



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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

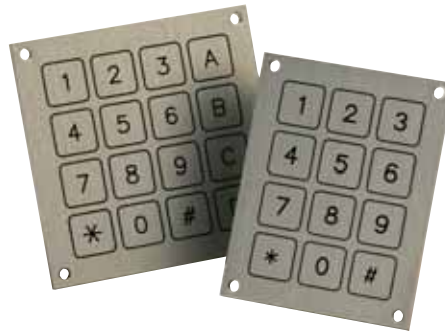
- Lifts
- Food Industry
- Mining Equipment
- Public Internet and Information Kiosks
- Chemical and PetroChemical Industry
- Safety and Security
- Medical Equipment
- Vending machines
- Beverage Dispensers



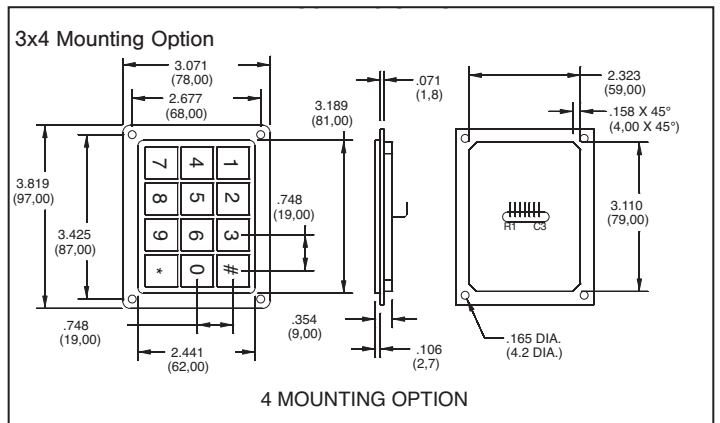
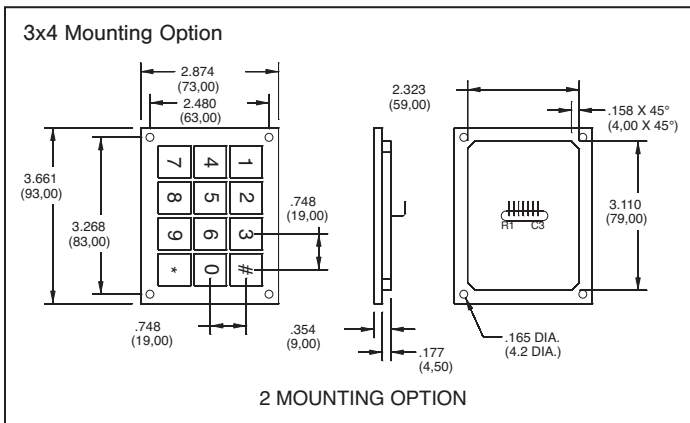
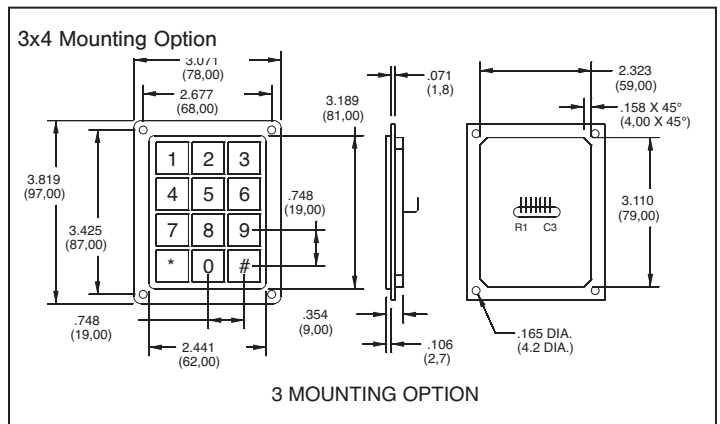
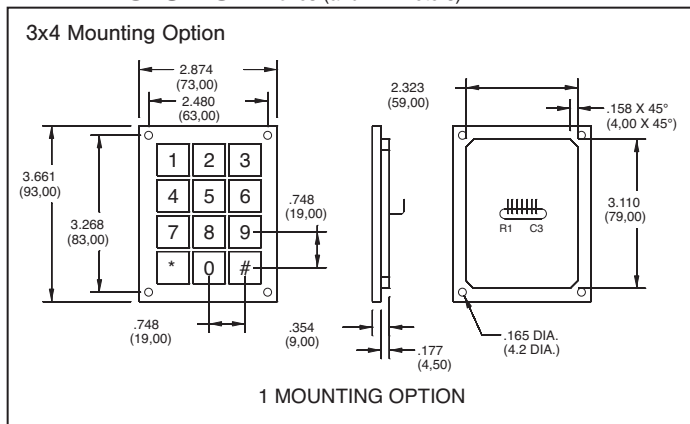
SERIES 37F
PIEZO Switches

