

# 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

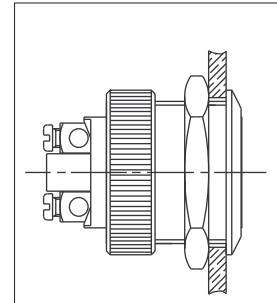
UG1410A

### ❑ Different bushing sizes and actuator shapes

### ❑ Sealed versions

### ❑ Degree of protection of sealed versions (switches mounted on vertical panels) : IP65 to IP67 or IP69K depending on models

### ❑ UL/CSA approved models



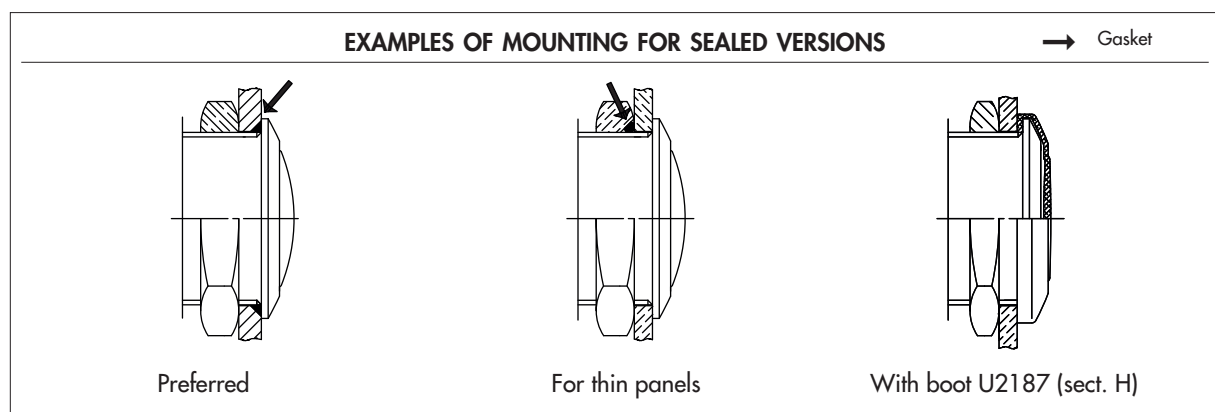
The AV series is a large range of very robust pushbutton switches, consisting of 2 families :

#### ANTI-VANDAL PUSHBUTTON SWITCHES (pages 77-79)

- Great robustness (impact resistance IK08 (Ø 19 mm) and IK10 (Ø 22 mm))
- Actuator and bushing : stainless steel
- Bushing Ø 19 mm (.748) or 22 mm (.866)

#### SECURITY PUSHBUTTON SWITCHES (pages 80-106)

- Large variety of models
- Actuator and bushing : nickel plated, chrome plated or polished varnished brass, stainless steel
- Bushing diameter 16 mm (.629), 19 mm (.748), 22 mm (.866) or 24 mm (.944)
- Marking, illumination, tactile feedback
- Numerous electrical functions (momentary or maintained)



**Dimensions** : first dimensions are in mm while inches are shown as bracketed numbers.



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



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



**Sealing boots** are available for models with Ø 19 mm (.748) bushing. See Section H.

The company reserves the right to change specifications without notice.

- Very robust**  
Impact resistance IK08 for model Ø 19 mm (.748)  
and IK10 for model Ø 22 mm (.866)

- Stainless steel actuator and bushing**

- UL-CSA approved (long case only)**

### SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - A contacts : 4A 12VDC, 500.000 cycles
  - C contacts : 2A 48 VDC, 10.000 cycles
- Initial contact resistance : 10 mΩ max.
- 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
- 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
- Low level or mechanical life : 1.000.000 cycles
- Hand soldering : 300°C, 3 sec. max.
- Packaging unit : 20 pieces (models Ø 22) or 40 pieces (models Ø 19)

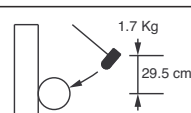
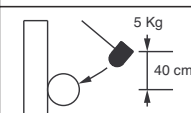
### MATERIALS

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

### CUT-OUT

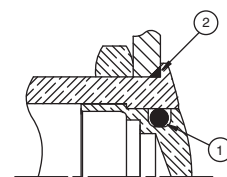
- Panel cut-out :  
Ø 19,2 mm (.755)  
or Ø 22,2 mm (.874)
- Min. pitch for matrix mounting :  
30 mm x 30 mm (1.181x1.181)

### 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> Striking energy: 5 joules (5Nm)		<b>IK10</b> Striking energy: 20 joules (20Nm)
	Hammer radius 25 mm		Hammer radius 50 mm	

Increased impact resistance provided by a nut or mechanical stop.

### SEALING ( OPTION T )



Front panel sealing (IP65)

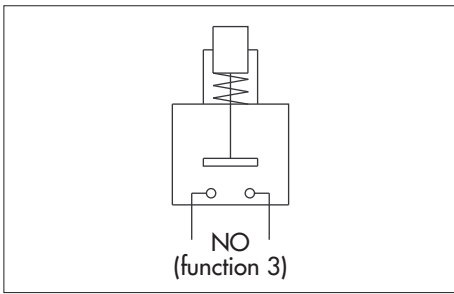
① internal gasket    ② external gasket

Option N does not include ① nor ②.

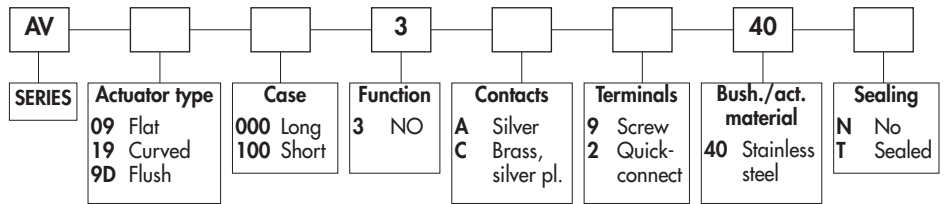
# AV series

Anti-vandal pushbutton switches  $\varnothing$  19 mm (.748)

Momentary (NO)



## ORDER FORMAT



B2

In the following model numbers, replace • with elements selected in the above order format.

### Flat actuator - short case - 48VDC - AV09100

Hex nut 22 (.866) across flats



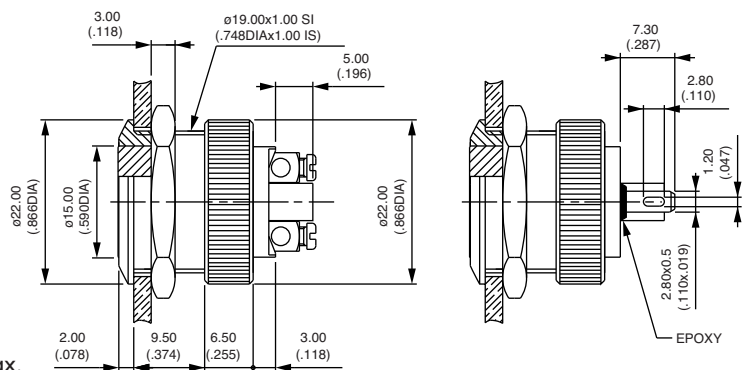
Screw terminals  
AV091003•940•



Solder lug / quick-connect term.  
AV091003•240•



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



### Flat actuator - long case - 4A 250VAC/8A 125VAC - UL/CSA - AV09000

Hex nut 22 (.866) across flats

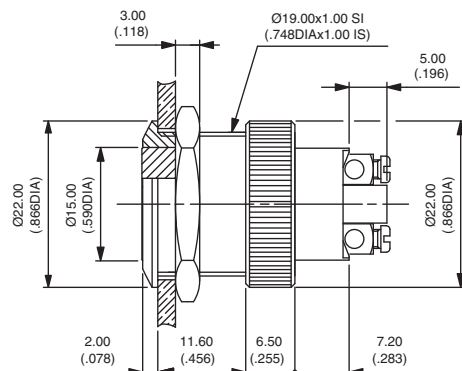


Screw terminals  
AV090003A940•

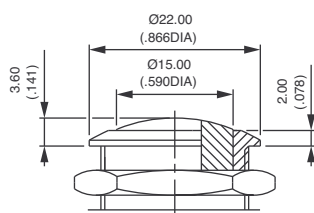


To order switches marked UL-CSA, add "UU" at the end of model number.

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



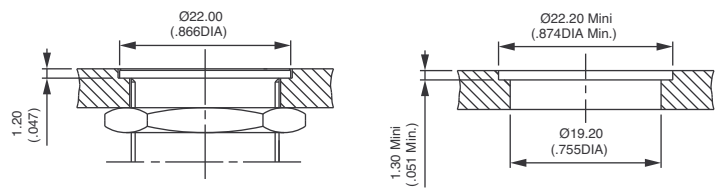
### Curved actuator - AV19



Screw terminals  
AV19•003•940•

Solder lug/quick-connect term. (short case)  
AV191003•240•

### Flush model - AV9D



Screw terminals  
AV9D•003•940•

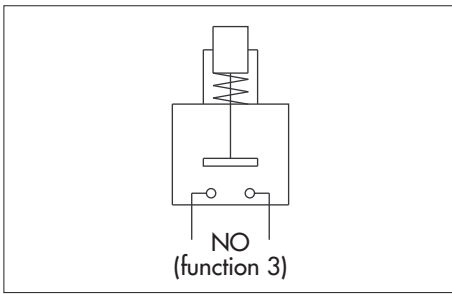
Solder lug / quick-connect terminals (short case only)  
AV9D1003•240•

Panel cut-out

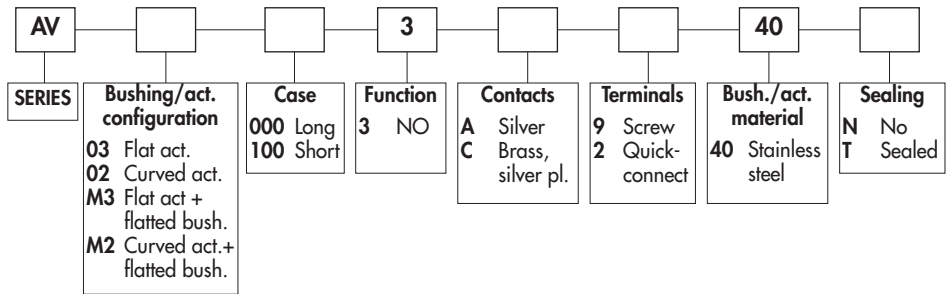
# AV series

Anti-vandal pushbutton switches Ø 22 mm (.866)

Momentary (NO)



## ORDER FORMAT



In the following model numbers, replace • with elements selected in the above order format.

### Flat actuator - short case - 48VDC - AV03100

Hex nut 25 (.984) across flats



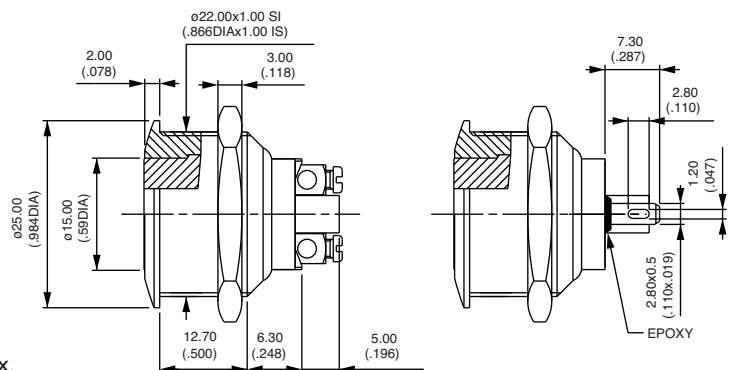
Screw terminals  
AV031003•940•



Solder lug / quick-connect term.  
AV031003•240•



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



### Flat actuator - long case - 4A 250VAC/8A125VAC - UL/CSA - AV03000

Hex nut 25 (.984) across flats

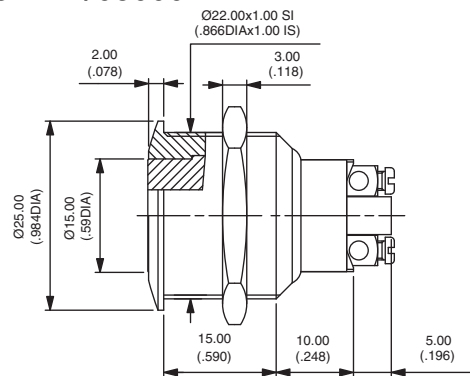


Screw terminals  
AV030003A940•

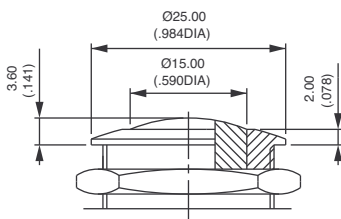


To order switches **marked UL-CSA**, add "UU" at the end of model number.

