

# SafeLine®

Quality talks



## SafeLine **MX2** Installation manual



Small, inexpensive and intelligent.

Probably the world's smallest EN81-28 compatible lift telephone!



ENGLISH v4.21  
10.2012

# SafeLine **MX2**

## Installation manual

### TECHNICAL DATA

<b>Power:</b>	Supply voltage: 10 - 30V DC Current consumption max 50 mA
<b>Emergency signal button:</b>	Can be set as NO or NC, 10-30V DC
<b>Auxillary input:</b>	Can be set as NO or NC, 10-30V DC
<b>Size HxWxD:</b>	130x78x18mm

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### GENERAL INFORMATION

The emergency telephone SafeLine was built to state of the art-technology and to generally recognised safety-related technical standards currently applicable. These installation instructions are to be followed by all persons working with the SafeLine, in both installation and maintenance.

It is extremely important that these installation instructions are made available at all times to the relevant technicians, engineers or servicing and maintenance personnel. The basis prerequisite for safe handling and trouble-free operation of this system is a sound knowledge of the basic and special safety regulations concerning conveyor technology, and elevators in particular.

The SafeLine may only be used for its intended purpose. Note in particular that, no unauthorised changes or additions may be made inside the SafeLine or to individual components.

#### Exclusion of liability

The manufacturer is not liable with respect to the buyer of this product or to third parties for damage, loss, costs or work incurred as a result of accidents, misuse of the product, incorrect installation or illegal changes, repairs or additions. Claims under warranty are likewise excluded in such cases. The technical data is the latest available. The manufacturer accepts no liability arising from printing errors, mistakes and changes.

### DECLARATION OF CONFORMITY

Download the declaration of conformity at our website:  
<http://www.safeline.eu>

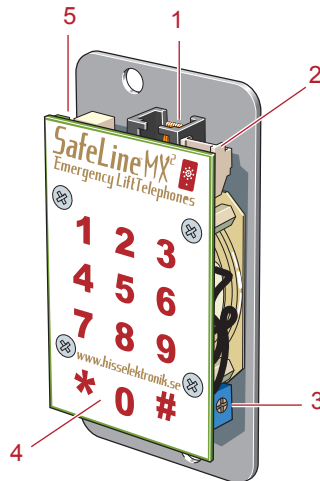
### SAFETY PRECAUTIONS!

- **Only trained professionals, who are authorised to work on the equipment, should install and configure this product.**
- This quality product has been designed and manufactured to be used for its specified purpose only.
- It should not be modified or altered in any way, and should only be installed and configured strictly following the procedures described in this manual.
- All applicable health and safety requirements and equipment standards should be considered and strictly adhered to when installing and configuring this product.
- After installation and configuration this product and the operation of the equipment should be fully tested to ensure correct operation before the equipment is returned to normal use.

DO NOT throw the battery in municipal waste. You may return old SafeLine products, including batteries, to us for recycling.



## OVERVIEW



### 1. RJ45 connector.

Power, emergency button, phone line and auxiliary input.

### 2. RS232 PC connection

Firmware update and programming with Safeline Pro.

### 3. Volume control

Turn right to increase the volume.

### 4. Keyboard

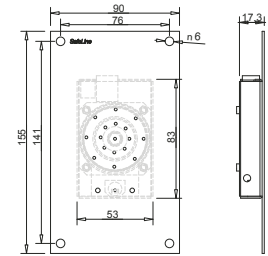
Programming.

### 5. System LED

## MEASUREMENTS AND COMPONENTS LIST

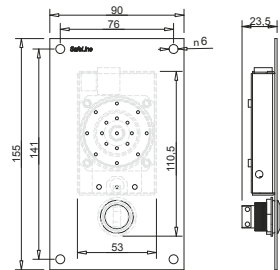
### Flush mount SafeLine MX2 with pictograms

