

SERIES 84LS Sealed, Low Profile

FEATURES

- Waterproof Silicone Rubber
- Easily Customized Legends
- Audible, Tactile Contacts
- Low Contact Resistance
- Optional RFI/EMI Shielding
- 3,000,000 Operations per Button

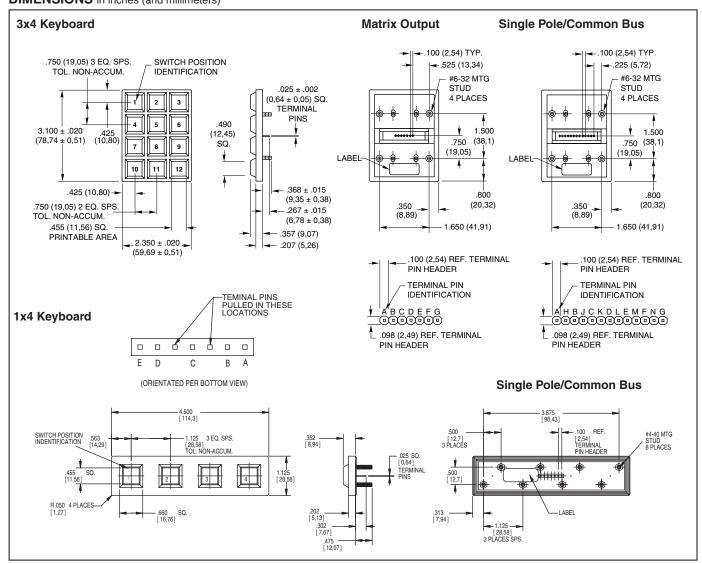
DESCRIPTION

The Series 84LS is the low profile version of Grayhill's popular Series 84S sealed keypads. These keypads are legended by epoxy ink printing the rubber key tops. Custom legends and colors are available at a nominal cost. The Series 84LS is offered with a choice of matrix or single pole/common bus circuitries and EMI shielding.



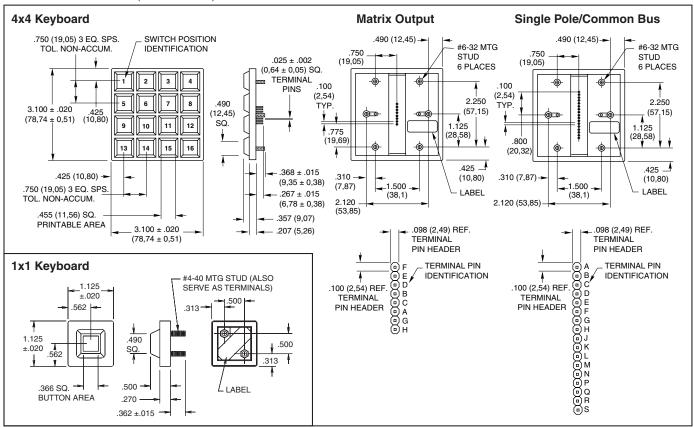


DIMENSIONS in inches (and millimeters)





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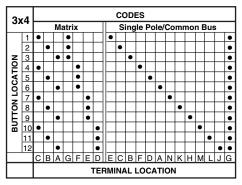
CODE AND TRUTH TABLES

The chart indicates the relationship of the terminal pins to each key switch. The dot indicates a closed switch. Terminals are identified on the keyboard.