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

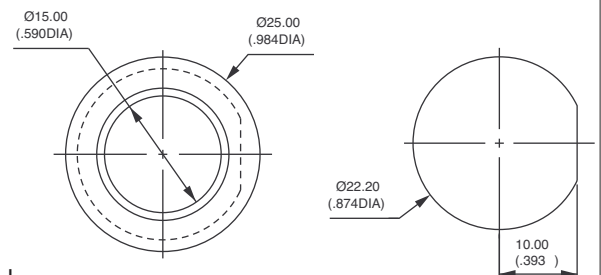


### Curved actuator - AV02



Screw terminals  
AV02•003•940•  
Solder lug / quick-connect (short case)  
AV021003•240•

### Flatted bushing - AVM3 and AVM2



Flat actuator, screw terminals  
AVM3•003•940•

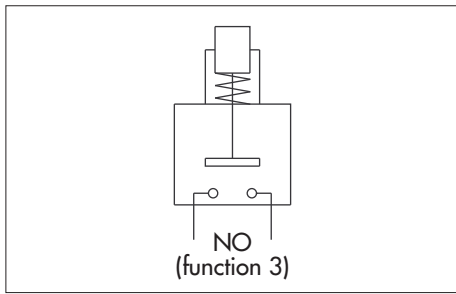
Curved actuator, screw terminals  
AVM2•003•940•

Panel cut-out

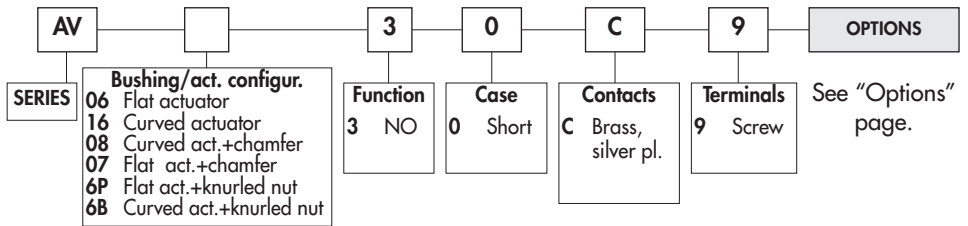
# AV series

## Snap action security pushbutton switches Ø 16 mm (.629)

Momentary (NO)



### ORDER FORMAT



### SPECIFICATIONS

- **Travel : 1,60 mm (.063) ± 0,3 mm (.011)**
- **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**
- **Low level or mechanical life : 1.000.000 cycles**
- **Packaging unit : 60 pieces**

### MATERIALS

- **Case : PBT**
- **Contacts : brass, silver plated (C)**
- **Bushing and actuator : see "Options" page**

### CUT-OUT

- **Panel cut-out : Ø 16,2 mm (.637)**
- **Min. pitch for matrix mounting : 24 mm x 24 mm (.944 x .944) (AV6P & AV6B : 20 mm x 20 mm)**

To order a product, select a basic model below and add the desired options.

### BASIC MODEL

#### Flat or curved actuator - screw terminals

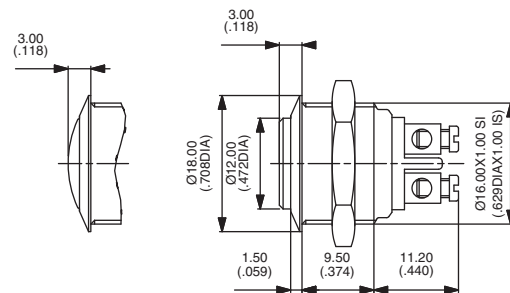
Hex nut 19 (.748) across flats



Flat actuator  
**AV0630C9**

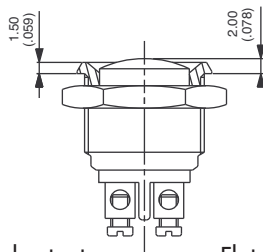


Curved actuator  
**AV1630C9**



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

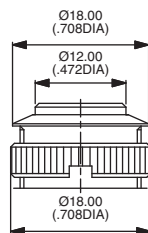
#### With chamfer



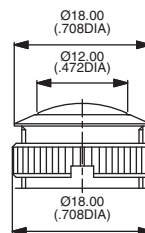
Curved actuator  
**AV0830C9**

Flat actuator  
**AV0730C9**

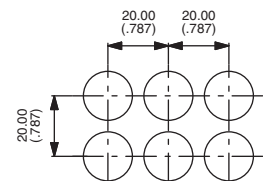
#### With knurled nut for matrix mounting 20 x 20 - AV6P and AV6B



Flat actuator  
**AV6P30C9**



Curved actuator  
**AV6B30C9**



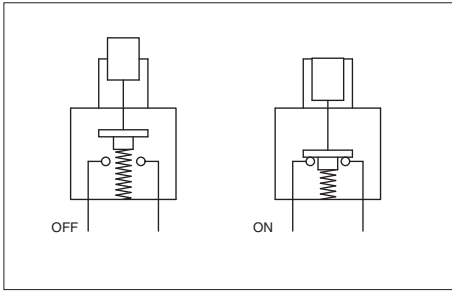
Wrench available under P/N U1990.



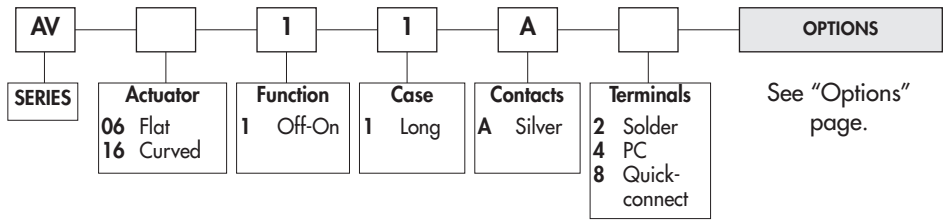
# AV series

## Security pushbutton switches Ø 16 mm (.629)

Latching action



### ORDER FORMAT



### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 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 : 40.000 cycles
- 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
- Low level or mechanical life : 200.000 cycles
- Hand soldering : 300°C, 5 sec. max.
- Packaging unit : 25 pieces

### MATERIALS

- Case : PA-6T, UL94-V0
- Contacts : silver (A)  
*Gold plated silver (AD) on request*
- Bushing and actuator : see "Options" page

### CUT-OUT

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

To order a product, select a basic model below and add the desired options.

### BASIC MODEL

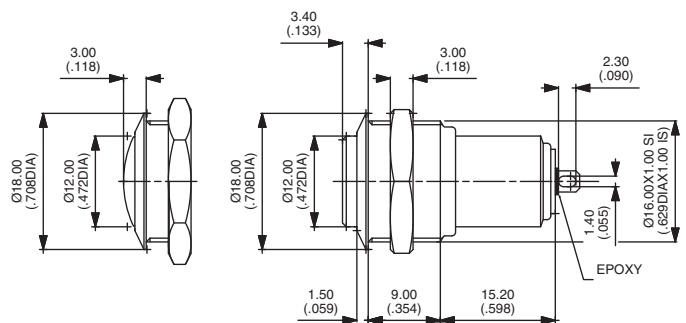
#### Flat or curved actuator - solder lug terminals

Hex nut 19 (.748) across flats

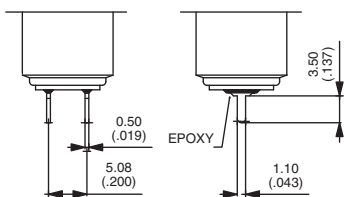


Flat actuator  
AV0611A2 OFF - ON

Curved actuator  
AV1611A2 OFF - ON



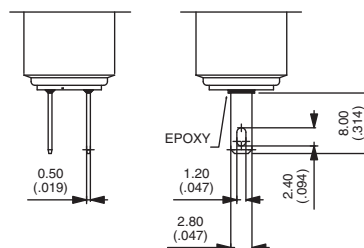
#### Straight PC terminals



Flat actuator  
AV0611A4

Curved actuator  
AV1611A4

#### Quick-connect terminals



Flat actuator  
AV0611A8

Curved actuator  
AV1611A8

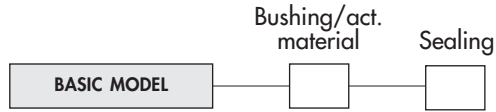
# AV series

Security pushbutton switches Ø 16 mm (.629)

OPTIONS  
● ● ●

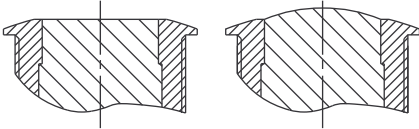
## Options

After selecting basic model number, fill in last 2 boxes with desired options.



## BUSHING/ACTUATOR MATERIALS

### Flat or curved metal actuator



CODE	BUSHING	ACTUATOR
00 (standard)	Nickel plated brass	Nickel plated brass
10	Nickel plated brass	Stainless steel
40	Stainless steel	Stainless steel

## SEALING

Blank	No sealing
K	Front panel sealing (IP65)

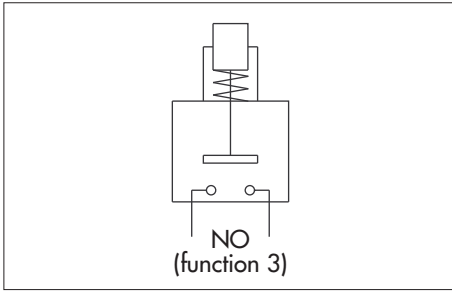
B2



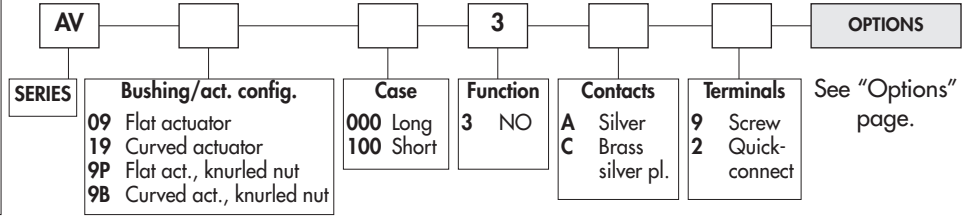
# AV series

## Security pushbutton switches Ø 19 mm (.748)

Momentary (NO)



### ORDER FORMAT



### SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - A contacts : 4A 12VDC, 500.000 cycles
  - C contacts : 2A 48 VDC, 10.000 cycles
- 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.
- 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
- 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
- Low level or mechanical life : 1.000.000 cycles
- Hand soldering : 300°C, 3 sec. max.
- Packaging unit : 40 pieces

### MATERIALS

- Case : PBT
- Contacts : silver (A) or brass, silver plated (C)
- Bushing and actuator : see "Options" page

### CUT-OUT

- Panel cut-out : Ø 19,2 mm (.755)
- Min. pitch for matrix mounting : 30 mm x 30 mm (1.181x1.181) (AV9P & AV9B : 25 mm x 25 mm)

To order a product, select a basic model below and add the desired options.

