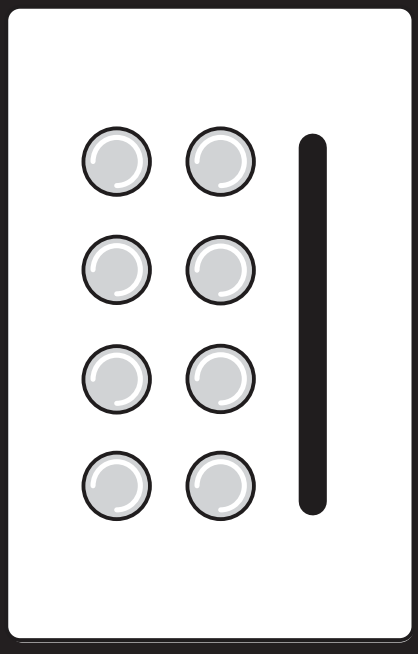
USER MANUAL

CB-KEYPAD-1G-08

CONTROLBRIDGE WALLMOUNT KEYPAD

24/7 TECHNICAL SUPPORT AT 1.877.877.2269 OR VISIT BLACKBOX.COM



BLACK BOX®

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CHAPTER 1: SPECIFICATIONS

1.1 GENERAL SPECIFICATIONS

TABLE 1-1. SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Buttons Layout	(8) buttons
Indicators	(8) red LEDs, progammable
Bar Graphs	(1) 20=LEDs
System Connection	RS-485, 4-pin connector
Power Supply	24-VDC ±20%, 3 W
Enclosure	Metal
Dimensions	4.5”H x 3”W x 1.9”D (10.8 x 6.9 x 4.9 cm)
Weight	0.4 lb. (0.2 kg)

