PARTITION KEYPAD
CA-64 S

Satel®   C€

The CA-64 S partition keypad is a device designed to work with the CA-64 alarm control panel. It is used for arming and disarming a single partition, it is provided with the access control feature, as well as it controls the operation of electromagnetic door lock and monitors whether the door is open or locked. The partition keypad allows changing the user code and calling the functions for control external devices. has been written for the module software version 1.10, control panel software version 1.04.01, and DLOAD64 program version 1.04.02.
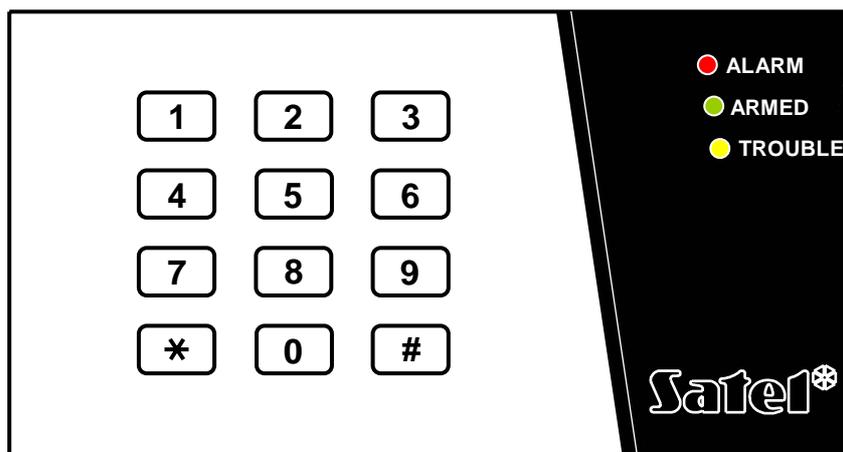
DESCRIPTION OF MODULE

Figure 1

Partition keypad is provided with 12 keys with permanent or temporary backlit (operating automatically), and three LEDs described as follows:

- **ALARM** (red) – continuous light indicates an alarm triggered in the partition operated with this partition keypad, and LED flashing indicates that alarm occurred in this partition previously.
- **ARMED** (green) - continuous light informs that the partition assigned to this partition keypad is armed. The LED blinks when the delay time is counted down.
- **TROUBLE** (yellow) – the LED blinks when technical problem has been detected in the system. Check LCD keypad for a kind of trouble. Indication of this LED relates to the entire system, not only the partition operated with this partition keypad. When this partition is armed, the LED goes off, and disarming causes the LED to start indicating again.

The way of partition keypad operation depends in large degree on the software installed by the installer. The description of situation, for which the way of partition keypad operation depends on the program installed, is marked with the text in brackets: **(service setting).**

USER FUNCTIONS

The partition keypad controls and operates the partition in the alarm system, to which it was assigned by the installer, and includes entering the USER CODE and pressing the key marked **#** or **✷**. Enter the code by pressing from 4 to 8 partition keypad numeric keys one by one.

Functions accessible from partition keypad:

- ► **CODE #**   arming / disarming of the partition, alarm cancelling or execution of control function.

➤ **CODE ✶** control of relay located at the module board (for example, opening of the electromagnetic door lock).

There is a possibility to program the partition (service setting) to be opened or closed after entering two different codes. In this case, after CODE is entered and key # is pressed, the LEDs ARMED and TROUBLE (green and yellow), start to blink, and the control panel waits for entering the second code. The second CODE may be typed either at the same keypad or at another one (also, at LCD keypad), which is assigned for this partition. Pressing the key # after the second code arms and disarms in the partition.

The possibility to **change the code** by the user is an additional function of the keypad (service setting).

The user, who wants to start functions mentioned above, must be authorised to use this keypad (authorisation is given by alarm system administrator or installer). Additionally, in order to use the first of those functions, the user must have access to the partition in question and adequate authorisation given by the system administrator or, by the person, who entered the user's code to the system.

