

USING THE OUTPUTS

The condition of the outputs may be changed during any call. Either when the dialler calls out to you or you call into the dialler. For the dialler to answer calls F09 should be set as appropriate. To use the outputs independently from the inputs set F08 to 4.

During an established call press “*” then the PIN number (0000 by factory default). A reporting “tune” of 3 DTMF tones will sound then warble if output 1 is on. Another 3 DTMF tones sound and a warble if output 2 is on. The warbles will not sound if the respective outputs are off. The output condition may be toggled by pressing the “1” or “2” key respectively 1 second after the tune has finished. The report tune will sound again to indicate the new state of the outputs. Pressing any other number key will report the output condition without changing the outputs. The “#” key will terminate the call.

Please note that the reporting tune states the condition of the dialler outputs not the state of device or load switched by those outputs.

WARRANTY

1. This product is guaranteed by aeonz Ltd. to be free of manufacturing defects or faulty materials, for a period of TWELVE MONTHS from the date of invoice.
2. This warranty covers the repair or replacement of goods returned to aeonz Ltd. Expenses incurred in returning the unit are not included.
3. Goods may be repaired or replaced at aeonz Ltd. discretion. Repairs by parties other than aeonz Ltd. during the warranty period will not be reimbursed and will end the warranty agreement.
4. This warranty extends to the repair of the dialler unit only and does not cover consequential damage, or damage to itself or faulty operation due to poor installation, incorrect programming, use of incompatible peripherals, mechanical or electrical abuse, use in unsuitable mechanical or electrical environments, or Acts of God.

A full document of TERMS and CONDITIONS is available from aeonz Ltd, NZ

EDAC 222 AUTO ALARM DIALLER

USER'S MANUAL

All specifications are subject to change at any time without notice.

For Firmware from V2.7 onwards

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Operation examples

Please note that these examples relate to either input although only input one is shown.

Example 1. Input 1, Dial tone detection only, telephone numbers

- Call the first number in the call list (ie F11)
- Speak message repeatedly
- Do this for the play time then hang-up (F19)
- pause for the wait time (F17) if call type set to wait (F11)
- dial next number (F12) ...
- When F11, F12, F13, F14, and F15 have been dialled start with first number again (F11) and proceed as before.

Example 2. Input 1, Dial and ring detection, telephone numbers

- Call the first number in the call list (ie F11)
- Wait for answer. If BUSY then skip to next number (F12)
- when answered speak message repeatedly
- Do this for the play time then hang-up (F19)
- pause for the wait time (F17) if call type set to wait (F11)
- dial next number (F12) ...
- When F11, F12, F13, F14, and F15 have been dialled start with first number again (F11) and proceed as before.

Example 3. Input 1, pager numbers

- Call the first number in the call list (ie F11)
- either wait for network to answer or use the pager delay time (F10)
- Send pager message (F10)
- pause for the wait time (F17) if call type set to wait (F11)
- dial next number (F12) ...
- When F11, F12, F13, F14, and F15 have been dialled start with first number again (F11) and proceed as before.

INTRODUCTION

The EDAC222 is a cost-effective auto-reporting dialler designed specifically for use in domestic, small-business security applications or for general purpose monitoring. It is physically compact, consumes little power, and can be installed very quickly; often without the need for Telecom assistance. The EDAC222 is activated by a contact closure or opening resulting in the start of a user defined dialling sequence and the transmission of either 8 second voice messages or 16 digit pager messages.

Upon receipt of an alarm call from the EDAC222, you may be reset the EDAC222 via the telephone keypad by simply pressing any numeric digit. Alternatively, the EDAC222 may be interrogated by calling into it, resulting in the transmission of the audio message and reset via the telephone keypad. This option is normally used when the EDAC222 is operating in conjunction with a pager. Other options, such as use of the PIN, are programmable for each number

Once the EDAC222 is in its reset state the dialler will suspend its dialling sequence and remain inactive until the trigger input has been removed (cleared). If the EDAC222 does not receive an acknowledgment of an alarm condition, it will remain in its dialling mode until the input trigger has been cleared. This may be either from making a call or by being called.

All telephone numbers, messages, and parameters are user programmable via a keypad and a single 7-segment display.

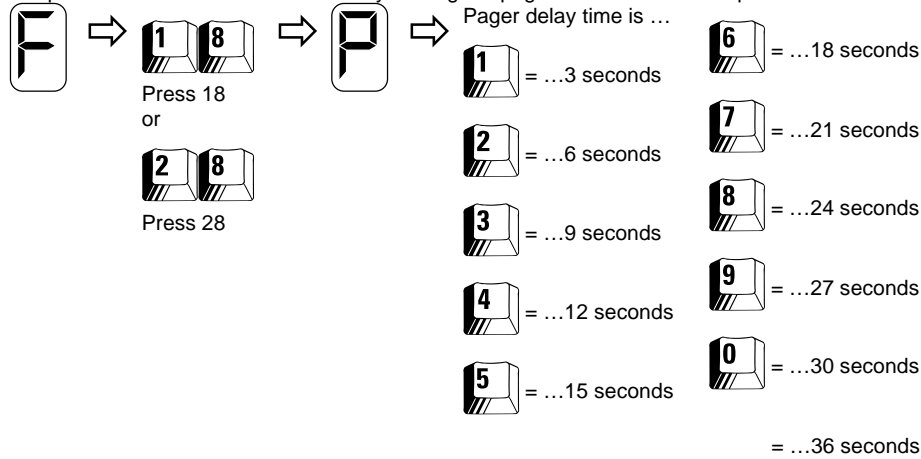
Since the EDAC222 is not required to report to a specialised monitoring company, its simplified operation and ease of programming makes it highly attractive in cost sensitive applications.

