Universal DMS Series Dimmer
Reference Manual

ILDMS-500-X
ILDMS-850-X
ILDMS-1200-X
Universal PWM Dimmer

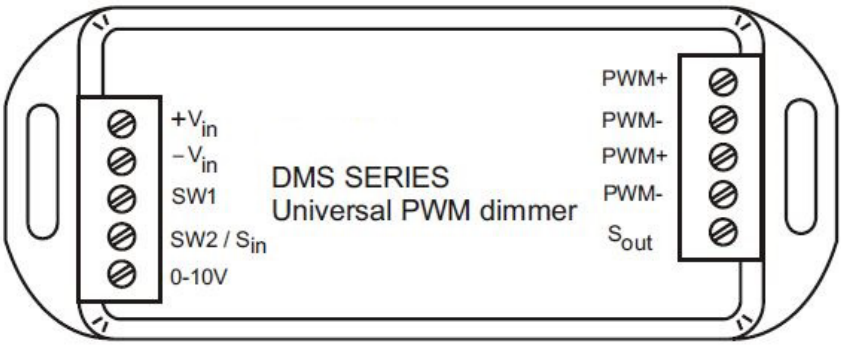
Overview

The ILDMS-500-X & ILDMS-850-X Universal DMS Series dimmer modules provide on/off and dimming control for a wide variety of marine LED lighting fixtures offered by Imtra including the full range of dimmable BCM lights. DMS dimmers feature Pulse Width Modulation (PWM), overload, overheating and short circuit protections.

The Universal DMS Series dimmers offer, single switch, up/down switch, potentiometer or 0-10V control options. Multiple DMS dimmers may be synchronized to control larger loads. The minimum brightness level is adjustable.

Specifications

	ILDMS-500-X	ILDMS-850-X	ILDMS-1200-X
Height	40mm (1.5”)		
Width	96mm (3.75”)		
Depth	20mm (0.75”)		
Input Voltage Range	6-30VDC		
Capacity	5 Amps	8.5 Amps	12 Amps
Control Interface	N.O. Contacts		
Connections	Screw Terminals 2mm^2 (AWG 14) max		
Diming Range	0-100%		
Temperature Range	0° C (32F) to 50° C (122F)		

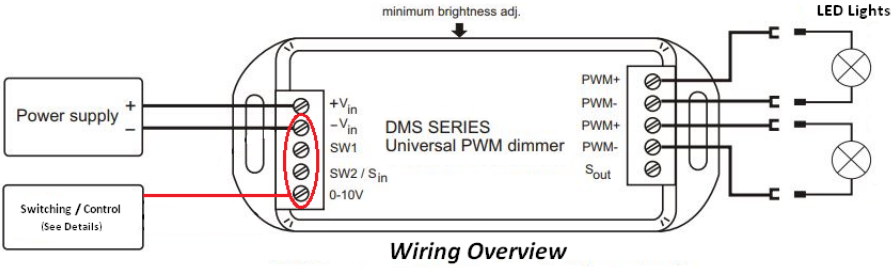


Installation

Dimmers may be mounted using screws, double-sided tape or wire ties. Ensure the dimmer is securely mounted in dry a location that will not exceed the maximum allowable temperature. Dimmers should be installed as close as practical to lights to keep output wires as short as possible.

Wiring

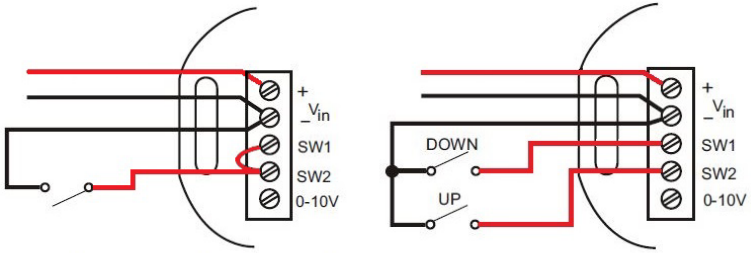
Before making any connections, be sure all power in the circuit is turned off at the breaker. To install the DMS dimmer, size all wiring for a voltage drop not to exceed 10% and connect the wires according to the following wiring schematics. Tighten all dimmer screw terminals and secure wires according to applicable standards such as ABYC. Output terminals PWM+ and PWM- are internally connected in parallel, either or both may be used. To minimize EMI, output wiring may be twisted and shielded. Failure to follow the wiring schematics exactly as shown will result in failure & permanent damage to the dimmer.



Wiring Overview

NOTE: both sets of PWM outputs are internally connected in parallel

Switching / Control Detail

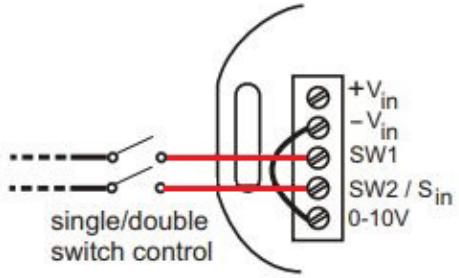


single switch control ***UP/DOWN switch control***

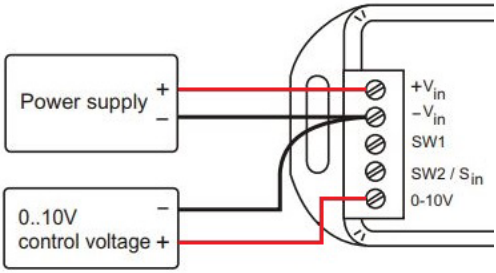
Note: Multiple single switches or up/down switches may be connected in parallel to allow operation of the dimmer from multiple locations.