### BASIC MODEL

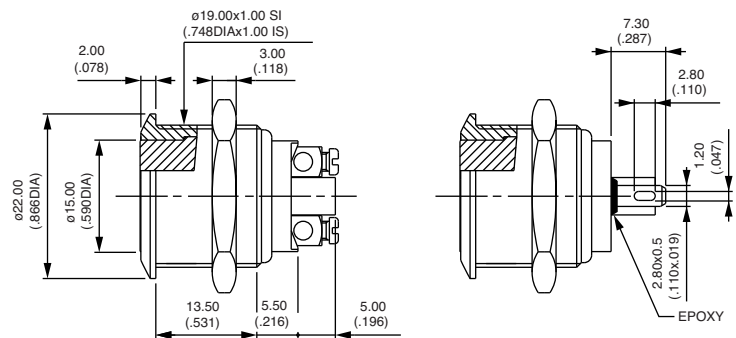
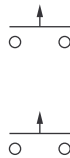
#### Flat actuator - short case - 48VDC - AV09100

Hex nut 22 (.866) across flats



Screw terminals  
AV091003•9

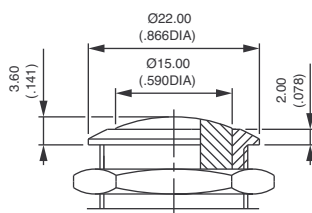
Solder lug / quick-connect term.  
AV091003•2



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

Contacts : replace • with A (silver) or C (silver plated brass).

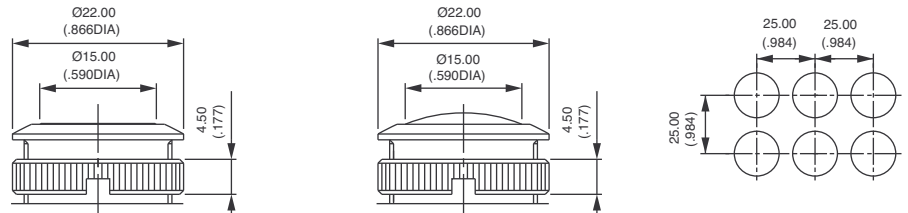
#### Curved actuator - short case



Screw terminals  
AV191003•9

Solder lug / quick-connect terminals  
AV191003•2

#### With knurled nut for matrix mounting 25 x 25 - AV9P and AV9B



Flat actuator, screw terminals  
AV9P1003•9

Flat actuator, solder lug term.  
AV9P1003•2

Curved actuator, screw terminals  
AV9B1003•9

Curved actuator, solder lug term.  
AV9B1003•2

Wrench available under P/N U1929



# AV series

Security pushbutton switches  $\varnothing$  19 mm (.748)

Momentary (NO)



## Flat actuator - long case - 4A 250VAC/8A 125VAC - UL/CSA - AV09000

Hex nut 22 (.866) across flats

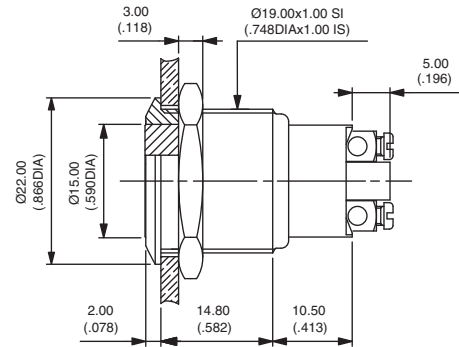


Screw terminals  
AV090003A9



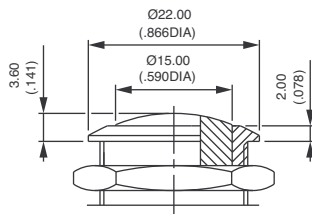
To order switches marked **UL-CSA**, add "UU" at the end of model number.

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



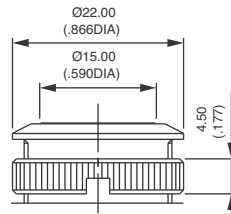
B2

## Curved actuator - long case

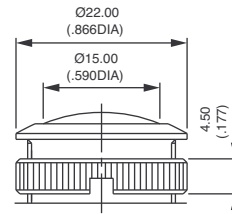


Screw terminals  
AV190003A9

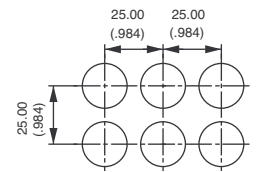
## With knurled nut for matrix mounting 25 x 25 - AV9P and AV9B



Flat actuator, screw terminals  
AV9P0003A9



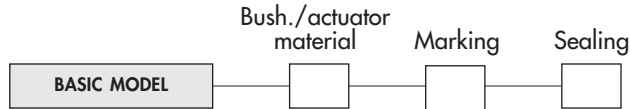
Curved actuator, screw terminals  
AV9B0003A9



Wrench available under P/N U1929.

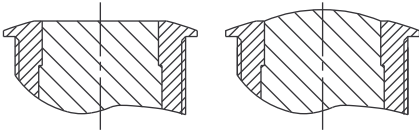


After selecting basic model number, fill in last 3 boxes with desired options.



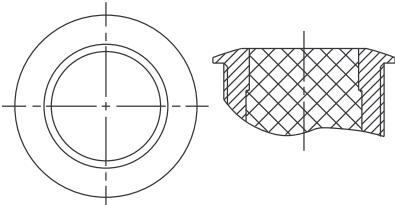
### BUSHING/ACTUATOR MATERIALS

#### Flat or curved metal actuator



CODE	BUSHING	ACTUATOR
00 (standard)	Nickel plated brass	Nickel plated brass
10	Nickel plated brass	Stainless steel
12	Nickel plated brass	Chrome plated brass
20	Chrome plated brass	Chrome plated brass
30	Chrome plated brass	Stainless steel
40	Stainless steel	Stainless steel
80	Varnished polished brass	Varnished polished brass

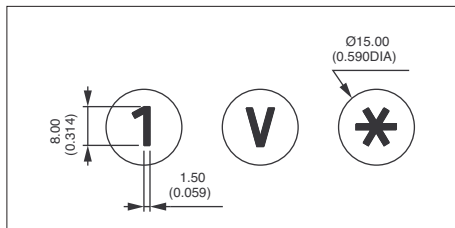
#### Flat thermoplastic actuator



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

### MARKING

- By engraving on flat or curved brass actuator (stainless steel on request)
- by hot stamping on flat thermoplastic actuator



Select an option from each of the two tables below.

#### TYPE OF MARKING

CODE	TYPE
0 to 9	Numbers 0 to 9
X	Symbol *
Y	Symbol #
A to N	Letters A to N
P to W	Letters P to W
0	Letter O

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

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

#### COLOUR OF MARKING

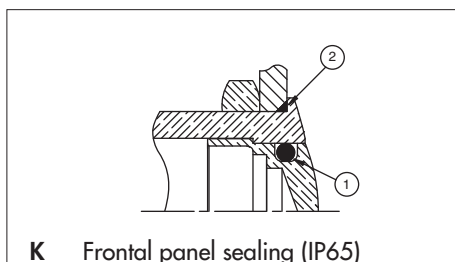
CODE	COLOUR
<b>Brass actuator</b>	
0 (standard)	Same as finish
2	Black

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

CODE	COLOUR
<b>Thermoplastic actuator</b>	
2	Black
7	White

### SEALING

Blank No sealing

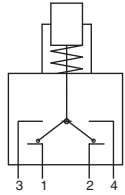


- ① internal gasket
- ② external gasket

# AV series

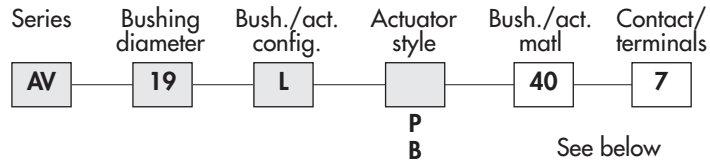
## Security pushbutton switches Ø 19 mm (.748)

Momentary (NC/NO)



Combined NC/NO

### ORDER FORMAT



### 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
- Low level or mechanical life : 1.000.000 cycles
- Front panel sealing : IP65 and IP69K
- Packaging unit : 20 pieces

### MATERIALS

- Case : PA 6/6
- Contacts : silver
- Bushing : stainless steel (std)
- Actuator : stainless steel (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..407



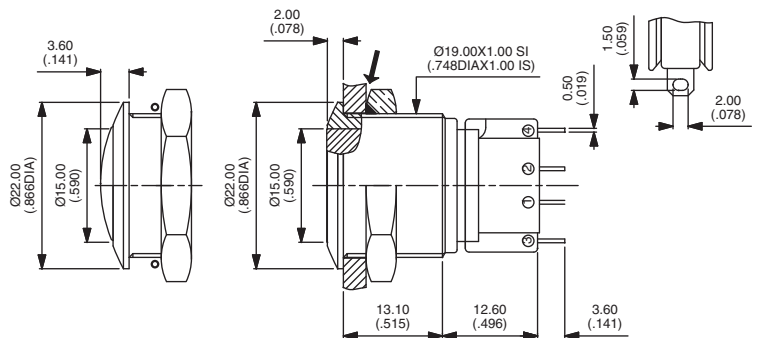
Flat actuator  
AV19LP407

Curved actuator  
AV19LB407



→ O-ring

Hex nut 22 (.866) across flats



### BUSHING/ACTUATOR MATERIALS

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

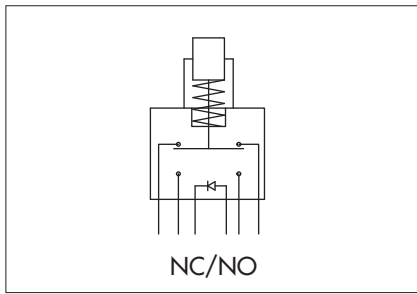
CODE	BUSHING	ACTUATOR
00	Nickel plated brass	Nickel plated brass
20	Chrome plated brass	Chrome plated brass



# AV series

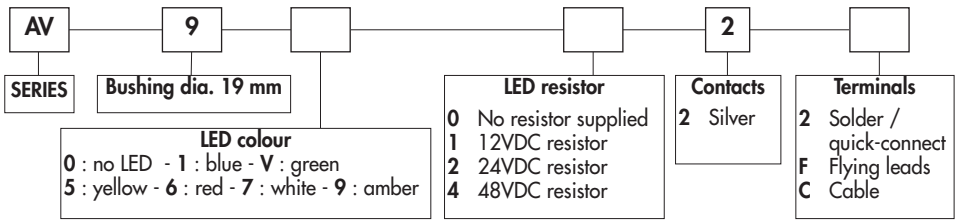
## Security pushbutton switches Ø 19 mm (.748)

With illuminated ring - momentary (NC/NO)



### ORDER FORMAT

Options : see next page.



### SPECIFICATIONS

- Travel : 2 mm ± 0,3 mm (.003)
  - Max. current/voltage rating with resistive load : 1A 30VDC
  - LED voltage : 12VDC, 24VDC or 48VDC  
(If not supplied by APEM, a resistor must be series-connected by the user)\*\*
  - Initial contact resistance : 100 mΩ max.
  - Insulation resistance : 10 MΩ min. at 500VDC
  - Dielectric strength : 500 Vrms 50 Hz min. between terminals  
1.000 Vrms 50 Hz min. between terminals and frame
  - Electrical life : 250.000 cycles at full load
  - Operating force : 5N ± 2N
  - Torque : 5 Nm min.- 14 Nm max. applied to nut
  - Panel thickness : 1 (.039) to 6 mm (.236) max.
  - Low level or mechanical life : 1.000.000 cycles
  - Operating temperature : -30°C to +85°C
  - Hand soldering : 350°C, 5 seconds max.
  - Packaging unit : flying lead/cable models : 1 piece - other models : 40 pieces
- \*\* Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

### MATERIALS

- Case : polyamide, glass filled
- Contacts : silver
- Bushing : see next page
- Actuator : see next page
- Elastomeric membrane : silicone
- LED

### CUT-OUT

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

To order a product, select a basic model below and add the desired LED colour and voltage. Then select the desired options on next page.

