

# Buy American Act



Compliant LED Lamps and LED Retrofit Kits



**ESPEN**<sup>™</sup>  
TECHNOLOGY

the Power to Create Better Light<sup>™</sup>



# the Power to Create Better Light™

## Assembled in USA

Santa Fe Springs, California Production Line

### Buy American Act Compliant Products (BAA)

Espen Technology's BAA products are assembled in the United States. U.S. Government-funded and Military projects often require purchase of BAA compliant lighting products. Espen's BAA product line includes: TLEDs (A, B, C, A+B hybrid), LED retrofit kits, and several fixture types. Assembled in the Greater Los Angeles area, Espen relentlessly pursues sustainability, quality, and reliability. Choose a supplier with deep expertise in linear lighting and a large BAA catalog. Choose Espen Technology.

### Trade Agreements Act Compliant Products (TAA)

Espen Technology's TAA products are produced in designated countries with whom the U.S. has trade agreements. Many United States Government-funded and Military projects will allow TAA products as an alternative to BAA products. Espen's TAA product line includes: drivers, ballasts, and emergency battery backups.

Espen Technology is a proud supplier to federally-funded infrastructure and military projects.

### Minority Business Enterprise (MBE)

Espen Technology has three certifications of Minority Business Enterprise (MBE) status from:

- The National Minority Supplier Development Council (NMSDC),
- The California Public Utility Commission (CPUC) Supplier Clearinghouse, and
- The Los Angeles Business Assistance Virtual Network (LABAVN).

MBE certifications along with Espen's extensive BAA/TAA product catalog are extremely valuable for distributors, contractors, and ESCOs pursuing government-funded projects.

Espen's MBE certifications can be located, as follows:

- National Certification by NMSDC.
- California Certification on The Supplier Clearinghouse by the CPUC or download the MBE Certificate - Supplier Clearinghouse.
- Certification on the Los Angeles Business Assistance Virtual Network (LABAVN) (search with "Espen") or download the MBE Certificate - LABAVN.



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# RetroFlex™



## Type A Plug & Play Ballast Compatible LED Lamp

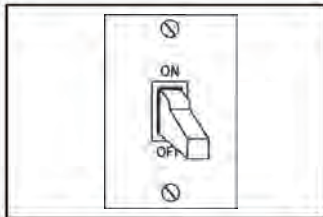


### FEATURES AND BENEFITS

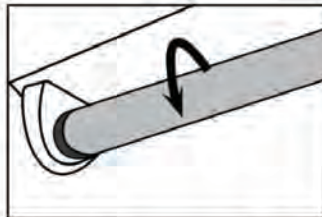
- Direct Replacement for Fluorescent Lamps
- Quick and Convenient Installation - Instant On, No Delay
- Compatible with Electronic Ballasts - Instant Start, Programmed Start and Dimming
- Utilizes Existing Shunted or Non-Shunted Tombstones
- Maintains the Original UL Certification of the Fixture
- Compatible with Sensors
- Shatterproof Nano Plastic Tube
- Rated for Use in Food Prep Areas and Refrigerated Food Displays
- 240° T5 and 325° T8 Wide Beam Angles
- 5 Year Warranty (10 Year Special Warranty Available)



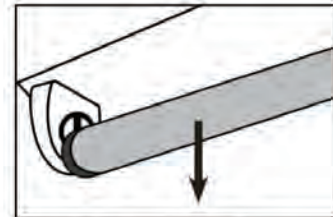
### INSTALLATION GUIDE



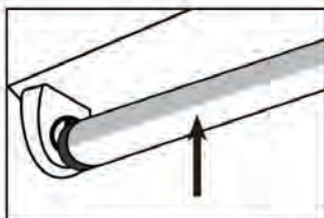
Turn off power to luminaire.



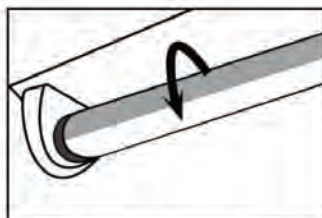
Rotate fluorescent lamp.



