CEBEK® ELECTRONIC CIRCUITS

I-215 1 - 24 Hours ACCURATE TIMER.

It allows to execute very accurate timing, between 1 and 24 Hours.
It could be activated by pulsation (push button) as well as by Power Supply (supplying the module).
It includes protection against inversion polarity, operating Leds and connection terminals.

TECHNICAL CHARACTERISTICS.

Voltage.	12 V. D.C.
Minimum Consumption.	10 mA.
Maximum Consumption.	60 mA.
Minimum Timing.	1 hour.
Maximum Timing.	24 hours 45 minutes.
Maximum Output Load.	5 A.
Protection against inversion polarity, (P.I.P).	Yes.
Sizes.	88 x 52 x 30 mm.

POWER SUPPLY AND INSTALLATION.

POWER SUPPLY. The I-215 circuit had to be supplied by a 12 VDC (from 9 till 18) power supply correctly filtered. We recommend you to use the FE-2 power supply which has been developed to perfectly answer to the circuit needs. Install a fuse and a switch has it is indicated on the schedule. Both are necessary for the module's protection as well as for your own safety, as it is required by the "CE" regulations. Connect the positive and the negative of the power supply to the respective positive and negative terminals of the module, indicated in the wiring map. The distance between the power supply and the module has to be as short as possible (maxi. 50 cm). Verify that the assembly is correct.
Note. Connections indicated as 230 VAC in the wiring map have to be connected to 110 VAC. in Americans countries. Cebek's Modules and/or transformers will be supplied with corresponding modifications for their connection in these countries.

OUTPUT CONNECTION. LOAD. The I-215 output is controlled by a relay, and accept any device up to 5 A. The relay is not a component supplying voltage but its function is limited to accept or deny the voltage passage like a standard switch. For this reason, you have to supply the load through this component.
The relay has three output terminals: The normally open quiescent (NO), the normally closed quiescent (NC) and the common. Install the load between the Common and the NO in accordance with the schedule "Output Connection. Load". For the inverse function you have to place the load between the NC and Common.

ACTIVATION. See the General Wiring Map. The module could be activated by pulsation or by power supply. If you close or join the JP1 Jumper, each time you supply the module, automatically the timing will be activated. In the opposite case, if you leave it as supplied from factory, the module will be activated only when you press the push button.
To activate the module by pulsation, you have to install a quality push button on the terminal indicated as "Start". To connect it, you have to use shielded cable and connect its braid to the negative sign of the push button input.
Nevertheless, even using shielded cable, the maximum length has to be inferior than 60 cm. If you don't respect this point, the module wrongly operates. Don't forget; the JP1 jumper has to remain open.

Fig. 1. To Configure the JP1 Jumper.

Jp1 — Activation by Pulsation
Jp1 — Activation by Power Supply
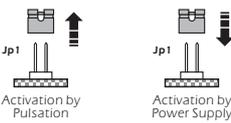
TIMING.

TIMING. To adjust the timing, you have to use DIP mico-switches included on the module. Each DIP has 6 switches, which according to their position, ON or OFF, will configure the module in one or an other way.
The DIP1 is divided in times scale, composed by switches Nº1 and 2 and the quarters selection is composed by switches Nº 3, 4, 5, and 6. On the DIP2 all switches select directly the timing hour (See Fig.2). The time scale allow to assign on the DIP2, four different hour scales. According to the position of switches Nº1 and 2 from DIP1, switches from DIP2 will allow to select one or other hour.
Firstly, using switches 1 and 2 from DIP1, you have to select the times scale that you need according to the timing that you wish. Then, using DIP2, you could select the hour placing the corresponding switch on the ON position. See Fig.3
On DIP2, only one switch has to be in ON position. If there were several switches on the ON position, or if all switches were in OFF position, the module would identify the selection as wrong and wouldn't start the timing.
In addition of the hour number that the I-215 module has to timing, you have to indicate if these hours are exacts, or

Fig. 2. Switches Function.