Power Up Default:

When using momentary switches as wired in the two examples above, the dimmer will always power up in the "full on" state when powered up or recovering from power loss. If it is desired that the dimmer power up or recover from power loss in the "off" state, a jumper wire must be installed between the -Vin and 0-10V terminals as shown below.



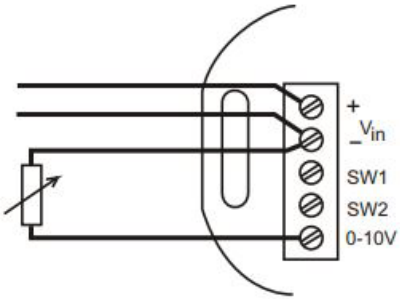
0-10V / Potentiometer Control



0-10V control

The Universal DMS Series dimmer may be controlled by 0-10 Volt 3rd party control systems when wired as shown above. Note: That the negative from the control system must be isolated from the power supply negative. Ensure the 0-10V control signal is stable. Avoid ground loops and keep the control wiring as short as possible.

A potentiometer may also used when wired between -Vin and 0-10V terminals.



potentiometer control

Power Up Default:

When using 0-10V or potentiometer control as wired in the examples above, the dimmer will always power up in the state set by the 0-10V signal or potentiometer resistance.

Operation

- For single momentary pushbutton operation
    - Tap any one pushbutton to turn on or off.
    - Press and hold any one pushbutton to dim up or down. To reverse direction, release and then press and hold again.
- For double momentary pushbutton operation
    - Tap the button wired to the UP terminal to turn on
    - Tap the button wired to the DOWN terminal to turn off
    - Press and hold any one of the UP or DOWN momentary pushbuttons to dim up or down.
- For 0-10V or Potentiometer control operation, please refer to the instructions provided with those systems or devices.

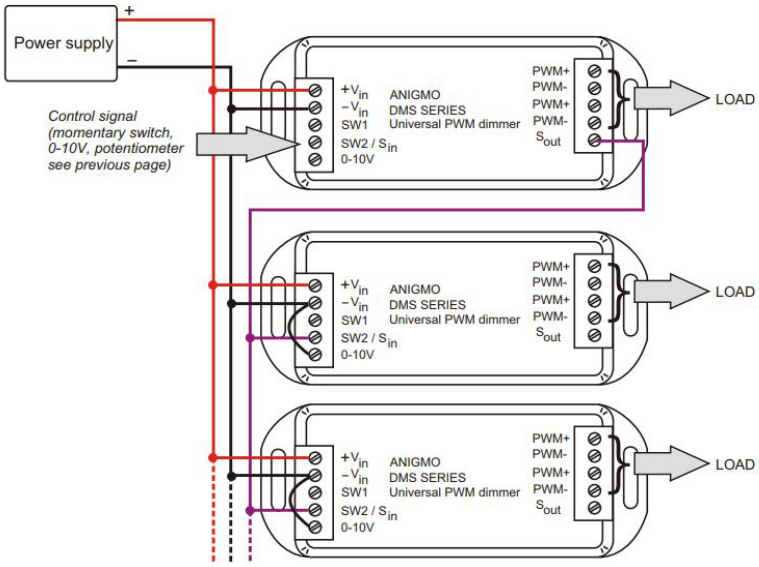
Minimum Brightness Configuration

After the dimmer has been installed and wired using one of the wiring scenarios described above, turn the lights on. Dim the lights to the lowest desired level as detailed in the operation section of this manual. Locate the brightness adjustment control trimmer and set the desired minimum brightness level by rotating the screw. Due to the Universal nature of the DMS Series dimmer, it is usually necessary to set the minimum brightness level for connected LED lights, so they are not dimmed so low as to appear “off.”

Synchronizing Multiple Dimmers

Multiple dimmers may be synchronized to control larger loads than a single dimmer can handle alone. ILDMS-500-X and ILDMS-850-X dimmers may be synchronized. The load connected to each dimmer may not exceed the capacity of that dimmer alone. Switching and control is connected to the first dimmer in the series only. See diagram below for details or contact Imtra for assistance.

Synchronizing multiple units



Limited Warranty

Imtra warrants the Universal DMS series dimmers for 5 years from the date of purchase. If the dimmer module should cease to function within 5 years, return it to Imtra for repair or replacement.

This warranty does not apply to damage resulting from actions of the user such as misuse, improper wiring/installation, operation outside of specification, improper maintenance or repair, unauthorized modification, lightning strike or damage from a power surge.

Imtra specifically disclaims any implied warranties, merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Imtra's total liability is limited to repair or replacement of the product.

The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

If it should become necessary to return a fixture for service during or beyond the warranty period, please refer to Imtra's standard Return Policy as detailed on Imtra's website (www.imtra.com) or call Imtra customer service (508) 995-7000.

No returns are accepted without a Return Authorization (RA) number.

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