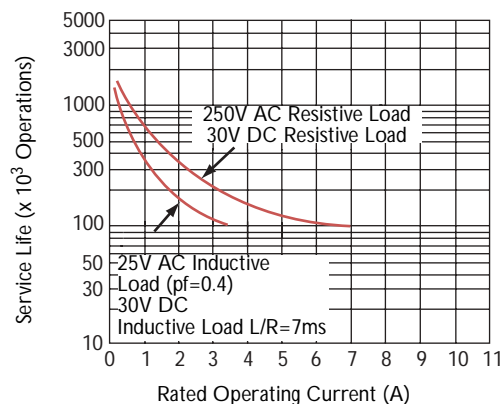
Standards	EN574, EN954-1, IEC/EN60947-5-1, IEC/EN60204-1
Approvals	cULus, C-Tick, and CE marked for all applicable directives
Power Supply	10-40V DC, 20-30V AC, or 85-264V AC
Power Consumption	1.44W, 19.2VA
Output Ratings	See Load Life Curves
Min. Switched Current/Voltage	8mA/5V DC
Pollution Degree	2
Operating Temperature	-25°C to +55°C (-13° to +131°F)
Humidity	95% RH
Enclosure Protection	IP66 (NEMA 4/13)
Material	
Housing/Guard	Valox® 357
Gaskets	3.2mm (1/16in) Cork-BUNA-N
Mounting	Any position
Conductor Size	0.5-4mm <sup>2</sup> (#12-22AWG)
Terminal Protection	IP2X
Electrical Life	
EM-Relay inductive load	See Load Life Curves
Vibration	1.5mm (0.06in) 10-55Hz
Shock	100g, 11ms half-sine

### Load Life Curves for Heavy Industrial

#### Relay Output—Maximum Load Breaking Capacity



### Relay Output—Electrical Endurance



**Product Selection**

Mounting Style	Input Voltage Range and Output Type	Guard	Catalogue Number
			Terminal Block
Flush Mount	10...40V DC and 20...30V AC Input Relay Output	No Guard	800Z-HL1
		Yellow Guard	800Z-HL1Y
	85...264V AC Input Relay Output	No Guard	800Z-HF1
		Yellow Guard	800Z-HF1Y

Use the configurator below to build an 800Z touch button to suit your application.

800Z – H L 1 Y - \_\_\_\_\_  
a b c d

a		b		d		
Voltage		Mounting Type/Connection ❶		Kit Option ❷		
Code	Description	Code	Description	Code	Description	
L	Input: 10...40V DC and 20...30V AC	1	Flush Mounting/Terminal Block	K1	No Kit	
	Output: Relay				24V AC/DC Relay Kit	
F	Input: 85...264V AC	<b>c</b>			K2	120V AC Relay Kit
	Output: Relay	<b>Guard Option</b>		K3		240V AC Relay Kit
		<b>Code</b>	<b>Description</b>			
		Blank	No Guard			
		Y	Yellow Guard			






❶ Heavy industrial devices have an eight-position terminal block connection. See wiring diagrams on page 11-10 for details.  
❷ Safety relays should be used in two-hand control applications. Kits include two identical touch buttons and one MSR125HP safety relay with removeable terminals.

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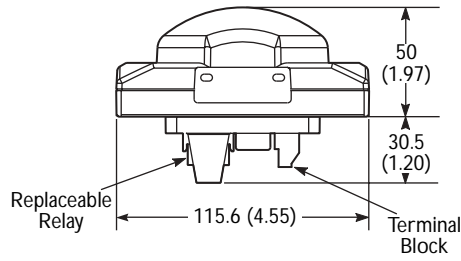
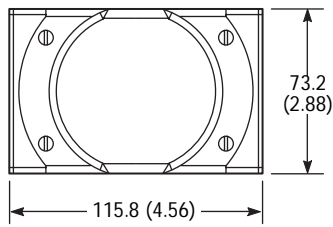
**Zero-Force™ Touch Buttons**