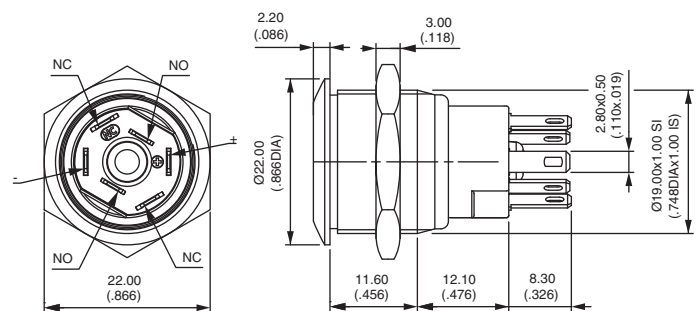
### Flat actuator - solder lug terminals

Hex nut 22 (.866) across flats



Illuminated (select LED colour above) \*  
**AV9•022**            ON - MOM

Non-illuminated  
**AV90022**            ON - MOM



\* No LED resistor supplied on this model.

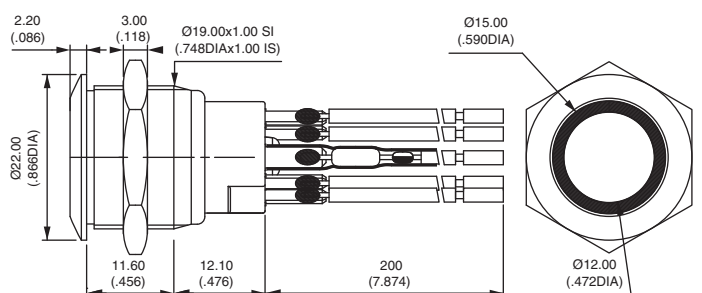
### Flat actuator - flying lead terminals

Hex nut 22 (.866) across flats



Illuminated (select LED colour & resistor above)  
**AV9••2F**            ON - MOM

Non-illuminated  
**AV9002F**            ON - MOM



Wire colours : black: NC, orange: NO, red: LED anode (+), blue : LED cathode (-)

# AV series

## Security pushbutton switches Ø 19 mm (.748)

With illuminated ring - momentary (NC/NO)

OPTIONS



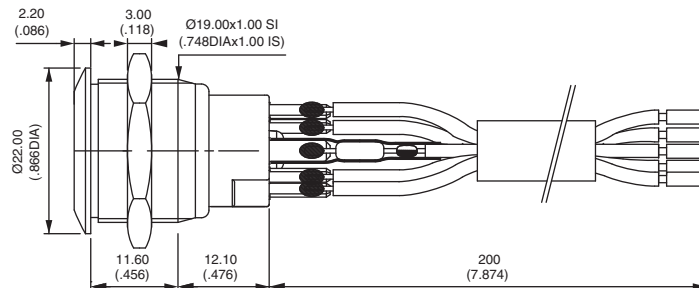
### Flat actuator - cable terminals

Hex nut 22 (.866) across flats

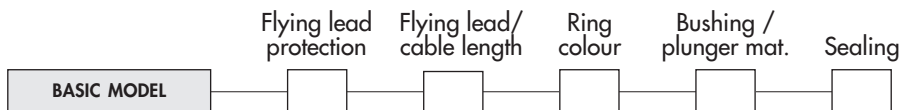


Illuminated (select colour & resistor)  
**AV9••2C** ON - MOM

Non-illuminated  
**AV9002C** ON - MOM



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



### FLYING LEAD PROTECTION

- 0 No protection and/or no flying leads
- 1 Heat-shrink sleeves
- 2 Tube + epoxy

### FLYING LEAD/CABLE LENGTH

- 000 No flying leads / no cable
- 020 Length 20 cm (standard)
- XXX Length in centimeters

### RING COLOURS

CODE	COLOUR	CODE	COLOUR
1	Blue	6	Red
2	Black *	7	Opal white (std)
3	Green	8	Translucent
4	Grey *	9	Orange
5	Yellow		

\* non-illuminated only

### BUSHING/PLUNGER MATERIALS

CODE	BUSHING	ACTUATOR
00	Nickel plated brass	Nickel plated brass
40	Stainless steel 303	Stainless steel 303
4A	Stainless steel 304	Stainless steel 304
4B	Stainless steel 316	Stainless steel 316
70	Chrome pl. brass, black	Chrome pl. brass, black

Other : on request.

### SEALING

**Blank** No sealing



**K** Front panel sealing (IP67)

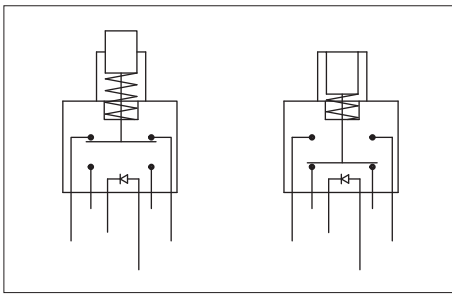
① internal membrane

② external gasket

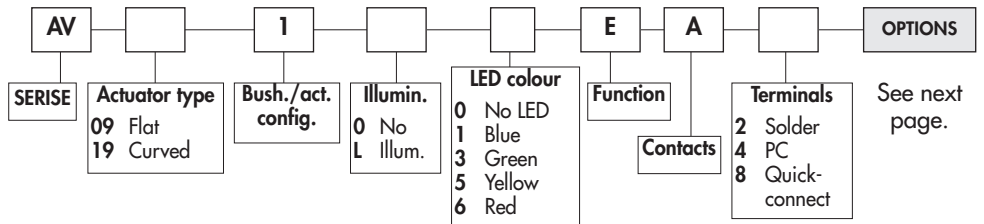
# AV series

## Security pushbutton switches Ø 19 mm (.748)

Illuminated and non-illuminated - latching



### ORDER FORMAT



### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 2A 48 VDC
- LED voltage and consumption : blue 3,5V 10mA, green : 2V 10mA yellow & red : 2V 20mA (a resistor must be series-connected by the user)\*\*
- Initial contact resistance : 50 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 1 000 Vrms 50 Hz min. between terminals 500 Vrms 50 Hz min. between terminals and frame
- Electrical life : 500.000 cycles at 2A 48VDC
- Torque : 5 Nm min.- 14 Nm max. applied to nut
- Panel thickness : 1 (.039) to 9 mm (.354) max.
- Operating temperature : -30°C to +70°C
- Low level or mechanical life : 1.000.000 cycles
- Hand soldering : 300°C, 4 seconds max.
- Packaging unit : 20 pieces

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

### MATERIALS

- Case : PA6T UL94-V0
- Contacts : silver
- Bushing and actuator : see next page
- LED

### CUT-OUT

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

To order a product, select a basic model below and add the desired options selected on next page.

Standard actuator position : the actuator is flush in the non-latched position and recessed in the latched position.

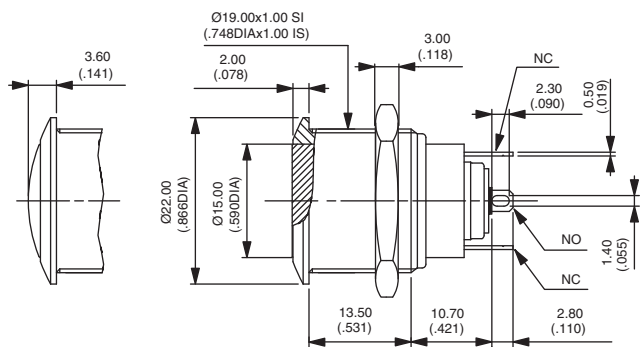
### Non-illuminated - solder lug terminals

Hex nut 22 (.866) across flats



Flat actuator \*  
AV09100EA2 ON - ON

Curved actuator  
AV19100EA2 ON - ON



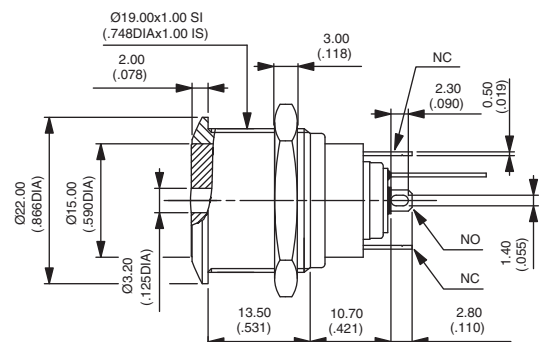
\* Also available with prominent actuator in the non-latched position

### Illuminated - solder lug terminals

Hex nut 22 (.866) across flats



Flat actuator  
AV091L•EA2 ON - ON



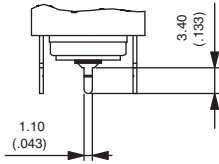
Replace • with desired LED colour.

# AV series

## Security pushbutton switches Ø 19 mm (.748)

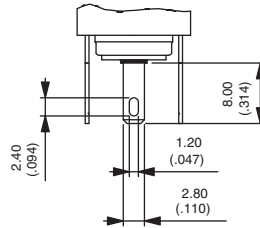
### Latching - Options

#### Straight PC terminals



Replace 2 with 4 at the end of the model numbers shown on previous page.

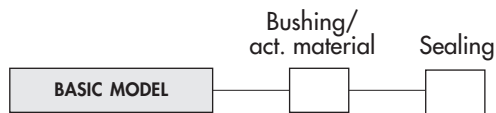
#### Quick-connect terminals



Replace 2 with 8 at the end of the model numbers shown on previous page.

B2

After selecting basic model number, fill in last 2 boxes with desired options.

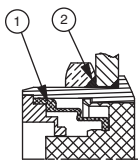


#### BUSHING/ACTUATOR MATERIALS

CODE	BUSHING	ACTUATOR
00 (std)	Nickel plated brass	Nickel plated brass
10	Nickel plated brass	Stainless steel
40	Stainless steel	Stainless steel
50	Stainless steel	Nickel plated brass

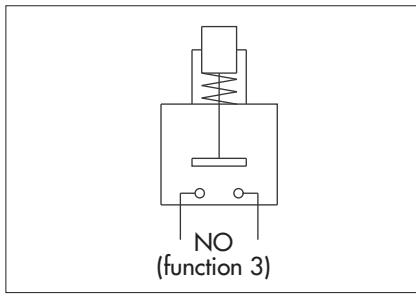
#### SEALING

Blank No sealing

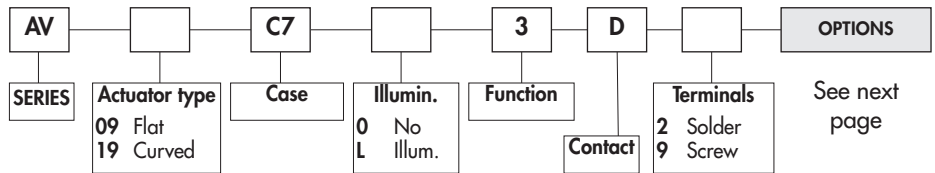


K Frontal panel sealing (IP65)

- ① elastomeric membrane
- ② external gasket



### ORDER FORMAT



### SPECIFICATIONS

- Travel : 0,7 mm (.027) ±0,1 mm (.003)
- 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 frame
- Electrical life : 1.000.000 cycles at full load
- Operating force : 7 N ±2N
- 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
- Hand soldering : 270°C, 3 seconds max.
- 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 and actuator : see next page
- LED

### CUT-OUT

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

To order a product, select a basic model below and add the desired options selected on next page.