The EDAC222 can act on two trigger inputs and has two grounding outputs

There are a number of options to cover every possible variation of installation

Function F18 or F28 Pager delay time

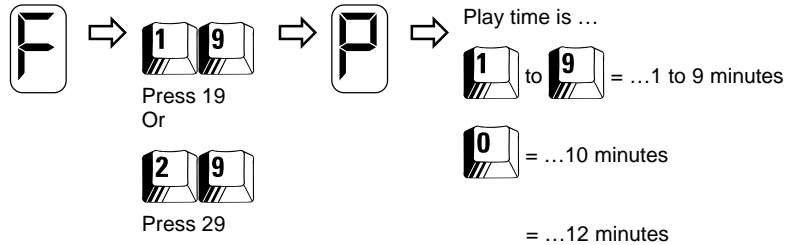
The "pager delay time" only relates to pager calls. (See F10 or F20). This is the time from dialling the number to when the paging network answers the call. The dialler sends the DTMF pager message at this point. You can measure this time by dialling the pager network with a telephone.



Default: 3 (9 seconds)

Function F19 or F29 Play time

The dialler will speak the message for the playtime before hanging up the call. The 8-second messages are played repeatedly. Normally the voice message will start speaking as soon as the dialler finished dialling the number. With ring detection, the voice message starts after the call is answered.



Default: 1 minute

SPECIFICATIONS

Connections

INPUTS, OUTPUTS, POWER - 1.5 mm screw terminals for the connection of an activating contact.
TELECOM LINE - Two RJ11 sockets. A suitable cord is provided compatible with your countries wall socket. The inner pins of the RJ11 are used for the line

Message

Two 8 second, high-quality, user recordable speech messages are played when calling a telephone. These messages should identify the site, the fault, and the action to be taken. Two 16-digit numeric strings are transmitted to a Numeric Pager to identify the site and trouble. The input number is appended to the message when it is sent. Tone-only Pagers can not receive messages.

Parameters

- Inputs/Outputs - 2 inputs, 2 outputs
 - Maximum number of telephone numbers - 5 per input or 10 numbers
 - Maximum number of digits per number - 16
 - Paging information data length - 16 digits
 - Message playtime - Variable 1 - 9 minutes
 - Wait time - Variable 0 - 9 minutes.
 - PABX access delay - 2 seconds after the first digit
 - Recordable message time - up to 7.8 seconds per input
 - Dialling mode - DTMF (tone dialling)
- Program all functions using the keypad and single digit 7-segment display.

Jumper Settings

A number of jumpers on the dialler enable hardware. These are:

Jumper	Position
J1 Memory	1 = Secure 2 = Open
J2 Voice message	1 = Lock 2 = Open
J3 Country	1 = NZ 2 = Australia
J4 Input Pull-up	1 = Pull-up inputs (222) 2 = Pull-down inputs (211)

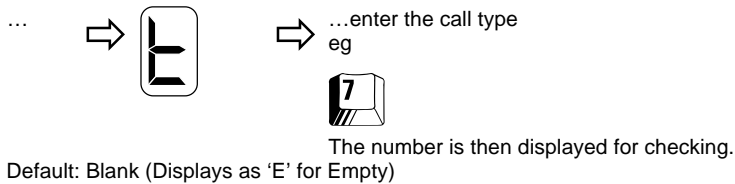
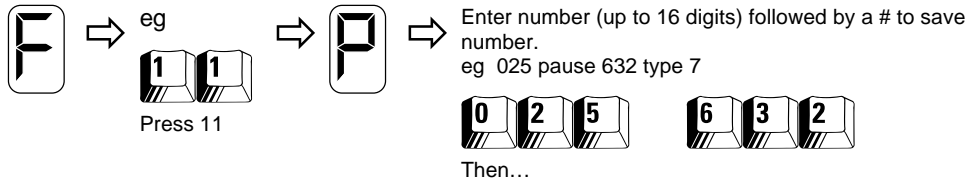
POWER REQUIREMENTS

Power supply must comply with Telecom PTC101 requirements (eg EDAC PB12)

Voltage	- 12Vdc nominal. (10 to 15 Volts)
Current	- 40mA idle, 120mA Active

Function F11 to F15 or F21 to 25 Telephone/Pager numbers

When the input is activated, the dialler will start to dial through the call list (F11 to F15 for input 1, F21 to F25 for input 2). These functions may be entered in any order but F11 (for input 1) is always dialled first. (F21 dials first when input 2 is triggered). Clear a number by pressing # without a new number. A star is sent if * is pressed as part of the number. If * is pressed as the first digit the current contents of this function are displayed.



