DA-03

CEBEK ®
ELECTRONIC CIRCUITS

ACCESS CONTROL WITH KEYBOARD

The DA-03 module will allow to control the access thanks to a keyboard any place or device. You could insert up to 10 different codes (composed by 4 numbers each code) which will be stored in memory even if you stop to supply the module. It allows to authorize and deny codes and offers a relay output. The output could be flip-flop or timed types with times adjustable between 1and 60 sec. Or 1 and 60 minutes.
It includes signal leds, acoustic signal, keyboard and connection terminals.

TECHNICAL CHARACTERISTICS.

Voltage. .... 12 V. DC.
Minimum Consumpitono. .... 10 mA.
Maximum Consumption. .... 60 mA.
Relay timing. .... Between 1 and 60 sec./min.
Maximum Load to the relay. .... 5 A.
Maximum different codes. .... 10.
Maximum trials before auto-blocking. .... 5.
Maximum time on auto-blockng state . ... 5 minutes.
Circuit Sizes. .... 90 x 70 x 30 mm.
Keyboard sizes with communication PCB. .... 76 x 51 x 20 mm.
Keyborad sizes . ... 64 x 51 x 12 mm.
Comunication cable length. .... 150 mm.
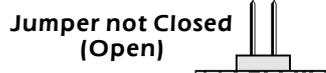
OPERATING.

POWER SUPPLY. The DA-03 circuit had to be supplied by a 12 VDC power supply correctly filtered. We recommended you the FE-2 power supply which has been developed to perfectly answer to the circuit needs. Install a fuse and a switch has it i sindicated ontheschedule. Both are necessary for the module's protection as well as for your own safety, as it is required by teh "CE" regulations. Connect the positive of the power supply to the positive terminal indicated in the wiring map, then connect the negative of thepower supply to the negative terminal indicated in the circuit. **Verify that the assembly is correct**.

OPERATING. The module operating could be divided according two parts (or concepts): **Operations control** and its use in **common work**.

INFORMATION ABOUT THE DA-03. Before to explain theoperations control or its use in standard way, you have to proceed according to following instructions:
- **Do never desold, separate or make longer the communication cable installed betwen the PCB and the keyboard.** If you do not respect this point, the module could be damaged and the warranty cancelled.
- Install the module on an enclosure correctly ventilated. If you have to install the module outside, use a watertight enclosure with a minimum interior space to allows to the module to dissipate heat without any problem during its operating.
- Then, you have to protect the DA-03 module against bad weather, excessive humidity as well as against devices or apparatus generating industrial parasites as coils, motors, neons, etc..

OPERATIONS CONTROL. Thanks to the operations control you could authorize and deny access code as well as program relay timing. To activate the opetaions control mode, you have to connect, close or short-circuit both terminals of the JP1 jumper using the JP piece supplied with the module. See the corresponding schedule.
When the DA-03 is on this mode, the module could not be used as access control, and only accept operations control management.

*JP Piece*   **Jumper not Closed (Open)**   **Jumper Closed**

OPERATING.

As soon as the JP1 Jumper is closed, both Leds ON and OFF will intermittently light to indicate that the Operations Control mode is activated.

OPERATIONS CONTROL. To authorize access codes. *Access codes are composed by 4 numbers (from 0 up to 9) and you could store in memory a maximum of 10 different codes. The ten memories allowing to store codes are the ten digits present in the keyboard (from 0 up to 9). For instance, the access code Nº8974 could be stored on the digit 0, 1, 2 ,3 ,4 ,5 ,6 ,7 ,8 or 9. Only one code could be stored per digit, for this reason the maximum codes number in memory is 10. To authorize an access code, firstly you have to verify that the module is on operations control mode (JP1 closed), then you have to select which digit will store the code, maintaining pressed the digit "*" you have to press the digit (from 0 up to 9) in which you wish to store the code. Then, the "Charge" Led will light and an acoustic signal will be emited to indicate that the code is stored and that you could to release both digits.*
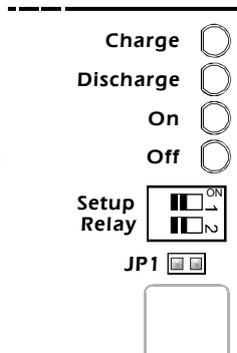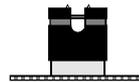
Charge ○	
Discharge ○	**Elements' situation**
On ○	**of Operations Control**
Off ○	**on the main PCB.**
Setup / Relay	
JP1 ▢▢	

