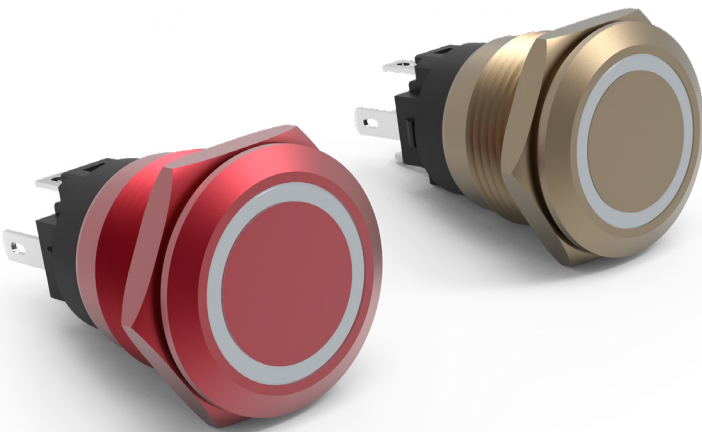


AV/AVH-Series

Sealed Anti-Vandal Pushbutton Switches

PRODUCT WEBPAGE

request sample, configure part, watch video



The AV/AVH-Series sealed switch product line features a sleek design with various LED illumination options. The bushing/button is available in stainless steel, or black, red and gold anodized. These single-pole switches are available with momentary and maintained circuits, with quick connect tab terminals for easy installation and daisy-chaining.

1

Pole

3-30

Amps

6-48

VDC

IP67 Sealing

Above-Panel

Typical Applications

- Marine
- Charging Stations
- Security Panels
- Harsh and/or Outdoor Environments
- EV Infrastructure
- Industrial Automation
- Public Transit Systems

Tech Specs

AV-Series

Electrical

Contact Rating	10.1A @ 6~24VDC; 5A @ 36VDC 3A @ 48VDC
LED Voltage/Current	6 VDC @ 15mA; 12 VDC @ 15mA; 24 VDC @ 10mA; 36 VDC @ 10mA; 48 VDC @ 5mA
Dielectric Strength	1000V RMS 50~60 Hz
Insulation Resistance	50 M-ohms min. @500V DC
Initial Contact Endurance	≤10 mΩ
Life	1 seconds ON and 3 seconds OFF per operation, Resistive load with Rated current & voltage. 10.1A @ 6~24VDC. Total 25K cycles at full load, including 5K at +70°C, 15K at ambient, 5K at -30°C; 1 seconds ON and 3 seconds OFF per operation, Resistive load with Rated current & voltage. 5A @ 36VDC. Total 15K cycles at full load, including 3K at +70°C, 9K at ambient, 3K at -30°C; 1 seconds ON and 3 seconds OFF per operation, Resistive load with Rated current & voltage. 3A @ 48VDC. Total 15K cycles at full load, including 3K at +70°C, 9K at ambient, 3K at -30°C.
Electrical Endurance	Up to 25K Cycles
Contacts	Silver alloy
Terminals	110" x 0.020 [2.79 x 0.5 mm] plug-in terminal, copper alloy silver plate.

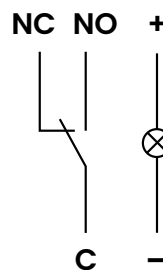
Physical

Function	NO / NC contact (changeover)
Operation	Momentary or maintained
Illumination	Independent LED (Red, Green, Amber, White, Blue)
Seals	Silicone, Bezel and Button
Mounting	M19-P1.0 Nut (SUS316), Tightening torque: 2~3Nm
Base	Glass filled Nylon
Actuator	Stainless Steel 316 or Aluminum Anodized
Lens	Polycarbonate, PC
Bushing	Stainless Steel 316 or Aluminum Anodized
Actuation Force	7N max
Weight	18g

Environmental

Storage Temperature	-40°C to +85°C
Operating Temperature	-30°C to +70°C (may affect endurance)
Vibration, High Frequency	Mil-Std 202G, Method 204D, Test Condition A 0.06 DA or 10G' s 10-500 Hz. Test criteria- No loss of circuit during test and pre and post test contact resistance.
Vibration, Random	Mil-Std 202G, Method 214A, Test Condition I and B 7.56G' s RMS. 8-hours in each of the 3 mutually perpendicular axes. Test criteria- No loss of circuit during test and pre and post test contact resistance.
Thermal Shock	MIL-STD 202G Method 107G, Condition A (Five cycles @ -55°C to +25°C to +85°C to +25°C)
Moisture Resistance	MIL-STD 202G Method 106G, i.e. 10~24-hour cycles @ +25°C to +60°C, 80~90% RH.
Sealing	IP67, for above-panel components of the actual switch; compliant with IEC 60529.
Ignition Protection	UL1500, ISO 8846
Electro-Static Discharge	Compliant with EN61000-4-2 Discharge Level: Max. ±8KV; Discharge Level: Max. ±15KV

