

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

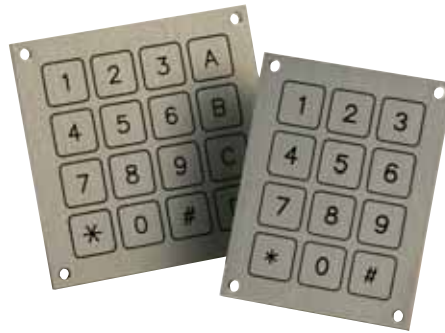
- Lifts
- Food Industry
- Mining Equipment
- Public Internet and Information Kiosks
- Chemical and PetroChemical Industry
- Safety and Security
- Medical Equipment
- Vending machines
- Beverage Dispensers



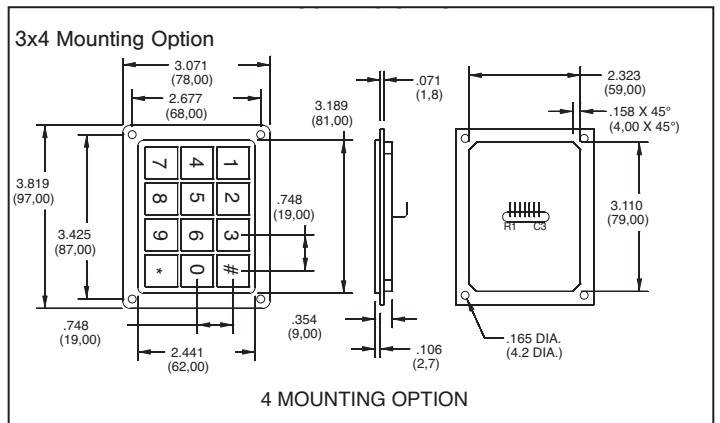
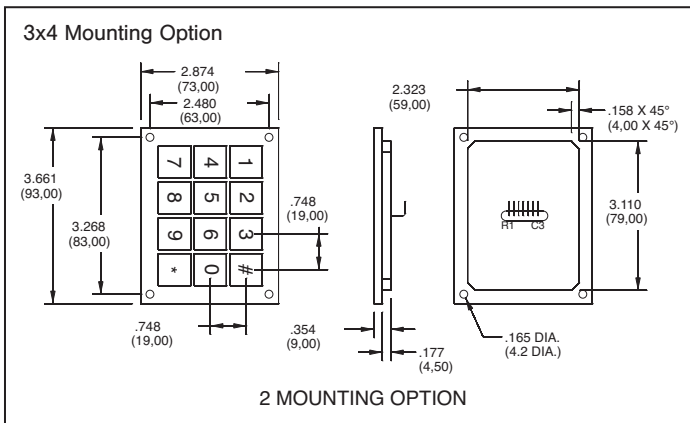
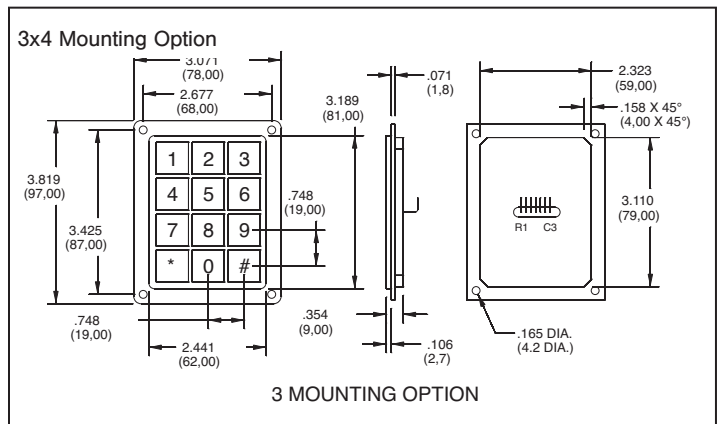
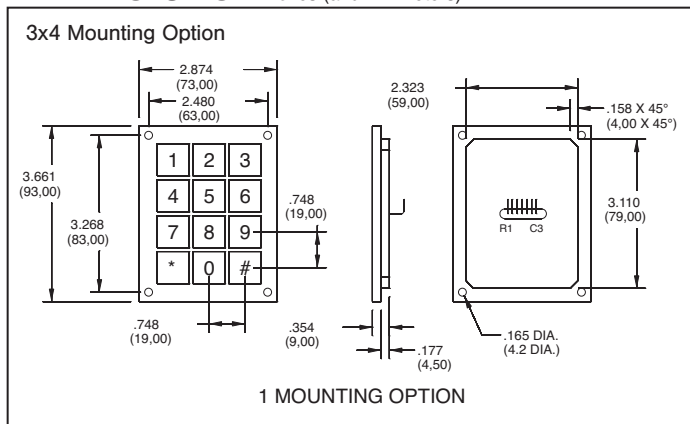
SERIES 37F
PIEZO Switches