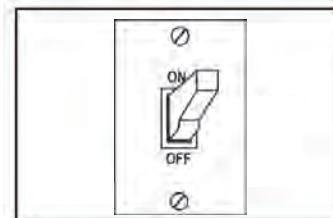
Remove fluorescent lamp.



Insert LED lamp.



Rotate LED lamp until pins are seated.



Turn on power to luminaire.





## Type A Plug & Play Ballast Compatible LED Lamp

Model No.	Replaces	Length (in)	Lamp Power (W)	System Power <sup>1</sup> (W)	Lumens <sup>1</sup> (lm)	Lamp Efficacy (lm/W)	System Efficacy (lm/W)	Input Voltage (V)	CCT	CRI
<b>Linear T8</b>										
L24T8/830/12P-EB BAA/TAA									3000 <sup>3</sup>	
L24T8/835/12P-EB BAA/TAA	F17T8	24	12	14	1680	140	120	120 - 277	3500	83+
L24T8/840/12P-EB BAA/TAA									4000	
L24T8/850/12P-EB BAA/TAA									5000	
L36T8/830/12P-EB BAA/TAA									3000 <sup>3</sup>	
L36T8/835/12P-EB BAA/TAA	F25T8	36	12	14	1700	142	121	120 - 277	3500	83+
L36T8/840/12P-EB BAA/TAA									4000	
L36T8/850/12P-EB BAA/TAA									5000	
L48T8/830/10P-EB BAA/TAA									3000 <sup>3</sup>	
L48T8/835/10P-EB BAA/TAA	F32T8	48	9.5	12	1750	184	146	120 - 277	3500	83+
L48T8/840/10P-EB BAA/TAA									4000	
L48T8/850/10P-EB BAA/TAA									5000	
L48T8/830/12P-EB BAA/TAA									3000 <sup>3</sup>	
L48T8/835/12P-EB BAA/TAA	F32T8	48	12	14	1800	150	129	120 - 277	3500	83+
L48T8/840/12P-EB BAA/TAA									4000	
L48T8/850/12P-EB BAA/TAA									5000	
L48T8/830/14P-EB BAA/TAA									3000 <sup>3</sup>	
L48T8/835/14P-EB BAA/TAA	F32T8	48	14	16	2150	154	134	120 - 277	3500	83+
L48T8/840/14P-EB BAA/TAA									4000	
L48T8/835/14P-EB BAA/TAA									5000	
<b>Linear T5</b>										
L24T5/830/12P-EB BAA/TAA									3000 <sup>3</sup>	
L24T5/835/12P-EB BAA/TAA	F24T5HO	24	12	15	1500	125	100	120 - 277	3500	83+
L24T5/840/12P-EB BAA/TAA									4000	
L24T5/850/12P-EB BAA/TAA									5000	
L36T5/830/18P-EB BAA/TAA									3000 <sup>3</sup>	
L36T5/835/18P-EB BAA/TAA	F39T5HO	36	18	21	2000	111	95	120 - 277	3500	83+
L36T5/840/18P-EB BAA/TAA									4000	
L36T5/850/18P-EB BAA/TAA									5000	
L48T5HE/830/13P-EB BAA/TAA									3000 <sup>3</sup>	
L48T5HE/835/13P-EB BAA/TAA	F28T5HE	48	13	16	1800	139	113	120 - 277	3500	83+
L48T5HE/840/13P-EB BAA/TAA									4000	
L48T5HE/850/13P-EB BAA/TAA									5000	
L48T5/830/24P-EB BAA/TAA									3000 <sup>3</sup>	
L48T5/835/24P-EB BAA/TAA	F54T5HO	48	24	27	3200	133	119	120 - 277	3500	83+
L48T5/840/24P-EB BAA/TAA									4000	
L48T5/850/24P-EB BAA/TAA									5000	

<sup>1</sup> System Power and Lumens based on normal ballast factor (0.88). Operation on low and high ballast factor will yield alternate specification.

