ALPHA Tech

DOOR COMMUNICATOR

Fores Bell

User Manual v 1.0

Version 1.0
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Content

1 Basic description

1.1 Properties

- SLIM design - no chiseling into the wall
- Name shields with LED backlight
- Tone dialing (pulse dialing is no longer supported)
- Two phone numbers for each button, two numbers in series or Day/Night mode
- Switching Day/Night DTMF Code
- Extend a call by selecting * or #
- Optional call ticking for call resolution
- Baby call in conjunction with PBX function
- Two codes to hang up the door communicator from the phone
- End the call by pressing the same button again
- Two relays powered from an external 12 V source with a switching contact, e.g. for opening doors
- For each relay 2 codes to open the door from the phone called
- Up to 6 codes for external code opening for each relay
- Optional acoustic relay switching signaling (for silent locks)
- Selectable number of rings before picking up an incoming call
- Adjustable tone dialing parameters
- Adjustable acoustic signaling parameters
- Adjustable Tone Detector Parameters
- Multiple levels of factory settings
- programming via DTMF or via a special USB cable from a personal computer
- Integrated heating for outdoor installation
- Switchable name shields illumination
- Grounding outlet for better protection against static electricity

The manufacturer continuously improves the firmware of the product. The latest firmware version from www.alphatech.cz can be loaded into the door communicator using the ForesSet program and a special USB cable.

1.2 Fores Bell Sets

The basic module is available in two-button or single-button versions.

Fores Bell 01

Fores Bell 02

Bell-8

The number of buttons can be expanded with eight-button modules.
Up to 12 Bell-8 modules can be connected to the basic module, i.e. 12x8=96, so the maximum number of buttons of the Fores Bell door communicator set is 96+1=97 or 96+2=98 buttons depending on the number of buttons of the basic module used.

1.3 Description of the basic module

All functional and connecting elements are marked with a number. The explanation is on the next page.

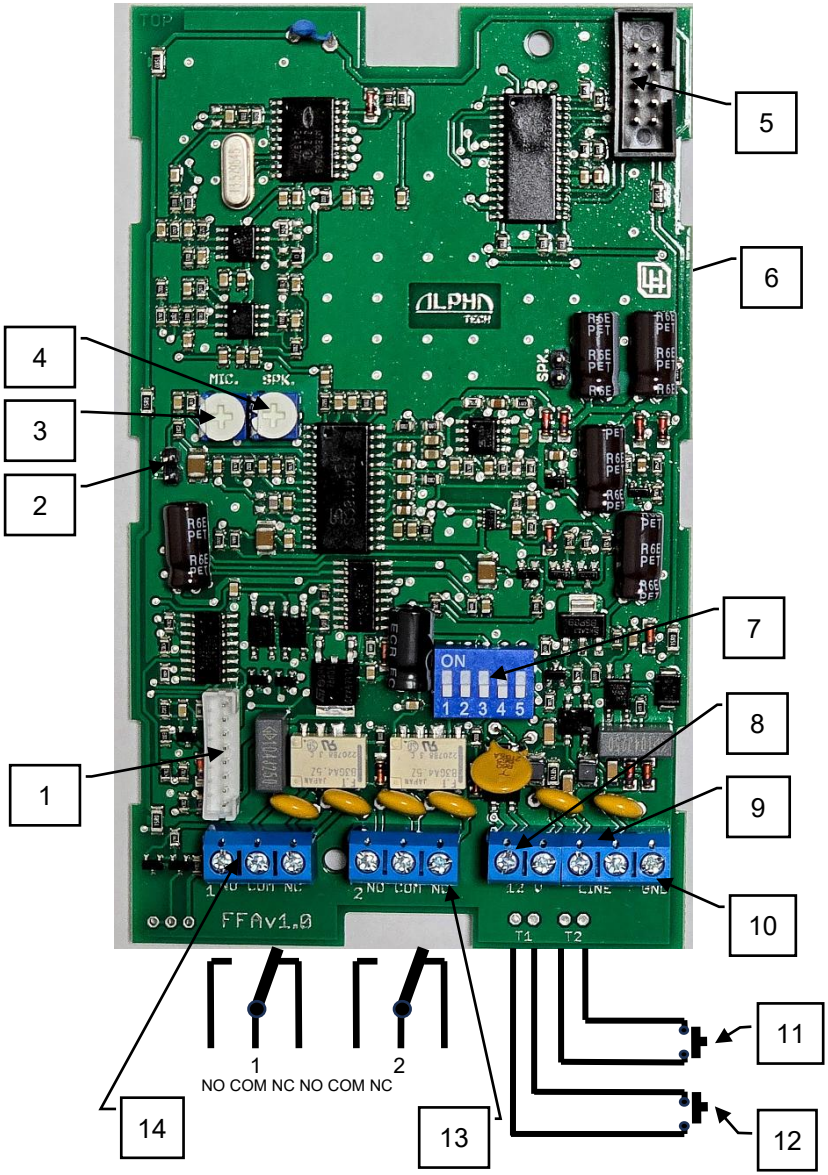
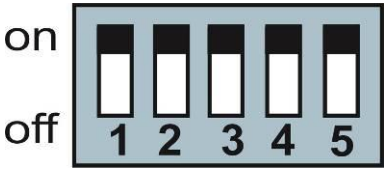


Fig. 1 Basic module of the Fores Bell door communicator

1. Bus connector for **connecting** Bell-8 extension module
2. **Microphone connector** (pay attention to polarity)
3. Potentiometer for adjusting **microphone sensitivity**
4. Potentiometer for adjusting the **speaker volume**
5. Connector for **connecting to a PC** via USB cable
6. **Speaker connector**
7. **DIP Switch**:
   1 = Service – incoming call starts directly programming mode. Use if the password is not known. For normal operation, it must be in the OFF position.
   2 = Heating – switches on the integrated heating of the plate to prevent condensation of moisture during temperature changes
   3, 4 Always leave in the OFF position
   5 = Business Card Lighting



8. **External Power Supply** (connector) It is used to power:
   - Relays
   - Heating Plates
   - Name shields backlight

   If none of these features are used, the power supply is not needed.
9. Analog **telephone line** (polarity does not matter)
10. **Grounding** – connection to the ground against static electricity – protects the electronics of the intercom and the telephone exchange
11. Solder pads (with wires) for connecting button 2 to the base module
12. Solder pads (with wires) for connecting button 1 to the base module
13. **Relay 2**– galvanically isolated switching contacts, load is max. 48V, max. 1.5A
14. **Relay 1** – galvanically isolated switching contacts, load is max. 48V, max. 1.5A

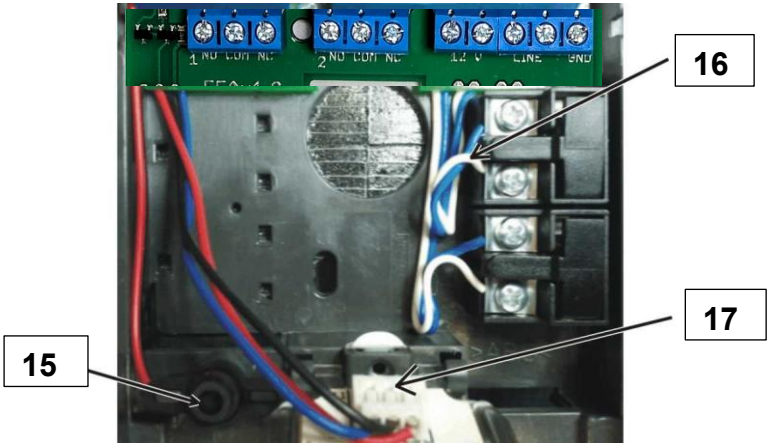
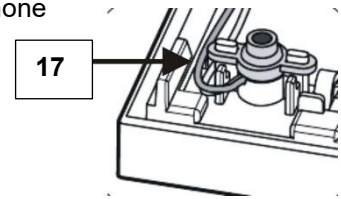


Fig. 2 Connecting to the base module

15. Wires connecting the buttons to the base module
16. Connector for name shields backlight
17. Microphone



1.4 Connecting the expansion module Bell-8

The Bell-8 module is connected to the basic Fores Bell module or to the previous Bell-8 module using the Bell-Kab-8 cable. When connecting, it should be noticed that the basic Fores Bell module has an input (1 in Fig. 1) and the Bell-8 module has an output (2) and an input (3). The output is always connected to the input of the previous module.