### Flat actuator - non-illuminated

Hex nut 22 (.866) across flats



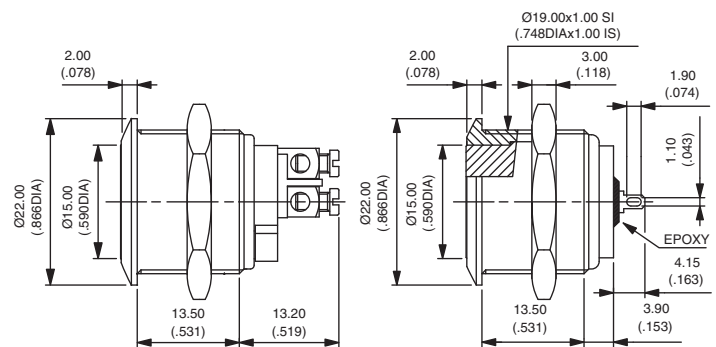
Solder lug terminals  
AV09C703D2



Screw terminals  
AV09C703D9



Also available with curved actuator :  
AV19C703D2 or AV19C703D9



### Flat actuator - illuminated

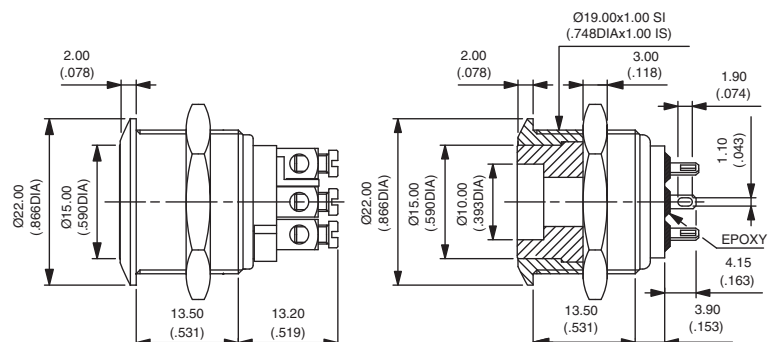
Hex nut 22 (.866) across flats



Solder lug terminals  
AV09C713D2



Screw terminals  
AV09C713D9





# AV series

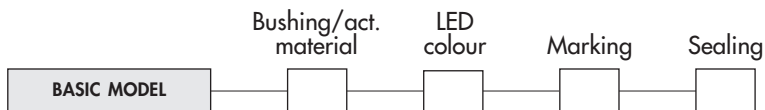
## Tactile security pushbutton switches Ø 19 mm (.748)

OPTIONS



### Options

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



### BUSHING/ACTUATOR MATERIALS

#### Non-illuminated models

CODE	BUSHING	ACTUATOR
00 (std)	Nickel plated brass	Nickel plated brass
10	Nickel plated brass	Stainless steel
30	Chrome plated brass	Stainless steel
40	Stainless steel	Stainless steel
80	Varnished polished brass	Varnished polished brass

#### Illuminated models

CODE	BUSHING	ACTUATOR
00 (std)	Nickel plated brass	Nickel plated brass
20	Chrome plated brass	Chrome plated brass
40	Stainless steel	Stainless steel
50	Stainless steel	Nickel plated brass
80	Varnished polished brass	Varnished polished brass

### LED COLOURS

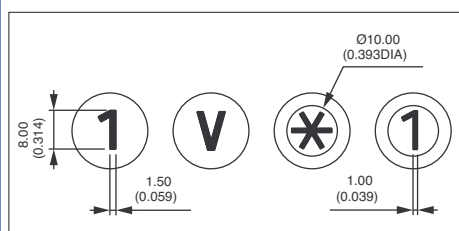
Blank No LED

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

### MARKING

For flat or curved actuator.

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



Select an option from each of the two tables below.

#### TYPE OF MARKING

CODE	TYPE
0 to 9	Numbers 0 to 9
X	Symbol *
Y	Symbol #
A to N	Letters A to N
P to W	Letters P to W
0	Letter O

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

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

#### COLOUR OF MARKING

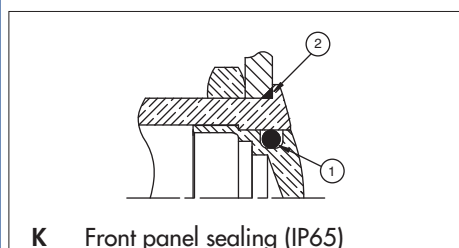
CODE	COLOUR
<b>Non-illuminated actuators</b>	
0 (standard)	Same as finish
2	Black

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

CODE	COLOUR
<b>Illuminated actuators</b>	
2	Black (on white)

### SEALING

Blank No sealing



K Front panel sealing (IP65)

① internal gasket

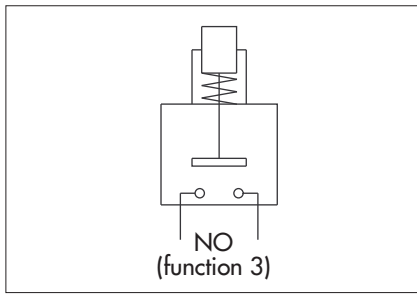
② external gasket



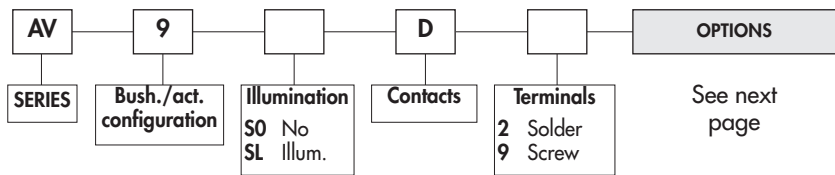
# AV series

## Tactile security pushbuttons Ø 19 mm (.748) with overmolded actuator

Illuminated and non-illuminated - momentary (NO)



### ORDER FORMAT



### SPECIFICATIONS

- **Travel** : 0,7 mm (.027) ± 0,1 mm (.003)
- 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 frame
- Electrical life : 1.000.000 cycles at full load
- Operating force : 7 N ±2N - Sealing option K will increase the operating force.
- 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
- Hand soldering : 270°C, 3 sec. max.
- Packaging unit : 16 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 : see next page
- Actuator : stainless steel, with thermoplastic overmolding
- LED

### CUT-OUT

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

To order a product, select a basic model below and add the desired options selected on next page.

### Flat actuator - solder lug terminals

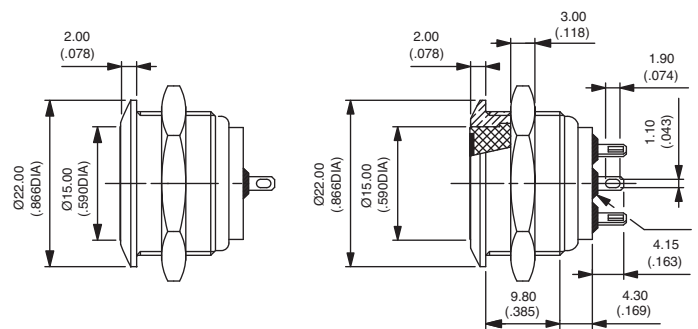
Hex nut 22 (.866) across flats



Illuminated  
AV9SLD2



Non-illuminated  
AV9SOD2



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

### Flat actuator - screw terminals

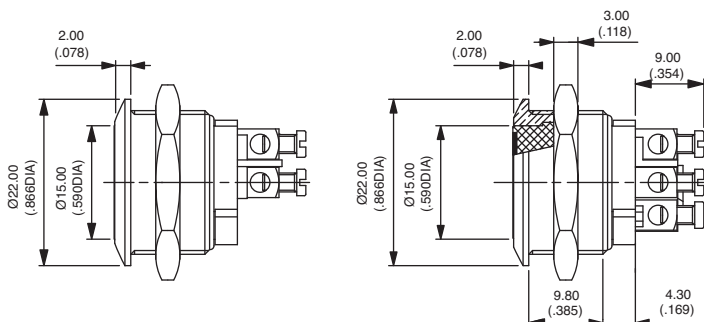
Hex nut 22 (.866) across flats



Illuminated  
AV9SLD9



Non-illuminated  
AV9SOD9



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

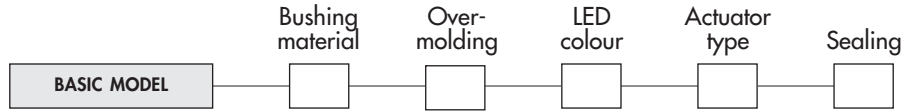
# AV series

## Tactile security pushbuttons Ø 19 mm (.748) with overmolded actuator



### Options

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



#### 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, black
8	Varnished polished brass
9	Polished brass

#### OVERMOLDING COLOURS

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

\* non-illuminated only

#### LED COLOURS

CODE	COLOUR
Blank	No LED
1	Blue
2	Red/green
3 **	Green
V **	Green, high intensity
5	Yellow
6	Red
7	White
9	Amber

\*\* To order a green LED for actuator style 002, always use code V. Other actuator styles can be ordered with LED code 3 or V.

#### 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.

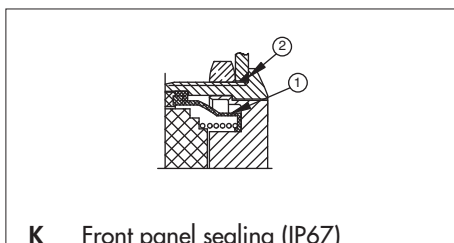
The following actuator styles are available. For other types, consult factory.

CODE	001	002	003	004	005
DESCRIPTION	Illuminated ring and disc	Illuminated ring	Arrow	Loudspeaker OFF	Opening
RING/SYMBOL					

CODE	006	008	009	010	011
DESCRIPTION	Validation	Closing	Standby	Cancel	Power
SYMBOL					

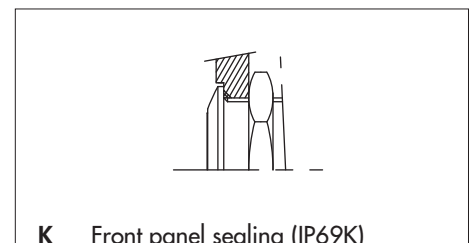
#### SEALING

**Blank** No sealing



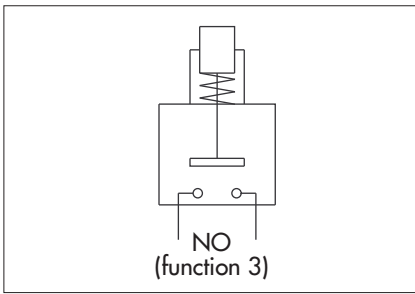
- ① internal membrane
- ② external gasket

Recommended panel mounting for IP69K

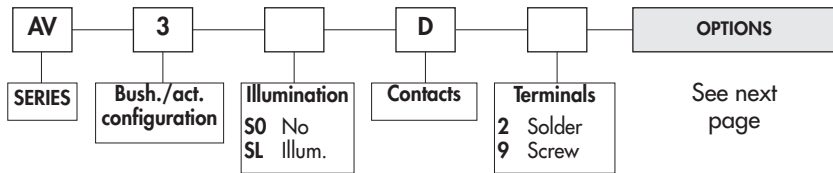


## Tactile security pushbuttons Ø 22 mm (.866) with overmolded actuator

Illuminated and non-illuminated - momentary (NO)



### ORDER FORMAT



UG1410A

### SPECIFICATIONS

- Travel : 0,7 mm (.027) ± 0,1 mm (.003)
- 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 frame
- Electrical life : 1.000.000 cycles at full load
- Operating force : 7 N ±2N - sealing option K will increase the operating force.
- 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
- Hand soldering : 270°C, 3 sec. max.
- Packaging unit : 16 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 : see next page
- Actuator : stainless steel, with thermoplastic overmolding
- LED

### CUT-OUT

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

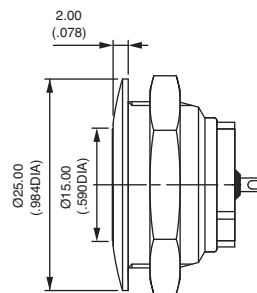
To order a product, select a basic model below and add the desired options selected on next page.

