



- 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

Technical drawing of a 3 x 4 keyboard assembly. The drawing includes top, side, and detail views with the following dimensions and labels:

- Top View:**
 - Overall width: 2.350 ± .020
 - Overall height: 3.100 ± .020
 - Switch pitch: .750, 3 EQ.SPS., TOL.NON-ACCUM.
 - Switch position identification: 1 through 12
 - Label: .425
 - Terminal pin pitch: .490 SQ.
 - Terminal pin identification: X, Y, A, B, C, D, E, F, G
- Side View:**
 - Terminal pin pitch: .290 REF (STYLE 1), .368 REF (STYLE 2)
 - Terminal pin diameter: .025 ± .002 SQUARE
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357
- Detail A:**
 - Terminal pin identification: X, Y, A, B, C, D, E, F, G
 - Terminal pin pitch: .490 SQ.
 - Terminal pin diameter: .025 ± .002 SQUARE
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357

4 x 4 Keyboard

Technical drawing of a 4 x 4 keyboard assembly. The drawing includes top, side, and detail views with the following dimensions and labels:

- Top View:**
 - Overall width: 3.100 ± .020
 - Overall height: 3.100 ± .020
 - Switch pitch: .750, 3 EQ.SPS., TOL.NON-ACCUM.
 - Switch position identification: 1 through 16
 - Label: .425
 - Terminal pin pitch: .490 SQ.
 - Terminal pin identification: X, Y, A, B, C, D, E, F, G
- Side View:**
 - Terminal pin pitch: .290 REF (STYLE 1), .368 REF (STYLE 2)
 - Terminal pin diameter: .025 ± .002 SQ. TERMINAL PINS 10 PLCS.
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357
- Detail A:**
 - Terminal pin identification: X, Y, A, B, C, D, E, F, G
 - Terminal pin pitch: .490 SQ.
 - Terminal pin diameter: .025 ± .002 SQ. TERMINAL PINS 10 PLCS.
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357

Stud Detail

Technical drawing of a stud detail showing two styles. The drawing includes top and side views with the following dimensions and labels:

- Top View:**
 - Overall width: .200 MAX.
 - Overall height: .020 MAX. ABOVE SURFACE "A" OF P.C. BOARD
 - Label: .200 MAX.
- Side View:**
 - Terminal pin pitch: .290 REF (STYLE 1), .368 REF (STYLE 2)
 - Terminal pin diameter: .025 ± .002 SQ. TERMINAL PINS 10 PLCS.
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357

Style "1"

Technical drawing of a stud detail for Style 1. The drawing includes top and side views with the following dimensions and labels:

- Top View:**
 - Overall width: .200 MAX.
 - Overall height: .020 MAX. ABOVE SURFACE "A" OF P.C. BOARD
 - Label: .200 MAX.
- Side View:**
 - Terminal pin pitch: .290 REF (STYLE 1), .368 REF (STYLE 2)
 - Terminal pin diameter: .025 ± .002 SQ. TERMINAL PINS 10 PLCS.
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357

Style "2"

Technical drawing of a stud detail for Style 2. The drawing includes top and side views with the following dimensions and labels:

- Top View:**
 - Overall width: .200 MAX.
 - Overall height: .020 MAX. ABOVE SURFACE "A" OF P.C. BOARD
 - Label: .200 MAX.
- Side View:**
 - Terminal pin pitch: .290 REF (STYLE 1), .368 REF (STYLE 2)
 - Terminal pin diameter: .025 ± .002 SQ. TERMINAL PINS 10 PLCS.
 - Terminal pin length: .267 REF.
 - Terminal pin identification: .207
 - Terminal pin pitch: .357

SCHEMATIC AND TRUTH TABLE

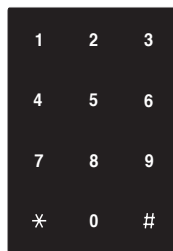
3 x 4

4 x 4

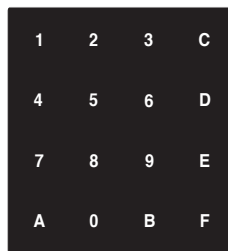
LED Color	Forward Voltage			Resistor (OHMS)	Typ. Current Consumption (With 5V Pwr. Supply)	
	Min.	Typ.	Max.		3 x 4	4 x 4
Red	-	1.95	2.40	43	155mA	205mA
Yellow	-	1.95	2.40	43	155mA	205mA
Green	1.50	-	2.40	43	155mA	205mA
Orange	-	1.95	2.40	43	155mA	205mA

STANDARD LEGENDS

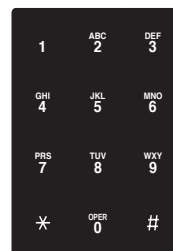
Available through Grayhill Distributors To order one of the configurations below, use the dash number shown here; select the keypad size and order the part number with the appropriate legend dash number. Contact Grayhill for Customs.



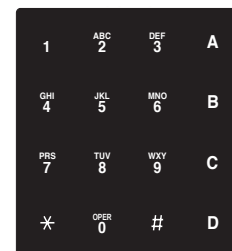
-112



-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