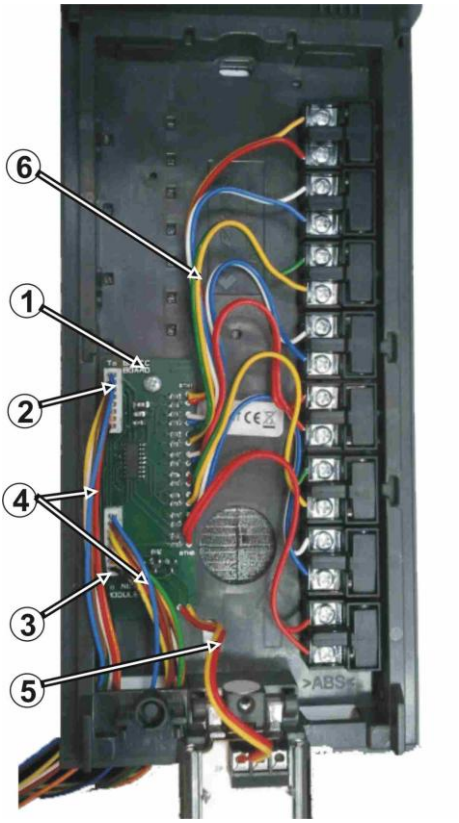
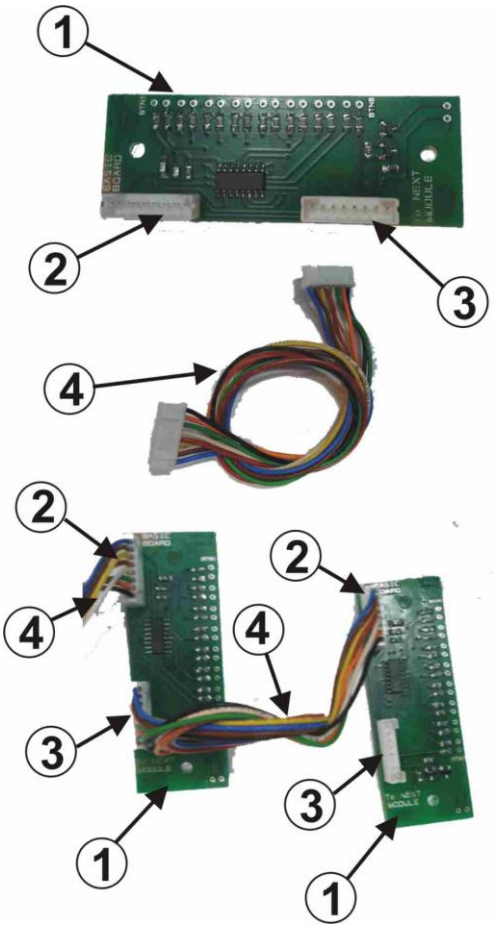


Fig. 3 Bell-8 connecting

Description of the Bell-8 module:

1. Module Electronics
2. output (connects to the input of the previous Bell-8 module or to the Fores Bell input)
3. input (the output of the next Bell-8 module is connected here, it is not used on the last one in the row)
4. Bell-Kab-8 cable
5. backlight connection (Polarity dependent - plus=A, minus=−)
6. button connection

Bell-8 module accessories:



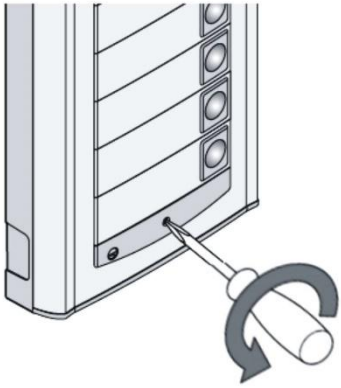
Mechanical adjustments consist of breaking out the blanks on the respective sides of the modules on the right or left bottom. It is recommended to thread the Bell-Kab-8 cable through before mounting on the wall and connect to the connectors only after it is seated on the wall.

There is no need to program the module connection, it is done automatically. The numbering of the buttons starts on the basic module and continues on the next Bell-8 module. If the basic Fores Bell module has 2 buttons, then the next Bell-8 module continues 3-10, the next in order 11-18.... If the basic module is equipped with only one button, the next Bell-8 module continues 2-9, the next 10-17, etc. The code lock uses the first ten buttons (numbers 1-10, where the tenth button works as 0)

2 Instalation

2.1 Assembling the Fores Bell

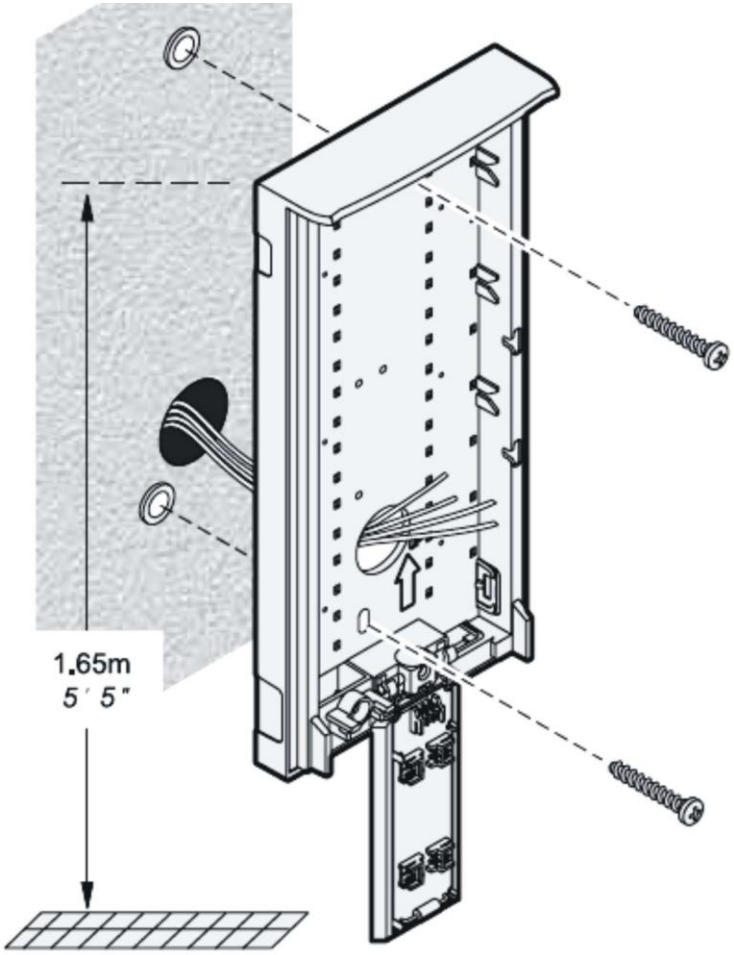
2.1.1 Removing the Fores Bell Front Cover



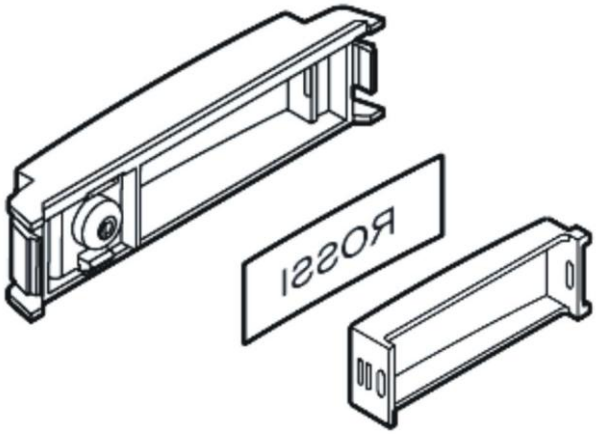
2.1.2 Mounting the Fores Bell on the wall

Mounting is done using dowels and screws.

