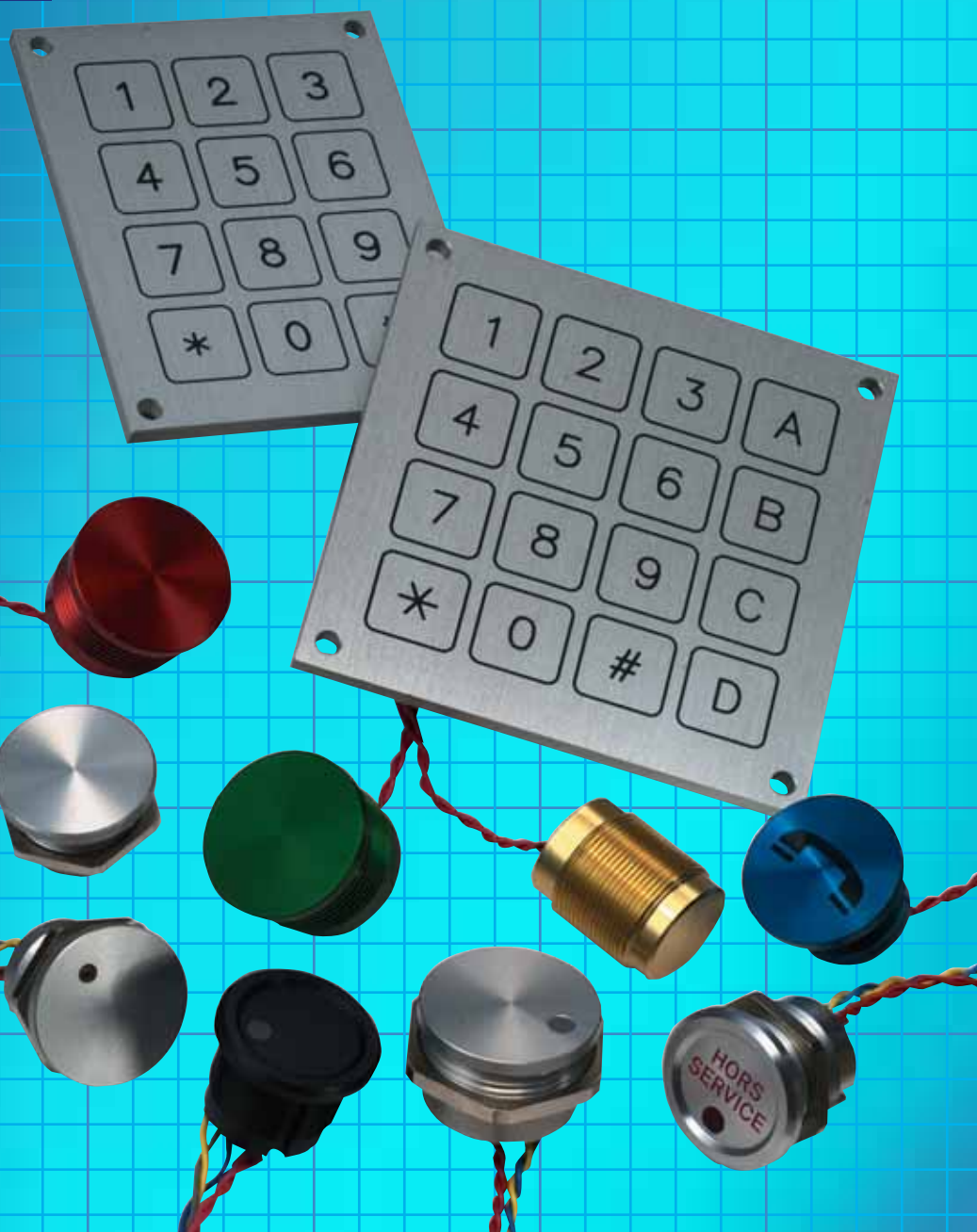


Piezo Keypads and Pushbuttons

Piezo Technology

Piezo Keypads and Pushbuttons function based on the Piezo effect.
The external push force activates a Piezo element that releases voltage utilized for switching (MosFet)