Article number: \*SLMX\_Rec-Pic



### Flush mount SafeLine MX2 with pictograms and emergency alarm button.

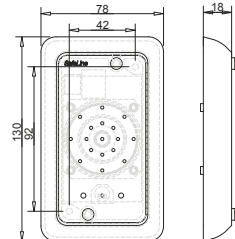
Article number: \*SLMX\_Rec-PicB



### Surface mount SafeLine MX2 with pictograms

Cable hole diameter: 8mm

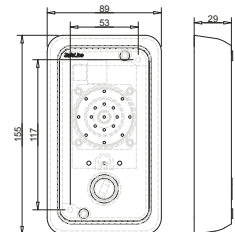
Article number: \*SLMX\_SM-Pic



### Surface mount SafeLine MX2 with pictograms and emergency alarm button

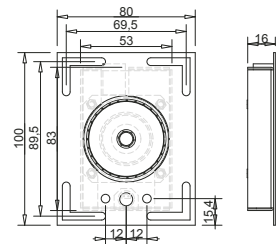
Cable hole diameter: 8mm

Article number: \*SLMX\_SM-PicB



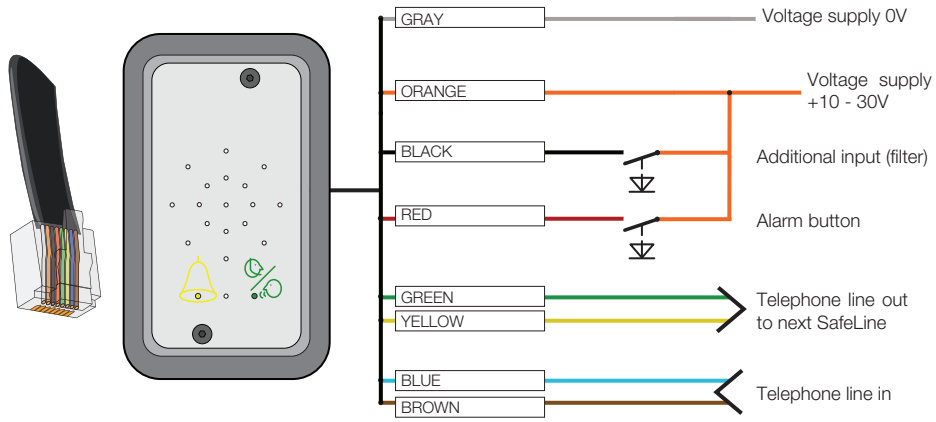
### SafeLine MX2 COP

Article number: \*SLMX\_COP

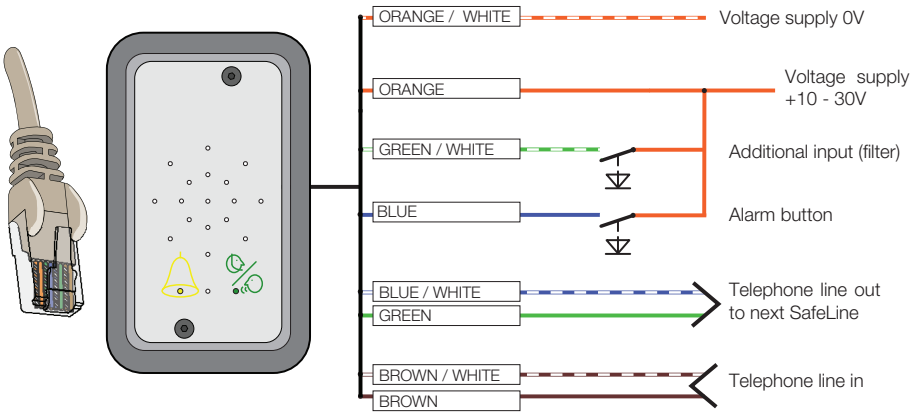


### WIRING DIAGRAM

#### Colours when using flat cable



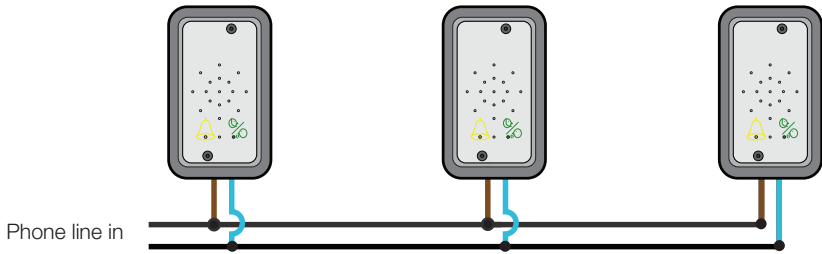
#### Colours when using round cable



**NOTE!** Unconnected cables must be isolated, to avoid short circuiting.

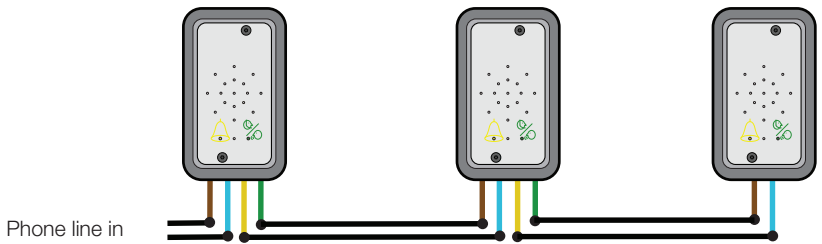
## WIRING DIAGRAM - PSTN LINE (MAX 9 UNITS)

### Parallel-wiring



Unit numbers must be pre-programmed.