Recommended: dowel diameter **5 mm**, screw with a half-round head, diameter **4 mm**, length **35mm**

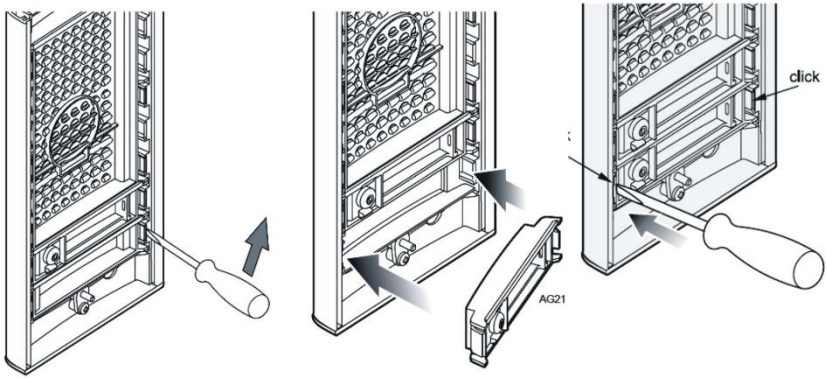


2.1.3 Name shield exchange

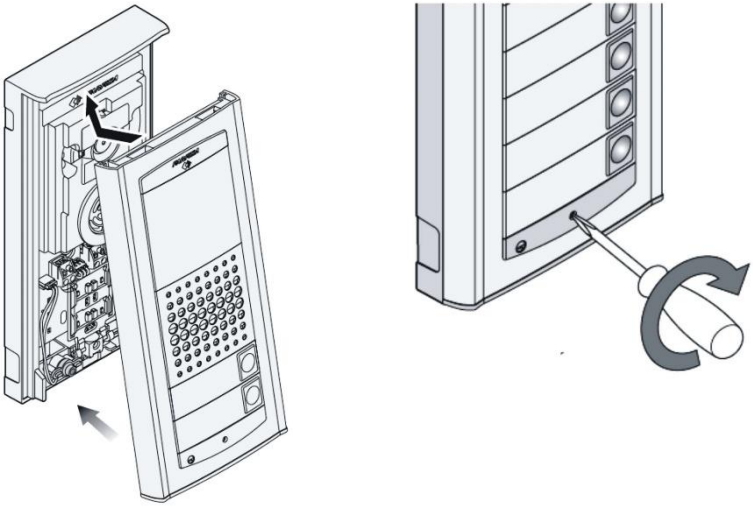


Each button has a separate name shield attached to it by a white plastic holder (pictured). The holder can be removed and reinserted by placing two fingers along the longer side and pulling/pushing slightly.

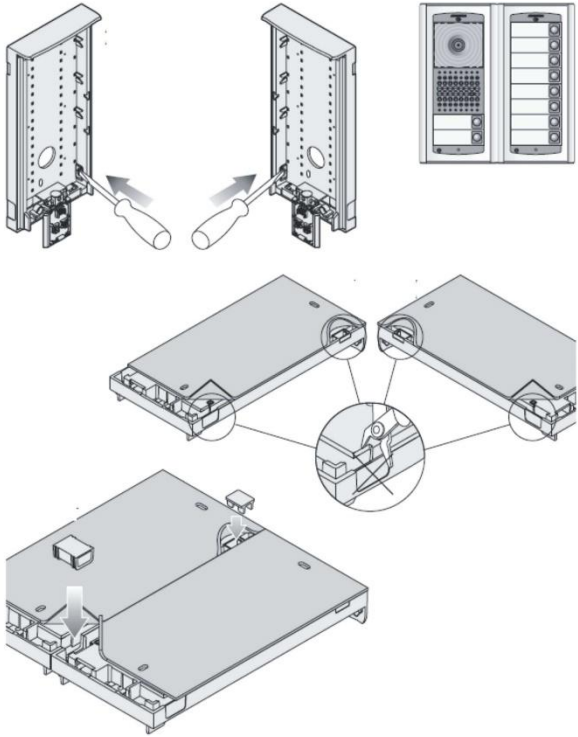
2.1.4 Removing and mounting the front panel button



2.1.5 Closing the Fores Bell top cover



2.2 Interconnection of two modules



2.3 Connectivity

Basic function (call establishing and hang up) requires connection of Phone **Line** only- LINE **(9)** on Fig. 1. The line is connected by 2 wires (a,b) and in standby has voltage 24V - 60V, short circuit current 20mA - 60mA. When line is OFFHOOK the voltage is 7V – 10V.

Line connection Fores Bell door communicator announces by sound signal (Reset) ♫ (chapter 3.1, pg. 20) when is disconnected from line certained time. Fores Bell is analog door communicator designed for connection to analog phone line. It means line where working standard analog phone. The door communicator works regardless of polarity of phone line and in range of values mentioned in technical parameters (chapter 5).

Paralell connection is not recommended! Parallel connection with other phone or door communicator is not recommended due to problems during operation. It is also not recommended using different devices switching the line (line splitter etc..). Paralell connection is allowed for service only.

The **Bell-8 module** is connected using the Bell-Kab-8 cable, which is connected between the Fores Bell input (1 on Fig. 1) and the Bell-8 output (2 on Fig. 3). Be careful not to confuse the input and output of the Bell-8 module and the direction of the cabling, always start with the input on the Fores Bell.

For board heating, name shields backlight and relays neccessary to connect an external **Power Supply (8)** on Fig. 1. The PSU might be AC or DC polarity doesn't matter. From 12V is max. consumption 250mA. Power supply be used also for electrical lock. For this use is recommended 12V/1A AC. When adding Fores Bell to existing access system or sliding doors, it's possible use 24V power supply but only 24 VDC not 24 VAC!

Relays (13, 14) on Fig. 1 have many ways of usage and examples of connection are on Fig. 5. Relay contacts are galvanically isolated from both the external source and the telephone line. They can switch a voltage of max. 48 V.

Under no circumstances must the mains voltage of 230 V or 120 V be switched directly!! The need to control mains appliances must be solved by contactors.

Use cases are on the following page, they are far from all the wiring and connection options for the relay, but they give instructions on how to connect individual circuits (red circles with numbers = example numbers).

1. Basic connection – 2 electric locks and the ability to control two doors independently (relay 1 and 2 mode m=1) or consecutive door opening (relay2 mode m=5.

2. Two sources - the ability to use two power sources independently, one for the Fores Bell and the other for the electric locks. Electric lock 2 is connected inversely (fire escape door).
3. Combination of a door with an electric lock and a sliding gate.

4. Combination of an electric lock and an additional bell. The additional bell relay can be in m=4 mode (switches by any button for a set time) or in m=6 mode (switches on by a preset button for a set time)