The Call type is the type of number entered. The options are telephone or pager, cancel type, and wait or no wait after this call.
 Note: Cancel method shown here applies to calls made by the dialler.

	Pager call		Wait after this call
	Pager call		No wait
	Voice call	Unable to cancel	Wait after call
	Voice call	Unable to cancel	No wait
	Voice call	Cancel by PIN	Wait after call
	Voice call	Cancel by PIN	No wait
	Voice call	Cancel by any key	Wait after call
	Voice call	Cancel by any key	No wait

1. POWER SUPPLY

A 12Vdc regulated power supply complying with Telecom PTC101 is required. A battery backup is required for mains fail operation. The EDAC PB12 is recommended for use with the EDAC222. A 12Vdc Plug pack is also available

2. ACTIVATING SIGNALS

The activating signal, or trigger, causes the EDAC222 to commence the dialling sequence. A clean contact type (Normally open or normally closed) such as a relay contact is preferred. It is **IMPORTANT** that the activating trigger is installed correctly and maintained to prevent false triggering.

3. TELEPHONE LINE

The EDAC222 does not require a separate line and can be is connected as an additional device to an existing telephone connection. A RJ11 plug and socket system is utilised. Use the cord-set provided to connect the unit to the Telecom wall socket. The dialler may be used with a PABX (Private exchange) but it must be connected to a 2-wire line for hybrid (key) systems. Extra cords are available.

TYPICAL EDAC222 CONFIGURATIONS

The following schematic diagrams show typical EDAC222 installations.

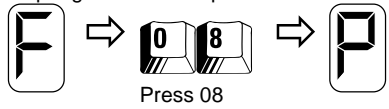
1. Single Wall Socket Installation

Figure 1 shows a typical single wall socket installation and requires two telephone-related connections as follows.

- LINE OUT - Unplug the telephone from the wall socket and plug it into the EDAC222 socket labelled LINE OUT using a suitable RJ11 adaptor.
- LINE IN - This is a plug to plug connection between the EDAC222 LINE IN socket and the wall socket. A line cord is supplied with the EDAC222.

Function F08 Outputs

The outputs may reflect either the dialler input states or be independent of the dialler inputs. An output grounds its output terminal when it is on.



The outputs are ...

1 = ...on when its respective input has been cancelled. It is turned off when the input is removed.

2 = ...on when its respective input is active but not cancelled or removed. It is turned off when the input is cancelled or removed

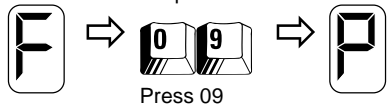
3 = Outputs are independent of inputs and may be changed remotely. The outputs are reset when reapplying power to the dialler.

4 = Output 1 is independent and output 2 is on when either input is on and is off when both inputs are cancelled or removed.

Default: 2 (On when input on, off when cancelled)

Function F09 Answer after n rings

The dialler may answer an incoming call if you want to use the independent outputs, to monitor inputs or to cancel the inputs.



Answer all calls after ...

1 = ...4 rings when dialler active and 2 rings when idle.

2 = ...4 rings for all calls

3 = ...4 rings when dialler active and 10 rings when idle.

4 = ...4 rings when dialler active and never answer call when idle

Default: 4 (Never answer when idle)

- b. **Secure Installation:** On a trigger the dialler takes over the telephone line disconnecting all other calls. The alarm condition is immediately acted on and cannot be stopped by unauthorised means. This configuration may require Telecom assistance to remove the connection between the first wall socket and other wall sockets as shown below.