1.2 MECHANICAL DRAWINGS

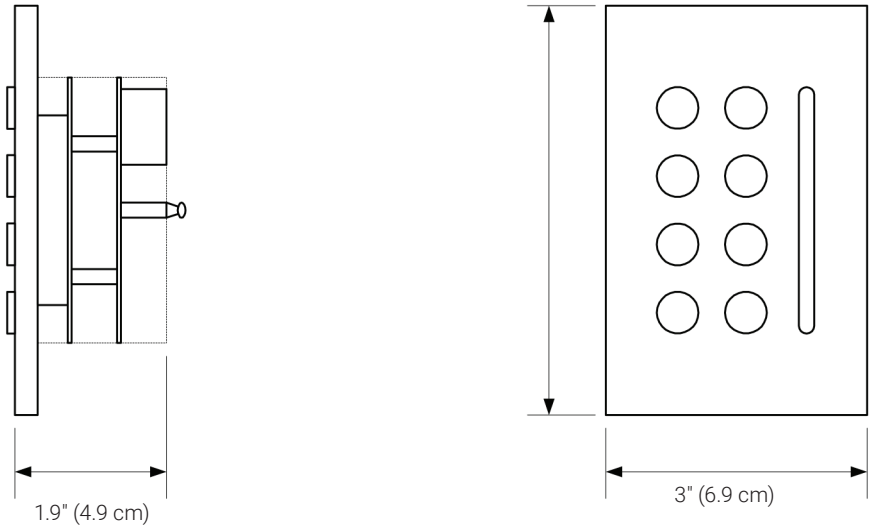

FIGURE 1-1. SIDE AND FRONT OF THE KEYPAD

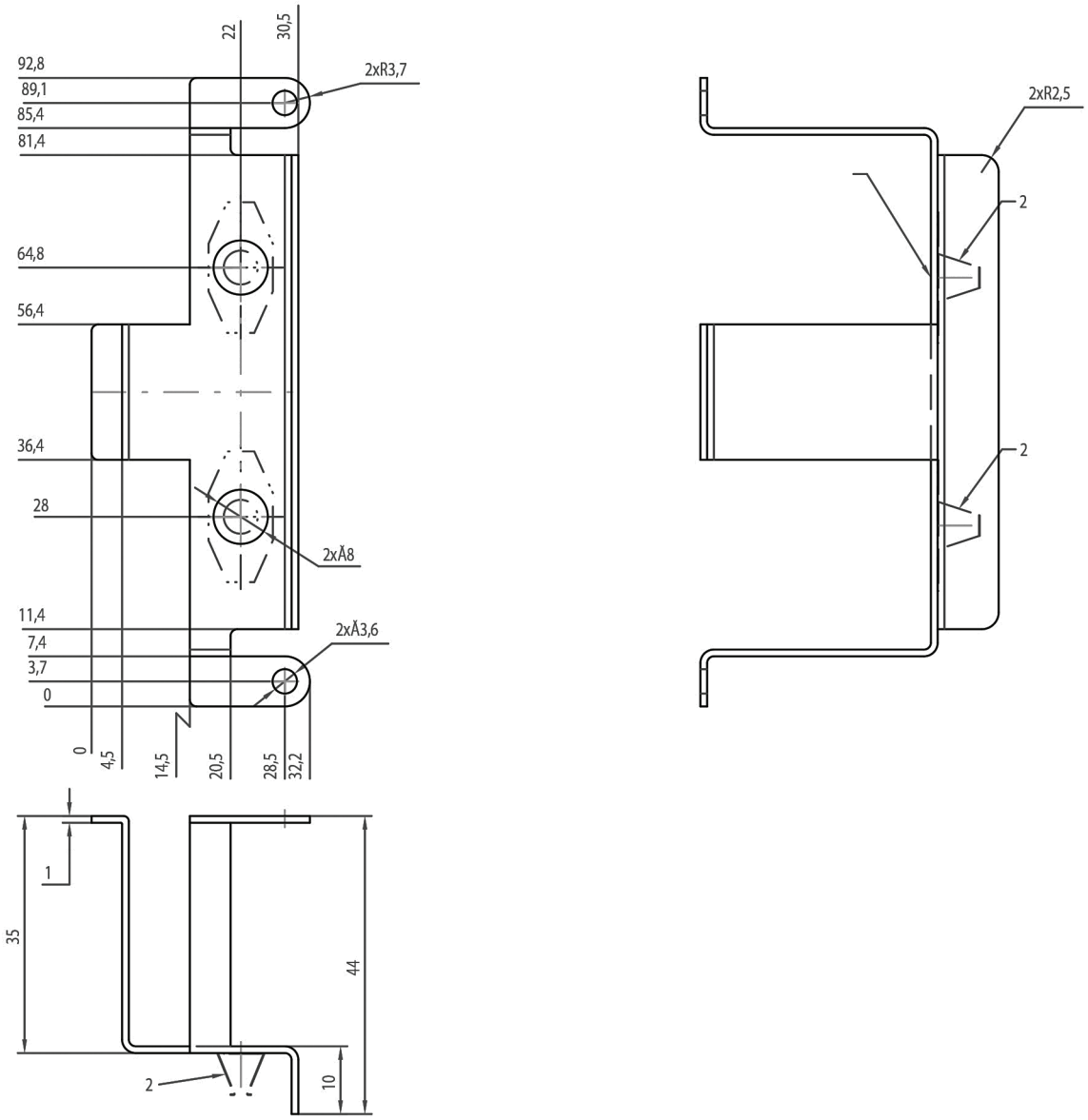

FIGURE 1-2. MOUNTING BRACKET

CHAPTER 2: OVERVIEW

2.1 INTRODUCTION

Mount a control keypad out-of-the-way on a wall. The programmable ControlBridge Keypad - Wallmount, 8-Button control panel device is designed to be built into a standard 1-gang electrical box.

All buttons are supported with backlight, programmable indication and user-changeable button labels that can be printed on a laser printer and inserted into the keypad. The full-function console keypads may be used as dedicated wired controllers for audio, video and environmental functions.

2.2 FEATURES

- Backlight buttons with programmable feedback indication
- 20-LEDs bar graphs
- User changeable button labels
- Stainless steel front panel
- Mounts to a 1-gang standard electrical box

2.3 PROGRAMMING

All keypads are programmed using ControlBridge Builder programming tool.

CHAPTER 3: FRONT PANEL

The front panel is equipped with buttons and bar graphs. The keypad has (8) buttons and (1) bar graph.

