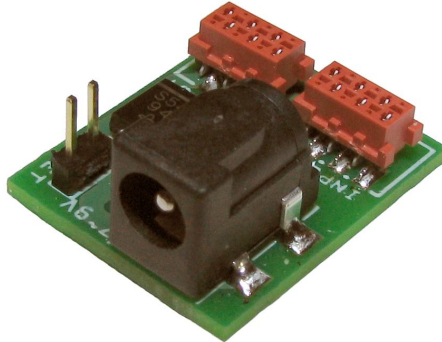


# Twinkler Power Repeater



The maximum current consumption of each Twinkler board is specified at 45 mA (when the Twinkler LED is full on). The ribbon cables and the connectors are specified at a maximum of 3.5 A at 20 °C. This means that a power line in a daisy-chain should be no longer than roughly 75 Twinklers. When chaining more than 75 Twinklers, a power repeater should be placed in the chain.

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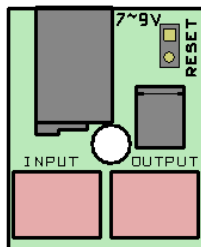
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## Overview

The power repeater has 4 connectors, for power, Twinkler bus input and output, and a “reset” pin header.



Power repeater board

### Power connector

The board must be externally powered. The DC power connector accepts a voltage between 6 V and 10 V; the recommended power voltage is between 7 V and 9 V.

The power connector is a standard low voltage power connector with a pin size of 2.1 mm. The pin is the plus pole.

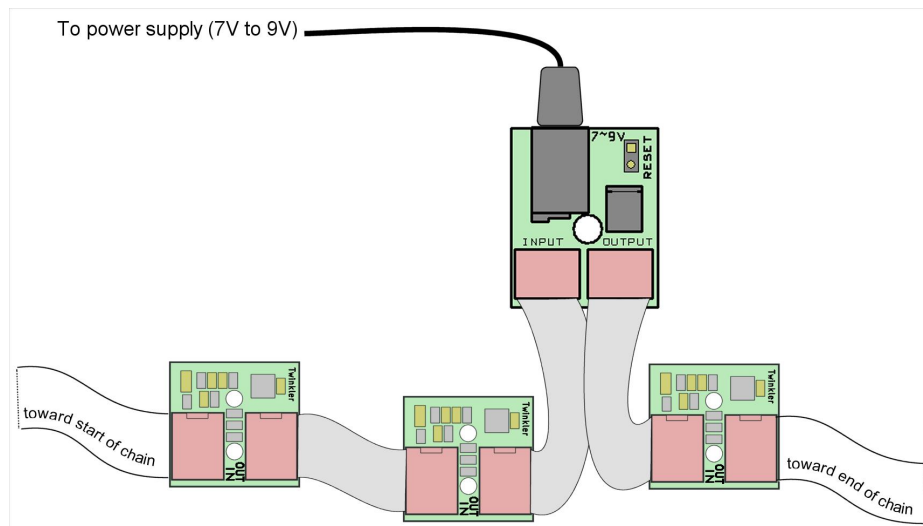


The required current of the power supply depends on the number of Twinklers being powered through the board. The interface can handle a maximum current of 4 A.

## *Input and output connectors*

The Micro-MaTch connector on the power repeater marked “OUTPUT” must be attached to the “INPUT” connector on the first Twinkler in a chain (see the above figure and the figure on the next page). The connectors have a polarity notch for proper orientation. For the appropriate 6-wire ribbon cable, see Accessories on page 4.

If the new chain must be connected to the end of another chain, the The Micro-MaTch connector on the power repeater marked “INPUT” must be attached to the “OUTPUT” connector on the last Twinkler of the preceding chain.



## *Reset pin*

The power repeater has a pin header to which a switch can be attached to reset the chain of Twinklers behind the power repeater. When the two pins are shorted, all Twinklers following the power repeater are reset. Each Twinkler will then restart the scenario that is configured in its non-volatile memory (if any).

The reset functionality allows to start or restart a scenario stored on the Twinklers through a simple push-button switch, and allow the Twinklers to run that scenario independently —without needing external control from, for example, a computer.

# Specifications

## *Absolute maximum ratings*

Operating voltage (Vcc)... -0.3 V to +10 V  
Input current..... 5 A

## *Electrical*

Operating voltage (Vcc)... 6 V to 9 V DC.

## *Operating conditions*

Operating temperature.... -40 °C to +125 °C .  
Humidity..... 5% to 90% non-condensing.  
Vibration..... solid-state device, no moving parts.

## *Mechanical*

Board size..... 23 mm × 28 mm.  
Weight..... 0.01 kg.  
Mounting..... one hole, Ø3.2 mm.

## *Conformity*

European Community..... This is a passive board, EMC regulations do not apply.  
U.S.A..... This is a passive board, EMC regulations do not apply.  
RoHS..... Compliant with EU Directive 2002/95/EC.

## *Accessories*

Daisy-chain cables..... 6-wire ribbon cable, 1.27 mm pitch, AWG28; current capacity: 3.5 A for Vcc and ground wires at an ambient temperature of 20 °C.  
Twinkler..... Twinkler LED controller (with RGB LED and provision for a light pipe).  
Power supply..... Switching power supply, 7.5 V, 4 A (Mean Well P40A), with 2.1x5.5 DC plug; input voltage 90V~264 V AC.