<sup>2</sup> Voltage is dependant on ballast brand and model number. See [espentech.com](http://espentech.com) for ballast compatibility list.

<sup>3</sup> 3000K CCT may be subject to lead times and availability.

\* See [espentech.com](http://espentech.com) for ballast compatibility list. Rated Life 50,000 hours

# Ballasts & Drivers



## Type A Compatible Ballasts & LED Drivers

### TAA Compliant



Electronic Ballast



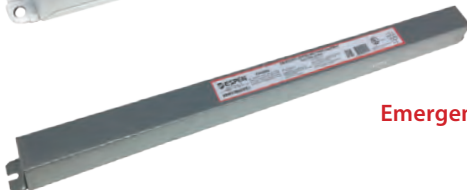
Non-Dimmable Driver



Dimmable Driver



Emergency Ballast - Regular



Emergency Ballast - Slim

## FEATURES AND BENEFITS

### Electronic Ballasts

- Slim Profile
- Lamp Auto Restrike
- High Efficiency
- 5 Year Warranty



### Non-Dimmable Drivers

- Constant Current
- Universal Voltage (120 - 277V)
- 5 Year Warranty



### Dimmable Drivers

- Constant Current
- Universal Voltage (120 - 277V)
- 0 - 10V Continuous Dimming (10% - 100%)
- 5 Year Warranty



### Emergency Ballasts

- Dual Input Voltage (120/277V)
- Maintenance Free, Long Life
- High Temperature Ni-Cad Battery
- Durable, Heavy-Duty Steel Housing
- 5 Year Warranty



Model No.	Type	Compatible Lamps	Number of Lamps
VE254MVHRP TAA	Electronic Ballast, F54T5HO	RetroFlex Type A LED Lamps	1 or 2
VE454MVHRP TAA	Electronic Ballast, F54T5HO	RetroFlex Type A LED Lamps	3 or 4
VEL50BN-2C TAA	Constant Current Non-Dimmable Driver	RetroFlex Type A LED Lamps	1 or 2
VEL100BN-4C TAA	Constant Current Non-Dimmable Driver	RetroFlex Type A LED Lamps	3 or 4
VEL30BN-2C-10V TAA	Constant Current Dimmable Driver	RetroFlex Type A LED Lamps	1 or 2
VEL60BN-4C-10V TAA	Constant Current Dimmable Driver	RetroFlex Type A LED Lamps	3 or 4

Model No.	Type	Lumens	Voltage (V)	Operation Hours	Case
VEM500DV-L TAA	Emergency Ballast	500	120/277	90 mins	Regular
VEM1300DV-L TAA	Emergency Ballast	1300	120/277	90 mins	Slim

## Type A+B T8 Linear LED Lamps



## FEATURES AND BENEFITS

### Type-A Application:

- Works on existing compatible Electronic Ballast
- Instant Start and Program Rapid Start Electronic Ballast

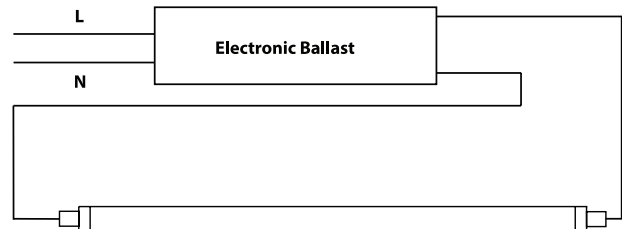
### Type-B Application:

- Internal Drive To Be Wired Directly To Sockets
- 120 or 277 Volts Application
- See wiring diagram for Double Ended installation

- Long life | High CRI
- Instant on, No delay
- Convenient and quick installation
- Works with dimming ballast
- Compatible with controls and sensors
- Works in cold temperature applications
- 5 Year Warranty



