AV/AVH-Series
ANTI-VANDAL PUSHBUTTON SWITCHES

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

The high powered AVH-Series also features ratings up to 30 amps, overload protection, thermal cut off, and reset-ability, providing superior safety and performance capabilities. Switching options include ON-OFF, as well as progressive circuits perfectly suited for NAV/ANCHOR functions.

Product Highlights:
• Sealed to IP67 for Above-Panel Components
• High Current Ratings
• Momentary and Maintained Circuits
• LED Halo Illumination
• UL1500 Ignition Protection

Typical Applications:
• Marine
• Industrial Controls
• Security Panels
• Public Transit Systems
• Traffic Signals
• Emergency Phones
• Harsh and/or Outdoor Environments

Resources:
Configure a Complete Part
Download CAD & Sales Drawing
Watch Product Video
### Electrical
- **Contact Rating**: 10.1A Resistive @ 12VDC
- **LED Rating**: 12 VAC/DC @ 15mA
- **Dielectric Strength**: 1000V RMS 50~60 Hz
- **Insulation Resistance**: 50 M-ohms min. @ 500VDC
- **Initial Contact Resistance**: ≤10 mΩ
- **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
- **Seals**: Silicone, Bezel and Button
- **Mounting**: M19-P1.0 Nut (SUS316), Tightening torque: 2~3Nm.
- **Base**: Glass filled Nylon
- **Actuator**: Stainless Steel 316
- **Lens**: Polycarbonate, PC
- **Bushing**: Stainless Steel 316
- **Actuation Force**: 7N max
- **Weight**: 18g

### Environmental
- **Storage Temperature**: -55°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, SAE J1171
- **Electro-Static Discharge**: Compliant with EN61000-4-2
  - Discharge Level: Max. ±8KV;
  - Discharge Level: Max. ±15KV

*Manufacturer reserves the right to change product specification without prior notice.*
### AV-Series Anti-Vandal Pushbutton Switch - Ordering Scheme & Dimensional Specifications

#### 1 SERIES
AV Anti-Vandal Pushbutton Switch

#### 2 MOUNTING
1 M19 Threaded Bushing

#### 3 MATERIAL / FINISH
1 Stainless Steel Bushing / Button

#### 4 CIRCUIT
A Momentary NC / NO B Maintained NC / NO

#### 5 RATING
2 10.1A Resistive, 12VDC

#### 6 TERMINATION
1 .110" Quick Connect Tabs - Silver Plated

#### 7 LENS / BUTTON
1 Flush

#### 8 LED COLOR
A Red B Green C Amber D White E Blue

#### 9 ILLUMINATION STYLE
N None R Ring

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

### Dimensional Specifications: in. [mm]

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>Non-Illuminated with Nut</td>
<td>.866±.020 [22.0±0.51]</td>
</tr>
<tr>
<td></td>
<td>Ring-Illuminated with Nut</td>
<td>.902±.023 [22.9±0.51]</td>
</tr>
<tr>
<td>Diameter</td>
<td>M19 Threaded Bushing</td>
<td>.984±.020 [24.9±0.51]</td>
</tr>
<tr>
<td>Height</td>
<td>.315 Max</td>
<td>8.0 Max</td>
</tr>
<tr>
<td>Length</td>
<td>L1</td>
<td>9.84 Max</td>
</tr>
</tbody>
</table>
**AVH-Series**

**Electrical**

Supply Voltage Range 9VDC – 16VDC

Overtemp. Protection ≥150°C (SmartFET temperature), Latched status signal

Reverse Polarity Protection 16 VDC

Insulation Resistance 50 M-ohms min. @500VDC

Initial Contact Resistance ≤10 mΩ

Electrical Endurance Up to 50K Cycles

**Circuit B (High-Current Latching)**

Current Rating 20A 12VDC, 80A surge (300 ms), 14 AWG lead wire

30A 12VDC, 100A surge (300 ms), 12 AWG lead wire

Function ON / OFF

Overload Protection ≥135A, Output does not function. Switch is reset by cycling through OFF position (unless overload continues).

Connections 14AWG, 12 AWG Lead Wire (20A, 30A, respectively), 6” Lg. 0.187” PC Quick Connect Terminal Ground Connection.