### Daisy-chain-wiring (serial wiring)



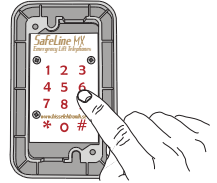
Unit numbers can be programmed from remote.

## PROGRAMMING INTERFACES

**NOTE!** The unit have to be connected to a power source before the programming begins!

- **Keyboard programming**

The integrated keyboard at the rear of the SafeLine enables a fast programming of the unit.



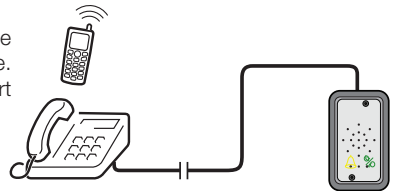
- **Programming with SafeLine Pro.**

The unit can be programmed at the office prior to the installation or at site after installation, with a programming cable (\*PCable)



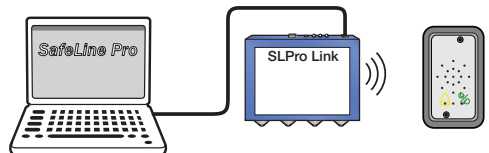
- **Remote programming.**

For remote programming, you can use any PSTN tone dial phone. Dial the phone number of the SafeLine. Enter the function codes on the phone keypad to start programming (password has to be entered).



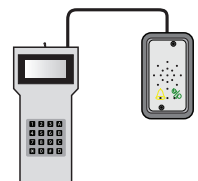
- **Remote programming with SafeLine Pro.**

Connect an SLPro Link to a computer with SafeLine Pro and a serial cable.



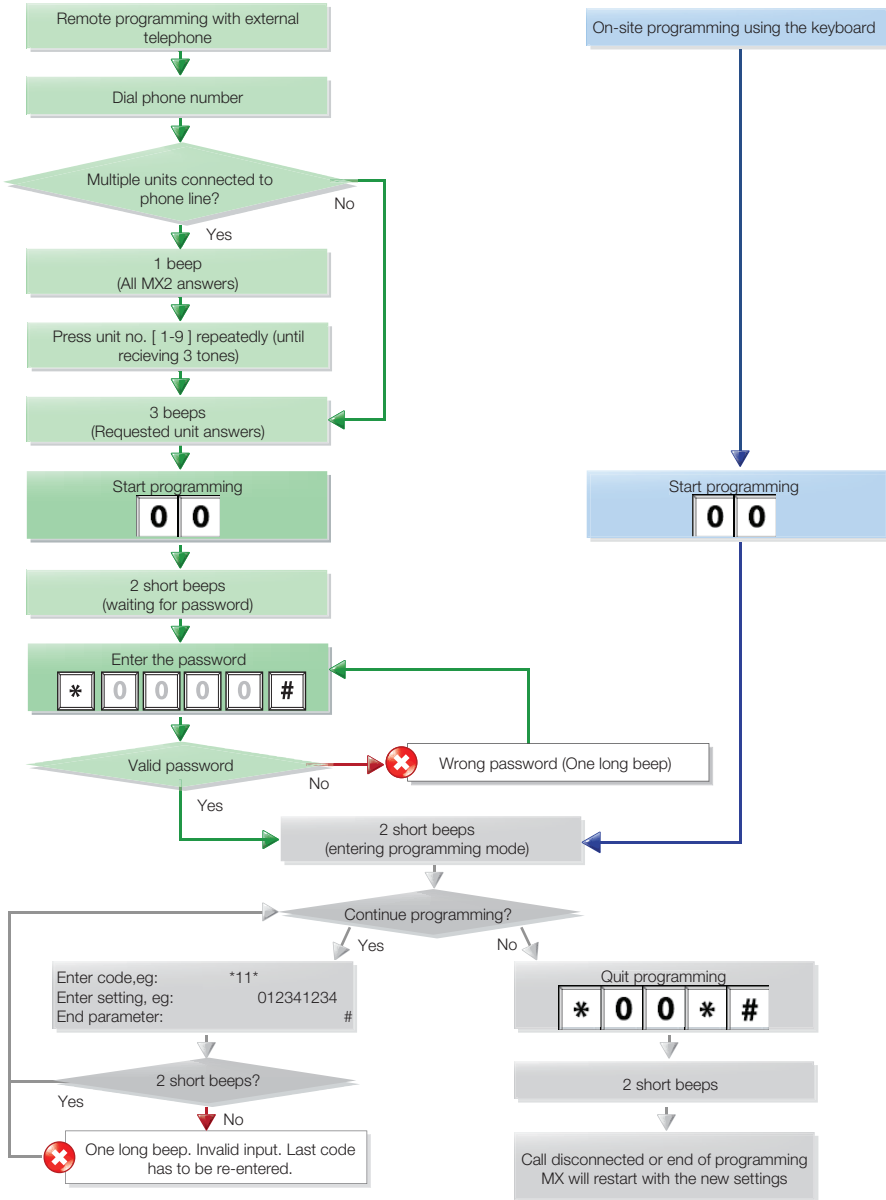
- **Programming with hand unit (only from v. 2.5).**