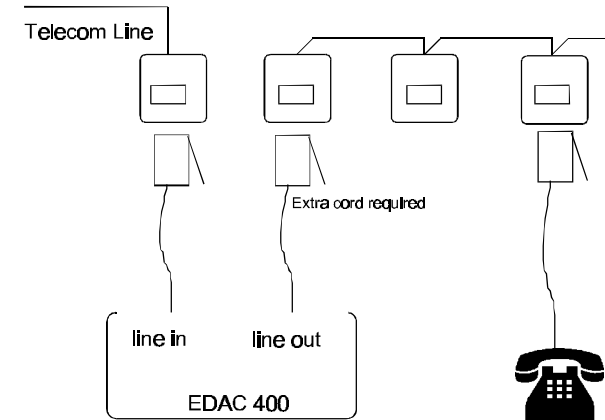


Figure 4: Secure Installation

3. PABX Connections

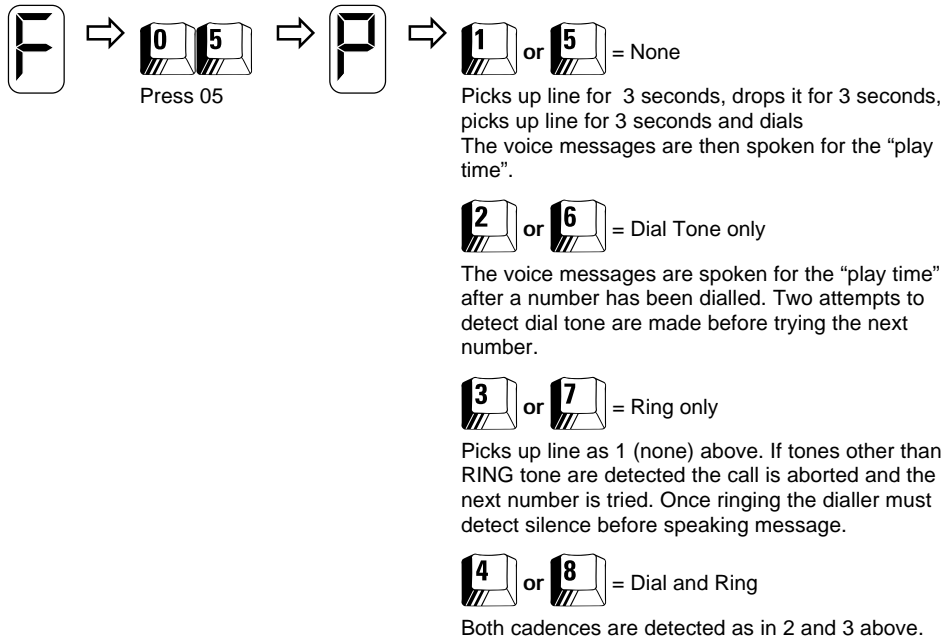
For a secure installation, the EDAC222 should be installed before the PABX system and this may require Telecom assistance in order to install a telephone jack. The EDAC222 is then connected between the telephone line (trunk) and the PABX

The dialler can operate on an extension of a PABX. If connected to an extension ensure that the socket remains active during a power failure. Also, remember to add the PABX access number to the beginning of each programmed telephone number. The dialler automatically inserts a pause between the first and second digits dialled.

Function F05 Call Progress

When a call is made the dialler can detect DIAL, BUSY and RING tones. It is recommended to use "dial tone detection only". It may take 6 sec to detect that ringing has ceased. Beeps are heard through those 6 seconds and it is likely that an impatient person may hang-up before hearing the message if set to ring detection.

The parameter in F00 is treated as exit/entry delay time (F05 = 1, 2, 3 or 4) or as delay before dial time (F05 = 5, 6, 7 or 8).




Default: 2 (Dial tone only, F00 is entry/exit delay)

USER PROGRAMMING

Entering Programming Mode

If a trigger is active press the PIN number or remove trigger input.

To enter programming mode enter the PIN number.

The Factory default PIN is 

The 7-segment display will now show the prompt "F".

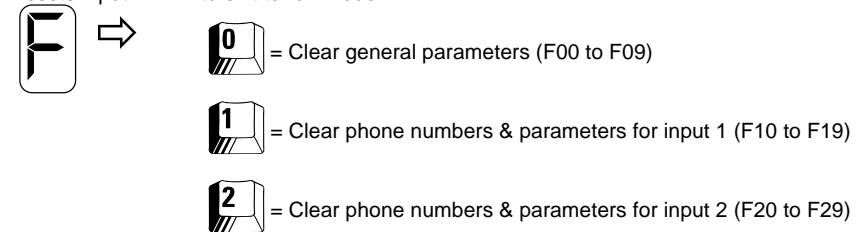
Note: The memory jumper must be set enabled to be able to change any parameters. See Jumper Settings

Note: You can also enter program mode by holding a key down while applying power.

Ensure ALL functions are reset to factory default using #0, #1, #2.

Function F#0, F#1, F#2 Factory defaults

To clear old or unknown parameters to factory settings use this function. F#0 resets general parameters (except PIN), F#1 clears and resets input 1 (except voice message), and F#2 clears and resets input 2. F## to exit to run mode.

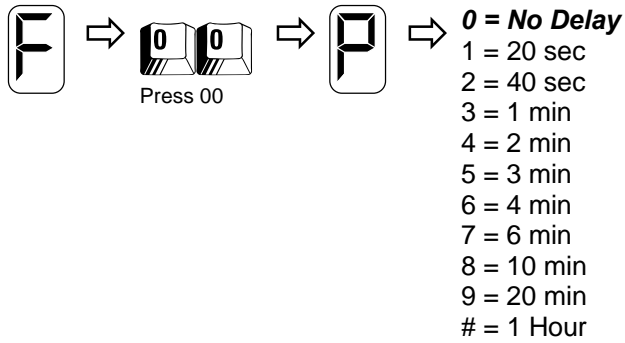


Function F00 Exit/entry or delay before dial time

Exit time disables the trigger after power has been applied. Entry time allows someone to disable the dialler before it begins to dial. Exit/Entry time is used when the trigger is provided by a movement sensor.

Delay before dial allows time once triggered before the dialler dials. Eg. freezer door alarm where a normal defrost cycle is allowed.