A digit could not store two different access code; you have to previously deny the anterior code. If you do not deny the anterior code, the OFF led will light and an acoustic signal will be emited to indicate the mistake.
When you are into the memory of the selected digit (Charge led lighting), you have to introduce the code composed by 4 digit using the keyboard and pressing the digit "*". If you have correctly done the operation, the module will require you to confirm the code to definitively store it, maintaining the "charge" led lighting and ON led intermittent. Then introduce again the code and press the digit "*". Finally, and if you have correctly proceed, an acoustic signal will be emited and Charge & ON Leds will light. After a short time, the module will be back at the Operations control mode (ON & OFF led alternatively intermittent) and the code has been correctly stored. You have to do this operation for each access code that you need till a maximum of 10 codes.
If you wrongly proceed to authorize a code, as to wait more time than authorised for the code confirmation, or to introduce more or less than 4 digit, the circuit will emit an acoustic signal and the OFF Led will momentarily light to indicate the error.
Each time you finish a control operation as to authorize an access code, you have to wait that the circuit indicates you (ON & OFF Leds have to alternatively light) the possibility to insert a new code.

HOW TO AUTHORISE THE CODE Nº8974 ON THE MEMORY Nº1.

1º DA-03 on Operations Control mode. JP1 closed.
ON & OFF Leds alternatively lighting.

2º. **To store into the memory Nº1.** Digit "*" and Digit "1"   ✳ + 1
Charge Led lighting.

3º.To introduce the Code. Digits 8, 9, 7, 4 and … * .   8, 9, 7, 4, ✳
Charge Led lighting and ON Led intermittent.

4º.Code's confirmation. Digits 8, 9, 7, 4 and… * .   8, 9, 7, 4, ✳
Charge and ON Leds lighting.

To finish the Access code authorisation. To come back to the initial state of the Operations Control.
ON & OFF Leds Alternatively Intermittent.

DA-03

OPERATING.

OPERATIONS CONTROL. To deny access codes. *According to the same mode than to autorize, the DA-03 could also deny or erase up to 10 stored codes.*

Do not forget that codes are individually stored on digits of the keyboard, for thi sreason, you have to remember the digit associated to the code that you wish to deny or erase.

To deny a code, firstly you have to verify that the module is on operations control mode (JP1 closed), then you have to select which digit will store the code, maintaining pressed the digit "#" you have to press the digit (from 0 up to 9) in which you wish to erase the code. Then, the "Discharge" Led will light and an acoustic signal will be emited to indicate that the code has been erased and that you could to release both digits.

When you are into the memory of the selected digit the module will wait for the erase confirmation. To do that you have to repeat the previous operation pressing "#" and memory digit at the same time. If you have correctly proceed, an acoustic signal will be emited and Disharge & ON Leds will light. After a short time, the module will be back at the Operations control mode (ON & OFF led alternatively intermittent) and the code has been erased and this digit will be available to store new access codes.

You could do this operation as time as you wish if you wait that the circuit indicates it savailability (ON & OFF Leds have to alternatively light).

If you wrongly proceed to deny or erase code, as to wait more time than authorised for the erase confirmation the circuit will emit an acoustic signal and the OFF Led will momentarily light to indicate the error.

HOW TO ERASE OR DENY THE CODE Nº8974, ON THE MEMORY Nº1.

1º DA-03 on Operations Control mode. *JP1 closed.*
ON & OFF Leds Alternatively Lighting.
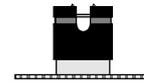
2º. To erase the memory Nº1. *Digits "#" and "1".*
Discharge Led lighting and ON Led Intermittent

$$\boxed{\#} \; + \; \boxed{1}$$

3º. Confirmation to erase the memory Nº1. *Digits "#" and "1"*
Discharge and ON leds lighting

$$\boxed{\#} \; + \; \boxed{1}$$

To finish to deny the access code. *To come back to the initial state of operations control*
ON & OFF Leds alternatively Intermittent

OPERATIONS CONTROL. Relay Timing. *The relay connection could be adjusted according to a flip-flop or timed mode (for more information, see the Output Connection- Load paragraph). If you select the timed mode, you have to program the module to adjust the relay connection time, after a correct access. You could program the time between 1 and 60, selecting after and thanks to the corresponding switch the timing scale : Seconds or Minutes. From the factory, the module i ssupplied with a timing of 5 sec.*

