

OPTOTRONIC® Programmable LED Emergency Driver and Battery Pack

Dual mode programmable driver that supports normal and emergency mode



The OSRAM OPTOTRONIC Emergency Driver family is a dual solution LED programmable driver that combines emergency and normal mode functionality into a single driver, thus eliminating the complexity of designing and assembling an emergency fixture. In the event of an AC power loss, the emergency functionality of the driver is activated and the emergency mode power is delivered through externally connected battery packs using a uniquely designed harness. The quick snap-on polarized battery harness substantially reduces wiring complexity and prevents mis-wiring.

The output of the driver can be easily programmed to accommodate for a one foot candle illumination requirement. The self-test feature models automatically perform a 30-second discharge test once a month and a full 90-minute discharge test once a year according to code.

The driver and battery diagnostics are performed regularly and reported through an illuminated test switch. The emergency driver battery packs come in multiple options to suit an array of luminaire designs.

1. Programmable Units



Application Information

- Indirect/direct
- Linear
- Recessed troffer

Key Features & Benefits

- OEM programmable output current to 1mA resolution in normal and emergency mode to perfectly match LED load and maximize performance
- Easily program output to accommodate for 1 ft. candle illumination requirement
- Switch over from Normal to Emergency Mode in less than 2 seconds
- Integrated OEM programmable features include:
 - Constant lumen maintenance
 - End-of-life indication
 - LED thermal protection
 - Dim-to-off
 - Soft-start
- Programming doesn't require powering up or connecting the power supply to AC line voltage
- Illuminated test switch to perform manual emergency operation test and report outcome
- Quick snap-on polarized battery harness substantially reduces wiring complexity and prevents mis-wiring
- Multiple battery pack options available to suit an array of luminaire designs
- Design benefits fixture manufacturers with reduced SKUs and inventory overhead
- Specification grade dimming down to 1% on 0-10V dimmers
- Available optional auxiliary output to support 12V, 20V and 24V low power applications
- Available in Universal 120-277VAC 50/60Hz
- UL Listed for factory or field installation in US and Canada.
- Meets Title 24 CEC (California Energy Commission) efficiency standards.

2. Configurable Features



Specifications and Certifications



Light is OSRAM

OSRAM

Electrical Specifications

Maximum Output Power (W)	Nominal Input Voltage (V _{ac})	Maximum Input Current (A)	Power Factor	THD	Line Transient	Efficiency	Maximum Auxiliary Output Current (mA)	Auxiliary Output Voltage (V _{oc})*	Environmental Rating	UL File #
30W	120-277V _{ac} 50/60 Hz	0.83 @ 120V 0.36 @ 277V	>0.9	<20%	ANSI C62.41 Cat.A 2.5kV	>85%	40	12/20/24	Dry & Damp	E320395
50W	120-277V _{ac} 50/60 Hz	0.83 @ 120V 0.36 @ 277V	>0.9	<20%	ANSI C62.41 Cat.A 2.5kV	>85%	40	12/20/24	Dry & Damp	E320395

*Default auxiliary output is 12V; configurable via OT Programmer

Ordering Information

Item Number	Ordering Abbreviation	Normal Mode Output Power (W)	Maximum EM Mode Power (W)	Output Current (mA) ¹	Default Current Setting (mA)	Output Voltage Range (V _{oc})	Dimming Protocol	Dimming Range	Self Testing
LED Driver*									
57403	OTi EM 30/UNV/1A0 DIM-1 L	30	18	150-1050	700	10-55	0-10V	1-100%**	No
57404	OTi EM 30/UNV/1A0 DIM-1 L AUX/ST L	30	18	150-1050	700	10-55	0-10V	1-100%**	Yes
57405	OTi EM 50/UNV/1A4 DIM-1 L	50	18	400-1400	1050	10-55	0-10V	1-100%**	No
57406	OTi EM 50/UNV/1A4 DIM-1 L AUX/ST L	50	18	400-1400	1050	10-55	0-10V	1-100%**	Yes
57415	OTi EM 30/UNV/1A0 DIM-1 SLIM	30	10	150-1050	700	10-55	0-10V	1-100%**	No
57414	OTi EM 30/UNV/1A0 DIM-1/AUX/ST SLIM	30	10	150-1050	700	10-55	0-10V	1-100%**	Yes
57413	OTi EM 50/UNV/1A4 DIM-1 SLIM	50	10	400-1400	1050	10-55	0-10V	1-100%**	No
57412	OTi EM 50/UNV/1A4 DIM-1/AUX/ST SLIM	50	10	400-1400	1050	10-55	0-10V	1-100%**	Yes

