CAUTION-ELECTRICALLY OPERATED PRODUCT

NOT RECOMMENDED FOR CHILDREN UNDER 14 YEARS OF AGE. AS WITH ALL ELECTRIC PRODUCTS, PRECAUTIONS SHOULD BE OBSERVED DURING HANDLING AND USE TO PREVENT ELECTRIC SHOCK. INPUT: 120 VAC 60Hz 22W. OUTPUT: DC 16V 1000mA 16VA

LARGE SCALE
OPTICAL AUTO-REVERSING SYSTEM
Instruction Guide

Please read these instructions for the quickest setup and best train performance before operating your system.

The Bachmann Large Scale Optical Auto-Reversing System brings automatic point-to-point operation to your railroad. Set up your system, add your motive power, and watch as it operates back and forth at your specified speed and stopping intervals between two destinations up to 20' apart.

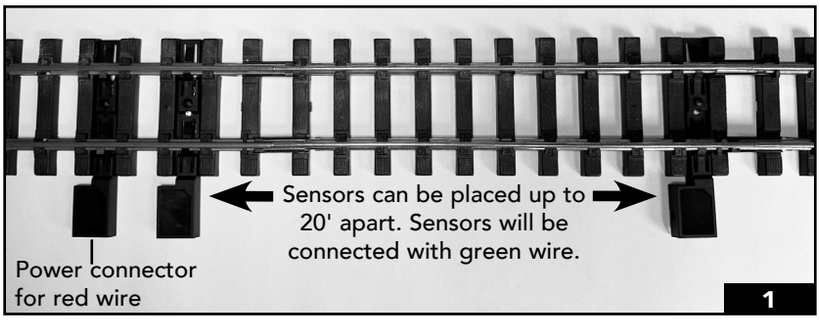
Included in this set:

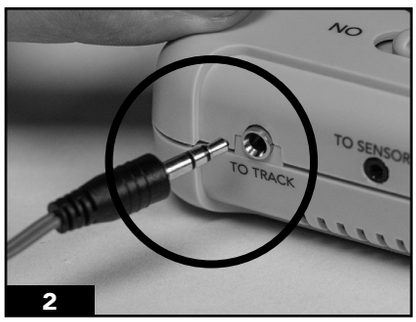
- Large Scale Auto-Reversing Speed Controller & wall power pack
- power connector with track clip
- 2 optical sensors with track clips
- 3' red power wire
- 20' green sensor wire
- black double-ended sensor-to-controller wire

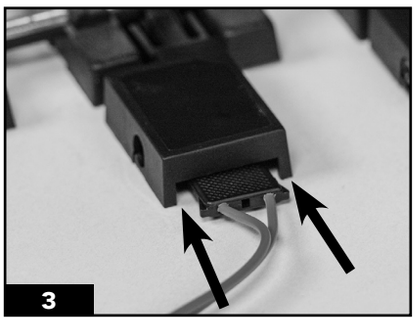
Please Note
The Bachmann Large Scale Optical Auto Reversing System will work on all metal 45mm track but is designed for indoor use only. Do not operate on outdoor model railroads.

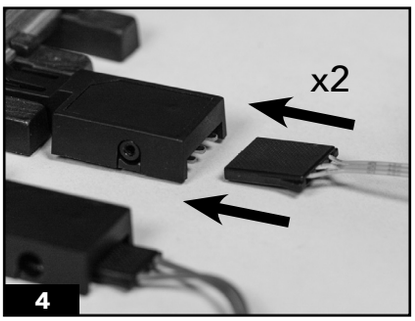
SETTING UP YOUR OPTICAL AUTO-REVERSING SYSTEM

Before beginning the setup process, identify a section of track you wish to use for your Auto-Reversing system. There should be no other power source feeding the track segment. If you plan to use your system on a portion of a larger layout, an electrically isolated section of track will be needed. Begin by installing both optical sensors and the power connector to the track and make sure the clips are securely fastened before proceeding (figure 1). The optical sensors can be placed at your discretion, provided they are no more than 20' from each other for wiring purposes.

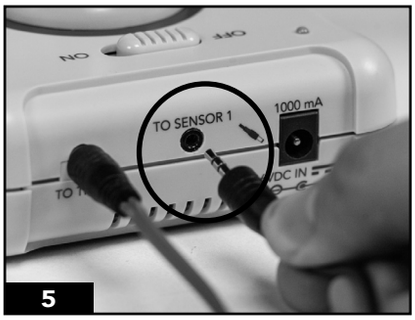


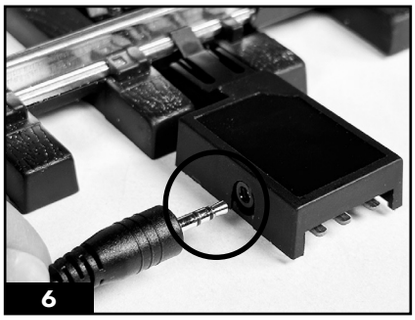


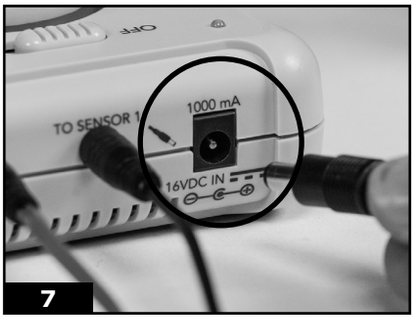




Once the power connector and optical sensor track clips are installed at your desired locations, connect the power connector clip to your speed controller using the red power wire (figure 2). Ensure the wire is fully connected at each end, as a loose connection can cause your system to function incorrectly (figure 3).
With your optical sensors already installed, you can now connect them to each other using the 20' green sensor wire (figure 4). Once this is done, connect the closest optical sensor to your speed controller's SENSOR 1 port using the black double-ended sensor-to-controller wire (figures 5 and 6). You can connect this wire to either of the two sensors as convenient.

