AV series

Security pushbutton switches •
Ø 19 or 22 mm • illuminated momentary NC/NO



DISTINCTIVE FEATURES

With illuminated ring
Momentary NC/NO
Solder lug, flying lead or cable terminals
Marking available on request



ENVIRONMENTAL SPECIFICATIONS

- Optional front panel sealing : IP67 according to IEC 60529
- Operating temperature : -30 °C to +85 °C (-22 °F to +185 °F)

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 1 A 30 VDC
- LED voltage : 12 VDC, 24 VDC or 48 VDC
  If not supplied by APEM, a resistor must be series-connected by the user : see LED component specifications below.
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 10 MΩ min. at 500 VDC
- 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

LED COMPONENT SPECIFICATIONS			
LED color	Forward current	Typ. forward voltage	Max. forward voltage
Blue	20 mA	3.3 V	3.8 V
Green	20 mA	4 V	4.5 V
Yellow	20 mA	2 V	2.5 V
Red	20 mA	1.95 V	2.5 V
White	20 mA	3.3 V	4 V
Amber	20 mA	2.3 V	2.8 V
Red / green	20 mA	2.2 V / 3.2 V	2.8 V / 4 V

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

The company reserves the right to change specifications without notice.

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GENERAL SPECIFICATIONS

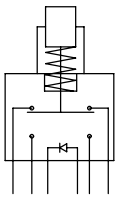
- Travel : 2 mm ± 0.3 mm (.003)
- Operating force : 5 N ± 2 N
- Torque : 1.5 Nm min. - 4 Nm max. applied to nut
- Panel thickness : 1 (.039) to 6 mm (.236) max.
- Low level or mechanical life : 1,000,000 cycles
- Hand soldering : 350 °C (662 °F), 5 seconds max.

MATERIALS

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

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

ELECTRICAL FUNCTIONS



NC/NO

MOUNTING

- 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)

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BUILD YOUR PART NUMBER

BASIC PART NUMBER

AV _ _ _ _ _ _

SERIES

BUSHING

9	Ø 19 (.748)
3	Ø 22 (.866)

LED COLORS

0	No LED
1	Blue
V	Green
5	Yellow
6	Red
7	White
9	Amber
2	Red / green

LED RESISTORS

0	No resistor supplied
1	12 VDC resistor
2	24 VDC resistor
4	48 VDC resistor

CONTACTS

2	Silver

TERMINALS

2	Solder/ quick-connect
F	Flying leads
C	Cable

OPTIONS

_ _ _ _ _ _

FLYING LEAD PROTECTION

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

RING COLORS

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

*non-illuminated only

SEALING

Blank	No sealing
K	Sealed to IP67

FLYING LEAD/CABLE LENGTH

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

BUSHING/ACTUATOR MATERIALS

00	Nickel plated brass / Nickel plated brass
40	Stainless steel / Stainless steel
4B	Stainless steel 316 / Stainless steel 316
70	Black chrome pl. brass, / Black chrome pl. brass

Other : on request.

ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

Notice: please note that not all combinations of above numbers are available. Refer to the following pages for further information.

Mounting accessories: standard hardware supplied : 1 hex nut. Standard and special hardware is presented in the "Hardware" section of website.

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BUSHING Ø 19 (.748) - FLAT ACTUATOR - SOLDER LUG TERMINALS



Illuminated*
AV9•022

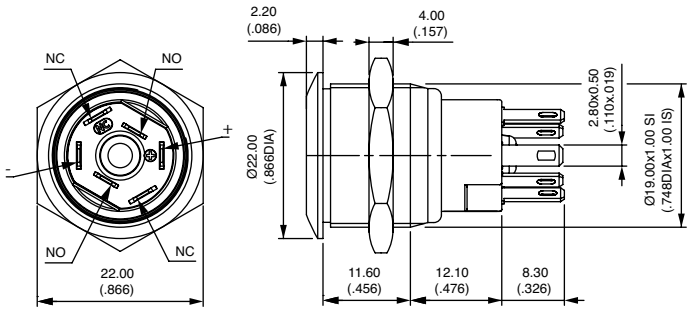


Non-illuminated
AV90022



* select LED color on previous page - No LED resistor supplied on this model.

Hex nut 22 (.866) across flats



BUSHING Ø 19 (.748) - FLAT ACTUATOR - FLYING LEAD TERMINALS



Illuminated*
AV9••2F

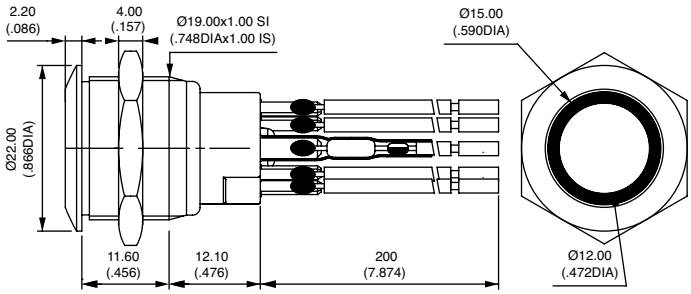


Non-illuminated
AV9002F



* select LED color & resistor on previous page.

Hex nut 22 (.866) across flats



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

BUSHING Ø 19 (.748) - FLAT ACTUATOR - CABLE TERMINALS



Illuminated *
AV9••2C

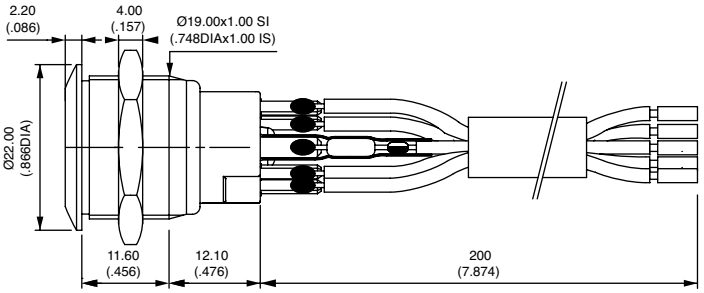


Non-illuminated
AV9002C



* select LED color & resistor on previous page.