Wiring Diagram



Ordering Scheme

Sample
Part Number

AV 1 - 1 A 2 1 1 A - R 00

Selection

1

2

3

4

5

6

7

8

9

10

1. SERIES

AV Anti-Vandal Pushbutton Switch

2. MOUNTING

1 M19 Threaded Bushing

3. MATERIAL / FINISH

1 Stainless Steel Bushing / Button
2 Black Anodized Bushing / Button
3 Red Anodized Bushing / Button
4 Gold Anodized Bushing / Button

4. CIRCUIT

A Momentary Off-(On) B Maintained Off-On

5. RATING

2 10.1A Resistive, 12VDC 3 10.1A Resistive, 24VDC

6. TERMINATION

1 .110" Quick Connect Tabs - Silver Plated

7. LENS / BUTTON

1 Flush

8. LED COLOR

N No LED B Green D White
A Red C Amber¹ E Blue

9. ILLUMINATION STYLE

N None R Ring

10. AGENCY APPROVAL

00 No Legend
01 On/Off 02 Stand By 03 Light 04 Bell
05 Door Open 06 Information 07 Horn

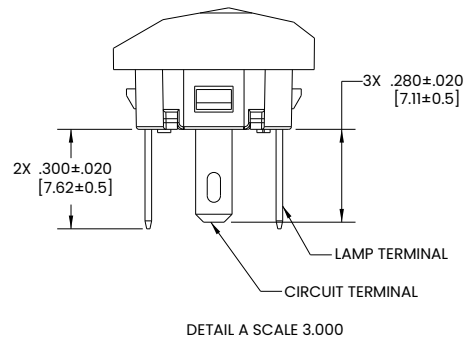
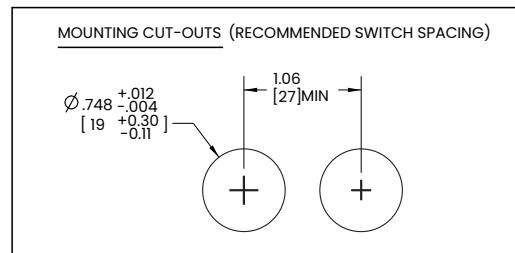
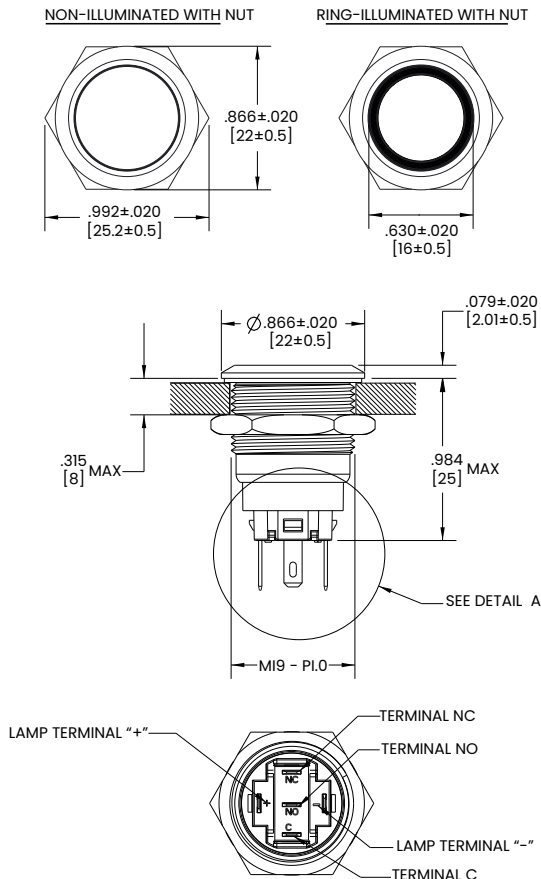
Notes:

1. Only available with rating 2

[Configure Complete Part Number >](#)

