

Alarm Control Panel

CA-5

(Program Version 1.07)

Satel 

GDAŃSK
POLAND

PROGRAMMING LIST



TABLE OF BINARY CODES

The numbers are to be read out from the LED Nos 2 to 5 of the LED keypad and entered as indicated in the table below and on the keypad.

Decimal numbers - items 0-9 of the table.

Hexadecimal numbers - items 0-15 of the table. In the LED keypads the hexadecimal characters from A to F should be entered by pressing in turn the asterisk key and the digit key.

VALUE	CHARACTER	KEYS	INDICATIONS OF LEDs			
			2	3	4	5
0	0	0	○	○	○	○
1	1	1	○	○	○	●
2	2	2	○	○	●	○
3	3	3	○	○	●	●
4	4	4	○	●	○	○
5	5	5	○	●	○	●
6	6	6	○	●	●	○
7	7	7	○	●	●	●
8	8	8	●	○	○	○
9	9	9	●	○	○	●
10	A	*0	●	○	●	○
11	B	*1	●	○	●	●
12	C	*2	●	●	○	○
13	D	*3	●	●	○	●
14	E	*4	●	●	●	○
15	F	*5	●	●	●	●

○ - LED is off

● - LED is on

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SECURITY SYSTEM

USER

TELEPHONE NUMBER

ADDRESS

REMARKS

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The mode of operation of the alarm control panel is defined by the security system parameters. Changing these parameters makes it possible to adapt the panel operation to individual needs of the protected site. The initial or the so-called „*default*” settings are indicated in the description of each service function.

The service functions allow changes in the settings of particular system parameters to be made by means of the keypad. Such changes can only be made when the control panel is not armed and when it signals no alarm.

The parameters can also be changed remotely by means of the computer and the DLOAD10 program. In order to do so, the „downloading” (DWNL) function of the control panel must be used (see description in the „*CA-5 Installation Guide*”). The program enables the users and zones to be assigned **names**, which will be displayed when viewing the memory log in the LCD keypad or on the computer screen.

ACTIVATION OF SERVICE MODE

To change any parameter by means of the service function, activate the service mode in the control panel ([SERVICE CODE] [#]), enter the number of the corresponding service function and press the [#] key. The numbers and descriptions of functions are presented in further part of this manual.

It is also possible to call the service mode without entering the service code. To this end you should:

- disconnect first the main power supply, then the battery,
- put a jumper on the RESET pins on the control panel main board,
- connect first the battery, then the main power supply – the LED keypad will start blinking with all its LEDs and will generate short beeps, the LCD keypad will display a message “No CLK signal” and will generate short beeps
- remove the jumper – the keypads will confirm the panel entering the service mode by four short beeps and a long one; in the LED keypad the PROGRAM diode will light up; in the LCD keypad service mode menu will display.

This procedure is popularly called the entry „from pins” (see description of function FS 9).

PROGRAMMING WITH LED KEYPAD

Having called the service function, check the current setup or enter new data. The way of data entry is described in subsequent sections. Press [#] in order to memorize the new setting of a parameter, or press [*] and hold down until you hear two long beeps, or, alternatively, press in turn [*][#] to quit the function without making any changes.

Checking the setup of numeric parameters (which require numbers to be entered) is possible by **double pressing** the [*] key. Displayed in the binary system on the LEDs (2-5) are consecutive digits of the number programmed with the given function (the review procedure is presented in the „CA-5 User Manual” - description of the „Clock Programming” function).

In order to change a parameter after beginning the review (readout) of the settings, bring to an end the sequence of checking the settings (two long beeps after pressing the [*] key), enter the new data and press [#]. Optionally, exit the function, call it again and enter the changes.

After quitting the function, the control panel returns to the service mode. Exiting the service mode takes place after calling the function **FS 0**.