## WIRING DIAGRAM



Model No.	Length (in)	Power Direct AC (W)	Power w/Ballast (W)	Input Voltage (V)	CCT	Lumens (lm)	CRI	Beam Angle	Lamp Efficacy Direct AC	Lamp Efficacy w/Ballast
L24T8/830/9G-AB TAA	24	9	12	120-277	3000K <sup>2</sup>	1350	83	325°	150	112
L24T8/835/9G-AB TAA					3500K					
L24T8/840/9G-AB TAA					4000K					
L24T8/850/9G-AB TAA					5000K					
L36T8/830/11G-AB TAA	36	11	14	120-277	3000K <sup>2</sup>	1650	83	325°	150	115
L36T8/835/11G-AB TAA					3500K					
L36T8/840/11G-AB TAA					4000K					
L36T8/850/11G-AB TAA					5000K					
L48T8/830/12G-AB TAA	48	12	15	120-277	3000K <sup>2</sup>	1800	83	325°	150	120
L48T8/835/12G-AB TAA					3500K					
L48T8/840/12G-AB TAA					4000K					
L48T8/850/12G-AB TAA					5000K					

<sup>1</sup> See espentech.com for ballast compatibility list.  
<sup>2</sup> 3000K may be subject to lead times and availability

\* Rated Life 50,000 hours



## T8 U-bent lamps | Type A + B Solutions

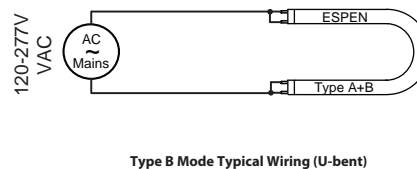
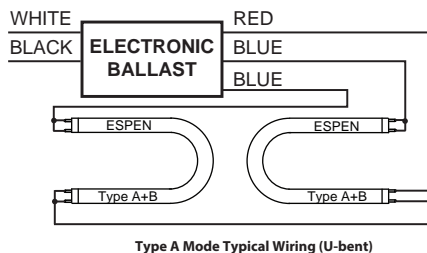
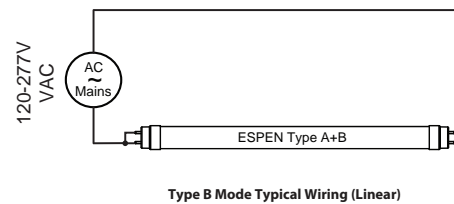
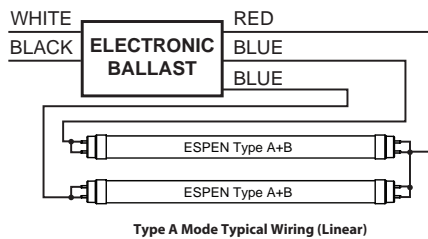


### FEATURES AND BENEFITS

- Type A and B Lamp
- Internal driver for direct 120-277 VAC Input
- Double ended Type-B Input
- Works with fluorescent electronic ballast (Instant Start and Programmed Start)
- Long life | High CRI
- Instant on, No delay
- Convenient and quick installation
- Utilizes existing instant start or rapid start sockets
- Works with dimming ballast
- Compatible with controls and sensors
- Works in cold temperature applications
- 5 Year Warranty



### WIRING DIAGRAM



Model No.	Length (in)	Width (in)	Power Direct AC (W)	Power w/Ballast (W)	Input Voltage (V)	CCT	Lumens (lm)	CRI	Beam Angle	Lamp Efficacy Direct AC	Lamp Efficacy w/Ballast
LB31T8U/830/13P-AB BAA/TAA	1-5/8	24	13	16	120 - 277	3000K <sup>2</sup>	1800	83+	240°	138 <sup>1</sup>	112.5 <sup>1</sup>
LB31T8U/835/13P-AB BAA/TAA						3500K					
LB31T8U/840/13P-AB BAA/TAA						4000K					
LB31T8U/850/13P-AB BAA/TAA						5000K					
LB48T8U6/830/13P-AB BAA/TAA	6	24	13	16	120 - 277	3000K <sup>2</sup>	1800	83+	240°	138 <sup>1</sup>	128 <sup>1</sup>
LB48T8U6/835/13P-AB BAA/TAA						3500K					
LB48T8U6/840/13P-AB BAA/TAA						4000K					
LB48T8U6/850/13P-AB BAA/TAA						5000K					

<sup>1</sup> Calculation based on (lm/W)

<sup>2</sup> 3000K CCT may be subject to lead times and availability.