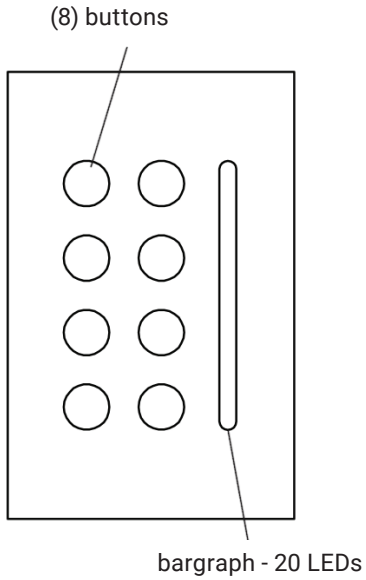

FIGURE 3-1. FRONT PANEL

All buttons have low and high intensity levels of the red back light. All buttons are set to low back light intensity after the keypad switches on. The back light intensity level can be changed for each button independently from a control unit using program commands. High level is used for a status indication.

Bar graphs are equipped with (20) LEDs and they are controlled by special programming commands from a control unit.

CHAPTER 4: BUTTON LABELS

All models use one big label foil for all buttons.

STEP 1. Prepare the foil using the layout. Contact Black Box Technical Support at 877-877-2269 or info@blackbox.com for details.

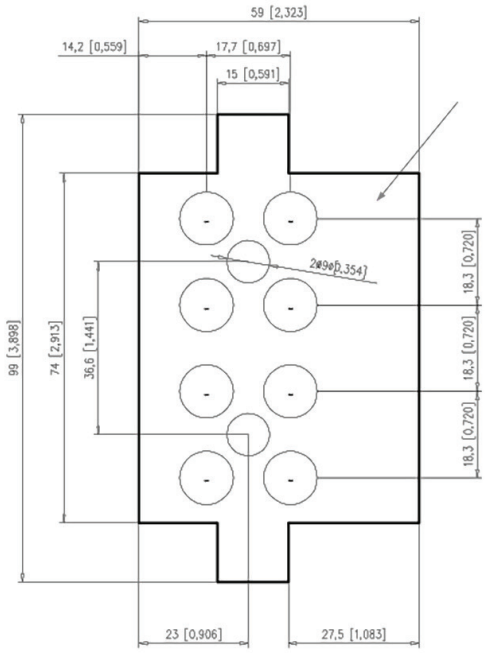

FIGURE 4-1. BUTTON LABEL FOIL LAYOUT

STEP 2. Print the foil on a standard printer.

STEP 3. Cut the foil into a shape according the picture (see above).

STEP 4. Put the keypad on a table face down.

CHAPTER 4: BUTTON LABELS

STEP 5. Unscrew hex nuts marked on the picture below.

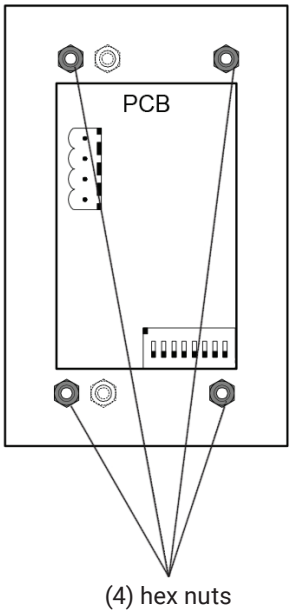

FIGURE 4-2. HEX NUTS ON THE BACK OF THE KEYPAD

STEP 6. Dismount the electronic boards.

STEP 7. Insert the new label foil.

STEP 8. Insert the electronic board.

STEP 9. Screw hex nuts marked on the picture above.

CHAPTER 5: ADDRESSING

The BUTTON_ID transmitted by a keypad and BARGRAPH_ID are numbers used in the programming for button and bar graph identification. Both values depend on a button or bar graph position and it depends on a keypad ADDRESS, too. Both values are calculated according to the following formulas.

BUTTON_ID = Offset + Button Code

BARGRAPH_ID = Offset + Bar Graph Code

Offset = 32 * ADDRESS

The lowest BUTTON_ID is generated by a button in the upper left corner. The highest BUTTON_ID is generated by a button in the lower right corner. The left bar graph has the lower BARGRAPH_ID. The right bargraph has the higher BARGRAPH_ID. See the example for ADDRESS = 0 in the next picture.

