



# 800Z – Zero-Force™ Touch Buttons Technology You Can Trust

Bulletin 800Z Series B



**Allen-Bradley**

**Rockwell  
Automation**

# Zero-Force™ Touch Buttons

The Zero-Force™ Series B touch buttons are designed to offer unbeatable performance, with or without gloves, quick response times, protection from operation by foreign substances, and superior electro-magnetic compatibility (EMC) noise immunity.

## Superior Product Sensitivity

An interlinked sensor surface weaves two capacitive sensors in offset planes to significantly increase product sensitivity. This unique sensor surface combined with a Digital Signal Processing (DSP) architecture gives the 800Z Series B the ability to distinguish between a person's hand, most foreign substances, and also facilitates unbeatable

performance with gloves. Redundant sensor pads help detect foreign objects and decrease the opportunity for false operation in the presence of noise. Additionally, the 800Z product is designed to disable if one or both pads are not functioning properly.

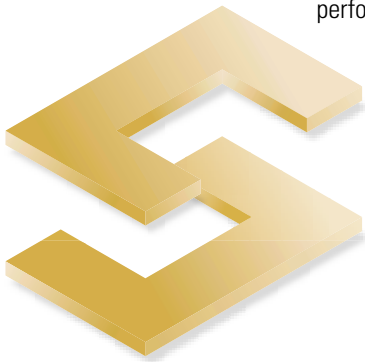


Illustration of sensor configuration



## Ergonomically Designed Package

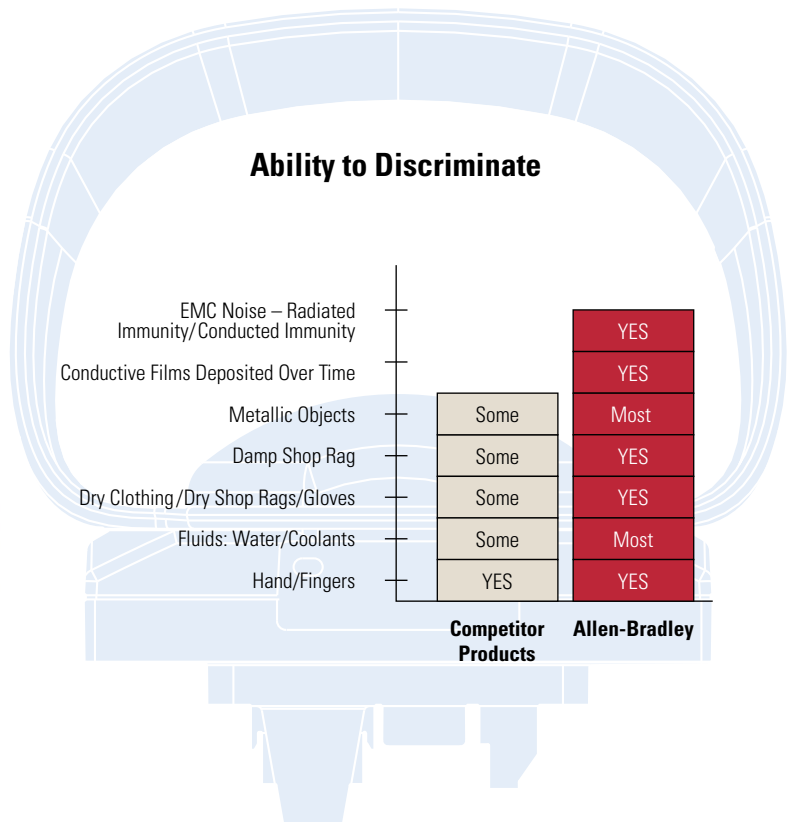
The Zero-Force™ Touch Button is designed to fit the shape of the hand and to help alleviate the effects of carpal tunnel syndrome and other nerve disorders common to repetitive operator interfaces.

## Two-Hand Control Applications

The 800Z Series B product can be part of a global two-hand control system. 800Z touch buttons are designed to function in a control reliable mode. This means that in the event of a single fault, the device will not lead to the loss of the safety function. Both General Purpose and Heavy Industrial products will function within a system comprised of a set of touch buttons and a safety relay to be compatible with ANSI B11-19, OSHA 1910-217 and EN574.

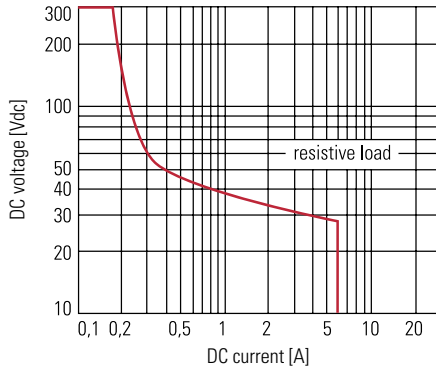
## Increased Noise Immunity

Significantly increased noise immunity is achieved by utilizing a patented combination of pattern recognition and noise sensing algorithms.

