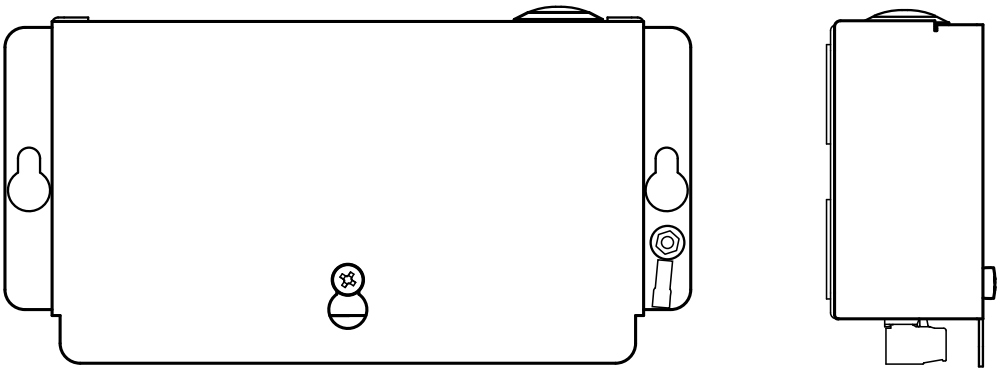
SafeLine

SL2 manual



Emergency telephone for lifts.
www.safeline-group.com

Reliability – brought to you from **Tyresö** Sweden

02.2020
SL2 v. 2.05 EN

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SafeLine SL2

Technical data

Power:	Supply voltage: 10-30V DC. Min 40mA, Max 70mA NOTE! When using HL1 and/or SafeLine remote station with pictograms, the SL2 is required to be powered with 12V DC: Min 42mA, Max 1200mA
Inputs:	10-30V DC, 5mA, optically isolated
Pictogram outputs:	Max 100mA, 10-30V DC, transistor outputs, open collector
Loudspeaker:	3W, 8Ω
Size(W x D x H):	171 x 89 x 41mm
Weight:	0,47kg

General information

This unit was built with state-of-the-art technology and to generally recognised safety related technical standards currently applicable. These installation instructions are to be followed by all people working with the unit, 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 unit may only be used for its intended purpose. Note in particular that, no unauthorised changes or additions may be made inside the unit or 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 or changes.

Declaration of conformity
Download "The declaration of conformity" at our website:
www.safeline-group.com

Safety Precautions!
- Only trained professionals, who are authorised to work on the equipment, should install and configure this product.

- This quality product is dedicated for the lift industry. It has been designed and manufactured to be used for its specified purpose only. If it is to be used for any other purpose, SafeLine must be contacted in advance.

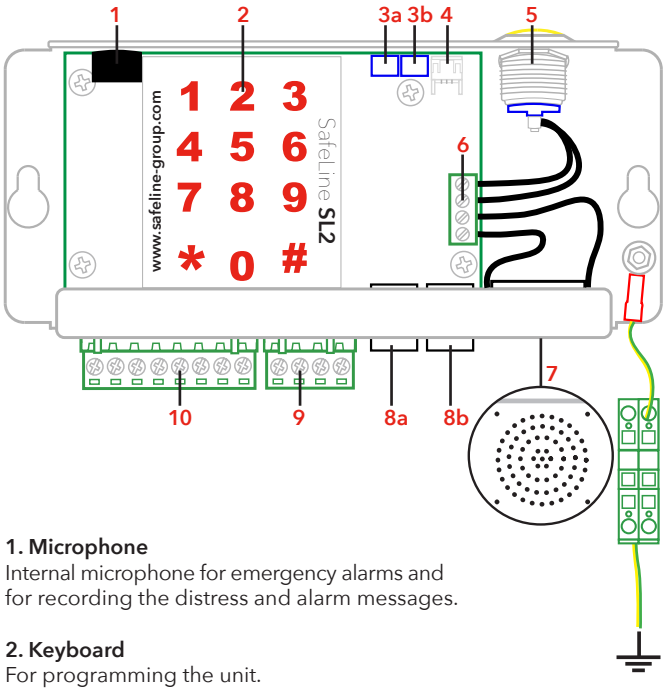
- It should not be modified or altered in any way, and should only be installed and configured strictly following the procedures described in this manual.

- 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.

