

SVR—Sealed Vehicle Rocker

2



Product Description

The Sealed Vehicle Rocker (SVR) switch from Eaton’s electrical business now offers an above panel actuator style in addition to the below panel and paddle actuators. Designed to meet the severe environmental requirements of the construction and agricultural vehicle markets, the SVR is sealed at the front and back of the switch and meets the rigorous sealing requirements of IP68.

The small switch footprint minimizes the space taken on switch panels. SVR switches are assembled into panels by pressing the switch through the top of the panel and are held in place by retention tabs molded into the body of the switch; mounting hardware or special tools are not necessary.

The SVR is offered in single- and two-pole switch circuits, with two- and three-position momentary and maintained circuits available. Switch and illumination circuits are terminated with 0.11 in (2.8 mm) tin-plated copper alloy spade terminals. The SVR connector can be loaded with the appropriate terminals and/or wire seals to accomplish sealing at the back end of the switch.

Contents

Description

Page

SVR—Sealed Vehicle Rockers	
Above Panel Rocker Switch	V11-T2-34
Below Panel Rocker Switch	V11-T2-35
Technical Data and Specifications	V11-T2-36
Circuit Diagrams	V11-T2-37
Dimensions	V11-T2-38

Features

You can order assembled switches or the switch base and actuator separately.

Use the final code in the switch base catalog number, **Pages V11-T2-34** and **V11-T2-35**, to denote assembly instructions.

Actuator

The SVR switch family includes three styles of actuators: above panel, below panel and paddle.

Switch performance and specifications are the same for all actuator styles. Black is standard, but other colors are also available. Matte finish is standard on all actuator styles, matching the finish on the bezels and all other visible SVR switch features and accessories.

Actuator Styles

- Above panel rocker button offers new styling and a larger surface area. Eaton can offer assistance with unique designs of above panel actuators for applications where differentiation is desired
- Below panel rocker button is the same two-faced European styling that has been offered for SVR since its initial release. Indicator style matches the below panel rocker button style
- Paddle actuator allows toggle-type actuation of the SVR switch

Standards and Certifications

- Approvable under stringent UL and CSA standards
- For information, contact your local Eaton Sales Representative
- RoHS Compliant ^①



Note

^① Visit www.eaton.com/vcbu for the most up-to-date list of verified part numbers.

Illumination

Long life LEDs provide backlighting illumination for the SVR switch. Backlighting can be either independent of or dependent on the switch circuits, or a combination of both. Standard LED color is amber, with red, green and blue also available. LED protection circuitry is available to protect the LED from overvoltage and reverse voltage conditions.

Contact your local Eaton Sales Representative for more specific information about standard and custom circuit options.

Backlighting

- Each switch can accommodate up to two LEDs that can be connected to be either circuit dependent or independent
- Standard LED color is amber, with red, green and blue also available. Long life (100,000 hours) LEDs are standard
- Standard LED voltages are 12 and 24 Vdc
- The below panel rocker button style includes a single-piece back-lit actuator with laser-etched icons in either daylight white or deadfront styles. Without illumination, the icon is either daylight white or deadfront, but will change to the color of the chosen light source when illuminated

Snap-in Lenses

- Above and below panel rocker buttons are available with or without one or two translucent lenses. Five standard lens colors are available: white, red, green, blue and amber

Icons

- Icon areas are provided on each end of the rocker button. Icons may be illuminated or non-illuminated and are pad-printed in a contrasting color either directly on the rocker button or the lens

Mounting Means

Snap-in mounting using four flexible plastic retainers integral with switch frame.

Circuits

The SVR switch is capable of single- or two-pole configurations with two- or three-position maintained, momentary or a combination of actuations.

The addition of jumpers between switch terminals expands the circuit possibilities.

Contact your local Eaton Sales Representative for more specific information about SVR standard and custom circuit options.

Standard Circuit Options

- ON–NONE–ON
- ON–OFF–ON
- ON*–OFF–ON*
- ON*–OFF–ON
- ON–ON–ON
- ON*–NONE–ON
- ON*–ON–ON*
- ON*–ON–ON

Note: * = Momentary. See Electrical Circuit Diagrams on Page V11-T2-37.

Sealing

SVR design includes a sealed contact chamber with dust and water resistance to IP68. The harness connection can also be sealed by using AMP wire seals Catalog Number 828905-1 (14–16 gauge) or 828904-1 (18–20 gauge) to seal the wires to the connector. For an application where a connector cavity is not being used, it can be sealed with AMP sealing plug Catalog Number 828922-1.