PROGRAMMING WITH LCD KEYPAD

Programming the system parameters is carried out in much the same way as for the LED type keypad. When in the service mode [SERVICE CODE][#], the access to any of the service functions included in the „CA-5 Programming List” is possible after entering the function number and pressing the [#] key. The values of parameters being currently programmed are shown directly on the display. It is possible to change the values of these parameters by entering corresponding data from the keypad.

Select the option by calling the corresponding function to light up the ▣ character at the option name. The character lights up on pressing any numerical key. Press any numerical key again to extinguish the ▣ character (deactivate the option).

Another method of programming consists in moving around the service functions menu by means of the arrow keys [▲],[▼],[◀],[▶]. The functions have been grouped so as to facilitate finding the required parameters. The keypad indicates by suitable prompts which parameter is currently being programmed.

[▶],[#] - go up the menu, call the displayed function,

[#] - confirm the change of function parameters

[◀],[*]- return to the previous level of menu, quit the function without saving the changes

[▲],[▼]- scroll the menu within the current level

When entering the hexadecimal code values in LCD keypads, press the [▲] key to make possible input of the A, B, C, D, E, F characters, which is indicated by appearance of the * mark at the right upper corner of the display. When entering the telephone numbers, the A (end of number) character is unavailable - it is added automatically. In order to enter the event codes for monitoring purposes, the A, B, C, D, E, F characters can be input upon pressing the [◀] or [▶] key.

SERVICE FUNCTIONS MENU IN LCD KEYPADS

→0 End service

- Configuration
 - 1 Service code
 - 2 System ident.
 - 3 Comp. ident.
 - 4 Comp. tel. num.
 - 5 Rings to answer
- Options
 - 6 Kpd. functions
 - 7 Kpd. signals
 - 8 User options
 - 9 Syst. options
 - 10 Tel. options
 - 11 Add. options
- Times
 - 12 Exit time
 - 13 Alarm time
 - 14 Clock adjus.
 - 15 Year

Zones		Zone (Zn)	Z1	Z2	Z3	Z4	Z5	(Table contains service function numbers)
	Sensitiv.		16	17	18	19	20	
	EOL		21	22	23	24	25	
	Type		26	27	28	29	30	
	Al. delay		31	32	33	34	35	
	Opt. #1		36	37	38	39	40	
	Opt. #2		41	42	43	44	45	

- Outputs
 - 46 OUT1 delay
 - 47 OUT1 time
 - 48 OUT2 funct.
 - 49 OUT2 time
 - 50 OUT3 funct.
 - 51 OUT3 time
- Monitoring
 - Stations
 - 52 MS1 tel. num.
 - 53 MS2 tel. num.
 - 54 MS1 format
 - 55 MS2 format
 - 56 Identifier
 - Codes
 - 57 Zone alarm
 - 58 Zone restore
 - 59 Keypad alarm
 - 60 Zone tamper
 - 61 Zone tmp. rst.
 - 62 Keypad tamp.
 - 63 Keypad pres.
 - 64 Arming
 - 65 Disarming
 - 66 System #1
 - 67 System #2
 - 68 System rest.
 - Parameters
 - 69 Test at
 - 70 Test every
 - 71 Suspens. time
 - 72 AC loss del.
 - 73 Tel. loss. dl.
- Restarts
 - 74 Clear sett.
 - 75 Clear codes
 - 76 Clear mon. c.
 - 77 Local DWNL
 - 78 RS-232 DWNL

2. SECURITY SYSTEM OPTIONS

In order to select an option, press the key with the LED number – the corresponding diode will light up. To deselect the option - extinguish the LED which corresponds to its number. For LCD light up/extinguish the **■** character. Accept the setting with the [#] key.

FS 6 – KEYPAD FUNCTIONS

LED No.	Set option	Description of option
1		PANIC ALARM ([#]) enabled
2		FIRE ALARM ([*]) enabled
3		MEDICAL ALARM (HELP) ([0]) enabled
4	x	Quick Arm ([0][#]) enabled
5		SILENT Panic Alarm

x- default

NOTE: The option 5 has meaning when the option 1 has been selected.

