

# MCS-DMF

## Documentation & Installation Guide



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## 1) Specification

### 1.1) **Absolute Maximum Ratings**

- Supply Voltage: 36 Volts DC max.
- Supply Current: Max 20 Amps with inline fuse connected.
- Operating Current: System activated, no load connected to outputs
  - Typical: 20 milliamps. (@13.8VDC, no peripherals attached)
  - Max: 22 milliamps. (@13.8VDC, no peripherals attached)
- Standby Current: Pause input not activated
  - Typical: 13 milliamps. (@13.8VDC, no peripherals attached)
  - Max: 15 milliamps. (@13.8VDC, no peripherals attached)
- Standby Temperature: -20 Deg C – 70 Deg C
- Operating Temperature: -20 Deg C – 65 Deg C

### 1.2) **Power**

- 1 x Red wire (connected to permanent supply or a switched supply)
  - This **MUST** be fused with a 25 Amp fuse. This line should be rated to handle 20 Amps or more if it needs to be extended.
- 1 x Black wire
  - The ground chassis line should be rated to handle 2 Amps or more if it needs to be extended.

### 1.3) **Digital Inputs**

- Grey Wire x Positive Switched (Pattern Select)
- Orange Wire x Positive Switched (Pause)
- Yellow Wire x Positive Switched (Steady On)

### 1.4) **Analog Monitoring**

- Incoming system voltage sense.
- Current of each output is monitored.

### 1.5) **Outputs**

- 2 x Hi Current output switching drivers with current protection.

## 2) Installation Requirements

- 2.1) Supply line **MUST** be protected with 25 Amp fuse or lower, preferably at (or near to) the battery terminal.
- 2.2) Make sure that enclosure is mounted firmly to a heat dissipating surface if output loads exceed more than 6 amps.
- 2.3) For installation in the United Kingdom: Interference possible in TRACKER band (163-165MHz) and UHF Analogue Band (450-470MHz). Email CADT for more details if required.

**The above installation requirement must be followed for safe operating and extended product lifetime**

### 3) System Description

#### 3.1) *The System*

The MCS-DMF operates on the same principals as a Head Light Flasher with a few extra options. The steady input allows the operator to stop the flash pattern at any point and to turn both outputs on at the same time. The select input allows the operator to select what flash pattern they want the outputs to indicate, while the pause input at the moment is used to pause the unit with both outputs off. Both outputs have an LED indicator connected to them which allows the operator to see what flash pattern has been selected without actually having to connect to the vehicles headlamps.

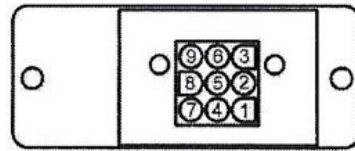
Flash patterns are selected by holding the select wire to VCC red wire when applying power. After 2 seconds remove the select wire from VCC red wire and use it to select the required pattern by momentarily touching it to VCC red wire. The pattern is saved into memory by cycling the power to the VCC red wire.

There are 11 selectable flash patterns as below:

- 60 BPM
- 90 BPM
- 120 BPM
- Penta Slow
- Pent Medium
- Penta Fast
- Penta Pulse Slow
- Pent Pulse Medium
- Penta Pulse Fast
- Multi Flash
- Cyclic Flash

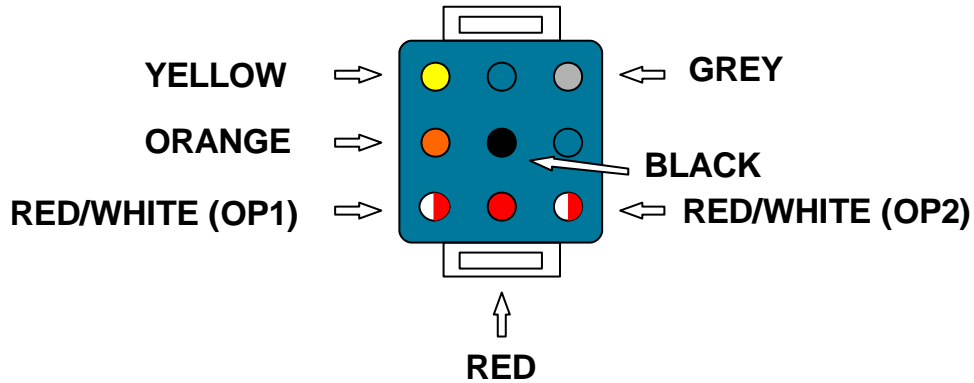


## 4) Wiring



Wiring diagrams:

- |             |           |                   |
|-------------|-----------|-------------------|
| 1. STEADY   | 4. N/C    | 7. SELECT PATTERN |
| 2. PAUSE    | 5. BATT - | 8. N/C            |
| 3. OUTPUT 1 | 6. BATT + | 9. OUTPUT 2       |



- |                  |   |                   |                  |   |                 |
|------------------|---|-------------------|------------------|---|-----------------|
| <b>YELLOW</b>    | - | <b>STEADY</b>     | <b>RED/WHITE</b> | - | <b>OUTPUT 2</b> |
| <b>ORANGE</b>    | - | <b>PAUSE</b>      | <b>BLACK</b>     | - | <b>GND</b>      |
| <b>RED/WHITE</b> | - | <b>OUTPUT 1</b>   | <b>GREY</b>      | - | <b>SELECT</b>   |
| <b>RED</b>       | - | <b>+ 12 / 24V</b> |                  |   |                 |

## 5) Version History

<i>Version</i>	<i>Changes</i>	<i>Responsible Person(s)</i>	<i>Date</i>
1V0	Original Version	SW	01 Sept 2014