The unit can be programmed on-site with the hand unit. Plug the hand unit into the SafeLine, and enter function codes through the easy to use menu in the hand unit.



**PROGRAMMING METHOD**

If the time between the operation of two keys exceeds 10 seconds, the code has to be re-entered. If the time exceeds 30 seconds, the call is disconnected or programming mode is ended.

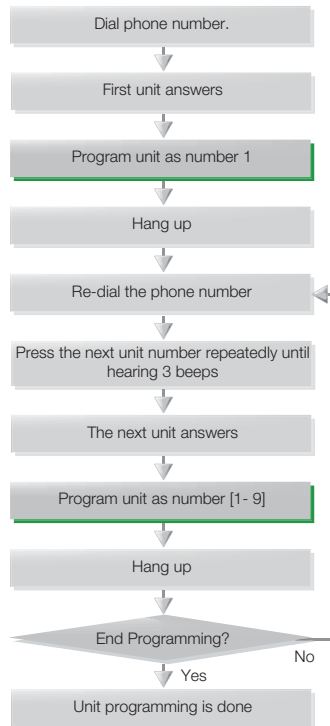
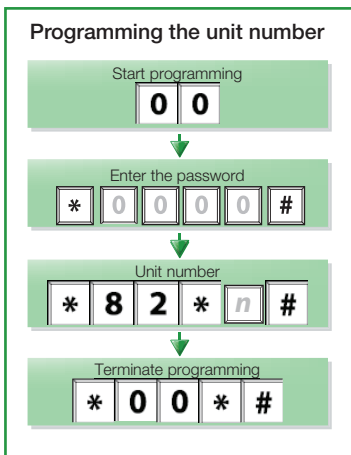


## PROGRAMMING UNIT NUMBERS

To remotely program a parallel connected unit, the unit number has to be pre-programmed.

If units are connected in series(daisy chain), unit numbers can be remotely programmed.

Remotely program unit numbers in SafeLines connected in series:



## CONFIGURATION EXAMPLES - SAFELINE AUTODIALER UNITS

**Example 1. Storing of two different telephone numbers, both to be answered as voice calls.**  
For test facility, see example 2.

1. Start configuration: 

0	0
---	---
2. 1<sup>st</sup> phone number : 

*	1	1	*	1	2	3	4	5	6	7	8	#
---	---	---	---	---	---	---	---	---	---	---	---	---
3. 2<sup>nd</sup> phone number : 

*	1	2	*	2	3	4	5	6	7	8	9	#
---	---	---	---	---	---	---	---	---	---	---	---	---
4. Call type 1<sup>st</sup> number : 

*	2	1	*	1	#
---	---	---	---	---	---
5. Call type 2<sup>st</sup> number : 

*	2	2	*	1	#
---	---	---	---	---	---
6. Alarm button delay: 

*	8	7	*	0	3	#
---	---	---	---	---	---	---

 - Shown set for 3 seconds
7. End configuration: 

*	0	0	*	#
---	---	---	---	---

If at any time you need to start over, use the factory reset command \*99\*1#

### Example 2. SLCC and 3 day test. (SLCC – SafeLine Call Centre)

1. Start configuration: 

0	0
---	---
2. Enter P100 ID code: 

*	0	1	*	4	5	6	4	5	6	4	5	#
---	---	---	---	---	---	---	---	---	---	---	---	---

  
Lift ID code (each lift must have its own unique code)
3. Set test alarm type: 