Electrical and electronic products may contain materials, parts and units that can be dangerous for the environment and human health. Please inform yourself about the local rules and disposal collection system for electrical and electronic products. The correct disposal of your old product will help to prevent negative consequences for the environment and human health.

Overview



1. Microphone
Internal microphone for emergency alarms and for recording the distress and alarm messages.

2. Keyboard
For programming the unit.

3a. Volume control for extra station 1
Turn clockwise to increase volume.

3b. Volume control for extra station 2
Turn clockwise to increase volume.

4. RS232 PC connection
For firmware update and programming.

5. Emergency call button
After an active alarm the button can be used as a reset (end of alarm) by pressing it briefly.

6. Internal connector
For internal speaker and emergency call button.

7. Internal speaker
For emergency calls and error messages when programming.

8a. RJ12-jack for car station

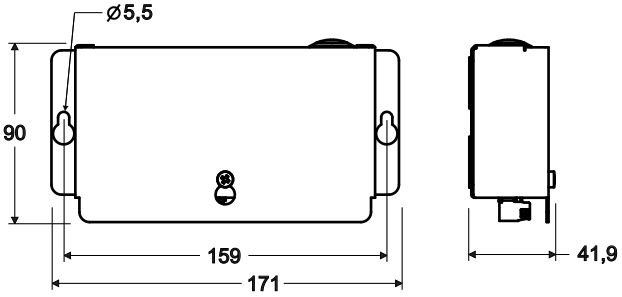
8b. RJ12-jack for extra station

9. Terminal B
Terminal for connection of Hearing Loop HL1.

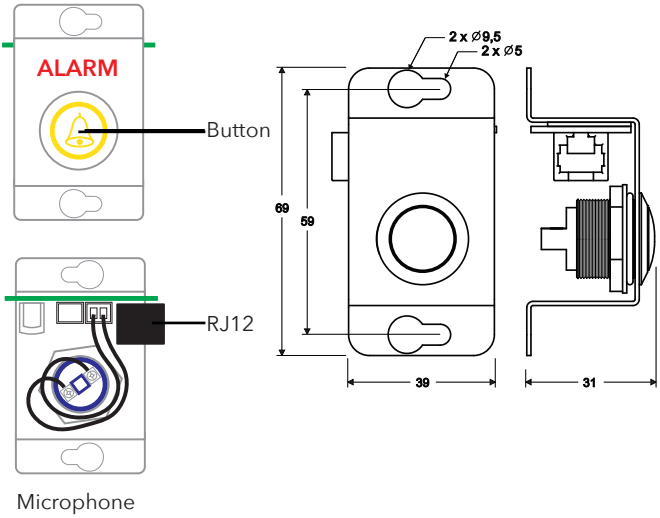
10. Terminal A

Measurements and component list

SafeLine SL2 Main unit
Article number: *SL2

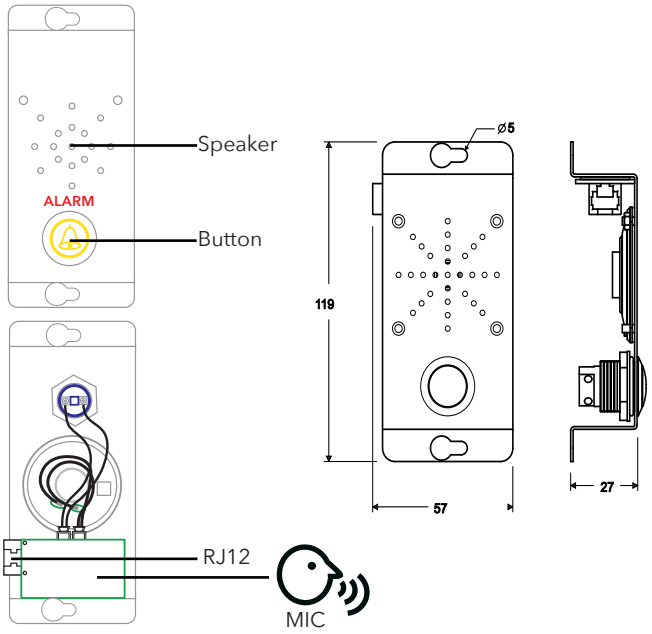


SafeLine SL2 - alarm button and microphone
Article number: *LT-stat01

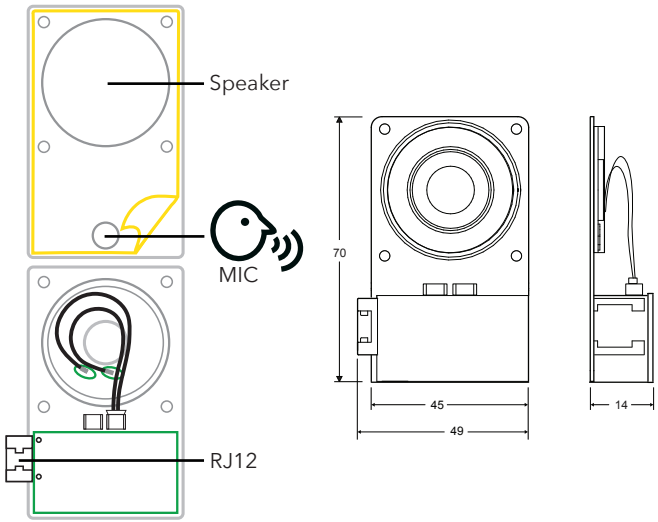


Measurements and component list

SafeLine SL2 - alarm button, microphone and speaker
Article number: *LT-stat02



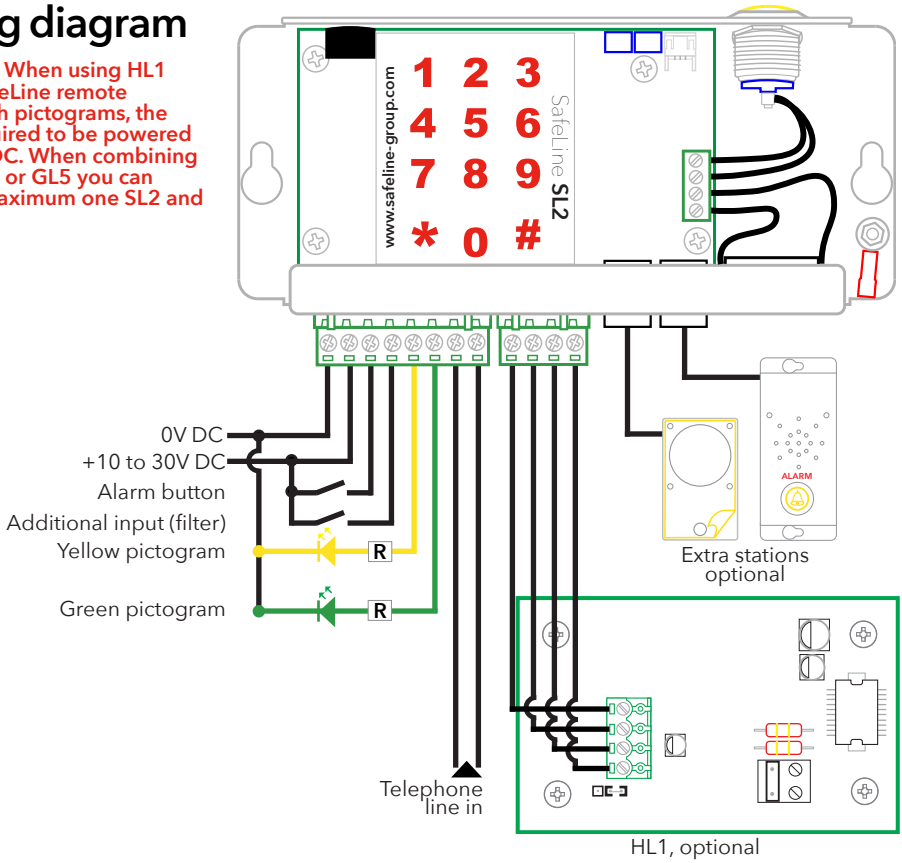
SL2 COP station with speaker
Article number: *LT-stat04



Surface has to be clean and de-greased if you want to make use of the sticky foam pad for fixate the COP-stations.

