CEBEK ELECTRONIC CIRCUITS

I-52

WEEKLY PROGRAMMER

The I-52 module is weekly programmer allowing up to 50 programs. It includes functions to adjust time, visualise hour, program, erase and to verify. The operating time of programs will be determined thanks to switches with 2 different positionsÊ: minutes and seconds.
It includes Led, hour visualisation, keyboard, function switch, screen, and connection terminals to make more easy its assembly.

TECHNICAL CHARACTERISTICS.

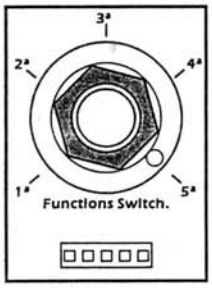
- Voltage.	12 V D.C.
- Minimum consumption.	90 mA
- Maximum consumption.	200 mA
- Maximum admissible load.	3 A.
- Operating time scales.	Minutes & Seconds
- Operating times per scale.	1,2,3,4,5,10,15,20,25,30,35,40,45,50,55,60
- Hour format.	24 Hours
- Visualisation.	4 x 0,5" Displays (13,5 ..) & Led
- Battery.	9 V D.C
- Protection against polarity inversion.	Yes
- Sizes.	110 x 90 x 50 mm.

OPERATING.

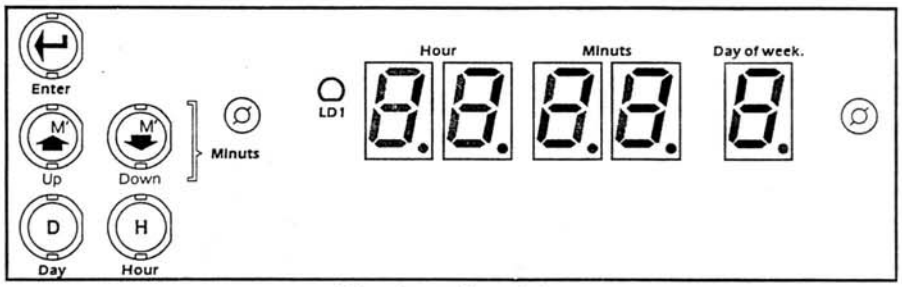
POWER SUPPLY. The I-52 circuit had to be supplied by a 12 VDC power supply correctly filtered. We recommended you the FE-2 power supply which has been developed to perfectly answer to the circuit needs. Connect the positive of the power supply to the positive terminal indicated in the wiring map, then connect the negative of the power supply to the negative terminal indicated in the circuit. **Verify that the assembly is correct**.

HOW TO CONNECT AN AUXILIARY BATTERY. The I-52 module will maintain the program (not the hour) even when you stop to supply it, we suggest you to connect a 9 V D.C battery at the circuit input to avoid to lose data. See the General Wiring Map.
Once the battery connected, if you stop to supply the I-52 module, it will stop all functions, light off all displays, reducing at the maximum the consumption and maintain the hour without losing its value. The battery consumption is 10 mA and 0 at quiescent (when the module is supplied again).

OPERATING. With the I-52 module you could insert different programs with a maximum time of one week. For this reason, the module could not activate program within 2 weeks or 1 month. The operating mode could basically be divided in 5 functions, Hour visualisation, Time adjustment, Program, Verification or program check, and Erase. You could select these functions thanks to the switch inserted in the PCB.



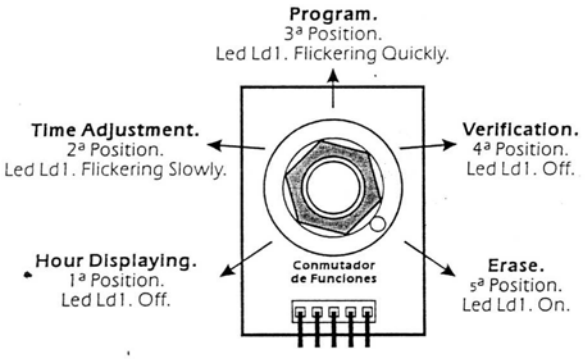
PCB Switch.



View frontal module.

OPERATING.

