

OPTOTRONIC® Electronic LED Control Interfaces

OPTOTRONIC

Key System Features

- Utilizes pulse width modulation, (PWM) to control LED performance
- Lightweight, low profile
- Dimming range: 0-100%
- Long life
- Options available for analog DALI or DMX control protocols
- 10V-24 VDC input voltage
- Short circuit, overload and overheating protection
- UL and cUL recognized component
- OTi DALI DIM: TouchDIM® able to control and program light levels from manual push-button switch
- -20°C through 50°C ambient operation

Application Information

SYLVANIA OPTOTRONIC Control Interface

are ideally suited for:

- Backlighting signs and panels
- Path and roadway marking
- Step and seat marking
- Ambience lighting inside furniture
- Effect lighting
- Panel lighting
- Wall washing
- General lighting
- Cove lighting
- Facade lighting
- Any application where a variable amount of light is desirable
- Combining with multi-color LED modules for color mixing
- DALI Controllable Option

OPTOTRONIC control interface modules are compact, electronically stabilized control interface units with input line voltages ranging from 10-24 VDC for use with most popular LED power supplies.

OPTOTRONIC control interfaces complete the system of innovative control gear and open up even more possibilities for dynamic control of LED based lighting solutions. They are ideal for use in color mixing applications in combination with multi-color LED modules.

The **OPTOTRONIC DIM** is a 1-Channel 0-10V dimmer for comfortable dimming of LED systems and is supplied power by OPTOTRONIC 10V or 24V power supplies. Dimming of the LED modules is performed by PWM (pulse width modulation) and the control input is isolated according to SELV requirements.

OPTOTRONIC RGB DIM is a 3-Channel 0-10V dimmer for individual dimming 3 LED module strings that can be a combination of RGB or White LEDs. Power is supplied by OPTOTRONIC 10V or 24V power supplies. Dimming of LED module is performed by PWM (pulse width modulation) and the output terminals are configured in a common (+) pole.

The **OPTOTRONIC RGB SEQUENCER** is designed for dynamic color chases of RGB LED systems. Sequence speed, brightness



and any of the eight pre-programmed sequences can be selected via (3) x 1-10V control inputs, a particular color can also be permanently set if desired. Power is supplied by 10V or 24V OPTOTRONIC units and dimming is performed by PWM (pulse width modulation) and the output terminals are configured in a common (+) pole.

The **OPTOTRONIC DMX RGB DIM** is a 3-Channel DMX dimmer which enables RGB LED modules to be individually dimmed and controlled. Power is supplied by OPTOTRONIC 10V or 24V power supplies. The unit has 3 independent DMX

control circuits and dim the LED modules by PWM (pulse width modulation). Onboard rotary switches are a simple means of setting the DMX address. The output terminals are configured with a common (+) pole.

The **OTi DALI DIM** is a single channel DALI compatible electronic dimmer with intelligent processor technology. Integrated Touch DIM function enables dimming and saving setpoint light levels. Power is supplied by 10V or 24V OPTOTRONIC power supplies.

System Information

To complement the variety of LED modules, OSRAM SYLVANIA offers specifically matched OPTOTRONIC Power Supply Units with rated voltages between 10V and 24VDC.

OPTOTRONIC control interfaces operate on the principle of pulse width modulation and are used on the secondary side of the power supply unit, i.e. wired between the OPTOTRONIC power supply and the LED modules.

In pulse width modulation, the power supply to the LED Modules is interrupted at a specific frequency. This permits

1-10V Input	DMX Input	DALI Input
OT DIM- White LED Applications	OTDMXRGBDIM- Color Changing LED Applications	OTiDALIDIM- Touch DIM Capabilities
OTDIML- Same as OT DIM, with wire leads		
OTRGBSEQUENCER- Color Changing LED Applications		
OTRGBDIM- Color Changing LED Applications		

individual adjustment of the required light output. In this context, the high frequency provides flicker-free lighting. Pulse width

modulation technology guarantees a linear dimming characteristic with minimal color shift from the LED module.

SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

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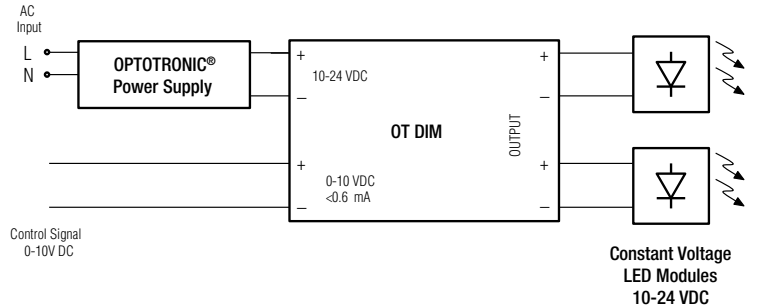
Control Interfaces

Additional Wiring Notes

OPTOTRONIC® Control Interfaces

Wiring Diagram (OTDIM)