FEATURES

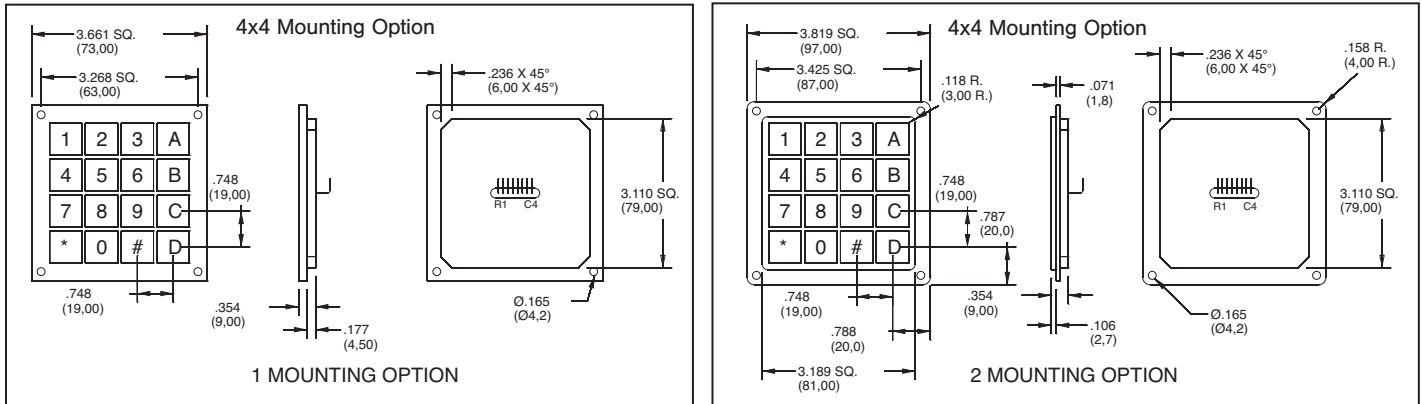
- Fully Sealed
- Virtually Indestructible
- Vandal Resistant
- Indoor and Outdoor Use



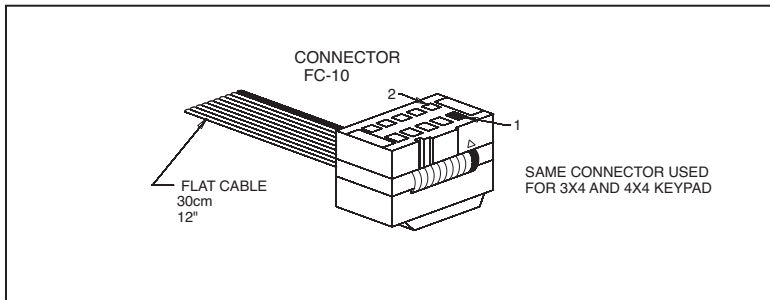
DIMENSIONS In inches (and millimeters)



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					

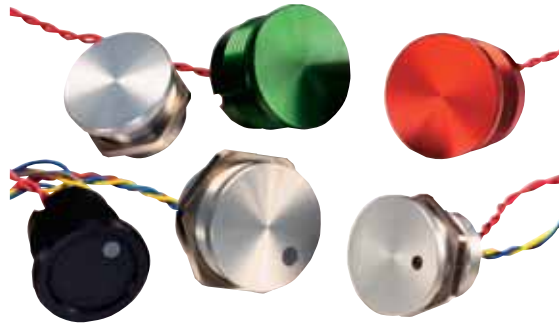
Available from your local Grayhill Component Distributor.
 For prices and discounts, contact a local Sales Office, an authorized local distributor or Grayhill.

