

CL-81 & CL-82

Microprocessor-Controlled Anti-Vandal Access Control Systems



Installation Instructions

1. INTRODUCTION

The CL-81 and CL-82 are digital programmable access control systems. In each system, a sophisticated indoor microprocessor-controlled keypad is complemented by an outdoor, vandal resistant keypad. Users have 56 individual, preprogrammed digital codes, which they must key on the external and internal keypads, to enter through electrically controlled doors or barriers. There is absolutely no access to the control circuitry within the protected premises, so attempts to defeat the system by tampering will be futile. Both systems operate from a 12 or 24-volt supply (jumper selected), DC or AC. They consist of the following components:

- **CL-8A EXT** - Indoor keypad with control circuitry in a plastic box. As the "brain" of the system, it functions exactly as its predecessor the CL-8A, but is designed to accept data from both its own keys and the outdoor KB-81 or KB-82 (see below). Detailed information on the CL-8A EXT is available in the CL-8A manual (Publication D-6205-0).

- **KB-81 or KB-82** - Two types of outdoor, impact, blade and water resistant keypads, complete with interface PCB at the back. They have identical functions but differ in their vandal resistance ability. The KB-81 is all metal and the KB-82 is all super-impact polymer. Both outdoor keypads, which operate as ruggedized extensions of the indoor unit, are covered by the manual you are reading.
- **Rear casing** - This is an extruded aluminum frame that provides space behind the KB-81 or KB-82 for cables and electronic circuitry. The casing is primarily intended for surface mounting, but can also be used in flush mounted applications.

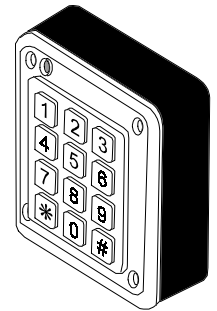


Fig. 1. General View

2. SPECIFICATIONS

Number of Keys: 12 (3 x 4 matrix)

Panel and Keytop Material

KB-81: Satin chromed die cast zinc.

KB-82: Super impact polymer

Rear Casing Material: Extruded aluminum, with satin epoxy powder coating.

Contacts: Gold on nickel-plated FR4.

Impact: 20 Joules via 50 mm Ø steel impactor.

Operating Temperature (dry)

KB-81: -40°C to 100°C (-40°F to 212°F)

KB-82: -25°C to 85°C (-13°F to 185°F)

Water/Dust Sealing:

KB-81: IP67 / NEMA 4

KB-82: IP65 / NEMA 4.

Operational Life: 4 million cycles (min) per key.

Power Supply Required: 9-16 or 22-26 Volts AC or DC

Current Consumption (KB-81/82 and CL-8A EXT)

Relay Energized: 80 mA

Standby: 35 mA

Dimensions

Keypad: 118.5 x 99.5 x 12.5 mm (4-11/16 x 3-15/16 x 1/2 in.)

Rear Casing: 118.5 x 99.5 x 30 mm (4-11/16 x 3-15/16 x 1-3/16 in.)

Weight

KB-81: 520 g (18.4 oz)

KB-82: 226 g (8.0 oz)

Rear Casing: 140 g (4.9 oz)

Color: KB-81 - Silver, KB-82 - Gray, Rear Casing - Black

Models Available

CL-81: Indoor keypad CL-8A EXT with outdoor keypad KB-81.

CL-82: Indoor keypad CL-8A EXT with outdoor keypad KB-82.

3. INSTALLATION

3.1 External Keypad Installation

Options

The KB-81 that meets IP-67 requirements is enclosed in a tough, all metal die cast housing, with an attractive, hard wearing satin chrome finish. The KB-82 is enclosed in a super impact grey polymer housing and meets IP-65 requirements. Both units are protected against the ingress of fluids and dust, and feature top quality switch contacts with gold on nickel plating. They can be mounted on the wall near the entry door together with the rear casing (see Figure 2), which must be used because the interface PCB protrudes behind the keypad. When an extremely low profile is required, the outdoor keypad may be installed behind metal panels, without the rear casing (see Figure 3).

3.2 Surface Mounting (Figure 2)

- Select a suitable location on a stable, flat surface. Using the outdoor keypad rear casing as a template, mark the four fixing holes.