\* See [espentech.com](http://espentech.com) for ballast compatibility list. Rated Life 50,000 hours

## Type A + B Emergency Solutions

### EMERGENCY BALLAST FEATURES AND BENEFITS

- Internal Driver
- Emergency ballasts for Type A Emergency Applications
- Dual Input Voltage (120/277V)
- May work with Fluorescents and Type A T5 or T8 LED lamps using ballasts\*
- Compatible with Espen Retroflex Lamps, Ballasts, and Type A drivers
- High Temperature Ni Cad Battery
- Durable, Heavy Duty Steel Housing
- 4 options with different sizes and lumen output
- Maintenance Free, Long Life
- 5 Year Warranty



Model No.	Type	Lumens	Voltage (V)	Operation Hours	Case
VEM500DV-L TAA	Emergency Ballast <sup>1</sup>	500	120/277	90 mins	Regular
VEM1300DV-L TAA	Emergency Ballast <sup>1</sup>	1300	120/277	90 mins	Slim

<sup>1</sup> When wired as Type A, use Emergency Ballast

#### 1 LAMP EMERGENCY

VEM500DV-L TAA



Regular Case

500 Lumens

#### 1-2 LAMP EMERGENCY

VEM1300DV-L TAA



Slim Case

1,300 Lumens

\*Note: Espen recommends testing compatibility and performance in the actual jobsite prior to purchasing and before the actual installation lamp, ballasts/drivers, and emergency ballasts combinations performs differently depending on the circuit designs, components used, and other factors that can affect compatibility and performance.

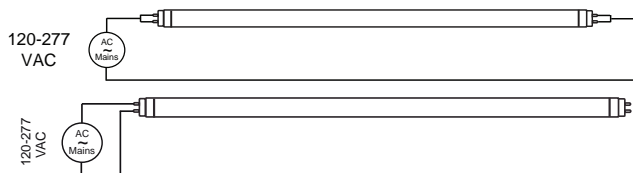
## Type B Double Ended AC Direct Input LED Lamps



### FEATURES AND BENEFITS

- Double Ended Bypass Connection with Shunted or Non-Shunted Tombstones
- Internal Driver
- Compatible with Sensors
- Shatterproof Nano Plastic Tube
- Frosted to Prevent Glare
- 325° Wide Beam Angle
- 5 Year Warranty

### WIRING DIAGRAM



Model No.	Replaces	Length (in)	Lamp Power (W)	Lumens (lm)	Efficacy (lm/W)	Input Voltage (V)	CCT (K)	CRI
<b>Linear T8</b>								
L24T8/830/9P-ID DE BAA/TAA							3000 <sup>1</sup>	
L24T8/835/9P-ID DE BAA/TAA	F17T8	24	9	1100	122	120 - 277	3500	83+
L24T8/840/9P-ID DE BAA/TAA							4000	
L24T8/850/9P-ID DE BAA/TAA							5000	
L36T8/830/12P-ID DE BAATAA							3000 <sup>1</sup>	
L36T8/835/12P-ID DE BAATAA	F25T8	36	12	1400	117	120 - 277	3500	83+
L36T8/840/12P-ID DE BAATAA							4000	
L36T8/850/12P-ID DE BAATAA							5000	
L48T8/830/12P-ID DE BAATAA							3000 <sup>1</sup>	
L48T8/835/12P-ID DE BAATAA	F32T8	48	12	1800	150	120 - 277	3500	83+
L48T8/840/12P-ID DE BAATAA							4000	
L48T8/850/12P-ID DE BAATAA							5000	
L48T8/830/15P-ID DE BAATAA							3000 <sup>1</sup>	
L48T8/835/15P-ID DE BAATAA	F32T8	48	15	2200	146	120 - 277	3500	83+
L48T8/840/15P-ID DE BAATAA							4000	
L48T8/850/15P-ID DE BAATAA							5000	

<sup>1</sup> 3000K may be subject to longer lead time and availability.