To program the relay timing, as to authorize or deny codes, firstly you have to place the DA-03 module on Operations Control mode (JP1 closed). Then, you have to press "" and "#" digits at the same time, Discharge and Charge leds will light to indicate that you are into the memory of the relay and that you could relase both digits.*

Once in the relay memory, the module will wait for the introduction of the wished timing. Press digits corresponding to the wished timing (Press previously the digit "0" if the wished timing is nferior than 10) and the digit "" to confirm.*

If the operation is correctly done, an acoustic signal will be emited and the ON Led will light. After a short time, the module come back to the initial state of Operations control (ON & OFF Leds alternatively intermittent).
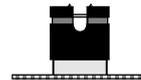
OPERATING.

To change again the relay timing, repeat this process, awaiting that the module indicates its availability (ON & OFF Leds alternatively intermittent).

If you wrongly proceed, as to wait more time than authorised for the data insertion, or to press wrong digits, or to digit a number superior than 60, the circuit will emit an acoustic signal and the OFF Led will momentarily light to indicate the error.

HOW TO ADJUST A RELAY TIMING : 9 sec./min.

1° DA-03 on Operation Control mode. JP1 closed
ON & OFF Leds alternatively Intermittent

2°. To have access to the Relay memory . Digits "*" and "#".
Charge and Discharge Leds lighting

3°. To insert Timing. Digits "0", "9" and "*".
Charge, Discharge and On Leds lighting

To leave the relay's memory . To come back to the initial state of the Operations Control.
ON & OFF Leds alternatively intermittent

COMMON OPERATING MODE. Thanks to the common operating mode, the DA-03 module will exclusively operate as a standard access control. It will compare the inserted code with the stored codes and authorize or deny according to the situation. On this mode, you could not done authorization, deny or relay timing operations.

To place the Da-03 on common operating mode, you have to open or desold both terminals of the JP1 Jumper and remove it.See the schedule. When the JP1 jumper is open, leds of the circuit will be maitained light off. Then, the module will wait for any access code.

Jumper Closed   **Jumper not Closed (Open).**   **JP Piece**

To insert the code, you have to proceed as following : firstly introduce the code, digit after digit. For instnace if you wish to insert the code N°8974, youhave to press the 8, then 9, 7, and at the end the digit N°4. To confirm you have to press the digit "*".

If the code has been correctly inserted, and this one was already stored in a memory, the DA-03 module will emit a signal to confirm and the ON Led will light connecting the relay.

If the code was not stored in the memory, or if there was a mistake, the module will emit a signal and OFF Led will shortly light; the output won't be connected.

The circuit accept till 5 consecutive trials. After these trials, the module will be automatically blocked, impeding any operation during 5 minutes or till you disconnect the power supply. .

After a correct code, previous wrong trials are eliminated to avoid any accumulation. Then, after the 5 minutes of auto-blocking or after resetting the module the module will also eliminate wrong trials and come back to its normal operating state.

Between access codes introductions, you have to wait ON or OFF leds are light off. If the relay is connected, for instance, the ON led will lighting till the output is disconnected.

ACCESS CONTROL WITH KEYBOARD

OUTPUT CONNECTION. LOAD.

OUTPUT CONFIGURATION. As we have previously communicated you, the DA-03 output could be adjusted according to Flip-Flop or Timed mode. The Flip-Flop mode, when the code is correct, will maintain connected the relay till you press the Flip-Flop push button. The Timed mode will maintain connected the relay during the adjusted time.
To configurate the module on the Flip-Flop mode, you have to place the switch Nº2 of the "Setup Relay" on ON position.
To configurate the output on timed mode, place the switch Nº2 on OFF position. See schedule hereafter.

Relay configured with Timed output.

Setup Relay | ON — Sec. / Min.
| Timed / Flip-Flop.

Relay configured with Flip-Flop output

Setup Relay | ON — Sec. / Min.
| Timed / Flip-Flop.

TIMED OUTPUT.. If you configure the output on timed mode, the module offer the possibility to use two different scales, seconds or minutes. For instance, if you have inserted the number 9, this number could be in seconds or minutes scale according to your needs.
To select the seconds sacle, you have to place the switch Nº1 of the "Setup Relay" on OFF position. To select the minutes scale, place the switch Nº1 on ON position. See the schedule hereafter.