Benefits of Grayhill Piezo Keypads and Pushbuttons

- Vandal Resistant
- Virtually Indestructible
- Easy to Keep Clean
- Suitable for Harsh Environments
- Pressure Activated (No moving Parts)
- Water and Dust Proof
- Indoor and Outdoor Use
- Manufactured in any shape

Applications

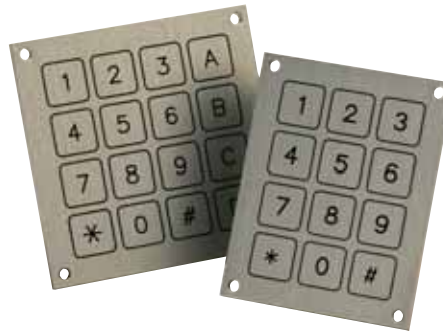
- Lifts
- Food Industry
- Mining Equipment
- Public Internet and Information Kiosks
- Chemical and PetroChemical Industry
- Safety and Security
- Medical Equipment
- Vending machines
- Beverage Dispensers

SERIES 37F

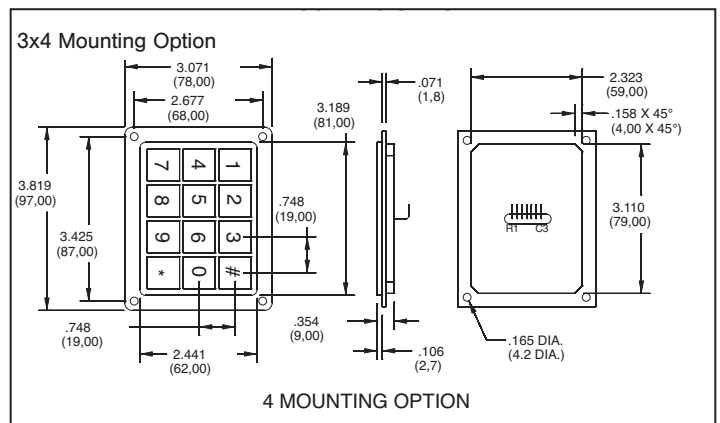
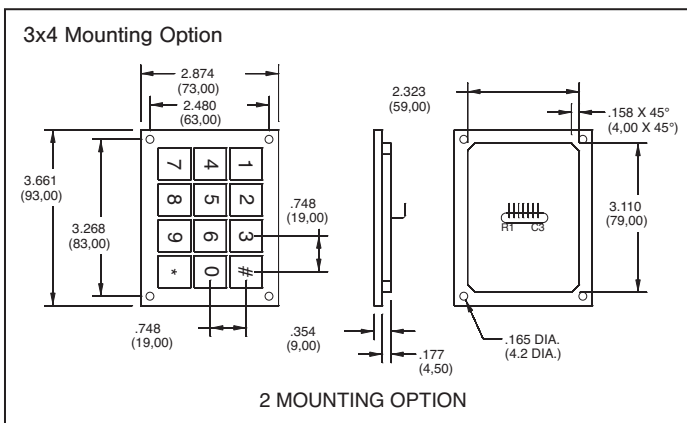
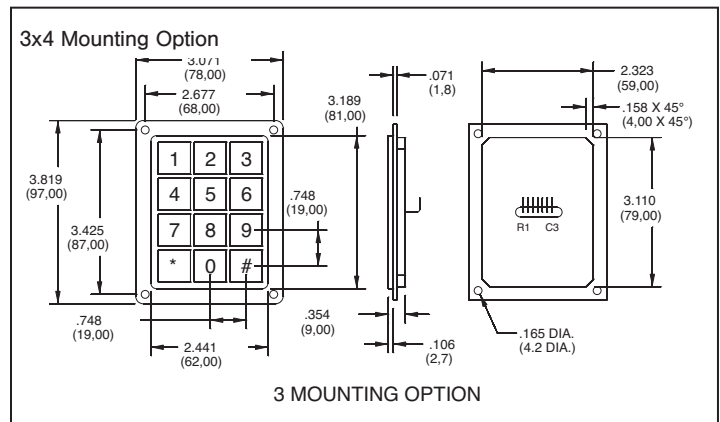
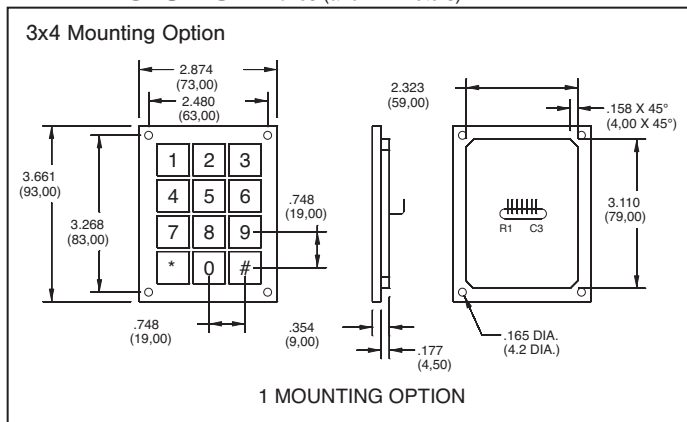
PIEZO Switches