Item Number	Ordering Abbreviation	Type	Capacity	Max Load ²	Max Battery Voltage	Charging Time
Battery Packs*						
57401	OT BAT 8x2- 3A0H- L	Ni-Cd	3000 mAh	18W (90min)	25V	24 hrs
57402	OT BAT 4x4- 3A0H- C	Ni-Cd	3000 mAh	18W (90min)	25V	24 hrs
57410	OT BAT 16x1 3A0H-L	Ni-Cd	3000 mAh	12W (90min)	25V	24 hrs
57411	OT BAT 8x1-2A5H-SLIM	Ni-Cd	2500 mAh	10W (90min)	12V	24 hrs

* This is a system solution whereby each emergency LED driver must be ordered with a battery pack of choice. Dim-to-off and Soft-start are programmable (enable/disable) features. The default mode for both features is disabled for out-of-the-box products.

** The minimum dimming current is 10mA.

- Notes:
1. Programmable current range for normal and emergency mode.
 2. For 57401 and 57402, a 5-year warranty is provided when emergency mode power is ≤12W. 3-year warranty is provided when emergency mode power is <18W. For 57410, a 5-year warranty is provided when operating at ≤10W.

Battery Pack Compatibility

Item Number	Ordering Abbreviation	Battery Packs			
		OT BAT 8x1 2A5H SLIM	OT BAT 16x1 3A0H-L	OT BAT 8x2- 3A0H-L	OT BAT 4x4- 3A0H-C
57403	OTi EM 30/UNV/1A0 DIM-1 L		•	•	•
57404	OTi EM 30/UNV/1A0 DIM-1 L AUX/ST L		•	•	•
57415	OTi EM 30/UNV/1A0 DIM-1 SLIM	•			
57414	OTi EM 30/UNV/1A0 DIM-1/AUX/ST SLIM	•			
57405	OTi EM 50/UNV/1A4 DIM-1 L		•	•	•
57406	OTi EM 50/UNV/1A4 DIM-1 L AUX/ST L		•	•	•
57413	OTi EM 50/UNV/1A4 DIM-1 SLIM	•			
57412	OTi EM 50/UNV/1A4 DIM-1/AUX/ST SLIM	•			

Ordering Guide

LED Driver

OTi	EM	30	/	UNV	/	1A0	DIM-1	L	AUX	/	ST L
OPTOTRONIC® Intelligent	Emergency	Output Wattage 30 = 30W 50 = 50W		Input Voltage Universal		1A0=1050mA 1A4=1400mA	1% Dimming	Linear	Auxiliary		Self Test Model

Battery Pack

OT	BAT	8x2	-	3A0H	-	L
OPTOTRONIC	Battery Pack	Cell configuration		3000mAh		L=Linear C=Compact S=Slim

Accessories



Item Number	Ordering Abbreviation	Description	Required Accessory
51645	OT Programmer	USB Programming Tool	Yes
51647	OTLinearHandheldPRGtool	Programming Tool	No
51648	OTLinearAutoPRGTool	Programming Tool	No

Minimum and Maximum Ratings

Parameter	Compact/Linear/Stick Driver Values	Compact/Linear/Stick Battery Packs	SLIM Series Driver Values	SLIM Series Battery Packs
Input Voltage Range	108-305V _{AC}	17-25V	108-305V _{AC}	8-12V
Maximum Case Temperature (T _c point)	90°C (194°F)	50°C (122°F)	90°C (194°F)	55°C (131°F)
Maximum Case Temperature for 5 year life and warranty	75°C (165°F) for 30/50W	50°C (122°F) and ≤12W in EM mode	75°C (165°F) for 30/50W	55°C (131°F)
Ambient Operating Temperature (reference) for 5 year life and warranty	15°C to 50°C (59°F to 122°F)	15°C to 50°C (59°F to 122°F)	0°C to 55°C (32°F to 131°F)	0°C to 55°C (32°F to 131°F)
Storage Temperature	70°C Max (150°F)	-20°C to 30°C (-4°F to 86°F)	70°C Max (150°F)	-20°C to 30°C (-4°F to 86°F)
Maximum Relative Humidity	85% (Non-condensing)	85% (Non-condensing)	85% (Non-condensing)	85% (Non-condensing)

