

DATA SHEET

Station Control Module MD-005

The MD-005 station control module provides semi automatic signalling at a through station on a model railway. It is designed to work with two aspect signals that are fitted with LED indicator lights. The module requires a separate power supply for operation.

Specifications:

- Controls two 2 light signals
- Can also control an isolated track section
- Input Voltage – 12-16 V DC from separate source
- Signal LEDs are driven directly – no need for separate resistors
- Operates with common anode (positive) or common cathode (negative) LED wiring

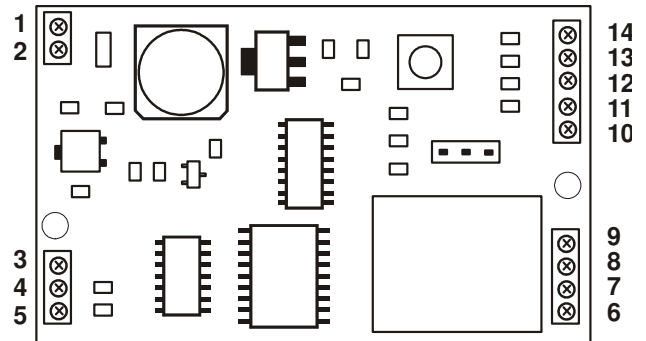


Figure 1 Station Control Module

INSTALLATION

Mount the Module in a position near the station 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.

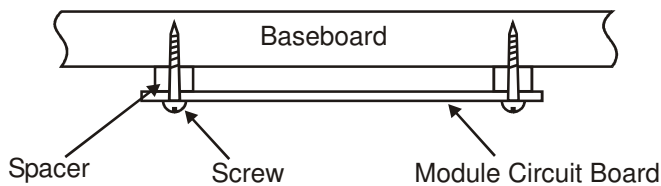


Figure 2 Module Mounting

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

Installing the Sensors

Drill a hole through the baseboard positioned in the middle of the track between the sleepers 25 mm to 50 mm down line from the signal position.

Mount the sensor in the hole so that its top is approximately level with the top of the sleepers or ballast. Seal under the sensor with 'Bluetack', or

similar, to hold the sensor in place and block any light from entering underneath.

Connect the sensor wires to the correct terminals on the module – the sensors are not polarised, the wires can be connected to either terminal.

Wiring

Connect wiring to the module in accordance with Table 1.

Take care to ensure that the power is connected correctly as incorrect connection may damage the module.

Only use a regulated and filtered power supply with a DC output of 12 to 16 Volts. The module requires a maximum of 500 mA for operation.

The sensors are connected to terminals 3, 4 and 5. One leg of each sensor is connected to terminal 4 or 5 and the other legs of the sensors are both connected to terminal 3. The sensors are not polarized.

Terminals 6 and 7 are only used if an isolated section of track is included in the installation, this is an optional feature.

The pushbutton switch needs to be a single pole single throw (SPST) normally open (NO) type wired to terminals 8 and 9.

Terminals 11 to 14 supply power to the signal lights. The light colour controlled depends on whether the LEDs are wired common anode or common cathode, refer to Figure 3.

Table 1 Wiring Details

Terminal	Connection Details
1	Power Supply Negative
2	Power Supply Positive
3	Sensor Common
4	Starter Signal Sensor
5	Home Signal Sensor
6	Starter Signal Set Pushbutton switch
7	Starter Signal Set Pushbutton switch
8	Track Isolation
9	Track Isolation
10	Signal Lights Common
11	Common Anode - Starter Signal Green Light Common Cathode - Starter Signal Red Light
12	Common Anode - Starter Signal Red Light Common Cathode - Starter Signal Green Light
13	Common Anode - Home Signal Green Light Common Cathode - Home Signal Red Light
14	Common Anode - Home Signal Red Light Common Cathode - Home Signal Green Light

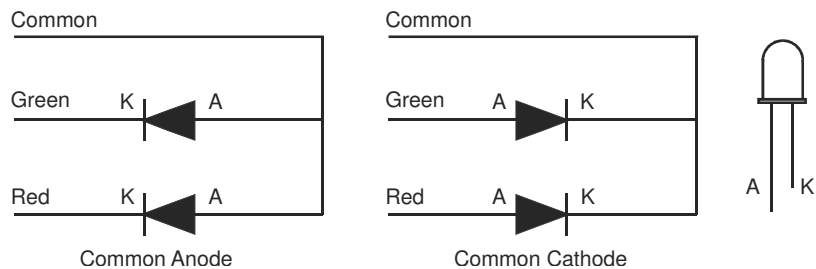


Figure 3 Signal wiring

There is a jumper on the module (located alongside the relay) that is used to configure the LEDs for common anode or common cathode. The jumper is factory set for common anode, if common cathode is required move the jumper to the other pins.