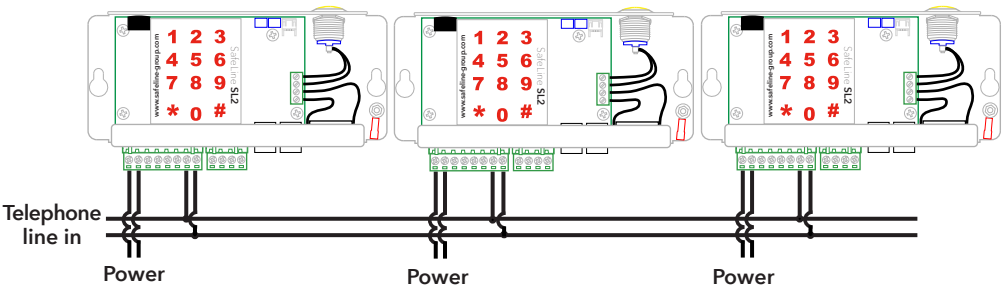
Wiring diagram

CAUTION! When using HL1 and/or SafeLine remote station with pictograms, the SL2 is required to be powered with 12V DC. When combining with a GL4 or GL5 you can connect maximum one SL2 and one HL1.



Wiring schedule Parallel wiring

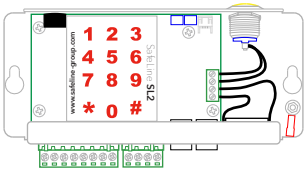
With parallel wiring it is important every unit is programmed with a unit number. This cannot be done with remote programming.
(Maximum 9 SafeLine Units)



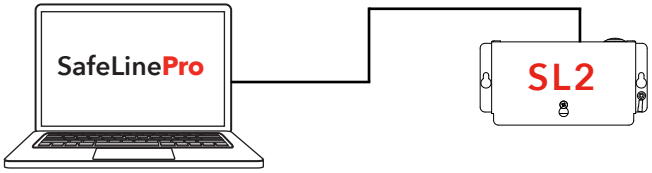
Programming interfaces

Unit have to be connected to power source before programming begins!

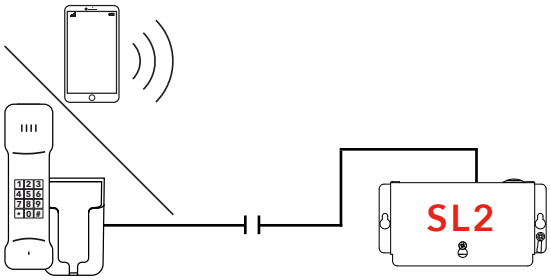
Keyboard programming
The integrated keyboard on the SafeLine board enables a fast programming of the unit.



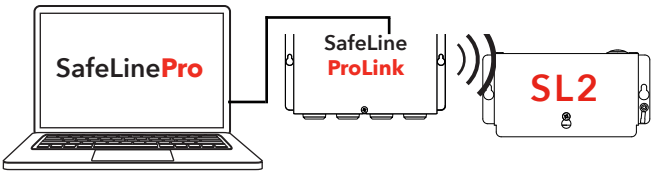
Programming with SafeLine Pro.
The unit can be programmed at the office prior to the installation or on site after installation, with a programming cable. Our product "PCable" Use SafeLine Pro v4.02 or later.



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).