The above panel version may also be sealed to the panel using panel seal Catalog Number 32-2245.

Options

- Additional colors of actuators, mounting bezels and lenses
- Special circuits
- Special ratings
- Pad printing on the below panel switch bezel
- Low current capabilities
- Custom back-lit icons
- Gang-mount system including end bezel Catalog Number 17-22146 and center bezel 17-22152
- Palm Guard (below panel switch only) at either or both ends of the switch frame
- Indicators with insertable lenses
- Polarized lock-on connector Catalog Number 25-13936
- Panel plug with connector retention feature Catalog Number 17-22145
- Non-illuminated below panel paddle actuator

Note: Contact your local Eaton Sales Representative for additional information on options.

Above Panel Rocker Switch

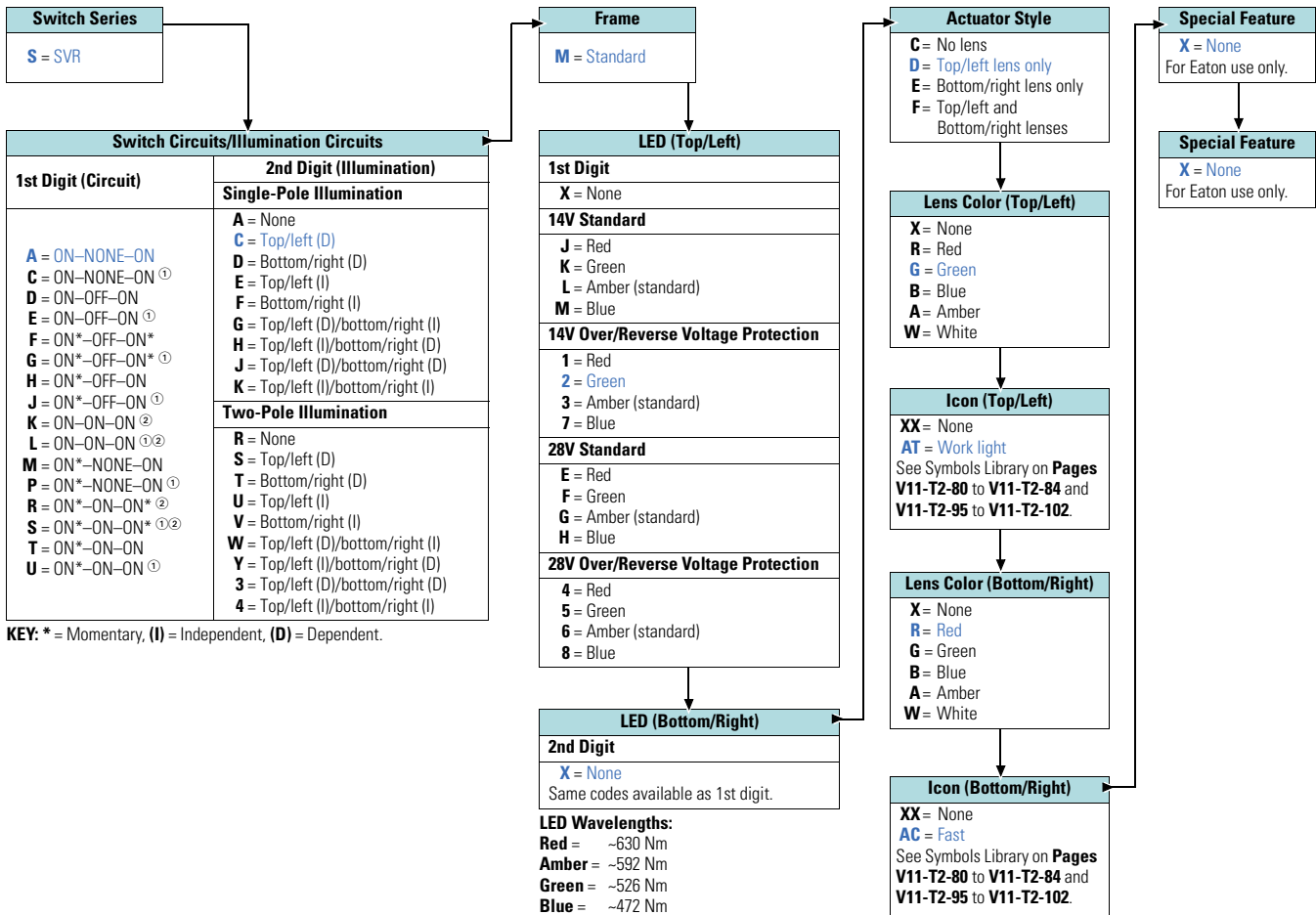


Catalog Number Selection

How To Order—Above Panel Rocker Switch

To determine complete catalog number, start with the appropriate switch series and add the appropriate code letters and/or numbers.

