Declaration of Conformity

Tecnoalarm snc of **Trucchi Luciano and Negro Giovanni, 10156 Turin, Italy** declare under their sole responsibility that the product to which this declaration relates

LCD300 WL

is in conformity with all relevant essential requirements of the directive 1999/5/EC and in particular the health and safety provisions of the directive 73/23/EC and the electromagnetic compatibility provisions of the directive 89/336/EC.
In addition, the correct use of the radio spectrum is guaranteed to prevent from harmful interferences.

Turin, December 5th, 2004

Negro Giovanni

TECHNICAL DATA

Device:	**LCD300 WL**
Description:	Wireless LCD console
Tamper:	1 micro-switch antiopening and antidetachment
Batteries:	(2x) 3.6V ⎓, 1.8Ah lithium
The batteries must absolutely be identical and they must be replaced at the same time.	
RX RF channel:	868MHz
TX RF channel:	433MHz
Operating temperature:	+5°C...+40°C
Rated voltage:	3.6V ⎓
Consumption:	
Stand-by	6mA
Console active without backlight	50mA
Console active with backlight	70mA
Battery test:	
Threshold of low battery:	< 2.9V
Threshold of battery restore:	> 3.1V
Casing:	ABS
Design:	pininfarina

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LCD300 WL

CEI 79/2 - Livello 2
CEI 79/16 - Livello C
ETS 300-220
ETS 301-489

Wireless bidirectional console with LCD display

Ver. 0.1 - 04/05

DESCRIPTION

The console **LCD300 WL** is a wireless bidirectional console. It is composed by a 16 keys rubber keypad, 5 leds and a backlit liquid crystal display with 2 lines of 16 alphanumerical characters.
The console can control and display the status of maximum 8 programs and 8 remote control outputs. In addition, it supplies a supplementary input for NC contacts, that can be controlled by the control panel like a wireless zone.
Power supply is guaranteed by 2 (non rechargeable) lithium batteries with 3.6V-1.8Ah capacity. Two-way data exchange with 2 operating frequencies (868MHz and 433MHz).

APPLICATIONS

The console LCD300 WL is compatible with the control panels TP8-64 and TP16-256 with the following configurations:

Control panel TP8-64
- Control of max. 4 consoles
- Control of 8 programs (fix)
- Control of 8 remote controls (fix)

Control panel TP16-256
- Control of max. 4 consoles
- Control of 8 programs (associable)
- Control di 8 remote controls (limited to the first 8)

FUNCTIONS

BACKLIGHT

When the console is off (in stand-by), both the leds and the display are off. Upon striking of a numerical key, the display is lit, whereas the leds remain off. The display views:

Complete Command

Every message is displayed for approx. 10 seconds. For lack of further commands the console returns to stand-by and the display is switched off again.

TRANSMISSION OF A CODE/COMMAND OR INFORMATION REQUEST

The codes, commands and requests are transmitted to the control panel upon pressing of one of the following keys: #(YES), *(NO), MEM, EXIT.
During the transmission, on the display is viewed:

Connecting . . .

RECEPTION/VIEWING OF THE ANSWERS OF THE CONTROL PANEL

The control panel answers to the requests transmitted by adapting led signaling and viewing on the display. A possible answer is the program status (e.g. program 1 and 8 armed), whereas in case of error during the transmission of the request, an error message is displayed:

Program status **1 _ _ _ _ _ _ 8**

Connecting . . . **ERROR**

WIRELESS
English
Tecnoalarm

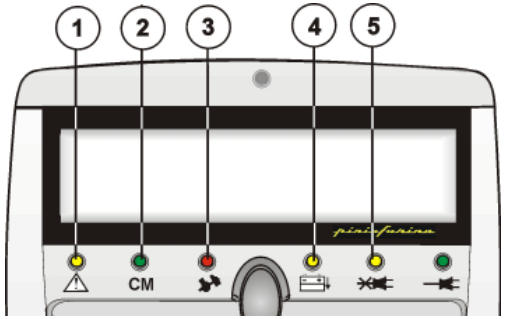
The error may be of the following kind:
- Console not recognized
- Communication error (weak or disturbed signal)

The answer is viewed for approx. 10 seconds. For lack of further commands the console returns to stand-by and the display as well as the leds are switched off.

LED SIGNALING

The status of the leds is adapted upon every reception of data from the control panel.