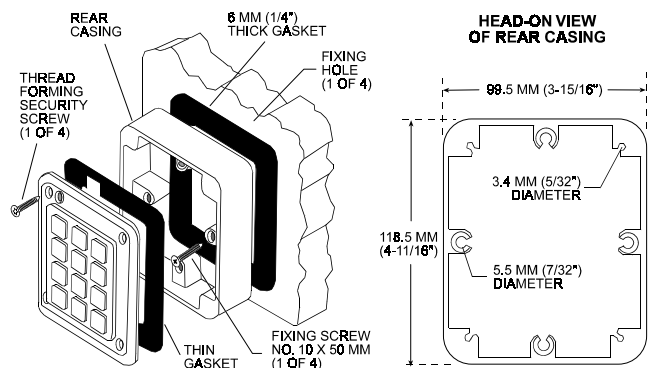


Figure 2. Surface Installation with Rear Casing

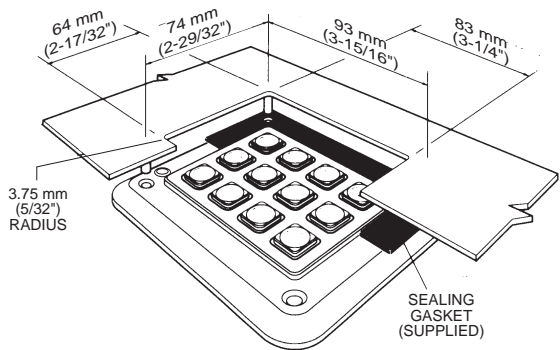


Figure 3. Mounting Behind a Panel

- B. Drill the fixing holes and plug them with the plastic inserts. Put the thick (6 mm) gasket between the rear surface of the casing and the wall. Insert No. 10 x 50 mm (2" long) countersunk screws through the fixing holes and the gasket and fix the rear casing firmly to the wall.
- C. Within the area outlined by the casing, drill a 13 mm (1/2") hole right through to the other side of the wall, to serve as a channel for the inter-unit cable. Be sure to drill this hole well away from the tamper switch location.
- D. Put the keypad face down. Find the tamper switch actuator assembly and push the free end of its spring onto the stem at the center of the tamper switch. If there is too much resistance, turn the spring clockwise while pushing. A properly mounted spring maintains a tight grip on the stem and doesn't fall off.
- E. Connect a 10-conductor color-coded cable to the first 10 terminals of the 11-position terminal block at the back of KB-81 or KB-82 (see Figure 4). Note down the color of the wire connected to each terminal.
- F. Prepare a length of a 2-lead cable to serve as the tamper switch line. Connect one end of the 2-lead cable to the TAMP terminals. The tamper cable should be connected to a 24-hour zone of a local alarm system.

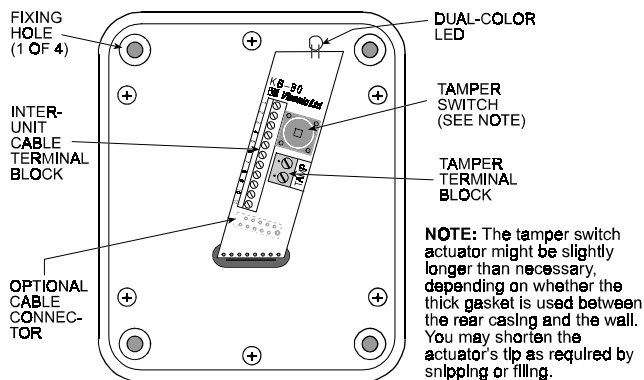


Figure 4. Rear View of the KB-81 / KB-82

- G. Locate the thin sealing gasket on the rear face of the KB-81/KB-82. You must do this before proceeding to Step H below.
- H. Pass the free end of the 10-conductor inter-unit cable and the 2-conductor tamper cable through the rear casing and the hole in the wall to the other side.

the screws. Be sure to leave a 5 cm (2 in.) slack of both cables within the rear casing.

- I. Check all around the KB-81 keypad to ensure that the gaskets are in place and evenly compressed.
- J. Route the inter-unit cable to the intended mounting position of the CL-8A EXT unit.
- K. Mount the CL-8A EXT on the other side of the wall, as explained in the CL-8A installation manual ("Mounting"). Punch open one of the wiring knockouts in the back box to make way for the 10-conductor cable. Insert the cable into the back box.
- L. Connect the 10 color coded wires of the inter-unit cable to the 10-position mini-terminal block on the CL-8A EXT printed circuit board (see Figure 4).

