



Crossing Signal Controller and Detection Circuit

949-4359

Thanks for purchasing this Walther's SceneMaster® accessory. Please take a few minutes to read these instructions and study the wiring diagram before starting hook-up.

PLEASE NOTE THE FOLLOWING:

- This unit is designed specifically for use with Walther's Crossing Signals (sold separately). Walther's signals use LEDs; check specifications before use with other manufacturers' LED signals.
- This unit is only for use on DC-powered layouts — DCC systems can damage the controller.
- This unit is designed to operate two crossing signals on a single track. It can operate a maximum of four Walther's crossing signals. More than this can overload the controller.
- If you are modeling a crossing with two or more parallel tracks, each track must have its own controller and signals.

HOOKING UP THE CONTROLLER

Connect the controller to the signals and power pack as shown in the wiring diagram. Make sure to hook up the track power wires to the track. Using a small bladed screwdriver, loosen the controller screw terminals, place the stripped ends of the wires into the appropriate holes as shown and tighten the screw terminals.

INSTALLING OPTICAL SENSORS

Use the enclosed diagram as a guide; the sensors can be placed closer or farther from the crossing as needed.

Sensors A and D turn on the signals as a train approaches. For realism, place them far enough away from the crossing so the signals have time to activate before the train crosses the road. Sensors B and C turn the signals off and should be within an inch or two of the road crossing.

The sensors are sized to fit between the ties of HO Scale track — place them face-up in the centerline as shown.

The sensors are activated by the shadow of a passing train. Once installed, you'll need to adjust their sensitivity to work properly with your room lighting.

- 1) Turn the all four knobs completely to the left (counterclockwise).
- 2) Working from the right, turn the knob labeled VRA $\frac{1}{4}$ turn (90°) clockwise. This adjusts the sensitivity of the optical sensor.
- 3) Turn the knob labeled VRC $\frac{1}{4}$ turn (90°) clockwise.
- 4) Roll or run a car or locomotive from right to left through the installation. The signals should turn on when the train passes over sensor "A," and turn off when it has passed sensor "C."
- 5) Repeat the process, adjusting knobs VRB and VRD and run a test car or loco from left to right. For this test you'll have to change your track polarity by flipping your power pack direction switch.

TROUBLESHOOTING

Problem: No response from the signals when running test train/equipment over optical sensors.

Solution 1: Make sure power pack is plugged in and turned on.

Solution 2: Check to see that all wires are properly connected according to the diagram.

Solution 3: Check the optical sensors to make sure they're pointed up from between the ties.

Solution 4: Turn the variable resistor (VR) knobs on the control unit further clockwise to increase the sensitivity of the sensors and run a test train again.

Solution 5: If there's still no response, check the polarity of the track power wires going to terminals "R" and "L." The track polarity (direction of train travel) determines which sensors are active.

Problem: Crossing signals activate when there is no train in the sensor area.

Solution 1: Adjust the variable resistor (VR) knobs counterclockwise (left) to make the sensors less sensitive to shadows from people walking by, trains on other tracks, variable room lighting, etc.

Solution 2: Check for dirt or debris covering the sensor.

Problem: Signals turn on as train passes over the last sensor.

Solution: Track wires are reversed, reconnect them and try again.

INSTALLATION TIPS

1) Most prototype crossing signal installations for a two-way street have two signals, one on each side of the track as shown in the wiring diagram.

2) One-way streets require only a single signal facing the direction of traffic.

3) When tracks cross a four-way street intersection, there is usually one signal on each corner of the intersection to protect all streets leading across the tracks.

4) In small towns where there are several closely spaced grade crossings, signals are activated in groups. To simulate this you can place two signals at each crossing and control pairs of crossings from one controller. You'll have to install sensors B and C (yellow and red) on either side of your pair of crossings, not after each individual street. You can only control one pair of grade crossings per controller because it can only power up to four signals.

To see the complete line of Walther's SceneMaster® signals and lights, or for more ideas about adding detail to your layout, ask your dealer, visit walthers.com or see the latest Walther's HO Scale Model Railroad Reference Book.

(See reverse side for installation diagram)

Installation Diagram

