

## WARRANTY

Bridgewater provides technical support free of charge, regardless of how long you have had your controller. Sometimes an issue can be fixed over the phone, saving the cost of shipping and getting your railroad running faster.

Parts and labor are warranted for a period of 5 years. If your Bridgewater Product requires repair, ship it back to Bridgewater. We will repair or replace it and return it to you. If your warranty has expired or is not registered, there will be a charge for repair and shipping.

**Return Freight Policy:** Customers are responsible for return freight. You will be advised the amount when your unit is ready for return.

Warranty does not cover repairs to damage caused by misuse or abuse. Please do not leave this product outdoors: unplug the quick disconnect plugs and bring it indoors when it is not in use.

Be sure to keep the packaging just in case your unit ever does need to be returned for service. Some of our products are very heavy, and the special packaging is designed specifically to protect the internal parts and cosmetics of the product.

Please take a moment to fill out the Warranty card in the box or online at [Bridgewater.com](http://Bridgewater.com) and return it to us.

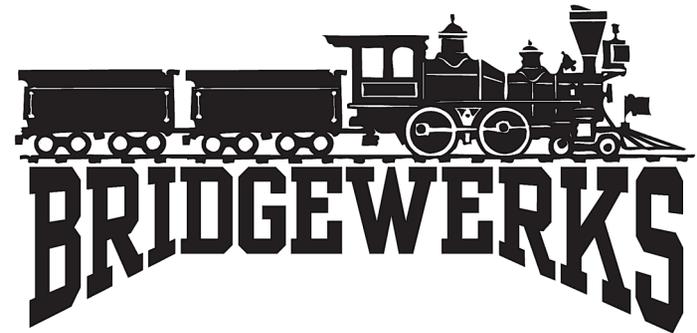
Thank you.

## BRIDGEWERKS

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## Morrison

User Manual



Family Owned and Operated since 1995

## History

The first products designed by Bridgewater were G-scale bridges made of riveted metal and built to last for years. When Dave Sauerwald began to design power controllers, the bridge-making portion of the business was sold off. In 2016, Dave passed control of the business to his son and daughter-in-law Mark and Sharon. The Morrison is the first Bridgewater product designed by Mark. Wanting to honor the early beginnings of the company, we will be using names of bridges in significant places to us. Morrison is a bridge in Portland Oregon where Mark proposed to Sharon.

## Connecting the Morrison to your layout

On the back of the Morrison, there are two connections - one for the power cord and one for the connection to the track. The Morrison will plug into a standard household outlet with an input of 110-120V. There is an ON/OFF switch just above the power cord connection. To connect to the track, there is an included 'Banana Plug' which will plug into the back of the Morrison. You can connect the cable going to your track to the banana plug and then plug it into the Morrison. Or you can connect the wires directly to the Morrison by unscrewing the red and black connectors on the back, poking the wire into the hole and then tightening the screw down. In either case, most locomotives will move forward if the wire connected to the red terminal is connected to the track on the right side of the locomotive as the engineer looks out of the cab



## Controls

**Directional Switch:** When the switch is in the right position, the locomotive will move forward. When the switch is in the left, it will move backwards and in the center is stop. Whenever the switch passes through the center position, the locomotive will stop for a few seconds. Momentum will be active when switching from forward to reverse. If you flip the switch from Forward to Reverse, the train will slow to a stop, then accelerate back up to the speed set by the throttle.

**Momentum:** The switch for momentum also has three positions – in the center momentum is off, to the left momentum is high and the LED is bright, to the right momentum is low and the LED is dim.

**Throttle:** Moving the throttle lever up will increase train speed. There is a mechanical speed limiter to set a maximum speed for safe operation of your trains.

## Fuses and protection

There are two separate ways that the Morrison power controller protects itself and your locomotives from damage. An internal resettable fuse will trip when the current going to the track exceeds 3A. This will automatically reset itself once the load has been removed. When this trips, the red overload light will come on.

There is also a conventional fuse on the power line. If this fuse should blow, it can be replaced by removing the power cord and using a small screwdriver to pull out the fuse drawer located just above the power cord insert (see Fig 1). The fuse is a "5x20 Cartridge Fuse" rated at 1.5A. You can see a wire inside the glass of the fuse. If the fuse is blown, the wire will be broken. There is a spare fuse within the fuse drawer which you can use to replace the burnt-out fuse (see Fig 2). Additional fuses are available either from an electronics supplier or from Bridgewater.

Figure 1



Figure 2

## Outdoor operation

Garden railways are often installed outdoors and Bridgewater controllers are built to be used with outdoor railroad layouts. However, they are not waterproof, and as with any electronic equipment, **they should not be left outdoors when not in use.** To make this easy, the connections are all made so that they can simply be unplugged and the controller can be carried indoors.