

## Two-Hand Control Devices

# Zero-Force™ Touch Buttons

### 800Z General Purpose



#### Description

The general purpose 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 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-colored 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

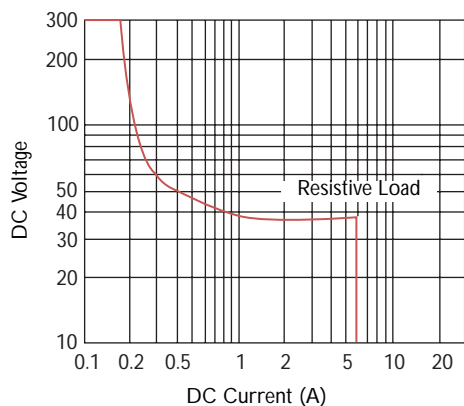
- Zero Force to operate
- Ergonomic design
- EMC protection
- Diagnostic LEDs

#### Specifications

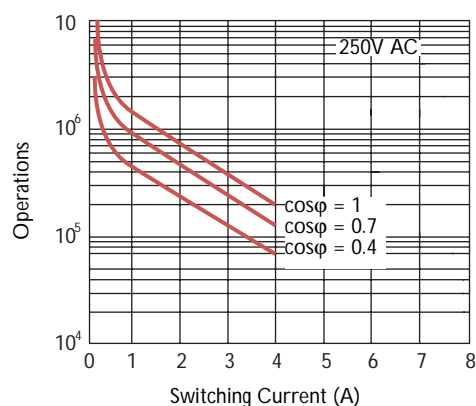
Standards	EN574, EN954-1, IEC/EN60947-5-1, IEC/EN60204-1
Approvals	cULus, C-Tick, and CE marked for all applicable directives
Power Supply	Relay Output 10-40V DC, 20-30V AC, or 85-264V AC Transistor Output 10-30V DC
Power Consumption	Relay Output 1.44W, 19.2VA Transistor Output 100mA at 24V DC = 2.23W (no load)
Outputs	Relay Output 1 N.O. & 1 N.C. Transistor Output PNP or NPN
Output Ratings	Relay Output See Load Life Curves Transistor Output 150mA
Min. Switched Current/ Voltage (Relay Output)	8mA/5V DC
Pollution Degree	2
Operating Temperature	-25°C to +55°C (-13° to +131°F)
Humidity	95% RH
Enclosure Protection	IP66 (NEMA 4/4X/13), 1200 psi washdown
Material	Housing/Guard Valox® 357 Gaskets BUNA-N Relay Contacts AgSnO
Mounting	Any position
Cable	5 wire (single common) 4 wire (single common)
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 General Purpose Product Line

Relay Output—Maximum DC Load Breaking Capacity



Relay Output—Electrical Endurance



**Product Selection**

Mounting Hole Size	Input Voltage Range and Output Type	Guard	Catalogue Number		
			6ft Cabled—5-Wire	5-Pin Mini QD	5-Pin Micro QD
30.5 mm Mounting Hole	85...264V AC Input Relay Output	No Guard	800Z-GF3065	800Z-GF3Q5	
		Black Guard	800Z-GF3065B	800Z-GF3Q5B	
	10...40V DC and 20...30V AC Input Relay Output	No Guard	800Z-GL3065	800Z-GL3Q5	
		Black Guard	800Z-GL3065B	800Z-GL3Q5B	
22.5 mm Mounting Hole	85...264V AC Input Relay Output	No Guard	800Z-GF2065		800Z-GF2Q5
		Black Guard	800Z-GF2065B		800Z-GF2Q5B
	10...40V DC and 20...30V AC Input Relay Output	No Guard	800Z-GL2065		800Z-GL2Q5
		Black Guard	800Z-GL2065B		800Z-GL2Q5B
Recommended standard cordset, 2m (6.5ft). See pages 15-12 and 15-10 for additional lengths..				889N-F5AE-6F	889D-F5AC-2

