

Instructions & Specifications: 4-Channel Dimmer, 7A per channel (84W @ 12VDC)

This dimmer is designed to operate up to four (4) channels of LED and incandescent lighting operating on 12-14.8VDC. It uses Pulse Wave Modulation (PWM) to provide precise dimming and a set of four (4) rheostats to control each individual channel.

To install, use the marked screw terminals to attach the color codes rheostat input wires for each channel. Use the output screw-terminals to connect each channels' output wires. See the PCB underside for output channel markings. Note that the rheostat shaft diameter is 6.75mm (17/64"). If a rheostat is not connected or installed incorrectly, the corresponding channel will not operate.

To protect your dimmer circuit, use a properly rated fuse between the dimmer and power source. Take care to ensure the dimmer does not contact surrounding metal structures or other wiring. Use the enclosed stand-offs for installation on a supporting structure. Under heavy load, ensure the dimmer has adequate ventilation to prevent overheating. If overloaded, the dimmer will shut off temporarily. To reset, remove power to the dimmer for a few moments to reset operation.

Specifications

Mode of Operation - Continuously variable, pulse width modulation (PWM). 100hz operating frequency

Supply Voltage—8 to 20VDC working voltage, Up to 30VDC momentary.

Output Voltage Range - From zero VDC to supply voltage

Output Current Range - Up to 7.0A per channel

Max Continuous Output Current - Full rated current up to 105 F (40C), 75% of rated current up to 115F (46C)

Ambient Temp Range - minus 40F (-40C) to 115F (46C), with restrictions as noted

DC-DC Conversion Efficiency - About 98% at full rated current, higher at lower current

Load Types - Optimized for resistive loads

Reverse Battery Protection - If input leads are reversed, the dimmer will not work. When the input leads are correctly connected, the dimmer will reset to normal work. Always use an external fuse to protect the dimmer and load.

Forward Transient Protection - MCU detects over-current within less than 0.1 seconds

Voltage Drift - Nil

Size - 2 3/8" x 2 1/8" inch. About 1" height without stand-offs.

Weight - About 1.3 oz without rheostats or wiring.

Load Regulation - Generally less than 3% from minimum load to maximum load at all settings

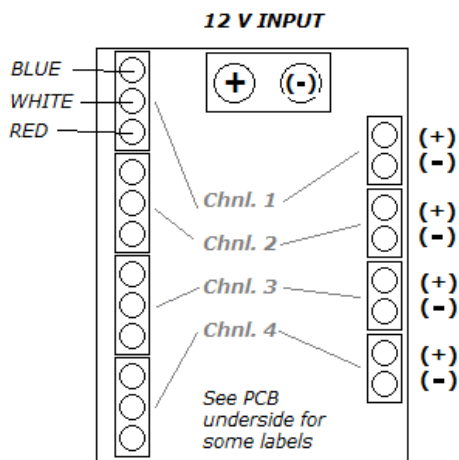
Line Regulation - Directly proportional to supply voltage

Power Dissipation of Drive Circuitry - Less than 0.1W. No load current draw is about 2mA. The dimmer is controlled by MCU that provides voltage regulation. When the dimmer is turned off, the power is not cut off completely. The power dissipation is still less than 0.1W

Current Limiting - If light source current exceeds protected maximum of 7.5A per channel, the dimmer will stop functioning. To reset, remove input voltage momentarily. Be sure to fix the cause of overload before resetting.

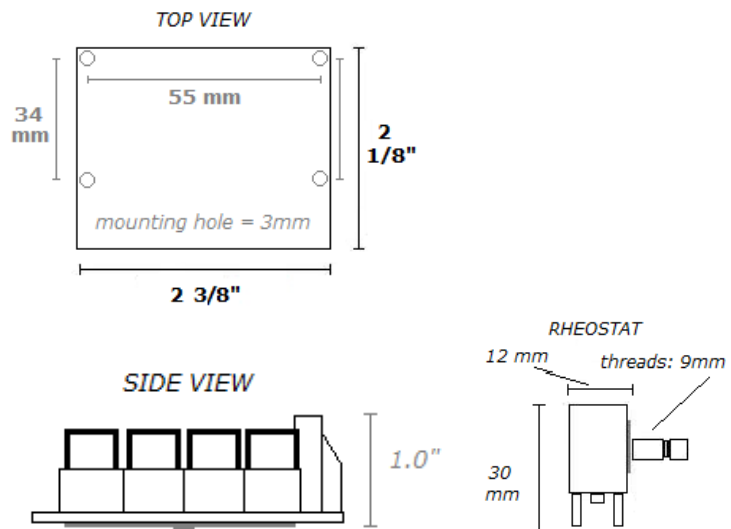
Accessories - Four (4) knobs with color-coded wire and Instruction/Wiring sheet

Wiring Diagrams



Britta Products LLC, Long Beach, CA
Part number: 12VDimmer-4CH-7A
Version: 1.0-2013

Mechanical Drawing:



Applications: Auto, Trucks, Boating, RVs, Experimental Aircraft
(NOT PMA approved for certified aircraft)

Made in China