



DTMF-03 8 OUTPUTS DTMF RECEIVER.



The DTMF-3 module decodes DTMF tones 1 to 9, * and # connecting or disconnecting the corresponding outputs according to the control signals sent by the emitter.
It includes a password or access code as well as and individual configuration of all outputs in flip-flop or timed operating mode.
It is completely compatible with Cebek DTMF emitters.
It can be installed on a DIN rail Ref. C-7590.

TECHNICAL CHARACTERISTICS.

Voltage.....	12 / 24 V. D.C.
Min./max. Consumption.....20 / 420 mA.
Min./Max. DTMF Input Signal.....	-29 / 1 dBm.
Memory capacity/password.....	1-10 tones.
Memory life eduring.....	100.000 cycles / 100 years of retention.
Protection against polarity inversion.....	Power entrance.
Max. Load per relay.....	400 V / 5 A.
Outputs operating mode.....	Flipflop / Timed (1 to 250 sec).
Main board dimensions.....107 x 132,5 x 30 mm.

POWER SUPPLY and INSTALLATION.

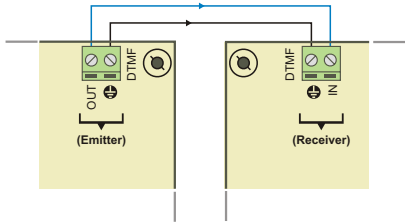
POWER SUPPLY. The DTMF-3 circuit is composed by 2 independent power supply inputs with a common negative, one at 12 V DC and one at 24 V DC. For a correct module's operating mode, you have to select a voltage among these two possibilities, and do never use both at the same time. Then, if you select 12 or 24 V, you have to use a power supply correctly filtered. We recommend you to use a short circuit power supply with a low ripple level like our FE-123, which has been developed to perfectly answer to the circuit needs. Do never use basic power supply neither rectifiers to avoid to damage devices.
Note: Install a fuse and a switch on the mains power input, both are necessary for the module's protection as well as for your own safety, as it is required by the "CE" regulations. See the general wiring map.

INSTALLATION. The module's installation has to be done in a waterproof place, avoiding any contact between circuit and other metallic objects.
The module can't be installed in place with a high humidity or temperature, or with the possibility to be in contact with liquids.
All connections, as well as the complete read of this present instruction manual have to be done before to supply the module.

WIRING. In the wiring you have to respect the polarity of different inputs, and the length of the used cable as to be as short as possible (mainly for the DTMF connection). If the required distance is superior than 2m, or for places including many industrial atmospherics, you have to use shielded cable and to connect the braid to the corresponding screw indicated with the ground symbol (negative).
For the power supply input (power), you have to use parallel cable with a maximum length of 2 m.

DTMF Emitter-Receiver connection. The DTMF input allows signals with a minimum of -29 dBm and a maximum of 1 dBm, which are internally preamplified before to be used.
The connection between Cebek DTMF emitter and receivers is done connecting the IN input of the receiver to the OUT output of the corresponding DTMF clema in the Emitter. The ground terminal of both clemas has to be also connected between both modules if they are supplied with different power supplies.
If modules are supplied with the same power supply, it is not necessary to connect both grounds.

Fig. 1. Connection between Emitter and DTMF Receiver.



OPERATING MODE.

INDICATORS. There are four indicators leds in the circuit, and each one can display several functions.
Led Pwr. (Red). It is maintained lighted when the module is supplied.
Led Tone. (Green). It will light during the reception of a DTMF tone.
Led Prg. (Red). It will remain lighted when the circuit is in program mode (password or relay), and is deactivated when it come back in standard operating mode.
Led Pass. (Yellow). If it is lighted, it will indicate the receiver operates with password. Otherwise, it will be lighted off.
Leds Ld1 to Ld8. (Green). They are lighted when the corresponding output is activated, and lighted off at the same time, when it is disconnected.

OPERATING MODE. Each time the module will receive a DTMF code corresponding to a digit from the emitter, the circuit will recognize it and activate the corresponding output. If the module has activated the access through a password, before each output number, you have to introduce the password.
Tones corresponding to digit 1 to 8 will independently activate the corresponding output and disconnect it when the programmed timing is finished. If they are configured as flip-flop, outputs will be activated till you send again the same output number, at this moment they will be disconnected.
When any output is activated, in Flip-Flop or timed mode, a new control tone from this output will deactivate it, doing an individual reset.
The tone corresponding to the digit N°0 will disconnect at the same time all activated outputs, independently of its configuration mode (flip-flop or timed), doing an common reset.
Tones "*" and "#" don't have any influence on the outputs connection, but they are used to program outputs and to program password codes.

SPECIAL FUNCTIONS. If the circuit is controlled by a Cebek DTMF emitter, you can reach different functions offered by the emitter, using fast access commands allowing to program the receiver.

Fig. 2. Fast Access Commands for Emitter's special functions.

	Step 1	Step 2	Step 3
Automatic Password (Deactivation) →	# + 0
Automatic Password, (Activation) →	# + 1
To program Emitter Password →	# + 2	Password	*
To program Receiver Password →	# + 4	Password	*
To program Relays timing →	# + 5	n° Relay	Relay Tim.