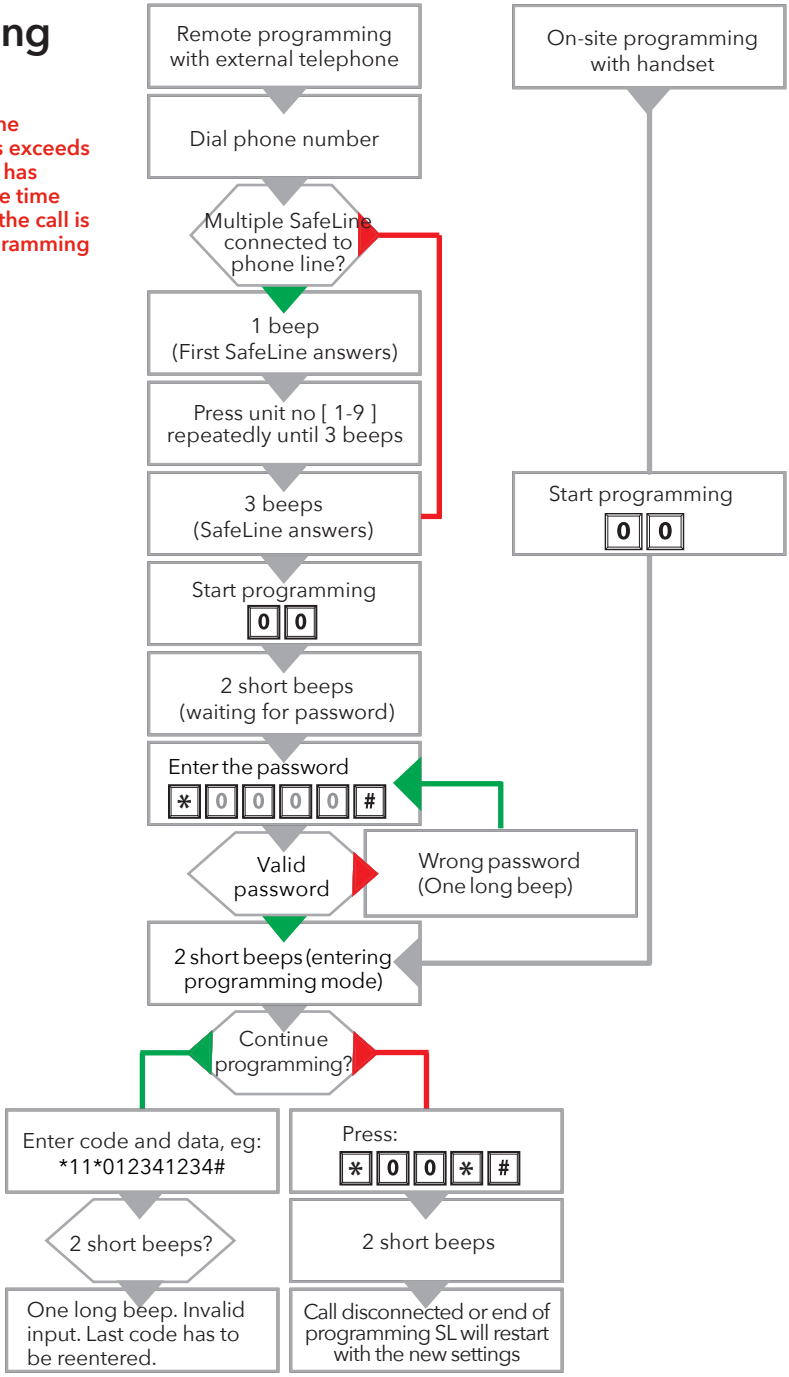


Remote programming with SafeLine Pro.
Connect an SLPro Link to a computer with SafeLine Pro and a serial cable. Use SafeLine Pro v4.02 or later.



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 examples - SafeLine Auto-dialers Units

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

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. 1st phone number: * 1 1 * 1 2 3 4 5 6 7 8 #
3. 2nd phone number: * 1 2 * 2 3 4 5 6 7 8 9 #
4. Call type 1st number: * 2 1 * 1 #
5. Call type 2st number: * 2 2 * 1 #
6. Alarm button delay: * 8 7 * 0 3 #
7. End configuration: * 0 0 * #

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 #
3. Set test alarm type: * 3 1 * 0 #
4. Set number of days between test alarm: * 2 7 * 0 3 #
5. LMS phone number: * 1 6 * 9 8 7 6 5 4 3 2 #
6. Test alarm: * 1 7 * 1 2 3 1 2 3 1 2 #
7. End configuration: * 0 0 * #

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

Parameter List

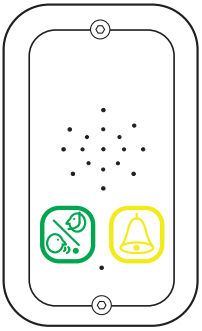
PROGRAMMING DATA	CODE	DATA	COMMENTS
Enter programming mode		00	
Enter password		* - - - - #	Default = 0000
Exit programming mode		*00*#	
ALARM CODES	**CODE**	**DATA**	**COMMENTS**
P100 ID code	*01*	- - - - - - - - #	P100 is always 8 digits
CPC ID code	*02*	- - - - - - #	CPC 6-8 digits
Q23 ID code	*03*	- - - - - - - - - - - - #	Q23 is always 12 digits
TELEPHONE NUMBERS	**CODE**	**DATA**	**COMMENTS**
1st Phone number	*11*	- - - - - - - - - #	Phone number to alarm receiver 0-16 digits. If calling through a switch board, delay time can be set by adding asterisks between leading number of the switchboard and telephone number for the alarm call receiver. Each asterisk is equal to one second delay. Example: *11*(0)**1234567#
2nd Phone number	*12*	- - - - - - - - - #	
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 Change this only if your alarm operator is using any of the mentioned protocols.
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

