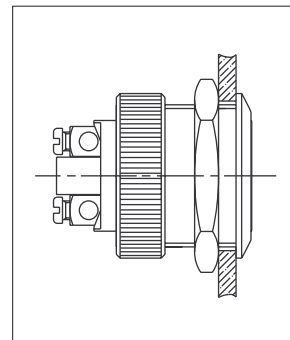


# AV series

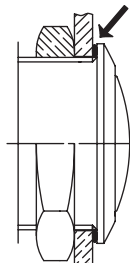
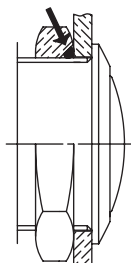
## Anti-vandal and security pushbutton switches

*Distinctive features*

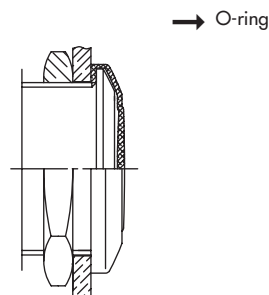
- ☐ **Attractive, robust and durable**
  - Irremovable
  - Anti-jamming construction : reduced travel to prevent insertion of foreign parts
  - Contact and mechanism protected against crushing
  - Fire resistant
  - Long life
- ☐ **Sealed versions**
- ☐ **Degree of protection (switches mounted on vertical panels, as shown opposite) :**
  - standard version : IP54
  - sealed version : IP65



### EXAMPLES OF MOUNTING FOR SEALED VERSIONS



Preferred



With boot U2187 (sect. H)



**Packaging unit** : specified on the following pages.

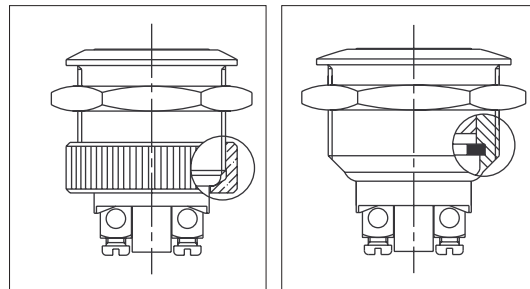


**Mounting accessories** : Standard and special hardware are presented in section I.

The AV series is a large range of security pushbutton switches including 4 product families :

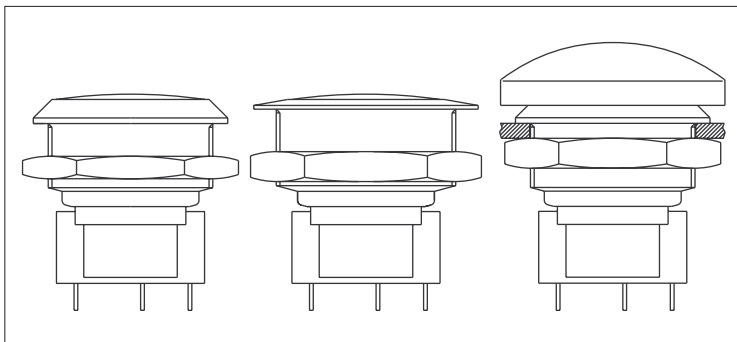
### ANTI-VANDAL PUSHBUTTON SWITCHES (page B-90)

- Increased impact resistance provided by a nut ( $\varnothing$  19 mm) or mechanical stop ( $\varnothing$  22 mm)
- Stainless steel actuator and bushing
- Bushing dia. 19 (.748) or 22 mm (.866)



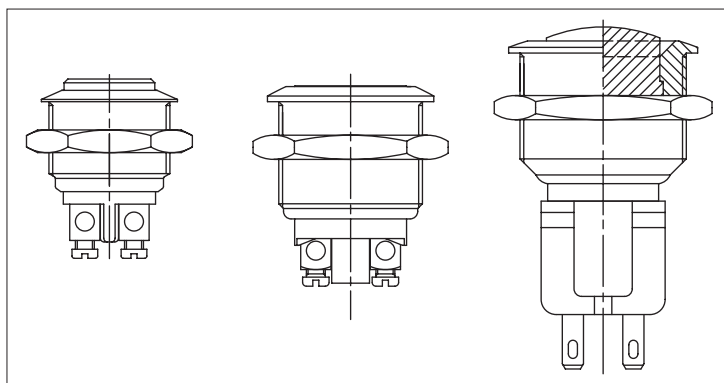
### SECURITY PUSHBUTTON SWITCHES WITH LARGE ACTUATOR (page B-93)

- Ergonomic actuator dia. 20 (.787) or 30 mm (1.181)
- Tactile feedback
- Up to 5A 250VAC
- Bushing dia. 22 mm (.866) or 24 mm (.944)



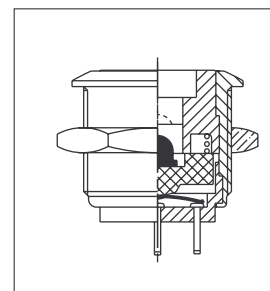
### OTHER SECURITY PUSHBUTTON SWITCHES (page B-96 )

- A large variety of actuator shapes, electrical functions, connections, finish and marking options
- Bushing dia. 16 (.629), 19 (.748) or 22 mm (.866)



### SNAP-ACTION SECURITY PUSHBUTTON SWITCHES (page B-104)

- Tactile feedback
- Illuminated or non-illuminated
- Bushing dia. 19 mm (.748)
- Models with overmolded actuator



# AV series

## Anti-vandal pushbutton switches

*Distinctive features and specifications*

- ☐ Increased impact resistance provided by a nut or mechanical stop
- ☐ Stainless steel actuator and bushing
- ☐ UL-CSA approved (long case only)

### SPECIFICATIONS

- Max. current/voltage rating with resistive load (C contacts) : 2A 48 VDC
- Approved ratings of models with long case and A contacts (AV..000) :  
UL-CSA : 4A 250VAC - 8A 125VAC - 6.000 cycles
- Initial contact resistance : 10 mΩ max. at 1A 2V
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals and frame  
2.000 Vrms 50 Hz min. between terminals
- Electrical life : 10.000 cycles at full load
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 11 mm (.433) max.
- Operating temperature : -30°C to +70°C
- Mechanical life : 1.000.000 cycles
- Packaging unit : 20 pieces (models Ø 22) or 40 pieces (models Ø 19)

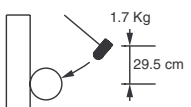
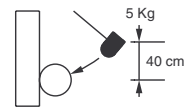
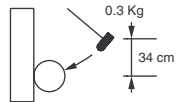
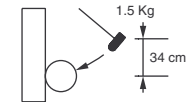
### MATERIALS

- Case : PBT
- Contacts : brass, silver plated (C) or silver (A)
- Bushing : stainless steel
- Actuator : stainless steel

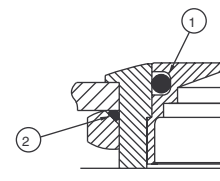
### CUT-OUTS

- Panel cut-out :  
Ø 19,2 mm (.755)  
or Ø 22,2 mm (.874)
- Min. pitch for matrix mounting :  
30 mm (1.181) x 30 mm (1.181)

### ROBUSTNESS

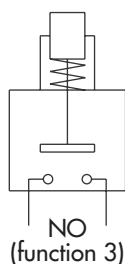
|                                                                  | Model Ø 19 mm (.748)                                                                |                                                   | Model Ø 22 mm (.866)                                                                |                                                     |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------|
| Degree of protection according to EN 50102, June 95 (NFC 20-015) |  | <b>IK08</b><br>Striking energy:<br>5 joules (5Nm) |  | <b>IK10</b><br>Striking energy:<br>20 joules (20Nm) |
|                                                                  | Hammer radius 25 mm                                                                 |                                                   | Hammer radius 50 mm                                                                 |                                                     |
| Impacts on actuator according to CECC 96000 Hammer radius 10 mm  |  | 10 strokes<br>Striking energy:<br>1 joule (1Nm)   |  | 10 strokes<br>Striking energy:<br>5 joules (5Nm)    |
|                                                                  | Hammer radius 10 mm                                                                 |                                                   | Hammer radius 10 mm                                                                 |                                                     |

### SEALING ( OPTION T )



Front panel sealing (IP65)

- ① internal gasket    ② external gasket



### ORDER FORMAT

| Series | Bush./act. config. | Case style | Function | Contact material | Terminal type | Bush./act. material | Sealing |
|--------|--------------------|------------|----------|------------------|---------------|---------------------|---------|
| AV     | 09<br>19<br>9D     | 100<br>000 | 3        | C<br>A           | 9<br>2        | 40                  | N<br>T  |

To order a sealed product, replace N with T at the end of P/N.

