

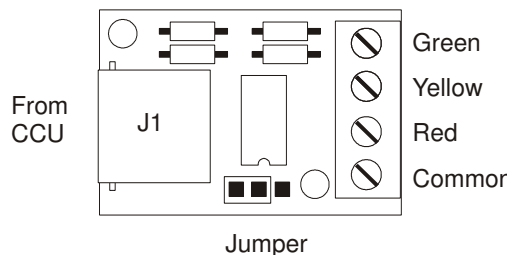
# DATA SHEET

## Three Aspect Signal Module SD-004

The Model SD-004 Three Aspect Signal Module provides connection to a three aspect signal from the Model SD-001 Central Control Unit. It is designed to work with signals that have Light Emitting Diode (LED) lamps fitted. It also provides the voltage control for the LEDs in the signal. The module requires two DCC addresses for operation.

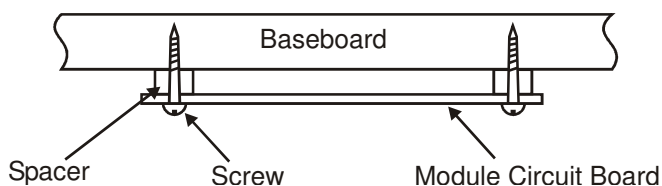
### Specifications:

- Controls one three aspect signal
- Uses two DCC accessory addresses
- Input Voltage – 5 Volts DC supplied from the central control unit
- Input Signal – On/Off switching for each lamp
- Maximum Output Current – Red LED 9 mA, Green LED 16 mA, Yellow LED 16 mA



**Figure 1 Three Aspect Signal Module**

### INSTALLATION



**Figure 2 Module Mounting**

Mount the module in a position close to the signal to be controlled. Use the screw holes provided in the board to mount it but do not fix the screws too tightly or the board may be damaged.

The use of spacers as shown in Figure 2 is recommended.

The signals can be wired as either common anode or common cathode. Set the jumper as shown in.

Connect the common legs of the LEDs to the terminal on the module designated Common, as shown in Figure 1.

Connect the other leg the green LED to the terminal on the module designated Green, as shown in Figure 1.

Connect the other leg of the yellow LED to the terminal on the module designated Yellow, as shown in Figure 1.

Connect the other leg the red LED to the terminal on the module designated Red, as shown in Figure 1.

**Caution – Do not connect more than one signal to the module output or use filament (grain of wheat) light bulbs. This will permanently damage the central control unit.**

Connect the module to the central control unit with a telephone style cable as described in the following section.

**OPERATION**

Two decoder addresses are required for operation. When both addresses are set to high output the signal is set to red. When the first address is set to high output and the second address is set to low output the signal is set to yellow. When the first address is set to low output and second address is set to high output the signal is set to green. Both addresses set to low is an illegal state.

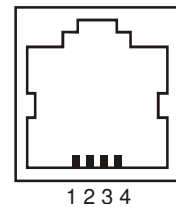
	Accessory Address 1	Accessory Address 2
Red Signal	High (On)	High (On)
Yellow Signal	High (On)	Low (Off)
Green Signal	Low (Off)	High (On)

**CONNECTING TO DECODER**

Connecting from the decoder to signal module is done by using four core telephone cable fitted with RJ11 connectors. Cables of the correct length and orientation are required.

The signals assigned to the pins of the RJ11 connector are detailed in Figure 3.

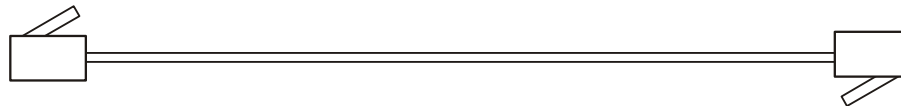
As the connector pins have the same orientation on both the decoder and the control modules, it is necessary to reverse the connectors on the cable, as shown in Figure 4.



**Figure 3 RJ11 Pins**

Cables can be made with the use of a crimping tool or purchased, in either case ensure that they are the cross over type.

To make the connection, simply plug one end of the cable into the decoder and the other into the signal module.



The plugs are reversed

**Figure 4 Cable Orientation**

**SETTING THE JUMPER**

A jumper is provided on the module to allow it to be set to operate with common cathode (negative) or common anode (positive) wiring for the signals. For common cathode place the jumper over the two pins closest to the signal connection screw terminals. To set the jumper for common anode place it over the two pins closest to the input jack J1. The module is supplied set for common anode.