

ELTEC

FS2
INSTRUCTION MANUAL

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INTRODUCTION

The FS2 is a highly versatile programmable DC flasher.

Electrical Specifications:

- ▶ Input voltage range 11.4V DC to 30V DC
- ▶ Max load Power 40Watts per output circuit at 11.4 to 30V DC
- ▶ Operating Temp -40°C to +75°C

Physical Specifications:

- ▶ Length 5.5"
- ▶ Width 2.625"
- ▶ Height 1.64"

Functional Specifications:

- ▶ Flash Rate User Programmable for 35 to 70 flashes per minute.
- ▶ Flash Circuits User selectable via internal jumper for 1 or 2 circuits.
- ▶ Night Dimming Automatic via Photocell (may be disabled)
- ▶ Night Run only User selectable via internal jumper for Disabled or Enabled.
- ▶ Lamp Type User selectable via internal jumper for Halogen or LED.
- ▶ Duty Cycle User selectable via internal jumper for 40% on 60% off flash cadence (for single flasher mode) or it may be set to 50% on/off.

The FS2 is entirely microprocessor controlled which gives it this tremendous versatility, and low power consumption. The FS2 is intended for use in solar power applications, or in any application where there is a ready source of 11.4V-30V DC.

PROGRAMMING YOUR FLASHER

To program the FS2 you first need to remove the case cover.

With a Phillips screwdriver, remove the two black cover retaining screws and set them aside.

The cover should easily slide off.

Near one end of the printed circuit board (opposite the CPC connector) you should see a row of jumper pins.

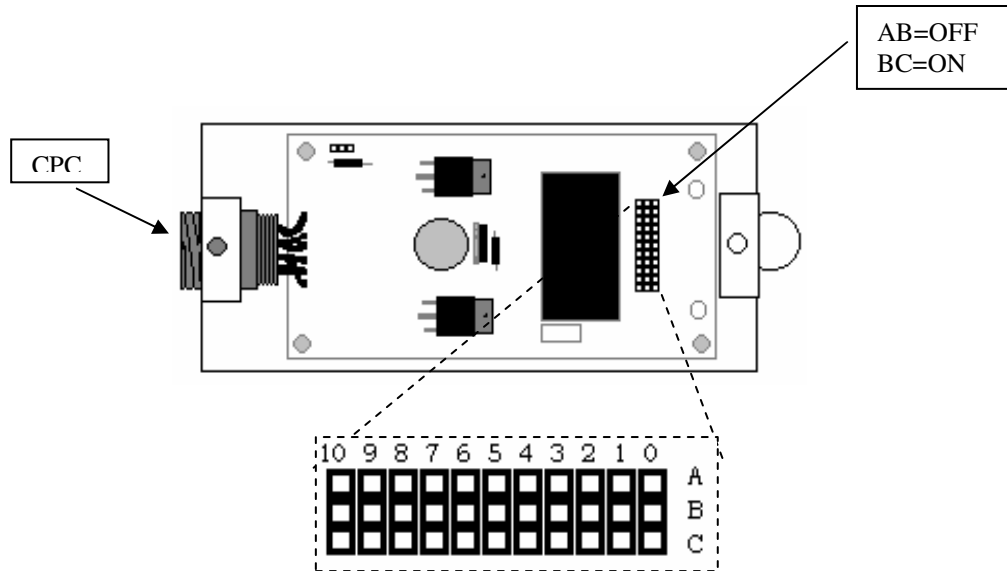


Fig. 1

Tables one and two show the jumper settings for each option. Table one contains the general settings and Table two contains the flash rate settings.

GENERAL SETTINGS

| PIN | ON (BC) | OFF (AB) |
|-----|-------------------|--------------------|
| 0 | 2 CKT FLASHER | 1 CKT FLASHER |
| 1 | 40% ON 60%OFF * | 50% ON/OFF |
| 2 | DIM ENABLED | DIM DISABLED |
| 3 | NIGHT RUN ENABLED | NIGHT RUN DISABLED |
| 4 | LED LAMPS | HALOGEN LAMPS |
| 5 | NOT USED | |
| 6 | NOT USED | |
| 7 | NOT USED | |

Table 1

* 40% ON 60% OFF Is effective only if the unit is set to work as a one circuit flasher.

FLASH RATE SETTINGS

| PIN | FLASHES PER MINUTE | | | | | | | |
|-----|--------------------|-----|-----|-----|-----|-----|-----|-----|
| | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
| 8 | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| 9 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| 10 | ON | ON | ON | ON | OFF | OFF | OFF | OFF |

Table 2

Remember, when changing your flasher setup, that a jumper across pins A and B = OFF and a jumper across pins B and C = ON.

SELECTING LED LAMPS OR HALOGEN LAMPS.