FS 7 – KEYPAD SIGNALS

LED No.	Set option	Description of option
1	x	Entry delay signaling – T_{en}
2	x	Exit delay signaling – T_{ex}
3	x	Alarm signaling
4		Permanent illumination
5	x	Auto illumination (on pressing the key)

x- default

NOTE: With the options 4 and 5 selected at the same time, the illumination is activated as in the **Auto** mode, and after violation of any control panel zone when armed.

FS 8 – USER OPTIONS

LED No.	Set option	Description of option
1		Code 4 generates the DURESS ALARM event
2		Code 5 disarms the system, if it armed it itself
3	x	3 wrong codes generate an event
4		With 3 wrong codes, except the ALARM event
5	x	Missing keypad (or DTA shorting) triggers the ALARM

x- default

FS 9 – SYSTEM OPTIONS

LED No.	Set option	Description of option
1	x	Entry in service mode „from pins” enabled
2		Fire alarm on OUT1 as burglary one
3		Arming/disarming and clearing alarm signaled on OUT1
4		Polarisation OUT1 reversed
5		Maximum 3 alarms from one zone in time intervals shorter than 1 minute

x- default

NOTES:

- The option 1** refers to entering the service mode „from pins”. With this option deactivated, entering the service mode is only possible by means of the **service code**. In case the service code has been lost, unblocking of the control panel results in losing all the settings - the control panel returns to its default settings as after calling the service functions FS 74 and FS 75. To enter the service mode not knowing the code, do the following:

 - disconnect first the main power supply, then the battery,
 - put a jumper on the RESET pins,
 - connect first the battery, then the main power supply,
 - wait abt. 60 seconds (± 5 seconds) and remove the jumper,
 - enter the code [1][2][3][4][5] from the keypad (the code is to be entered within 15 seconds of removing the jumper) and terminated by pressing the key [#] or [*].

After completion of the a.m. operations, the control panel should return to its default settings and stay in the service mode.
- The fire alarm is normally signaled on the OUT1 output with an intermittent signal (1sec./1sec.). When the **option 2** is selected, the fire alarm will be signaled in the same way as the burglary alarm i.e. with a continuous signal.
- When switched on, the **option 3** activates in the following situations the function of generating short beeps on the OUT1 output:

 - one beep – arming,
 - two beeps – disarming (if there was no alarm),
 - four beeps – clearing alarm, or disarming and clearing alarm.
- The selection of **option 4** makes the terminal –OUT1, while in nonactive state, to be shorted to COM, and while in active state to be cut off COM.
- Option 5** limites the number of alarms triggered by one zone down to 3 in time intervals shorter than 1 minute. If the control panel, being in armed state, has received 3 violations from a given zone within a shorter time than 1 minute, then every next violation will be ignored unless 1 minute has passed since the previous violation.

FS 10 – TELEPHONING OPTIONS

LED No.	Set option	Description of option
1		Monitoring unblocked
2		Without signal control after lifting the handset
3		Generate GROUND START before beginning of dialing
4		Pulse proportions in case of pulse dialing 1:1,5 (LED off - 1:2)
5	x	Tone dialing (LED off – pulse dialing)

x- default

FS 11 – ADDITIONAL TELEPHONING OPTIONS

LED No.	Set option	Description of option
1		DWNL initialization possible from outside via a telephone line
2	x	Double call (LED off – after a determined number of rings)
3		Do not skip events not confirmed by the monitoring station
4		DWNL from outside unavailable in the armed mode
5		<i>not to be programmed</i>

x- default

NOTE: *The option 2 and the number of rings set with the FS 5 function should be identical on the control panel and on the computer communicating with it by phone (which facilitates activation of the downloading).*

3. TIMES**FS 12 – EXIT TIME DELAY(T_{ex})**

|_|_|# program from 0 to255 seconds *default/0/3/0/#*

FS 13 – KEYPAD ALARM TIME

|_|_|# program from 0 to255 seconds *default/0/3/0/#*

NOTE: *When signaling alarm in the keypad, the control panel generates no subsequent alarms and records no events.*

FS 14 – CLOCK ADJUSTING

|_|_|# *default/0/0/#*

program: 01 to 19 - positive correction 1s to 19s
 00 - no correction
 81 do 99 - negative correction -1s to -19s

FS 15 – YEAR

 | # program from 0 to 255 *default |0|0|3|#*

NOTE: The year is important for the correct functioning of calendar in leap years. For example, enter 4 for the year 2004.