Example: S AC M 2X D G AT R AC X X



Notes

- ① Gold plated.
- ② Two-pole only. See Electrical Circuit Diagrams on Page V11-T2-37 and Illumination Circuit Diagrams on Page V11-T2-38.



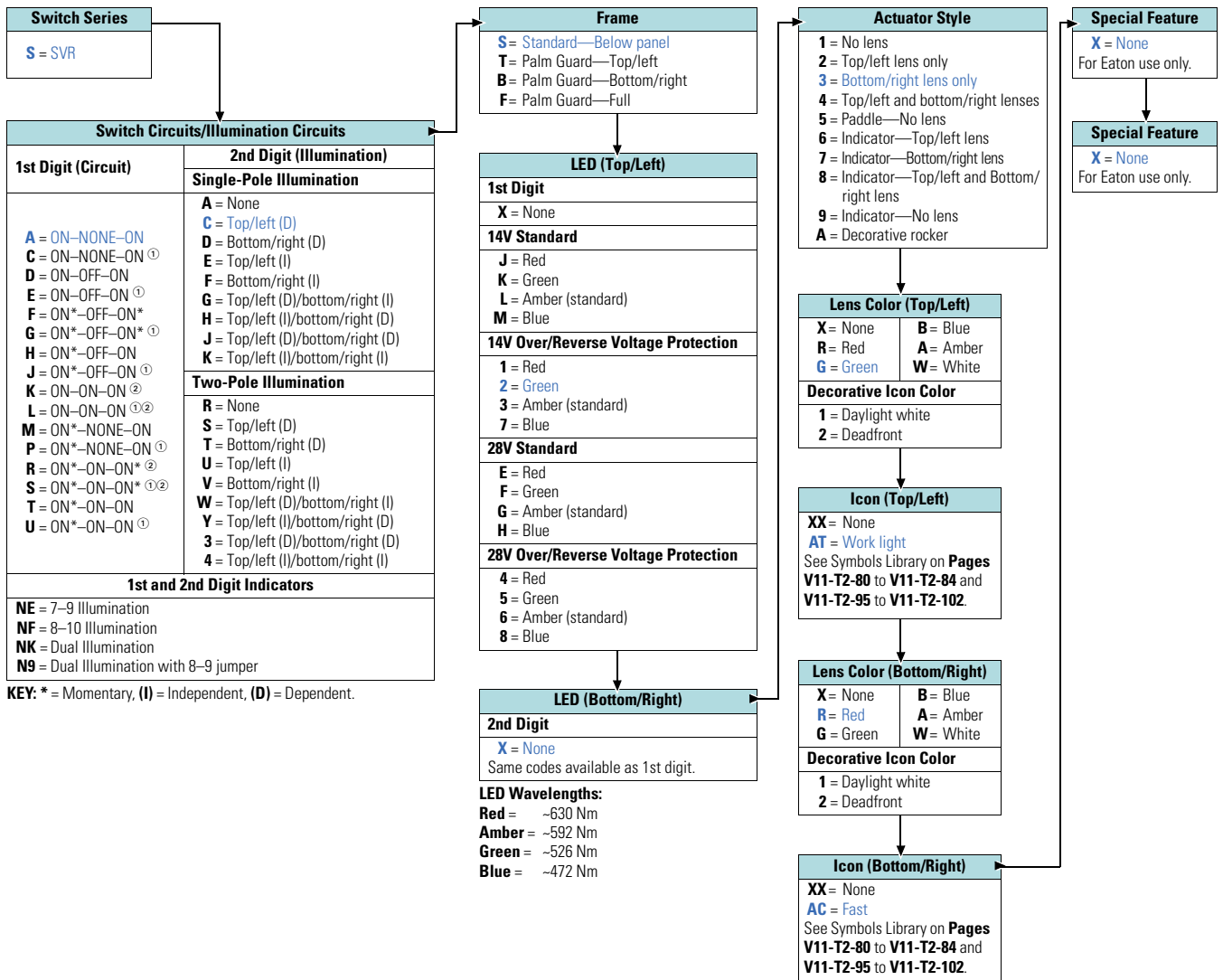
Below Panel Rocker Switch

Catalog Number Selection

How To Order—Below Panel Rocker Switch

To determine complete catalog number, start with the appropriate switch series and add the appropriate code letters and/or numbers.