Dimensional Specs

inches [millimeters]



Tech Specs

AVH-Series

Electrical

Supply Voltage Range	9VDC – 16VDC
Reverse Polarity Protection	16 VDC
Insulation Resistance	50 MΩ min. @500VDC
Initial Contact Resistance	≤10 mΩ
Electrical Endurance	50K Total Cycles; 30K at ambient, 10K at -30°C, 10K at 70°C

Environmental

Storage Temperature	-55°C to +85°C
Operating Temperature	-30°C to +70°C
Vibration, high frequency	Mil-Std 202G, Method 204D, Test Condition A 0.06 DA or 10G's 10-500 Hz. Test criteria- No loss of circuit during test and pre and post test contact resistance.
Vibration, Random	Mil-Std 202G, Method 214A, Test Condition I and B 7.56G's RMS. 8-hours in each of the 3 mutually perpendicular axes. Test criteria- No loss of circuit during test and pre and post test contact resistance.
Shock	Mil-Std 202G, Method 213B, Test Condition K@ 30g's 11ms normal duration. No resistance value loss pre and post test and no function malfunction. No loss of contact or unintended contact making.
Thermal Shock	MIL-STD 202G Method 107G, Condition A (Five cycles@ -55°C to +25°C to +85°C to +25°C TR-2131)
Handling/Drop	1 Meter Drop onto Hard Surface. 10 drops at random orientation. Cosmetic damage acceptable. No loss of function.
Moisture Resistance/Humidity	MIL-STD 202G Method 106G, i.e., 10-24-hour cycles @ +25°C to +60°C, 80-90% RH.
Sealing	IP67 above panel, According IEC 60529.
Salt Spray	Mil STD 202G Method 101E, Test Condition A. 96 hrs. at a temperature of 95°F±5 °F (35 °C±3 °C), with a NaCl contact of from 4 to 6 percent. The test specimens shall be subjected to the inspections specified upon completion of the salt exposure.
Corrosion/Chemical	No permanent discoloration, loss of function, distortion, failure of adhesive bonds, obvious loss of sealing, corrosion, softening or embrittlement after being brushed for 10 minutes to completely wet all exposed surfaces. Relevant chemical compatibility documentation may be used in place of testing.
Ignition Protection	UL1500, ISO 8846, SAE J1171 TR-2417

High-Current Momentary: Circuit A

Current Rating	20A @ 12VDC, 80A surge (300 ms)
Function	Off-(On) (momentary)
Connections Options	6" 14 AWG Lead Wires w/0.187" PC Quick-Fit Ground Terminal 6" 14 AWG Lead Wires w/6" 20 AWG Ground Wire

High-Current Latching: Circuit B

Current Rating	20A @ 12VDC, 80A surge (300 ms)
Function	Off-On (maintained)
Connections Options	6" 14 AWG Lead Wires w/0.187" PC Quick-Fit Ground Terminal 6" 14 AWG Lead Wires w/6" 20 AWG Ground Wire

Nav-Anchor: Circuit C

Current Rating	10A total, 5A each Output; 10A surge each Output (300 ms) TR-2113
Function	V-ANC, first press: Load 1 ON & Load 2 ON, Red Ring Illuminated Second press: Load 1 ON, Load 2 OFF, Blue Ring Illuminated Third Press: OFF
Overload Protection	≥60A, Output does not function. Switch reset by cycling through OFF position (unless overload continues)
Connections Options	6" 16 AWG Lead Wires w/0.187" PC Quick-Fit Ground Terminal

Dual-Output: Circuit D

Current Rating	10A total, 5A each Output; 10A surge each Output (300 ms) TR-2113
Function	First press: OFF Second press: Load 1 ON, Load 2 OFF, Red Ring Illuminated Third Press: Load 1 OFF, Load 2 ON, Blue Ring Illuminated
Overload Protection	≥60A, Output does not function. Switch reset by cycling through OFF position (unless overload continues)
Connections Options	6" 16 AWG Lead Wires w/0.187" PC Quick-Fit Ground Terminal