Assembly Diagram

OTi30W and OTi50W Drivers

Isometric view: 25.40 HEIGHT, 425.00 OVERALL LENGTH, 29.40 WIDTH

Top view: 8.70, 415.00, 29.40, (30.71 ACROSS PLASTIC SNAPS)

Side view: Ø4.10, 415.00, 25.40

Linear Battery Pack

The battery pack consists of 2 linear sized batteries that are pre-wired in series out-of-the-box to deliver the rated power.

Isometric view: 29.45 HEIGHT, 442.0 LENGTH

Top view: 6.0 OFFSET EACH END, 30.60 WIDTH, 426.8 MOUNTING, 7.0 SLOT WIDTH

Assembly view: 493, 581, Snap-on Connector, Fuse Holder

Compact Battery Pack

The battery pack consists of 2 compact sized batteries that are pre-wired in series out-of-the-box to deliver the rated power.

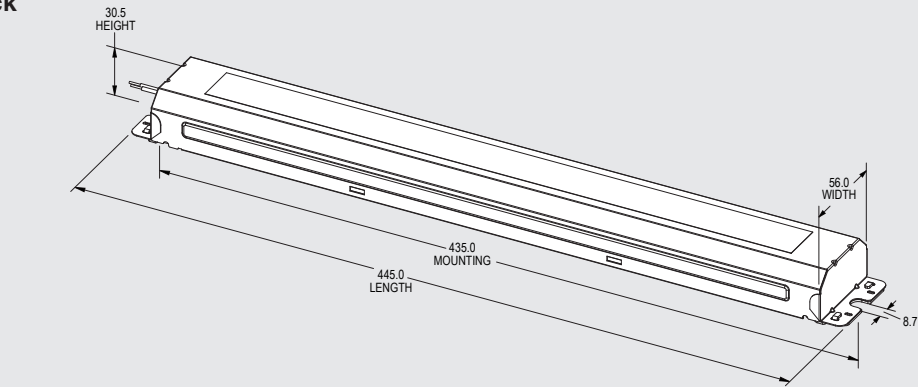
Isometric view: 29.45 HEIGHT, 246.0 LENGTH

Top view: 57.6 WIDTH, 7.0 SLOT WIDTH, 230.8 MOUNTING HOLES

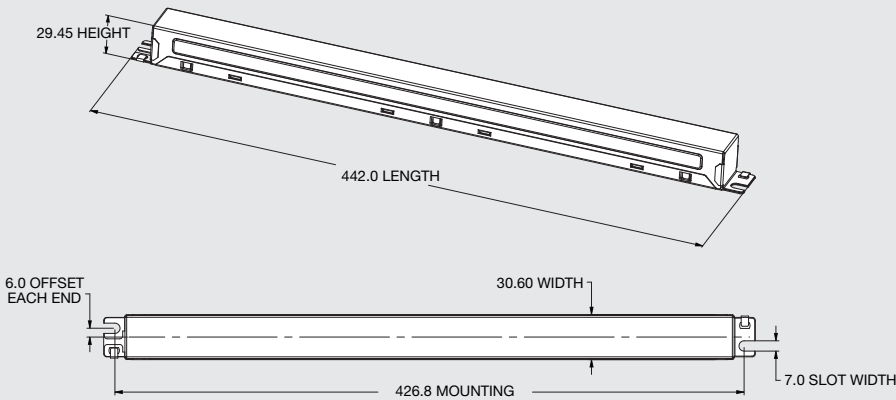
Assembly view: 494, 555, Snap-on Connector, Fuse Holder

