CD-34

HOURS CONTROLLER.

The CD-34 module is an automatism to monthly control and follow the operating and yield of the connected apparatus, device. It has been specially designed to obtain a fast and accurate resume of the labour calendar done by the controlled machine.
It indicates the hour to start the count, the starting date, the total worked hours, labour days, average per hour, hours per day, operating time (per day, week, month).
Data are showed on a 13,5 mm display. It includes battery to maintain data when the module is not connected (supplied), indicator leds, control buttons, front panel and terminals to make more easy the

TECHNICAL CHARACTERISTICS.

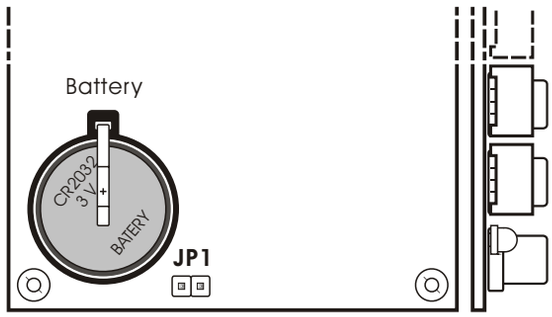
Voltage.	From 9 up to 12 V. DC.
Minimum Consumption.	70 mA.
Maximum Consumption.	100 mA.
Hour Format.	24 H.
Date Format.	Day, month and year.
Intermittent Time Hour / Date.	5 sec.
Display.	6 x 0,5" Displays (13.5 mm.) and leds.
Battery.	CR-20 (3 V.)
Protection Against Polarity Inversión.	Yes.

OPERATING.

POWER SUPPLY. The CD-34 module had to be supplied by a 9 - 12 V DC. power supply perfectly stabilised, for this reason we recommended you the FE-71 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 also the negative of the power supply to the negative terminal indicated in the circuit.
Verify that the assembly has been correctly done and activate the power supply.

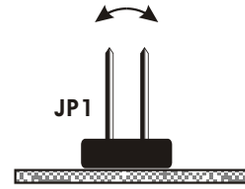
OPERATING. The CD-34, as module specially designed to control yield, could be used on restricted mode, to avoid to modify data because of a wrong manipulation and/or an accident. For this reason, the keyboard usually used to display data could be used to activate, stop or reset the module's count only when you wish it. Then, the employe even if he uses the keyboard for other applications, he could not have access to activation, Stop, Reset Time adjustment functions.

PREPARATION OF THE MODULE. ACTIVATION, STOP, RESET AND HOUR ADJUSTMENTY. To have access to these



JP1 Jumper on the PCB

Connect for following functions:
Activation.
Stop.
Reset.
Hour Adjustment.



Lateral View of the JP1 Jumper

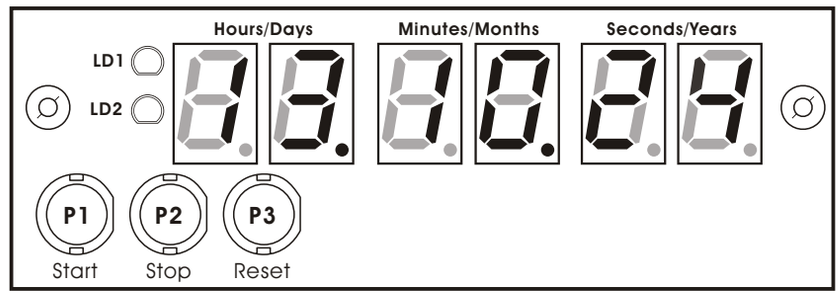
OPERATING.

functions, youhave to specially prepare the module. Connect both pins of the JP1 jumper, present on the PCB as it is indicated on the schedule.

HOUR ADJUSTMENT. Verify that pins of the JP1 Jumper are connected. The first operation is to adjust the internal hour of the CD-34 module. Before to supply the module, you have to maintain pressed the P3 button, placed on the front part of the module, then maintaining pressed the button you have to supply the module. Automatically, both displays (minutes and seconds) will be intermittent, hours displays are on fix position. Stop to press the P3 button.
Each time you wish to adjust hour, fix display correspond to data that you have to change meanwhile intermittent displays correspond to stand by data. Firstly you could adjust hours displays. Press P1 or P2 buttons your data will increase or dicrease. If you maintain pressed one of these button, during more than 1 sec. You could increase or decrease data more quickly. Once time adjusted, press again P3 button. Now displays corresponding to minutes are fixed and then you could adjust them. When this operation is done, you have to press again the P3 button. With each pressure, the module will change to the next register (hours, minutes, days, months, etc.), allowing you to adjut it thanks to P1 & P2 buttons during displays are stopped.
The last register, after years, required by the module is the present day. Then, numbers corresponding to each day of the week from 1 up to 7 (being 1 Monday and 7 Sunday) will appear. Use P1 and P2 buttons to select the correct day.
After configurate the day of the week, when you press the P3 button, the clock will be bloqued, confirming you that adjustment operation is stopped. To leave this function, you have to desold the JP1 jumper and press P3 button.