Model No.	Type	Input Voltage (V)	Output Voltage (V)	Output Power (W)	Operation Hours
VEMB5W TAA	Emergency Inverter	120 - 277	OCV 200VDC	5	90 mins
VEMB10W TAA	Emergency Inverter	120 - 277	OCV 200VDC	10	90 mins

\* See [espentech.com](http://espentech.com) for ballast compatibility list.  
Rated Life 50,000 hours



## AC Direct Input | Compact LED Lamps | FT LED Lamps

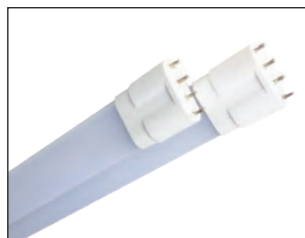


### FEATURES AND BENEFITS

- Compatible with 2-Pin and 4-Pin Sockets
- Internal Driver
- -20° F to 130° F Ambient Operating Temperature
- Utilizes G24Q / G24D base
- Frosted to Prevent Glare
- Suitable for Damp Locations
- 5 Year Warranty
- Three Adjustable CCT (3000K, 3500K, 4000K)



Model No.	Replaces	Lamp Power (W)	Lumens (lm)	Lamp Efficacy (lm/W)	Input Voltage (V)	CCT (K)	CRI
<b>3CCT Compact LED Lamps<sup>2</sup></b>							
CLD18WH/8T-ID BAA/TAA	18W, 26W, 32W, 42W CFQ	8.5	960/1020/1050	113/120/124	120 - 277	3000/3500/4000 <sup>1</sup>	83+
CLD18WV/8T-ID BAA/TAA	18W, 26W, 32W, 42W CFQ	8.5	960/1020/1050	113/120/124	120 - 277	3000/3500/4000	83+



### FEATURES AND BENEFITS

- Internal Driver
- Smooth, Consistent Light
- UL for Safety
- No UV, No Mercury
- Long Life
- High CRI
- Instant on, no delay or warm up time
- Convenient and quick installation
- Utilizes 2G11 base & current lamp sockets
- Compatible with controls and sensors
- -20° F to 130° F Ambient Operating Temperature
- 5 Year Warranty



Model No.	Replaces	Lamp Power (W)	Lumens (lm)	Lamp Efficacy (lm/W)	Input Voltage (V)	CCT (K)	CRI
<b>FT LED Lamps</b>							
LT24W/830-ID BAA/TAA	FT24W	10	800	80	120 - 277	3000 <sup>1</sup>	83+
LT24W/835-ID BAA/TAA						3500	
LT24W/840-ID BAA/TAA						4000	
LT24W/850-ID BAA/TAA						5000	
LT40W/830-ID BAA/TAA	FT40W/FT55W	18	2160	120	120 - 277	3000 <sup>1</sup>	83+
LT40W/835-ID BAA/TAA						3500	
LT40W/840-ID BAA/TAA						4000	
LT40W/850-ID BAA/TAA						5000	

<sup>1</sup> 3000K CCT may be subject to lead times and availability.  
<sup>2</sup> Rated Life 50,000 hours