Tech Specs continued on next page

Tech Specs

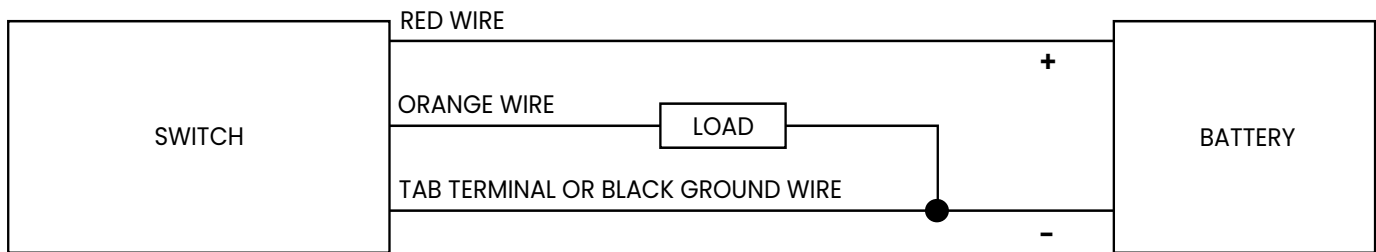
AVH-Series

Physical

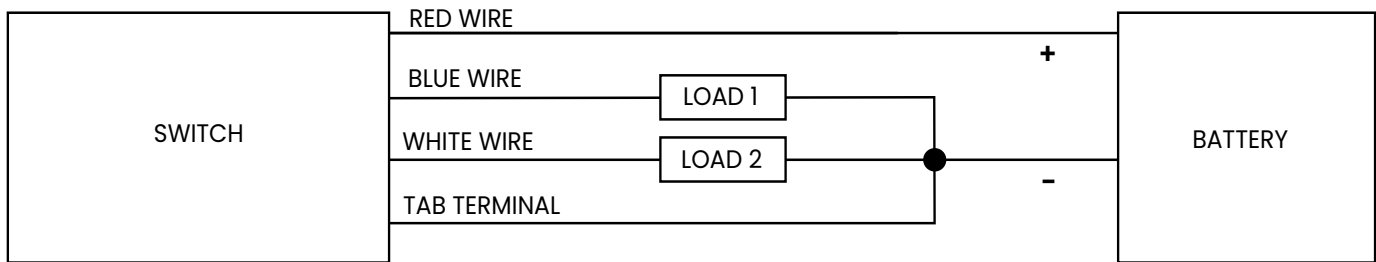
Operation	Pushbutton, Momentary (Circuits A, C & D), Pushbutton Maintained (Circuit B)
Illumination	Dependent LED
Seals	Gasket, bezel silicone, potted housing
Mounting	M19-PI.0 Nut, Tightening torque: 2~3Nm
Housing	Aluminum 6061 T6, Anodized per MIL-STD-8625, Type II, Class 2; Black
Actuator	Stainless steel 316 or Aluminum Anodized
Lens	Polycarbonate, PC
Bushing	Stainless steel 316 or Aluminum Anodized
Actuation Force	7N max
Weight	45~50g

Wiring Diagrams

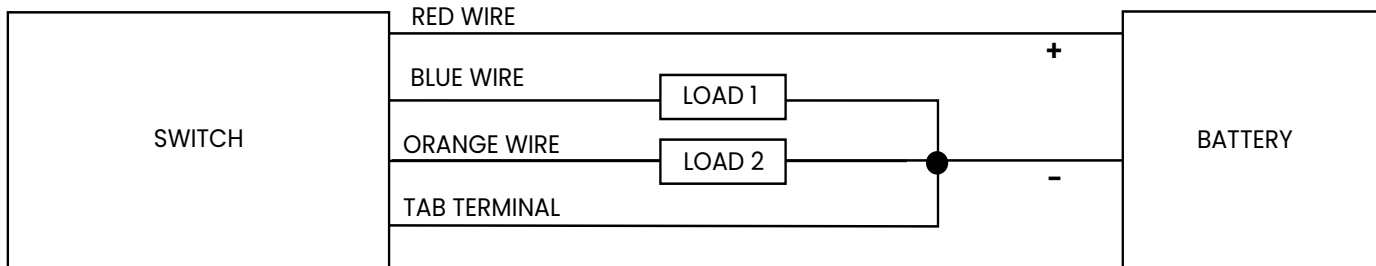
Single Output (Circuit A & B)



Nav-Anchor (Circuit C):



Dual-Output (Circuit D):