ACTIVATION, STOP AND RESET. If the JP1 jumper were disconnected, connect it again. Then, P1, P2 and P3 buttons will be used to respectively control Activation, Stop and Reset functions. If you press the Start button, the LD1 Led will light indicating that the timing of the circuit had been activated, registring from this instant first data. The module will collect day after day, during the module's supplying, the operating time of this one, storing data on the memory when the module is not used.

Front part of the Module



Therefore, till you Stop or Reset the CD-34, the module will daily record operating times of the controlled apparatus or devices during the month. At the end of the month, if you not activate the Reset function, the module automatically reset the module and all data will start from zero. The Stop button is charged to stop the module's timing, and to leave it awaiting for a new information. All registers will be stored on the memory. LD1 led will light off.
To reactivate timing, you have to press the Start button, the circuit will normally operate, registering data from the point where it was previously stopped.
If youpress the Reset button, you stop the timing and **erase all stored data till the date**. Use this function with careful, once this button pressed, data could be recuperated.
After the Reste, the mdoule will wait for a new information.
As soon as the Start, Stop or Reset function is done, youhave to desold the JP1 jumpler, to avoid to damage stored datas.

PRESENTATION OF STORED DATA. To have access to stored data, you have to cancel Start, Stop and Reset functions, desolding both pins of the JP1 Jumper. From this moment, Start, Stop and Reset buttons will be

CEBEK® ELECTRONIC CIRCUITS

CD-34

HOURS CONTROLLER.

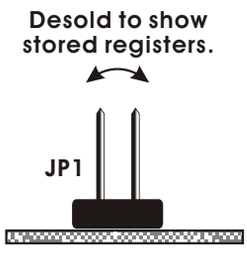
OPERATING.

converted on P1, P2 and P3 buttons.
It is very important to take in account two basic aspects : Firstly module will record data from the present month, erasing them each new month. For this reason, if you have to note monthly data, you have to write them at the latest time the last day of the month. The second aspect is the accurate displayed data. Thanks to the calcul of time averages, etc... The module could display as amaximum an error of minutes. Each button is used to have access to different registers and thanks to the LD2 led, you could know which is the register :

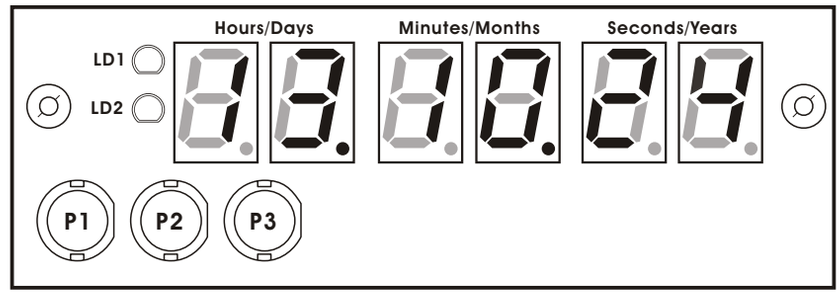
P3. Press the P3 button till the LD2 led will light on. On the display you could read the total number of the real hours that the mdoule had operated, independently if the module had been connected some instants each day or the quantity of days, this register add and show total hours and minutes concerning the connection apparatus from the beginning till the date. If you press again on the P3 button, the LD2 led will light on an intermitten mode, indicating thatthe displayed register correspond to the starting date (the last time that the Start button had been activated). If you press again, the display will show the third and last register for the P3 button. The LD2 led will light off and display show the register corresponding to the starting hour (the last time that the Start button had been activated). If youpress again on the P3 button, the module will display these three register on a cyclic mode.

P2. The P2 button show 2 registers. If youpress a first time, the LD2 led will light on, indicating that the displayed register correspond to the total number of operating days for the controlled apparatus or device. Then, the module will add all days of the month, in which the apparatus had been connected, independently if the apparatus had been connected several hours or one minute during the day. If the apparatus has not been connected one day, this day is not taking in account.
If you press again on the P2 button, the module willshow the last register. The LD2 led will intermittently light and the display will show the average of worked hours per day. If you press again several times on the P2 button, the module will display these two registers according to a cyclic mode.

HOW TO HAVE A FAST ACCESS TO CD-34'S REGISTERS.



Lateral View of the JP1 Jumper

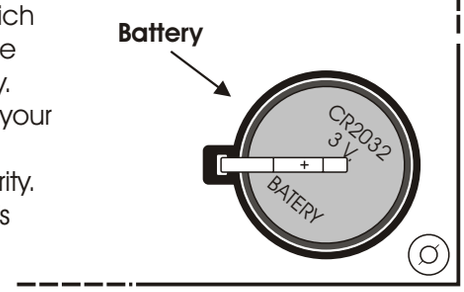


P1	**1st pulsation.** LD2 light on. **2sd pulsation.** LD2 intermittent.	Time for "today" corresponding to the apparatus'operating time. Time for "this week" corresponding to the apparatus'operating
P2	**1st pulsation.** LD2 light on. **2sd pulsation.** LD2 intermittent.	Number of days corresponding to the appartus' connection. Hours average done per day.
P3	**1st pulsation.** LD2 light on. **2sd pulsation.** LD2 intermittent.	Number of Total operating Hours. Starting Date.