*	3	1	*	0	#
---	---	---	---	---	---
4. Set number of days between test alarm: 

*	2	7	*	0	3	#
---	---	---	---	---	---	---

 - Shown set for 3 days
5. LMS phone number: 

*	1	6	*	9	8	7	6	5	4	3	2	#
---	---	---	---	---	---	---	---	---	---	---	---	---

  
(Only if using SLCC)
6. Test alarm: 

*	1	7	*	1	2	3	1	2	3	1	2	#
---	---	---	---	---	---	---	---	---	---	---	---	---

  
(For P100 use telephone number of SLCC, for Caller ID set \*31\*4# and telephone number of GSM modem)
7. End configuration: 

*	0	0	*	#
---	---	---	---	---

If at any time you need to start over, use the factory reset command \*99\*1#

Note! Please refer to the full configuration setup in the “Configurations codes table” as these are merely examples.

## PARAMETER LIST

PROGRAMMING DATA	CODE	DATA	COMMENTS
Enter programming mode		00	
Enter password		* - - - - #	Default = 0000
Exit programming mode		*00*#	
ALARM CODES	CODE	DATA	COMMENTS
P100 ID code	*01*	- - - - - - - #	P100 is always 8 digits
CPC ID code	*02*	- - - - - #	CPC 6-8 digits
Q23 ID code	*03*	- - - - - - - - - #	Q23 is always 12 digits
TELEPHONE NUMBERS	CODE	DATA	COMMENTS
1st Phone number	*11*	- - - - - - - #	Phone number to alarm receiver 0-16 digits.
2nd Phone number	*12*	- - - - - - - #	<b>If calling through a switch board</b> , delay time can be set by adding asterisks between leading number of the switchboard and telephone number for the alarm receiver. Each asterisk is equal to one second delay. <b>Example:</b> *11*(0)**1234567#
3rd Phone number	*13*	- - - - - - - #	
4th Phone number	*14*	- - - - - - - #	
CALL TYPE	CODE	DATA	COMMENTS
Call type 1st number	*21*	- #	Change the call type for the telephone numbers stored. 0 = P100 1 = VOICE (Default) 2 = Q23 3 = CPC <b>Change this only if your alarm operator is using any of the mentioned protocols.</b>
Call type 2nd number	*22*	- #	
Call type 3rd number	*23*	- #	
Call type 4th number	*24*	- #	
Call type LMS number	*30*	- #	LMS (Lift Monitoring System) call type 0 = P100 3 = CPC (Only battery alarm) 4 = Caller ID (Battery powered only)
TEST ALARM/BATTERY ALARM	CODE	DATA	COMMENTS
LMS phone number	*16*	- - - - - - - #	LMS (Lift Monitoring System) phone number to alarm receiver/SLCC.
Test alarm	*17*	- - - - - - - #	Phone number to test alarm receiver/SLCC.
Days between tests	*27*	- - #	Number of days between test alarms, 00-99 days. Always two digits. Max 3 days according to EN 81-28. 00 = No test alarms
Test alarm protocol	*31*	- #	Protocol test alarm 0 = P100 3 = CPC 4 = Phone number used as ID.
ALARM CHARACTER	CODE	DATA	COMMENTS
Alarm character 1st number	*41*	- - #	Alarm character. only when using CPC as alarm protocol normally 10 or 27 check with your alarm company !
Alarm character 2nd number	*42*	- - #	
Alarm character 3rd number	*43*	- - #	
Alarm character 4th number	*44*	- - #	
Alarm character LMS	*45*	- - #	LMS (Lift Monitoring System) (Battery alarm) Normally 17
Alarm character Test alarm	*46*	- - #	Normally 26