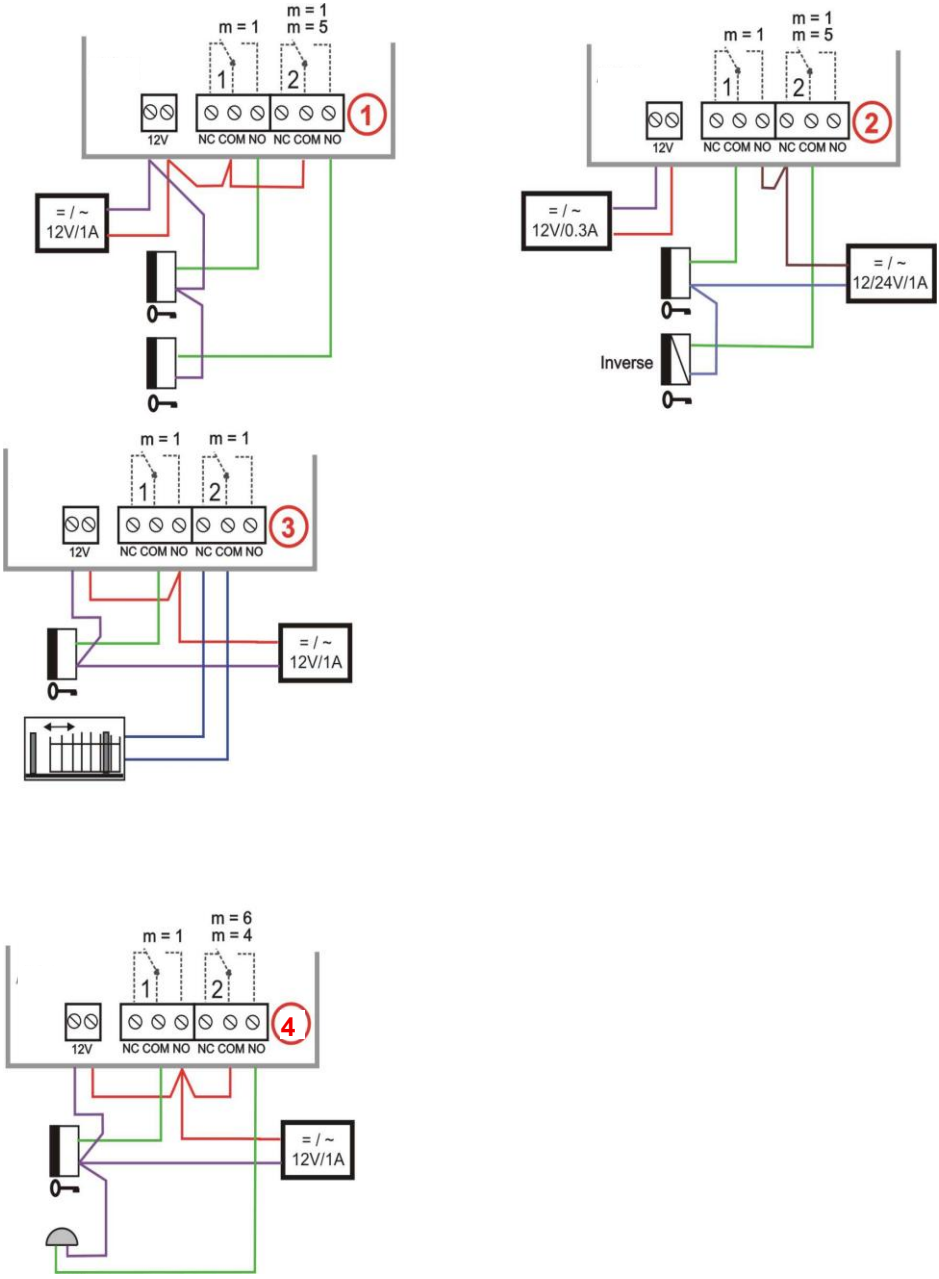


Fig. 4 Relays use cases

2.4 Other accessories

2.4.1 Power supply 12V

12V DC/1A alternative power supply is recommended for the Fores Bell. This is not a part of delivery and must be ordered separately. Further details of power supplies and electric locks can be found at www.alphatech.cz.

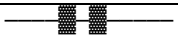
2.4.2 USB programming cable

USB cable USBKAB order no. 212124, is the same as for Brave series door communicators or elevator communicators. USB drivers are available on the website www.alphatech.cz. The driver is not electronically signed and must therefore be installed as described on www.alphatech.cz.

3 door communicator operation

3.1 Signaling

The Fores Communicators signal acoustically states that may occur during operation. For easier recognition, in most cases is used one tone and a combination of different lengths as in Morse.

Status	Signaling	Comment
Line connection (Reset)		Morse "K"
Line pick up (OFF HOOK) type 1		Morse "A"
Line hang up (ON HOOK) type 1		Morse "N"
Line pick up (OFF HOOK) type 2		Morse "U"
Line hang up (ON HOOK) type 2		Morse "D"
Memory empty (no number programmed)		Morse "H"
Knocking into a call	4 4 4 4 4	Continuous regular beeps
Call end notification		Morse "S"
Programming mode entered		Four dashes
Programming mode prompt		Two modulated beeps
Command or parameter accepted		Very long dash
Command or parameter rejected		Morse "5"
Line connection (Reset)		Morse "K"

The activity of the device can be analyzed by the tones it plays. This can be useful for installation problems or failure behavior analysis. Sound signaling can be set using parameters 61, 62 and 63.

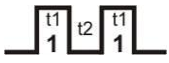
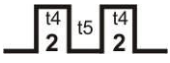
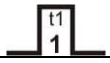
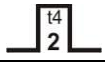
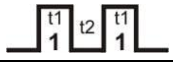
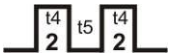
3.2 Outgoing call

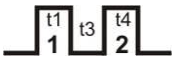
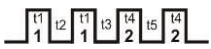
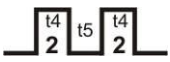
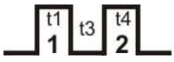
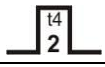
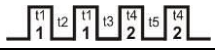
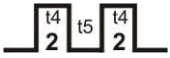
After pressing the button, the door communicator picks up the line, plays the line pick-up signal (unless disabled by par. **62**) and dials the subscriber's telephone number assigned to the button. A ringing tone is heard from the loudspeaker. As soon as the callee picks up, he can talk to the visitor at the door. If an electric lock is connected to the door communicator, the callee can open the door for the visitor by dialing the DTMF code on his telephone. If he hangs up the telephone, the door communicator will also hang up after detecting a busy tone. If the call lasts longer than the set limit (parameter **52**), 15 seconds before hanging up, the door communicator will send a signal notifying the approaching end of the call. If the callee dials ***** or **#** on his telephone according to the settings (parameter **42**), the call will be extended again by the time set by parameter **52**. The dialed number differs depending on the dialing mode set (parameter **47**):

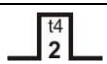
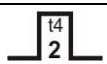
- **Day/Night mode** = if the door communicator is in Day mode, it always dials the number set in parameter **1xx**, if it is in Night mode, it always dials the number set in parameter **2xx**. Switching modes manually is set by parameters **45, 46**.
- **Two groups of numbers mode** = first press of the button – it always dials the number set in parameter **1xx**, when the same button is pressed again, or when a busy tone is detected 10 seconds after dialing, or after the set number of rings (parameter **56**) has elapsed, the door communicator dials a number from the second group (parameter **2xx**). When the same button is pressed again, the number from the first group is dialed again, etc. (after detecting a busy tone after dialing a number from the 2nd group, the repetition ends)

If the visitor presses the button after picking up the door communicator, the door communicator hangs up for the time specified by parameter **54**, picks up the line again and dials a new number. The number is dialed using tone dialing (DTMF). The call on the door communicator side can be ended prematurely by pressing the same button again, if this is set (parameter **4***).
Using buttons 1 to 10, it's possible to control the relay (i.e. **unlock the locks).** If the visitor at the door presses the buttons one after the other so that the combination corresponds to the programmed external code (parameter **32-34**) and the time between pressing the individual buttons is not greater than the set time (parameter **53**), the door communicator will pick up, switch on the relevant relay (if set in mode m=1 or m=5) for the time given by parameter **37** or **39**, **30**. And finally hang up again.
The relay can switch on one pulse or two pulses with the time between pulses set by parameter **30**, see Tab. 1.