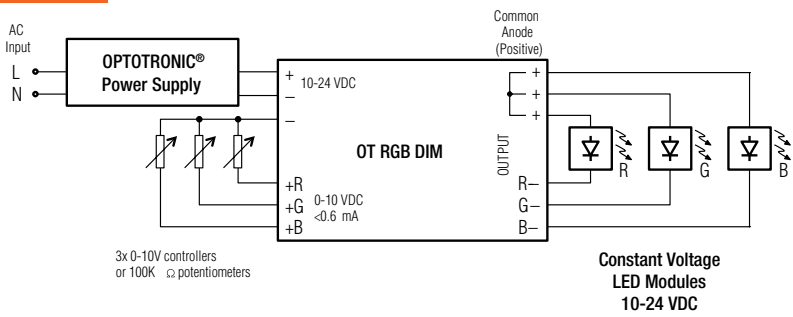
Wiring Requirements:
 Input, load, and control wires:
 Use 16 to 18AWG solid or stranded wire



- OTDIM may be controlled by 0-10V DC controllers, 0-10V converters, or 100k Ohm linear potentiometers.
- The OTDIM has two outputs in parallel. The sum of the loads from the outputs must not exceed the maximum output of the OTDIM (52.5W at 10V and 120W at 24V).

Wiring Diagram (OTRGBDIM)

Wiring Requirements:
 Input, load, and control wires:
 Use 16 to 18AWG solid or stranded wire

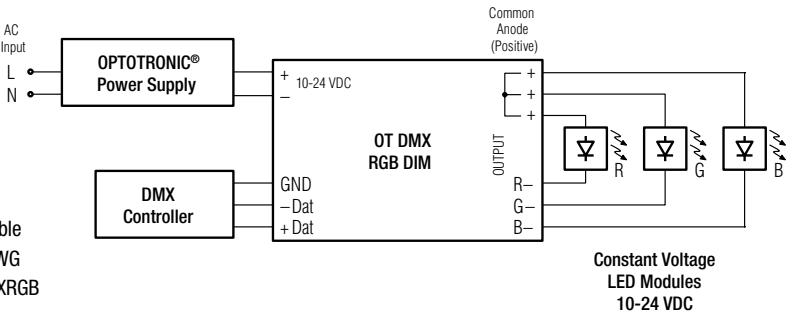


- OTRGBDIM may be controlled by 0-10V DC controllers, 0-10V converters, or 100k Ohm linear potentiometers.

Wiring Diagram (OTDMXRGB)

Wiring Requirements:
 Input and load wires:
 Use 16 to 18AWG solid or stranded wire

Control Wires:
 Use a connector to join DMX cable from DMX controller to 16-18AWG solid or stranded wire to OTDMXRGB

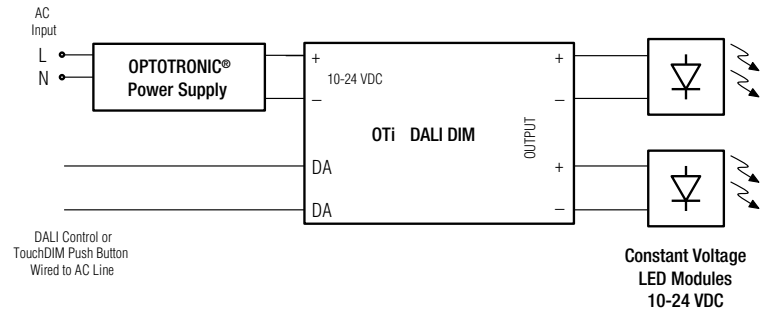


- OTDMXRGB can be controlled by DMX controllers providing protocols that meet USITT DMX-512A or DMX512 (DIN 56930-2)

Wiring Diagram (OTi DALI DIM)

Wiring Requirements:
 Input and load wires:
 Use 16 to 18AWG solid or stranded wire

Control Wires:
 Non Polarity specific control input



- OTi DALI DIM can be controlled by DALI Interface or Touch-Dim (momentary contact)

Specifications subject to change without notice.

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Control Interfaces

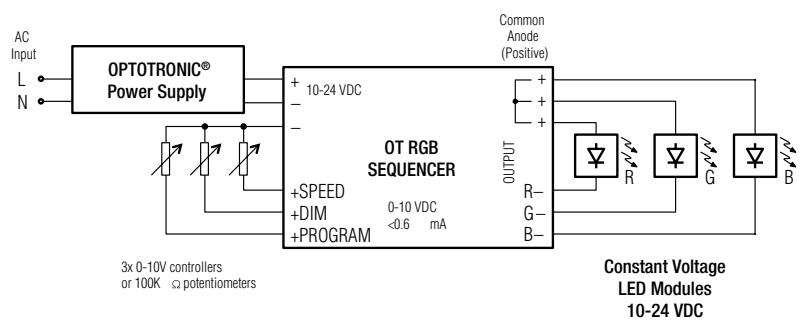
Additional Wiring Notes

OPTOTRONIC® Control Interfaces

Wiring Diagram (OTRGBSEQUENCER)

Wiring Requirements:

Input, load, and control wires:
Use 16 to 18AWG solid or stranded wire



- OTRGBSEQUENCER has (3) 0-10V inputs for controlling:
 - 1) Color Sequence (8 options available)
 - 2) Overall dimming of the 3 output channels
 - 3) Speed:
 - * Below 1.25V all 3 channels are OFF
 - * Between 1.25V and 9.6V the sequence speed changes from 5 seconds to 10 minutes
 - * Above 9.6V the sequence retains its current color
- "Standard" sequence is the same as previous design of OTRGBSEQUENCER prior to September 2006. If there is no signal to the "+Prog" control input, then "standard" sequence will be executed.