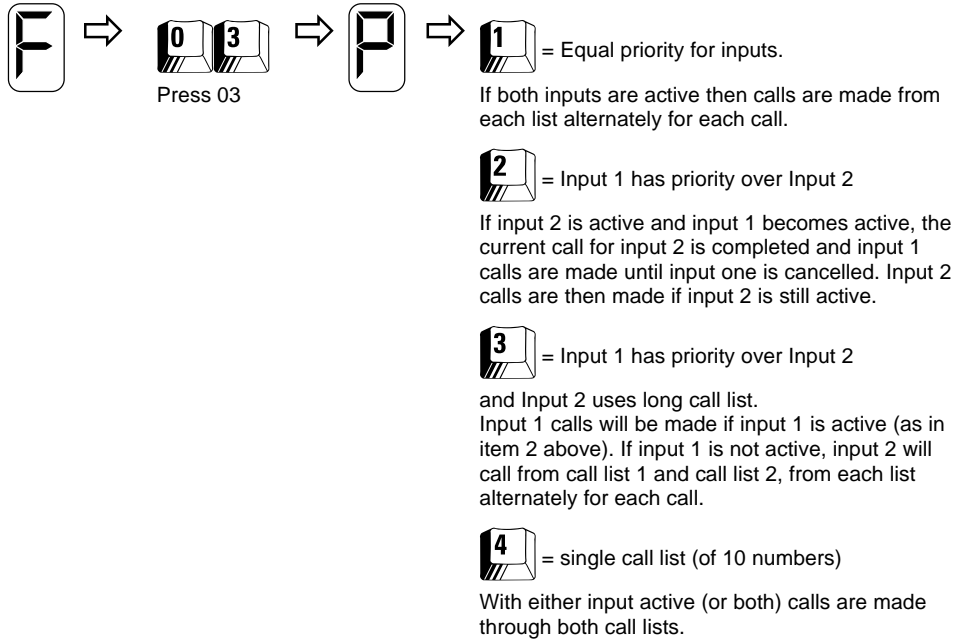
F05 determines how this time will be used.



Default: 0 (No Delay)

Function F03 Call Flow and Priority

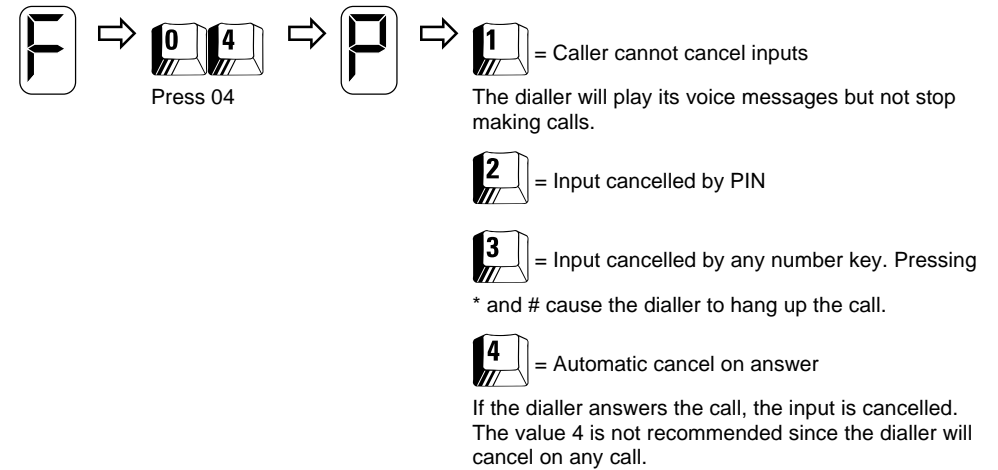
One input can have priority over another. You may have two lists or one long list of telephone numbers.



Default: 4 (Single long list of 10 numbers)

Function F04 Ringback Trigger Cancellation

When an input is active, the dialler will make calls. If the call type (See F11) allows a wait time between calls, the dialler will answer all **incoming calls**. The caller (as below) may then cancel the input.



Default: 3 (Cancel by any key)

PROGRAMMING

Prompts and key functions



The "F" prompt indicates the dialler is waiting for key entry to select a Function.



The "P" prompt indicates the unit is in program mode and is awaiting data entry.



The "E" prompt indicates the EDAC222 has detected an error in the data entry process or a number is empty.

Other displays are t (call type), d (dialling), c (cancelled), and o (playing voice message)

The # Key

The "#" key is used as an "end" key. For instance use the "#" key after the last digit of the telephone number to save the number in memory. After entering a number it is displayed for verification then returns to the F prompt. Use the "#" key in functions to clear telephone numbers by pressing it with no other digits entered.

The # key is also used to start recording for the audio message functions.

The * Key - Program checking

The "*" key is used to display current data held in the EDAC222. Select a function, when the "P" is displayed press the "*" key. The existing data will display (digit by digit in the case of multi-digit entries).

Data entry errors

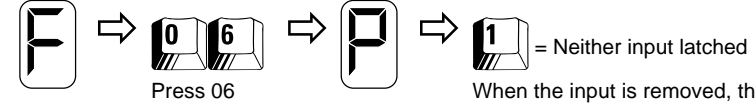
Should incorrect data be entered simply re-select the function and reprogram the data. If you make a mistake during entry of multi-digit numbers you can abort the process by pressing the "*" key. This will discard the new entry and display the existing data.

Exiting the program mode (F##)

Exit the programming mode, once all the functions have been programmed, by pressing "F##".

Function F06 Input Type

The trigger may be removed before someone is contacted. If desired each input can be latched by the dialler after 1 second in order to complete the communication. Note: A 100uF capacitor can be fitted to extend very short trigger pulses.