HALOGEN LAMPS



LED LAMPS



SETTING FLASH RATES.

Set the flash rates per table 2.

EXAMPLE:

For a flash rate of 45 Flashes/Minute.



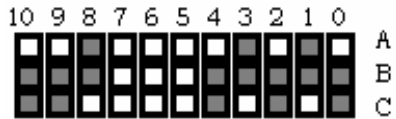
For a flash rate of 60 Flashes/Minute



EXAMPLE

This is what the jumper block would look like on a flasher set up for:

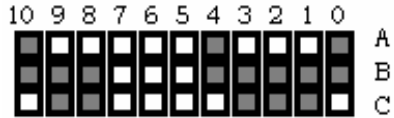
- 2 circuit operation
- 50% on/off
- Dim enabled
- Night Run disabled
- LED type lamps
- Flashing at 40 flashes/minute



EXAMPLE

This is what the jumper block would look like on a flasher set up for:

- 1 circuit operation
- 40% on 60% off
- Dim enabled
- Night Run enabled
- Halogen type lamps
- Flashing at 55 flashes/minute



SELECTING RELAY/SWITCH CONTROLLED OPERATION OR CONTINUOUS FLASH

Another small set of jumpers is located at the opposite end of the circuit board, near the CPC. These Jumpers allow you to select continuous flash or relay/switch controlled operation.

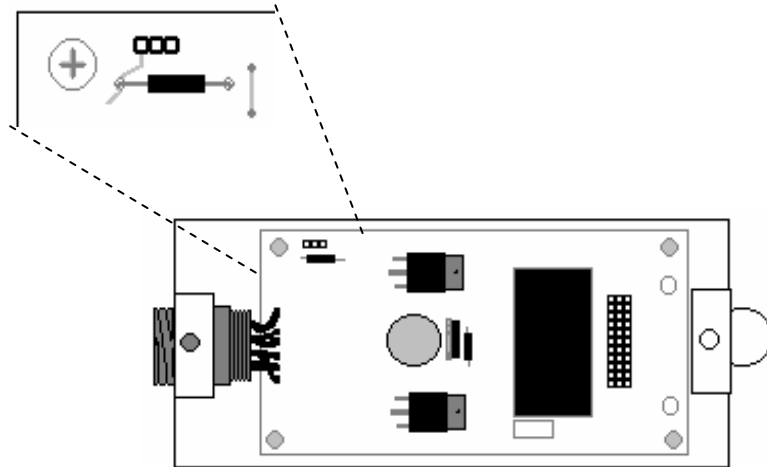
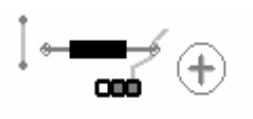


Fig 2

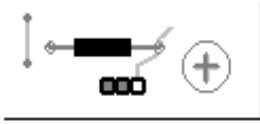
TO SET THE FLASHER TO FLASH CONTINUOUSLY

If the flasher is set to continuous flash it will ignore any switches or relays which may be connected.



TO SET THE FLASHER TO RELAY/SWITCH CONTROLLED OPERATION.

In this mode, the flasher will operate only if the controlling relay or switch is closed. The switch or relay must be connected across pin SEVEN and pin NINE of the CPC.



After programming is finished, replace flasher cover and screws.

NIGHT DIMMING

When your flasher is set for night dimming it will constantly be evaluating the brightness of light at the photocell. It will not react to brief increases or decreases in light levels (such as a passing car headlights or someone walking by the photocell); a built-in filter constantly averages the amount of light appearing at the photocell. This light level must change for a number of seconds before the filter will trigger a change in lamp intensity.

If the filter detects that the light level at the photocell has changed and has remained changed for several seconds, then it will begin dimming the lamps proportional to light level in steps beginning at 80% then 60% and so on, down to 33% (full dim). The unit should reach full dim at around 2FC +/- 10%.

If you cover the photocell to test the dimming it may take more than a minute for it to reach full dim. When exposed to light after being at full dim, the lamp intensity will be increased from 33% up to 100% (full bright) at about the same rate.

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YOUR FLASHER IS SET FOR:

Number of circuits _____
Cadence _____
Dim Option _____
Night Run Option _____
Lamp Type _____
Flash Rate _____

WIRE /CONNECTOR PIN OUT:

| PIN | COLOR | FUNCTION |
|------------|--------------|-----------------------|
| 1 | Blue | Flash 1 Output |
| 2 | Orange | Flash 2 Output |
| 3 | White/Red | Photocell |
| 4 | White/Black | Photocell |
| 5 | Red | +12V to +32V DC input |
| 6 | Black | DC Common / Negative |
| 7 | Yellow | To External Relay N/O |
| 8 | White/Yellow | External Relay Common |