### BASIC MODEL

#### Short case - flat actuator - AV09100...40N

Hex nut 22 (.866) across flats



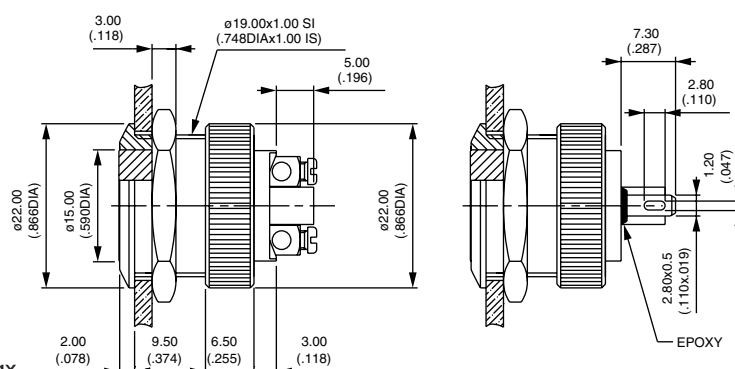
Screw terminals  
AV091003C940N



Solder lug /  
quick-connect term.  
AV091003C240N



Screw terminals for wires 1,5 mm<sup>2</sup> max.



#### Long case - flat actuator - UL-CSA approved - AV09000...40N

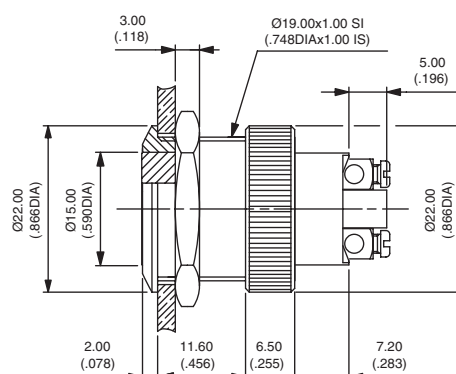
Hex nut 22 (.866) across flats



Screw terminals  
AV090003A940N



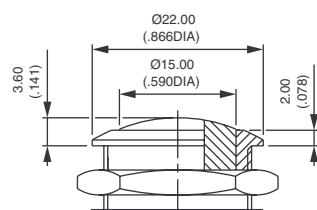
Screw terminals for wires 1,5 mm<sup>2</sup> max.



### OTHER CONFIGURATIONS

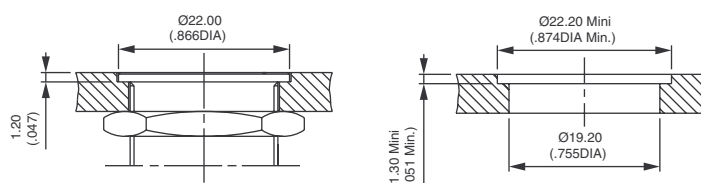
Case style : replace • with 1 for short case and 0 for long case.

#### Curved actuator



Screw terminals  
AV19•003C940N  
Solder lug / quick-connect terminals  
AV19•003C240N

#### Flush model



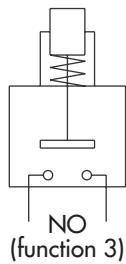
Screw terminals  
AV9D•003C940N  
Solder lug / quick-connect terminals  
AV9D•003C240N

# AV series

## Anti-vandal pushbutton switches

Bushing Ø 22 (.866) - momentary (NO)

MODEL  
STRUCTURE



### ORDER FORMAT

| Series | Bush./act. config.   | Case style | Function | Contact material | Terminal type | Bush./act. material | Sealing |
|--------|----------------------|------------|----------|------------------|---------------|---------------------|---------|
| AV     | 03<br>02<br>M3<br>M2 | 100<br>000 | 3        | C<br>C<br>A      | 9<br>2        | 40                  | N<br>T  |

To order a sealed product, replace N with T at the end of P/N.

B

### BASIC MODEL

#### Short case - flat actuator - AV03100...40N

Hex nut 25 (.984) across flats

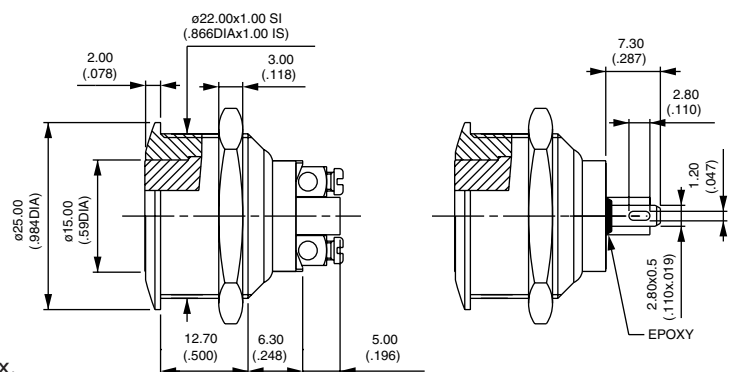


Screw terminals  
AV031003C940N

Solder lug /  
quick-connect term.  
AV031003C240N



Screw terminals for wires 1,5 mm<sup>2</sup> max.



#### Long case - flat actuator - UL-CSA approved - AV03000...40N

Hex nut 25 (.984) across flats

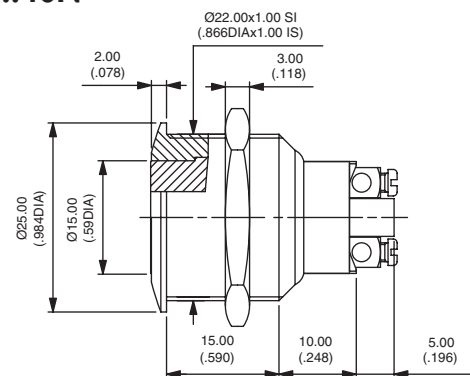
New!



Screw terminals  
AV030003A940N



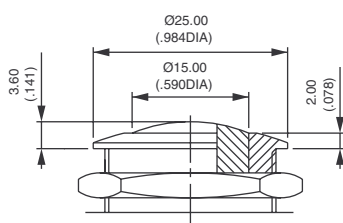
Screw terminals for wires 1,5 mm<sup>2</sup> max.



### OTHER CONFIGURATIONS

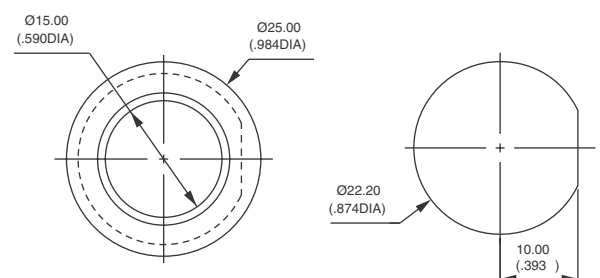
Case style : replace • with 1 for short case and 0 for long case.

#### Curved actuator



Screw terminals  
AV02•003C940N  
Solder lug / quick-connect term.  
AV02•003C240N

#### Flatted bushing



Flat actuator  
Screw terminals  
AVM3•003C940N

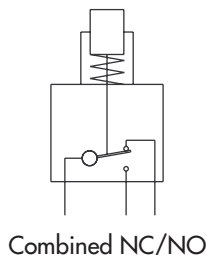
Curved actuator  
Screw terminals  
AVM2•003C940N



# AV series

## Security pushbutton switches with large actuator

Bushing Ø 22 (.866) - momentary (combined NC/NO)



Combined NC/NO

### ORDER FORMAT

| Series | Bushing diameter | Bush./act. config. | Actuator style | Bush./act. matl | Contact/terminals |
|--------|------------------|--------------------|----------------|-----------------|-------------------|
| AV     | 22               | L                  | P<br>B<br>C    | 40              | 2<br>4            |

See next page.

### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 5A 250VAC
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals and frame
- Electrical life : 1.000.000 cycles at 1A 250VAC  
50.000 cycles at full load
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 6 mm (.236) max.
- Operating temperature : -20°C to +55°C
- Mechanical life : 3.000.000 cycles
- Front panel sealing : IP65
- Packaging unit : 20 pieces (except black chrome plated : 16 pieces)

### MATERIALS

- Case : polyester, glass filled
- Contacts : silver/nickel alloy
- Bushing : stainless steel (std)
- Actuator : stainless steel (std)

### CUT-OUT

- Panel cut-out : Ø 22,2 (.874)  
or Ø 24,2 (.952)
- Min. pitch for matrix mounting :  
30 mm x 30 mm (1.181x1.181)

All model numbers below are for switches with standard bushing/actuator material.