DIP1 — Times Scale / Quarters
DIP2 — To select the hour
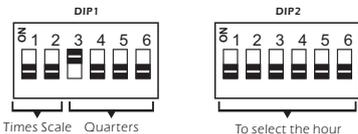
Fig. 3. Times scale

DIP1 Switches	1	2		Scale	DIP2 Switches	1	2	3	4	5	6
	Off	Off	→	Scale 1 →		1h.	2h.	3h.	4h.	5h.	6h.
	Off	On	→	Scale 2 →		7h.	8h.	9h.	10h.	11h.	12h.
	On	Off	→	Scale 3 →		13h.	14h.	15h.	16h.	17h.	18h.
	On	On	→	Scale 4 →		19h.	20h.	21h.	22h.	23h.	24h.

if it is necessary to add 15, 30 o 45 minutes. This function will allow you to adjust the module with a higher accurate; 15 minutes by 15 minutes instead of hour by hour.
To configure the total time of selected hours, you have to place switches 3 till 6 from DIP1 as it is indicated. See Fig. 4.
Only one switch could be place in ON position. If there were several switches on the ON position, or if all switches were in OFF position, the module would identify the selection as wrong and wouldn't start the timing.
If you place in ON position the switch Nº3, the number of selected hours will be exact.
If you place in ON position the switch Nº4, on the number of selected hours, it will be added 15 minutes.
If you place in ON position the switch Nº5, on the number of selected hours, it will be added 30 minutes.
If you place in ON position the switch Nº6, on the number of selected hours, it will be added 45 minutes.

Fig. 4. To configure Quarters

DIP1 — Quarters — Selected Hour + 0 minute added.
DIP1 — Quarters — Selected Hour + 15 minutes added.
DIP1 — Quarters — Selected Hour + 30 minutes added.
DIP1 — Quarters — Selected Hour + 45 minutes added.
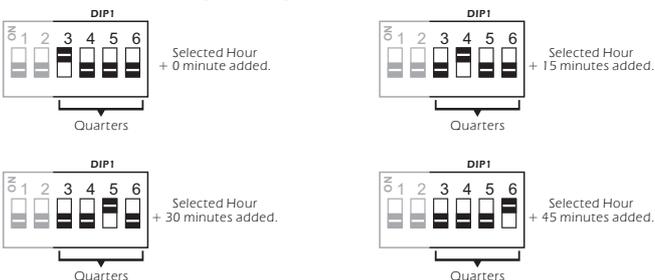
In order to better understand the timing adjustment, we communicate you two samples:
First Sample: To adjust the timing at exactly 16 Hours.
Firstly, you have to select the scale 3, which will allow this time. On the DIP1, place the switch 1 in ON position and

TIMING.

the switch 2 in OFF position.
Then, you have to select the hour Nº16 placing from DIP2 the switch 4 in ON position.
Finally, in order to confirm that the selected hour is an exact hour, you have to place quarters at zero (0) placing on DIP1 the switch 3 in ON position. (See Fig. 5).

Second sample: To adjust the timing at 16 hours and 45 Minutes.
Firstly, you have to select the scale 1, which will allow this time. On the DIP1, place the switch 1 and 2 in OFF position.
Then, you have to select the hour Nº16 placing from DIP2 the switch 1 in ON position.
Finally, in order to add minutes to the selected hours, you have to place quarters at 45 placing on DIP1 the switch 6 in ON position. (See Fig. 6).

Fig. 5. To select timing at 16 h.

DIP1   DIP2
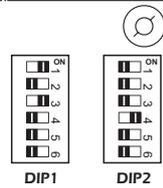
Fig. 6. To select timing at 1h. and 45 min.

DIP1   DIP2
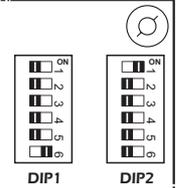
Note. To allow the module to recognise the timing value change on DIPs, you have to reset the circuit. Disconnect the power supply and then make changes. Finally, connect again the power supply.

OPERATING MODE.