FEATURES

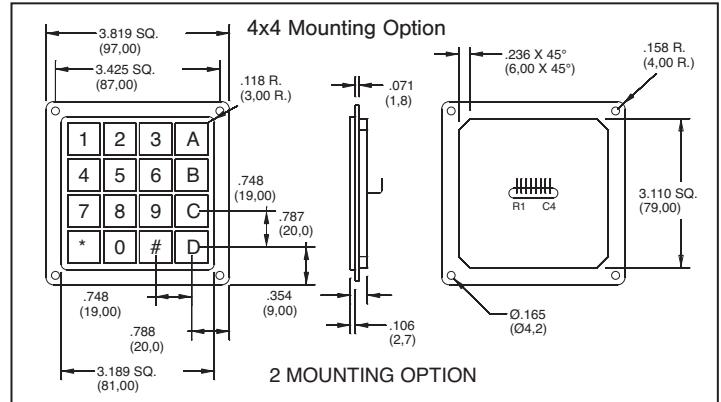
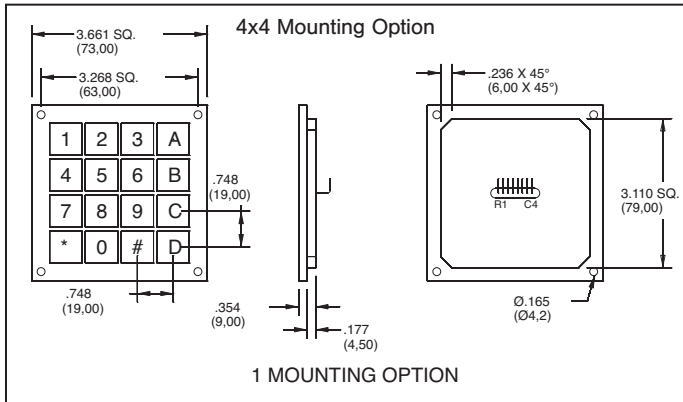
- Fully Sealed
- Virtually Indestructible
- Vandal Resistant
- Indoor and Outdoor Use



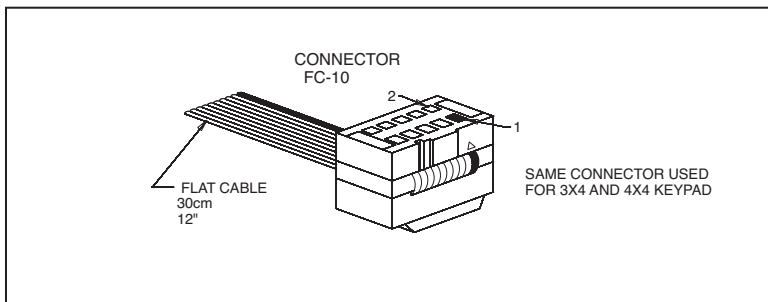
DIMENSIONS In inches (and millimeters)



DIMENSIONS In inches (and millimeters)



CONNECTORS In inches (and millimeters)



SPECIFICATIONS

Activation Force: 3-5N TYP.

Switch Action

Momentary: 120 Msec. Pulse Typ.