For example: The user, who is authorised to operate a partition keypad, but has not access to a particular partition or has access but no right to disarm the partition, can operate the relay of this keypad by entering the CODE and pressing key ✶ only when the partition **is disarmed.**
When this partition is disarmed and the keypad controls the relay, entering the CODE and pressing key ✶ will cause disarming and operation of the relay only if the partition isn't temporary bypassed, and the user has the right to disarm and use this keypad.

There is a possibility to control various equipment with the control panel (for example, switching off the lighting, starting air-conditioning, etc.). The installer should inform the user, which equipment may be operated by means of the given keypad.
Control functions are executed by typing the special CODE into the keypad (for which the user type has been selected as "monostable output" or "bistable output") and pressing the key #.

When the erratic code is typed three times, the alarm may be activated (service setting).

Code change by the user is carried out as follows:
- Keep pressed for a longer time (approximately 3 seconds) the key with digit **1** (LEDs ALARM and ARMED – red and green – start to blink alternately).
- Type old CODE and press # (LEDs: ALARM and TROUBLE – red and yellow - start to blink alternately).
- Type new CODE and press # (LEDs stop blinking and the module generates confirmation signal of the function executed).

The control panel may refuse changing the code - it is signalled with two long sounds. Information on the refusal of code changing is available in the "User's Manual for CA-64" (→Operation of Control Panel CA-64, →Partition Keypad).

The system installer may render accessible other functions from the partition keypad, for which code entering is not required:
➤ **0 #** quick partition arming (function called by pressing two keys: 0 and # in sequence).
and functions of triggering special alarms:
- **#** panic alarm,
- **0** auxiliary alarm (for example, calling for medical aid),
- **✶** fire alarm.

The last three functions are started by longer keeping depressed (for approximately 3 seconds) the key described above.

SIGNALLING

The keypad module informs on the status of the partition and system both visually (by means of three LEDs) and audibly (by means of the buzzer).

Meaning of individual LED lights is described in the section "Description of the module". Alternate blinking of two of three LEDs is described in section "User's functions".

When all three LEDs (ALARM, ARMED, TROUBLE) blink in sequence, this indicates missing communication between partition keypad and control panel. This situation may occur when special system initialisation program (STARTER) is running in the control panel or the keypad has not been identified or the cable connecting the partition keypad to the control panel is damaged.

Acoustic signals generated by the keypad (since there is no display screen at the partition keypad, this is the basic way of confirming by the control panel the function called) are as follows:

- One short beep – confirmation that the key has been pressed.
- One long beep - refusal of arming - the zone , which shouldn't be violated at the time of arming, is violated (option - "PRIORITY").
- Two short beeps – acceptance of first of two codes needed to armed and disarmed.
- Two long beeps – code is not known to the control panel.
- Three short beeps – confirmation of partition arming and disarming.
- Three long beeps – code cannot control this partition.
- Three pairs of short beeps – it is necessary to change the code - for example, another user, when changing his code, has given identical combination of digits as the combination of the user who enters his code now; or end of code validity period.
- Four short beeps and one long beep – acceptance of execution of function selected, code change done, confirmation of a guard round.
- Five short beeps – dependent door open – the relay has not been activated. In order to activate the relay, close the dependent door and enter code again.

Flashing of key lighting may be arranged instead of audible signalling (service setting). Beeps correspond to keypad lighting off pulses, when the lighting is on, or light on pulses, when normally it is off.

Also, the partition keypad may indicate alarm occurrence for the partition concerned with the following sounds:

- Alarm for the partition –continuous beep for total time of alarm duration.
- Alarm memory – long beeps every two seconds until alarm is reset. The beeps are synchronised with ALARM LED blinking. Press any numeric key for approximately 40 seconds to silence the beeps.
- Fire alarm – series of long beeps every second for the total time of alarm duration.
- Fire alarm memory – short beeps every two seconds until alarm is reset. The sounds are synchronised with ALARM LED flashing. Press any numeric key for approximately 40 seconds to silence the beeps.
- Count down of time for entering – short sounds every 3 seconds.
- Count down of time for exit – long sounds every 3 seconds, completed with a series of short signals (for 10 seconds) and a single long sound. The way of signaling of "time for exit" informs that the count-down is finishing.
- Signalling the auto arming delay time countdown (timer-controlled partitions) - a series of 7 sounds (of diminishing length).
- Door are open for too long - short beeps repeated with high frequency till the door are closed (the function of door control is activated).