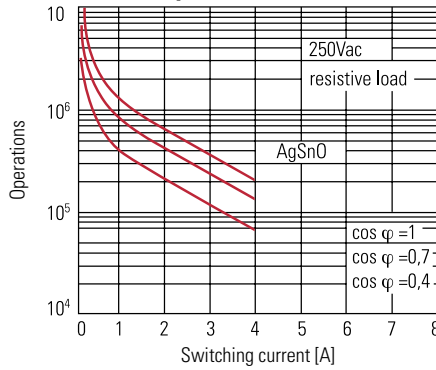


## Load Life Curves for General Purpose Product Line

### Relay Output – Maximum DC load breaking capacity

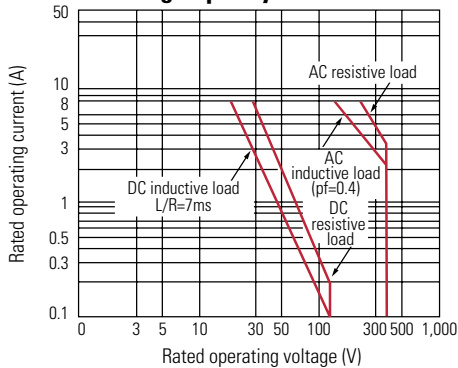


### Relay Output – Electrical endurance

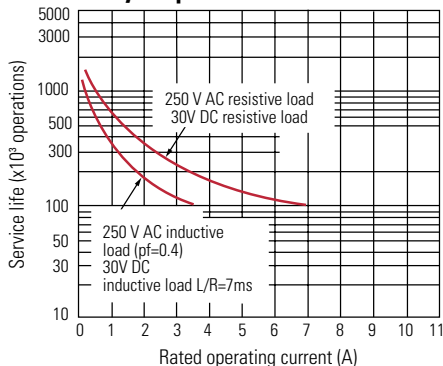


## Load Life Curves for Heavy Industrial Product Line

### Relay Output – Maximum load breaking capacity



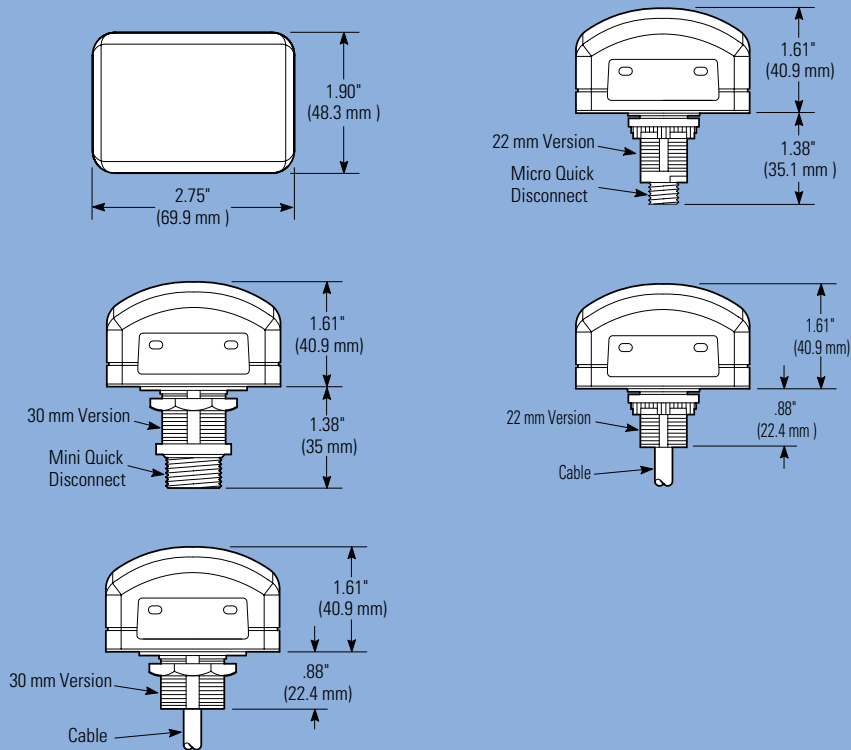
### Relay Output – Electrical endurance



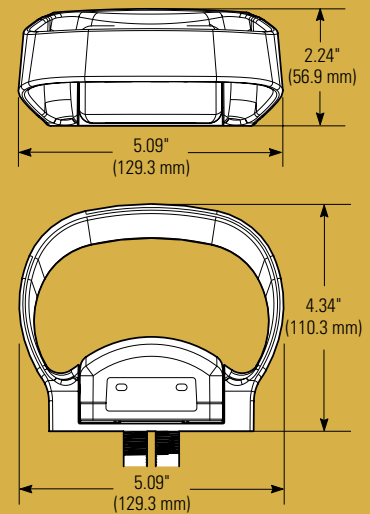
## Technical Data

Mechanical Ratings		
Description	General Purpose (800Z-G)	Heavy Industrial (800Z-H)
Vibration Endurance	Tested at 10G, 1.52 mm displacement	
Mechanical Shock	Tested at 100G (mechanical durability)	
Degree of Protection	Type 4/4X/13, IP 66, 1200 PSI washdown	Type 4/13, IP 66
Operating Force	Zero	
Electrical Ratings		
Input Voltage (Relay type)	Low Voltage (800Z-GL): 10-40V DC, 20-30V AC Full Voltage (800Z-GF): 85-264V AC	Low Voltage (800Z-HL): 10-40V DC, 20-30V AC Full Voltage (800Z-HF): 85-264V AC
Input Voltage (Solid-State type)	Low Voltage (800Z-GN/GP): 10-30V DC	---
Electrical Design Life (Relay type)	Relay Output 200,000 Operations @ 2A inductive, 4A resistive	Relay Output 150,000 Operations @ 5A inductive, 2.5A resistive