Continuous: circuit is closed as long as switch is pressed, 30 sec. max.

Toggle: switch changes position at each activation.

Resistance "on": <10 ohms.

Resistance "off": >5 ohms.

RFI radiation/susceptibility: none.

Life cycles: >50 million.

Operating temp.: -20°C to +75°C (-40°C to +125°C if requested)

Protection system: IP68 according to IEC 529.

Rated voltage: 24 V AC or V DC

Rated current: 200 mA max. (1 a if requested).

Switch capacitance: 25pf.

LED: 5 V DC, imax 10 mA

TRUTH TABLES

TRUTH TABLE
FOR 4X4

Connector Pin Number								
	1	2	3	4	5	6	7	8
	R1	R2	R3	R4	C1	C2	C3	C4
1	●				●			
2	●					●		
3	●						●	
A	●							●
4		●			●			
5		●				●		
6		●					●	
B		●						●
7			●		●			
8			●			●		
9			●				●	
C			●					●
*				●	●			
0				●		●		
#				●			●	
D				●				●

TRUTH TABLE
FOR 3X4

Connector Pin Number						
	1	2	3	4	5	6
	R1	R2	R3	R4	C1	C2
1	●				●	
2	●					●
3	●					
4		●			●	
5		●				●
6		●				
7			●		●	
8			●			●
9			●			
*				●	●	
0				●		●
#				●		●

ORDERING INFORMATION

SERIES	HOUSING TYPE	KEYPAD SIZE	CIRCUITRY OPTION	ELECTRICAL SPEC	HOUSING MATERIAL
37F	1	A	B2	AC	1
37F=PIEZO KEYPAD SWITCHES	OPTIONS: 1,2,3,4	OPTIONS: A=3x4 B=4x4 J=5x4	OPTIONS: B2=Matrix C2=Common Bus	AC=Cable and Connector AP=Terminal Pins	1=Aluminum 2=Stainless Steel

Example Part Number: 37F1AB2AC1

Available from your local Grayhill Component Distributor.

For prices and discounts, contact a local Sales Office, an authorized local distributor or Grayhill.

Special configurations and legends available. Contact Grayhill for more information.

SERIES 37F

PIEZO Pushbutton Switches

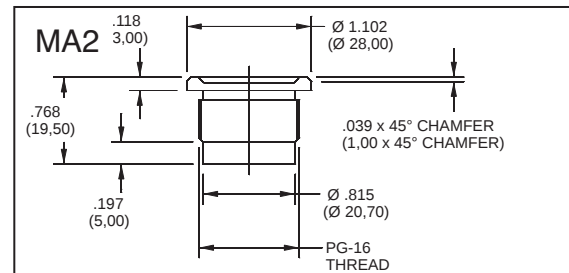
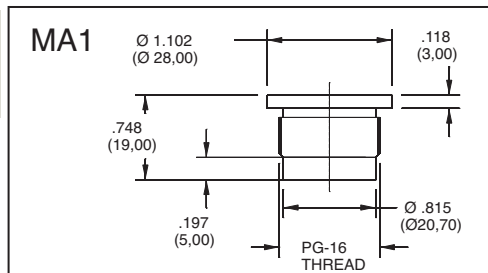
FEATURES

- Fully Sealed
- Virtually Indestructible
- Vandal Resistant
- Indoor and Outdoor Use

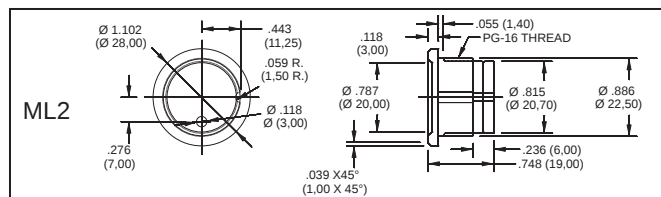
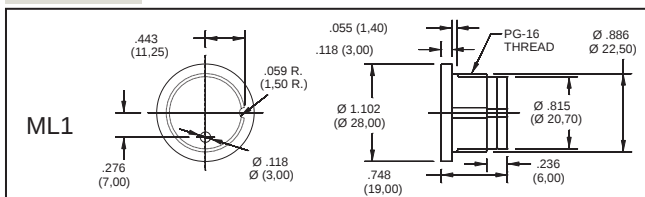