### BASIC MODEL

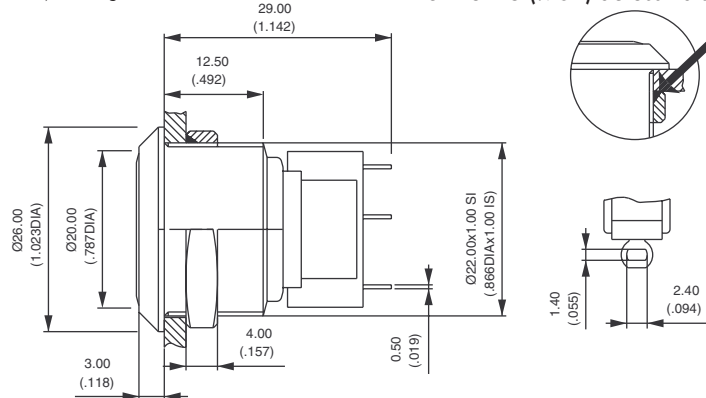
#### Flat actuator - solder lug terminals - AV22LP

→ O-ring

Hex nut 25 (.984) across flats

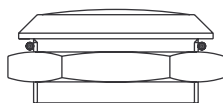


AV22LP402



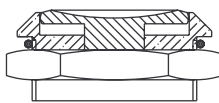
### OTHER CONFIGURATIONS

#### Curved actuator



AV22LB402

#### Recessed actuator



AV22LC402

# AV series

## Security pushbutton switches with large actuator

Bushing Ø 24 (.944) - low profile - momentary (combined NC/NO)

OPTIONS  
● ● ●

### BASIC MODEL

#### Flat actuator - solder lug terminals - AV24LP

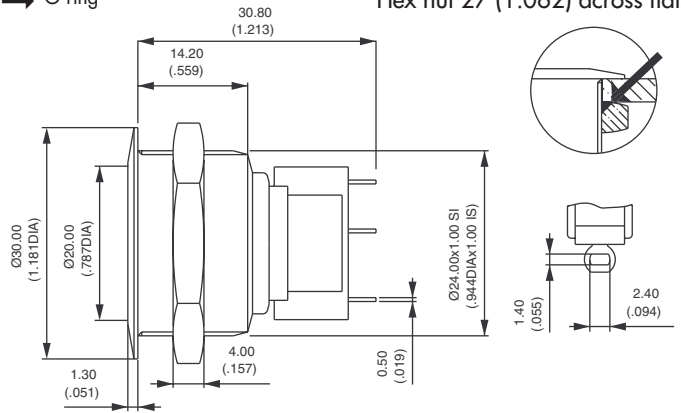


AV24LP402



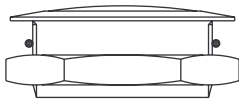
→ O-ring

Hex nut 27 (1.062) across flats



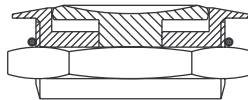
### OTHER CONFIGURATIONS

#### Curved actuator



AV24LB402

#### Recessed actuator



AV24LC402

### BUSHING / ACTUATOR MATERIAL

For non-standard material, replace **40** with one of the following codes.

#### Models with non-anodized actuator

| CODE                 | BUSHING                |
|----------------------|------------------------|
| <b>40 (standard)</b> | <b>Stainless steel</b> |
| <b>20</b>            | Chrome plated brass    |

| ACTUATOR               |
|------------------------|
| <b>Stainless steel</b> |
| Chrome plated brass    |

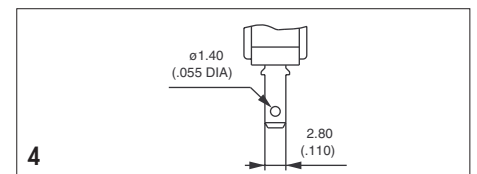
#### Models with anodized actuator

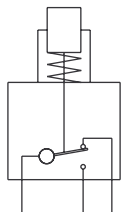
| CODE      | BUSHING                   |
|-----------|---------------------------|
| <b>1●</b> | Black chrome plated brass |
| <b>2●</b> | Chrome plated brass       |
| <b>4●</b> | Stainless steel           |

| ACTUATOR COLOUR                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------|
| Replace ● with one of the following codes :                                                                                       |
| <b>1</b> : blue - <b>2</b> : black - <b>3</b> : pale green - <b>3F</b> : dark green - <b>4</b> : natural - <b>5</b> : gold yellow |
| <b>6</b> : red - <b>6B</b> : maroon                                                                                               |

### CONTACT / TERMINALS

|                     |                                |
|---------------------|--------------------------------|
| <b>2 (standard)</b> | NC/NO, solder lug terminals    |
| <b>4</b>            | NC/NO, quick-connect terminals |





Combined NC/NO

### ORDER FORMAT

| Series | Bushing diameter | Bush./act. config. | Actuator colour | Contact/ terminals |
|--------|------------------|--------------------|-----------------|--------------------|
| AV     | 22               | PNA                | see below       | 2<br>4             |

### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 5A 250VAC
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals and frame
- Electrical life : 1.000.000 cycles at 1A 250VAC  
50.000 cycles at full load
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 6 mm (.236) max.
- Operating temperature : -20°C to +55°C
- Mechanical life : 1.000.000 cycles
- Front panel sealing : IP65
- Packaging unit : 16 pieces

### MATERIALS

- Case : polyester, glass filled
- Contacts : silver/nickel alloy
- Bushing : brass, nickel plated
- Actuator : aluminium, anodized

### CUT-OUT

- Panel cut-out : Ø 22,2 (.874)
- Min. pitch for matrix mounting :  
30 mm x 30 mm (1.181x1.181)

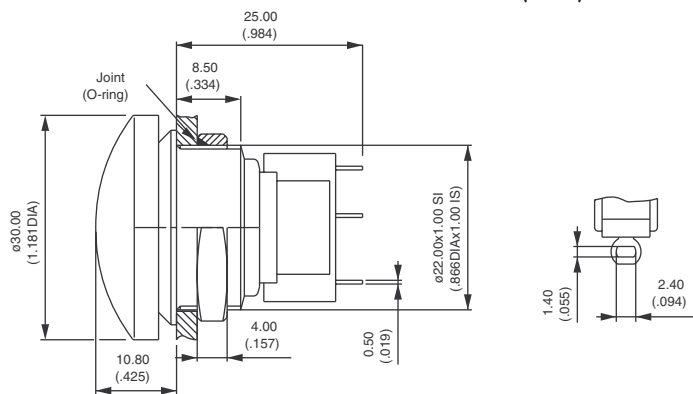
### BASIC MODEL

#### Solder lug terminals - red actuator - AV22PNA

Hex nut 25 (.984) across flats



AV22PNA62

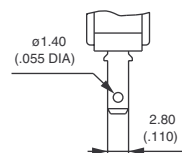


### ACTUATOR ANODIZATION COLOUR

1 : blue - 2 : black - 3 : pale green - 3F : dark green - 4 : natural - 5 : gold yellow - 6 : red - 6B : maroon

### CONTACT / TERMINALS

- 2 (standard) NC/NO, solder lug terminals  
4 NC/NO, quick-connect terminals



4

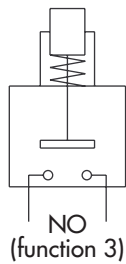


# AV series

## Security pushbutton switches

Bushing Ø 16 (.629) - momentary (NO)

MODEL  
STRUCTURE



### ORDER FORMAT

| Series | Bush./act.<br>config. | Function | Case<br>style | Contact<br>matl. | Term.<br>type | Bush./act.<br>material | Sealing |
|--------|-----------------------|----------|---------------|------------------|---------------|------------------------|---------|
| AV     | 06<br>16<br>08        | 3        | 0             | C                | 9             | 00                     | K       |

See "options" page.

### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 200mA 48 VDC - 100mA 48VDC
- Initial contact resistance : 50 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals and frame
- Electrical life : 50.000 cycles at 200mA 48VDC  
100.000 cycles at 100mA 48VDC
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 6 mm (.236) max.
- Operating temperature : -30°C to +70°C
- Mechanical life : 1.000.000 cycles
- Packaging unit : 60 pieces

### MATERIALS

- Case : PBT
- Contacts : brass, silver plated (C)
- Bushing and actuator : nickel plated brass (std)

### CUT-OUT

- Panel cut-out : Ø 16,2 (.637)
- Min. pitch for matrix mounting : 24 mm x 24 mm (.944 x .944)

All model numbers below are for switches with standard bushing/actuator material, without marking.

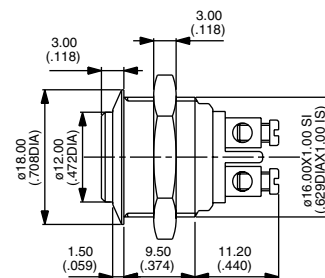
### BASIC MODEL

#### Flat actuator - screw terminals - AV06

Hex nut 19 (.748) across flats



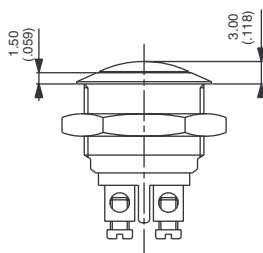
AV0630C900



Screw terminals for wires 1,5 mm<sup>2</sup> max.

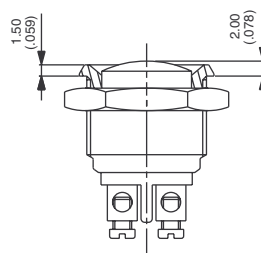
### OTHER CONFIGURATIONS

#### Curved actuator



AV1630C900

#### Curved actuator w. chamfer



AV0830C900

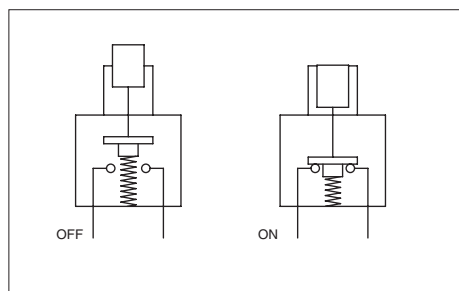


# New!

# AV series

## Security pushbutton switches

Bushing Ø 16 (.629) - latching action



### ORDER FORMAT

| Series | Bush./act. config. | Function | Case style | Contact matl. | Term. type  | Bush./act. material | Sealing |
|--------|--------------------|----------|------------|---------------|-------------|---------------------|---------|
| AV     | 06<br>16           | 1        | 1          | A             | 4<br>2<br>8 | 00                  | K       |

See "options" page.

### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 1,5A 250VAC - 1A 24VDC
- Initial contact resistance : 50mΩ max.
- Insulation resistance : 1 GΩ min. at 500VDC
- Dielectric strength : 1.500 Vrms 50 Hz min. between terminals  
1 000 Vrms 50 Hz between terminals and frame
- Electrical life : 100.000 cycles at 1,5A 250VAC  
40.000 cycles at 1A 24VDC
- Torque : 5 Nm min. - 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 6 mm (.236) max.
- Operating temperature : -30°C to +70°C
- Mechanical life : 200.000 cycles
- Packaging unit : 25 pieces

### MATERIALS

- Case : PA-6T, UL94-V0
- Contacts : silver (A)  
*Gold plated silver (AD) on request.*
- Bushing and actuator : nickel plated brass (std)

### CUT-OUT

- Panel cut-out : Ø 16,2 (.637)
- Min. pitch for matrix mounting : 24 mm x 24 mm (.944 x .944)

All model numbers below are for switches with standard bushing/actuator material, without marking.

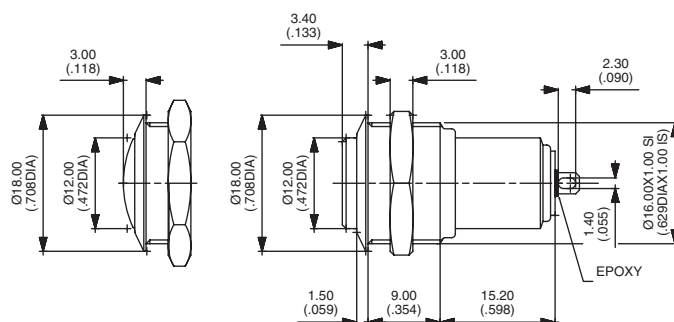
### BASIC MODEL

#### Solder lug terminals - AV..11A200

Hex nut 19 (.748) across flats

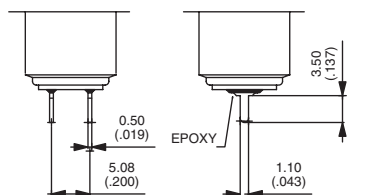


|                               |          |
|-------------------------------|----------|
| Flat actuator<br>AV0611A200   | OFF - ON |
| Curved actuator<br>AV1611A200 | OFF - ON |



### OTHER CONFIGURATIONS

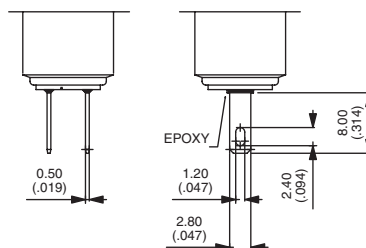
#### Straight PC terminals



Flat actuator  
AV0611A400

Curved actuator  
AV1611A400

#### Quick-connect terminals



Flat actuator  
AV0611A800

Curved actuator  
AV1611A800

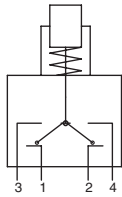
# AV series

## Security pushbutton switches

**New!**

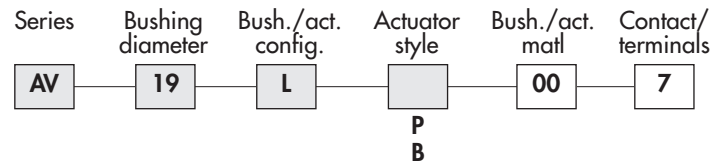
MODEL  
STRUCTURE

Bushing Ø 19 (.748) - momentary (combined NC/NO)



Combined NC/NO

### ORDER FORMAT



See below

### SPECIFICATIONS

- Max. current/voltage rating with resistive load :  
5A 250VAC - 5A 125VAC - 6.000 cycles  
5A 15VDC - 3A 30VDC - 50.000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between term. and frame
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 9 mm (.354) max.
- Operating temperature : -20°C to +85°C
- Mechanical life : 1.000.000 cycles
- Front panel sealing : IP65
- Packaging unit : 20 pieces

### MATERIALS

- Case : PA 6/6
- Contacts : silver
- Bushing : nickel pl. brass (std)
- Actuator : nickel pl. brass (std)

### CUT-OUT

- Panel cut-out : Ø 19,2 mm (.755)
- Min. pitch for matrix mounting :  
30 mm x 30 mm (1.181x1.181)

All model numbers below are for switches with standard bushing/actuator material.

### BASIC MODEL

#### Solder lug terminals - AV19..007

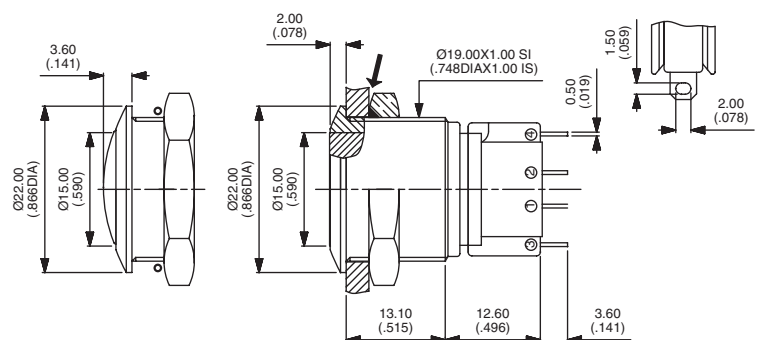
→ O-ring

Hex nut 22 (.866) across flats



Flat actuator  
AV19LP007

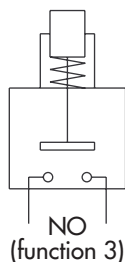
Curved actuator  
AV19LB007



### BUSHING/ACTUATOR MATERIAL

For non-standard material, replace **00** with one of the following codes.

| CODE     | BUSHING             | ACTUATOR            |
|----------|---------------------|---------------------|
| 00 (std) | Nickel plated brass | Nickel plated brass |
| 20       | Chrome plated brass | Chrome plated brass |
| 40       | Stainless steel     | Stainless steel     |



### ORDER FORMAT

| Series | Bush./act. config.   | Case style | Function | Contact matl. | Term. type | Bush./act. material | Marking | Sealing |
|--------|----------------------|------------|----------|---------------|------------|---------------------|---------|---------|
| AV     | 09<br>19<br>9P<br>9B | 100<br>000 | 3        | C<br>A        | 9<br>2     | 00                  |         | K       |

See "options" page.