MODULE INSTALLATION AND STARTING

The schematic view of part of the board with cable terminals is shown in Figure 2.

The set of switches on the board is used for setting the individual module address.

If the door status monitoring input **IN** is not used, connect it to ground.

Two **NO** relay terminals are used for controlling the door electromagnetic lock.

The microswitch, located at the keypad board, is used as anti-tampering protection. When the module is installed correctly, the spring on the microswitch should be pressed against the wall.

MODULE TERMINALS:

NO   - relay terminal
IN   - door status monitoring input (NC)
COM   - ground
+12V   - power supply input
DTA, CLK - expander bus

Figure 2
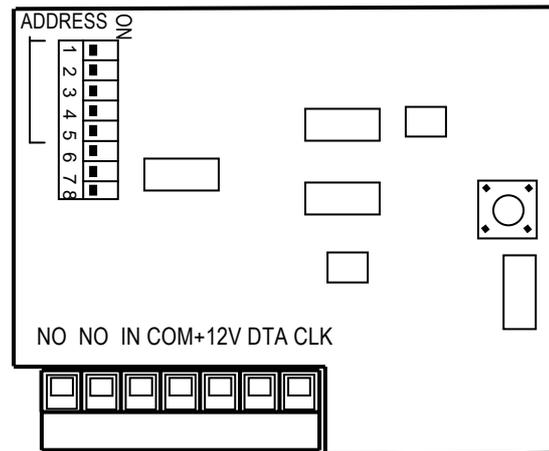
INSTALLATION

The partition keypad module may be mounted either directly to the wall or in the OBU-M-LED metallic casing. This casing is closed with a key, which makes access of unauthorised persons to the keypad more difficult.

MODULE WIRING

NOTE: Disconnect power supply for the whole system before you start to wire the module to the existing alarm system.

1. Remove the plastic module casing by pressing the clips, which fix the casing bottom.
2. Fix the bottom of plastic casing to the wall. The connecting leads should be passed through the rectangular opening in this part of casing.
3. Connect the leads of first or second expander bus to the following terminals: DTA, CLK and COM (first bus: CK1, DT1, COM; second bus: CK2, DT2, COM –as marked at the control panel main board). As many as 32 modules of different types may be connected to one single bus.
4. Set the expander address by means of switches.
   The module address is set with switches numbered from 1 to 5. The remaining switches (6, 7, 8) are irrelevant. In order to define the expander address, summarise numbers corresponding to switches set to position **ON**, according to the table:

Switch number	1	2	3	4	5
Corresponding number	**1**	**2**	**4**	**8**	**16**

Examples of addressing:

address = 4   address =2+8=10   address =1+8+16=25

These five switches allow to address 32 expanders (numbers from 0 to 31). The addresses of expanders connected to one, common bus must be unique, and the order of

addressing is optional. It is recommended to address the expanders and modules connected to one bus in sequence, starting from 0. This will allow avoiding problems when extending the system.

5. Connect the module power supply to the terminal +12V. Power supply for a keypad may be provided from a source other than the control panel main board. It may come from a buffer power pack or another expander with a power pack. Detailed information on wiring are given in the manual for the CA-64 control panel titled "*System description and installation*".

6. Connect the leads of the door status monitoring sensor to IN and COM terminals.

7. If the partition keypad is to play a role of a code lock, connect the door electromagnetic lock leads (or leads for another device) to terminals NO.

8. Fix the partition keypad module to the wall by clasping the plastic casing.

STARTING THE MODULE

1. Switch on the alarm system power supply.

2. Start the communication between the control panel and the computer by calling the function "*Downloading*".

3. Call the function "*Identification of expanders*" from the LCD keypad (→Service mode; →Structure; →Hardware). after identification, the value of all settings is zero or "None", and options are switched off. Since the pressing of keys is not confirmed, it seems like the module does not respond to code entering.