## Programming

DISTRESS MESSAGE	CODE	DATA	COMMENTS
Record distress message played in the lift car.	*51*	"Speak" #	This message will be played in the lift car when the emergency lift telephone starts calling the alarm receiving centre. Make sure that there is no noise in the background when recording the message.  <b>Example of message:</b> Please do not panic, the emergency telephone is now calling the emergency call centre.
Record alarm message from Lift Car to alarm central	*52*	"Speak" #	This message will be played to the alarm receiver and in the car when the call is answered. Make sure that there is no noise in the background when recording the message. <b>Example of message:</b> This is an alarm from the lift on 5th avenue.  To hear this message again, press "1". To terminate the call, press "#" before hanging up.
Options for the recorded distress message	*61*	- #	0 = Disable recorded message. 1 = Enables recorded message.
	*61*	#	Play the the recorded message.
Options for the recorded message from lift car	*62*	- #	0 = Disable recorded message. 1 = Enables recorded message.
	*62*	#	Play the the recorded message.
OTHER CODES	CODE	DATA	COMMENTS
Emergency signal in speaker	*71*	- #	The speaker siren will sound at emergency call. 1 = On 0 = Off (Default)
Ring tone timeout	*72*	- - #	Number of ring signals before dialling the next number. (8 by default)
Additional input function	*73*	- #	Selects input function: 0 = None (Default) 1 = Filter, blocks the alarm input when active. 2 = LMS (Lift Monitoring System), sends a lift monitoring alarm at input activation. 3 = Clear/Maintenance
Additional input type	*74*	- #	0 = Normally-open contact, NO (Default) 1 = Normally-closed contact, NC
Hot Line	*75*	- #	Phone connects directly to a fixed recipient without dialling a phone number 0 = Standard phone line (Default) 1 = Hotline
Indicator mode	*78*	- #	0 = Standard, 1 = Strictly EN81-28 2 = Strictly single EN81-28
Voice communication time-out	*79*	- #	1 - 20 minutesxsxs. Standard = 8 min
Reset active alarm automatically	*80*	#	0 = OFF, 1 = ON (Default)
Auto answer	*81*	- - #	No of signals before SafeLine answers incoming call. Can be set from 00-16 (Default = 02, 00=Unit will not answer).
Unit number	*82*	- #	Program Unit number 1-9 (Default = 0)
Detect dial tone	*83*	- #	0 = Off 1 = On (Default) Set to off if SafeLine has problem to detect the dial tone.
Receipt to alarm receiver with P100 protocol	*84*	- #	Select which message(s) to send to the alarm receiver at an alarm call. 0 = None (Default) 1 = Start of alarm 2 = Start+end of alarm

OTHER CODES	CODE	DATA	COMMENTS
Break on new alarm	*86*	- #	Disconnects a call longer than 60 seconds at new activation of the alarm button and calls the next emergency call number. 0 = OFF 1 = ON (Default)
Alarm button delay time	*87*	- - #	Delay time from pressing the alarm button until activating the alarm. 00-25 seconds. (Default = 05)
Alarm button type	*89*	- #	0 = Normally-open contact, NO (Default) 1 = Normally-closed contact, NC
Change password	*91*	- - - #	Change password (default=0000)
Simulate an alarm event	*94*	- #	Triggers an alarm event after programming is terminated. 1 = Emergency call 2 = Test alarm 3 = Battery failure 4 = Microphone/Loudspeaker failure 5 = Receipt on voice call 6 = Maintenance 7 = Main unit power failure 8 = Stuck button alarm
Reset to default settings	*99*	- #	1 = Factory default 2 = Default P100(The following codes will be set): *21*0#, *22*0#, * 27*03#, *80*1#, *84*1#, *88*1# 3 = Default CPC(The following codes will be set): *21*3#, *22*3#, *27*03#, *80*1#, *84*1#, *88*1# 4 = Default VOICE(The following codes will be set): *21*1#, *22*1#, * 27*03#, *80*1#, *84*1#, *88*1#
Compatability mode	*77*	- #	0 = Automatic voice switching The call is validated when there is a voice response. The call is terminated by pressing "#".  1 = Kone ECII (lift telephone) When there is a voice response, some ascending tones will be heard. The call is validated by pressing "4". The call is terminated by pressing "0". The call is terminated without receipt notification by pressing "2"(the unit will call the next number).  2 = Manual voice switching When there is a voice response, some ascending tones will be heard. The call is validated by pressing "4". Unit is still in automatic mode. To enter manual mode and talk press "*". To listen press "7". Go back to automatic mode press "4". The call is terminated by pressing "#". It is possible to enter manual voice switching mode although the unit is programmed as automatic by pressing "*". No ascending tones will be heard. For repeating the voice message, press "1" in all modes.

## LED INDICATION



### Yellow LED “Call in progress“

The yellow pictogram LED, is lit as soon as the alarm button is pressed longer than the set delay



### Green LED “Call connected“

The Green pictogram LED turns on as soon as the SafeLine unit detects a responding voice. The LED is turned off when the call is terminated.



### System LED

The system LED is located on the backside of the unit.

## Standard (\*78\*0#)

---

### Yellow LED

#### Light off:

Telephone line OK, call terminated

#### Flashing once every 5 seconds:

Telephone line **not** OK.