= Neither input latched

When the input is removed, the dialler will stop dialling.

2 = Only input 1 latches after 1 second

3 = Only input 2 latches after 1 second

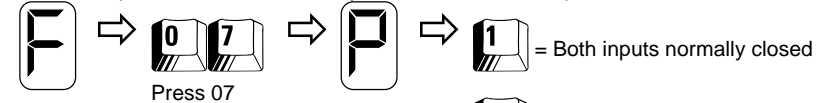
4 = Both inputs latched.

Each input is latched after 1 second. The dialler will continue to dial even after the inputs are removed.

Default: 1 (dialler does not latch inputs)

Function F07 Normal open / closed inputs

You can configure the input to trigger on "open" or "closed", "voltage" (3 to 24 volts) or "ground". The pull-ups may be changed to pull downs by moving a jumper (See Jumpers). Supplying voltage to trigger acts in the same way as a normal closed input. To trigger "on voltage" move the jumper (JP4) to the 211 position and use normally closed. An unused input must be treated as normally open.



= Both inputs normally closed

2 = Input 1 normally open
Input 2 normally closed

3 = Input 1 normally closed
Input 2 normally open

4 = Both inputs normally open

Default: 4 (Normally Open)

2. Multiple Wall Socket Installations

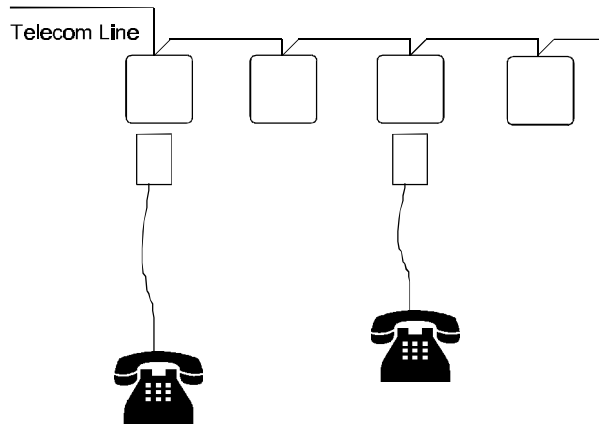
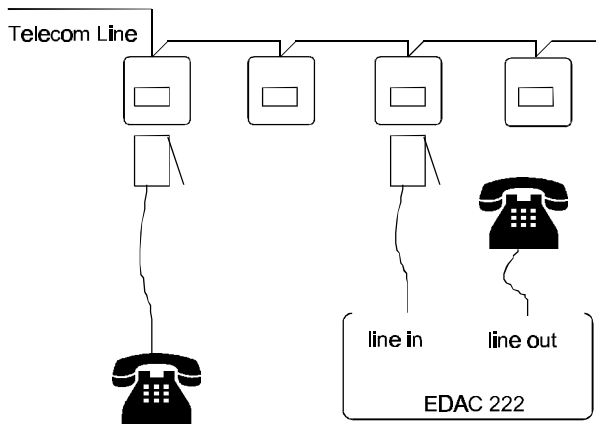


Figure 2: Before Installation

a. **Quick installation:** Figure 3 allows the dialler connection without wiring changes. The dialler will not be able to dial if another telephone is in use.

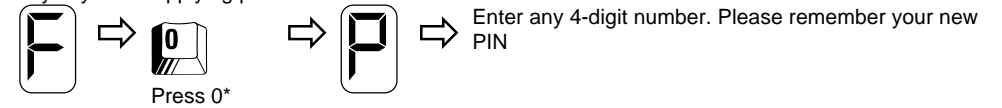


Error! Not a valid link.

Figure 3: Quick Installation

Function F0* Modify PIN number

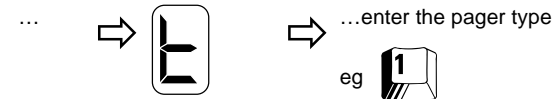
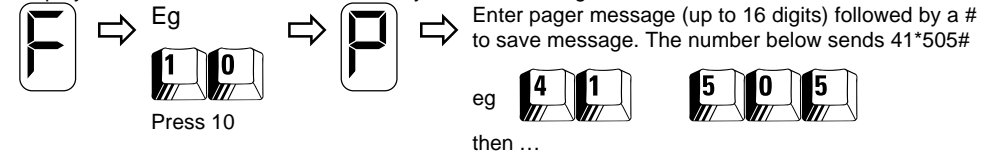
The factory default PIN is 0000. If you forget your PIN you can still enter program mode by holding any key when applying power.



Note: The functions 10 to 1* refer to input 1 and 20 to 2* refer to input 2

Function F10 or F20 Pager message

When a pager call is made the message in this function is sent followed by a "#". A star is sent if * is pressed as part of the number. If * is pressed as the first digit the current contents of this function are displayed. This model dialler can send only numeric messages.



The message is then displayed for checking.