FEATURES

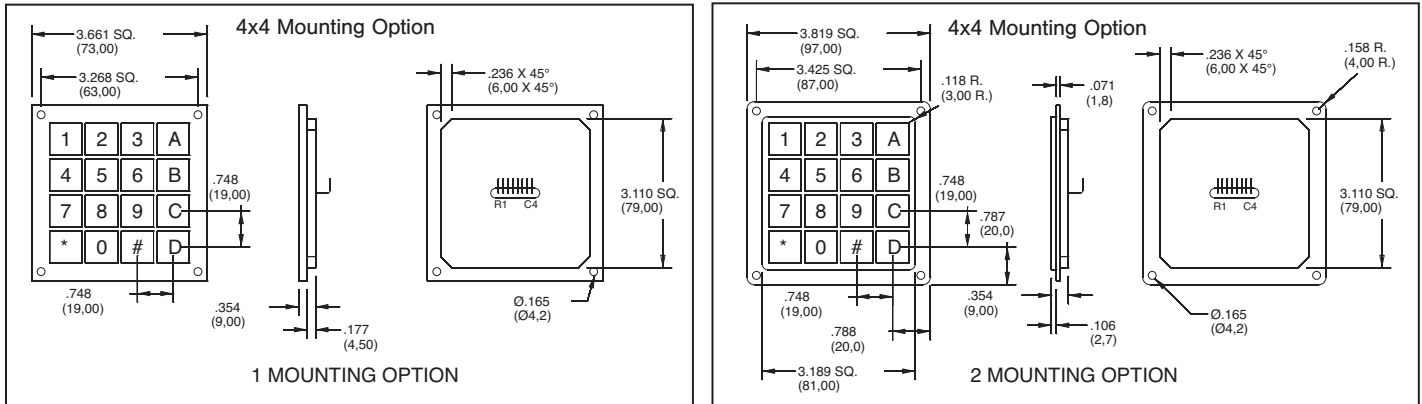
- Fully Sealed
- Virtually Indestructible
- Vandal Resistant
- Indoor and Outdoor Use



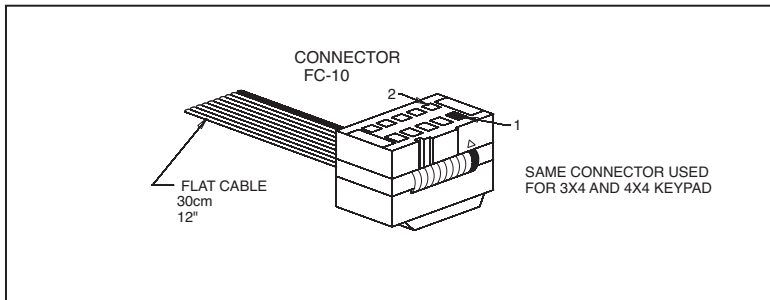
DIMENSIONS In inches (and millimeters)



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									TRUTH TABLE FOR 3X4							
Connector Pin Number									Connector Pin Number							
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7
	R1	R2	R3	R4	C1	C2	C3	C4		R1	R2	R3	R4	C1	C2	C3
1	●				●				1	●				●		
2	●					●			2	●					●	
3	●						●		3	●						●
A	●							●	4		●			●		
4		●			●				5		●				●	
5		●				●			6		●					●
6		●					●		7			●		●		
B		●						●	8			●			●	
7			●		●				9			●				●
8			●			●			*			●	●			
9			●				●		0			●		●		
C			●					●	#			●				●
*				●	●				D			●				●
0				●		●										
#				●			●									
D				●				●								