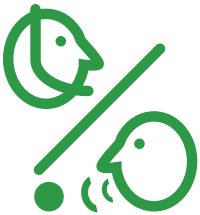
DISTRESS MESSAGE	CODE	DATA	COMMENTS
Record distress message played in the lift car.	*51*	"Speak" #	This message will be played in the lift cabin when the emergency lift telephone starts calling the alarm centre. Make sure that there is no noice in the background when recording the message. Recording will be done with the internal microphone of the SL2. Example of message: 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 noice in the background when recording the message. Recording will be done with the internal microphone of the SL2. Example of message: This is an alarm from the lift on 5th avenue. To hear the 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
End of alarm message with voice	*70*	- #	When the end of alarm signal is given (reset) the unit will automatically call the 1st emergency number that enables the technician to confirm the operator that the alarm is ended (not possible when using the messages end of alarm, see code *84*). 0 = without end of alarm call back 1 = call back end of alarm
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 receipient without dialling a phone number 0 = Standard phone line (Default) 1 = Hotline
Compatibillity 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 reciept 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. 3 = Swiss M (Alarm operator mode) Only to be used in voice mode. Disconnect by "0".Dials the next number if call timeout, blocking tone, new dailing tone, and operator silence.

OTHER CODES	CODE	DATA	COMMENTS
Indicator mode	*78*	- #	0 = Standard 1 = Strictly EN81-28 2 = Strictly single EN81-28
Voice communication time-out	*79*	- #	1 - 20 minutes. 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
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
Tone/Voice detection	*95*	- #	0 = Off (Default) 1 = On
Battery capacity check	*98*	- - #	When the battery capacity goes over the set value (10-25%) the SL2 will send a battery alarm. Recommended for lead-acid batteries 0,8 - 2,3 Ah 00 = inactive [10, 15, 20, 25] = percentage the battery capacity has dropped, (default =20) 99 = reset battery reference, in case the battery has been replaced.
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# 5 = Default France (The following codes will be set): *21*1#, *22*1#, *23*1#, *24*1#, *27*3#, *31*4#, 70*1#,*80*0#, *84*2#, *89*1#, *98*20#

LED indication for pictogram in car



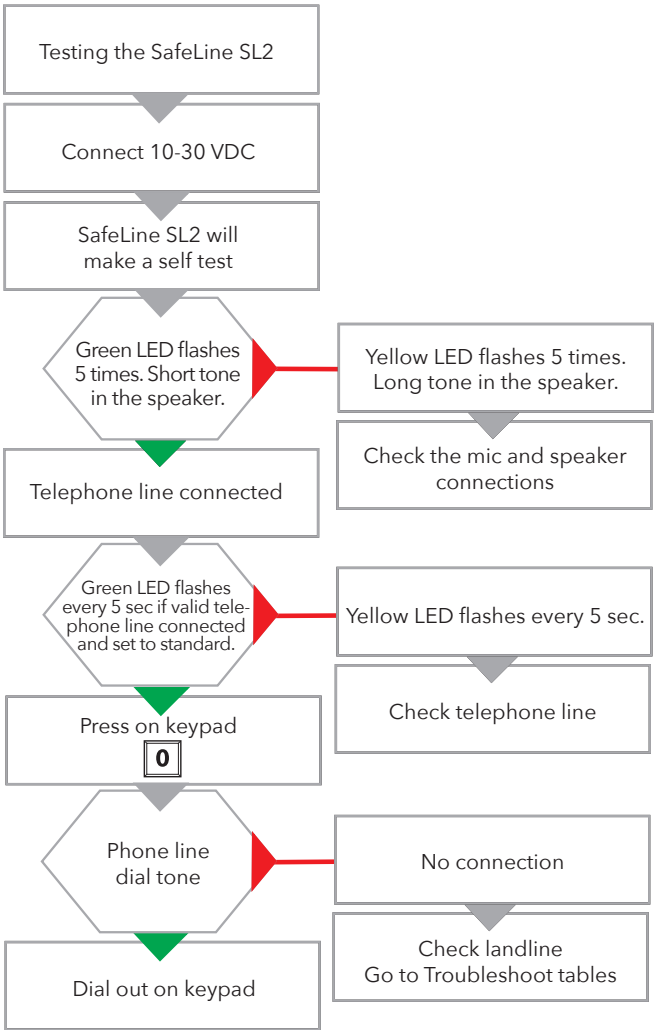


	Yellow LED	Green LED
	Call in progress The yellow pictogram LED is lit as soon as the alarm button is pressed.	**Call connected** The green pictogram LED turns on as soon as the SafeLine unit detects a responding voice. The LED is turned off when the call is terminated.