3.3 Relay Modes

Mode m = 1	*(parameter 3111 and 3121)*		
Events	**Note**	**Parameter**	**Relays**
External code entered by buttons	Always valid	3211-3215	
	Valid for DAY	3311-3315	
	Valid for NIGHT	3411-3415	
	Always valid	3221-3225	
	Valid for DAY	3321-3325	
	Valid for NIGHT	3421-3425	
	Always valid	321*	
	Valid for DAY	331*	
	Valid for NIGHT	341*	
	Always valid	322*	
	Valid for DAY	332*	
	Valid for NIGHT	342*	
Internal code entered on the phone	You can choose 1 or 2 digits of the code The 2-digit code is basic and can be abbreviated by using * in the first place of the code when programming	351	
		352	
		361	
		362	

Mode m = 5	*(parameter 3125)*		
Events	**Note**	**Parameter**	**Relays**
External code entered by buttons	Always valid	3211-3215	
	Valid for DAY	3311-3315	
	Valid for NIGHT	3411-3415	
	Always valid	3221-3225	
	Valid for DAY	3321-3325	
	Valid for NIGHT	3421-3425	
	Always valid	321*	
	Valid for DAY	331*	
	Valid for NIGHT	341*	
	Always valid	322*	
	Valid for DAY	332*	
	Valid for NIGHT	342*	
Internal code entered on the phone	1- or 2-digit code ca be used The default setting is a 2-digit code, which can be shortened by using * in the first position of the code when programming.	351	
		352	
		361	
		362	
Mode m = 4			

Events	Note	Parameter	Relays
Pressing a button	any button except the button set by 311* or 312*	3114	
		3124	
	button set by parameter 311* or 312*	3114	
		3124	
Mode m = 6			
Events	**Note**	**Parameter**	**Relays**
Pressing a button	any button except the button set by 311* or 312*	3116	-
		3126	-
	button set by parameter 311* or 312*	3116	
		3126	

Note: T1 – relay switching time 1 *(parameter 371)*
T2 – Time between relay pulses 1*(parameter 301)*
T3 – Time between switching relay 1 and relay 2 *(Parameter 39)*
T4 – relay switching time 2*(parameter 372)*
T5 – Time between relay pulses 2 *(Parameter 302)*

Tab. 1 Relay Control Table

3.4 Incoming call

An incoming call is a call to the door communicator (initiated by a person inside the building). After dialing the number of the branch where the door communicator is connected, the door communicator line will ring and after the set number of rings (*parameter 51*), the door communicator will pick up and it is possible to talk. The options are similar to those for an outgoing call, with the following exceptions:

- During the first 10 seconds, it is possible to enter the combination "**# and service password**" (*parameter 44*), the door communicator then enters the programming mode.
- When the DIP1 switch ("SERVICE") is switched to the ON position, the door communicator goes straight into programming mode without entering the service password after picking up the line
- An incoming call may be disabled from controlling the relay (*parameters 381 and 382*).

3.5 Programming with your phone

3.5.1 Entry into programming

The Fores Bell door communicator is put into programming mode in two ways:

- **using a password** – Incoming call only! – pick up the phone and dial the number where the door communicator is connected *(either the branch number if you are connected to the PBX, or the number of the state line to the building where the door communicator is located and be transferred to the branch where the door communicator is connected)*. The door communicator picks up (you can hear the pick-up signal – see chapter 3.1 pg.20) up to 10 sec volt **#xxxx**, where xxxx is the service password for accessing programming ***(by default, xxxx=0000).*** If the password matches, the door communicator switches to programming mode – a switch signal is heard and is immediately heard *Audio prompt in programming mode* (see chapter 3.1 p.20).
- **using DIP1** "SERVICE" – incoming call only! – you make the connection with the door communicator in the same way as in point 1, but if DIP switch 1 is switched to the "ON" position, the door communicator goes straight to the programming mode after picking up – you hear the pick-up signal, the signaling of switching to the programming mode and then you can hear them *Audio prompt in programming mode* (see chapter 3.1 pg.20).
  When you finish programming, don't forget to return the DIP1 to the OFF position!

3.5.2 Parameter programming

The default state for programming is announced by a signal *Programming mode prompt.* The door communicator returns to this state every time (5 seconds) no matter what you start programming.

The programming mode distinguishes two kinds of parameters. One group is **parameters with a fixed length** – there are most of them. The parameter is always stored immediately after reaching the obligatory length and the programming is confirmed by the signal *Command or parameter accepted*. The second group are **parameters with variable length** (*parameter 1xx, 2xx,32,33,34*), then the parameter is **confirmed** and written only after the idle time has elapsed (5 sec). The parameter is immediately entered when the maximum number of characters (numbers) to be written is fulfilled – for *parameters 1 and 2* (phone numbers) the maximum is 24, for *parameters 32, 33, 34* (external codes) the maximum length is 6.

If you enter a number (character) that is not inadmissible during programming, the door communicator immediately sends **an error signal** *(Command or parameter rejected)*, the parameter is not written or changed, the door communicator returns to the state in which it expects parameters to be entered and it is possible to repeat the parameter setting or program another parameter.

The door communicator remains in programming mode, if no DTMF tone is received for the time specified by parameter 52, then it will automatically hang up. With each DTMF tone received, the time until automatic suspension is set again to 2 minutes. You can exit the programming mode either by hanging up or by selecting *parameter 9*.

3.6 Programming from a PC – ForesSet

To set up the door communicator using a personal computer (PC), it is necessary to have a special USBKAB cable and the ForesSet program, and it is also necessary to have the door communicator connected to the telephone line.

Procedure:

- Connect the door communicator to the line
- connect the USB cable of the door communicator and the PC. The door communicator picks up the line and within 3 seconds there is a tone to enter the programming (see chapter 3.1 pg.20).
- run the ForesSet program. During the operation (start-up) of the ForesSet program, the door communicator is in programming mode and until the USB cable is disconnected from the door communicator, it does not perform any other activity. If the connection is lost, it is necessary to disconnect the cable from the door communicator and reconnect it – the door communicator will pick it up.
- Establishing a connection between the door communicator and the PC program is indicated by displaying the firmware version and the number of restarts at the bottom of the status bar.
- For easy orientation, the parameters in the ForesSet program are marked with the same codes as when programming from a phone. This makes it easier to orient yourself and also understand which parameter means what.
- For details on how to set up, see the program's help and the www.alphatech.cz manufacturer's website.
- USBKAB is a special cable with galvanic isolation and a level converter. Galvanic isolation is necessary because the telephone line must not be grounded and the PC is usually grounded.

4 Description of configuration parameters

Parameters always start with a fixed, mandatory part (parameter number) and end with a variable part – the parameter value. No special prefix or postfix characters are entered before or after the parameter. After the parameter is completely entered and written to memory, a confirmation will be heard, if the wrong value is entered, an error signal will be heard immediately.

4.1 Direct selection of numbers – memories

Parameter	Value	Meaning	Default
1	**tt nn...**	Phone number **nn** assigned to the **tt** button	-

tt – button number, always entered as two digits [01-99]
nn – phone number of up to 24 digits The assignment specified in the table is used to store additional selection flags.
After entering each digit, the next one must e entered in 5 seconds otherwise the phone number is considered finished and is written to memory.
The numbers stored in parameter 1 are the **numbers of the first group**, or the numbers of the **Day mode.**
Factory setting 8## does not change or delete these numbers.

Meaning	Input
0–9	0–9
#	#
*	**
Pause	*0

Parameter	Value	Meaning	Default
2	**tt nn...**	Phone number **nn** assigned to the **tt** button	-

tt – button number, always entered as two digits [01-99]
nn – phone number of up to 24 digits The assignment specified in the table is used to store additional selection flags.
After entering each digit, the next one must e entered in 5 seconds otherwise the phone number is considered finished and is written to memory.
The numbers stored in parameter 2 are the **numbers of the second group**, or the numbers of the **Night mode.**
Factory setting 8## does not change or delete these numbers.

Meaning	Input
0–9	0–9
#	#
*	**
Pause	*0

Note 1: the Day/Night mode settings remains set even after the line is disconnected
Note 2: there are max. 98 buttons available – tt=01-98

Examples of settings:

Button 1 (i.e. 01) is supposed to dial the number 358 during the day and '0 Pause 603441296' at night, then it is programmed for day **101358** and you wait 5sec for confirmation ♫, then for the night **2010*0603441296** and you wait 5sec for confirmation ♫

Button 2 (i.e. 02) is supposed to dial 123#1*23 day and night, then it is programmed for day **102123#1**23** and you wait 5sec for confirmation ♫, then for night **202123#1**23** and wait 5sec for confirmation ♫

Note: if you do not use the 2 groups of numbers mode, or Day/Night switching, it is recommended to set the Day-Night/TwoGroups mode *(parameter 47),* to *Day-Night* (*see parameter 45*) and then set the same code for Day/Night switching *(parameters 45 and 46).* This will guarantee that the intercom will always be in Day mode and you only need to program phone numbers to Day mode *(parameter 1).*