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Pre-assigned color sequences

Sequences	scene 1	scene 2	scene 3	scene 4	scene 5	scene 6	scene 7	scene 8	scene 9	control voltage	Ω- value
standard	[Blue]	[Cyan]	[Green]	[Yellow]	[Red]	[Magenta]	n/a	n/a	n/a	> 8V	> 80 kΩ
warm	[Red]	[Orange]	[Yellow]	[Light Orange]	[Dark Orange]	[Red]	[Red]	[Red]	n/a	< 2 V	< 20 kΩ
cold	[Blue]	[Cyan]	[Green]	[Light Green]	[Dark Green]	[Magenta]	n/a	n/a	n/a	2-3 V	20-30 kΩ
intense	[Red]	[Green]	[Light Green]	[Blue]	[Red]	[Green]	n/a	n/a	n/a	3-4 V	30-40 kΩ
pastel	[Green]	[Light Green]	[Orange]	[Red]	[Pink]	[Magenta]	[Purple]	[Cyan]	[Green]	4-5 V	40-50 kΩ
summer	[Blue]	[Cyan]	[Green]	[Light Blue]	[Light Green]	n/a	n/a	n/a	n/a	5-6 V	50-60 kΩ
sunset	[Light Green]	[Brown]	[Red]	[Red]	[Purple]	[Blue]	n/a	n/a	n/a	6-7 V	60-70 kΩ
Tai Chi	[Green]	[Light Green]	[Red]	[Light Green]	[Yellow]	[Light Green]	[Blue]	[Light Green]	n/a	7-8 V	70-80 kΩ

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Additional Specifications

OPTOTRONIC® Control Interfaces

Item Number	Description	Nominal Input Voltage (VDC)	Max. ¹ Input Current (A)	Control Voltage (VDC)	Max. Output Power per channel (W)	Max. ^{2,3} Output Power (W)	Max. Output Current per channel (A)	Output Frequency (Hz)
51516	OT DIM	10 24	5 5	0-10VDC	0-52.5 0-120	52.5 120	2.5 2.5	135
49889	OT DIM L	10 24	5 5	0-10VDC	0-52.5 0-120	52.5 120	2.5 2.5	135
51517	OTRGBDIM	10 24	6 6	0-10VDC	0-21 0-48	60 140	2 2	350
51518	OTRGBSEQUENCER	10 24	6 6	0-10VDC	0-21 0-48	60 140	2 2	N/A
51600	OTDMXRGB	10 24	6 6	-7 to 12VDC	0-21 0-48	60 140	2 2	N/A
51349	OTi DALI DIM	10 24	5	DALI	0-50 0-100	50 100	2.5 2.5	350

Input Voltage Range: 9.5-25VDC
 Dimming Range: 0-100%
 Control Current: 0.6 mA max. for 0-10 units only.
 Temp. Range: -20°C to +50°C
 Max. Case Temperature: 70°C

 us
 UL508 recognized unit
 (UL file# E23286 & E224357)
 RoHS compliant

OTi DALI DIM: UL Recognized unit: E320662

1: For Class 2 applications maximum input current should be limited to 5A.
 2: For Class 2 applications maximum output power would be 47W @ 10V and 97W @ 24V.
 3: Max. power loss is 4W for all control interfaces at 10V and 24V input voltages.

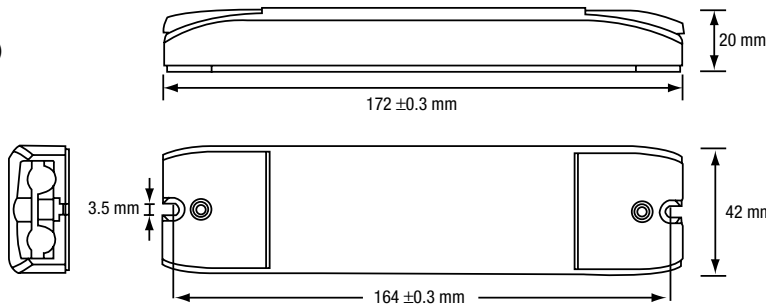
For all units:

Dimensions:

6.77" L x 1.65" W x 0.79" H
 (172mm L x 42mm W x 20mm H)

Packaging:

Quantity: 20 pieces/carton
 Weight: 0.165 lbs ea. (approx.)
 3.3 lbs/carton



Item Number 49889 OT DIM L comes with leads with lengths as follows:



System Life / Warranty

OPTOTRONIC Control Interfaces are warranted for 5 years. OPTOTRONIC Products are covered by the LED system warranty, a comprehensive LED module and power supply system warranty. For additional details, refer to the latest version of the LED System warranty bulletin.

Item Number **51516 OT DIM L** Leads
 OPTOTRONIC Dimming Module

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