## Type C T8 LED Lamps with External Driver



### FEATURES AND BENEFITS

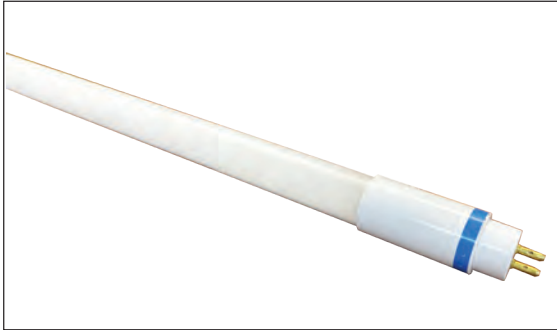
- No Polarity, Lamp Ends Can Be Reversed
- Shatterproof Nano Plastic Tube
- Compatible with Controls and Sensors
- 50,000 Hours Life with No Limitations on On/Off Cycles
- 1 or 2 Lamps Compatible with Espen VPL50 LED Driver
- 3 or 4 Lamps Compatible with Espen VPL100 LED Driver
- Input Voltage 120-277V
- 240° T5 and 325° T8 Wide Beam Angles
- Dimmable
- 5 Year Warranty



Model No.	Driver <sup>1</sup> Current	Replaces	Lamp Power	System Power	Lumens	System Efficacy	Lamp Voltage	CCT (K)	CRI
<b>T8 Lamps</b>									
L24T8/8XX/8P-XT BAA/TAA	250mA	F17T8	8	11	1200	109	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L24T8/8XX/8P-XT BAA/TAA	300mA	F17T8	9	12	1300	108	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L24T8/8XX/8P-XT BAA/TAA	360mA	F17T8	11	14	1600	114	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L36T8/8XX/11P-XT BAA/TAA	250mA	F25T8	9	12	1400	117	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L36T8/8XX/11P-XT BAA/TAA	300mA	F25T8	11	14	1600	114	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L36T8/8XX/11P-XT BAA/TAA	360mA	F25T8	13	16	1900	119	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L48T8/8XX/15P-XT BAA/TAA	250mA	F32T8	10	13	1600	123	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L48T8/8XX/15P-XT BAA/TAA	300mA	F32T8	12	15	1800	120	120-277	3000 <sup>2</sup> 3500 4000 5000	82+
L48T8/8XX/15P-XT BAA/TAA	360mA	F32T8	15	18	2200	122	120-277	3000 <sup>2</sup> 3500 4000 5000	82+

<sup>1</sup> See VPL50 and VPL100 specifications. <sup>2</sup> 3000K CCT may be subject to lead times and availability.

## Type C T5 LED Lamps with External Driver



### FEATURES AND BENEFITS

- No Polarity, Lamp Ends Can Be Reversed
- Compatible with Controls and Sensors
- 50,000 Hours Life with No Limitation on On/Off Cycles
- -20° F to 130° F Ambient Operating Temperature
- 1 or 2 Lamps Compatible with Espen VPL50 LED Driver
- 3 or 4 Lamps Compatible with Espen VPL100 LED Driver
- 240° Wide Beam Angle
- Dimmable
- 5 Year Warranty



Model No.	Driver <sup>1</sup> Current (mA)	Replaces	Lamp Power (W)	System Power (W)	Lumens (lm)	System Efficacy (lm/W)	Lamp Voltage (V)	CCT (K)	CRI
<b>T5 Lamps</b>									
L24T5/8XX/11P-XT BAA/TAA	250mA	F14T5HE	8	11	1200	109	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L24T5/8XX/11P-XT BAA/TAA	360mA	F14T5HE	9	12	1300	108	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L24T5/8XX/11P-XT BAA/TAA	500mA	F24T5HO	12	15	1700	113	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L36T5/8XX/18P-XT BAA/TAA	250mA	F21T5HE	9	12	1400	117	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L36T5/8XX/18P-XT BAA/TAA	360mA	F21T5HE	13	16	1900	119	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L36T5/8XX/18P-XT BAA/TAA	500mA	F39T5HO	18	21	2500	119	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L48T5/8XX/24P-XT BAA/TAA	250mA	F28T5HE	11	14	1700	121	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L48T5/8XX/24P-XT BAA/TAA	360mA	F28T5HE	15	18	2200	122	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	
L48T5/8XX/24P-XT BAA/TAA	500mA	F54T5HO	24	27	3300	122	120-277	3000 <sup>2</sup>	82+
								3500	
								4000	
								5000	

<sup>1</sup> See VPL50 and VPL100 specifications. <sup>2</sup> 3000K CCT may be subject to lead times and availability.