4. ZONES**FS 16, 17, 18, 19, 20 – SENSITIVITY OF ZONES 1, 2, 3, 4, 5**

	FS 16 Z1	FS 17 Z2	FS 18 Z3	FS 19 Z4	FS 20 Z5
Zone sensitivity					
<i>default</i>	030	030	030	030	030

program: from 1 to 255 (from 16ms to 4080ms)

To calculate the actual sensitivity, multiply the entered number by 16ms.

Default sensitivity: 30 x 16ms = 480ms (**0,48 seconds**)

FS 21, 22, 23, 24, 25 – EOL FOR ZONES 1, 2, 3, 4, 5

	FS 21 Z1	FS 22 Z2	FS 23 Z3	FS 24 Z4	FS 25 Z5
Zone type					
<i>default</i>	003	003	003	003	003

program: from 0 to 5

- | | |
|----------------|---------------------|
| 0. No detector | 3. EOL detector |
| 1. NC detector | 4. 2EOL/NC detector |
| 2. NO detector | 5. 2EOL/NO detector |

FS 26, 27, 28, 29, 30 – REACTION TYPE OF ZONES 1, 2, 3, 4, 5

	FS 26 Z1	FS 27 Z2	FS 28 Z3	FS 29 Z4	FS 30 Z5
Zone reaction type					
<i>default</i>	000	002	002	002	006

program: from 0 to 7

- | | | |
|---------------------|--------------|-------------------------------------|
| 0. Entry / Exit | 3. Counting | 6. 24H TAMPERING |
| 1. Interior delayed | 4. 24H PANIC | 7. Arming/Disarming, Clearing alarm |
| 2. Instant | 5. 24H FIRE | 8. Perimeter |

NOTE: The counting line (type 3) counts up to 2 violations (the second one triggers alarm). The counting time is set by the „zone alarm delay” parameter (FS 31-35).

FS 31, 32, 33, 34, 35 – ZONES 1, 2, 3, 4, 5 ALARM DELAY

	FS 31 Z1	FS 32 Z2	FS 33 Z3	FS 34 Z4	FS 35 Z5
Zone alarm delay					
<i>default</i>	030	000	000	000	000

program: from 0 to 255 seconds

NOTE: The parameter has meaning for zone types 0, 1 and 3. For the entry/exit lines, it is the „entry delay time” (T_{en}), and for the counting line - the „violations counting time”.

FS 36, 37, 38, 39, 40 – OPTIONS # 1 OF ZONES 1, 2, 3, 4, 5

LED No.	Description of option	FS 36 Z1	FS 37 Z2	FS 38 Z3	FS 39 Z4	FS 40 Z5
1	Auto reset 3 *					
2	Alarm when zone is violated after exit time delay *	x	x	x	x	x
3	Bypass when no exit					
4	Priority		x	x	x	
5	Power up delay					

x- default

NOTE: The options designated with the * symbol change the meaning for the type 7 zone:

Option 1 – sets the manner of panel control by the zone:

- LED is off – bistable control (the panel is armed when the zone is violated, and disarmed when the zone state is normal),
- LED is on – monostable control (violation of the zone arms, and next violation disarms the system).

Option 2 – sets the monostable control range (important if the option 1 selected):

- LED is off – zone violation can arm/disarm the system and clear the alarm,
- LED is on – zone violation can only arm the system (disarming and clearing alarm is only possible with the code).