DIMENSIONS In inches (and millimeters)

Non-Illuminated Single Button

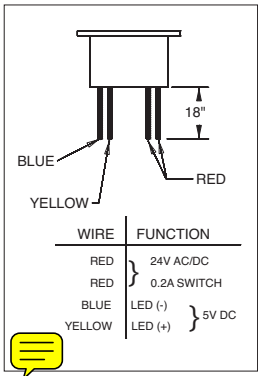


Illuminated Single Button



ORDERING INFORMATION, 37FMA and 37FML

SERIES	HOUSING TYPE	CIRCUITRY	ELECTRICAL SPEC	HOUSING MATERIAL	HOUSING COLORS
37F	MA1	A	AP	1	N
37F= PIEZO SINGLE BUTTON SWITCHES	OPTIONS: MA1 MA2 ML1 ML2	OPTIONS: A=N.O. B=N.C.	AW- V MAX: 24V I MAX: 1.2 A AC/DC TERM: RED WIRE BW- V MAX: 24V I MAX: 1.2 A AC/DC 150 TRANSIENT TERM: PURPLE WIRE CW- V MAX: 24V I MAX: 1 A AC/DC 150 TRANSIENT TERM: ORANGE/WHITE WIRE EW- V MAX: 24V I MAX: 1.2 A AC/DC TERM: GREEN WIRE AP- V MAX: 24V I MAX: 1.2 A AC/DC TERM: PIN CP- V MAX: 24V I MAX: 1.2 A AC/DC TERM: PIN	1=Aluminum 2=Stainless Steel	OPTIONS: N=Natural B=Black R=Red G=Green Q=Gold L=Blue