4.2 Relays

Parameter	Value	Meaning	Default
31	**r m**	Relay **r** operates in **m** mode (1/2,1-6)	11 21

r – relay number [1-2]
m – Relay Mode [1-6 *For relay 1i s mode m=5 is not available*]
Modes **m=1,4,5,6** are explained in detail in Tab. 1 Relay Modes on pg. 22

m=1 Mode **Switch** – activates by command (internal code) or password (external code) 1 pulse for the time T1/T4 (used for electric locks) or 2 pulses when it switches on for the time T1/T4, opens for the time T2/T5 and switches on for the time T1/T4 (opening the mobile gate)

m=2 switched on for the duration of line pick-up (**camera)** - by picking up the door communicator and switches off by hang-up

m=3 switched on for the duration of line pick-up, and for T1/T4 after hanging up (**lighting)** - Switches on when the door communicator picks up and is closed for T1/T4 after hanging up the (during this time the line is occupied)

m=4 Mode **button** – switched on for T1/T4 period when any button is pressed (used e.g. to connect an external doorbell or siren)

m=5 Mode **gradual opening** – only relay 2 can be set to this mode, relay 1 is automatically set to mode m=1. By command (internal code) or password (external code), relay 1 is activated for the time t1, for the time t3 it waits before switching on relay 2, then relay 2 is activated for the time t4 and then the door communicator is hanged up. If the command or password entered corresponds to two pulses, then there will always be two pulses in the sequence, separated by time t2/t5. Explanation in Tab. 1 on pg. 22.
Note. *The command or password for relay 1 starts the whole sequence, if you use the command or password for relay 2, only relay 2 is controlled as in mode m=1.*

m=6 It is switched on when the button set by parameter 31r* is pressed. There can be only one buitton assigned to each relay. The relay is activated for the T1/T4 period. This mode serves as a replacement for the doorbell connected to the Fores Bell system.

Parameter	Value	Meaning	Default
31	**r*tt**	The **tt** button triggers the relay **r** to be switched on when it is in mode M=6 (01-99)	01

r – relay number [1-2]
tt – button number (memory), always entered as two digits [01-99]
This parameter is applied only if the relay **r** is in the m=6 mode. The value of **tt** determines which button triggers the relay **r** to be switched on for the time t1/t4.

Parameter	Value	Meaning	Default
32	**rp hh...**	in **DAY + NIGHT mode,** password **hh...** for relay **r,** in the order **p**=1-5, for 1 pulse and **p**=* for 2 pulses (00-999999)	-
33	**rp hh...**	in **DAY mode** password **hh...** for relay **r,** in the order **p**=1-5, for 1 pulse and p=* for 2 pulses (00-999999)	-
34	**rp hh...**	in **NOC mode,** the password **hh...** for relay **r,** in the order **p**=1-5, for 1 pulse and **p**=* for 2 pulses (00-999999)	-

r – relay number [1-2]

p – order=[1 to 5] Up to 5 passwords (external codes) are available to switch on the relay with one pulse

p – order = *, there is one password (external code) to switch on the relay with two pulses

hh... – password (external code) to control the relay by buttons or keypad. The password can be up to 6 digits; the minimum is 2 digits. The characters * and # are not allowed because they cannot be entered.

The DAY+NIGHT set (parameter 32) is always valid, the DAY set (parameter 33) is valid only when the door communicator is in DAY mode, analogously the NIGHT set (parameter 34) is valid only when it is in NIGHT mode. When the mode **Two groups of numbers**, is used (parameter 47) the door communicator behaves as if it were in DAY mode in terms of the operation of external codes. The relay must be set in m=1 or m=5 mode by parameter 31.

To choose a password, you need to follow a few rules:

- Choose the password so that during frequent use it is not possible to observe from the wear and tear of certain buttons what numbers it is composed of
- Be careful about the coincidence of the beginning of the digits of the password, when one password starts the same as the other, e.g. the password for relay 1 is 1234 and for relay 2 is 12345, then always after pressing button 4, relay 1 is equipped, and relay 2 cannot be controlled.

Note1. Switching to Day/Night mode remains set even after the line is disconnected

Note2. In Fores Bell door communicator sets, the number 0 in the password is represented by button 10.

Parameter	Value	Meaning	Default
35	**r aa**	**aa** command from the phone to turn on relay **r** 1 pulse (00-99,*0-*9)	155 266

r – relay number [1-2]

aa – Command (internal code) from the phone to turn on the relay [2 places][1]

The same command (internal code) can be set for both relays, then both relays are activated at the same time. It is useful to set the same command for switching on the relay and for hanging the door communicator (see *parameter 43*)

[1]) - The command is always programmed as two digits, but if you want to control the relay from the phone keypad with a single **digit**, enter ***a** where **a** is the digit that causes the relay to be switched on.

For example: Relay 1 - switching with internal code 48 – programming: **35148** ♫
Relay 2 - switching with internal code 8 – programming: **352*8** ♫

Parameter	Value	Meaning	Default
36	**r cc**	**aa** command from the phone to switch on relay **r** 2 pulses (00-99,*0-*9)	150 260

r – relay number [1-2]

cc – Command (internal code) from the phone to turn on the relay [2 places][1]

The same command can be used for both relays, then both relays are activated at the same time.

[1]) - The command is always set as two digits, but if you want to control the relay with a single digit, enter ***a** where **a** is the digit that should switch the relay to on. Switching on the relay with 2 impulses can be used, for example, at a mobile gate, which thus replaces the gate for the entry of people.

Example: We want to control the switching of relay 2 with one pulse, e.g. with the digit **8**, the hang-up also with the digit **8** and the switching on relay 2 with two pulses, e.g. with the digit **9:**

Programming: **352*8** ♫ , **432*8** ♫ , **362*9** ♫ .

When talking to the door communicator, you execute the command to open the gate (2 pulses) 9, the first impulse sets the gate in motion, the second impulse stops the gate, the size of the gate opening for people to enter is given by the time between impulses (*parameter 30*). After people enter, dial **8**, then the door communicator makes one impulse and hangs up, the gate closes.

Parameter	Value	Meaning	Default
37	**r ss**	**ss** time [sec] relay **r** switching on for T1/T4 time (01-99)	105 205

r – relay number [1-2]

ss – Time T1 for which relay 1 is switched on, time T4 for which relay 2 is switched on [2 places 01-99]

Parameter	Value	Meaning	Default
38	**r p**	**r** relay control p for incoming call (0/1)	11 21

r – relay number [1-2]

p – parameter whether it is enabled **p=1** or disabled **p=0** control the relay when an incoming call occurs.

It makes sense to disable control when an incoming call is used, e.g. relay 2 in mode 1 controls the opening of the garage door, when the electronics open the door and it closes when the vehicle passes. Then the control from the phone could cause the door to open unintentionally permanently (it does not close – the vehicle has not passed).

Parameter	Value	Meaning	Default
39	**xx**	Time **xx** [sec] between switching on relays 1 and 2 in mode m=5 - time t3 (01-99)	10

xx – T3 time from switching off relay 1 to switching on relay 2 in mode **m=5** (gradual opening) [2 digits 01-99]

Parameter	Value	Meaning	Default
30	**r zz**	Time **zz** [sec] between pulses when relay **r** is switched on with two pulses - time T2/T5 (01-99)	105 205

r – relay number [1-2]

zz – T2 time between the first and second impulse for switching on relay 1
T5 time between the first and second impulse for switching on relay 2 [2 places 01-99]

4.3 Basic parameters

Parameter 41 for switching between tone (DTMF)/pulse dialing is ignored. Only tone dialing is supported.

Parameter	Value	Meaning	Default
42	**z**	Call prolongation character (* / #)	*

z – Call prolongation character ***** or **#** (About 15 seconds before the end of the call, the communicator sends a notification (see p. 20), then the call can be prolonged)

Parameter	Value	Meaning	Default
43	**g bb**	Command to hang up the door communicator from the phone (00-99,*0-*9)	155 266

g – command order [1-2] (two commands are available so that the door communicator can be hang up when using any relay)

bb – command to hang the door communicator from the phone [2 digits][1]

It is recommended to set the same command for switching on the relay *(parameter 35.36)* and the command for hanging up.