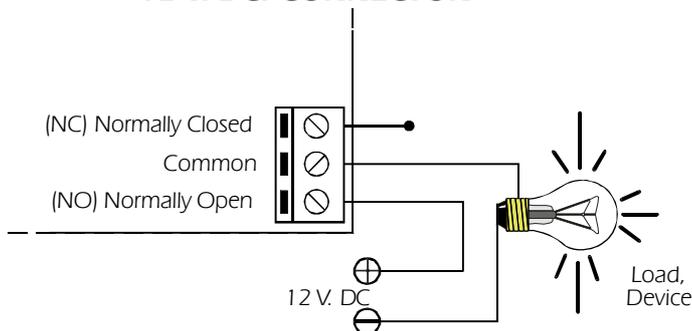### To configurate the Timed output on Seconds scale

Setup Relay | ON — Sec. / Min.
| Timed / Flip-Flop.

To configurate the Tmed output on Minutes scale
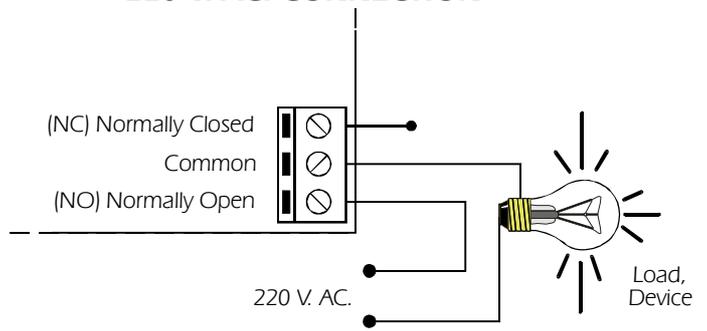
Setup Relay | ON — Sec. / Min.
| Timed / Flip-Flop.

OUTPUT CONNECTION. The DA-03 output is controlled by a relay, and accept any device up to 5 A. The relay have three output terminals: The normally open quiescent (NO), the normally closed quiescent (NC) and the common.
This mechanism operate like a switch with two terminals NO and Common. For the inverse function you have to use the NC and Common. In the drawing hereafter, you could see a typical connection with a 12 V D.C and 230 V A.C devices.
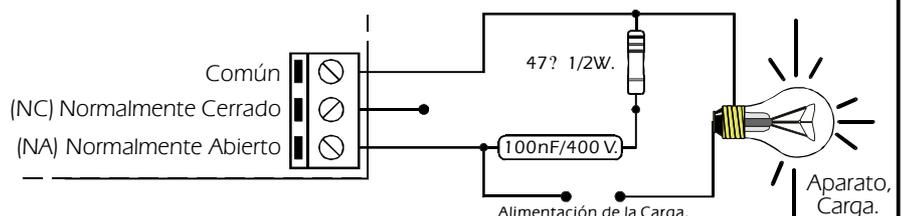
12 V. DC. CONNECTON

(NC) Normally Closed
Common
(NO) Normally Open

12 V. DC

Load, Device

220 V. AC. CONNECTION

(NC) Normally Closed
Common
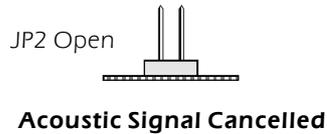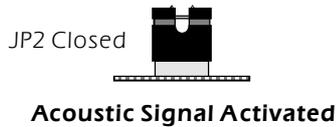(NO) Normally Open