Default: Blank (Displays as 'E' for Empty)

The pager type is the type of call entered. Recommend using 2.

	after dialling wait "pager delay time", send message and hang-up
	wait for network to answer then send message and hang up
	after dialling wait "pager delay time", send message and speak message
	wait for network to answer then send message and speak message
	wait "pager delay time", send message, speak message, and cancel by PIN
	wait for network to answer, send message, speak message, and cancel by PIN
	wait "pager delay time", send message, speak message, and cancel by any key
	wait for network to answer, send message, speak message, and cancel by any key

MECHANICAL

- Dimensions - 192mm length x 110mm width x 35mm height.
- Weight - 250gm
- Cabinet - Aluminium base with screw on (M4 pozi-drive) aluminium lid.
- Finish - White epoxy powder coat.
- Mounting - 4 x 4mm mounting holes in the base of the cabinet.
- Line in/Line out - RJ11 "Modem standard" (only the 2 inner pins are used)

INSTALLATION

INSTALLATION REQUIREMENTS

The typical wiring schematic is shown in Figure 1.

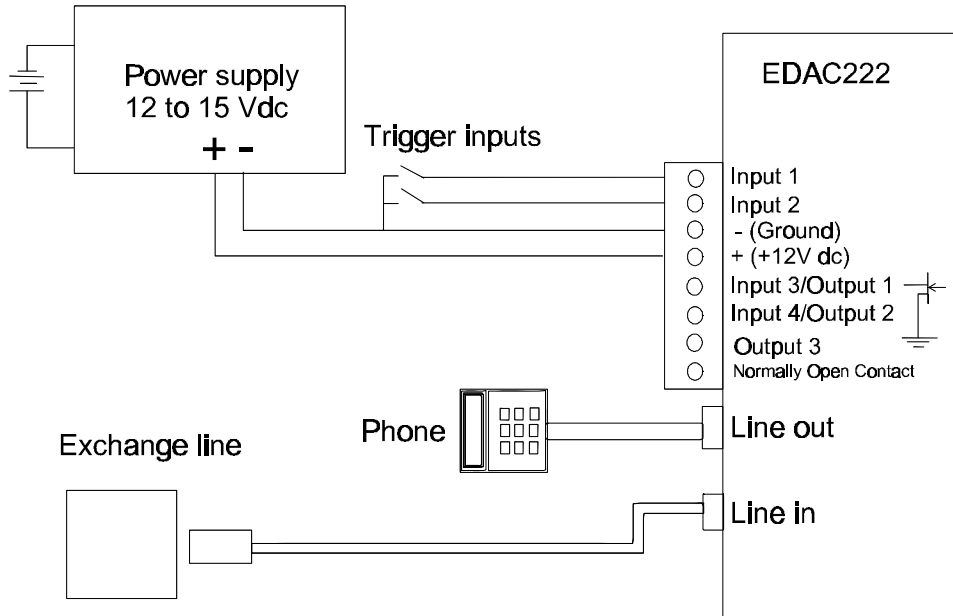
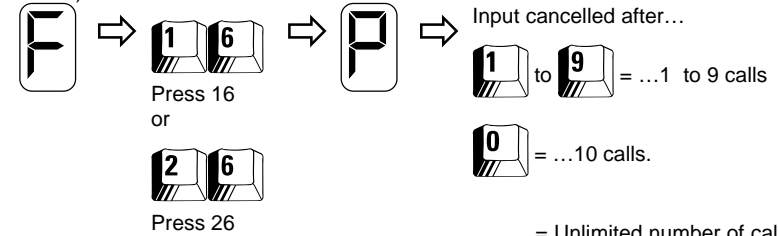


Figure 1: Typical EDAC222 Installation

Function F16 or F26 Call counter

As telephone/pager calls are made, they are counted. The input is cancelled when the number of calls made exceeds the value set in this function. If a call was not successful (eg telephone was BUSY) the call is not counted.



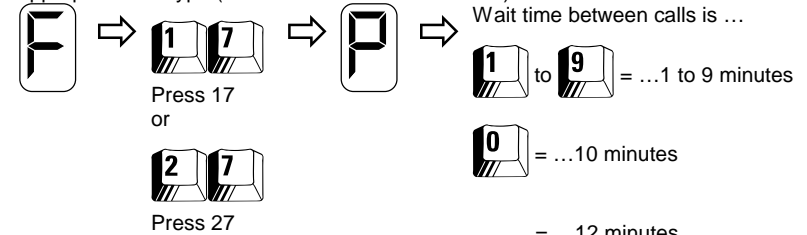
= Unlimited number of calls are made

and dialler input is not self cancelled. (Displays as 'E'
NB: This is not an error)

Default: # (unlimited number of calls made, Displays as 'E')

Function F17 or F27 Wait time

This function determines the period to wait between one and the next. The wait time allows an opportunity for people to call into the dialler. The wait time occurs only between calls that have the appropriate call type (See F11 to F15 or F21 to F25).



= ...12 minutes

Default: 2 minutes

Getting started quickly

The EDAC 222 has a vast number of options to cover every situation. To learn more about certain features or parameters see the appropriate page in this manual.

Simple one input voice/pager alarm.

Note 1: If you are using only 1 normally open trigger. And want the dialler to stop calling when the trigger is removed then you only need to enter the phone/pager numbers and voice message (ie Step 4 and 7). The remaining parameters can be left at factory defaults.

Note 2: To reset the dialler to factory default use F#0, F#1, then F#2.