   NOTE: *During the identification process, the control panel saves into memory the special number (16 bits), which is used for checking the presence of the module in the system. Replacement of the module with another one (even if the same address is set) without carrying out the identification process again causes alarm (module tamper – verification error).*

4. Program the partition keypad functions and define users authorised to use this partition keypad by means of DLOAD64 program.

5. Exit the service mode by storing the data in the FLASH memory.

6. Terminate the communication with computer and save the data with system settings in a separate file.

PROGRAMMING OF PARTITION KEYPAD SETTINGS

The dialogue window shown in Figure 3 is used for programming the partition keypad settings in the DLOAD64 program. Programming is carried out by typing data at the computer keyboard, selecting the items from the list or marking the options by means of computer mouse.

♦ **Name:** - the field, where an individual name (16 characters) is assigned to the module.

♦ **Partition:**- the field, where the partition keypad is assigned to the partition (selected from the list).

♦ **Lock feature:** - When this option is marked, the electromagnetic lock (or another equipment, which requires access control) may be operated with a partition keypad. This function is rendered accessible for each user, who has been marked in the option "Users". The lock is operated by means of relay contacts **NO** (normally closed; normally open). The normal (basic) status of a relay contact depends on setting of the "Relay" option. The description of the function relates to a typical application.
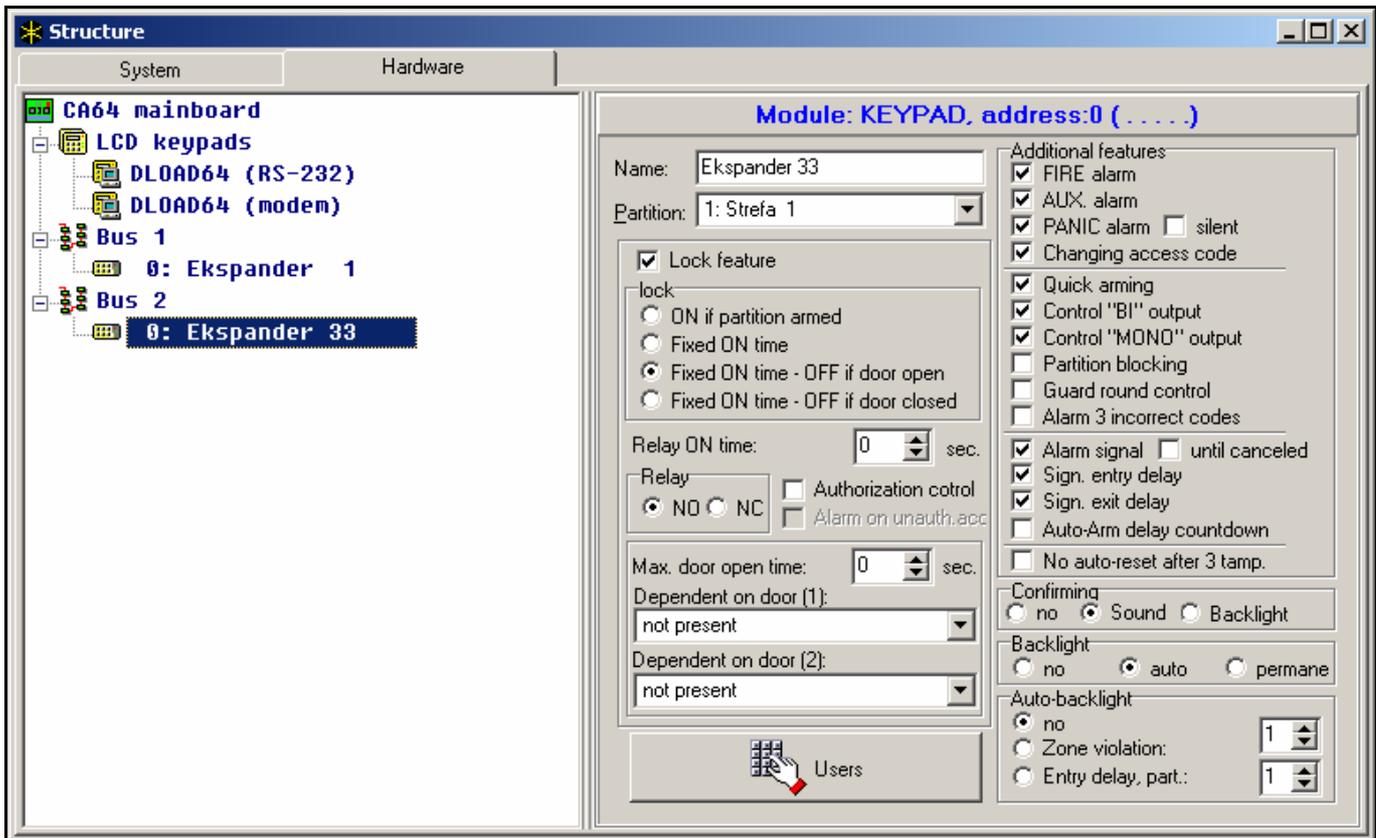
Figure 3