### SPECIFICATIONS

- Max. current/voltage rating with resistive load (C contacts): 2A 48 VDC
- Approved ratings of models with long case and A contacts (AV..000) :  
UL-CSA : 4A 250VAC - 8A 125VAC - 6.000 cycles
- Initial contact resistance : 10 mΩ max. at 1A 2V
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals and frame  
2.000 Vrms 50 Hz min. between terminals
- Electrical life : 10.000 cycles at full load
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 11 mm (.433) max.
- Operating temperature : -30°C to +70°C
- Mechanical life : 1.000.000 cycles
- Packaging unit : 40 pieces

### MATERIALS

- Case : PBT
- Contacts : brass, silver plated (C) or silver (A)
- Bushing : brass, nickel plated (std)
- Actuator : brass, nickel plated (std)

### CUT-OUT

- Panel cut-out :  
Ø 19,2 mm (.755)
- Min. pitch for matrix mounting :  
30 mm (1.181) x 30 mm (1.181)

All model numbers below are for switches with standard bushing/actuator material, without marking.

### BASIC MODEL

#### Short case - flat actuator - AV09100...00

Hex nut 22 (.866) across flats



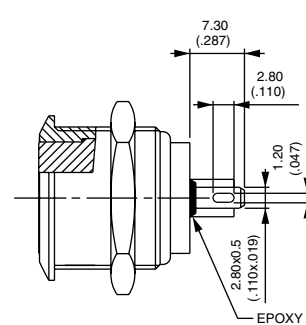
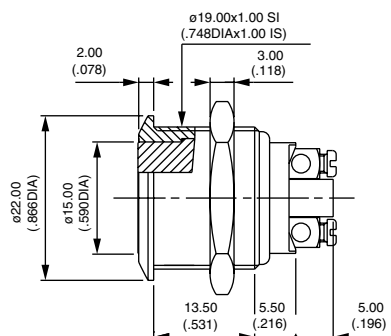
Screw terminals  
AV091003C900



Solder lug /  
quick-connect term.  
AV091003C200



Screw terminals for wires 1,5 mm<sup>2</sup> max.



#### Long case - flat actuator - UL-CSA approved - AV09000...00

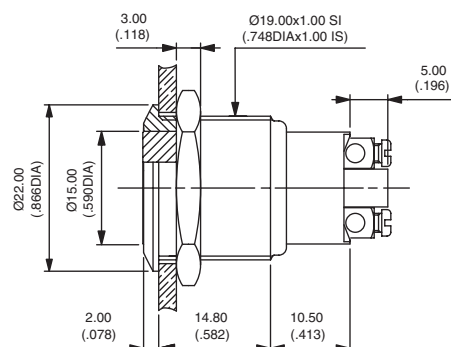
Hex nut 22 (.866) across flats



Screw terminals  
AV090003A900



Screw terminals for wires 1,5 mm<sup>2</sup> max.



# AV series

## Security pushbutton switches

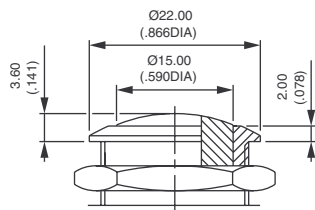
Bushing Ø 19 (.748) - momentary (NO)

MODEL  
STRUCTURE

### OTHER CONFIGURATIONS

Case style : replace • with 1 for short case and 0 for long case.

#### Curved actuator



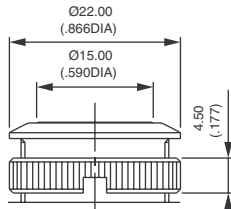
Screw terminals

AV19•003C900

Solder lug / quick-connect terminals

AV19•003C200

#### With knurled nut for matrix mounting 25 (.984) x 25 (.984)

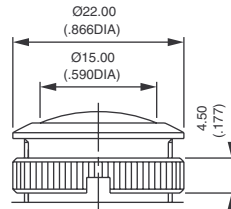


Flat actuator, screw term.

AV9P•003C900

Flat actuator, solder lug term.

AV9P•003C200

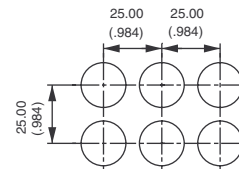


Curved actuator, screw term.

AV9B•003C900

Curved act., solder lug term.

AV9B•003C200



Wrench available  
under P/N U1929.

# AV series

## Security pushbutton switches

Bushing Ø 19 (.748) - other electrical functions

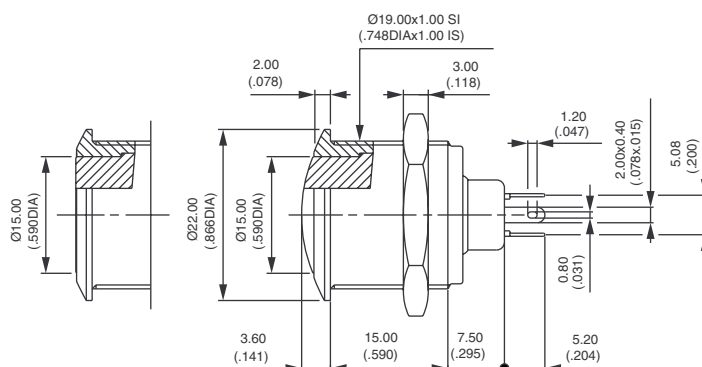
### Bushing Ø 19 (.748) - combined NC/NO - AV..9035

Hex nut 22 (.866) across flats

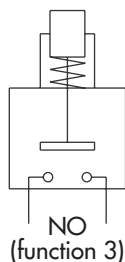
- Single pole, solder lug terminals
- Gold plated silver contacts
- Current/voltage rating with resistive load :  
max. : 1A 30V - min : 10µA 5V  
Note : a current above 100mA damages the gold plating.
- Dielectric strength : 1.000 Vrms between terminals  
2.000 Vrms between terminals and frame
- Electrical life : 250.000 cycles at full load
- Mechanical life : 1.000.000 cycles
- Packaging unit : 20 pieces
- Further specifications : see previous page.

Flat actuator  
AV099035D200

Curved actuator  
AV199035D200



Bushing/actuator materials, marking and sealing : see "options" page.



### ORDER FORMAT

| Series | Bush./act. config.   | Case style | Function | Contact matl. | Term. type | Bush./act. material | Marking | Sealing |
|--------|----------------------|------------|----------|---------------|------------|---------------------|---------|---------|
| AV     | 03<br>02<br>M3<br>M2 | 100<br>000 | 3        | C<br>A        | 9<br>2     | 00                  |         | K       |

See "options" page.

### SPECIFICATIONS

- Max. current/voltage rating with resistive load (C contacts): 2A 48 VDC
- Approved ratings of models with long case and A contacts (AV..000) :  
UL-CSA : 4A 250VAC - 8A 125VAC - 6.000 cycles
- Initial contact resistance : 10 mΩ max. at 1A 2V
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 2.000 Vrms 50 Hz min. between terminals and frame  
2.000 Vrms 50 Hz min. between terminals
- Electrical life : 10.000 cycles at full load
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 11 mm (.433) max.
- Operating temperature : -30°C to +70°C
- Mechanical life : 1.000.000 cycles
- Packaging unit : 20 pieces

### MATERIALS

- Case : PBT
- Contacts : brass, silver plated (C) or silver (A)
- Bushing : brass, nickel plated (std)
- Actuator : brass, nickel plated (std)

### CUT-OUTS

- Panel cut-out :  
Ø 22,2 mm (.874)
- Min. pitch for matrix mounting :  
30 mm (1.181) x 30 mm (1.181)

All model numbers below are for switches with standard bushing/actuator material, without marking.