### Flat actuator - solder lug terminals

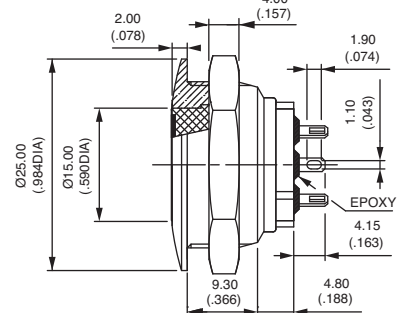


Illuminated  
AV3SLD2

Non-illuminated  
AV3SOD2



Hex nut 25 (.984) across flats

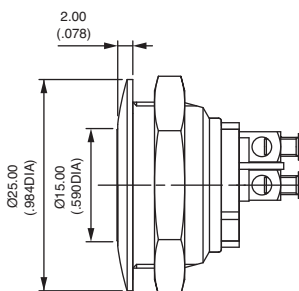


### Flat actuator - screw terminals

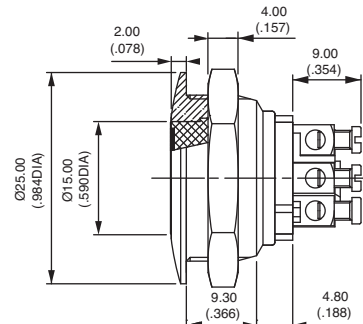


Illuminated  
AV3SLD9

Non-illuminated  
AV3SOD9



Hex nut 25 (.984) across flats

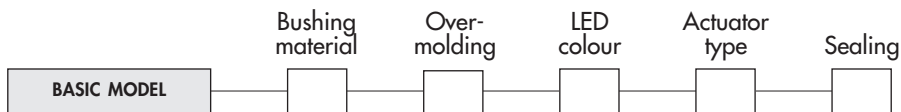


# AV series

## Tactile security pushbuttons Ø 22 mm (.866) with overmolded actuator

### Options

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



#### 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, black
8	Varnished polished brass
9	Polished brass

#### OVERMOLDING COLOURS

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

\* non-illuminated only

#### LED COLOURS

CODE	COLOUR
Blank	No LED
1	Blue
2	Red/green
3 **	Green
V **	Green, high intensity
5	Yellow
6	Red
7	White
9	Amber

\*\* To order a green LED for actuator style 002, always use code V. Other actuator styles can be ordered with LED code 3 or V.

#### 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.

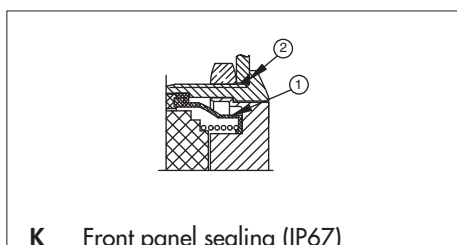
The following actuator styles are available. For other types, consult factory.

CODE	001	002	003	004	005
DESCRIPTION	Illuminated ring and disc	Illuminated ring	Arrow	Loudspeaker OFF	Opening
RING/SYMBOL					

CODE	006	008	009	010	011
DESCRIPTION	Validation	Closing	Standby	Cancel	Power
SYMBOL					

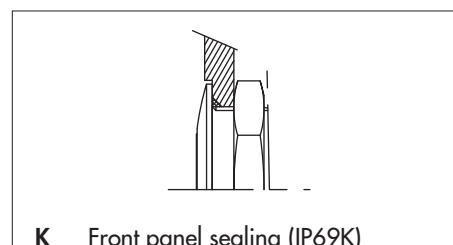
#### SEALING

**Blank** No sealing



① internal membrane  
② external gasket

Recommended panel mounting for IP69K

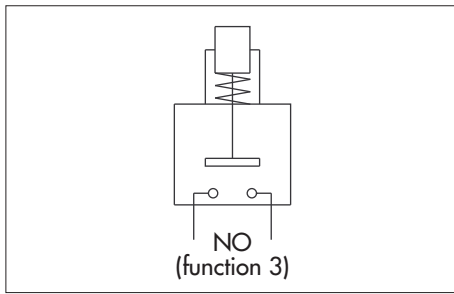




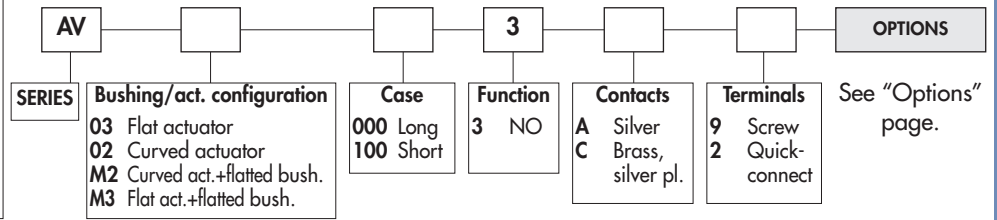
# AV series

## Security pushbutton switches Ø 22 mm (.866)

Momentary (NO)



### ORDER FORMAT



### SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - A contacts : 4A 12VDC, 500.000 cycles
  - C contacts : 2A 48 VDC, 10.000 cycles
- 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.
- 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
- 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
- Low level or mechanical life : 1.000.000 cycles
- Hand soldering : 300°C, 3 sec. max.
- Packaging unit : 20 pieces

### MATERIALS

- Case : PBT
- Contacts : silver (A) or brass, silver plated (C)
- Bushing and actuator : see "Options" page

### CUT-OUTS

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

To order a product, select a basic model below or on next page and add the desired options.

### BASIC MODEL

#### Flat actuator - short case - 48VDC - AV03100

Hex nut 25 (.984) across flats

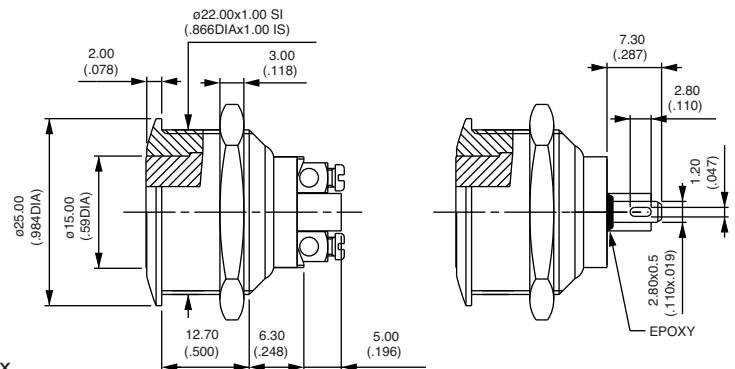


Screw terminals  
AV031003•9

Solder lug / quick-connect term.  
AV031003•2

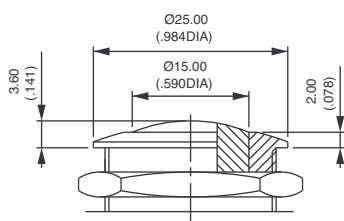


Screw terminals for wires 1,5 mm<sup>2</sup> max.



Contacts : replace • with A (silver) or C (silver plated brass).

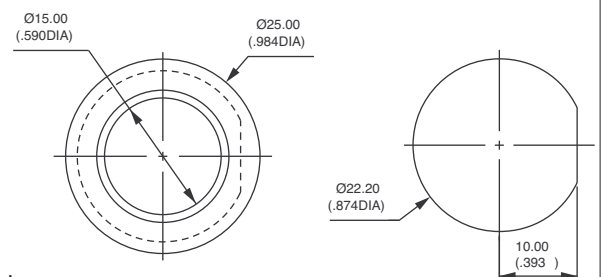
#### Curved actuator - short case



Screw terminals  
AV021003•9

Solder lug / quick-connect terminals  
AV021003•2

#### Flatted bushing - short case - AVM3 and AVM2



Flat actuator, screw terminals  
AVM31003•9

Curved actuator, screw terminals  
AVM21003•9

# AV series

## Security pushbutton switches Ø 22 mm (.866)

Momentary (NO) - momentary (NC) - alternate action



### Flat actuator - long case - 4A 250VAC/8A 125VAC - UL/CSA - AV03000

Hex nut 25 (.984) across flats

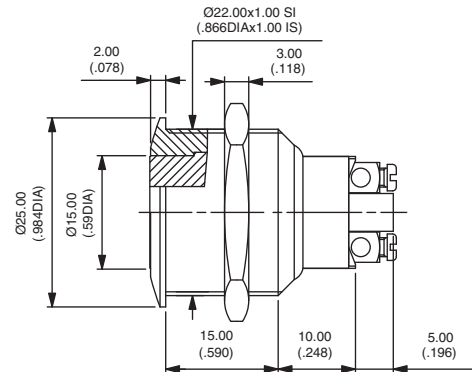


Screw terminals  
AV030003A9

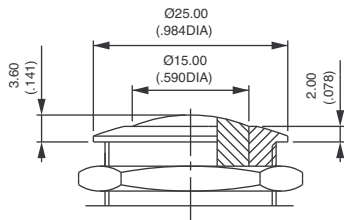


To order switches marked **UL-CSA**, add "UU" at the end of model number.

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

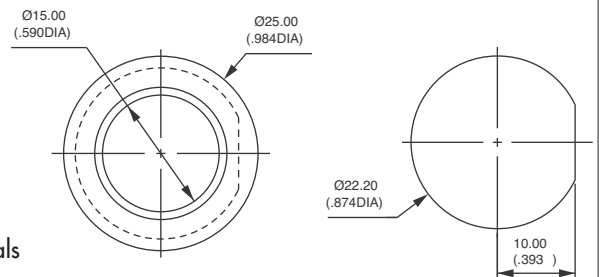


### Curved actuator - long case



Screw terminals  
AV020003A9

### Flatted bushing - long case - AVM3 and AVM2



Flat actuator, screw terminals

AVM30003•9

Curved actuator, screw terminals

AVM20003•9

## MOMENTARY NORMALLY CLOSED MODEL (NC)

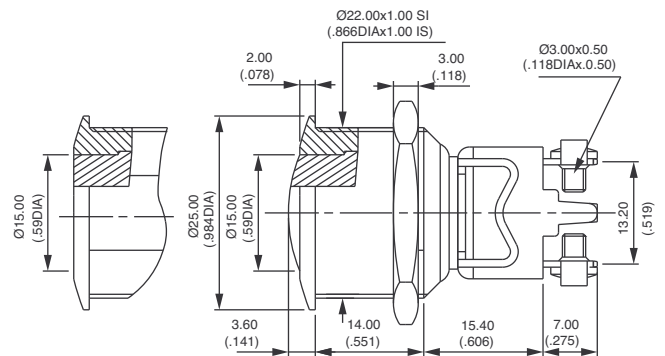
### Bushing Ø 22 (.866) - AV..1200

Hex nut 25 (.984) across flats

- 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  
AV031202C900

Curved actuator  
AV021202C900

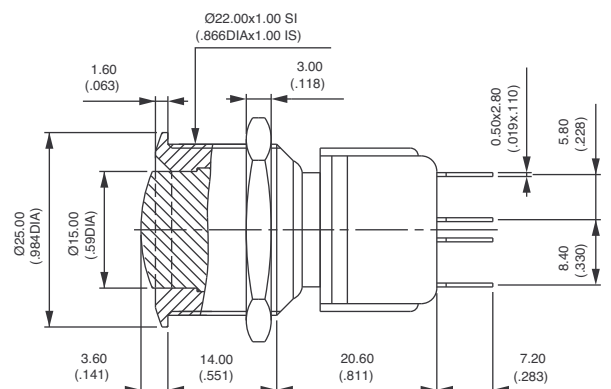


### Bushing Ø 22 (.866) - alternate action - AV..4700

Hex nut 25 (.984) across flats

- 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

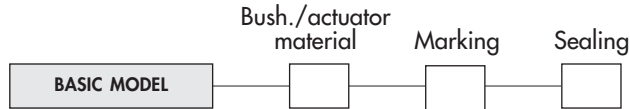
AV044746A200



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

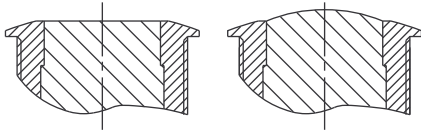


After selecting basic model number, fill in last 3 boxes with desired options.