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					

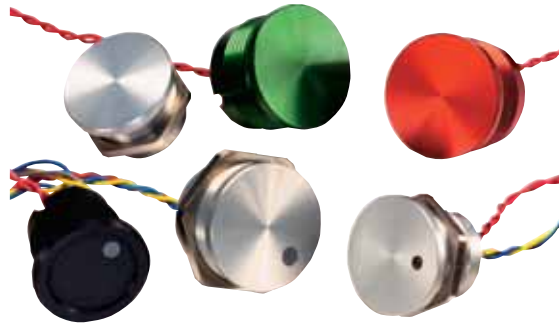
Available from your local Grayhill Component Distributor.
 For prices and discounts, contact a local Sales Office, an authorized local distributor or Grayhill.

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

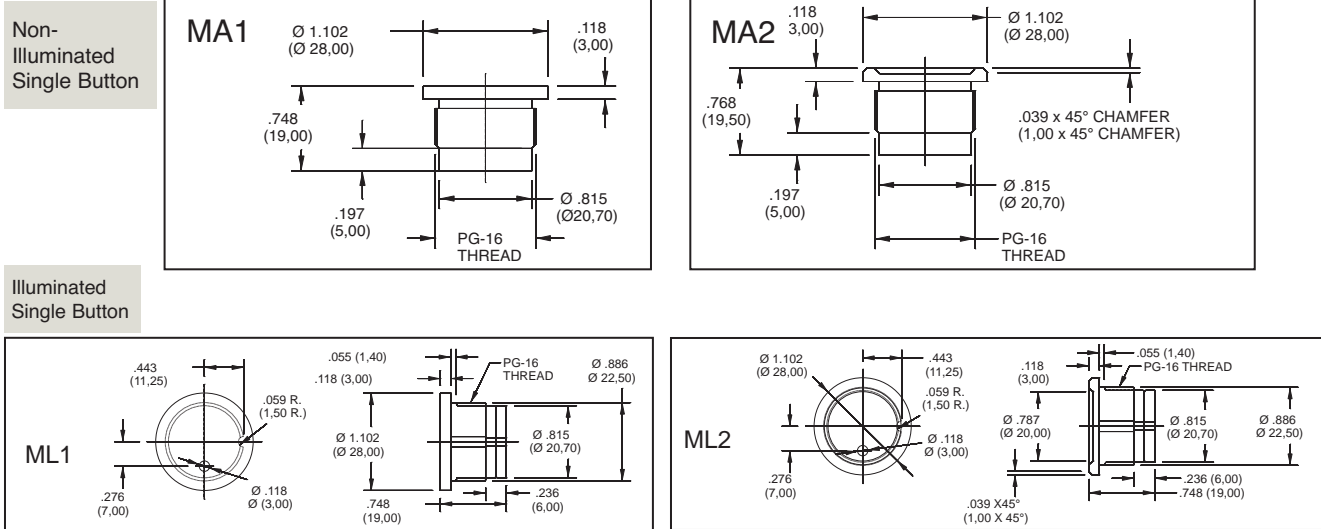
SERIES 37F
PIEZO Pushbutton Switches

FEATURES

- Fully Sealed
- Virtually Indestructible
- Vandal Resistant
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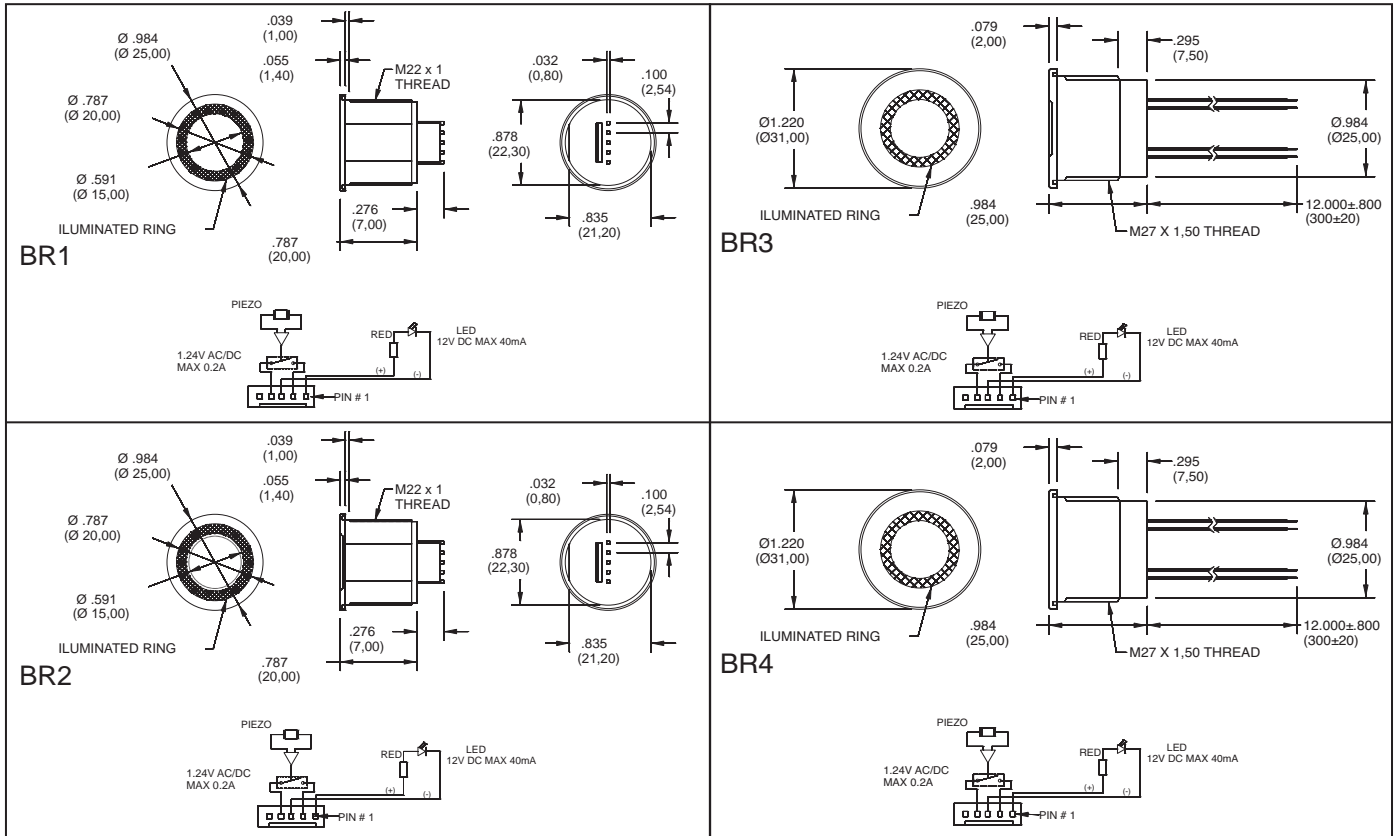
DIMENSIONS In inches (and millimeters)



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											
<table border="1"> <thead> <tr> <th>WIRE</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td rowspan="2">24V AC/DC</td> </tr> <tr> <td>RED</td> </tr> <tr> <td>BLUE</td> <td>0.2A SWITCH</td> </tr> <tr> <td>BLUE</td> <td>LED (-)</td> </tr> <tr> <td>YELLOW</td> <td>LED (+)</td> </tr> </tbody> </table>						WIRE	FUNCTION	RED	24V AC/DC	RED	BLUE	0.2A SWITCH	BLUE	LED (-)	YELLOW	LED (+)
WIRE	FUNCTION															
RED	24V AC/DC															
RED																
BLUE	0.2A SWITCH															
BLUE	LED (-)															
YELLOW	LED (+)															
<p>Example Part Number: 37FMA1AAP1N</p> <p>Special configurations and legends available. Contact Grayhill for more information.</p>																

DIMENSIONS In inches (and millimeters)



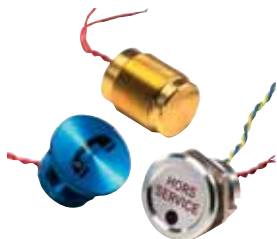
ORDERING INFORMATION, 37FBR

SERIES TYPE	HOUSING	CIRCUITRY SPEC	ELECTRICAL	LED MATERIAL	HOUSING COATINGS	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