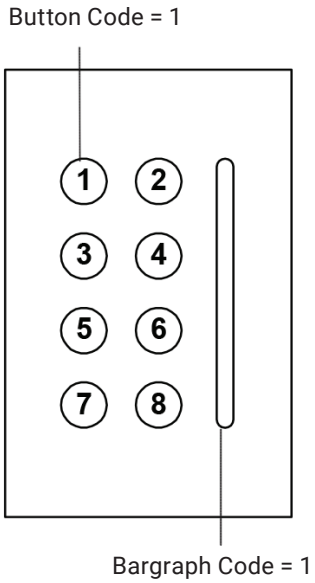

FIGURE 5-1. BUTTON CODE AND BARGRAPH CODE LOCATIONS ON KEYPAD

The table on the next page shows examples of BUTTON_ID range and BARGRAPH_ID range.

CHAPTER 5: ADDRESSING

TABLE 5-1. BUTTON_ID RANGE AND BARGRAPH_ID RANGE EXAMPLES

ADDRESS	BUTTON_ID RANGE		BARGRAPH_ID RANGE
0	1	8	8
1	33	40	33
2	65	72	65
3	97	104	97
4	129	136	129
5	161	168	161
6	193	200	193
7	225	232	225
8	257	264	257
9	289	296	289
…	…	…	…
255	8161	8168	8161

The ADDRESS of the keypad is binary coded by the DIP switch located on the rear side of the keypad.

The ADDRESS can be set in the range 0 to 255.

TABLE 5-2. DIP SWITCH FUNCTIONS

DIP SWITCH NUMBER	FUNCTION
SW1	Address bit 0
SW2	Address bit 1
SW3	Address bit 2
SW4	Address bit 3
SW5	Address bit 4
SW6	Address bit 5
SW7	Address bit 6
SW8	Address bit 7

TABLE 5-3. DIP SWITCH ADDRESS SETTINGS

ADDRESS	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
…	…	…	…	…	…	…	…	…
255	ON	ON	ON	ON	ON	ON	ON	ON

CHAPTER 6: MOUNTING

MOUNTING STEPS

Follow these steps:

1. Attach the mounting bracket (included) to the standard electrical box (not included) using screws (not included). You need (2) screws for the keypad.
2. Carefully clip the keypad to the quarter-turn fasteners located on the keypad holder.
3. Push the front panel of the keypad. The quarter-turn fasteners must clip accurately.

CHAPTER 7: CONNECTING

The keypad connects to the system by a 4-pin connector located on the rear side of the keypad.

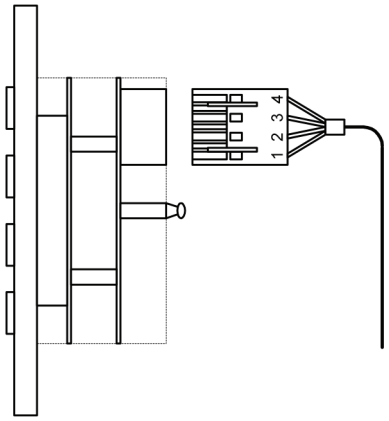

FIGURE 7-1. CONNECTING THE KEYPAD

Pin connection of the 4-pin connector is described in the following figure and table.

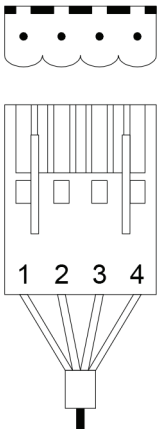

FIGURE 7-2. 4-PIN CONNECTOR

TABLE 7-1. 4-PIN CONNECTOR PINOUT

PIN NUMBER IN FIGURE 7-2	SIGNAL
Pin 1	+24 VDC
Pin 2	GND
Pin 3	A+
Pin 4	B-

APPENDIX A: REGULATORY INFORMATION

A.1 FCC STATEMENT

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

APPENDIX A: REGULATORY INFORMATION

A.2 NOM STATEMENT

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
    A: El cable de poder o el contacto ha sido dañado; u
    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o
    C: El aparato ha sido expuesto a la lluvia; o
    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
    E: El aparato ha sido tirado o su cubierta ha sido dañada.

APPENDIX B: DISCLAIMER/TRADEMARKS

B.1 DISCLAIMER

Black Box Corporation shall not be liable for damages of any kind, including, but not limited to, punitive, consequential or cost of cover damages, resulting from any errors in the product information or specifications set forth in this document and Black Box Corporation may revise this document at any time without notice.

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