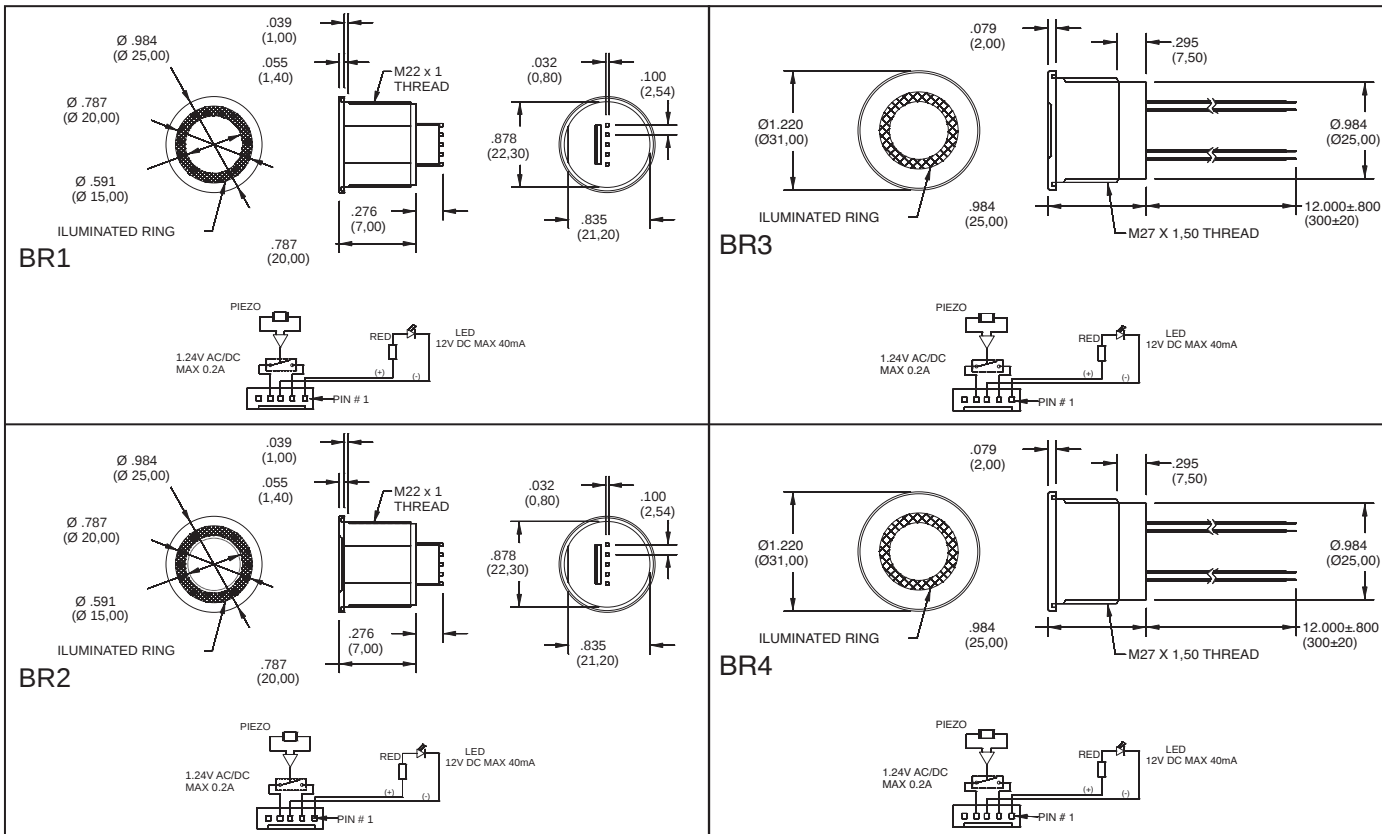


WIRE	FUNCTION
RED	24V AC/DC 0.2A SWITCH
RED	
BLUE	LED (-) LED (+)
YELLOW	

Special configurations and legends available. Contact Grayhill for more information.

Example Part Number: 37FMA1AAP1N

DIMENSIONS In inches (and millimeters)



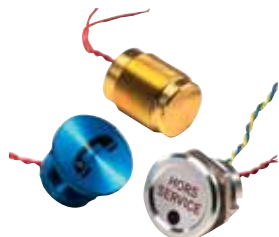
ORDERING INFORMATION, 37FBR

SERIES TYPE	HOUSING	CIRCUITRY SPEC	ELECTRICAL	LED MATERIAL	HOUSING COVERS	HOUSING
37F	BR1	A	AP	1	1	N
37F= PIEZO SINGLE BUTTON SWITCHES	OPTIONS: BR1 BR2 BR3 BR4	OPTIONS: A=N.O. B=N.C.	AW- V MAX: 24V I MAX: 1.2 A AC/DC TERM: RED WIRE AP- V MAX: 24V I MAX: 1.2 A AC/DC TERM: PIN	1=RED 2=GREEN 3=YELLOW 4=RED/GREEN	1=Aluminum 2=Stainless Steel	OPTIONS: N=Natural B=Black R=Red G=Green Q=Gold L=Blue