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

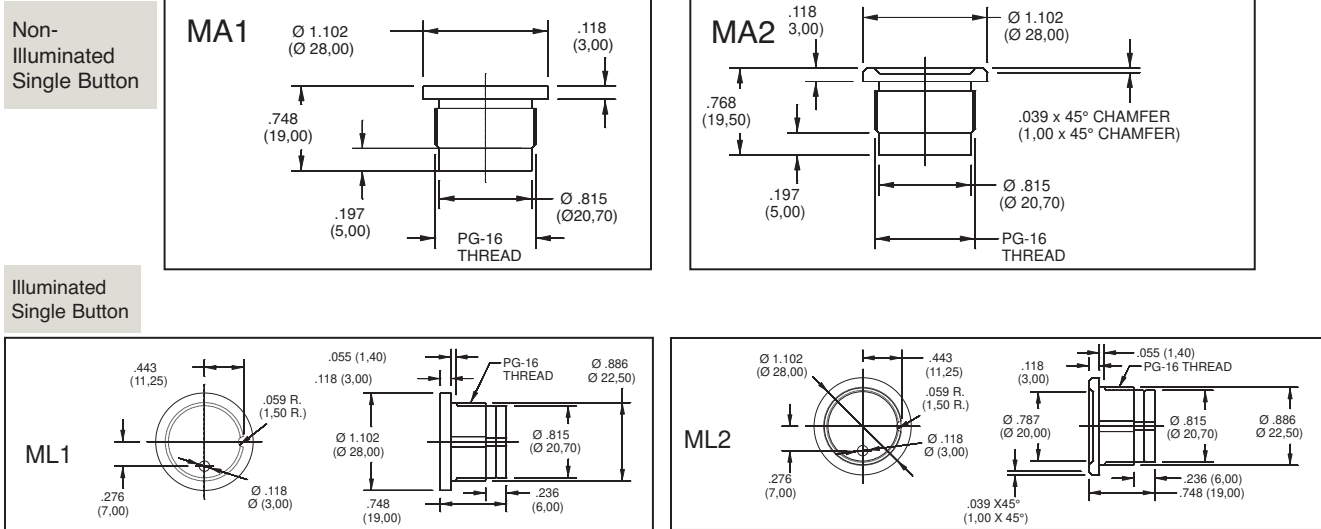
SERIES 37F
PIEZO Pushbutton Switches

FEATURES

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



DIMENSIONS In inches (and millimeters)