HOW TO REMOVE THE BATTERY.

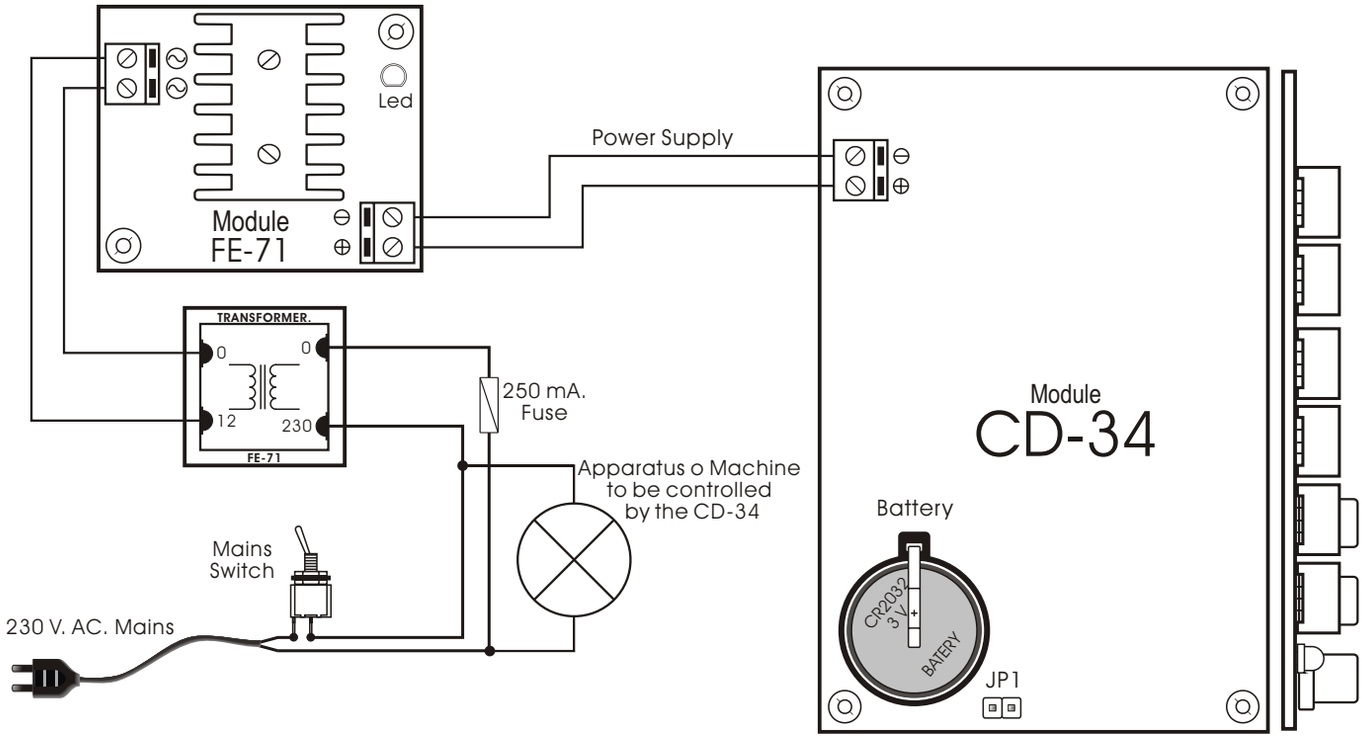
REMOVE AND SUGGESTIONS REGARDING BATTERY. When the mdoule is not supplied, the module maintains timing thanks to the battery. The hour display is cancelled till the module is again normally supplied; then the hour and the rest of the others functions will be activated again.

With the time and according to the number and duration of situations in which the module was not supplied, the battery will be discharged. In this case, the module could not recuperate the hour and you have to remove the battery.
The required battery is a 3 V CR-2032 battery, and you could purchase it to your distributor.
When you will substituate it, be careful in respecting the corresponding polarity. See the schedule. Do not remove the battery if the module's power supply is connected, neither hardly handle it.



GENERAL WIRING MAP.

HOW TO CONNECT THE MODULE AND THE APPARATUS TO CONTROL. To allow the CD-34 to control a determinated apparatus, you have to install it in parallel. Then, supplying or not the apparatus , you could also supply or not the CD-34. See the schedule.



TECHNICAL CONSULTATIONS.

If you have any doubt, you could contact your wholesaler or our Technical Department.
- Via E-Mail, **sat@cebek.com** | 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 with 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.
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WARRANTY 3 YEARS