TIME ADJUSTMENT. The I-52 hour, which is used to control programs and its functions, had to be adjusted before start others operations. Seeing the drawing, you could appreciate the module front panel with available function. As there is a mistake on function serigraphy, for this reason you have to follow drawing hereafter and not this serigraphy.
To select the screen with time adjustment, turn the switch from left to the right up to the 2nd position, then the Led Ld1 have to be light on.
Therefore, you have to firstly adjust hours pressing the push button Hour up to the wished hour. If you maintain pressed this push button, the increase will be more fast.
After hours, you have to adjust minutes thanks to 2 push buttons: one to increase (up) and one to decrease (down). As for hours, if you maintain pressed the push button, the increase (or decrease) will be more fast.
Once adjusted hour and minutes, you have to activate the module according to the present day. On display, the "Day of the Week" is showed by numbers, from 1 up to 7 (1 corresponding to Monday and 7 to Sunday). Use push buttons Day to adjust the present day.
After the day all hour parameters will be adjusted, then to valid data and to activate the module you to press during 1 sec. the push button Enter. The display will show the correct data. Do not forget if you are out of the hour adjustment without press the Enter push button, the module will not recognise modified data.



SWITCH PCB. Thanks to the Switch PCB you could select any of the 5 offered functions. Being the first function the function completely positioned at the left of the switch, each turn to the right will determine a new function. In the drawing you could see each function according its position. To read between two positions, the module could delay till 1 sec. then you have to wait this time to check that you are in the correct display.

PROGRAM. Turn the switch from the left to the right up to the 3º position. Then the Led Ld1 had to be light off quickly displaying that you have activated the program function.
The I-52 offer s50 program (as maximum). When you activate the program function, the module will display the first position of the free memory. (all displays at "0"). Then, you could determinate a program, selecting hour and minute (pressing on Hour and minute push buttons) to activate the module. Do not forget to select the activation day (pressing on 1 for Monday, 2 for Tuesday, 3 for Wednesday, 4 for Thursday, 5 for Friday, 6 for Saturday and 7 for Sunday).
To configure the module to be activated on all labour days (from Monday up to Friday) you have to select the day Nº8, but if you wish that the module will be activated all days (from Monday up to Sunday) you have to select the day Nº9. When you have introduce all required data for your program, you have to maintain pressed the Enter push button, then the display will quickly light on and be at "0", showing the next position on the free memory.
At this moment you could stop to press the Enter push button, the program will be correctly recorded on the memory. Proceed as previously for new programs.
Once the program recorded, you only could consult or erase it thanks to Verification or Erase functions.
The module could activate one or several programs at any hour or day of the week. Nevertheless, because of configuration limitations, the our OO : OO it impossible to program. If you wish to activate a program at this hour, you have to select 23:59 or 00:01.

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OPERATING.

VERIFICATION - CHECKING. Turn the switch from left to right up to the position N4. If you correctly proceed, the Led Ld1 stay light off, indicating that it is in the verification screen. When you arrive at the verification menu, the module will show the first stored program. Press up and down push buttons to visualise and move to other programs. When you are in the first program, if you try to go back (down push button), as there is no previous program the display will be intermittent to inform you. More over, is it the same think when you are in the last program and you try to move on pressing the Up push button, the module will communicate you the end of the memory.
When you erase obsolete programs, it is possible to have some empty positions and therefore between two programs it appear one o several "0". These empty positions will be automatically replaced by new programs that you could introduce.

PROGRAM ERASER. *The program eraser is the 5th and last function offered by the I-52 module. Move the switch from the left to the right; if you have correctly proceeded, the Led Ld1 will light on.*
Once in the program eraser, you have to use same push buttons (up & down) than for verification program to move and access to different programs. Select the program that you wish to select, then you have to press the "enter" button during 3 sec. (approximately) up to have a display indicating "0". Then program is erased. Repeat this operation to erase other programs.

CLOCK DISPLAY. The control of functions and programs of the I-52 module is guaranteed by a clock. Independently of the program selected, the module offer the possibility to display time. To use this function, you have to turn the switch up to the first position and if you correctly proceed, the Led ld1 will light off.

PROGRAMS OPERATING TIME. As we have explained you before, you have to indicate the start time of the program that you wish to execute but not the time it have to be connected. This time could only be established by Hardware, thanks to the switches battery incorporated in the module. The time have to be the same for all programs.
The module offers 2 different scales of operating time : seconds and minutes. Select the scale time that you wish to use placing the INT-1 switch on OFF for seconds or on ON for minutes. Thanks to the INT-2 switch, you could select the wished operating time. If we consider that the value of a switch put on OFF is "0" and put on ON is "1", you have to establish a binary code to associate to the required operating time. The bit with inferior weight, is the switch n°1 and the superior one is the switch n°4. For instance, when you start a program and during its use, the Led LD1 will light on the display.