ORDERING INFORMATION, 37FMA and 37FML

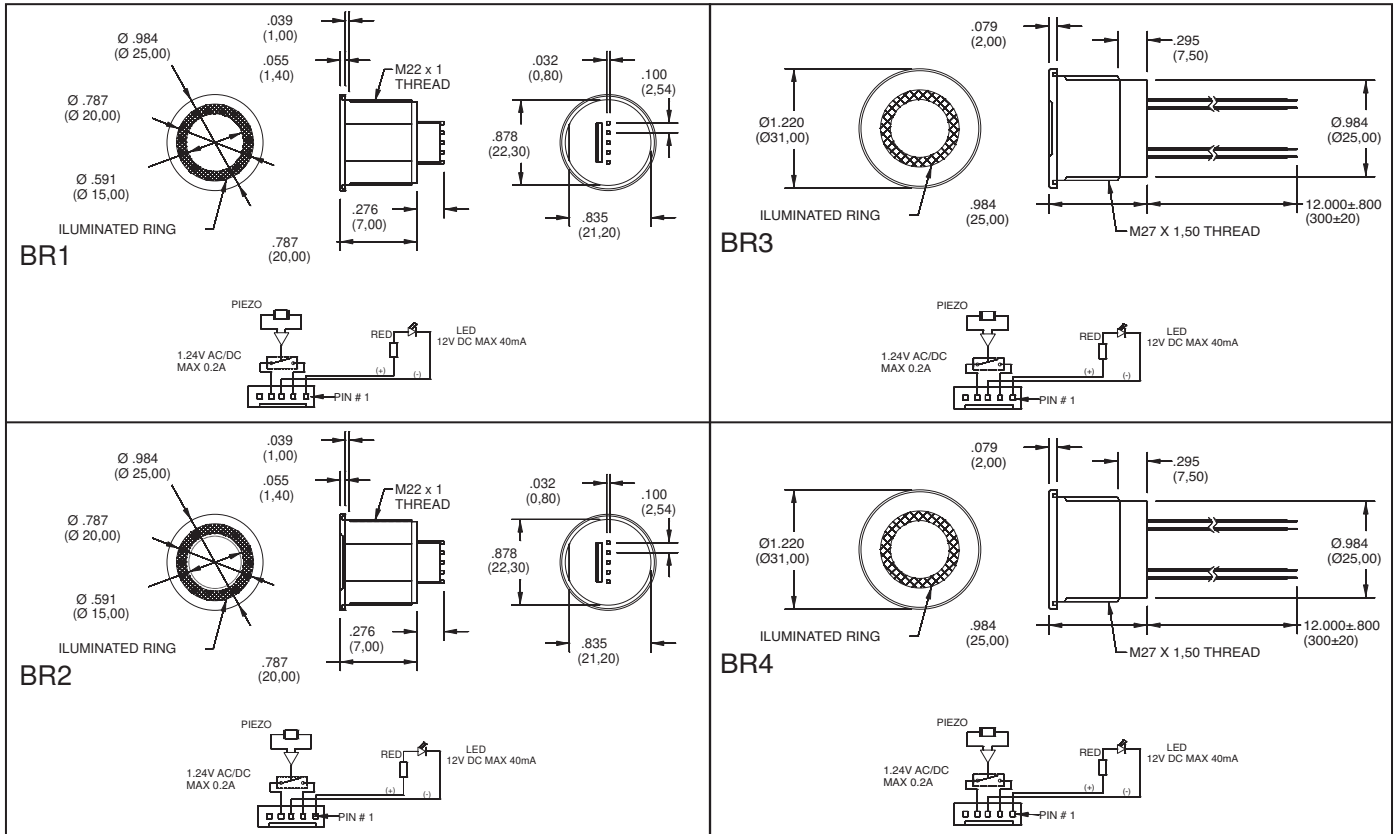
SERIES	HOUSING TYPE	CIRCUITRY	ELECTRICAL SPEC	HOUSING MATERIAL	HOUSING COLORS
37F	MA1	A	AP	1	N
37F= PIEZO SINGLE BUTTON SWITCHES	OPTIONS: MA1 MA2 ML1 ML2	OPTIONS: A=N.O. B=N.C.	AW- V MAX: 24V I MAX: 1.2 A AC/DC TERM: RED WIRE BW- V MAX: 24V I MAX: 1.2 A AC/DC 150 TRANSIENT TERM: PURPLE WIRE CW- V MAX: 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

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

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

Example Part Number: 37FMA1AAP1N

DIMENSIONS In inches (and millimeters)



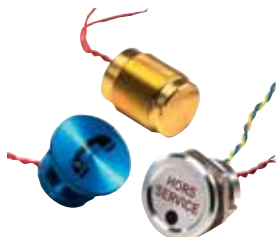
ORDERING INFORMATION, 37FBR

SERIES TYPE	HOUSING	CIRCUITRY SPEC	ELECTRICAL	LED MATERIAL	HOUSING COLOURS	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