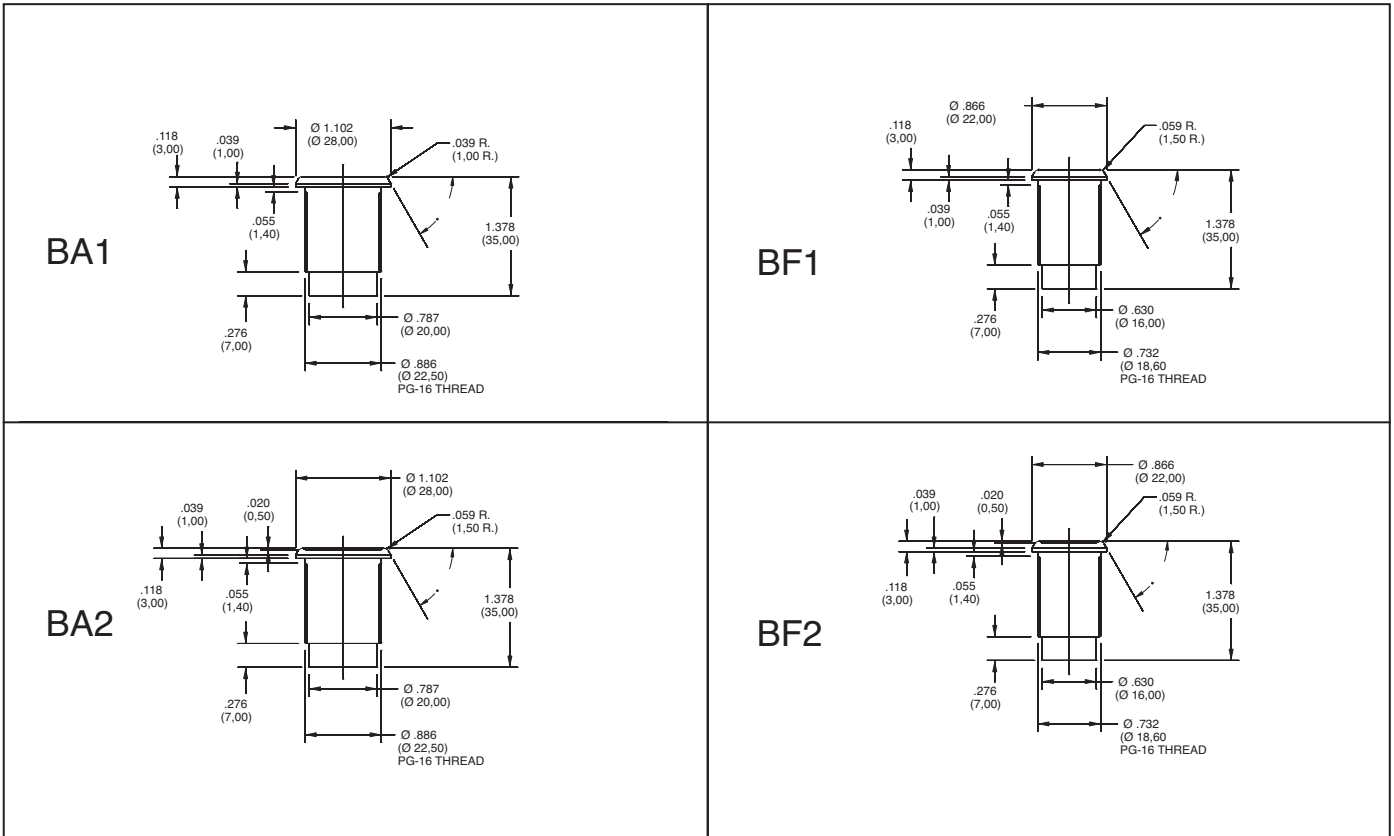
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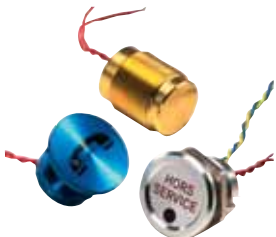
DIMENSIONS In inches (and millimeters)



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.
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