#### Flashing twice every second:

Emergency signal button active.

#### Yellow steady:

Activated alarm. Remains lit until reset.

### Green LED

#### Light off:

Telephone line **not** OK.

#### Flashing once every 5 seconds:

Unit is OK. Phone line is OK.

#### Flashing two times every 5 seconds:

Alarm filter activated.

#### Green steady:

Call connected.

#### Continuous flashing:

Telephone in configuration mode.

### System LED

#### Flashing once every 5 seconds:

Telephone line OK.

#### Flashing two times every 5 seconds:

No telephone connection available.

#### Flashing twice every second:

Calling out

#### Light steady:

Call connected.

#### Flashing rapidly:

Incoming call.

## Strictly EN81-28 (\*78\*1#)

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### Yellow LED

#### Flashing twice every second:

Emergency signal button active.

#### Yellow steady:

Activated alarm. Remains lit until reset.

### Green LED

#### Green steady:

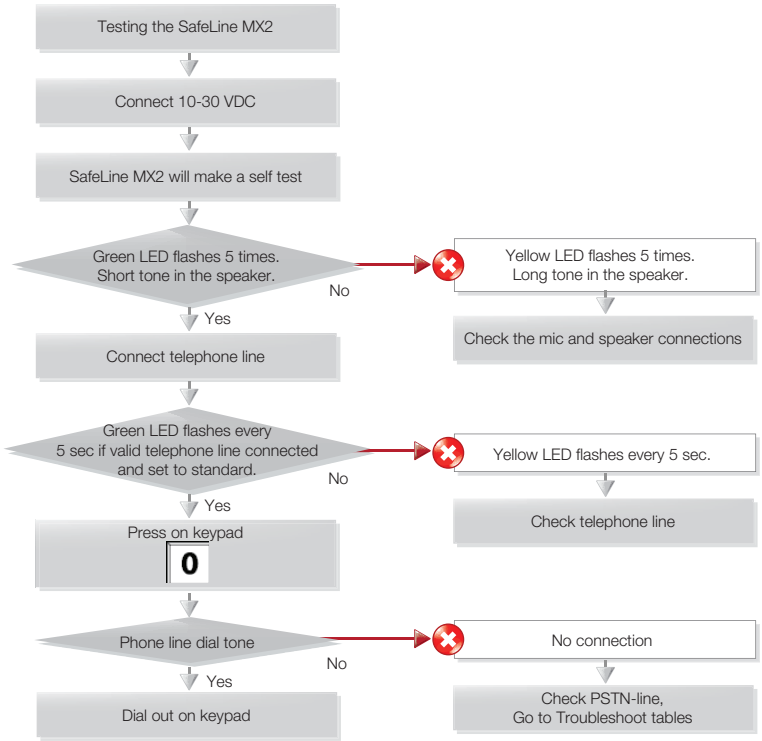
Call connected.

## Strictly single (\*78\*2#)

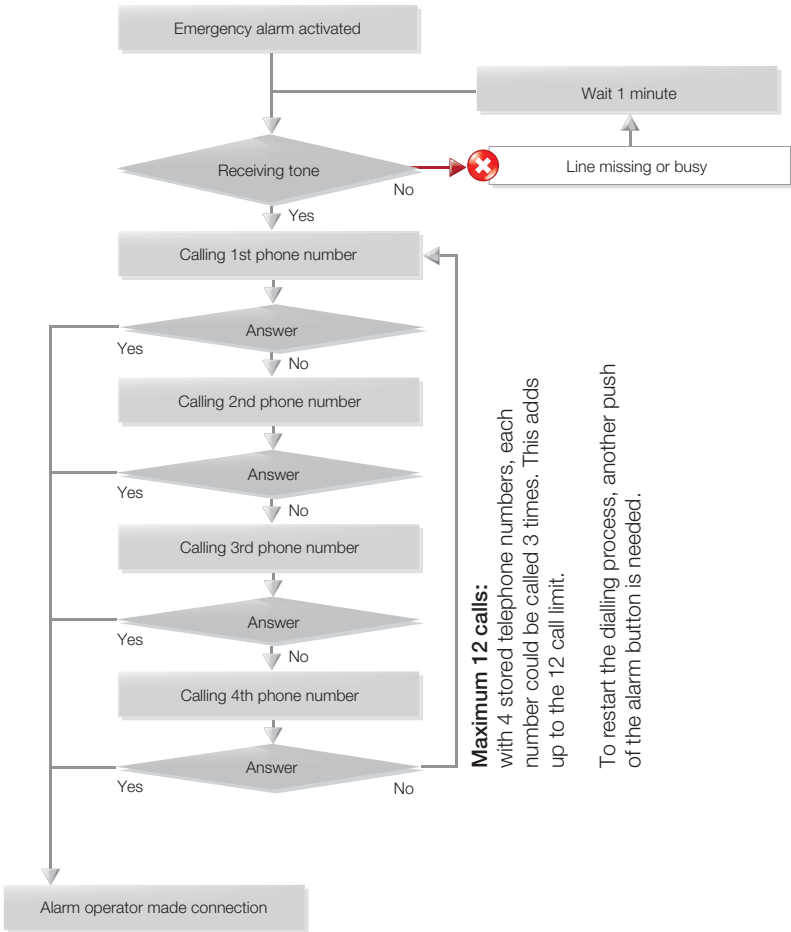
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As strictly EN81-28 except that the LEDs will not be lit simultaneously, but one at a time.