LOCK

- ▪ **ON if partition armed** - When this option is marked, the relay operates in a bistable way (active when the partition is armed and normal when it is disarmed).

  NOTE: *When the relay operates in this mode, it changes the status automatically, if the partition has been disarmed from this partition keypad. However, if the partition has been disarmed from another keypad, the relay changes its status after CODE is entered and the key ✶ is pressed at its partition keypad.*

- ▪ **Fixed ON time** – This option sets the operation mode, in which the relay works in a monostable way. After the user has called the door opening function (CODE ✶) the relay will be activated for the time set in field the "**Relay ON time:**", and then switches to its normal status. Activation time period may be from **1** up to **255** seconds.

- ▪ **Fixed ON time – OFF if door open** – The relay is active until the door is open (input IN is disconnected from ground), but no longer than for the "Relay ON time".

- ▪ **Fixed ON time – OFF if door closed** - The relay is active for the duration of door opening (input IN disconnected from ground), and it is de-activated when the door is closed (input IN is connected to ground again), but the relay is active no longer than the "Lock ON time".

- ▪ **Relay** – This option sets a way of relay contacts operation:
  - ▫ **NO** - normally contacts NO are open, they close when the relay is activated.
  - ▫ **NC** - normally contacts NO are closed, they open when the relay is activated.

- ▪ **Authorization control** – opening of the door without using a card or chip (e.g. with a key) will generate an „Unauthorized door opening" event, and may also be signaled on the 93 (Unauthorized access) type output.

- ▪ **Alarm on unauth. access** – unauthorized opening of a door when the partition to which the module is assigned is in the armed mode will trigger alarm. Additionally the alarm may be signaled at the output of 94 type (Alarm – unauthorized access).

- ▪ *Maximum door open time:* - Time, after which the module signals an event "door is opened for long time" to the control panel and activates audible signal, is set in this field. A time period from **0** to **255** seconds may be set.

♦ *Dependent on door (1) (or Dependent on door (2)):* - The field, where you can select (from the list) which door must be closed to activate the lock. Door status monitoring is carried out via input IN at the partition keypad or an input type 57 (technical input – door monitoring). This function makes it possible to create a "sluice" type passageway.

♦ **Users** – When you click with the mouse to this field, a new dialog window opens (see Figure 4) which is used for setting the list of users (administrators and ordinary users), who may use this partition keypad. Mark the user name to render accessible the partition keypad for him.

♦ **Additional features** (marking the option will make accessible the following functions):

- ▪ *FIRE Alarm* – When you press the key designated with ✶, you will activate a fire alarm.
- ▪ *AUX Alarm* - When you press the key designated with digit "0", you will activate an auxiliary alarm.
- ▪ *PANIC Alarm* - When you press the key designated with #, you will activate an attack alarm.
- ▪ *Silent (PANIC alarm)* – When this option is activated, the PANIC alarm started with a partition keypad does not trigger an audible alarm, but a message is transmitted to the monitoring station only, and the input type 12 ("silent alarm") is activated.

