



- Backlit for Low Light Applications
- Waterproof Silicone Rubber
- Audible, Tactile Contacts
- Low Contact Resistance
- Optional RFI/EMI Shielding
- 3,000,000 Operations per Button

3 x 4 Keyboard

Dimensions and specifications for the 3 x 4 keyboard layout:

- Switch position identification: 12 positions (1-12).
- Terminal pin identification: 12 positions (1-12).
- Dimensions: .750, 3 EQ SPS., TOL. NON-ACCUM. (12 positions); .425 (12 positions); 3.100 ±.020 (12 positions); .490 SQ. (12 positions); 2.350 ±.020 (12 positions); .290 REF (STYLE 1), .368 REF (STYLE 2) (12 positions); .025 ±.002 SQUARE TERMINAL PINS 9 PLACES (9 positions); .100 TYP. (12 positions); .525 (12 positions); #6-32 MTG STUD, 4 PLACES (4 positions); .750 (12 positions); 1.500 (12 positions); .800 (12 positions); .350 (12 positions); 1.650 (12 positions); .267 REF. (12 positions); .207 (12 positions); .357 (12 positions).

4 x 4 Keyboard

Dimensions and specifications for the 4 x 4 keyboard layout:

- Switch position identification: 16 positions (1-16).
- Terminal pin identification: 16 positions (1-16).
- Dimensions: .750, 3 EQ SPS., TOL. NON-ACCUM. (16 positions); .425 (16 positions); 3.100 ±.020 (16 positions); .490 SQ. (16 positions); 3.100 ±.020 (16 positions); .290 REF (STYLE 1), .368 REF (STYLE 2) (16 positions); .025 ±.002 SQ. TERMINAL PINS 10 PLCS. (10 positions); .100 TYP. (16 positions); .775 (16 positions); .310 (16 positions); .750 (16 positions); 1.500 (16 positions); 2.120 (16 positions); .267 REF. (16 positions); .207 (16 positions); .357 (16 positions); #6-32 MTG STUD, 6 PLACES (6 positions); .490 (16 positions); 2.250 (16 positions); 1.125 (16 positions); .750 (16 positions); .310 (16 positions); .750 (16 positions); 1.500 (16 positions); 2.120 (16 positions); .267 REF. (16 positions); .207 (16 positions); .357 (16 positions).

DETAIL A

TERMINAL PIN IDENTIFICATION
DETAIL
SCALE=1.5:1

Stud Detail

Dimensions and specifications for the Stud Detail:

- Dimensions: .020 MAX. ABOVE SURFACE "A" OF P.C. BOARD (12 positions); .200 MAX. (12 positions); .020 MAX. ABOVE SURFACE "A" OF P.C. BOARD (12 positions); .200 MAX. (12 positions).
- Labels: DOME RETAINER, EMI SHIELD, #6-32 MOUNTING STUD.

STYLE "1"

STYLE "2"

SCHEMATIC AND TRUTH TABLE

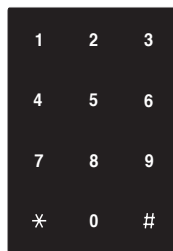
3 x 4

4 x 4

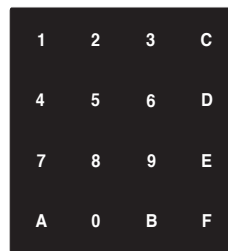
LED Color	Forward Voltage			Resistor (OHMS)	Typ. Current Consumption (With 5V Pwr. Supply)	
	Min.	Typ.	Max.		3 x 4	4 x 4
Red	-	1.95	2.40	43	155mA	205mA
Yellow	-	1.95	2.40	43	155mA	205mA
Green	1.50	-	2.40	43	155mA	205mA
Orange	-	1.95	2.40	43	155mA	205mA

STANDARD LEGENDS

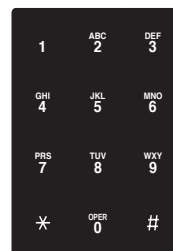
Available through Grayhill Distributors To order one of the configurations below, use the dash number shown here; select the keypad size and order the part number with the appropriate legend dash number. Contact Grayhill for Customs.



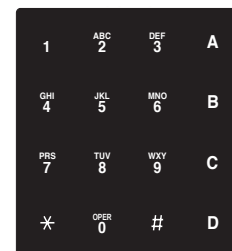
-112



-014



-113



-016

SPECIFICATIONS

Rating Criteria

Rating at 24 Vdc: ≤ 10 milliamps resistive
Contact Bounce: 4 milliseconds maximum at make; 10 milliseconds, at break
Contact Resistance: 10 ohms maximum

Life Expectancy: 3 million operations/button

Insulation Resistance: ≥ 1,000 megohms

Operating Features

Pre-Travel: .030 inches minimum
Operating Force: 20 ± 4 ounces
Humidity: 0 to 98% (no condensation)

Materials and Finishes

Terminal Pins: Copper alloy CDA 725, solder-plated

PC Board: FR-4 glass cloth epoxy

Dome Retainer/Rear Seal Sheet: Polyester

Mounting Studs: Style 1: Stainless steel,

Style 2: Phosphor bronze

Optional Hex Nut: Stainless steel, passivated

Optional EMI Shield: Aluminum foil

Keypad: Silicone rubber

ORDERING INFORMATION

84BL = Printed Legend, Sealed and Shielded
84BLN = Printed Legend, Sealed and Non-Shielded
Keyboard Size: A = 3 x 4, B = 4 x 4
B = Matrix Code
1 = Style "1" Terminal Pin Header (see stud detail), **2** = Style "2" Terminal Pin Header (see stud detail)

84BLN-AB1-XXXAN

N = Mounting Nuts Supplied and Shipped Loose, Blank = No Nuts Supplied
Led Color: A = Red, B = Yellow, C = Green, D = Orange
Standard Legends: -112 or -113 for 3x4, -014 or -016 for 4x4