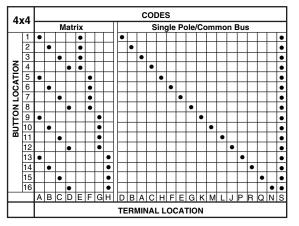
4 Button Keypads

1x4		CODES				
		PINS				
1	•				•	
2		•			•	
3			•		•	
4				•	•	
	Α	В	С	D	Е	
	TERMINAL LOCATION					
	1 2 3	1 • 2 3 4 A T	1 • 2 • 3 4 A B TER	PIN 1 • 2 • 3 3 • 4 A B C TERMI	PINS 1	

12 Button Keypads



16 Button Keypads



SPECIFICATIONS

Rating Criteria

Rating at 24 Vdc: ≤ 10 milliamps resistive Contact Bounce: 4 milliseconds maximum at

make: 10 milliseconds, at break

Contact Resistance: MOS. TTL. and DTL

compatible. (10 ohms maximum) Operating Temperature: -55°C to 85°C 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)

Minimum Push Out Force Per Pin: 5 pounds

Materials and Finishes

Terminal Pins: Copper alloy CDA 725 PC Board: FR-4 glass cloth epoxy Dome Retainer/Rear Seal Sheet: Polyester Mounting Studs: Phosphor bronze Optional Hex Nut: Stainless steel, passivated

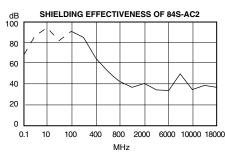
Optional EMI Shield: Aluminum foil

Keypad: Silicone rubber



Shielding Effectiveness

Results shown are typical for a standard Grayhill Series 84LS Keyboard. A conductive gasket will generally increase the shielding, depending on the size and shape of the gasket and its material. Data derived for E-Field Radiation.



Represents shielding effectiveness greater than or equal to line.

Frequency MHz	Rating in dB
0.1	66.2
10	94.8
100	89.0
400	70.6
800	42.5
2,000	39.5
6,000	32.6
10,000	45.2
18,000	42.2

Test Method:

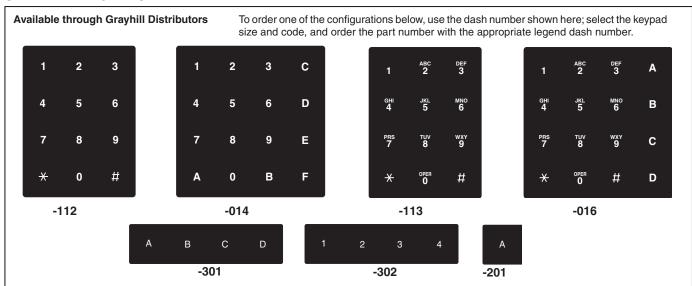
Measurements were made with the keyboard mounted to a brass plate, which in turn was mounted to a shielded enclosure containing the receiving equipment. A signal generator provided

the frequency source that was radiated from the transmitting antenna to the enclosed receiving antenna. The spacing between antennas was maintained constant throughout the frequency range. The effectiveness rating is determined by establishing a reference reading without obstruction between the two antennas and determining the difference between that reading and the test setup reading.

Note:

When measured in actual equipment, shielding effectiveness is determined by many factors. This method accurately represents the shielding effectiveness of the Grayhill Series 84LS under ideal test conditions.

STANDARD LEGENDS



CUSTOM LEGENDS

Any reasonable legend can be printed in the key area. Fax a sketch of your requirements to Grayhill. Printing and symbols will be coordinated in keeping with concepts of good design. Or, if required, the details of your submitted artwork

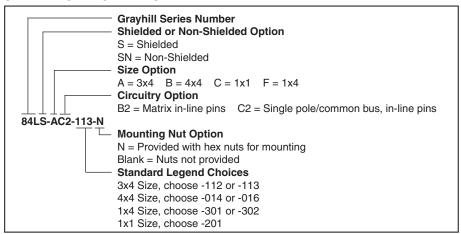
will be matched as closely as possible. Allow 3 to 4 weeks for custom legend delivery. A nominal charge, depending on the total quantity of keypads ordered and the complexity of the legend, will be assessed.

HEADER CONNECTORS

Compatible with:

Samtec, Inc. Header Series BCS, BSW, CES, ESW, ESQ, SLW, SSW, SSQ, IDSS and IDSD or equivalent.

ORDERING INFORMATION



Available from your local Grayhill Distributor. For prices and discounts, contact a local

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

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Input Devices category:

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Other Similar products are found below:

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