Figure 4

- ▪ *Changing access code* – When this option is marked, the user code change function is accessible.
- ▪ *Quick arming* – Arming by pressing the keys 0 and # in sequence.
- ▪ *Control "BI" output* – This option allows the partition keypad to accept the code, for which the user type has been determined as a "bistable output".
- ▪ *Control "MONO" output* – This option allows the partition keypad to accept the code, for which the user type has been determined as a "monostable output".
- ▪ *Partition bypass* – entering the guard code, when the partition is armed, activates temporary partition bypass.
- ▪ *Guard round control* – entering the guard code (CODE # or CODE ✶) will be treated as a completion of a guard round.
- ▪ *Alarm – three incorrect codes* – When an erratic code is typed three times, an alarm will be generated.
- ▪ *Alarm signalling (fixed time)* – audible alarm for a given partition (for the total alarm duration time).
- ▪ *Alarm signalling (latch)* - audible alarm for a given partition until it is cleared.
- ▪ *Signalling entry delay* – audible signalling when the entry delay is counted-down.
- ▪ *Auto-Arm delay countdown* - the countdown of the Auto-Arm delay will be signalled with a sound from the keypad that has been assigned to the partition.
- ▪ *No auto-reset after 3 tamp.* - each expander automatically blocks its tamper alarm function after three consecutive (not cleared) tamper alarms, which prevents the same
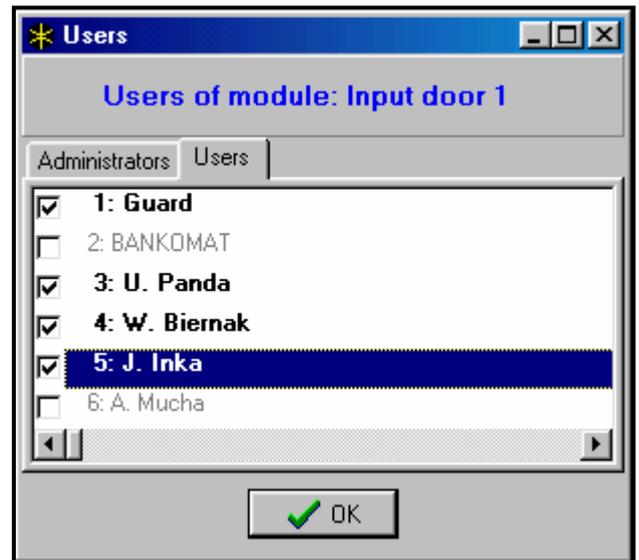
events from being entered several times into the control panel memory. This option allows the blocking function to be disabled.

♦ **Confirming** – option determining the way of control panel communication with the partition keypad user:
  ▪ No – function of option confirming on keypad disabled
  ▪ *Sound* – the partition keypad generates the sounds described above in this manual, section "SIGNALLING".
  ▪ *Backlight* – key backlit blinking is used instead of audible signalling, as described in this manual section "SIGNALLING".

♦ **Backlight** – defines the way of operation of key backlit:
  ▪ *No* – key backlit is off.
  ▪ *Auto* – key backlit is switched on automatically after pressing any key, this function has additional options:
    ▫ *No* – key backlit is switched on only after pressing any key,
    ▫ *Zone violation:* - key backlit is switched on also when the zone with the number entered in the field next to the option name has been violated,
    ▫ *Entry delay, part.:* - key backlit is also switched on when the entry delay counting down is started in the partition with the number entered in the field next to the option name.

    NOTE: *Automatic keypad backlit is active for approximately 40 seconds, counting from the moment of its activation or from the last pressing of any key.*

  ▪ *Permanent* - key backlit is switched on permanently.

TECHNICAL DATA

Supply voltage .... DC 10,5V...14V
Maximum current consumption 50mA
Maximum voltage switched over by the relay 24V
Maximum current switched over by the relay 2A
Dimensions .... 80x145x26 mm

Latest EC declaration of conformity and product approval certificates can be downloaded from our Web site **www.satel.pl**

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