Example: S AC S 2X 3 G AT R AC X X



Notes

- ① Gold plated.
- ② Two-pole only. See Electrical Circuit Diagrams on Page V11-T2-37 and Illumination Circuit Diagrams on Page V11-T2-38.

Technical Data and Specifications

2

SVR—Sealed Vehicle Rocker

Description	Specification
Ratings	12A at either 12 or 24 Vdc, can be approved under stringent UL and CSA standards
Electrical life	
Standard plating	50,000 operations at 12A at either 12 or 24 Vdc. Life cycle testing conducted using both inductive and resistive loads
Gold plating	250,000 (maintained circuits)/50,000 (momentary circuits) operations at 10 mA at either 12 or 24 Vdc
Mechanical life	
Maintained circuits	250,000 operations minimum
Momentary circuits	50,000 operations minimum
Circuits	Single- or two-pole, two- or three-position, with momentary and maintained capabilities
Dielectric strength	1500 volts rms minimum
Operate force	1–3 lbs (4.4–13.2 Nm) depending on circuit configuration and actuator style
Temperature	
Operating range	–40° to 185°F (–40° to 85°C)
Storage range	–40° to 185°F (–40° to 85°C)
Contact material	
Movable	Copper alloy with silver alloy contact surface
Stationary	Silver-plated copper alloy with silver alloy contact surface
Gold-plated	Contacts are available for low level electrical loads
Terminal type	Standard 0.11 in (2.8 mm) tin-plated copper alloy spade terminal Mates to AMP Junior Power Timer Terminals ^① Catalog Number 927766-3 (14–16 gauge) Catalog Number 927770-3 (18–20 gauge)
Plastic component UL ratings	
Base material	UL 94 V-0
Frame material	UL 94 H-B
IP rating	IP68
Sub-actuator material	UL 94 V-0
Actuator material	UL 94 V-0 (above panel rocker button) UL 94 H-B (below panel rocker button and paddle actuator)
Mounting hole	Standard panel cutout of 1.45 x 0.83 in (36.8 x 21.1 mm)
Panel thickness	0.04 to 0.16 in (1.0 to 4.0 mm) Best results obtained between 0.06 and 0.12 in (1.5 and 3.0 mm)

Note

^① See also Sealing, **Page V11-T2-33**, for additional AMP components to seal the connector interface.

Circuit Diagrams

Switch Circuit Schematics

Code	Single-Pole Schematic (Shown in Top/left Actuated Position)	TOP/ LEFT Actuated	CENTER	BOTTOM/ RIGHT Actuated
A C (Gold)		ON	NONE	ON
		2-3	—	2-1
D E (Gold)		ON	OFF	ON
		2-3	—	2-1
F G (Gold)		MOM. ON	OFF	MOM. ON
		2-3	—	2-1
H J (Gold)		MOM. ON	OFF	ON
		2-3	—	2-1
K L (Gold)		Two-pole only		
M P (Gold)		MOM. ON	NONE	ON
		2-3	—	2-1
R S (Gold)		Two-pole only		
T U (Gold)		MOM. ON	ON	ON
		2-3	2-1	2-1

Code	Two-Pole Schematic (Shown in Top/left Actuated Position)	TOP/ LEFT Actuated	CENTER	BOTTOM/ RIGHT Actuated
A C (Gold)		ON	NONE	ON
		2-3	—	2-1
		5-6	—	5-4
D E (Gold)		ON	OFF	ON
		2-3	—	2-1
		5-6	—	5-4
F G (Gold)		MOM. ON	OFF	MOM. ON
		2-3	—	2-1
		5-6	—	5-4
H J (Gold)		MOM. ON	OFF	ON
		2-3	—	2-1
		5-6	—	5-4
K L (Gold)		ON	ON	ON
		2-3	5-4-2-3	5-4-2-1
		5-6	—	—
M P (Gold)		MOM. ON	NONE	ON
		2-3	—	2-1
		5-6	—	5-4
R S (Gold)		MOM. ON	ON	MOM. ON
		2-3	5-4-2-3	5-4-2-1
		5-6	—	—
T U (Gold)		MOM. ON	ON	ON
		2-3	2-1	2-1
		5-6	5-4	5-4

Illumination Schematics

2

Single-Pole Code	Two-Pole Code	Schematic ①
A	R	None
C	S	
D	T	
E	U	
F	V	
G	W	
H	Y	
J	3	
K	4	
Illumination Code		Schematic ①
9		