After the installation and the operating timing selection, the module is ready to be used.
Activate the power supply switch. The Power Led will light indicating a correct module's supplying.
If you have selected an activation by power supply, the module will start the timing. In the other option, the module will wait that you press the push button.
Once the timing started, in both options (by pulsation and by power supply), the relay will be immediately connected, activating the output and the Timer Led. The output will be maintained till the end of the timing.
During a timing cycle, the I-215 module doesn't accept any re-start. You have to wait the end of the cycle or disconnect the power supply.
Note. If the module is correctly supplied, but doesn't start the timing, you have to check if both DIP micro-switches have been correctly configured.

GENERAL WIRING MAP.

Fuse 250 mA.
230 V. A.C.
Transformer 0 230 / 0 15
Power Supply Switch
15 V. A.C. / 0 15
Module FE-2
12 V. D.C. Led
Relay Output: Common — Nc — No
Push Button to activate
Power Supply — Start — Jp1
Relé
Module I-215
Power Led
DIP1   DIP2
Timer Led

OUTPUT CONNECTION. LOAD.

12 V DC CONNECTION
Common
Normally Closed, (NC)
Normally Open, (NO)
12 V. D.C.
Device, Load.
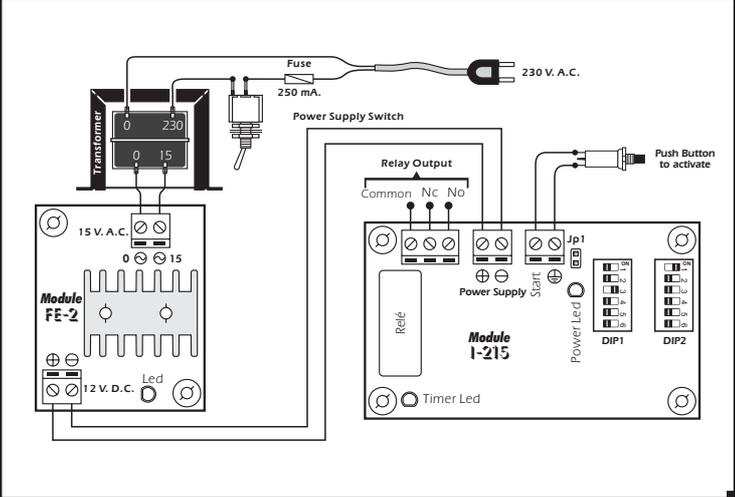
230 V AC CONNECTION
Common
Normally Closed, (NC)
Normally Open, (NO)
230 V. AC.
Device, Load.
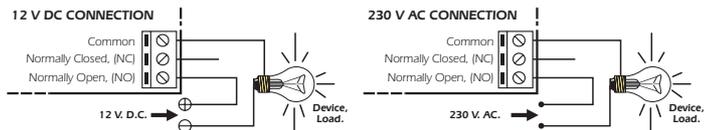
INFORMATION ABOUT THE OUTPUT. During the operating mode and according to its load, it could happen a fluctuation or an incorrect working of the output.
In such case, you have to install an anti-spark circuit between both contacts of the used relay, as it is indicated on the schedule.

Common
NC
NO
47 1/2W.
100nF/400 V.
Power Supply ↑ of the Load.
Device, Load.

TECHNICAL CONSULTATIONS.

If you have any doubt, you could contact your wholesaler or our Technical Department.
- E-Mail, **sat@cebek.com** | **Fax**. 34.93.432.29.95 | by mail. P.O. Box. 23455 - 08080 Barcelona - Spain.
- **Keep the invoice of this module.** For any repair, the corresponding invoice had to be added. If the invoice is not presented together wish this module, the module's warranty will be automatically cancelled.

MORE 300 MODULES.
All the module's CEBEK have **3 years of total warranty** in thecnical repairing, and spares from the date of buy.
CEBEK is trade make of FADISEL S.L. more than 300 module's are avaible in stock for any purpose **request our CATALOGUE**, or visit our Web.
Http://www.cebek.com

WARRANTY 3 YEARS

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