**800Z Heavy Industrial**

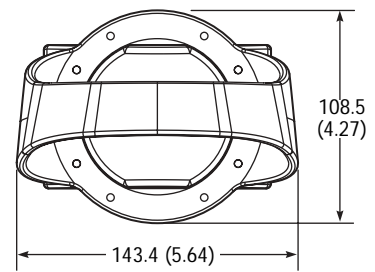
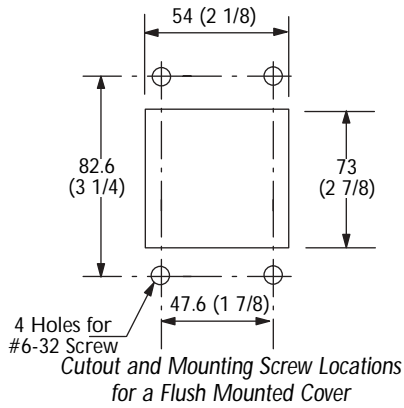
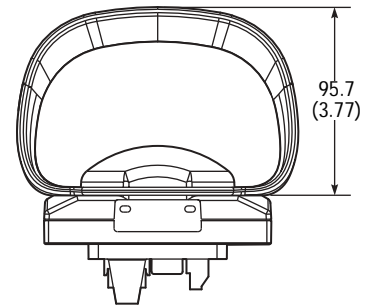
**Accessories**

	Description	Input Voltage	Catalogue Number
 <p>Replaceable Output Relay</p>	<p>Replacement Relay Must be ordered in multiples of 2.</p>	<p>Full Voltage 10...264V AC</p>	<p>800Z-N12</p>
 <p>Guard</p>	<p>This guard prevents accidental activation of the touch surface and protects it from damage. Longer mounting screws are included.</p> <p>Guards are required in most two hand safety applications (see applicable standards).</p>	<p>Yellow</p>	<p>800Z-HAG1</p>
 <p>Base</p>	<p>The heavy industrial line products mount directly on these bases. The conduit hub(s) come with a 3/4 inch opening.</p>	<p>Single Hub</p>	<p>800P-B1</p>
		<p>Double Hub</p>	<p>800P-B2</p>
 <p>Mounting Screws</p>	<p>These replacement screws are the proper length to mount the heavy industrial touch button with metal guard to an 800P-B1 or 800P-B2 base, or a custom mounting surface. <b>Note:</b> Must be ordered in multiples of 4.</p>		<p>800Z-HAH1</p>
	<p>Replacement screws for base mounting. <b>Note:</b> Must be ordered in multiples of 4.</p>		<p>800Z-HAH2</p>
 <p>Adaptor</p>	<p>This adaptor is used if mounting touch button onto a 114.3 x 60.3mm (4-1/2in x 2-3/8in) enclosure pattern.</p>		<p>800P-N150</p>

**Approximate Dimensions—mm (inches)**



*Heavy Industrial*



*Heavy Industrial with Guard*

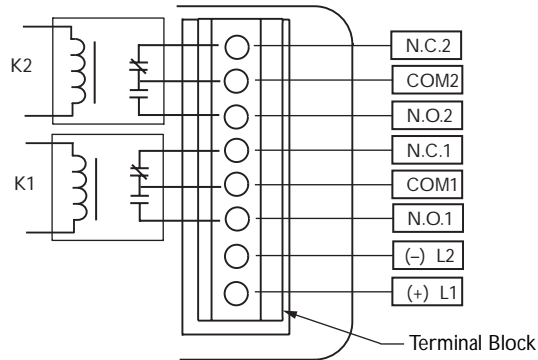
**Note:** Dimensions are not intended to be used for manufacturing purposes.

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**Typical Wiring Diagram**



**Applications Details**

LED Blink Rate	Diagnostic	Description
** ** *	Power Up	Device touched during power-up. Device will resume 10 seconds after removal of hand.
*** ** *	Noise Detection	Device detected an unacceptable level of noise (>20V/m). Device will resume once noise subsides.
**** ** *	Margin Detection	A conductive film is building up on the sensing surface. Device will resume once cleared.