

# ModelSigns 3v Lighting Manual

Applies to MS-SLCUR, MS-SLSRA, MS-SLDBL, MS-FLSIN, MS-FLDBL and MS-FLTRI

**This product is not a toy. It is not recommended for use by children under the age of 14.**

**This product is for indoor use only.**

The instructions in this manual are designed to act as an suggestion only, please ensure you follow the correct safety procedure for any equipment or material used. We are not responsible for any damage caused to the product, your property or yourself as a result of these instructions.

## About the lights

Your new ModelSigns lights are fitted with LEDs, these are non-replaceable fixtures designed to have long, cool and low voltage operation. The lights you have purchased use 3v LEDs and are **NOT** fitted with resistors, we suggest you fit a resistor to the lights regardless of the voltage you intend to use to power them. By failing to install a resistor in series with the light you risk causing major damage to the LED chip. You should use a resistor value suitable for the voltage you intend to operate the lights on, you can work out which resistor value you should use on your circuit using the following formula, Resistor Value = (Source Voltage – 3) / 0.0175 , however you may wish to further increase the value of the resistor in order create a more realistic brightness and improve the longevity of the LED. These LEDs should only be used on **DC only**, do **NOT** use the AC accessory output from your controller. **We recommend using the ModelSigns Wiring Starter Kit to wire and power these lights. This can be ordered from ModelSigns.ChrisGGroup.co.uk**

## Installing the lights

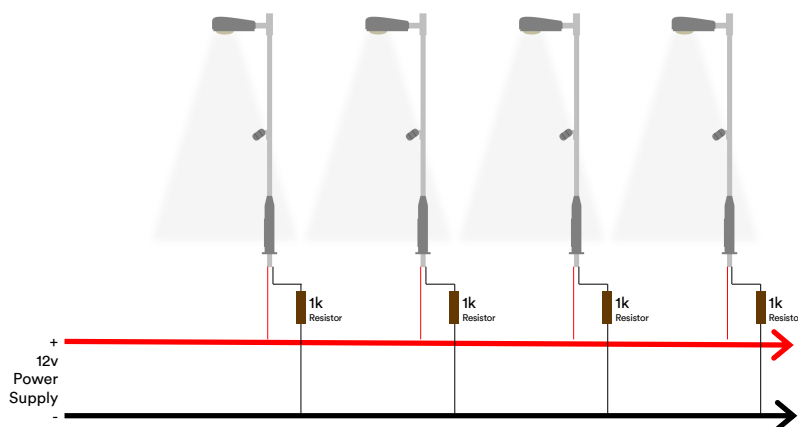
- 1) You should first prepare your layout for the installation of the lights. To begin with, mark the position in which you intend to install each light. In most situations we advise spacing them around 150-200mm apart, although be sure to check your prototype to achieve the most realistic effect. Make sure you will be able to drill though your baseboard in this location and that you're not going clash with a brace or point motor underneath the board.
- 2) Before installing, **if your light has an adjustable base**, fix this in position at your desired height using a small drop of an adhesive of your choice on the underside of the base to attach it to the centre column. You should take care to ensure the adhesive won't damage the plastic base, we usually use PVA.
- 3) Carefully drill through your baseboard in the marked locations using a drill bit that matches the diameter of the tube used for the column of the streetlight. This diameter can vary slightly from batch to batch so we recommend you check before drilling.
- 4) Once all holes have been drilled and your lights have been prepared for installation by attaching a resistor of a relevant value (see resistor information above) you can feed the wires through the hole you have drilled and put the light into your desired position. You can then, carefully, use an adhesive of your choice to fix the lights into place. You should take care to ensure that no damage can be caused from adhesive dripping through the hole by covering the area beneath your baseboard with a protective cover. **CONTINUED ON NEXT PAGE>**

- 5) Clamp/hold the light in place while the adhesive cures to ensure the light doesn't droop or move out of place.

### Powering the lights

The following information advises on how to wire these lights as part of a 12v accessory bus, the setup used by the ModelSigns Wiring Starter Kit, however you may choose to wire the lights differently.

The following is merely a suggestion and refers to the way in which we wire up accessories on our own layout having found it offers a good level of flexibility and expandability.



We have chosen to run a 12v accessory bus around the underside of our layout which is powered by a 12v DC 2A power supply with screw terminals to connect the positive and negative buses. The simplified diagram above shows how we have wired our lights to the bus supply. The lights are each connected in parallel with a resistor in series on the negative lead from the light. We have chosen to use 1k ohm resistors as we find these offer a realistic level of lighting on a 12v supply.

The lights come with very fine wires to make them as easy as possible to fit through the hole in your baseboard, although this may make them difficult to strip using automatic wire strippers, so to strip them you can either carefully scrape them with a craft knife or by gently rubbing them with a very fine abrasive.

We suggest using heat-shrink insulation sleeving to prevent shorts occurring where you have exposed wired underneath your layout. It is also advisable to keep your wiring short to avoid hanging wires which may be caught and accidentally pulled.

If you have any further questions or concerns feel free to get in touch through our website-  
[ModelSigns.ChrisGGroup.co.uk](http://ModelSigns.ChrisGGroup.co.uk)

Our YouTube channel “Ackworth Parkway” is going to become the place to go for ModelSigns product information and tutorials, so be sure to check it out!