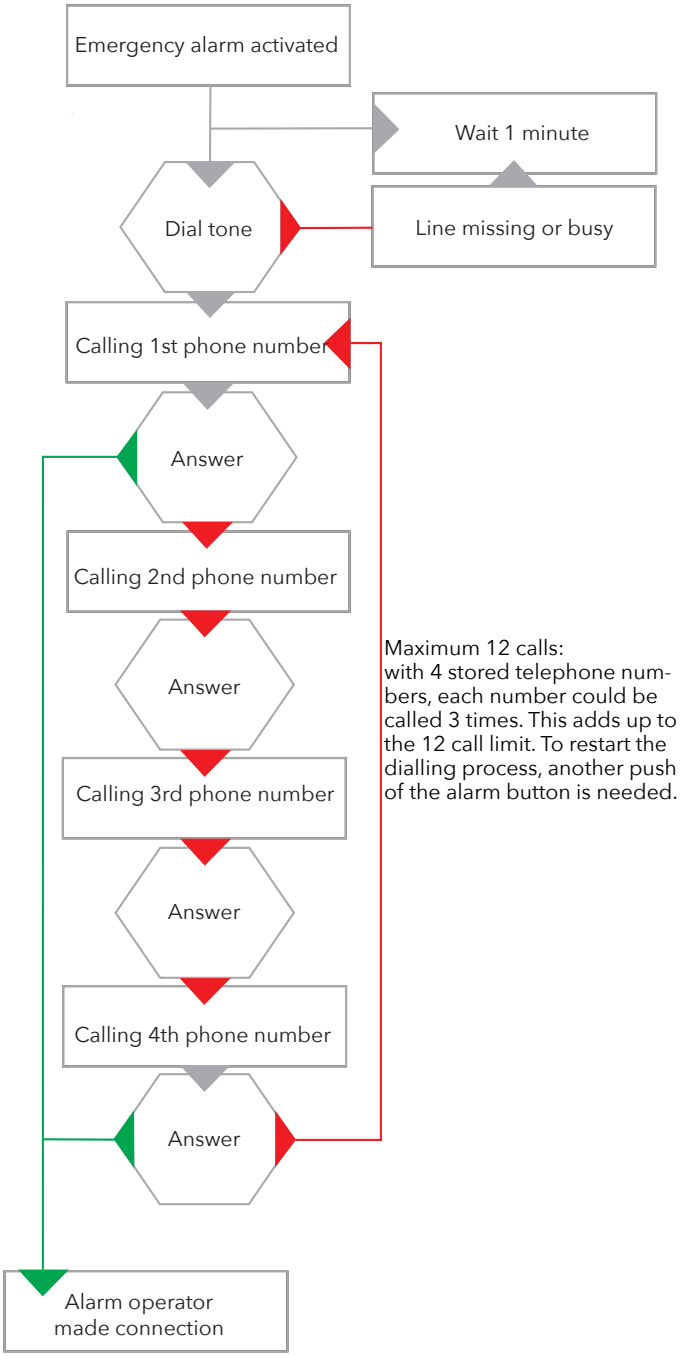
Standard (*78*0#)	Yellow LED	Green LED
Light off	No alarm activated	Telephone line *not* OK.
Flashing slowly	**Flashing once every 5 seconds** Telephone line *not* OK.	**Flashing once every 5 seconds** Unit is OK.
Flashing quickly	**Flashing twice every second** Alarm button active.	**Flashing two times every 5 seconds** Alarm filter activated.
Continuous light	Activated alarm. Remains lit until reset.	Call connected.

Strictly EN81-28 (*78*1#)	Yellow LED	Green LED
Flashing	**Flashing twice every second** Alarm button active.	
Continuous light	Activated alarm. Remains lit until reset.	Call connected.

Testing

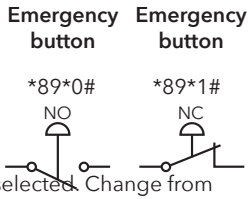

Testing the SafeLine SL2
Connect 10-30 VDC
SafeLine SL2 will make a self test
Green LED flashes 5 times. Short tone in the speaker.
Yellow LED flashes 5 times. Long tone in the speaker.
Check the mic and speaker connections
Telephone line connected
Green LED flashes every 5 sec if valid telephone line connected and set to standard.
Yellow LED flashes every 5 sec.
Check telephone line
Press on keypad
0
Phone line dial tone
No connection
Check landline
Go to Troubleshoot tables
Dial out on keypad

Emergency calling process



Troubleshooting

The telephone beeps every 5 seconds during conversation.
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.