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

**800Z – G**   **L**   **3**   **065**   **B**   -   \_\_\_\_\_  
a   b   c   d   e

<b>a</b>	
Input Voltage and Output Type	
Code	Description
<b>Relay Output</b>	
L	Input: 10...40V DC and 20...30V AC Output: Relay
F	Input: 85...264V AC Output: Relay
<b>Transistor Output</b>	
N	10...30V DC; NPN (Sinking) Output
P	10...30V DC; PNP (Sourcing) Output
<b>b</b>	
Mounting Hole Size	
Code	Description
2	22.5mm (0.88in)
3	30.5mm (1.20in)

<b>c</b>	
Electrical Connection	
Code	Description
<b>Sinking/Sourcing Output ❶</b>	
Q4	4-Pin QD
064	6 ft (1.8 m) Cabled
124	12 ft (3.6 m) Cabled
244	24 ft (7.2 m) Cabled
<b>Relay Output ❷</b>	
Q5	5-Pin QD
065	1.8m (6ft) Cabled
125	3.6m (12ft) Cabled
245	7.2m (24ft) Cabled

<b>d</b>	
Guard Option	
Code	Description
Blank	No Guard
B	Black Guard
Y	Yellow Guard
<b>e</b>	
<b>Kit Option ❸</b>	
Code	Description
Blank	No Kit
K1	24V AC/DC Relay Kit
K2	120V AC Relay Kit
K3	240V AC Relay Kit

❶ These devices are transistor outputs.

❷ These devices have separate N.O. and N.C. output relays with a shared common.






❸ Safety relays should be used in two-hand control applications. Kits not available for solid-state (transistor output) devices. Kits include two identical touch buttons and one MSR125HP safety relay with removeable terminals.

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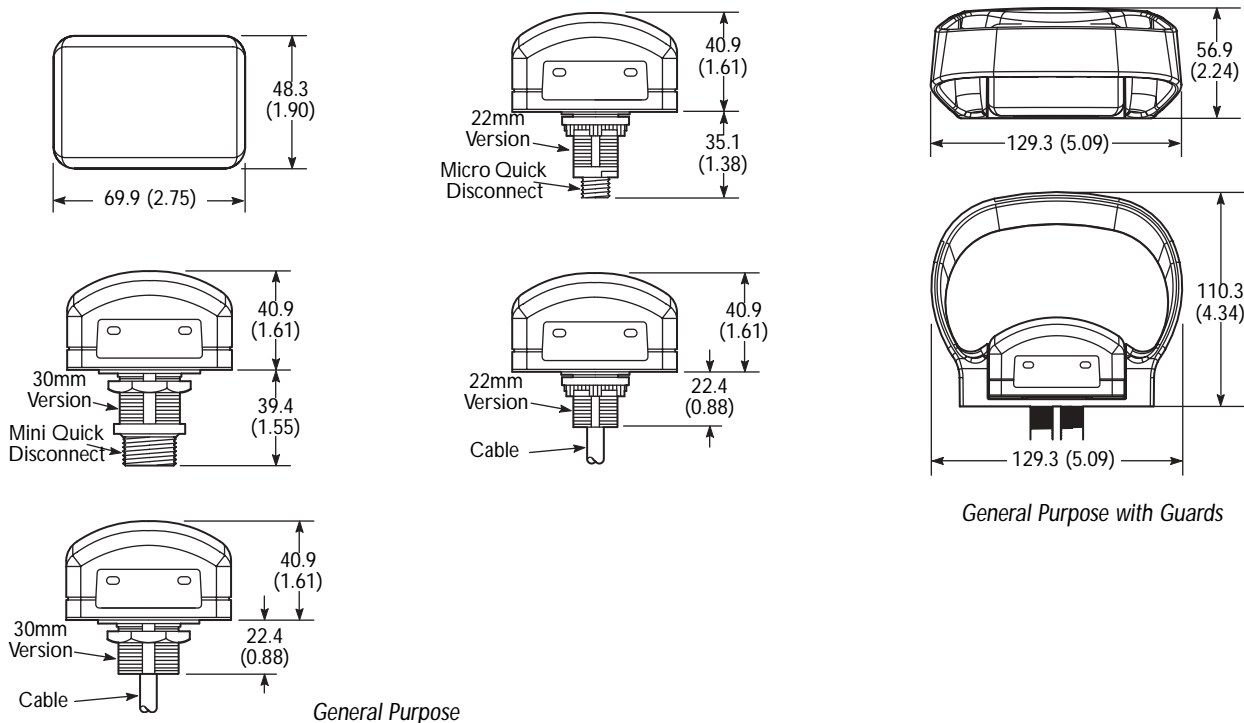
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**Accessories**