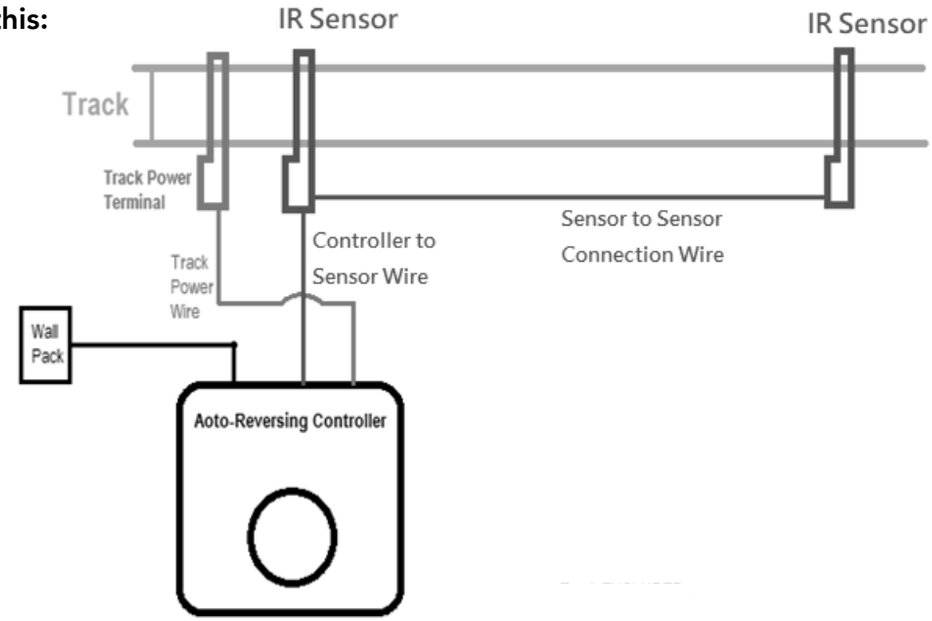






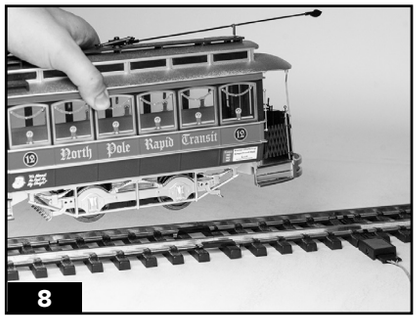
You can now add power to your system by connecting the power pack to the 16VDC IN port on your speed controller (figure 7) and plugging the wall pack into an outlet. The LED power indicator should light up green.

Your completed wiring setup should look like this:



OPERATING YOUR AUTO-REVERSING SYSTEM

Your Optical Auto-Reversing System is capable of operating any Large Scale locomotive or streetcar, providing you have the appropriate space to run it. **When placing your model on the track, make sure that it is BETWEEN the sensors and not covering them, as this will affect the desired operation of the system (figure 8).**



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The speed controller allows you to adjust both the speed of the train between the sensor points and the dwell time it has at each end. You can bring your model up to your desired speed by turning the dial on the front of the controller clockwise. **To ensure the sensors have enough time to stop the model and so as not to overshoot them, you should operate at an appropriate speed for your reversing track setup.** Do not manually stop your train using the control dial while it is over either sensor, as this may cause the sensor to send an incorrect signal to the model. To prevent the system from being tripped accidentally, there is a 0.8-second interval after each reversing occurrence where it will not register movement over the sensor. This is to allow the train to clear the sensor without tripping it more than once.

To vary the stop time at the sensor locations, use a small flathead screwdriver to access the control port on the underside of the speed controller (figure 9). Turn clockwise to increase the dwell time, and counter-clockwise to decrease it. The stop time can be varied between 1 and 30 seconds.

Please Note
As a safety precaution, if one of the two sensors is not tripped after 10 minutes, the controller will stop sending power to the track.

TROUBLESHOOTING

Green LED: Power is being received and the system is operating normally.

Red flashing LED: The speed controller is overheated and will not respond to commands until sufficiently cooled down. Once cooled, the LED will return to green, and operation can continue. Check and correct for any short circuits at this time.

Red/green alternating LED: The sensors have not been tripped for 10 minutes and the system has timed out. At this time, no power is being supplied to the track. The system can be reactivated by disconnecting the speed controller from power and reconnecting it.

DO NOT start or stop your train while over the optical sensors as this will cause erratic operation. ALWAYS assemble and start or stop your train between the sensors.

FOR SERVICE ASSISTANCE

IN THE EVENT YOU HAVE ANY DEFECTIVE OR DAMAGED PARTS, DO NOT RETURN THE COMPLETE SET TO THE STORE WHERE IT WAS PURCHASED. AFTER CHECKING ALL ASSEMBLY AND OPERATING PROCEDURES LISTED ON THIS SHEET, CALL BACHMANN AT 215-533-1600 Monday-Friday 8:30 A.M. - 4 P.M., Eastern Time, OR EMAIL service@bachmanntrains.com to detemine the appropriate course of action. THEN RETURN ONLY THOSE PARTS REQUIRING SERVICE TO:

BACHMANN SERVICE DEPARTMENT
1400 EAST ERIE AVENUE
PHILADELPHIA, PA 19124-5698 USA

As you might imagine, the holiday season is an extremely busy time for us.

Please be patient; your call will be answered.

We want you to enjoy your Big Haulers® product!

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