Assembly Diagram

Linear Single Wide Pack

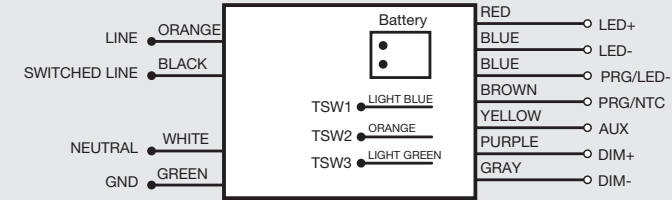


Slim Battery Pack

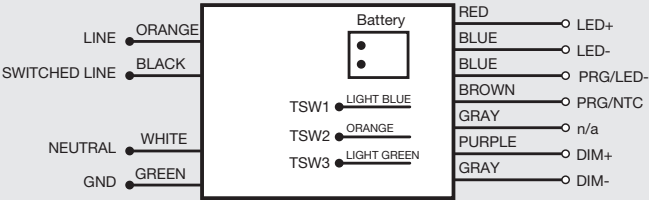


Wiring Diagram

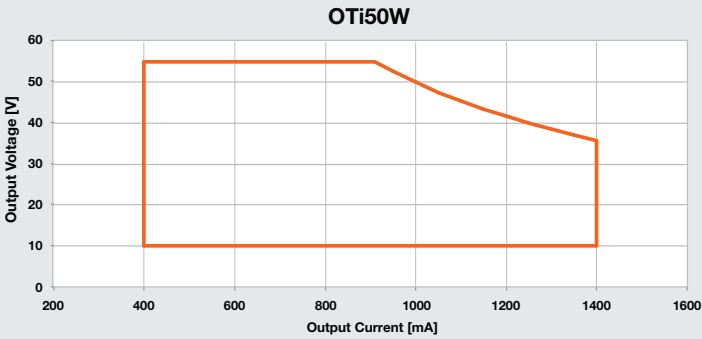
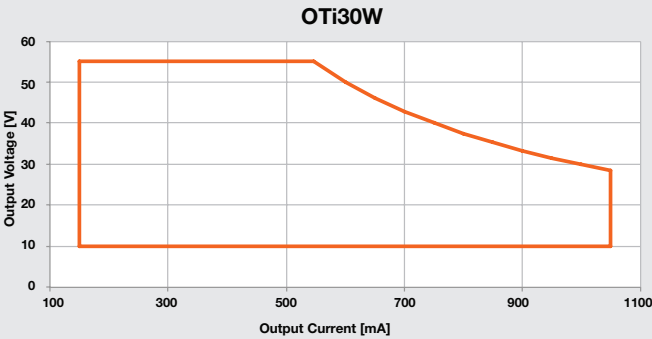
Wiring diagram for AUX and Self-Test models



Wiring diagram for non-AUX models



Operating Range



Packaging

LED Drivers

OTi30W and OTi50W

Quantity: 5 pieces per case

Weight: 0.9 lbs ea./5.08 lbs
per case (approx.)

Battery Packs

OT BAT 4x4

Quantity: 5 pieces per case

Weight: 3.80 lbs ea./19.1 lbs
per case (approx.)

OT BAT 8x2

Quantity: 5 pieces per case

Weight: 4.3 lbs ea./21.4 lbs
per case (approx.)

OT BAT 16x1

Quantity: 5 pieces per case

Weight: 4.00 lbs ea./20.0 lbs
per case (approx.)

OT BAT 8x1

Quantity: 5 pieces per case

Weight: 1.87 lbs ea./9.35 lbs
per case (approx.)

Notes:

Driver Packaging

The test switch is shipped as part of the driver packaging. Each driver has an individual copy of Installation and Troubleshooting Guide which should be shipped by the OEM to the end user as part of the fixture. A set of OEM labels are also provided that can be attached to the fixture. More details are provided in the Installation and Troubleshooting Guide.

Battery Pack Packaging

The fuse is shipped in the fuse holder with the battery pack packaging.

Warranty

OPTOTRONIC® Products are covered by our LED Module, OPTOTRONIC Power Supply or Control Warranty. For additional warranty information or to download the warranty registration form visit www.osram.us/warranty.

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