### BASIC MODEL

#### Short case - flat actuator - AV03100...00

Hex nut 25 (.984) across flats

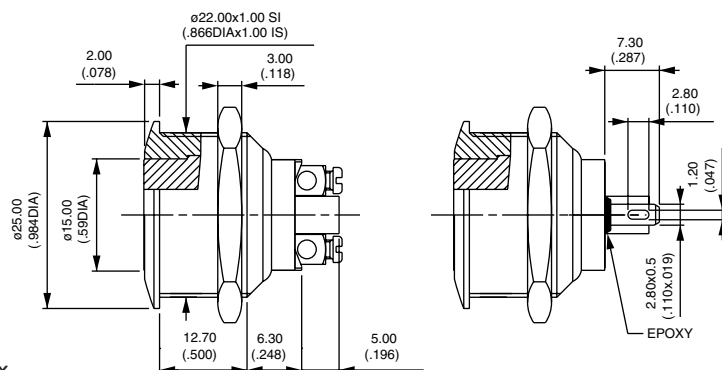


Screw terminals  
AV031003C900

Solder lug /  
quick-connect term.  
AV031003C200



Screw terminals for wires 1,5 mm² max.



#### Long case - flat actuator - UL-CSA approved - AV03000...00

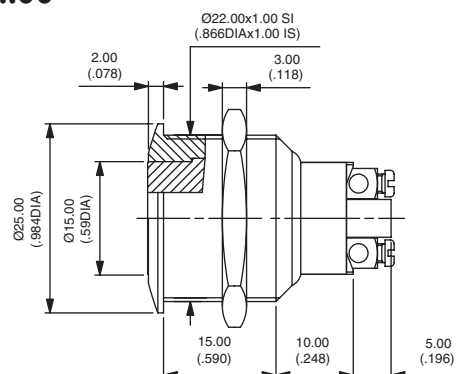
Hex nut 25 (.984) across flats



Screw terminals  
AV030003A900



Screw terminals for wires 1,5 mm² max.



# AV series

## Security pushbutton switches

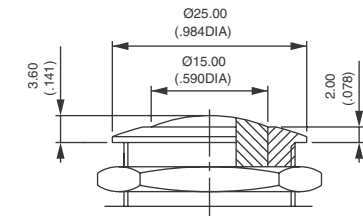
Bushing Ø 22 (.866) - momentary (NO)

MODEL  
STRUCTURE

### OTHER CONFIGURATIONS

Case style : replace • with 1 for short case and 0 for long case.

#### Curved actuator

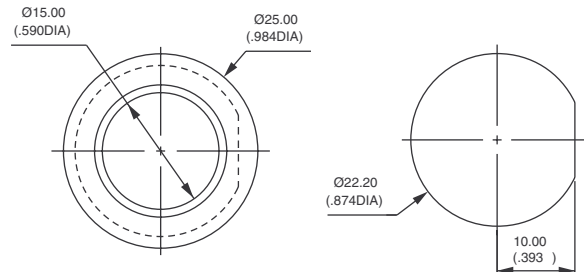


Screw terminals  
**AV02•003C900**  
Solder lug / quick-connect terminals  
**AV02•003C200**

#### Flatted bushing

Flat actuator  
Screw terminals  
**AVM3•003C900**

Curved actuator  
Screw terminals  
**AVM2•003C900**



# AV series

## Security pushbutton switches

Bushing Ø 22 (.866) - other electrical functions

### Bushing Ø 22 (.866) - Normally closed (NC) - AV..1200

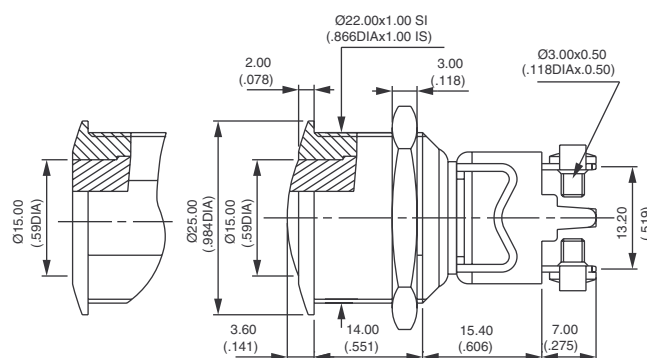
- Single pole, screw terminals, without marking
- Silver plated copper contacts (C)
- Max. current/voltage rating with resistive load :  
2A 250VAC - 3A 125VAC - 2,5A 24VDC
- Dielectric strength :  
2.000 Vrms 50 Hz min. betw. term. and frame  
2.000 Vrms. 50 Hz min. between terminals
- Electrical life : 100.000 cycles at 0,3A 24VAC or DC  
10.000 cycles at full load
- Packaging unit : 20 pieces

Flat actuator  
**AV031202C00**

Curved actuator  
**AV021202C00**



Hex nut 25 (.984) across flats



### Bushing Ø 22 (.866) - alternate action - AV..4700

- Double pole, solder lug/quick-connect term., curved actuator
- Silver contacts
- Max. current/voltage rating with resistive load :  
3(1,5)A 250VAC - 6A 125VAC - 3A 24VAC or DC
- Dielectric strength :  
3.000 Vrms min. between terminals and frame
- Electrical life : 10.000 cycles at full load  
50.000 cycles at 1A 24VAC or DC
- Mechanical life : 100.000 cycles
- Packaging unit : 10 pieces

**AV044746A200**



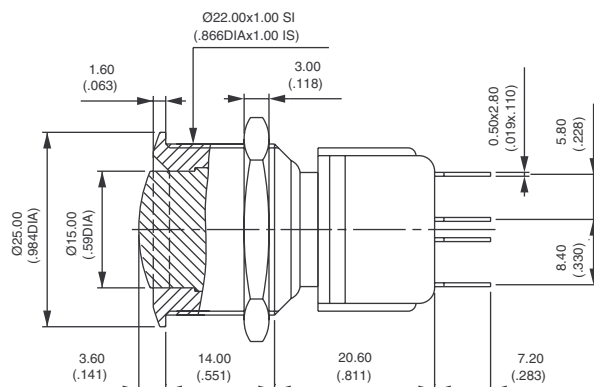
ON

-



ON

Hex nut 25 (.984) across flats



Further specifications : see previous page. Bushing/actuator materials, marking and sealing : see "options" on next page.





# AV series

## Security pushbutton switches

Options

After selecting basic model number,  
fill in last 3 boxes  
with desired options.

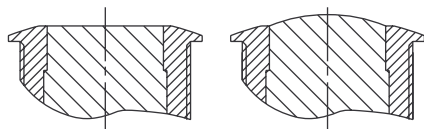
| Series | Bush./act.<br>config. | Case<br>style | Function | Contact<br>matl. | Term.<br>type | Bush./act.<br>material | Marking | Sealing |
|--------|-----------------------|---------------|----------|------------------|---------------|------------------------|---------|---------|
| AV     |                       |               |          |                  |               |                        |         |         |

### BUSHING/ACTUATOR MATERIAL

For non-standard material, replace **00** with one of the following codes.

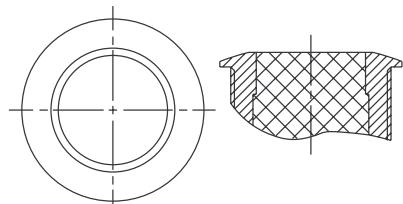
#### Flat or curved metal actuator

**\*\* Option 80 not available on models with dia. 16 mm (.629) bushing**



| CODE                 | BUSHING                    | ACTUATOR                   |
|----------------------|----------------------------|----------------------------|
| <b>00 (standard)</b> | <b>Nickel plated brass</b> | <b>Nickel plated brass</b> |
| <b>10</b>            | Nickel plated brass        | Stainless steel            |
| <b>12</b>            | Nickel plated brass        | Chrome plated brass        |
| <b>20</b>            | Chrome plated brass        | Chrome plated brass        |
| <b>30</b>            | Chrome plated brass        | Stainless steel            |
| <b>40</b>            | Stainless steel            | Stainless steel            |
| <b>80 **</b>         | Varnished polished brass   | Varnished polished brass   |

#### Flat thermoplastic actuator (not available with dia. 16 mm (.629) bushing)



| CODE                 | BUSHING                    | ACTUATOR COLOUR                                                             |
|----------------------|----------------------------|-----------------------------------------------------------------------------|
| <b>0• (standard)</b> | <b>Nickel plated brass</b> | Replace • with one of the following codes.                                  |
| <b>2•</b>            | Chrome plated brass        | <b>1</b> : blue - <b>2</b> : black - <b>3</b> : green - <b>4</b> : grey     |
| <b>8•</b>            | Varnished polished brass   | <b>5</b> : yellow - <b>6</b> : red - <b>7/1</b> : white - <b>9</b> : orange |

### MARKING

Select an option from each of the two tables below.