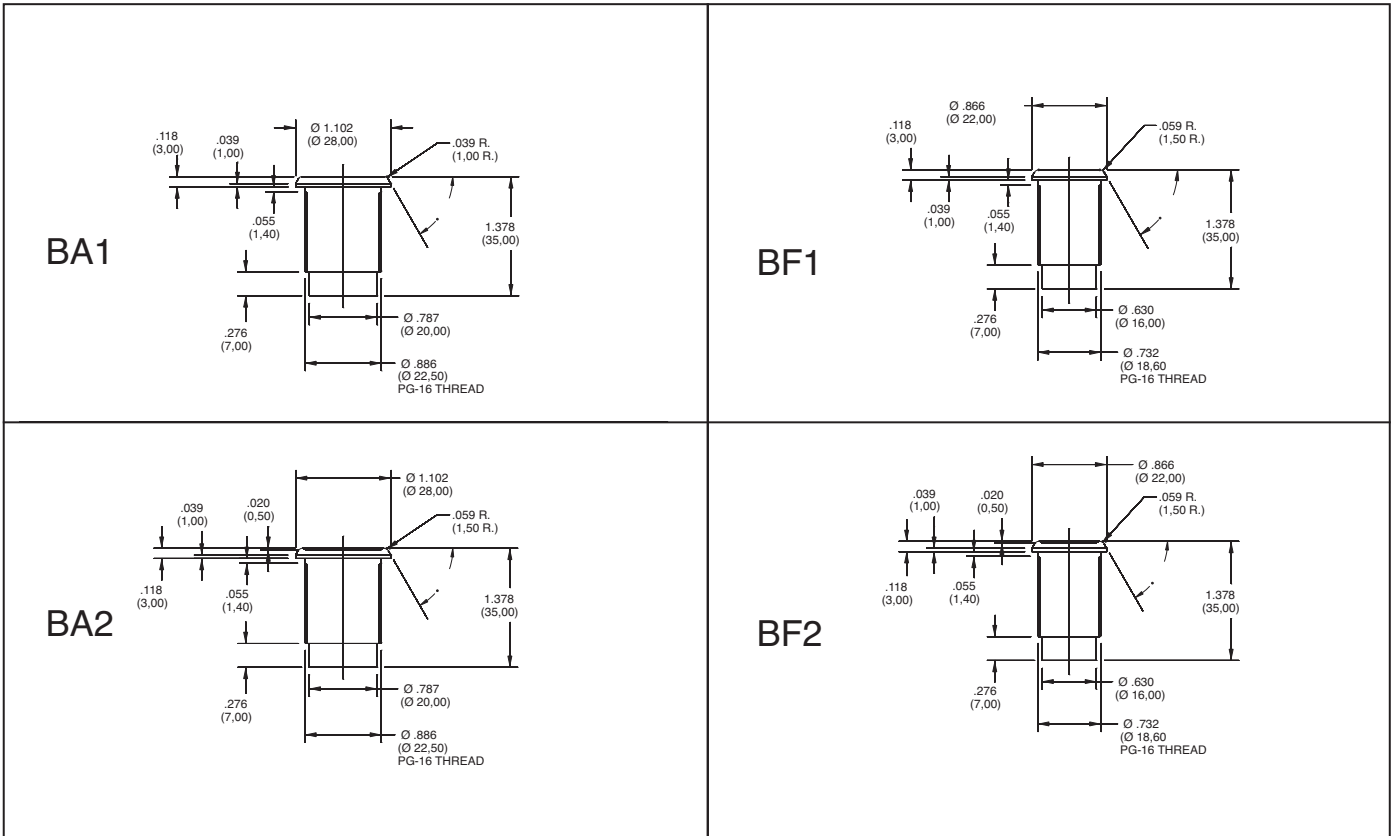
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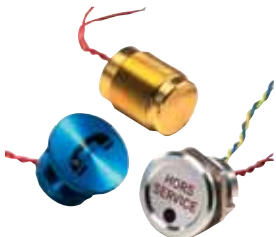
DIMENSIONS In inches (and millimeters)



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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