Note: Use the wire color list prepared earlier, and verify the each terminal of the KB-81 (or KB-82) is connected to its identically-numbered counterpart in the CL-8A EXT mini terminal block.
- M. Wire up the main terminal block of the CL-8A EXT as instructed in the CL-8A Installation manual ("Connections"). To make the red half of the dual LED in the outdoor keypad light constantly, bridge terminals 6 and 2 with a short jumper wire (see Fig. 5).
- N. Select the desired operating voltage with jumper JP3. For 12V operation, the jumper should be mounted across the two pins. For 24 Volt operation, remove the jumper (install it on a single pin).
- O. Attach the CL-8A EXT keypad assembly to the already installed back box, using the two original screws.
- P. Power up the system. Program the CL-8A EXT as shown in the CL-8A Installation Manual ("Programming Procedures"). For user guidance, refer to the CL-8A ("Operation").

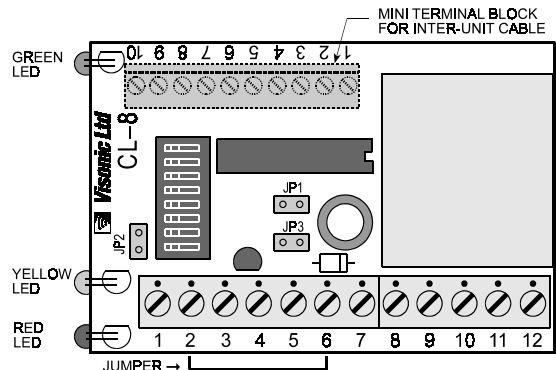


Figure 5. PCB Layout of the CL-8A EXT

3.3. Mounting the Outdoor Unit behind a Panel (see Figure 3)

- A. Prepare the required panel cutout and the holes for the fixing screws as shown in Figure 3.
- B. Mark the location of the dual-color LED and drill a 10 mm hole in the panel, to make way for the LED and its holder eyelet.
- C. Place the thin sealing gasket over the front of the KB-81 (or KB-82). Position the keypad in place behind the panel and secure it with 4 screws and 2 nuts on each screw. Tighten the nuts well.
- D. Connect a 10-conductor color-coded cable to the first 10 terminals of the 11-position terminal block at the back of the KB-81 or KB-82 (see Figure 4). Note down the color of the wire connected to each terminal.
- E. Carry on as instructed in Paragraph 3.2 above, steps K through Q.

4. SUPPLEMENTARY DATA

4.1 Using the Keypads

Since the KB-81 and KB-82 vandal-resistant keypads utilize the control circuits within the CL-8A EXT, their operation is similar to that of the indoor CL-8A EXT. Refer to the CL-8A Installation Manual ("Operation"). However, keep in mind that the dual (green/red) LED on the front panel glows red for as long as access is denied. It glows green while permission to enter is granted (while the on-board relay energizes as a result of keying a correct user code).

4.2 AC Operation Constraints

IMPORTANT! When the system is operated from a nominal 12 VAC source, LEDs connected to the PANIC or AUX open collector outputs of the CL-8A EXT will light when the associated output pulls down. Buzzers, however, will not function properly. When the system is operated from a nominal 24 VAC source, refrain from connecting LEDs or buzzers to these open collector outputs.

WARRANTY

Visonic Ltd. and/or its subsidiaries and its affiliates ("the Manufacturer") warrants its products hereinafter referred to as "the Product" or "Products" to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or replace the product or any part thereof. The Manufacturer shall not be responsible for dismantling and/or reinstallation charges. To exercise the warranty the product must be returned to the Manufacturer freight prepaid and insured.

This warranty does not apply in the following cases: improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the Manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer does not represent that its Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. User understands that a properly installed and maintained alarm may only reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no death, personal damage and/or damage to property as a result.

The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.

However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall not in any case exceed the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

Warning: The user should follow the installation and operation instructions and among other things test the Product and the whole system at least once a week. For various reasons, including, but not limited to, changes in environmental conditions, electric or electronic disruptions and tampering, the Product may not perform as expected. The user is advised to take all necessary precautions for his/her safety and the protection of his/her property.

6/91



Visonic Ltd

VISONIC LTD. (ISRAEL): P.O.B 22020 TEL-AVIV 61220 ISRAEL. PHONE: (972-3) 645-6789, FAX: (972-3) 645-6788

VISONIC INC. (U.S.A.): 10 NORTHWOOD DRIVE, BLOOMFIELD CT. 06002-1911. PHONE: (860) 243-0833, (800) 223-0020 FAX: (860) 242-8094

VISONIC LTD. (UK): UNIT 1, STRATTON PARK, DUNTON LANE, BIGGLESWADE, BEDS. SG18 8QS. PHONE: (01767) 600857 FAX: (01767) 601098

©VISONIC LTD. 1998 CL-81 & CL-82 DE6215-0 (REV. 1, 10/98)



MADE IN
ISRAEL