

Prop and Scenery Lighting, LLC

www.propscenerylights.com

Application Note: AN-1801

Wave Effects Control for LED lighting water simulation

P/N: WEC1



The WEC1 (Water Effects Control) is used for LED lighting special effects simulation of ocean wave and ripple appearance. The control provides 6 modes of different wave and ripple patterns. Each mode has 20 speed steps. The control is capable of 120 different combinations of effects. The control also has one static dimming mode. The control provides the following lighting effects modes: #1 Wave / Ripple (Shallow), #2 Wave / Ripple (Storm), #3 Wave / Ripple (Average), #4 Wave (Rough Surf), #5 Wave (Storm Swells), #6 Wave (Deep Swells), #7 Static dimming

For ocean water simulation blue and green LEDs can be used to provide the ocean blue water appearance. When multiple controls and lights are used, a dynamic simulated ocean water environment can be achieved. The faster speed setting of the control can also be used for fast flame flicker simulation when the appropriate color LEDs are used such as amber, orange, and red.

Power: The Water Effects Control has a maximum LED lighting load of 12 watts. For the voltage range of 5-12 volts DC the control has a maximum current rating of 1 amp. When battery operated, disconnect the battery before storage to prevent draining as the control has an idle current of 4-6ma. The control retains the last setting when the on/off function is used or when power is disconnected and reconnected. When an external power supply is used it must be 12 volts DC. The power connector needs to be compatible with the 2.1mm x 5.5mm DC barrel connector with a positive center connection.

Technical: The water effects control has a maximum wave / ripple speed of about 6.5 hertz (0.15 sec. period) nominal in mode #3 Wave / Ripple (Average), using the fastest speed setting. The other modes range from about 3 hertz (0.33 sec. period) to 5 hertz (0.20 sec. period) nominal for their fastest wave / ripple speeds. In the slowest speed settings mode #2 Wave / Ripple (storm) has the longest time between wave intensity peaks at about 0.1 hertz (10 seconds) nominal, with lower intensity ripples between the peaks at about 2 hertz (0.5 sec. period). Mode #6, Wave (Deep Swells) has no ripples, only a repeating wave with peak intensity at about 0.22 hertz (4.5 sec. period) at the slowest speed setting.

Applications:

- Escape room water theming
- Theme park character sea creature costumes
- Amusement park ocean themed projects
- Theatrical stage props and scenery
- Aquarium exhibit displays
- Ocean themed signage

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