The unit cannot make an alarm call.

- No telephone line present, check the telephone line (*).
- No emergency telephone number programmed.
- When using an alarm call center and communication is over protocol make sure the ID number is programmed and the correct call type is selected (Page 13 alarm codes & call type).

After dialing strange tones or message "service not available" appears.

- Wrong telephone number programmed.
- Service is not available, check the telephone line (*).

Unit breaks off in the start sequence of the alarm call.

- Power supply is too weak.
- Battery is weak or not charged.

Operator cannot hear the entrapped people in the cabin. If the operator is accepting the call with a normal telephone meaning not with a receiver or over protocol, make sure that the call type is set to "VOICE" for the emergency call number.

Operator cannot hear the entrapped people in the cabin and the call type is correct.

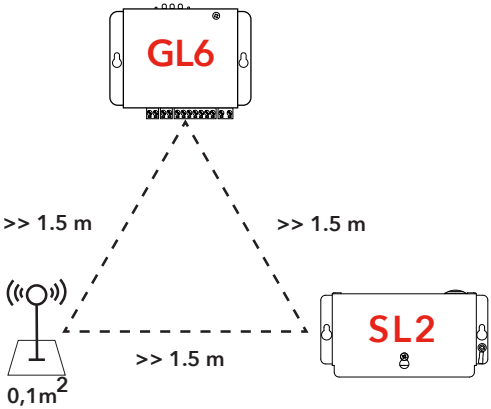
- Volume on the unit is set too high.
- Noise on the line prevents the microphones to automatically switch, do a noise check (**).
- Microphone broken or not correctly connected, do a microphone check (***)
- Microphone is not in line with the panel hole or rubber sleeve is badly mounted.

Interference noise when the call is connected
If the main unit is installed on the car roof, the problem might be due to induction. Do a noise check (**).

Poor/distorted sound quality.
Volume might be set too loud! Lower the volume and check again.

Troubleshooting

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 main unit or close to the wiring. Normally the GSM unit, antenna and SafeLine should have a distance in between of 1,5m.



*** Telephone line check**
1. Power up the unit.
2. Press "0" on the key board
3. Wait for dial tone.
4. Call to another telephone and make a normal conversation.
5. Press "#" to hang up.

If one of these steps is not successful the problem may not be with the unit but due to incorrect wiring or a faulty or a faulty or missing telephone line. Final check can be done with connecting an analogue telephone system parallel on the line for testing by calling with this system.

**** Noise check**
1. Power up the unit.
2. Press "0" on the key board.
3. Wait for dial tone.
4. Press a number on the keyboard.
5. The dial tone stops and you hear silence.
6. When you hear noise or humming, the problem may be due to induction in the phone cable.
7. Press "#" to hang up.

According to the phone companies' regulations, the phone line must be installed in a separate cable.
Redirect the cable by changing it's position or finding another pair that is free of distortion or use shielded pair when availably. When none of these solutions apply, install a separate cable for the telephone line.

***** Microphone check**
1. Call in to the SL2 and press the following numbers on the caller's phone. First press "4" for manual switching of microphones.
2. Press "7" to activate the cabins microphone.
3. Press "*" activates microphone of the caller.
If you can speak through the microphones the hardware is OK.

EU Declaration of Conformity

Product:	Lift telephone: SafeLine 2
Type / model:	**SL2**
Article no:	*SL2, *SL2-BOARD, *SL2-BULK
Manufacturer:	SafeLine Sweden AB
Year:	2020

We herewith declare under our sole responsibility as manufacturer that the products referred to above complies with the following EC Directives:

Directives

Electro Magnetic Compatibility:	2014/30/EU
RoHS 2:	2011/65/EU

Standards applied

EN 81-20:2014	Lift: Safety & Technical requirements
EN 81-28:2003	Lift: Remote alarm on passenger and goods passenger lifts
EN 12015:2014	EMC: Emission, Electromagnetic compatibility
EN 12016:2013	EMC/Lifts: Immunity, Electromagnetic compatibility
EN 50581:2012	RoHS: Technical doc. for assessment of restriction of RoHS.

Tyresö, 2020-02-05

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