# TESTING



## EMERGENCY CALLING PROCESS



**Maximum 12 calls:**  
with 4 stored telephone numbers, each  
number could be called 3 times. This adds  
up to the 12 call limit.

To restart the dialling process, another push  
of the alarm button is needed.

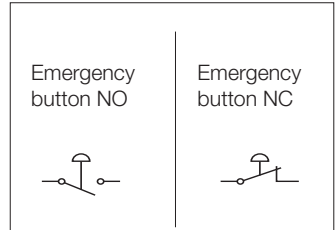
## TROUBLESHOOTING

### The telephone beeps every 5 seconds.

This is to notify the passengers of the ongoing call (anti eaves dropping)

### The unit makes an alarm call when powered up.

- Improper type of emergency button selected. Change from NC to NO or from NO to NC.
- Emergency button is stuck.



### No sound transmitted from the lift car to the call receiver.

Press "0" to get an outside line. Make a call. If the sound transmission is OK in both directions, check if your emergency operator supports the chosen alarm type. If no protocol is used, change the call type to "VOICE". If no sound is transmitted from the lift car, check the microphone.

### Poor/distorted sound quality.

Volume might be set too loud! Lower the volume and check again.

### Interfering noise when the call is connected

The problem might be due to induction in the phone cable. According to the phone companies' regulations, the phone line must be installed in a separate cable.

### GSM noise.

Change the antenna position when a call is connected until you find the optimal antenna position. Do not install the antenna near the unit or close to the cabling.

### Can not dial out

- Broken line connection. (LED not blinking green)
- No money on refill SIM-card, verify the SIM-card by inserting it into a normal mobile phone.

### No voice switching

- The volume is set too high.
- The problem might be due to induction in the phone cable.

### The unit can not make an alarm call.

At least one phone number (and one ID code if using data identification) must be programmed to enable making a call from the unit. Refer to the parameter list (\*11\*).

SafeLine®   
SWEDEN

SafeLine Sweden  
Antennvägen 10  
13548 Tyresö  
SWEDEN

Tel: +46(0)84477932  
Fax: +46(0)84477931  
E-mail: [order@safeline.eu](mailto:order@safeline.eu)

SafeLine®   
EUROPE

SafeLine Europe  
Blvd de la Woluwe 42,  
1200 Brussels  
BELGIUM

Tel: +32(0)2 762 98 10  
Fax: +32(0)2 762 97 10  
E-mail: [order@safeline.eu](mailto:order@safeline.eu)

SafeLine®   
DEUTSCHLAND

SafeLine-Deutschland  
Westfalenstraße 22a  
D-51688 Wipperfürth  
DEUTSCHLAND

Tel: +49 (0) 2267 - 8 67 96 63  
E-mail: [order@safeline.eu](mailto:order@safeline.eu)

SafeLine®   
ELEVATOR PARTS UK

SafeLine Elevator Parts UK  
3 Evegat Park Barn  
Smeeth  
Ashford  
Kent  
TN25 6SX  
United Kingdom

Tel: +44(0)1303 813414  
Fax: +44 (0)1303 814529  
E-mail: [order@safeline.eu](mailto:order@safeline.eu)

SafeLine®   
DENMARK

SafeLine Denmark  
Erhvervsvej 19  
2600 Glostrup  
DENMARK

Tel: +45 44 91 32 72  
E-mail: [order@safeline.eu](mailto:order@safeline.eu)