The meaning of the leds



① **Trouble led (yellow)**
- off — no alarm
- blinking — trouble alarm active
- on — alarm memory

② **Command mode led (green)**
- off — stand-by
- blinking — data transmission

③ **Tamper led (red)**
- off — no alarm
- blinking — tamper alarm active
- on — alarm memory

④ **Battery led (yellow)**
- off — no alarm (battery voltage ok)
- blinking — low battery alarm active
- on — alarm memory

⑤ **Mains led (yellow)**
- off — no alarm (mains power 230V ok)
- blinking — power failure alarm active
- on — alarm memory

SYSTEM STATUS SIGNALING

For system status signaling press one of the following keys (*without pressing any key before*):
- **#(YES)** for program status and open zone signaling
- **EXIT** for system status
- **MEM** for zone alarm memory

PROGRAM STATUS

The key **#(YES)** permits viewing of the status of the 8 programs (on the second line of the display). The symbols viewed have the following meaning:

Symbol	Program status
_	Disarmed
n	Program “n” armed (n = program number)
P	Program partset (viewed alternately with the program number)
A	Alarm memory (viewed alternately with the program number)

Example: programs 1, 3, 8 armed and alarm memory program 3

Program status 1 _ 3 _ _ _ _ 8	⇔ alternately	Program status 1 _ A _ _ _ _ 8

Example: programs 1, 3, 8 armed and program 8 partset

Program status 1 _ 3 _ _ _ _ 8	⇔ alternately	Program status 1 _ 3 _ _ _ _ P

ZONE STATUS

Pressing the key #(YES) again (the first time, program status is viewed), the status of the zones of the programs associated to the console is viewed.
If need be, on the display is viewed the number of the first zone that is found open, and pressing the key #(YES) again, the other open zones will be viewed in sequence, however, if there are no open zones, on the display is viewed **None**:

ZONES OPEN Zone 1	ZONES OPEN None

SYSTEM STATUS
The EXIT key permits viewing of system status (general alarms or trouble). It is viewed one alarm at a time, to pass to the next one, press EXIT again.
The alarms are viewed in order of priority, i.e. high-priority alarms are viewed first. As long as a high-priority alarm has not been stopped, those with lower priority cannot be viewed.
If there are no general/trouble alarms, the following message followed by the program status will be viewed:

Control panel OK
1 _ 3 _ _ _ _ _

The table beside shows system status coding as well as the priority of scanning.

System status	Viewing on console	Priority
Zone alarm	ALARM ZONE n.	High
Zone tamper alarm	TAMPER ZONE n.	.
Zone trouble	! TROUBLE ! ZONE n.	.
False code/key alarm	ALARM ACCESS DENIED	.
Supervision alarm	! TROUBLE ! ZONE n.	.
Warning for arming upon end of by-pass	Arming End of by-pass	.
Antimasking	! TROUBLE ! WLESS CONNECTION	.
Trouble mobile phone	! TROUBLE ! MOBILE	.
Cut telephone line	! TROUBLE ! CUT TEL. LINE	.
Trouble module on bus	! TROUBLE ! Module n.	.
Low battery zone/module	LOW BATTERY ZONE n.	.
Power failure	! TROUBLE ! POWER FAILURE	Low
No general/trouble alarm	Control panel OK _ _ _ _ _ _ _ _	

ZONE ALARM MEMORY
The MEM key permits viewing of alarm memory of the zone alarms. On the display is viewed the alarm memory signaling of the first zone that has gone in alarm and pressing the MEM key again, the following alarms will be viewed in sequence, however, if there have not been any alarms, on the display is viewed **None**:

ALARM MEMORY
Zone n. X

ALARM MEMORY
None

1. USER MENU

1.1 ARMING

ARMING OF ONE PROGRAM
To arm one specific program, enter the user code (e.g. default master code 12345) followed by the program number and press #(YES), e.g.:
☞ 1 2 3 4 5 1 #**(YES)**

SIGNALING UPON ARMING
The following signaling may be displayed:

ERROR **Password**	**Arming** **1** _ _ _ _ _ _ _	**ZONES OPEN** **1** _ _ _ _ _ _ _
Wrong user code	Arming (zones ok)	Arming allowed (but there are open zones)

ZONE EXCLUSION TIME
Once you have selected the program to be armed, for the 10 seconds to come, you may either exclude the open zones (if there are) by pressing the key #(YES) again, or abort arming (if there are open zones and you do not want to exclude them) by pressing the EXIT key.
On the display is viewed:

ZONES EXCLUDED **1** _ _ _ _ _ _ _	**Abort arming** _ _ _ _ _ _ _ _
Arming completed (zones excluded)	Arming aborted

ARMING OF ALL THE PROGRAMS ASSOCIATED TO THE CODE
To arm simultaneously all the programs the code is enabled for, enter the user code (e.g. default master code 12345 enabled for all 8 programs) and press #(YES):
☞ 1 2 3 4 5 #**(YES)**
On the display is viewed:

Arming
1 2 3 4 5 6 7 8

Arming (zones ok)

1.2 DISARMING

DISARMING OF ONE PROGRAM
To disarm one specific program, enter the user code (e.g. default master code 12345) followed by the program number and press *(NO), e.g.:
☞ 1 2 3 4 5 3 *(NO)

DISARMING OF ALL PROGRAMS ASSOCIATED TO THE CODE
To disarm simultaneously all the programs the code is enabled for, enter the user code (e.g. default master code 12345 enabled for all 8 programs) and press *(NO):
☞ 1 2 3 4 5 *(NO)
On the display is viewed:

Disarming
_ _ _ _ _ _ _ _

1.3 QUICK ARMING/DISARMING

Quick arming and disarming is only possible if the wireless console has been enabled (by the installer).

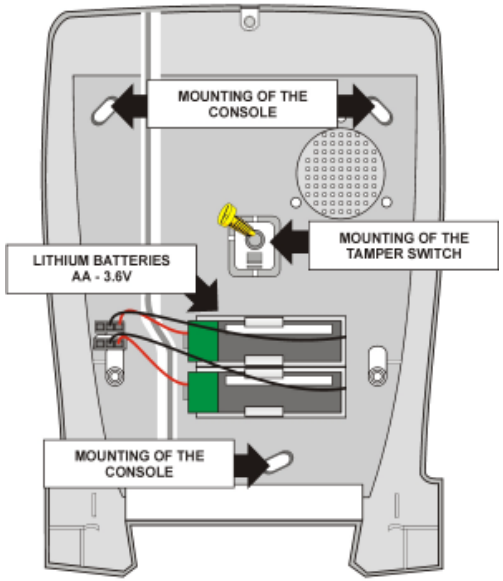
QUICK ARMING OF A PROGRAM
To arm one specific program using the quick arming command, press * (star), the program number, then #(YES), e.g.:
☞ * 1 #**(YES)**

SIGNALING UPON ARMING
The following signaling may be displayed:

CONFIGURATION OF THE DIP-SWITCH SW1
The dip-switch SW1 permits enabling of the tamper switch and the backlight of the keypad and the display.

DIP-SWITCH 1	**Inactive**
DIP-SWITCH 2	**Inactive**
DIP-SWITCH 3	**Backlight of keypad and display** ON = enabled (lit on keystroke) OFF = disabled
DIP-SWITCH 4	**Tamper** ON = excluded OFF = active

MOUNTING OF THE CONSOLE AND THE TAMPER SWITCH
Fix the console to the wall by using the srew holes in the bottom of the casing.
The tamper switch (against opening and detachment) is positioned on the rear of the electronic board.
Using the screw included, fix the plastic rectangle to the wall without breaking it off the bottom of the casing.
Then insert the electronic board into the ABS casing in a way that the tamper switch is positioned exactly above the plastic rectangle.



ATTENTION
Never break the plastic rectangle off the bottom of the casing.

! ARMING DENIED !
POWER FAILURE

Arming not allowed (mains power missing)

Arming
1 _ _ _ _ _ _ _

Arming allowed

QUICK DISARMING OF A PROGRAM
To disarm one specific program using the quick arming command, press * (star), the program number, then *(NO), e.g.:
☞ [*] [1] [*] **(NO)**
On the display is viewed:

Disarming
_ _ _ _ _ _ _ _

1.4 BY-PASS

ACTIVATION OF BY-PASS OF A PROGRAM
The activation of by-pass is permitted on condition that the program in question is running. To activate the by-pass, enter a user code enabled for this program and for by-pass (e.g. 22222) followed by the program number and press #(YES), e.g.:
☞ [2] [2] [2] [2] [2] [1] [#] **(YES)**
On the display is viewed:

By-pass
1 _ _ _ _ _ _ _

alternately

By-pass
P _ _ _ _ _ _ _

DEACTIVATION OF BY-PASS
The activation of by-pass is permitted on condition that the program in question is running and has been partset. To deactivate the by-pass of this program, enter a user code associated to this program and enabled for by-pass followed by the program number and press *(NO), e.g.:
☞ [2] [2] [2] [2] [2] [1] [*] **(NO)**
On the display is viewed:

End of by-pass
1 _ _ _ _ _ _ _

1.5 RESET OF ALARM MEMORY SIGNALING

To reset the alarm memory signaling, enter a user code (e.g. default master code 12345) and press the MEM key:
☞ [1] [2] [3] [4] [5] **MEM**
For the 10 seconds to come, on the display is viewed:

Clear memory?
**** NO # YES**

RESET OF THE ALARM MEMORY SIGNALING
Within the 10 seconds wait, confirm the reset of the alarm memory signaling by pressing #(YES):
☞ [#] **(YES)**
On the display is viewed:

Clear memory?
Completed

ABORT THE RESET OF THE ALARM MEMORY SIGNALING
To abandon the process, press *(NO) twice or the EXIT key once:
☞ [*] **(NO)** [*] **(NO)**
or
☞ **EXIT**
On the display is viewed the program status:

Program status
_ _ _ _ _ _ _ _

1.6 MANUAL ABORT OF TELEPHONE CALL CYCLES

The activation of the telephone channels is announced by the character **T** in the lower right hand corner of the display while the program status is viewed.

Program status
1 _ _ _ _ _ _ _ T

To block the active telephone channels enter a user code (e.g. default master code 12345) and press the EXIT key:

☞ 1 2 3 4 5 **EXIT**

For the 10 seconds to come, on the display is viewed:

Abort telephone?
**** NO # YES**

ABORT OF THE ACTIVE TELEPHONE CYCLES

Within the 10 seconds wait, confirm the abort of the active telephone cycles by pressing #(YES):

☞ #**(YES)**

On the display is viewed:

Abort telephone?
Completed

ABANDON THE ABORT OF THE ACTIVE TELEPHONE CYCLES

To abandon the process, press *(NO) twice or the EXIT key once:

☞ ***(NO)** ***(NO)**

or

☞ **EXIT**

On the display is viewed the program status:

Program status
_ _ _ _ _ _ _ _

1.7 ACTIVATION/DEACTIVATION OF THE REMOTE CONTROLS

REQUEST OF THE REMOTE CONTROL STATUS

To check the status of the remote controls, enter a user code (e.g. default master code 12345), press the ARROW DOWN key, then #(YES):

☞ 1 2 3 4 5 ↓ #**(YES)**

On the display is viewed the status of the remote controls:

Rem. ctrl status
1 _ 3 _ _ _ _ 8

Remote controls 1, 3 and 8 active
The table below shows remote control status coding:

Symbol	Remote control status
_	Remote control deactivated
1...8	Remote control active

ACTIVATION OF A REMOTE CONTROL

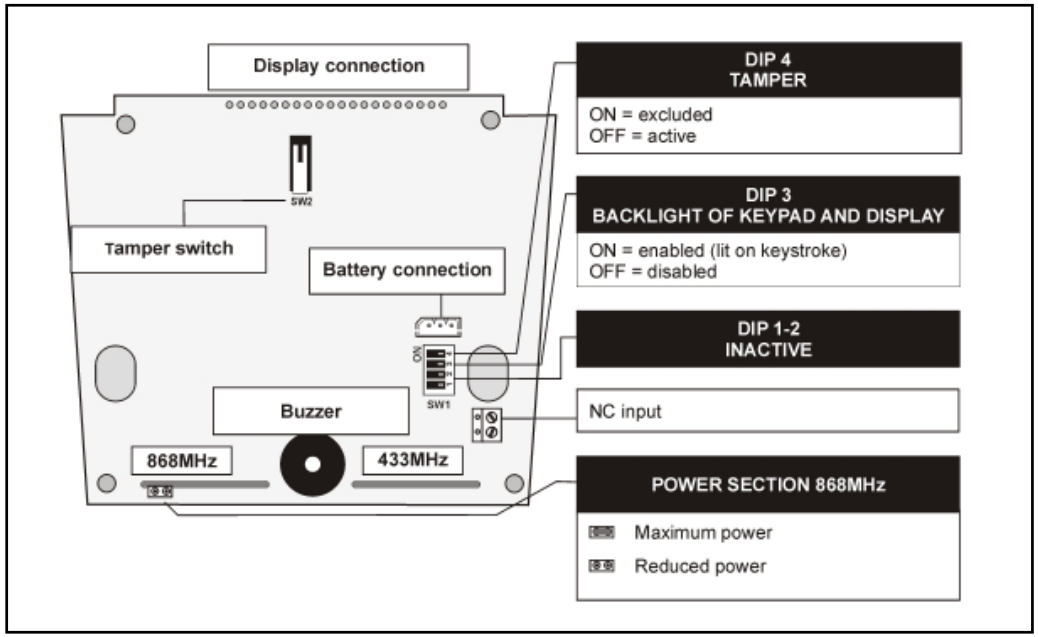
To activate a remote control, enter a user code (e.g. default master code 12345), press the ARROW DOWN key followed by the number of the remote control (1...8), then #(YES), e.g.:

☞ 1 2 3 4 5 ↓ 1 #**(YES)**

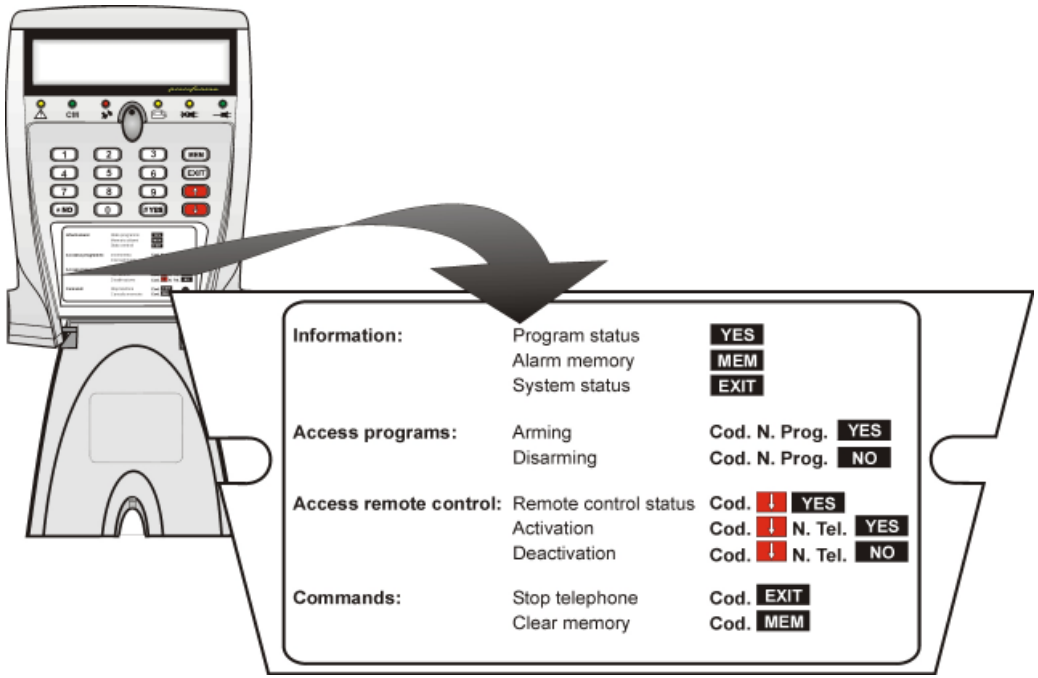
On the display is viewed:

Rem. ctrl ON
1 _ _ _ _ _ _ _

ELECTRONIC BOARD



SUMMARY OF COMMANDS



REFERENCE VALUES FOR ENVIRONMENTAL NOISE

- **Inferior to -95dBm (low)**
  The wireless section of the console works without any difficulties. The level of background noise does not disturb smooth functioning of the wireless console.
- **Comprised between -95dBm and -75dBm (relatively high)**
  If the level of background noise keeps constantly this high, there might be difficulties in the comunication with the control panel.
- **Comprised between -75dBm and -55dBm (high)**
  The wireless console does in all probability not work correctly.