Note

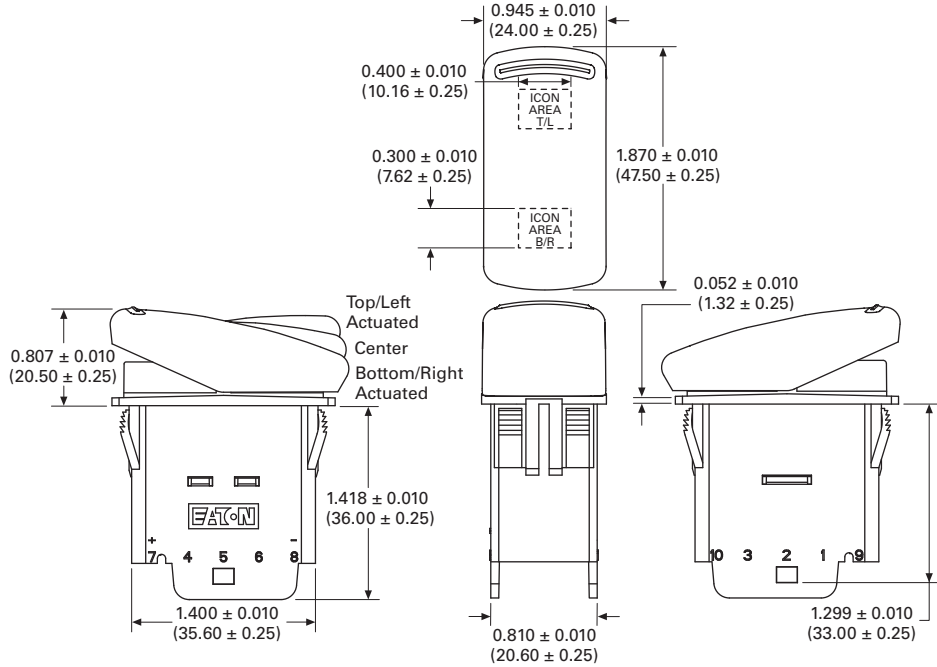
① LED for terminals 7–9 is at top/left side of switch.
LED for terminals 8–10 is at bottom/right of switch.

Dimensions

Above Panel Rocker

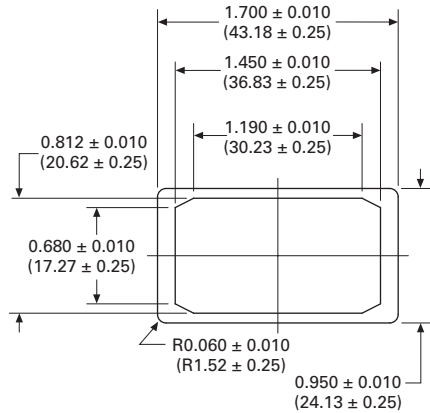
Approximate Dimensions in Inches (mm)

Above Panel Rocker Switch with Actuator

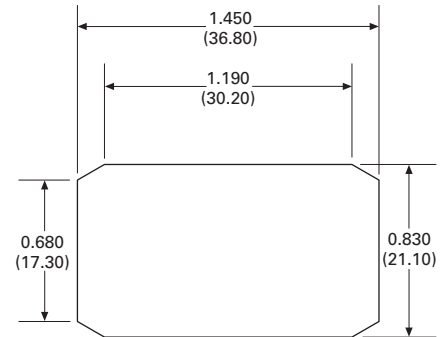


Panel Seal Gasket (Above Only)

Catalog Number 32-2245



Panel Opening (Above and Below)



Note: Recommended panel thickness 0.039–0.157 in (1.00–4.00 mm). Best results obtained between 0.059 and 0.118 in (1.50 and 3.00 mm).