	Description	Colour	Catalogue Number
 <p><i>Guards</i></p>	<p>These guards prevent accidental activation of the touch button surface and protect it from damage. Can be used for both the 22.5mm and 30.5mm mounting products.</p>	Yellow	800Z-G3AG1
		Black	800Z-G3AG2
 <p><i>Plastic Mounting Kit</i></p>	<p>Mounting Ring Nut for 22.5mm holes. Used on 22.5mm devices.</p>	Plastic	800Z-G2AH1
 <p><i>Plastic Mounting Kit</i></p>	<p>Mounting Ring Nut for 30.5mm holes. Used on 30.5mm devices.</p>	Plastic	800Z-G3AH1
 <p><i>Swivel Assembly</i></p>	<p>30.5mm Swivel/Tilt Mounting Assembly This bracket allows you to orient the touch button in any position. It can be mounted on any vertical or horizontal surface. Compatible with 30.5mm mounting only.</p>	57mm (2.25in) Extension	60-2681
		29mm (1.15in) Extension	60-2439
 <p><i>Adaptor</i></p>	<p>30.5mm to 22.5mm Hole Size Adaptor This adaptor allows a 22.5mm push button operator to be installed in a panel with existing 30.5mm mounting holes.</p>	Shiny Metal	800E-AHA1
		Black Metal	800E-AHA2

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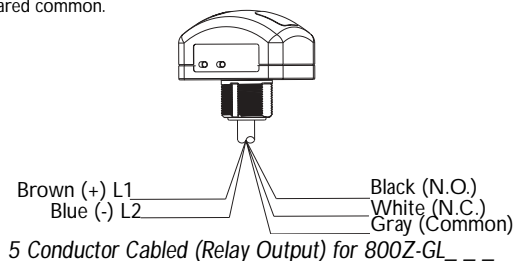
**Approximate Dimensions—mm (inches)**



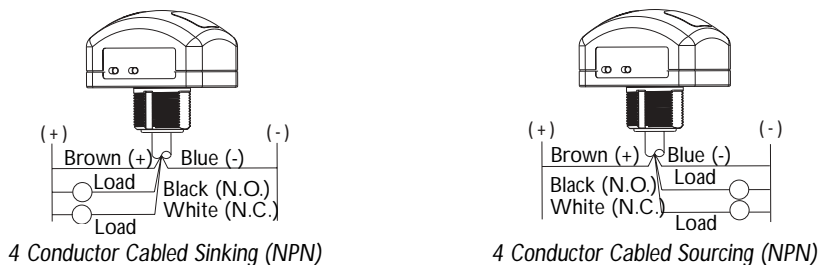
**Typical Wiring Diagram**

Electrical Connections: 10...40V DC and 20...30V AC Input Voltage (Relay Output); 85...264V AC Input Voltage (Relay Output)

Note: Separate N.O. and N.C. output relays with shared common.



Electrical Connections: 10...30V DC Input Voltage (Transistor Output); 150mA max. per circuit output



**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.