[1]) - The command is always programmed as two digits, but if you want to control the relay from the phone keypad with a single digit, enter ***a** where **a** is the digit that causes the relay to be switched on. *(Example for parameter 35.36)*

Parameter	Value	Meaning	Default
44	**xxxx**	Service Password (0000-9999)	0000

xxxx – Service password to enter programming mode

If you forget your password, then the following procedure is recommended:

- Open the door communicator cover
- Switch DIP1 to the ON position
- Call the door communicator
- After picking up the line, the door communicator is in programming mode. In this mode, the password can be changed 44xxxx
- return DIP1 to the OFF position
- Close the door communicator cover

Parameter	Value	Meaning	Default
45	**dd**	Command to switch to **DAY** (00-99,*0-*9)	11
46	**nn**	Command to switch to **NIGHT** (00-99,*0-*9)	11

dd – Command to switch to mode **DAY** [2 digits][1]
nn – Command to switch to mode **NIGHT** [2 digits][1]

*[1]) - The command is always programmed as two digits, but if you want to control the relay from the phone keypad with a single digit, enter ***a** where **a** is the digit that causes the relay to be switched on. (Example for parameter 35.36)*
Note 1: The DAY/NIGHT mode status remains set even after the line is disconnected
Note.. 2: In the default settings, both commands are set the same to prevent accidental switching to NIGHT mode.

⚠ ***ATTENTION !!*** If the door communicator is in a different mode (e.g. NIGHT) than the one for which you are setting the phone numbers (DAY, i.e. 1xx), it will dial the numbers of the mode in which it is switched (NGHT, i.e. 2xx) when you press a button! Therefore, it may dial different numbers than you expect or even signal an empty memory!

Parameter	Value	Meaning	Default
47	**e**	Day-Night/TwoGroups Mode (0/1)	1

e – Number selection mode **e=0** door communicator dials numbers from 1st and 2nd group sequentially, **e=1** door communicator dials numbers according to the door communicator mode **Day/Night** (params 45/46)

⚠ ***ATTENTION !!*** In combination with parameters 45, 46, it may happen that the door communicator behaves unexpectedly – see the explanation above.

Parameter	Value	Meaning	Default
4*	**k**	Hanging the line by pressing the same button again (0/1)	1

k – hang up by pressing the same button:
k=0 pressing the button again causes the number to be dialed again
k=1 pressing the button again causes hang up

⚠ ***ATTENTION !!*** Setting this parameter will significantly affect the dialing of numbers

4.4 Time parameters

Parameter	Value	Meaning	Default
51	**q**	Number of rings before the door communicator picks up an incoming call (1-9)	2

q – Number of rings **q** before the door communicator picks up an incoming call. The number can be set from 1 to 9.

Parameter	Value	Meaning	Default
52	**d**	Maximum call duration (0-9,*,#)	2

d – The maximum amount of time a call can last. The call can be extended during the call by dialing a character from the phone (* or # - *Parameter 42*). The time is entered according to the table.

Time [min]	Input
0,5	0
1–9	1–9
15	*
30	#

Parameter	Value	Meaning	Default
53	**w**	Time between button presses (1-9)	2

w – Maximum time [sec] between button presses [range 1-9]

- **external code** – if the time between pressing two consecutive buttons is greater than the time **w**, the code will not be evaluated correctly
- **number selection** – if the button pressed is same as the first digit of the external code, then dialing is delayed by the time **w,** because it is not known yet whether it is a part of the code or a phone memory number

Parameter	Value	Meaning	Default
54	**z**	Hangup time during redial (1-5)	2

z – The time [sec] for which the door communicator hangs up before picking up again to repeat the dial (used when line is busy or button was pressed during a call) [range 1-5]

Parameter	Value	Meaning	Default
55	**r**	Delay before the dialling starts (1-5)	1

r – the time [sec] after picking up before the door communicator starts dialing phone number [range 1-5].

This time is different for each phone system / PBX, but as a rule, most phone systems / PBXs can process the dial within 2 seconds after picking up the line.

Parameter	Value	Meaning	Default
56	**hh**	Number of ringtones before hang-up (04-99)	12

hh – number of rings heard from line after the end of the dial before door communicator hangs up because no one picked up. [range 04-99]. The dial is repeated if the two group dial mode (parameter 47) is set.

Parameter	Value	Meaning	Default
500	**x**	Tone detector mid frequency (1-0)	3 (375-475Hz)
501	**y**	Number of busy tones to hang up (2-0)	4
502	**z**	Continuous tone duration (1-5)	3 (3s)

x – medium frequency of the tone detector – set in the case of non-standard signaling the phone system / PBX – see table

y – minimum number of busy tones required for detection [2-0], where 0 means 10 busy tones

z – minimum duration of continuous tone (for detection of dial tone on PBX) [1-5 sec]

frequency [Hz]	x – choice
275-375	1
325-425	2
375-475	3
425-525	4
475-575	5
525-625	6
575-675	7
625-725	8
675-775	9
725-825	0

Parameter	Value	Meaning	Default
503	**dd**	DTMF tone duration (04..16)	10 (100ms)

dd – The duration of the DTMF tone is determined by the formula:
(number entered) x 10 = tone duration [ms] - [04-16 i.e. 40-160ms]

Parameter	Value	Meaning	Default
504	**dd**	DTMF space duration (04-16)	10 (100ms)

dd – The duration of the space between the DTMF tones is determined by the formula:
(number entered) x 10 = space duration [ms] - [04-16 i.e. 40-160ms]

Parameter	Value	Meaning	Default
506	**d**	Pause duration (1-0)	4 (800ms)

d – The duration of the pause is determined according to the formula:
Entered number x 100 + 400 = pause duration [ms]
[range 1-0 i.e. 500-1400ms]

4.5 System parameters

Parameter	Value	Meaning	Default
61	**z**	Acoustic signaling (acknowledgement, error, empty memory, end of call...) (0/1)	1

By default, the status of the door communicator is signaled acoustically.

z=0 – signaling is off
z=1 – the signaling is on

Parameter	Value	Meaning	Default
62	**v**	Acoustic signaling pick up/hang up (0/1/2)	1

By default, the pick-up and hang-up of the line is acoustically signaled, but this may cause false dialing or a change in the operating mode for some types of phone system / PBX.

v=0 – pick-up and hang-up signaling off
v=1 – pick-up and hang-up signaling on (Type1)
v=2 – pick-up and hang-up signaling on (Type2)

See chapter 3.1, pg. 20.

Parameter	Value	Meaning	Default
63	**u**	Acoustic signaling of ticking into a call (0/1)	0

By default, ticking into a call is turned off. By turning on this signaling, it is possible to distinguish a call from the door communicator by a regular ticking in the call.

u=0 – Ticking into the call is off
u=1 – Ticking into a call is on

Parameter	Value	Meaning	Default
65	**z**	Acoustic signaling of relay switching (0/1)	0

By default, the relay switching signal is switched off **z=0**. Some locks do not "buzz" when the door is opened, and it is then not obvious to the person who comes that they can already open the door.
When **z=1** is switched on, a sound simulating the sound of the lock is heard from the intercom speaker for the duration of the relay switching.

*Note 1: This function is only available for relay modes **m=1**, **m=5***
Note 2 :Even when the relay is switched on by two pulses, the acoustic signaling is switched on only when the relay is switched on, not in the gap between as in the previous generation of door communicators.

Parameter	Value	Meaning	Default
67	**b**	BabyCall – call without the need to program a phone number (0/1)	0

By default**, b=0** is off. Turning on the **b=1** disables the acoustic signaling of an empty memory and after pressing the button with empty memory, only a beep (confirmation) is heard and the call is made as if a number had been dialed.
Attention: The tone detector is not active for the first 10 seconds of the call (waiting for the phone system / PBX to react and dial the number by the phone system / PBX).

Parameter	Value	Meaning	Default
68	**m**	Silence of the line when the lock is closed (0/1)	0

By default**, m=0** is off. Activating the **m=1 function** silences the acoustic path when the relay (1 or 2) is switched on in the "electric lock" mode (modes 1 and 5). This function is there because if the code lock function is used, the tone of the exchange can be heard for the duration of the lock. For some customers, this can be distracting.