FS 41, 42, 43, 44, 45 – OPTIONS #2 OF ZONES 1, 2, 3, 4, 5

LED No.	Description of option	FS 41 Z1	FS 42 Z2	FS 43 Z3	FS 44 Z4	FS 45 Z5
1	Reset after disarming and alarm					
2	Reset after bell					
3	Abort monitoring during entry time delay	x	x	x	x	x
4	Chime in keypad	x				
5	Triggers OUT1*	x	x	x	x	x

* and output programmed as „alarm to be cleared”

x- default

5. OUTPUTS

FS 46 SIGNALING DELAY ON OUTPUT OUT1

|__|__|__|#

default/0/0/0/#

Program: from 0 to 255 (from 0s to 1020s).

To calculate the actual delay time, multiply the entered number by 4 seconds.

FS 47 SIGNALING TIME ON OUTPUT OUT1

|__|__|__|#

default/0/1/5/#

Program: from 1 to 255 (from 4s to 1020s),
for 0 – the output active time is 60 seconds.

To calculate the actual signaling time, multiply the entered number by 4 seconds.

The **default** alarm time: 15 x 4s = 60s **(1 minute)**

FS 48, 50 – FUNCTIONS OF OUTPUTS OUT2, OUT3

FS 49, 51 – ACTIVE TIME OF OUTPUTS OUT2, OUT3

	FS 48 OUT2	FS 50 OUT3
Output function		
<i>default</i>	001	005

Program from 0 to 15.

0. Output not used
1. Alarm to be cleared
2. Alarm in keypad
3. READY indicator
4. Armed mode indicator
5. Trouble AC+DC+TL
6. AC power loss
7. Battery trouble
8. Telephone line loss indicator
9. Ground Start

	FS 49 OUT2	FS 51 OUT3
Output active time		
<i>default</i>	000	000

Program: from 1 to 255
(from 4s to 1020s).

The times are calculated similarly as for FS 47.
for 0 – the output active time is about 0,1 s

10. Telephone line relay
11. MONO switch
12. BI switch
13. RESET power supply
14. DURESS alarm
15. Monitoring acknowledgement

NOTE: *Functioning of the type 10 output is described in the „CA-5 Installation Guide”, Section „Connection of Telephone Line”.*

6. MONITORING

The monitoring codes can be transmitted to one or two telephone numbers. It is possible to choose a different transmission format for each of them. Selecting the „Contact ID – all codes” for the first number makes the choice of format for the other number irrelevant – CID will be set automatically.

CODES

FS 57, 58, 60, 61 – EVENT CODES FOR ZONES 1, 2, 3, 4, 5

Function No.	Event description	Z1	Z2	Z3	Z4	Z5
FS 57	Zone alarm	1 1	1 2	1 3	1 4	1 5
FS 58	Zone restore	3 1	3 2	3 3	3 4	3 5
FS 60	Zone tamper	2 1	2 2	2 3	2 4	2 5
FS 61	Zone tamper restore	4 1	4 2	4 3	4 4	4 5

↙ default

FS 59 – KEYPAD ALARM CODES

FS 62 – KEYPAD TAMPER CODES

FS 63 – TAMPER RESTORE CODE

PANIC alarm (#)	FIRE alarm (*)	HELP alarm (0)	DURESS alarm	3 WRONG CODES alarm	KEYPAD TAMPER alarm	KEYPAD TAMPER restore
1 6	1 7	1 8	1 9	1 A	1 B	3 6

NOTE: The „Keypad tamper alarm” code is sent after discovering lack of data exchange with the keypad (cut-off of data bus).