Terminal Block Specification	---	IP2X rated Terminal Block Maximum wire range #12-22 AWG (.5-4 mm <sup>2</sup> ), Tightening Torque: 9 in-lbs (1Nm)
On-delay/Off-delay	On-Delay 76ms Max / Off-Delay 60ms Max	
Current Draw (Solid-state type)	100 mA at 24V DC = 2.23W (no external load)	
Environmental		
Temperature Range (operating)	-25° C to 55° C -13° F to 131° F	
Temperature Range (storage)	-40° C to 85° C -40° F to 185° F	
Humidity	95% RH from 25° C to 50° C (full operation)	
Materials		
Housing/Guard	Valox 357	
Gasket	BUNA-N	1/16" Cork-BUNA-N
Connector	Insulator material (micro connector) = nylon Insulator material (mini connector) = PVC	
Agency Approvals		
Approvals	cUL <sub>US</sub> , CE, C-TICK, UR, CSA	
Standards Conformity	UL 508, CSA 22.2 No. 14, UL50, EN60947-5-1, EN50081-2, EN61000-6-2, EN954-1 UL File No. E14840	

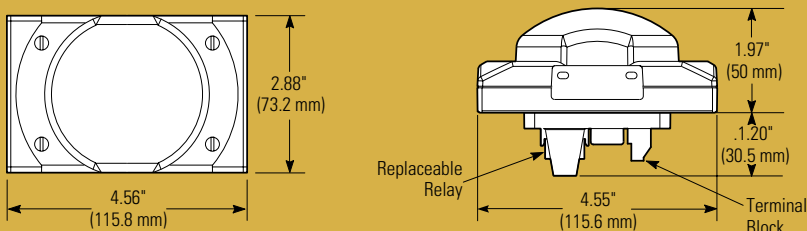
## General Purpose Line



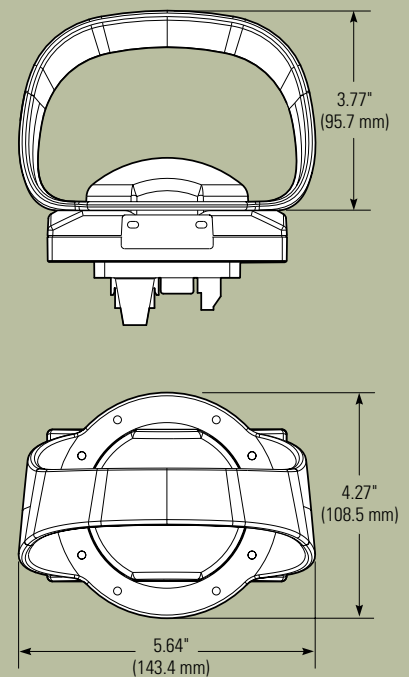
## General Purpose With Guard



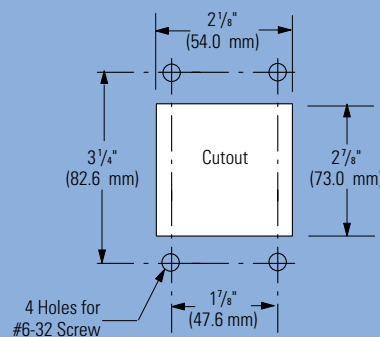
## Heavy Industrial Line



## Heavy Industrial With Guard



## Cutout and Mounting Screw Locations for a Flush Mounted Cover



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