Hex nut 22 (.866) across flats



BUSHING Ø 22 (.866) - FLAT ACTUATOR - SOLDER LUG TERMINALS



Illuminated*
AV3•022

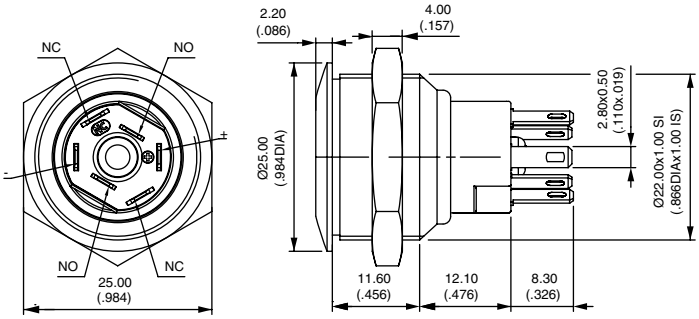


Non-illuminated
AV30022



* select LED color on previous page - No LED resistor supplied on this model.

Hex nut 25 (.984) across flats



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BUSHING Ø 22 (.866) - FLAT ACTUATOR - FLYING LEAD TERMINALS



Illuminated*
AV3••2F

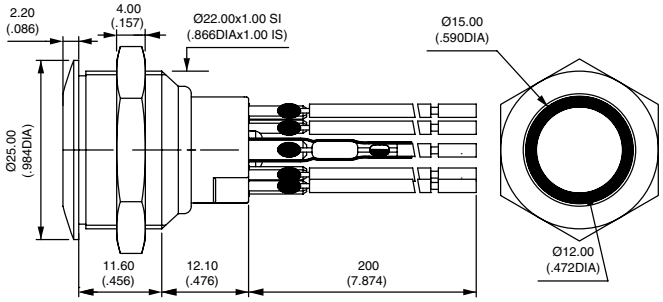


Non-illuminated
AV3002F



* select LED color & resistor on previous page.

Hex nut 25 (.984) across flats



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

BUSHING Ø 22 (.866) - FLAT ACTUATOR - CABLE TERMINALS



Illuminated*
AV3••2C

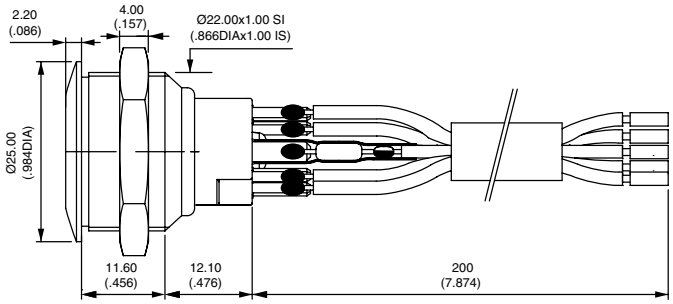


Non-illuminated
AV3002C



* select LED color & resistor on previous page.

Hex nut 25 (.984) across flats



FLYING LEAD PROTECTION

BASIC P/N

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

FLYING LEAD/ CABLE LENGTH

BASIC P/N

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

RING COLORS

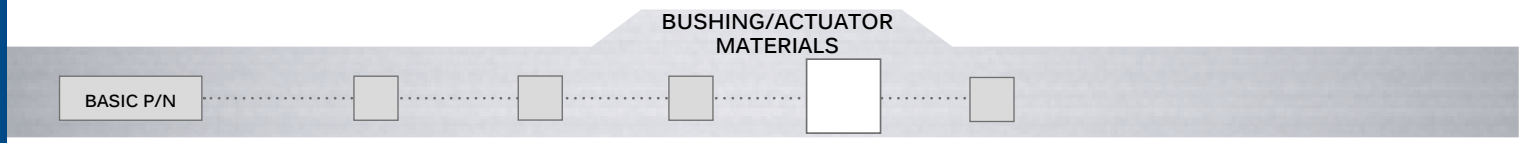
BASIC P/N

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

* non-illuminated only

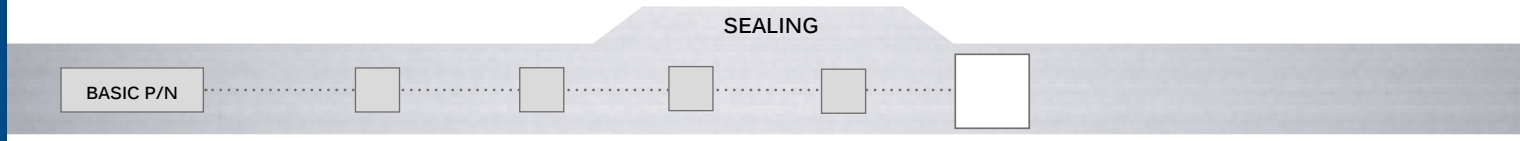
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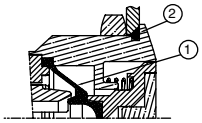
CODE	BUSHING	ACTUATOR
00 (std)	Nickel plated brass	Nickel plated brass
40	Stainless steel 303	Stainless steel 303
4B	Stainless steel 316	Stainless steel 316
70	Chrome plated brass, black	Chrome plated brass, black

Other : on request.



Blank No sealing
K Front panel sealing to IP67

OPTION K



① - internal membrane

② - external gasket