FS 64, 65 – CODES OF ARMING, DISARMING AND CLEARING ALARM

	FS 64 Arming	FS 65 Dis- arming
User 1	5 1	6 1
User 2	5 2	6 2
User 3	5 3	6 3
User 4	5 4	6 4
User 5	5 5	6 5
MASTER user	5 6	6 6
Arming/Disarming zone	5 7	6 7
Quick arming (0#)	5 8	
Clearing ALARM		6 8

FS 66, 68 – SYSTEM EVENT CODES (Part I)

FS 67 – SYSTEM EVENT CODES (Part II)

Event description	FS 66 Event	FS 68 Event restore
AC power loss	7 1	8 1
Battery trouble	7 2	8 2
F3 fuse trouble(AUX and KPD outputs)	7 3	8 3
F2 fuse trouble (OUT1 output)	7 4	8 4
DTA bus trouble	7 5	8 5
Monitoring trouble	7 6	8 6
Clock loss	7 7	8 7

Event description	FS 67 Event
Control panel restart	7 8
DWNL call-back	7 9
Successful DWNL	7 A
DWNL fail	7 B
Monitoring test	7 C
Service mode start	7 D
Service mode end	7 E

↖ default

PARAMETERS**FS 69 – TEST AT** – test transmission time

|__|__|__|__|# default/9/9/9/9/# (disabled)
 format – HH:MM (hours:minutes)

FS 70 – TEST EVERY – test transmission period

|__|__|__|__|__|__|# default/0/0/0/0/0/0/# (disabled)
 format – MM:HH:DD (minutes:hours:days)

FS 71 – MONITORING SUSPENSION TIME

|__|__|__|# program from 0 to 255 minutes default/0/3/0/#

NOTES:

1. *Entering 0 value suspends monitoring until next event.*
2. *Monitoring will be suspended after 8 unsuccessful attempts (busy condition, no signal of invitation or confirmation) to send the code to each of the monitoring station numbers.*
3. *Selecting the **option 3 in FS 11** results in the control panel trying, after suspension period, to resend the codes not confirmed by the station. If this option is not selected, the control panel skips unconfirmed codes and proceeds to handling subsequent events.*

FS 72 – AC LOSS REPORTING DELAY

|__|__|__|# program from 0 do 255 minutes default/0/1/0/#

NOTE: *Entering the „0” value will block sending the „AC loss” event code, while during review of the current troubles, information on such a failure will be displayed on the LEDs.*

FS 73 – TELEPHONE LINE LOSS REPORTING DELAY

|__|__|__|# program from 0 to 99 minutes default/0/0/0/#

NOTE: *Entering the 0 value will block reporting troubles of the „telephone line voltage loss” type.*

7. RESTARTS

Performance of the functions FS 74 and FS 75 will restore default values of the parameter settings. The special way these functions are executed protects the settings against an accidental deletion.

FS 74 – CLEAR SETTINGS

After calling the function, the LEDs 2 to 4 will light up. Press the [1] key to restore the default settings. The function also resets the names of users and zones.

FS 75 – CLEAR CODES

After calling the function, the LEDs 1, 3, 4 and 5 will light up. Press the [1] key to restore the default settings.

FS 76 – CLEAR MONITORING CODES AND IDENTIFIER

All the codes are pre-programmed according to the default settings (see: FS 56 to FS 68). The purpose of the function is to quicken the process of programming the selected monitoring codes. An earlier activation of the function makes unnecessary the individual deletion of the codes not sent to the station. The deletion consists in programming the zero code.

After calling the function, the LEDs 1, 2, 4 and 5 will light up. Press the [1] key to reset all the control panel monitoring codes and identifier.

FS 77 – LOCAL DOWNLOADING

(local communication)

NOTE: *All the changes introduced in the process of communication become valid as soon as they are uploaded to the panel, except for some parameters (zone sensitivity, zone types, telephone messaging options), which become valid after the communication is ended or a full minute is counted by the panel (after the end of uploading).*

FS 78 – RS-232 DOWNLOADING

Calling the function starts data exchange between the panel and the computer via the RS-232 port.

NOTE:

- *To connect the ports of the control panel and the computer, use the special cable of SATEL make, which is designed for conversion of the TTL (0V, +5V) standard signal into the RS-232 (-12V, +12V) standard. The cable enables two-way data transmission.*
- *The function may active no communication (3 long sounds), if the control is currently dialling. If the problem exist for a longer time it is possible to disactivate monitoring for the period of programming (FS 10 option 1)*