

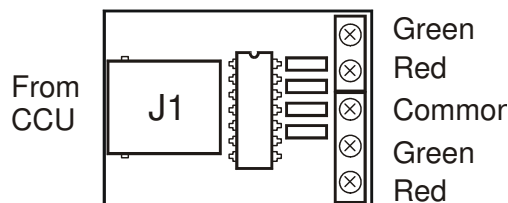
# DATA SHEET

## Two Aspect Signal Module SD-003

The SD-003 two aspect signal module provides connection to two, two aspect signals under the control of the 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 required for operation of the LEDs in the signal.

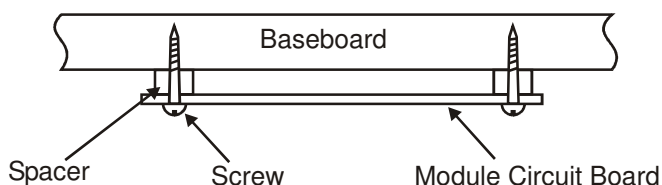
### Specifications:

- Controls two, two aspect signal
- 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



**Figure 1 Two Aspect Signal Module**

### INSTALLATION



**Figure 2 Module Mounting**

Mount the Module in a position central to the two signals 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.

Connect the signal module J1 to the required output of central control unit using telephone

style connectors and cable. The type of connector and cable is described later in this data sheet.

Connect the wire from the positive (anode) of the green LED for each signal to the respective terminal designated Green, as shown in Figure 1. Also refer to Figure 5.

Connect the wire from the positive (anode) of the red LED for each signal to the terminal designated Red, as shown in Figure 1. Also refer to Figure 5.

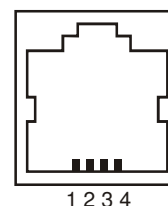
Connect the negative (cathode) wires of all of the LEDs to the terminal designated Common, as shown in Figure 1. Also refer to Figure 5.

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

### CONNECTING TO CENTRAL CONTROL UNIT

Connecting from the central control unit to the 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.

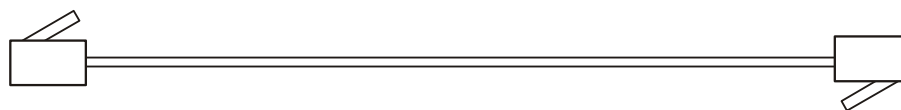


**Figure 3 RJ11 Pins**

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.

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.

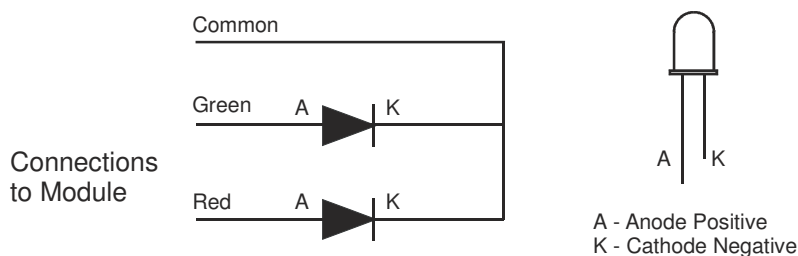


The plugs are reversed

**Figure 4 Cable Orientation**

### SIGNAL WIRING

The accessory decoder and signal module are configured in the factory to operate with signals that are fitted with LEDs wired with common cathode. Figure 5 shows the required method of wiring.



**Figure 5 Signal Wiring**

On some commercial signals, separate ground wires are provided for each LED. In this case connect both ground wires to the common terminal. Another variation for signal wiring is to use only two wires so that applying power to each wire in turn brings on only one light. In this case wire to the red and green terminals shown in Figure 1 and leave the common terminal unconnected.

#### NOTE:

If your signals are wired as common anode it will be necessary to move the jumper that is located next to the RJ11 input jack to the other pins. In this case you may also have to change the red and green wiring to the opposite of that shown in Figure 1.