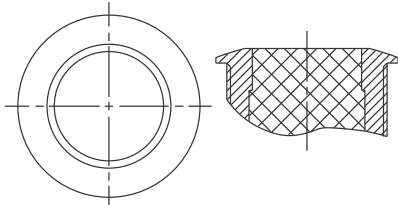
### BUSHING/ACTUATOR MATERIALS

#### Flat or curved metal actuator



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

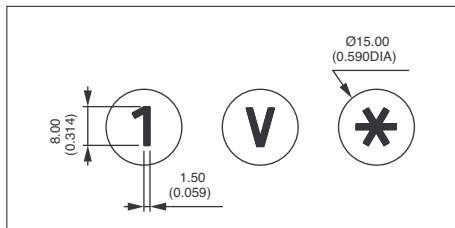
#### Flat thermoplastic actuator



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>1/4</b> : dark blue - <b>2</b> : black - <b>3</b> : green
<b>8•</b>	Varnished polished brass	<b>4</b> : grey - <b>5</b> : yellow - <b>6</b> : red - <b>7/1</b> : white
		<b>9</b> : orange

### MARKING

- By engraving on flat or curved brass actuator (stainless steel on request)
- by hot stamping on flat thermoplastic actuator



Select an option from each of the two tables below.

#### 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.

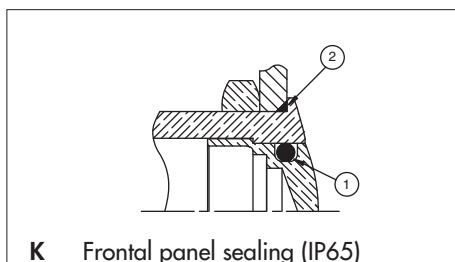
For special symbols, consult factory.  
Minimum order : 500 pieces

#### 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



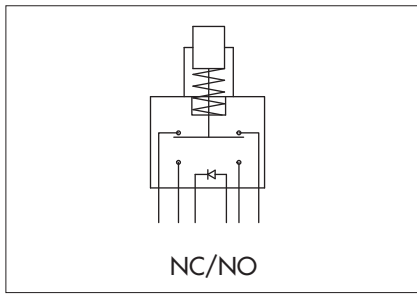
- ① internal gasket
- ② external gasket



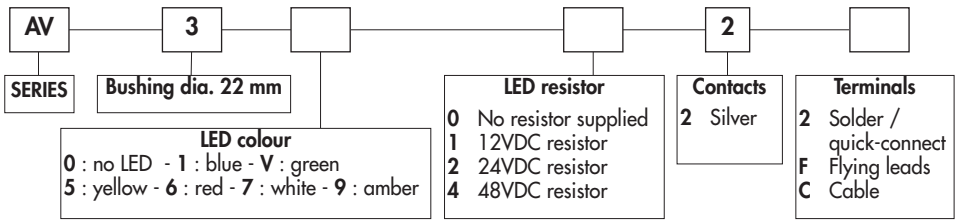
# AV series

## Security pushbutton switches Ø 22 mm (.866)

With illuminated ring - momentary (NC/NO)



### ORDER FORMAT



### SPECIFICATIONS

- Travel : 2 mm ± 0,3 mm (.003)
  - Max. current/voltage rating with resistive load : 1A 30VDC
  - LED voltage : 12VDC, 24VDC or 48VDC  
(If not supplied by APEM, a resistor must be series-connected by the user)\*\*
  - Initial contact resistance : 100 mΩ max.
  - Insulation resistance : 10 MΩ min. at 500VDC
  - Dielectric strength : 500 Vrms 50 Hz min. between terminals  
1.000 Vrms 50 Hz min. between terminals and frame
  - Electrical life : 250.000 cycles at full load
  - Operating force : 5N ± 2N
  - Torque : 5 Nm min.- 14 Nm max. applied to nut
  - Panel thickness : 1 (.039) to 6 mm (.236) max.
  - Low level or mechanical life : 1.000.000 cycles
  - Operating temperature : -30°C to +85°C
  - Hand soldering : 350°C, 5 seconds max.
  - Packaging unit : flying lead/cable models : 1 piece - other models : 40 pieces
- \*\* Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

### MATERIALS

- Case : polyamide, glass filled
- Contacts : silver
- Bushing : see next page
- Actuator : see next page
- Elastomeric membrane : silicone
- LED

### CUT-OUT

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

To order a product, select a basic model below and add the desired LED colour and voltage. Then select the desired options on next page.

### Flat actuator - solder lug terminals

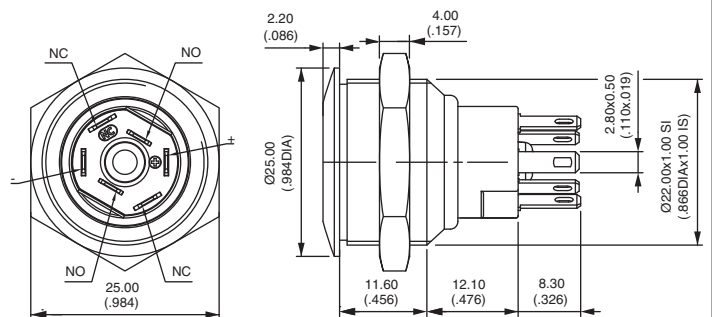
Hex nut 25 (.984) across flats



Illuminated (select LED colour above) \*  
**AV3•022** ON - MOM

Non-illuminated  
**AV30022** ON - MOM

\* No LED resistor supplied on this model.



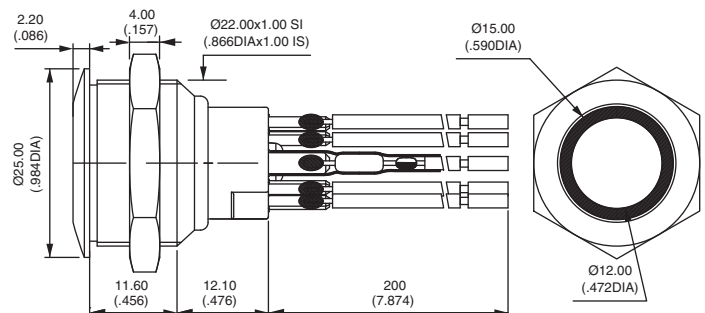
### Flat actuator - flying lead terminals

Hex nut 25 (.984) across flats



Illuminated (select LED colour & resistor above)  
**AV3••2F** ON - MOM

Non-illuminated  
**AV3002F** ON - MOM



Wire colours : black: NC, orange: NO, red: LED anode (+), blue : LED cathode (-)



# AV series

## Security pushbutton switches Ø 22 mm (.866)

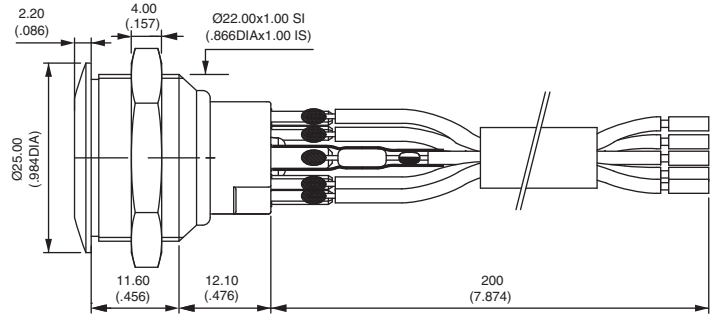
With illuminated ring - momentary changeover (NC/NO)

### Flat actuator - cable terminals

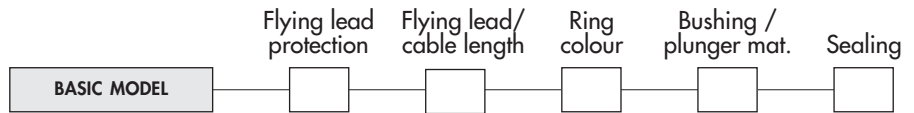
Hex nut 25 (.984) across flats



Illuminated (select colour & resistor)  
**AV3••2C** ON - MOM  
 Non-illuminated  
**AV3002C** ON - MOM



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



### FLYING LEAD PROTECTION

- 0 No protection and/or no flying leads
- 1 Heat-shrink sleeves
- 2 Tube + epoxy

### WIRE/CABLE LENGTH

- 000 No flying leads / no cable
- 020 Length 20 cm (7.874) - standard
- XXX Length in centimeters

### RING COLOURS

CODE	COLOUR	CODE	COLOUR
1	Blue	6	Red
2	Black *	7	Opal white (std)
3	Green	8	Translucent
4	Grey *	9	Orange
5	Yellow		

\* non-illuminated only

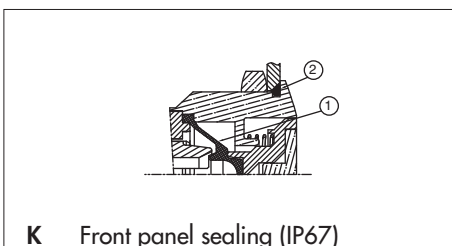
### BUSHING/PLUNGER MATERIALS

CODE	BUSHING	ACTUATOR
00	Brass, nickel plated	Brass, nickel plated
40	Stainless steel 303	Stainless steel 303
4A	Stainless steel 304	Stainless steel 304
4B	Stainless steel 316	Stainless steel 316
70	Chrome pl. brass, black	Chrome pl. brass, black

Other : on request.

### SEALING

**Blank** No sealing

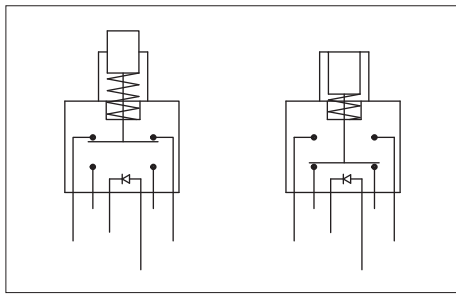


- ① internal membrane
- ② external gasket

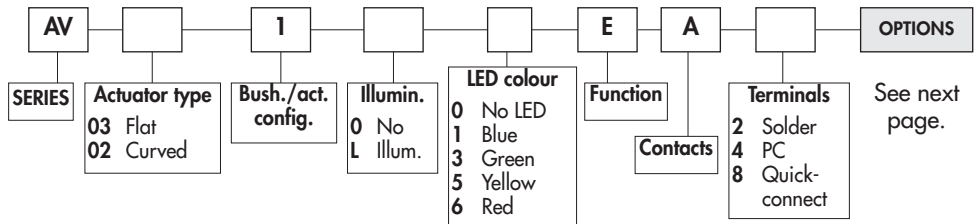
# AV series

## Security pushbutton switches Ø 22 mm (.866)

Illuminated and non-illuminated - latching



### ORDER FORMAT



### SPECIFICATIONS

- Max. current/voltage rating with resistive load : 2A 48 VDC
  - LED voltage and consumption : blue 3,5V 10mA, green : 2V 10mA yellow & red : 2V 20mA (a resistor must be series-connected by the user)\*\*
  - Initial contact resistance : 50 mΩ max.
  - Insulation resistance : 1.000 MΩ min. at 500VDC
  - Dielectric strength : 1 000 Vrms 50 Hz min. between terminals 500 Vrms 50 Hz min. between terminals and frame
  - Electrical life : 500.000 cycles at 2A 48VDC
  - Torque : 5 Nm min.- 14 Nm max. applied to nut
  - Panel thickness : 1 (.039) to 9 mm (.354) max.
  - Operating temperature : -30°C to +70°C
  - Low level or mechanical life : 1.000.000 cycles
  - Hand soldering : 300°C, 4 seconds max.
  - Packaging unit : 20 pieces
- \*\* Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

### MATERIALS

- Case : PA6T UL94-V0
- Contacts : silver
- Actuator and bushing : see next page
- LED

### CUT-OUT

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

To order a product, select a basic model below and add the desired options selected on next page.