Parameter	Value	Meaning	Default
6#	**s**	Set the number of buttons (0/1/2)	2

This constant is used for modular assemblies to determine the position of button No. 1. The number has to reflect number of buttons visible on the module front panel. In this case is the button number 1 the first one.

number of buttons on module	**s - choice**
0	0
1	1
2	2

 ***ATTENTION !!*** Setting this parameter will significantly affect the dialing of numbers.

Parameter	Value	Meaning	Default
6*	**t**	Delayed start for PBX with line test (Siemens..) (0/1)	0

By default**, t=0** is off. By turning on **t=1 ,** the door communicator immediately goes to sleep after connecting the line and only after 5 sec the initialization will the door communicator complete the initialization. This will delay the pick-up of the line after the voltage is connected – the moment when the phone system / PBX is restarting or switched on.

4.6 HandsFree Setup

 First of all, make sure that the sealing rubber around the microphone is functional, otherwise there may be a whistle or whizz from the acoustic feedback. It is important that the microphone and speaker have the best possible separation from each other.
The speaker volume and microphone sensitivity are adjusted using potentiometers – see chapter 1.3, pg. 7.

4.7 Basic settings and deletion

Parameter	Value	Meaning	Default
8#	**#**	Set door communicator to default settings	only 3..-7..

These settings do not affect the parameters of groups **1** and **2** (stored phone numbers) it works as the execution of commands 83-87 and 80 at the same time.

Parameter	Value	Meaning	Default
81		Delete all numbers in Group 1((Day mode)	-
82		Delete all numbers in Group 2 (Night mode)	-
83		Set default settings for 3x parameters only	only 3..
84		Set default settings for 3x parameters only	only 4..
85		Set default settings for 3x parameters only	only 5..
86		Set default settings for 3x parameters only	only 6..

Parameters 81 and 82 will delete all phone numbers.
Parameters 83 – 86 will perform selective default settings only for parameters starting with 3, 4, 5, 6. The default values of the settings are listed for each parameter on the right – in the "Default" column.

⚠ ***CAUTION !!*** Deletion or setting to default is irreversible. Then the door communicator must be re-programmed as needed.

4.8 End of programming

Parameter	Value	Meaning	Default
9		Exit programming mode	-

The door communicator immediately hangs up.

4.9 Overview of parameters

Parameter	Value	Meaning	Default
1	**tt nn...**	Phone number **nn** assigned to the **tt** button	-
2	**tt nn...**	Phone number **nn** assigned to the **tt** button	-
31	**r m**	Relay **r** operates in **m** mode (1-6)	11 21
31	**r*tt**	The **tt** button triggers the relay **r** to be switched on when it is in mode M=6 (01-99)	01
32	**rp hh...**	in **DAY + NIGHT mode,** password **hh...** for relay **r,** in the order **p**=1-5, for 1 pulse and **p**=* for 2 pulses (00-999999)	-
33	**rp hh...**	in **DAY mode** password **hh...** for relay **r,** in the order **p**=1-5, for 1 pulse and p=* for 2 pulses (00-999999)	-
34	**rp hh...**	in **NOC mode,** the password **hh...** for relay **r,** in the order **p**=1-5, for 1 pulse and **p**=* for 2 pulses (00-999999)	-
35	**r aa**	**aa** command from the phone to turn on relay **r** 1 pulse (00-99,*0-*9)	155 266
36	**r aa**	**aa** command from the phone to turn on relay **r** 2 pulses (00-99,*0-*9)	150 260
37	**r ss**	**ss** time [sec] relay **r** switching on for T1/T4 time (01-99)	105 205
38	**r p**	**r** relay control p for incoming call (0/1)	11 21
39	**xx**	Time **xx** [sec] between switching on relays 1 and 2 in mode m=5 - time t3 (01-99)	10
30	**r zz**	Time **zz** [sec] between pulses when relay **r** is switched on with two pulses - time T2/T5 (01-99)	105 205
42	**z**	Call prolongation character (* / #)	*
43	**g bb**	Command to hang up the door communicator from the phone (00-99,*0-*9)	155 266
44	**xxxx**	Service Password (0000-9999)	0000
45	**dd**	Command to switch to **DAY** (00-99,*0-*9)	11
46	**nn**	Command to switch to **NIGHT** (00-99,*0-*9)	11[1]
47	**e**	Day-Night/TwoGroups Mode (0/1)	1
4*	**k**	Hanging the line by pressing the same button again (0/1)	1

1*: By default, parameters 45 and 46 are set to the same value to prevent accidental switching to NIGHT mode. If you will use DAY/NIGHT switching set 10 for parameter 46.*

51	**q**	Number of rings before the door communicator picks up an incoming call (1-9)	2
52	**d**	Maximum call duration (0-9,*,#)	2
53	**w**	Time between button presses (1-9)	2
54	**z**	Hang-up time during redial (1-5)	2
55	**z**	Delay before the dialling starts (1-5)	1
56	**hh**	Number of ringtones before hang-up (04-99)	12
500	**x**	Tone detector mid frequency (1-0)	3 (375-475Hz)
501	**y**	Number of busy tones to hang up (2-0)	4
502	**z**	Continuous tone duration (1-5)	3 (3s)
503	**tt**	DTMF tone duration (04..16)	10 (100ms)
504	**mm**	DTMF space duration (04-16)	10 (100ms)
506	**p**	Pause duration (1-0)	4 (800ms)
61	**z**	Acoustic signaling (acknowledgement, error, empty memory, end of call...) (0/1)	1
62	**v**	Acoustic signaling pick up/hang up (0/1/2)	1
63	**u**	Acoustic signaling of ticking into a call (0/1)	0
65	**z**	Acoustic signaling of relay switching (0/1)	0
67	**b**	BabyCall – call without the need to program a phone number (0/1)	0
68	**m**	Silence of the line when the lock is closed (0/1)	0
6#	**s**	Set the number of buttons (0/1/2)	2
6*	**t**	Delayed start for PBX with line test (Siemens..) (0/1)	0
8#	**#**	Set door communicator to default settings	Only 3..-7..
81		Delete all numbers in Group 1((Day mode)	-
82		Delete all numbers in Group 2 (Night mode)	-
83		Set default settings for 3x parameters only	only 3.
84		Set default settings for 3x parameters only	only 4.
85		Set default settings for 3x parameters only	only 5.
86		Set default settings for 3x parameters only	only 6.
9		Exit programming mode	-

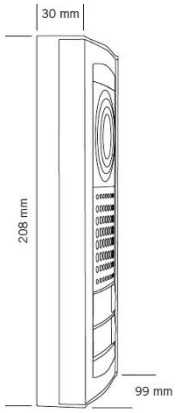
5 Technical parameters

5.1 Electrical Parameters

Parameter	Value	Terms and Conditions
Minimum line current	18mA	Pick up
Minimum line voltage	18V	Hang up
Voltage on the line when picked up	< 12V	I = 25mA
Bandwidth	300Hz – 3400Hz	20 - 60mA
Ringtone impedance	> 2kΩ	25 – 60 Hz
Ringer detector sensitivity	min. 10 – 25 V	
Power supply for lighting, switches and heaters	12 V DC (11-24 V), 10-12 V AC (10-18 V)	
Max lighting and heating consumption	250 mA	12 V DC
Max. relay contact voltage	48 V	at I < 1 A
Max. relay contact current	1.5 A	at U < 30 V
Operating temperature	- 20 to + 60°C	
Coverage	IP44	
Weight	By design and assembly	

5.2 Mechanical dimensions

Item Type	dimensions HxWxD [mm]
Fores Bell (1 or 2 buttons)	208 x 99 x 30
Bell-8	208 x 99 x 30
Screw 2x	Screw ∅4 x 35, Half Round Head
Dowel: 2x	UPA,UPP ∅5 x 40



Alphatech s.r.o. declares under its own sole responsibility that product is in an agreement with common requirements and other related EU regulations. The original of the statement can be found at www.alphatech.cz in section *Support*.

Do not contaminate the environment, make sure that the packing material will be disposed in accordance with applicable laws and regulations. At the end of the service life, It is necessary to ensure the environment-friendly disposal, it is recommended to recycle separate parts. The components to be recycled are marked with a symbol of recycling and symbol of a specific material.

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