3.3 FIRMWARE VERSION

To check the language and the version of the firmware of the wireless console LCD300 WL press the keys ARROW DOWN and 9 simultaneously:

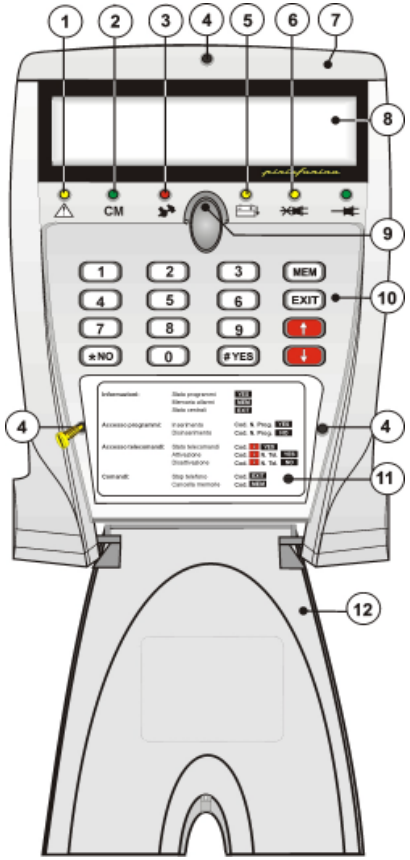
☞ ↓ 9

On the display is viewed:

LCD300W ENG v.01

INSTALLATION

FRONT VIEW



1	TROUBLE/GENERAL ALARM LED (YELLOW) off = no alarm blinking = alarm active on = alarm memory
2	COMMAND MODE LED (VERDE) off = stand-by (no transmission) blinking = transmission active
3	TAMPER LED (RED) off = no alarm blinking = tamper alarm active on = alarm memory
4	SCREWS FOR CLOSING OF THE CONSOLE
5	BATTERY LED (YELLOW) off = no alarm blinking = low battery on = alarm memory
6	MAINS LED (YELLOW) off = no alarma blinking = power failure on = alarm memory
7	PLASTIC LID
8	DISPLAY Views date/time or active parameter
9	BUTTON FOR OPENING OF THE LID
10	KEYPAD
11	LABEL Recapitulation of the principal commands
12	PLASTIC LID

DEACTIVATION OF A REMOTE CONTROL

To deactivate a remote control, enter a user code (e.g. default master code 12345), press the ARROW DOWN key followed by the number of the remote control (1...8), then *(NO), e.g.:

☞ 1 2 3 4 5 ↓ 1 *(NO)

On the display is viewed:

Rem. ctrl OFF 1 _ _ _ _ _ _ _

1.8 QUICK ACTIVATION/DEACTIVATION OF THE REMOTE CONTROLS

The quick activation/deactivation of the remote controls is permitted on condition that the console has been enabled for quick commands. The quick activation/deactivation procedure and the request of the remote control status are the same as that with code.

QUICK REQUEST OF THE REMOTE CONTROL STATUS

☞ ↓ #(YES)

QUICK ACTIVATION OF A REMOTE CONTROL

☞ ↓ 1...8 #(YES)

QUICK DEACTIVATION OF A REMOTE CONTROL

☞ ↓ 1...8 *(NO)

1.9 RELEASE OF THE PANIC ALARM

The release of the panic alarm is permitted on condition that the console has been enabled for this command. To release the alarm, press simultaneously the ARROW UP and ARROW DOWN keys:

☞ ↓ ↑

On the display is viewed the program status:

Program status _ _ _ _ _ _ _ _

1.10 LEARNING OF THE CONSOLE

The be ready to work the console must be learnt by the control panel, i.e. the serial number of the control panel that will send the commands is stored inside the console.
Wire a standard console (LCD300/S) to the control panel, enter the installer code to enter the programming menu and initiate learning of a new wireless console LCD300 WL.
Subsequently, press the keys ARROW DOWN and 1 simultaneously on the wireless console to be learnt:

☞ ↓ 1

The following signaling may be displayed:

Learning Completed	Sn.control panel ERROR	Connecting . . . ERROR
Learning completed successfully	Process aborted Serial number of control panel not programmed	Process aborted Communication error (repeat or initiate RF Monitor)

1.11 SYNCHRONIZATION AND SELF-IDENTIFICATION OF THE CONSOLE

To increase the security of the wireless data transmission, the communication between the wireless console LCD300 WL and the control panel is encrypted by a variable code (rolling code). If for any reason, the control panel does not recognize the console anymore, it is possible to synchronize the devices without learning the console again. To initiate the procedure of synchronization, press the keys ARROW DOWN and 1 simultaneously, as for learning:

