



A&E Specification for Ruggedized Piezoelectric Door Access Switches

Information for Specifiers:

Overview: Ruggedized Piezoelectric push button switches (PEB) are manufactured by Essex Electronics in Carpinteria, CA. and include both a narrow form factor for installing on mullion and switch plate size for installation on a single gang back box. These switches utilize piezoelectric switch technology that provides an estimated life expectancy of 1 billion cycles. The illumination ring around the perimeter of each button is field configurable for no illumination, brilliant red or vibrant green. The behavior of the steady state color and the pushed (activated) color are also field configurable. The output of the switch is selectable for normally open, normally closed or time delayed up to 40 seconds. These switches run off of a low voltage source (12 to 24 VDC) and have a relay output rated at 2 Amps @ 30VDC, and for line voltage ½ Amp @125VAC. The power draw can be as low as 10mA in standby and only 60mA when activated. Another important unique physical feature is a very low profile and ruggedized design. More specifically, the faceplate is made of stainless steel and protrudes only 1/8" (.3cm) from the mounting surface. A variety of stock graphics are available such as "Push to Exit", "Push to Open" and "Emergency Exit".

Applications: The rugged, weather and vandal resistant housing of the PEB switches deliver superior durability and maintenance free operation needed in the most demanding environments such as healthcare, education, manufacturing and mass transit. Because of the very low profile stainless steel faceplate, the PEB single gang switch along with the LRB-2 Ligature Resistant Bezel meets ligature resistant requirements making it especially useful in correctional facilities as well as mental health facilities. Environments where rolling carts are used such as equipment carts, hospital gurneys and rolling trash bins also benefit from the nearly flush mounting of the PEB switch by reducing maintenance costs of accidental damage by the carts.

Document Organization: In keeping with the indexing standard provided by the Construction Specifications Institute (CSI) it is recommended the specification text (found on the next page of this document) be inserted into sections 8, 26 or 28 depending on the application.

Additional Resources:

[PEB Series Switches General Information](#)
[PEB Installation and Users Guide](#)



(DIV 28 or 26) Illuminated Door Access Switch

PART 1 GENERAL

1.01 Summary

- A. Bid specification for wall mounted door switches with illuminated ruggedized faceplates.
- B. Related Sections
 - 1. 08 71 13 Power Door Operators
 - 2. 08 74 00 Non-Integrated Access Control Hardware
 - 3. 28 15 15 Electrified Locking Devices and Accessories
 - 4. 26 05 19 Low-Voltage Electrical Power Conductors and Cables

1.02 Manufacturer Requirements

- A. The door access switches must be made in America. Products manufactured and/or assembled outside of the United States of America will not be accepted.
- B. The manufacturer must have a minimum of 10 years history in electronics manufacturing.

1.03 Submittals

- A. Manufacturer data sheets and manuals for each model to be supplied.
- B. All substitutions and/or alternate products must be pre approved prior to bidding. Substitutions made at the time of bidding will not be considered.

1.04 Warranty

- A. A limited lifetime warranty against manufacturer defects shall be included

END OF SECTION

PART 2 PRODUCTS

2.01 Manufacturer

Essex Electronics
1130 Mark Avenue
Carpinteria, CA 93013
(805) 684-7601
essex@keyless.com

2.02 Models

- A. **PEB-1S** Narrow (1³/₄" width) Piezoelectric Switch "PUSH TO EXIT" in red lettering
- B. **PEB-1SO** Narrow (1³/₄" width) Piezoelectric Switch "PUSH TO OPEN" in red lettering
- C. **PEB-2S** U.S. Single Gang (2³/₄" width) Piezoelectric Switch "PUSH TO EXIT" in red lettering
- D. **PEB-2SO** U.S. Single Gang (2³/₄" width) Piezoelectric Switch "PUSH TO OPEN" in red lettering
- E. **PEB-2EE** U.S. Single Gang (2³/₄" width) Piezoelectric Switch "EMERGENCY EXIT" in red lettering
- F. **PEB-2SBLANK** U.S. Single Gang (2³/₄" width) Piezoelectric Switch with blank faceplate

2.03 FEATURES

The illuminated push button switch sensors shall have the following characteristics and abilities:

- A. Technology: Utilize low power piezoelectric sensors with encapsulated electronics to provide a weather resistant design. Green/Red LED illumination surrounding the push button face shall be provided.
- B. Protective Faceplate: Made of stainless steel and protrude no more than .125" from the mounting surface.
- C. Output Interface: Provide One N/O, One N/C outputs, rated for 2A 30VDC Resistive, and ½A 125VAC. The output relay shall be jumper selectable (Normally ON or OFF) for fail safe or fail secure operation. An adjustable output time delay with a range of 1 to 40 seconds is also required.
- D. Mounting: The electronics for the switch sensors must fit behind the faceplate within the mounting back box. The height of the switch faceplate shall be 4-1/2" and have the option of two different widths, a narrow mullion (1-3/4"), and a standard single gang (2-3/4").
- E. Environmental: Operating Temperature range shall be a range of -40°F to +160°F (-40°C to +70°C), 100% Humidity.
- F. Power Requirements: Low voltage (12 to 24VAC/DC) with power draws not exceeding 120mA when fully energized. Standby power requirements range from 10mA to 40mA depending on led and output relay configuration. (Please note the need for a low voltage supply power is required by others.)
- G. Protective Faceplate: Made of stainless steel and protrude no more than .125" from the mounting surface.

END OF SECTION

PART 3 EXECUTION

3.01 INSTALLERS

- A. Contractor personnel shall comply with all applicable state and local licensing requirements.

3.02 PREPARATION

- A. The Contractor shall verify wire runs and wire sizes for location and code compliance for use with the installed equipment.

3.03 INSTALLATION

- A. The Contractor shall follow all Manufacturer-published guidance on proper installation and configuration of the switch sensors.
- B. The Contractor shall test the system in conditions simulating the final installation.

END OF SECTION