Accessories

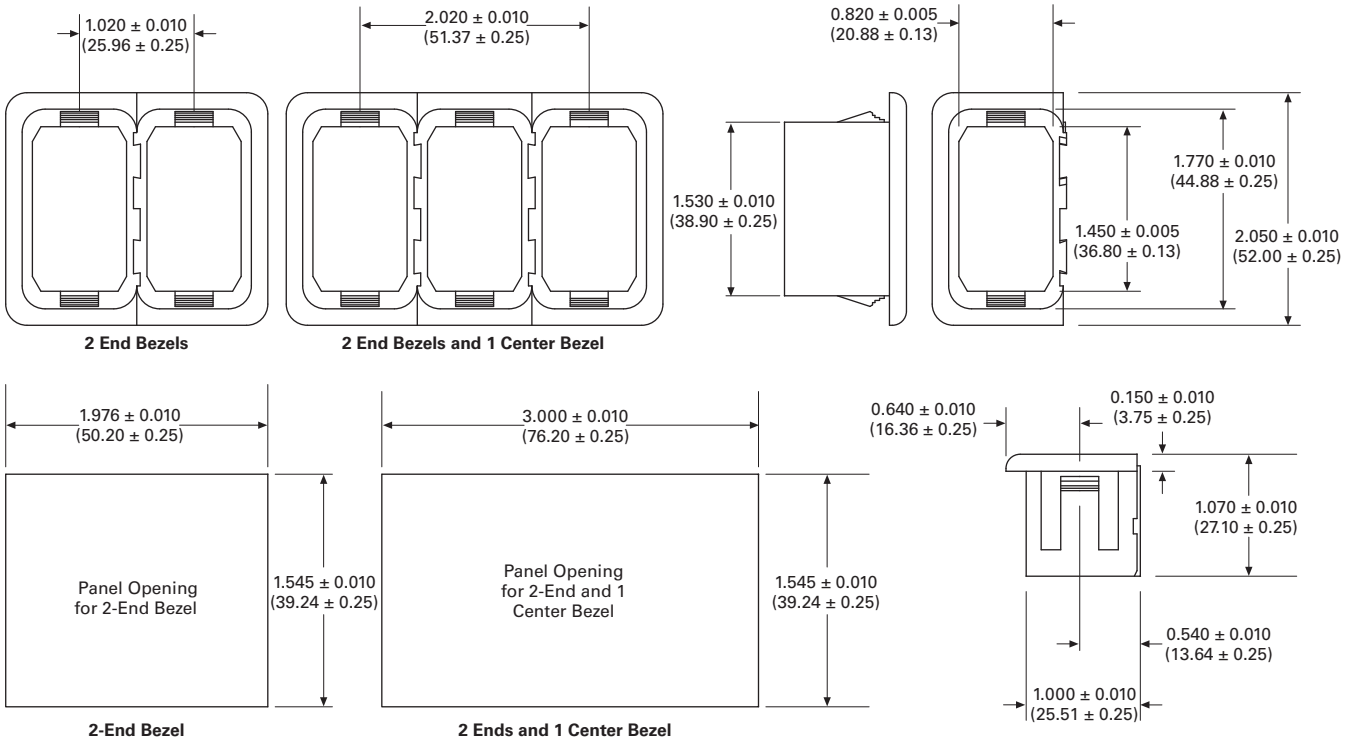
Approximate Dimensions in Inches (mm)

2

Gang Mount System

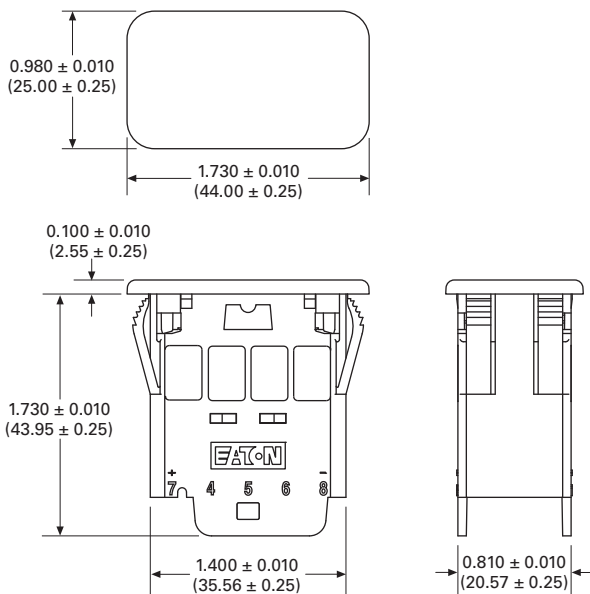
End Bezel Catalog Number 17-22146

Center Bezel Catalog Number 17-22152



Panel Plug

Catalog Number 17-22145



Connector

Catalog Number 25-13936

AMP Terminal Catalog Numbers:
 927766-3 (14–16 gauge)
 927770-3 (18–20 gauge)
 AMP Wire Seal Catalog Numbers:
 828905-1 (14–16 gauge)
 828904-1 (18–20 gauge)
 AMP Sealing Plug Catalog Number:
 828922-1