☞ ↓ 1

The following signaling may be displayed:

Completed Wireless console 2	Connecting . . . ERROR
Synchronization of console 2 completed successfully	Process aborted Communication error (repeat)

1.12 CONTROL AND LEARNING OF THE CONTACT

The input of the console controls devices with NC output contact. To learn the input of the console as wireless zone connect a standard console (LCD300/S) to the control panel, enter the installer code to enter the programming menu and initiate learning of wireless zone (wireless contact).
Subsequently, press the keys ARROW DOWN and 2 simultaneously on the wireless console the contact of which is to be learnt:
☞ [↓] [2]
On the display of the wireless console is viewed:

```
Learning
Zone
```

ID code of the contact is sent
On the wireless console no other messages will appear, whereas on the standard console is viewed:

```
Learning
Completed
```

Learning completed successfully

2. INSTALLER MENU

2.1 ACCESS TO MAINTENANCE MODE

The access to maintenance is only given if the control panel is in stand-by (all the programs disarmed). To enter maintenance (installer menu), enter the installer code (default code 54321) and press #(YES) on the wireless console LCD300 WL:
☞ [5][4][3][2][1] [#] **(YES)**
On the display is viewed:

```
- ACCESS -
Installer
```

On the display of the other consoles connected to the control panel is viewed:

```
- ACCESS -
Busy
```

2.2 EXIT FROM MAINTENANCE MODE

AUTOMATIC EXIT FROM MAINTENANCE MODE
The wireless console LCD300 WL permits the activation of the maintenance mode for max. 15 minutes, on expiry of which the maintenance mode (installer menu) is quit automatically, unless a command key is pressed (exception made of the EXIT key).
Upon keystroke (command keys only), the maintenance time is prolonged for another 15 minutes.
On the display is viewed:

```
- ACCESS -
Installer
```

MANUAL EXIT FROM MAINTENANCE MODE
To quit the maintenance mode manually, press the EXIT key on the console which the installer code has been entered on.
On the display is viewed the program status:

```
Program status
_ _ _ _ _ _ _ _
```

2.3 TAMPER ALARM BLOCK

The block of the active tamper alarms is only permitted, if the control panel is in stand-by (all the programs disarmed). To block the active tamper alarms, enter the installer code (default code 54321) and press the EXIT key:

☞ [5][4][3][2][1] **EXIT**
On the display is viewed:

```
- ACCESS -
Installer
```

The control panel blocks the active tamper alarms, but does not enter the maintenance mode.

2.4 RESET ALARM MEMORY SIGNALING

To reset alarm memory signaling, enter the installer code (default code 54321) and press the MEM key:
☞ [5][4][3][2][1] **MEM**
On the display is viewed:

```
Clear memory?
   ** NO    # YES
```

The rest of the procedure is identical with that using a user code. Once the process has been completed, the control panel returns to the regular operating mode.

3. MISCELLANEOUS

3.1 FALSE CODE ALARM AND KEYPAD BLOCK

If more than 32 keys have been pressed without entering a valid code, the control panel releases a false code alarm. At the same time, the keypad of the console the false code has been entered on is inhibited for approx. 2 minutes and upon the attempt at acceding to the control panel from that console, on the display is viewed:

```
ALARM
ACCESS DENIED
```

3.2 BATTERY CHECK

LOW BATTERY SIGNALING
If voltage of the batteries that supply the wireless console LCD300 WL with energy is insufficient, upon keystroke, on the display is viewed:

```
LOW BATTERY
Wireless console
```

If this message is viewed, it is recommended to replace immediately both batteries of the console.

BATTERY REPLACEMENT
Verify that the console is in stand-by. Remove both batteries discharged from the battery holder and insert new ones.

> **ATTENTION**
> The batteries must be absolutely be identical and they must always be replaced together. If the batteries are removed while the console is still active (not in stand-by), prior to inserting the new ones press any key and wait for at least one minute.

Upon every battery replacement, it is recommended to execute the synchronization procedure (§ 1.11).

3.2 RF MONITOR

To check the quality of the wireless communication between the console and the control panel, it is possible to view the level of radiofrequencies (background noise) picked up by its wireless receiver pressing simultaneously the keys ARROW DOWN and 3:
☞ [↓] [3]
On the display is viewed:

```
Monitor RX RF
dbm -92
```

Background noise of -92dBm intensity