#### For flat or curved actuator.

Not available on model AV031202C00.

- by engraving on brass actuator (stainless steel on request)
- by hot stamping on thermoplastic actuator.

#### TYPE OF MARKING

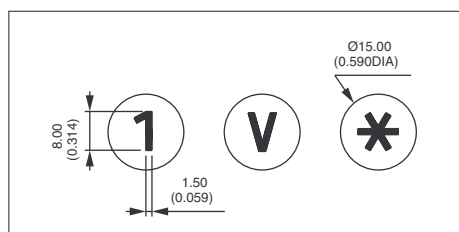
| CODE          | TYPE           |
|---------------|----------------|
| <b>0 to 9</b> | Numbers 0 to 9 |
| <b>X</b>      | Symbol *       |
| <b>Y</b>      | Symbol #       |
| <b>A to N</b> | Letters A to N |
| <b>P to W</b> | Letters P to W |
| <b>0</b>      | Letter O       |

Letter O : same code and same design as number 0.

For special symbols, consult factory.  
Minimum order : 500 pieces

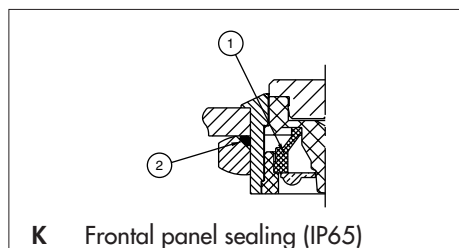
#### COLOUR OF MARKING

| CODE                                                                                 | COLOUR         |
|--------------------------------------------------------------------------------------|----------------|
| <b>Brass actuator</b>                                                                |                |
| <b>0 (standard)</b>                                                                  | Same as finish |
| <b>2</b>                                                                             | Black          |
| Note : a finished product supplied in version "0" cannot be modified to version "2". |                |
| <b>Thermoplastic actuator</b>                                                        |                |
| <b>2</b>                                                                             | Black          |
| <b>7</b>                                                                             | White          |



### SEALING

**Blank** No sealing

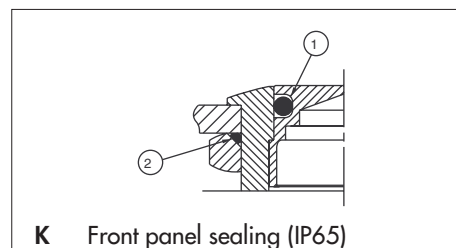


**K** Frontal panel sealing (IP65)

For types with bushing Ø 16

- ① elastomeric membrane  
② external gasket

- ① internal gasket  
② external gasket



**K** Front panel sealing (IP65)

For types with bushing Ø 19 or Ø 22

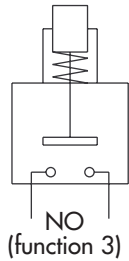


# AV series

## Snap-action security pushbutton switches

Bushing Ø 19 (.748) - illuminated or not - momentary (NO)

MODEL  
STRUCTURE



### ORDER FORMAT

| Series | Bush./act. config. | Case style | Illum. or not | Funct. | Contact matl. | Term. type | Bush./act. material | LED colour | Marking | Seal. |
|--------|--------------------|------------|---------------|--------|---------------|------------|---------------------|------------|---------|-------|
| AV     | 09<br>19           | C7         | L<br>0        | 3      | D             | 2<br>9     | 00                  | 2          |         | K     |

See "options" on next page.

### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 50mA 24VDC
- LED voltage and consumption : 2-colour LED : 2V (3V max.) 20mA  
Other colours : 2V (3V max.) 10mA  
A resistor must be series-connected by the user.\*\*
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 500 Vrms 50 Hz min. between terminals  
2.000 Vrms 50 Hz min. between terminals and bushing
- Electrical life : 1.000.000 cycles at full load
- Operating force : 7 N +/- 2N
- Travel : 0,7 mm (.027) +/- 0,1 mm (.003)
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 11 mm (.433) max.
- Operating temperature : -30°C to +70°C
- Soldering : 270°C max. during 3 sec.
- Packaging unit : 40 pieces

\*\* Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

### MATERIALS

- Case : PBT UL94-V0
- Terminals : brass, gold plated
- Contacts : gold plated dome
- Bushing : brass, nickel plated (std)
- Actuator : brass, nickel plated (std)
- LED

### CUT-OUTS

- Panel cut-out :  
Ø 19,2 mm (.755)
- Min. pitch for matrix mounting :  
30 mm (1.181) x 30 mm (1.181)

All model numbers below are for switches with standard bushing/actuator material, without marking.

### Flat actuator - non-illuminated

Hex nut 22 (.866) across flats

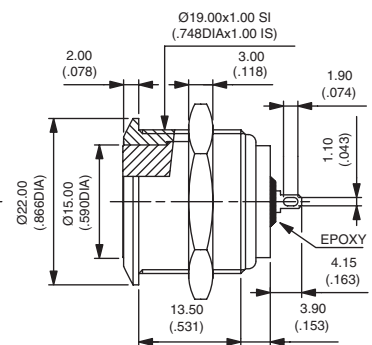
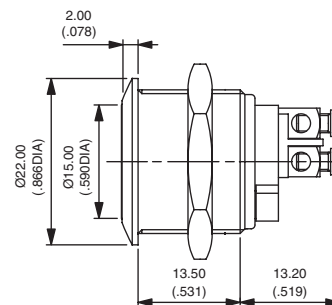


Solder lug terminals  
AV09C703D200

Screw terminals  
AV09C703D900



Also available with curved actuator :  
AV19C703D200 or AV19C703D900



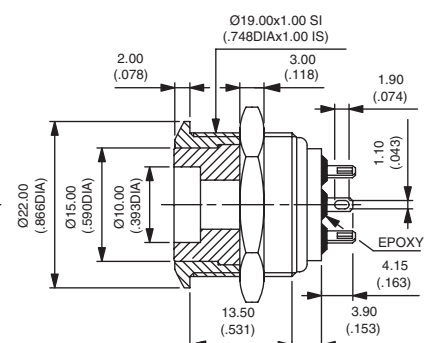
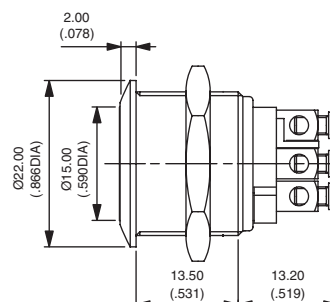
### Flat actuator - illuminated

Hex nut 22 (.866) across flats



Solder lug terminals  
AV09C7L3D200

Screw terminals  
AV09C7L3D900





# AV series

## Snap-action security pushbutton switches

Options

After selecting basic model no.,  
fill in last 4 boxes  
with desired options.

|        |                       |               |                  |        |                  |               |                        |               |         |       |
|--------|-----------------------|---------------|------------------|--------|------------------|---------------|------------------------|---------------|---------|-------|
| Series | Bush./act.<br>config. | Case<br>style | Illum.<br>or not | Funct. | Contact<br>matl. | Term.<br>type | Bush./act.<br>material | LED<br>colour | Marking | Seal. |
| AV     |                       |               |                  |        |                  |               |                        |               |         |       |

### BUSHING/ACTUATOR MATERIAL

For non-standard material, replace **00** with one of the following codes.

#### Non-illuminated models

| CODE            | BUSHING                  | ACTUATOR                 |
|-----------------|--------------------------|--------------------------|
| <b>00 (std)</b> | Nickel plated brass      | Nickel plated brass      |
| <b>10</b>       | Nickel plated brass      | Stainless steel          |
| <b>30</b>       | Chrome plated brass      | Stainless steel          |
| <b>40</b>       | Stainless steel          | Stainless steel          |
| <b>80</b>       | Varnished polished brass | Varnished polished brass |

#### Illuminated models

| CODE            | BUSHING                  | ACTUATOR                 |
|-----------------|--------------------------|--------------------------|
| <b>00 (std)</b> | Nickel plated brass      | Nickel plated brass      |
| <b>20</b>       | Chrome plated brass      | Chrome plated brass      |
| <b>40</b>       | Stainless steel          | Stainless steel          |
| <b>45</b>       | Stainless steel          | Nickel plated brass      |
| <b>80</b>       | Varnished polished brass | Varnished polished brass |

### LED COLOUR

**Blank**      No LED

**1** : Blue - **3** : Green - **5** : Yellow - **6** : Red - **7** : White - **9** : Amber - **2** : Red/green

### MARKING

Select an option from each of the two tables below.