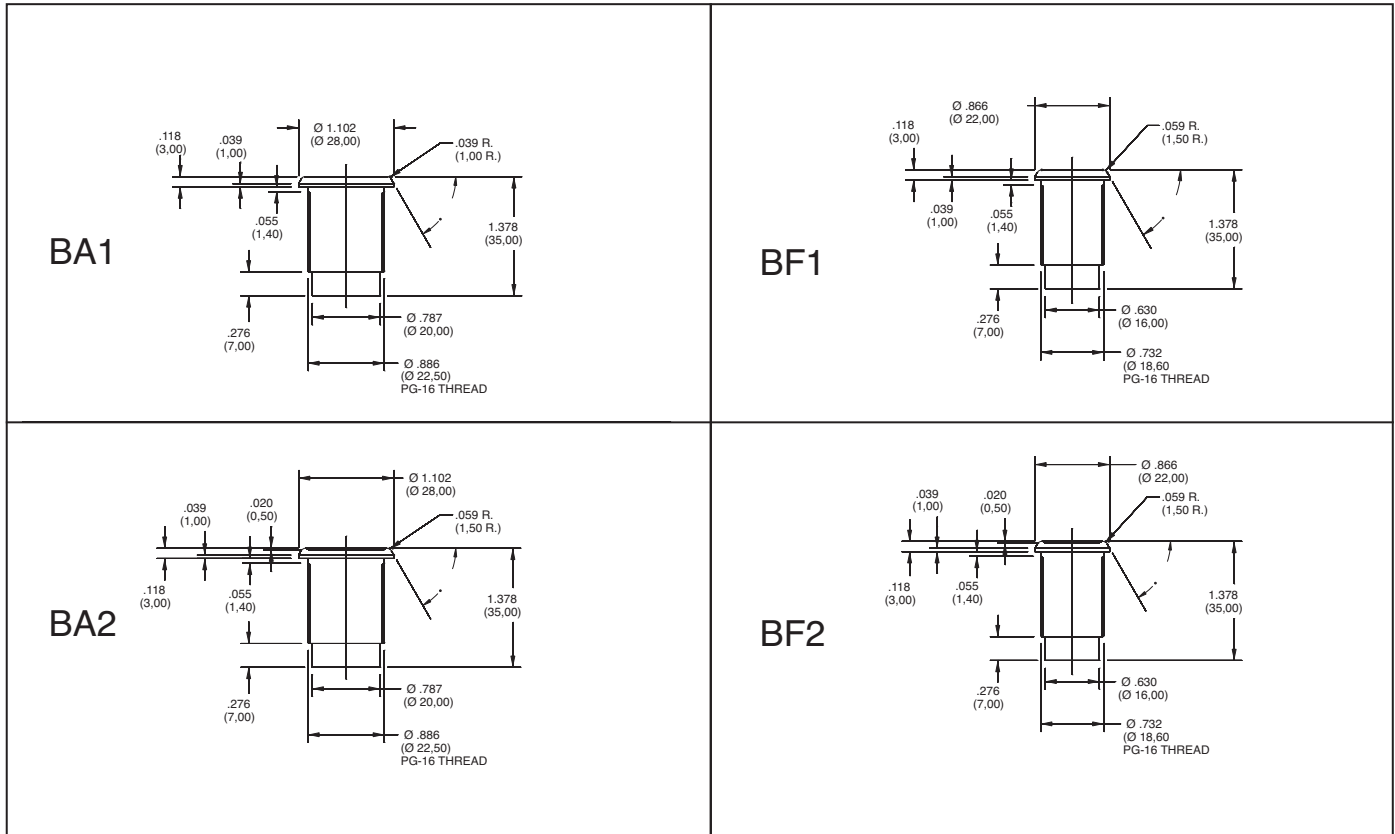
Example Part Number: 37BR1AAP11N

Available from your local Grayhill Component Distributor.

For prices and discounts, contact a local Sales Office, an authorized local distributor or Grayhill.



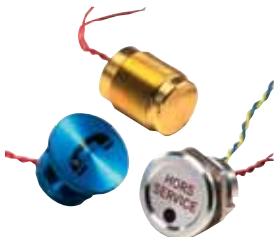
Special configurations and legends available.
Contact Grayhill for more information.

DIMENSIONS In inches (and millimeters)**ORDERING INFORMATION, 37FBA and 37FBF**

SERIES TYPE	HOUSING	SWITCH TYPE	CIRCUITRY	ELECTRICAL SPEC	HOUSING MATERIAL	HOUSING COLORS
37F	BA1	C	A	1	1	N
37F=PIEZO SINGLE BUTTON SWITCHES	OPTIONS: BA1 BA2 BF1 BF2	OPTIONS C=CONTINUOUS T=TOGGLE	OPTIONS: A=N.O. B=N.C.	AW- 10- 24V .015A AC/DC WIRE: 1 BLACK 1 BROWN 2 BLUE EW- 3V AND UP DC WIRE: 1 BLACK 1 BROWN 2 BLUE	1=Aluminum 2=Stainless Steel	OPTIONS: N=Natural B=Black R=Red G=Green Q=Gold L=Blue
*Normally Closed (N.C.) in Continuous Only						
Example Part Number: 37FBA1CAAW1N						

Available from your local Grayhill Component Distributor.

For prices and discounts, contact a local Sales Office, an authorized local distributor or Grayhill.



Special configurations and legends available.
Contact Grayhill for more information.

Contact Grayhill or your local Grayhill
sales representative for more information.



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