Binary Code table according times.

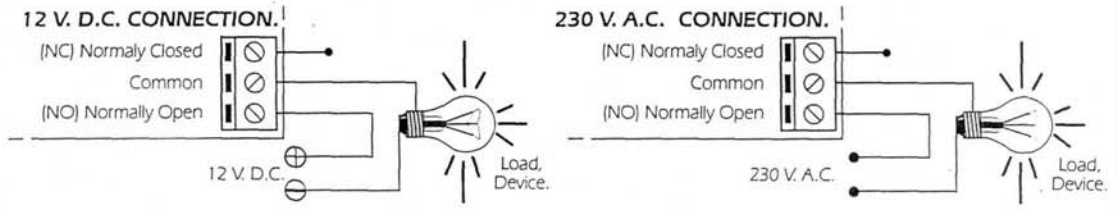
Switch 4321	Time	Switch 4321	Time	Switch 4321	Time
0000	01	0110	15	1100	45
0001	02	0111	20	1101	50
0010	03	1000	25	1110	55
0011	04	1001	30	1111	60
0100	05	1010	35		
0101	10	1011	40		

I.e: To Select a time 25 sec.

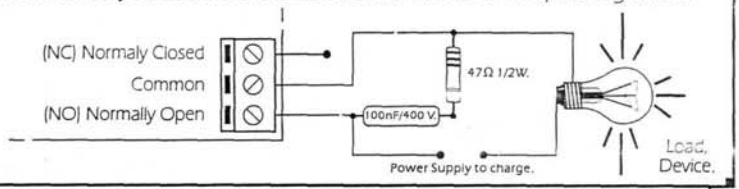
OUTPUTS CONNECTION - LOAD.

Outputs Connection. The I-52 output is controlled by a relay, and accept any devise up to 3 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 devises.

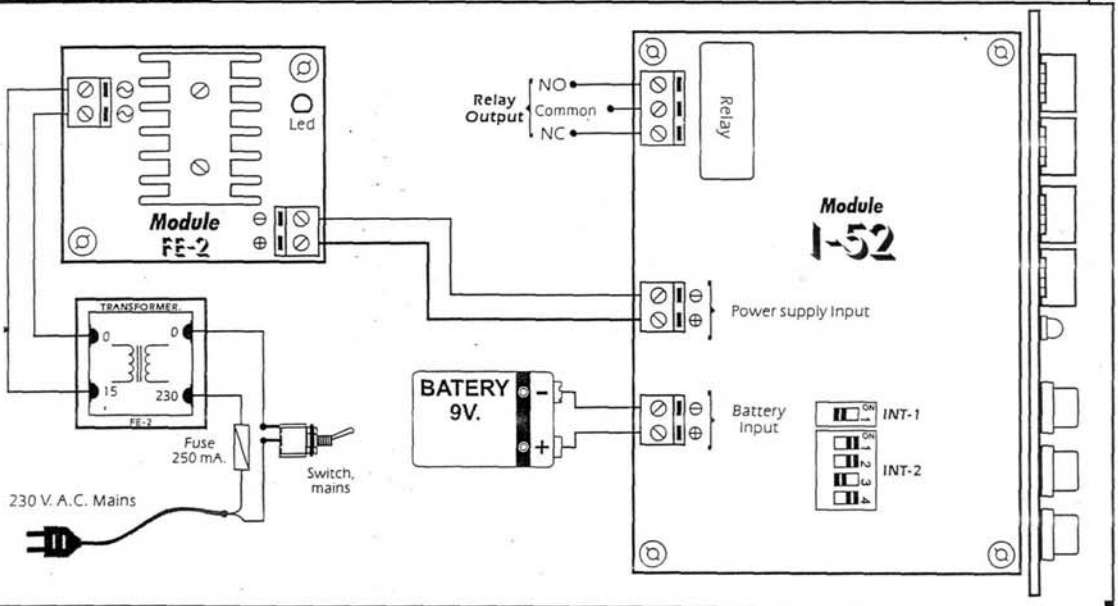
OUTPUTS CONNECTION - LOADS.



When the circuit works, and according to the load you could note a fluctuation or incorrect operating on the output. If it is the case, you have to connect a circuit (composed by resistor and capacitor) between both contacts of the relay (see the schedule herewith).



WIRING MAP.



TECHNICAL SUPPORT AND INFORMATION.

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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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