**Circuit C (Nav-Anchor)**

Current Rating 10A total, 5A each Output;

10A surge each Output (300 ms)

Function NAV-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 16AWG, 5a per Output, 6” Lg, 0.187” PC Quick Connect Terminal Ground Connection.

**Circuit D (Dual-Output)**

Current Rating 10A total, 5A each Output;

10A surge each Output (300 ms)

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 16AWG, 5a per Output, 6” Lg, 0.187” PC Quick Connect Terminal Ground Connection.

**Physical**

Operation Push button, Momentary (Circuit C & D), Maintained (Circuit B)

Illumination Dependent LED

Seals Gasket, bezel silicone, potted housing

Mounting M19-P1.0 Nut, Tightening torque: 2–3Nm

Housing Aluminum 6061 T6, Anodized per MIL-STD-8625, Type II, Class 2; Black

Actuator Stainless steel 316

Lens Polycarbonate, PC

Bushing Stainless steel 316

Actuation Force 7N max

Weight 45-50g

**Environmental**

Storage Temperature -55°C to +85°C

Operating Temperature -30°C to +70°C (may affect endurance)

Vibration 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 & 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)

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, SAE J1171

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GPS-0019 Rev. A
**AVH 1 - 1 B 2 6 - R E N A**

1 SERIES  
AVH Anti-Vandal High Current Pushbutton Switch

2 MOUNTING  
1 M19 Threaded Bushing

3 MATERIAL / FINISH  
1 Stainless Steel Bushing / Button

4 CIRCUIT 1, 2  
B ON - OFF (Output 1 - None) Maintained  
C ON - ON - OFF (Output 1 & 2 - Output 2 - None) Momentary  
D OFF - ON - OFF (None - Output 1 - Output 2) Momentary

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

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

9 POSITION 2 LED COLOR 5, 6  
N No LED  
E Blue

10 ILLUMINATION TYPE 7  
N None  
A Dependent (LED illuminates when the specified output is “ON”)  
B ... Dependent on other conditions...

**Notes:**
1 Circuit code B requires rating code 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: Position 1 LED Color N; Position 2 LED Color code N; Illumination Type code N.  
5 Circuit codes C & D require Position 2 LED Color code E.  
6 Circuit code B requires Position 2 LED Color code N.  
7 Other lighting options available: Consult Manufacturer.

**Dimensional Specifications: in. [mm]**

**CIRCUIT A**  
2.633 [66.88]  
0.213 [5.41]  
187” QUICK CONNECT TAB

**CIRCUIT B**  
0.79 [2.01]

**CIRCUIT C**  
M19 X 1

**CIRCUIT D**  
2.533 [64.84]

**MOUNTING CUT-OUTS**  
(Recommended switch spacing)

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

**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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Worldwide Headquarters
Carling Technologies, Inc.
60 Johnson Avenue, Plainville, CT 06062
Phone: 860.793.9281   Fax: 860.793.9231
Email: sales@carlingtech.com

Northern Region Sales Office: nrsm@carlingtech.com
Southeast Region Sales Office: sersm@carlingtech.com
Midwest Region Sales Office: mrsm@carlingtech.com
West Region Sales Office: wrsm@carlingtech.com
Latin America Sales Office: larsm@carlingtech.com

Asia-Pacific Headquarters
Carling Technologies, Asia-Pacific Ltd.,
Suite 1607, 16/F Tower 2, The Gateway,
Harbour City, 25 Canton Road,
Tsimshatsui, Kowloon, Hong Kong
Phone: Int + 852-2737-2277   Fax: Int + 852-2736-9332
Email: sales@carlingtech.com.hk

Shenzhen, China: shenzhen@carlingtech.com
Shanghai, China: shanghai@carlingtech.com
Pune, India: india@carlingtech.com
Kaohsiung, Taiwan: taiwan@carlingtech.com
Yokohama, Japan: japan@carlingtech.com

Europe | Middle East | Africa Headquarters
Carling Technologies LTD
4 Airport Business Park, Exeter Airport,
Clyst Honiton, Exeter, Devon, EX5 2UL, UK
Phone: Int + 44 1392.364422   Fax: Int + 44 1392.364477
Email: ltd.sales@carlingtech.com

Germany: gmbh@carlingtech.com
France: sas@carlingtech.com

Carling Technologies®

www.carlingtech.com