For **flat or curved actuator**.

- by engraving on non-illuminated brass actuator (stainless steel on request).
- by hot stamping on thermoplastic insert ( illuminated actuators)

#### TYPE OF MARKING

| CODE          | TYPE           |
|---------------|----------------|
| <b>0 to 9</b> | Numbers 0 to 9 |
| <b>X</b>      | Symbol *       |
| <b>Y</b>      | Symbol #       |
| <b>A to N</b> | Letters A to N |
| <b>P to W</b> | Letters P to W |
| <b>O</b>      | Letter O       |

Letter O : same code and same design as number 0.

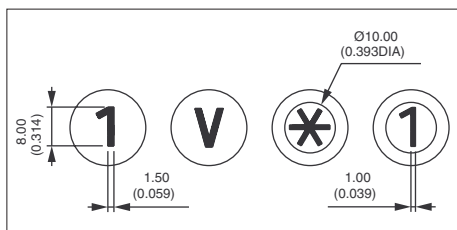
For special symbols, consult factory.  
Minimum order : 500 pieces

#### COLOUR OF MARKING

| CODE                             | COLOUR         |
|----------------------------------|----------------|
| <b>Non-illuminated actuators</b> |                |
| <b>0 (standard)</b>              | Same as finish |
| <b>2</b>                         | Black          |

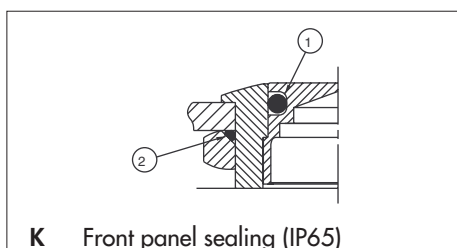
Note : a finished product supplied in version "0" cannot be modified to version "2".

|                              |                  |
|------------------------------|------------------|
| <b>Illuminated actuators</b> |                  |
| <b>2</b>                     | Black (on white) |



### SEALING

**Blank**      No sealing



① internal gasket

② external gasket

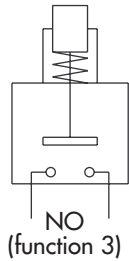
# AV series

Snap-action security pushbuttons with overmolded actuator

**New!**

MODEL  
STRUCTURE

Bushing Ø 19 (.748) - illuminated or not - momentary (NO)



## ORDER FORMAT

| Series | Bush./act. config. | Illum. or not | Contact matl. | Term. type | Bush. material | Over-molding | LED colour | Actuator style | Seal. |
|--------|--------------------|---------------|---------------|------------|----------------|--------------|------------|----------------|-------|
| AV     | 9                  | SO<br>SL      | D             | 2<br>4     | 0              |              |            |                | K     |

See "options" on next page.

## SPECIFICATIONS

- Max. current/voltage rating with resistive load : 50mA 24VDC
- LED voltage and consumption : 2-colour LED : 2V (3V max.) 20mA  
Other colours : 2V (3V max.) 10mA  
A resistor must be series-connected by the user.\*\*
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 500 Vrms 50 Hz min. between terminals  
2.000 Vrms 50 Hz min. between terminals and bushing
- Electrical life : 1.000.000 cycles at full load
- Operating force : 7 N +/- 2N
- Travel : 0,7 mm (.027) +/- 0,1 mm (.003)
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 11 mm (.433) max.
- Operating temperature : -30°C to +70°C
- Soldering : 270°C max. during 3 sec.
- Packaging unit : 40 pieces

\*\* Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

## MATERIALS

- Case : PBT UL94-V0
- Terminals : brass, gold plated
- Contacts : gold plated dome
- Bushing : brass, nickel plated (std)
- Actuator : stainless steel, with thermoplastic overmolding
- LED

## CUT-OUTS

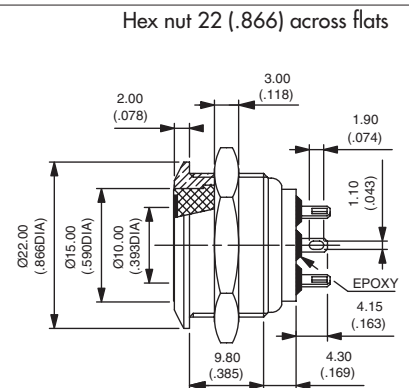
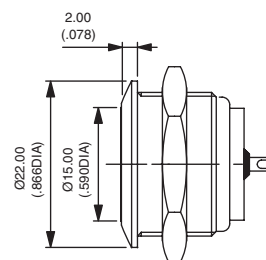
- Panel cut-out : Ø 19,2 mm (.755)
- Min. pitch for matrix mounting : 30 mm (1.181) x 30 mm (1.181)

## Solder lug terminals



Illuminated  
AV9SLD2

Non illuminated  
AV9SOD2



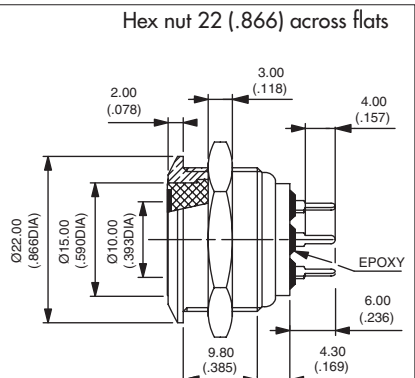
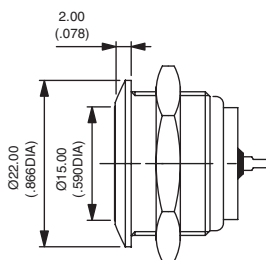
Also available with bushing Ø 22 (.866) : on request.

## Straight PC terminals



Illuminated  
AV9SLD4

Non illuminated  
AV9SOD4



Also available with bushing Ø 22 (.866) : on request.



# AV series

## New! Snap-action security pushbuttons with overmolded actuator

Options

After selecting basic model no.,  
fill in last 5 boxes  
with desired options.

|        |                       |                  |                  |               |                   |                  |               |                   |       |
|--------|-----------------------|------------------|------------------|---------------|-------------------|------------------|---------------|-------------------|-------|
| Series | Bush./act.<br>config. | Illum.<br>or not | Contact<br>matl. | Term.<br>type | Bush.<br>material | Over-<br>molding | LED<br>colour | Actuator<br>style | Seal. |
| AV     |                       |                  |                  |               |                   |                  |               |                   |       |

### BUSHING MATERIALS

| CODE    | MATERIAL                     |
|---------|------------------------------|
| 0 (std) | Nickel plated brass          |
| 2       | Chrome plated brass          |
| 4       | Stainless steel              |
| 5       | Gold plated brass            |
| 6       | Chrome plated brass, satin   |
| 7       | Chrome pl. brass, matt black |
| 8       | Varnished polished brass     |
| 9       | Polished brass               |

### COLOUR OF OVERMOLDING

| CODE | COLOUR      |
|------|-------------|
| 1    | Blue        |
| 2    | Black       |
| 3    | Green       |
| 4    | Grey        |
| 5    | Yellow      |
| 6    | Red         |
| 7    | White       |
| 8    | Translucent |
| 9    | Orange      |

### LED COLOURS

| CODE  | COLOUR    |
|-------|-----------|
| Blank | No LED    |
| 1     | Blue      |
| 2     | Red/green |
| 3     | Green     |
| 5     | Yellow    |
| 6     | Red       |
| 7     | White     |
| 9     | Amber     |

### ACTUATOR STYLES

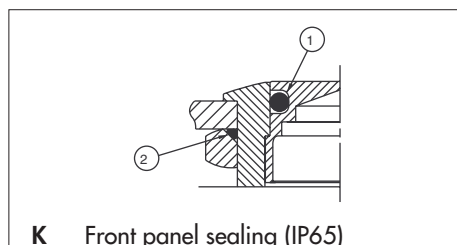
The ring and symbols are obtained by photochemical engraving of a stainless steel insert.  
The insert is then overmolded in the desired colour.

The following actuator styles are available. For other types, consult factory.

| CODE        | 001                          | 002                 | 003   | 004                | 005             |
|-------------|------------------------------|---------------------|-------|--------------------|-----------------|
| DESCRIPTION | Illuminated<br>ring and disc | Illuminated<br>ring | Arrow | Loudspeaker<br>OFF | Double<br>arrow |
| RING/SYMBOL |                              |                     |       |                    |                 |

### SEALING

Blank No sealing



① internal gasket

② external gasket