To program Output. Flip-Flop/Timed Relays configuration. Each output can be configured in Flip-Flop or Timed operating mode.
With the Flip-Flop operating mode, each output control tone will alternately activate and deactivate the output like a common switch. If you select a timed operating mode, you can adjust between minimum 1

OPERATING MODE.

sec. and maximum 250 sec. the time allowing the output to be automatically activated after the control tone.
If the timing is not finished and you dial again the tone of the same output, the circuit will stop the timing and disconnect the output.
If you have a Cebek DTMF emitter and it is not activated the control by password on the receiver neither the automatic password function on the emitter, you can reach the program mode for outputs through the fast access command (# + 5).
In the opposite case, you have to press the program code for outputs corresponding to this receiver *00, (* Tone , then the 0 tone and again the 0 tone). If the module is protected through password, you have to previously introduce this one, before the program code.
If this operation is correctly done, the Led Prg will light to indicate the outputs program.
Once the Led Prg lighted, you have to press the number of the output to configure (1 to 8), and then a number composed by three digits. This number from 001 to 250 will assign the number of seconds, that after each activation, the output will be maintained timed. If the introduced number is 000, the output will operate in flip-flop mode. If the introduced number is superior than 250, the receiver will be automatically programmed with the maximum value (250).
After introducing the three digits, the output will be programmed and the circuit will leave the program mode, repeating this process for the other outputs.

Fig. 3. To program the receiver using its own codes.

	Step 1	Step 2	Step 3
To program the Password →	* , 9 , 9	Password	*
To eliminate the Password →	* , 9 , 9	#
To program Relays →	* , 0 , 0	n° Relay (1 to 8)	Relay Tim. (000 to 250)

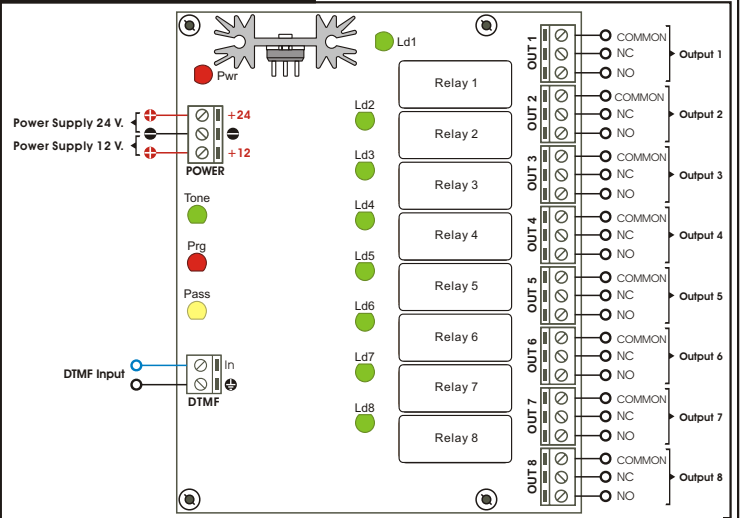
To program the password. Cebek receivers can operate with a password. For its security, once the password programmed on the receiver, this one doesn't accept any operation on it, concerning control or program functions, if you don't previously insert the corresponding password. Do not forget that of you don't remember or don't correctly introduce this security code, you could not operate with the receiver, and you can deactivate it. Then you should send back to our distributor for a complete system's reset.

For this reason, we suggest you to pay attention during the record operation, strictly respecting the instructions described into the corresponding supplied manual. Cebek can not be responsible for the receivers' blocking due to such reasons, being excluded of the product's warranty.
If you have a Cebek DTMF emitter and the control by password on the receiver is not activated neither the automatic password on the emitter, you can directly use the fast Access Command, pressing "*" and "4" digits to reach the program mode.

In the opposite case, you have to press the program code for outputs corresponding to this receiver *99, (* Tone , then the 9 tone and again the 9 tone). If the module is protected through password, you have to previously introduce this one, before the program code.
If this operation is correctly done, the Led Prg will light to indicate the outputs program.
Then, you can introduce one by one, pressing the corresponding digit, the different tones to store. Each pulse has to be clearly done, avoiding to press at the same time two. It is also highly recommended to firstly select the password to avoid to doubt during the recording operating.
Finally, a last pulse on the "*" digit, will store on the receiver's memory all introduced tones, and automatically activating its password (Less Pass lighted without intermittence).
To configure the password you have to select between 1 tone as minimum and 10 tones as maximum, corresponding to the tones from 0 to 9.
If you overcome the maximum capacity of the memory (10 tones), if you don't press the "*" digit after the code, or if you wait more than 5 sec. between pulse and pulse, the circuit will cancel the record, leaving the program mode without making any change on the memory.

To cancel the password. The access through password, once selected, can be only deactivated if you enter it into the circuit's memory.
The process will be the same than the used to program the password. Firstly, you have to introduce the valid password, then the program code of the password (*99) and at the end to press the "*" digit.
If the operation is correctly done, the Led Prg will confirm it with a fast intermittent light before to light off, and the module will leave the program mode, deactivating the access through password and erasing the memory.

GENERAL WIRING MAP.



TECHNICAL SUPPORT AND INFORMATION.

For any questions or more information: **By Fax.** (24h.) +34.93.432.29.95 **By Mail:** C/ Quetzal, 17-21, Entlo. 2º (08014) BARCELONA - SPAIN or **By E-Mail:** sat@cebek.com
Keep you invoice. For any repairing could you send this with module. Else, the module will lost the warranty.

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