

1.1 Overview of Parameters for Programming Mode

Valid since firmware version 1.58 for *FLL*

In the following table means:

d – digit 0 up to 9 depending on parameter

n – natural number 1 up to 9 depending on parameter

c – character 0..9, #,*

Parameter	Value	Description	Default
1	nb cc...	Emergency call number cc in order n with confirmation b	-
21	b cc...	Service call number cc with confirmation b	-
22	b cc...	Technical call number cc with confirmation b	-
23	b cc...	Fault call number cc with confirmation b	-
31	d	Service call mode OFF/ON/RESET (0/1/2)	0
32	d	Service call redial period [min] (0-9)	4
33	b	Car Alarm button polarity (NO/NC) (0/1)	0
34	d	Filter Input polarity (0/1/2/3/4)	0
35	n	Emergency call redial cycles (1-9)	3
36	n	Technical call redial cycles (1-9)	1
37	n	Failure call redial cycles (1-9)	1
38	dd	Service call redial (00-99)	02
39	b	Shaft Alarm button polarity (NO/NC) (0/1)	0
41	b	Confirmation by line polarity change (0/1)	0
42	c	Character to prolong the call (* / #)	*
43	cc	Hang up command (00-99,*0-*9)	44
44	dddd	Service password (0000-9999)	0000
45	d	Parallel mode (0-5)	0
46	n	Number of rings before pickup (1-9)	3
47	dddd	Confirmation code: Return serial number (0-9999)	66
48	dddd	Confirmation code: End Alarm status (0-9999)	67
49	dddd	Confirmation code: Hang up and make Emergency callback (0-9999)	68
40	dddd	Confirmation code: Return last two dialled telephone numbers (0-9999)	69
4*	dd	Time for receive DTMF address of communicator in parallel mode (10-49)	35
4#	c	Prefix for Confirmation codes (0-9/*/#)	*
51	c	Maximum call duration (0-9/*/#)	4
52	dd	Shaft Alarm button hold time to initiate an emergency call (00-39)	02
53	dd	Car Alarm button hold time to initiate an emergency call (00-39)	05

Parameter	Value	Description	Default
54	n	Hang up time before redialling (1-5)	2
55	n	Delay before dialling starts (1-5)	1
56	d	Time without ringtone – automatic call confirmation (1-0)	4
57	nd	Confirmation waiting time [sec] (10-99)	25
58	dd	Number of rings to hang up (04-99)	12
59	dd	Days between service calls (01-59)	03
5*	dd	Filter bypass time for Car Alarm button (35-99)	35
5#	dd	Delay before emergency call dial (00-99)	00
500	d	Tone detector middle frequency (1-0)	3 (375-475Hz)
501	d	Number of busy tones to detect busy condition (2-0)	5
502	n	Duration of the continuous tone (1-5)	3 (3s)
503	dd	DTMF tone duration (04-16)	10 (100ms)
504	dd	Duration of space between DTMF tones (04-16)	10 (100ms)
505	n	Duration of Flash (1-6)	1 (100ms)
506	d	Pause duration / pause between numbers (1-0)	4 (800ms)
507	dd	DTMF level when dialling [-dBm] (04-16)	10
508	b	DTMF pre-emphasis (0/1)	0
509	n	DTMF dial listening level (1-4)	2
61	b	Acoustic signalling (confirmation, error, empty memory, call termination...) (0/1)	1
62	d	Acoustic pick-up and hang-up signalling (0/1/2)	1
63	b	Ticking during a call (0/1)	0
64	c	Mute for special call, unmute event (0-9/*/#)	0
65	b	BabyCall - call without programmed phone number (PBX support necessary) (0/1)	0
6*	b	Delayed start (for PBX with line test) (0/1)	0
71	dd	Speaker volume (01-16)	08
72	dd	Microphone sensitivity (01-16)	07
73	dd	Threshold for switching speech direction (01-16)	07
74	b	Soft switching transitions (0/1)	0
75	b	Background noise suppression (0/1)	0
76	n	Microphone activation threshold (1-4)	3
77	n	Speech direction switching speed (1-4)	2
78	b	Correction of line VA characteristics (0/1)	1
79	d	Line loss compensation (0/1/2)	0
70	dd	Signalling transmission level [-dBm] (04-16)	12
7*	b	HandsFree activation delay after pickup (0/1)	1
010	nb	Voice message enable (n=1-7, 8, b=0/1)	80
011	b	EN8128 mode (0/1)	1