Ordering Scheme

Sample Part Number AVH 1 - 1 B 2 6 - R E N A

Selection 1 2 3 4 5 6 7 8 9 10

1. SERIES

AVH Anti Vandal High Current

2. MOUNTING

1 M19 Threaded Bushing

3. MATERIAL / FINISH

1 Stainless Steel
2 Aluminum Anodized - Black
3 Aluminum Anodized - Red
4 Aluminum Anodized - Golden

4. CIRCUIT

1,2

A Momentary Off-(On) (None - Output 1)
B Latching Off-On (None - Output 1)
C Momentary Off-(On) -(On) (None - Output 1&2 - Output 1)
D Momentary Off-(On) -(On) (None - Output 1 - Output 2)

5. RATING

3

1 30A 12VDC (Per Output)
2 20A 12VDC (Per Output)
3 5A 12VDC (Per Output) / 10A 12VDC (Total)

6. WIRE LENGTH

9

2 6 Inches (152.4mm), Ground, 18 AWG Wire
6 6 inches (152.4 mm) with 0.187" (4.8mm) Ground Tab Terminal

7. ILLUMINATION STYLE

4

N None R Ring

8. POSITION 1 LED COLOR

7,8

N No LED B Green D White
A Red C Amber E Blue

9. POSITION 2 LED COLOR

5,6

N No LED E Blue

10. ILLUMINATION TYPE

8

N None
A Dependent (LED illuminates when the specified output is "ON")

Notes:

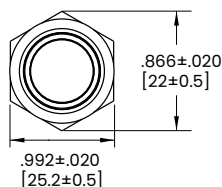
- 1 Circuit codes (A & B) require rating codes (1 or 2) only
- 2 Circuit codes (C & D) require rating code (3)
- 3 Rating will determine the wire gauge used.
- 4 Illumination Style code (N) requires: Pos 1 LED Color (N); Pos 2 LED Color code (N); Illumination type code (N)
- 5 Circuit code (C & D) requires Position 2 LED Color (E)
- 6 Circuit code (B) requires Position 2 LED Color code (N)
- 7 Codes (A,B,C,D,E) not available with Circuit code (B)
- 8 Other lighting options available: Consult Factory
- 9 Wire length code (2) only available with Circuit codes (A & B)

[Configure Complete Part Number >](#)

Dimensional Specs

inches [millimeters]

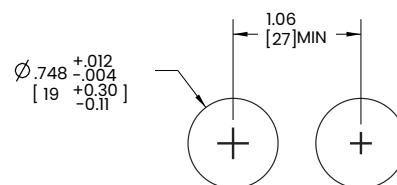
NON-ILLUMINATED WITH NUT



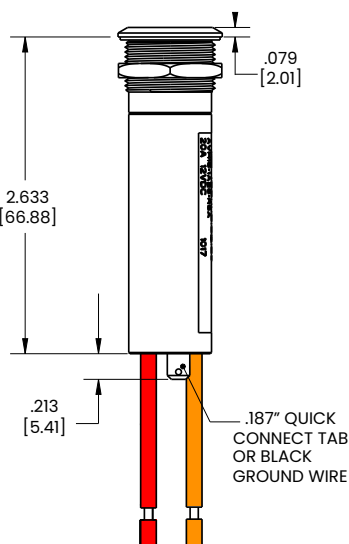
RING-ILLUMINATED WITH NUT



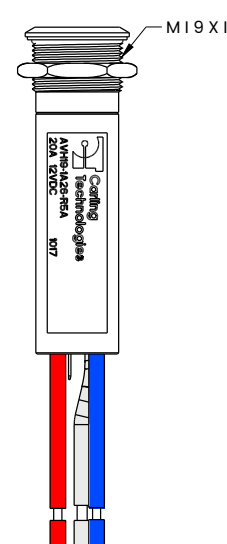
MOUNTING CUT-OUTS (RECOMMENDED SWITCH SPACING)



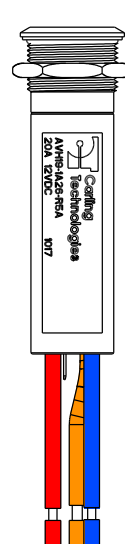
CIRCUIT A, B



CIRCUIT C



CIRCUIT D



CIRCUIT A, B: BATTERY (+): RED WIRE
LOAD 1: ORANGE WIRE
GROUND: TAB OR BLACK WIRE

CIRCUIT C: BATTERY (+): RED WIRE
LOAD 1: BLUE WIRE
LOAD 2: WHITE WIRE
GROUND: TAB

CIRCUIT D: BATTERY (+): RED WIRE
LOAD 1: BLUE WIRE
LOAD 2: ORANGE WIRE
GROUND: TAB

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