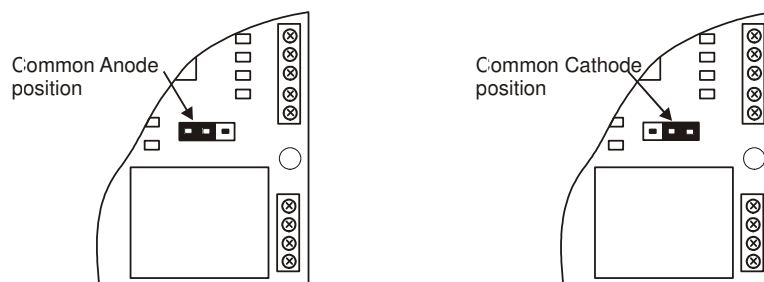


Figure 4 Jumper Settings

The module is also fitted with a trim pot that allows the sensitivity of the sensors to be adjusted to cater for level of the ambient light in the area of the model railway layout. The trim pot is located between the power and sensor terminals and can be adjusted by turning the small screw that is on top of it. This is a multi turn adjustment.

The LED fitted to the module will flash when the unit is first powered up to indicate correct initialisation. After initialisation the LED will indicate the state of the isolated section of track. When the isolated section of track is powered the LED will be on and when the track is not powered the LED will be off.

The pushbutton switch, located near the LED, can be used to reset the module if required.

OPERATION

The sequence of operation of the module is as follows, refer to Figure 5.

1. Initially the home signal is set to green and the starter signal is set to red.
2. As the train approaches the station and passes the home signal it trips the home signal sensor and the signal sets to red.
3. At the same time the isolated section of track (if fitted) is deactivated.
4. The train enters the station and stops at the starter signal, either automatically at the isolated track section or manually under driver control.
5. When the train is clear to leave the station, the starter signal set pushbutton is pressed.
6. The starter signal is set to green and the isolated track section is activated and the train can leave.
7. As the train passes over the starter signal sensor it trips and sets the starter signal to red and home signal to green ready for the next train to arrive.

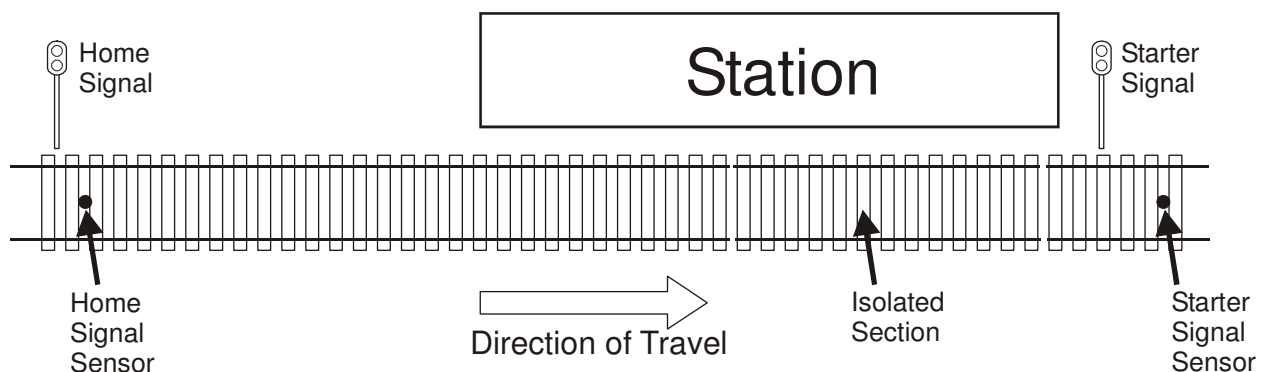


Figure 5 Installation Configuration

**Visit our website for more information about model railway accessory decoders –
www.railconmodels.com**