Parameter	Value	Description	Default
012	b	Alarm status ends when call ends (0/1)	0
013	b	Line Failure indication (0/1)	0
014	b	Power low call enable (0/1)	0
015	b	Power lost call enable (0/1)	0
016	ddd	Reference voltage (000-255)	120
017	ddd	Power low voltage (000-255)	100
018	ddd	Power lost voltage (000-255)	70
019	b	Acoustic test (0/1)	0
01*	b	Stuck button test (0/1)	0
01#	b	Parameters reported by voice messages (0/1)	0
02	n cc	Reset input n counter by code cc (n=1..8, dd=00-99,*0-*9)	71, 72..78
03	n cc	Switch output n ON by code cc (n=1..8, cc=00-99,*0-*9)	51, 52...58
04	n cc	Switch output n OFF by code cc (n=1..8, cc=00-99,*0-*9)	61, 62..68
05	n dd	ON time for output n is dd seconds (n=1..8, dd=00-99)	01
06	n dd	Input n filter delay dd seconds (n=1..8, dd=00-99)	10
07	dddd	Confirmation code: Hang up and make Service callback (0-9999)	65
080	cc	Code to query the status of inputs (00-99,*0-*9)	70
08	n d	Input n mode d (n=1..8, d=1..8)	0
09	n dd	Set input n counter to value dd (n=1..8, 01-99)	01
8##		Set parameters of groups 3-7 and 0 to default values	
8#*		Erase voice messages	
81		Erase all emergency phone numbers	
82		Erase all other phone numbers	
83		Set parameters of group 3 to default values	
84		Set parameters of group 4 to default values	
85		Set parameters of group 5 to default values	
86		Set parameters of group 6 to default values	
87		Set parameters of group 7 to default values	
80		Set parameters of group 0 to default values	
9		End programming mode and hang up	
#*	d	Record voice message number d (0..7)	
*#	d	Play voice message number d (0..7)	

Parameters in groups 8, 9 and #*, *# are executed immediately - they function like commands.
Parameters written in gray are ignored and are included only for reference.
Parameters in green are valid only for Comfort version.
Parameters in blue are not implemented in current firmware version.

Changes in version 4:

- Parameter 64 doesn't support DTMF muting from Mic, other modes are fully supported
- Former parameter 02 "Output mode" was cancelled
- Parameter 00 "Reset Input Counter" was renamed to parameter 02
This parameter clears the internal counter which is compared to counter match value set by parameter 09
- Parameter 081..088 has following mode#:
 0. Input Disabled
Changes on input are ignored (default)
 1. Input Activated
When input activated, make a Technical call (see parameter 22)
 2. Input Deactivated
When input deactivated, make a Technical call (see parameter 22)
 3. Input Changed
When input changes (from activated to deactivated or vice versa), make a Technical call (see parameter 22)
 4. Call On Counter Once
When input activated, internal input counter is incremented and then checked to value set by parameter 09, on match make a Technical call (see parameter 22), further changes on input are ignored
 5. Event On Counter Once
When input activated, internal input counter is incremented and then checked to value set by parameter 09, on match is output switched to ON for time set by parameter 05, further changes on input are ignored
 6. Call On Counter And Reload
When input activated, internal input counter is incremented and then checked to value set by parameter 09, on match make a Technical call (see parameter 22), internal counter is set 0 and starts new counting to match
 7. Event On Counter And Reload
When input activated, internal input counter is incremented and then checked to value set by parameter 09, on match is output switched to ON for time set by parameter 05, internal counter is set 0 and starts new counting to match

'Event on Counter' modes operate on 'paired' Output – i.e. Input#1 switches Output#1,... Input#2 switches Output#2, etc.

Input#1 is equipped with optocoupler with a resistor in series – to 'activate' it, you have to put a voltage to it. The Output#1 is equipped with optocoupler amplified with a transistor - it functions like a switch, but proper polarity must be kept.

Changes on inputs are filtered, i.e. after a change is detected, further changes to this input are ignored for a time delay set by parameter 06.

- Voice message record (#*) and replay commands (*#) were added to programming mode. The voice message record command (#*) is further not available during a 'normal' call due to security reasons.

Changes in version 5:

- The power calls and voltage levels were renamed to be clear:
 - *016 Reference voltage* is the voltage level which the external power should have, i.e. if using 12V DC power set *param 016* to 120.

- *017 Power low voltage* sets the threshold under which a failure call (param 23) can be initiated depending on *014 Power low call enable* setting. Voltage lower than this level means that the external power is out of the acceptable limits.
- *018 Power lost voltage* is the threshold under which a failure call (param 23) can be initiated depending on *015 Power lost call enable* setting. Voltage lower than this level means that the external power is not able to power FLL anymore. The absolute minimum which can be used is 7V DC (i.e. param set to 70) which is the lowest level able to power the FLL properly.

Call ID table

Command	Call Event	Call type	Call ID reported
11	Alarm call	Alarm	1
12	Alarm call	Alarm	2
13	Alarm call	Alarm	3
14	Alarm call	Alarm	4
15	Alarm call	Alarm	5
16	Alarm call	Alarm	6
21	Technical call	Technical call	*6
22	Service call	Service call	8
23	Failure call	Failure call	*7
	End Of Alarm	Technical call	A
	Acoustic Test Failed	Failure call	0
	Button Test Failed	Failure call	7
	Engineer Arrived	Technical call	*1
	Engineer Left	Technical call	*2
	Power Lost	Failure call	*4
	Power Low	Failure call	*5
	Input Changed	Technical call	B
	Counter Reached Limit	Technical call	9
	Digi Pot Failed	Failure call	*3

Call ID codes are codes returned by LCL-C3 in DTMF to command ******* to identify the event which initiated the call.