Use the * key to abort and/or show the current settings

1. Press '0000' (the factory PIN number) **F** Appears on the display.
2. Press **F11** through **F1** (F21 through F25 for trigger 2) to enter each telephone/pager number followed by #7 (wait between calls) or #8 (no wait between calls). Eg F11P344254#t8 or if number is for a pager then enter F11 (or F12, F13, etc.), the pager number, followed by #1 (wait between calls) or #2 (no wait).

"F21" means press 21 when you see an "F" on the display. Do not enter "F". Then enter the desired value. "F21" is trigger 2 and the first (1) telephone/pager number of that trigger. A "P" is display when dialler is waiting for the user. A "t" is displayed between the # and 7 (or 8) mentioned above.

3. (If a pager is used). Enter **F10** (F20 for trigger 2), the numeric message, #1
4. **F1 #** to record the voice message for this channel,
5. **F1** to replay voice message (any key to stop playing)
6. Set **F0** to 1 if you want the dialler to stop making calls when the input is removed. If you must have someone contacted even when the input is removed, then set to 4.
7. For normally open inputs set **F07** to 4. For normally closed inputs set to 1 for both inputs and 3 if only input 1 is used.
8. **F##** to escape into run mode

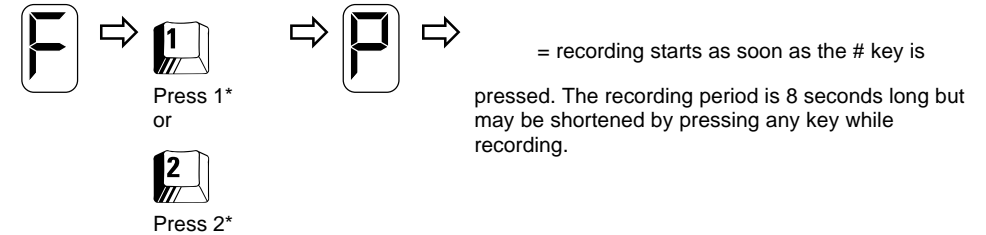
Displays

F = Enter function number; **#** = Enter parameter; **t** = Enter call type;
c = Input is active; dialler cancelled; **o** = Voice message playing; **r** = Run mode; **w** = Wait time (dialler active); **d,1,2, ,4, ,etc** = dialling stored numbers

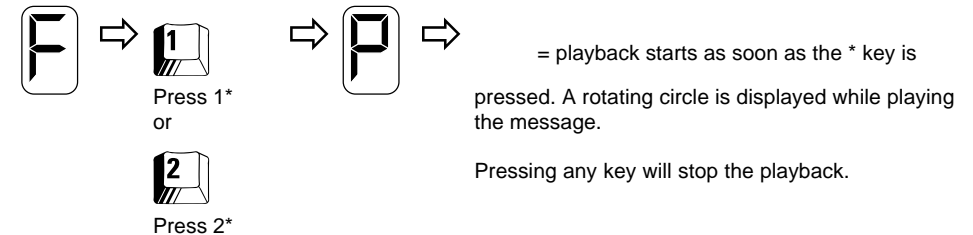
Function F1* or F2* Voice message

The voice message for input is recorded on to analogue EEPROM for permanent storage using the microphone provided on the dialler. The message is played back through the speaker. A jumper is provided to disable recording. You must ensure this is enabled before attempting to record a message. (See Jumper settings)

RECORD



PLAY



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Cancellation

When the dialler is cancelled or acknowledged it will stop trying to dial. You may cancel the input by one of the following. The dialler will respond with tones. At this point, the person contacted may hang up their telephone.

- a. By receiving an alarm call (See F11).
- b. By making a call to the EDAC222 after receiving an alarm call (See F11, F17, F04).
- c. By removal of the alarm condition.
- d. By counting calls made (eg the dialler makes 3 calls, then stops) (F16)

The EDAC222 will continue to dial the programmed telephone numbers until it is stopped by one of the following methods:

- a. Cancel when dialler makes a call.

If you receive a call from the EDAC222 and wish to acknowledge (cancel) the call stopping further input activity; press the PIN or any numeric key (0-9) on your telephone keypad while the alarm message is playing. The option using a PIN or any key depends on which call type (See F11). The EDAC222 will transmit tones to confirm it has been cancelled. No other calls will be made by the EDAC222 until a new trigger signal occurs.

Note: The “★” and “#” keys on your telephone will cause the dialler to immediately hang up and call the next number. Using “*” and “#” will not cancel the input

- b. Cancel when making a call to the dialler.

This method is provided to allow the EDAC222 to be cancelled after making a call to a pager. After receiving a call on your pager, go to a telephone and ring the telephone number of the EDAC222. The EDAC222 will answer, play the messages, and beep if already cancelled. You may cancel (if allowed) by pressing a key or the PIN on your telephone (See F04).

- c. Self-Cancel by counting calls.

When the number of calls set in F16 and F26 is met the input is cancelled and will not make any more calls.

- d. Removal of the trigger input

Normally removing the trigger signal immediately shuts down the dialler, regardless of what it is doing (and it releases the telephone line). This is similar in effect to removing the power supply to the dialler.

Note: This is only true if its input is not latched by the dialler (F06).