220 V. AC.

Load, Device

INFORMATION ABOUT THE OUTPUT. During the operating mode and according to its load, it could happen a fluctuation or an incorrect working of the output. In such case, you have to install an anti-spark circuit between both contacts of the used relay, as it is indicated on the schedule.
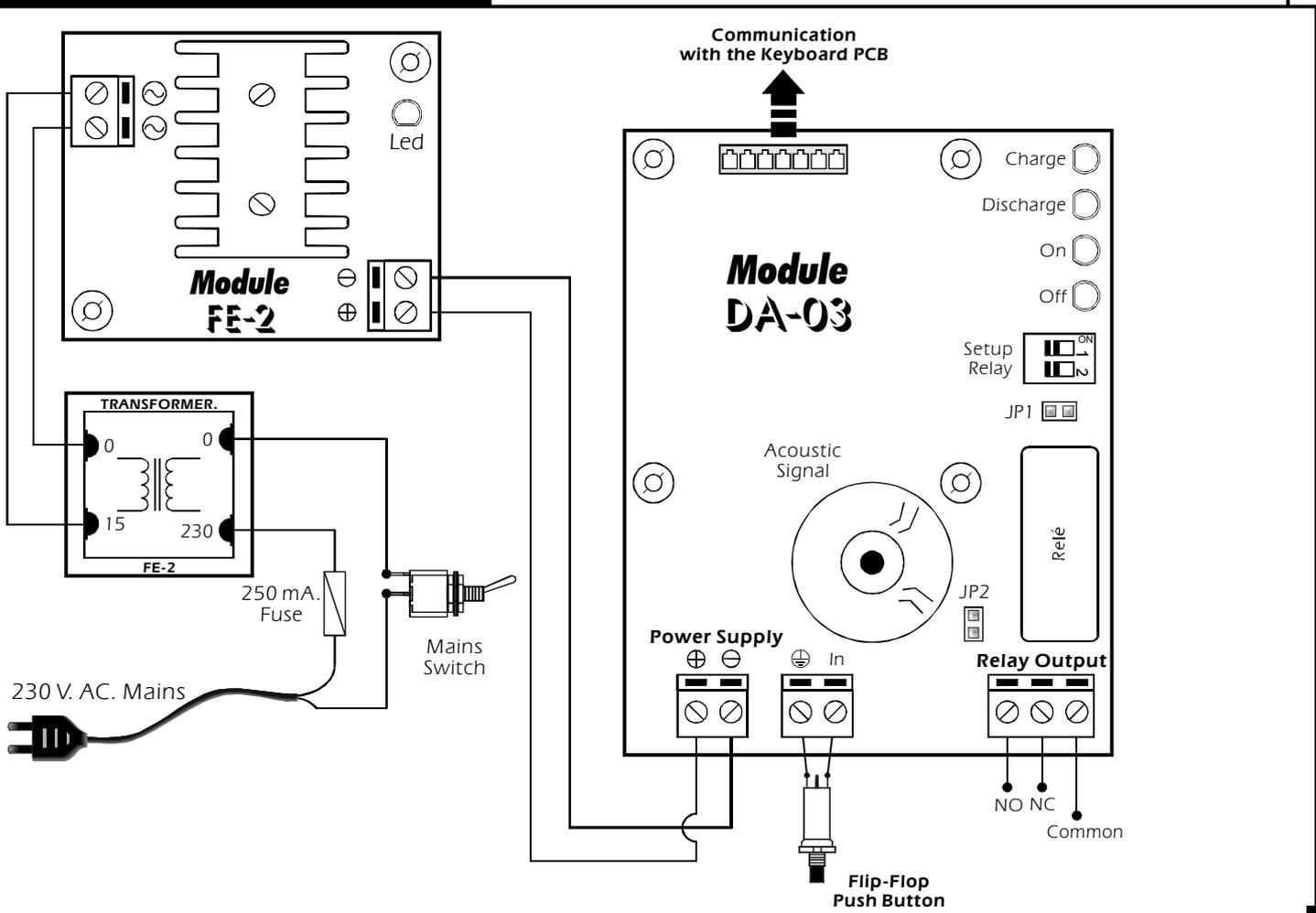
Común
(NC) Normalmente Cerrado
(NA) Normalmente Abierto

47? 1/2W.
100nF/400 V.

Alimentación de la Carga.

Aparato, Carga.

ACOUSTIC SIGNAL.

ACOUSTIC SIGNAL. If you wish, you could cancel the acoustic signal, to avoid a signal answer for each operating options. To do that, you have to desold or open terminals of the JP2 jumper, removing the JP piece supplied with the module. If after you wish to use again the acoustic signal you only have to connect JP2 contacts.

JP2 Closed

Acoustic Signal Activated

JP2 Open

Acoustic Signal Cancelled

GENERAL WIRING MAP.

Communication with the Keyboard PCB

Led

Module FE-2

TRANSFORMER.

0   0

15   230

FE-2

250 mA. Fuse

Mains Switch

230 V. AC. Mains

Module DA-03

Charge
Discharge
On
Off

Setup Relay

JP1

Acoustic Signal

Relé

JP2

Power Supply   In   **Relay Output**

NO NC
Common

Flip-Flop Push Button

TECHNICAL CONSULTATIONS.

If you have any doubt, you could contact your wholesaler or our Technical Department.
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