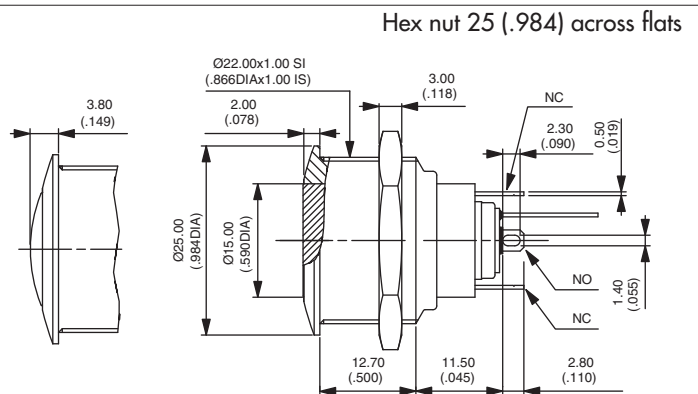
Standard actuator position : the actuator is flush in the non-latched position and recessed in the latched position.

### Non-illuminated - solder lug terminals



Flat actuator \*  
**AV03100EA2** ON - ON

Curved actuator  
**AV02100EA2** ON - ON

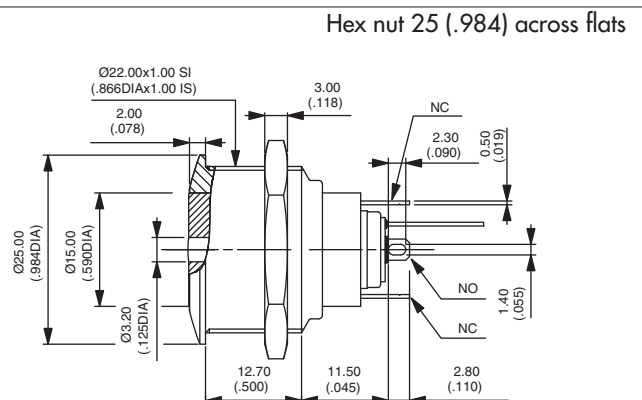


\* Also available with prominent actuator in the non-latched position

### Illuminated - solder lug terminals

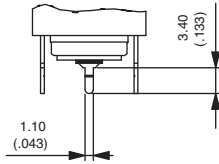


Flat actuator  
**AV031L•EA2** ON - ON



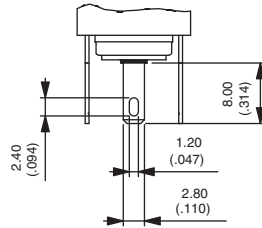
Replace • with desired LED colour.

### Straight PC terminals



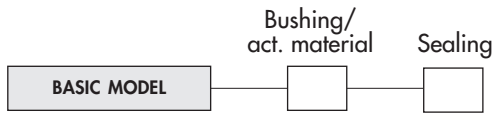
Replace 2 with 4 at the end of the model numbers shown on previous page.

### Quick-connect terminals



Replace 2 with 8 at the end of the model numbers shown on previous page.

After selecting basic model number, fill in last 2 boxes with desired options.

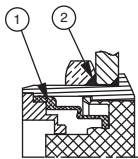


### BUSHING/ACTUATOR MATERIALS

CODE	BUSHING	ACTUATOR
00 (std)	Nickel plated brass	Nickel plated brass
10	Nickel plated brass	Stainless steel
40	Stainless steel	Stainless steel
50	Stainless steel	Nickel plated brass

### SEALING

Blank No sealing



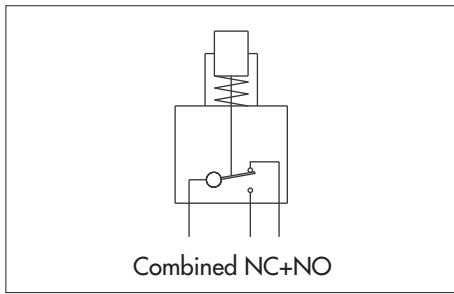
**K** Frontal panel sealing (IP65)

- ① elastomeric membrane
- ② external gasket

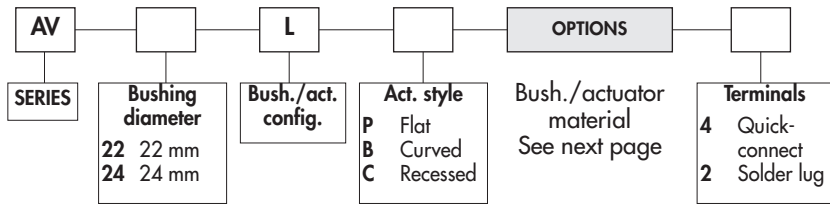
# AV series

Security pushbutton switches Ø 22 mm (.866) or 24 mm (.944) with large actuator

Momentary (combined NC+NO)



## ORDER FORMAT



## 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  
100.000 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
- Low level or mechanical life : 3.000.000 cycles
- Front panel sealing : IP65
- Hand soldering : 300°C, 5 sec. max.
- Packaging unit : 20 pieces (except black chrome plated : 16 pieces)

## MATERIALS

- Case : polyester, glass filled
- Contacts : silver/nickel alloy
- Bushing and actuator : see next page.

## CUT-OUT

- Panel cut-out : Ø 22,2 mm (.874) or Ø 24,2 mm (.952)
- Min. pitch for matrix mounting : 30 mm x 30 mm (1.181x1.181) or 33 mm x 33 mm (1.299x1.299)

To order a product, select a basic model below or on next page and add the desired bushing/actuator materials.

## BASIC MODEL

### Flat actuator - AV22LP



Quick-connect terminals  
**AV22LP••4**

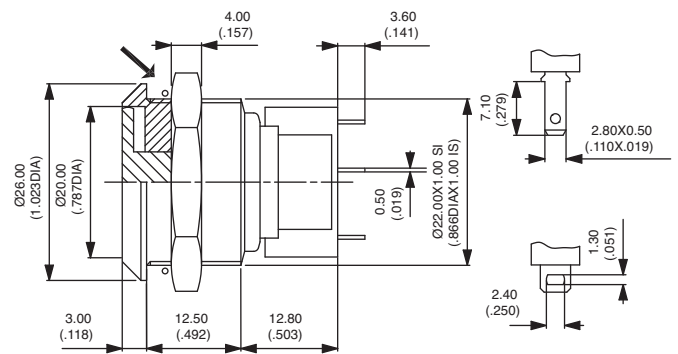


Solder lug terminals  
**AV22LP••2**

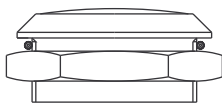


→ O-ring

Hex nut 25 (.984) across flats

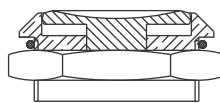


### Curved actuator - AV22LB



Quick-connect terminals  
**AV22LB••4**  
Solder lug terminals  
**AV22LB••2**

### Recessed actuator - AV22LC



Quick-connect terminals  
**AV22LC••4**  
Solder lug terminals  
**AV22LC••2**



# AV series

Security pushbutton switches Ø 22 mm (.866) or 24 mm (.944) with large actuator

Momentary (combined NC+NO)

## BASIC MODEL

### Flat actuator - low profile - AV24LP



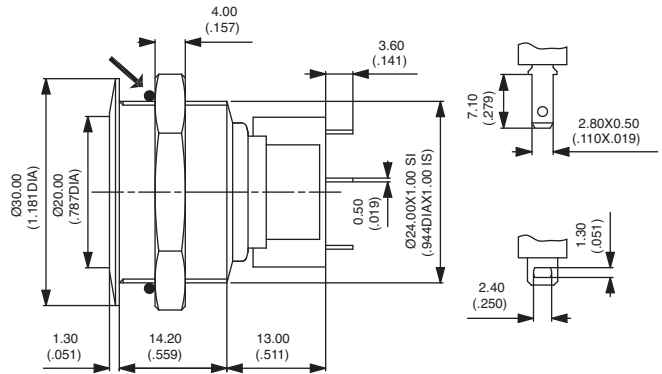
Quick-connect terminals  
AV24LP••4

Solder lug terminals  
AV24LP••2

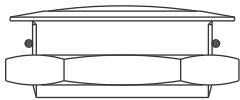


→ O-ring

Hex nut 27 (1.062) across flats

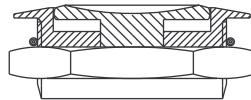


### Curved actuator - AV24LB



Quick-connect terminals  
AV24LB••4  
Solder lug terminals  
AV24LB••2

### Recessed actuator - AV24LC



Quick-connect terminals  
AV24LC••4  
Solder lug terminals  
AV24LC••2

## BUSHING/ACTUATOR MATERIALS

### Models with non-anodized actuator

CODE	BUSHING	ACTUATOR
40 (standard)	Stainless steel	Stainless steel
20	Chrome plated brass	Chrome plated brass

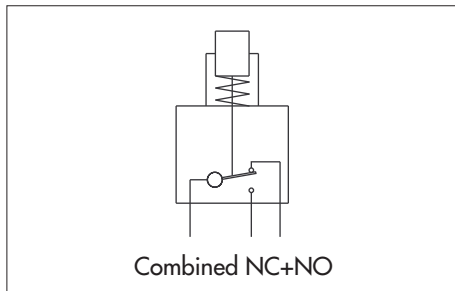
### Models with anodized actuator

CODE	BUSHING	ACTUATOR COLOUR
1•	Black chrome plated brass	Replace • with one of the following codes :
2•	Chrome plated brass	1 : blue - 2 : black - 3 : pale green - 3F : dark green - 4 : natural - 5 : gold yellow
4•	Stainless steel	6 : red - 6B : maroon

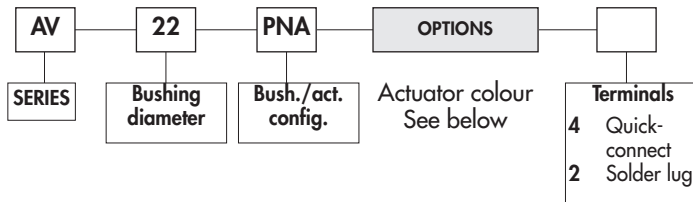
# AV series

## Mushroom head security pushbutton switches Ø 22 mm (.866)

Momentary (combined NC+NO)



### ORDER FORMAT



### 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
- Low level or mechanical life : 1.000.000 cycles
- Front panel sealing : IP65
- Hand soldering : 300°C, 5 sec. max.
- 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 mm (.874)
- Min. pitch for matrix mounting : 30 mm x 30 mm (1.181x1.181)

To order a product, select a basic model below and add the desired actuator colour.

### BASIC MODEL

#### Mushroom head actuator - AV22PNA

→ O-ring

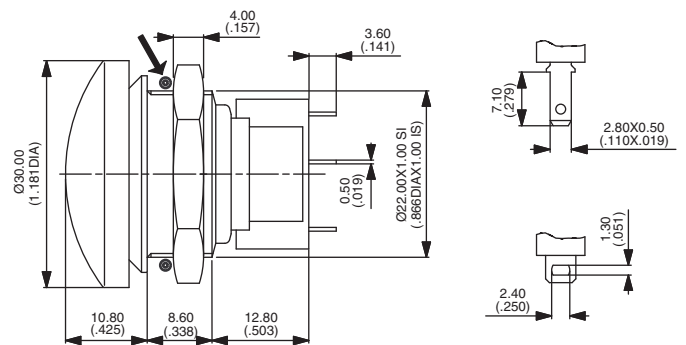
Hex nut 25 (.984) across flats



Quick-connect terminals  
**AV22PNA•4**



Solder lug terminals  
**AV22PNA•2**



### ACTUATOR ANODIZATION COLOURS

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