# DRIVER for Type-C T8 LED

## Field Adjustable Selectable Driver



VPL50-2C



VPL100-4C

### FEATURES AND BENEFITS

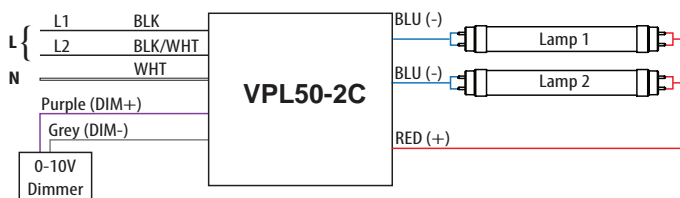


- 3-Level Selectable Drive Current (250/300/360mA)
- Universal Voltage (120 - 277V)
- No Lamp overload- True Parallel Output
- Constant Current
- Output Current 250mA/300mA/360mA  
Selectable through Line Lead(s)
- 0-10V Dimmable
- Integrates with Adaptive Lighting Control Systems
- Compatible with LED modules and Coretech LED tubes
- UL, cUL, UL8750 Class 2
- FCC Part 15 Class A

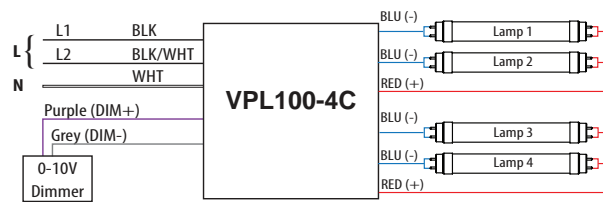


- 3-Level Selectable Drive Current (250/300/360mA)
- Universal Voltage (120-277V)
- No Lamp overload- True Parallel Output
- Constant Current | 4 Channels
- Output Current 250mA/300mA/360mA
- Selectable through Line Lead(s)
- 0-10V Dimmable
- Integrates with Adaptive Lighting Control Systems
- Compatible with LED modules and Coretech LED tubes
- UL, cUL, UL8750 Class 2
- FCC Part 15 Class A

### 2 LAMP WIRING DIAGRAM



### 4 LAMP WIRING DIAGRAM



Model No.	Output Current	Driver Type	Max Wattage (W)	No. of Channels	Input Voltage (V)	Dimming
<b>Field Adjustable LED Driver</b>						
VPL50-2C-025/030/036 TAA	250/ 300/ 360mA	Constant Current	36	2	120 - 277	0 -10V
VPL100-4C-025/030/036 TAA	250/ 300/ 360mA	Constant Current	73	4	120 - 277	0 -10V

See espentech.com for CoreTech™ and VersaLinear™ specifications.

# DRIVER for Type-C T5 LED



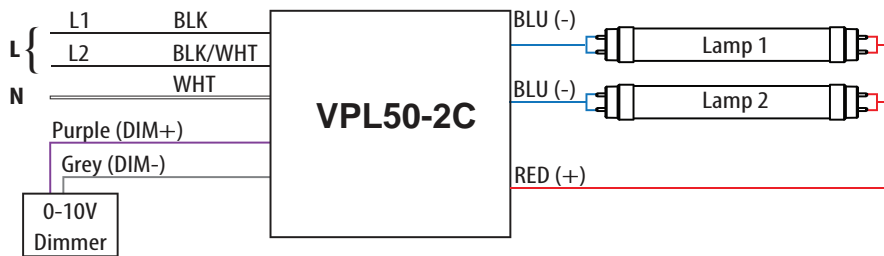
## Field Adjustable Selectable Driver



### FEATURES AND BENEFITS

- 3-Level Selectable Drive Current (250/360/500 mA)
- Selectable through Line Lead(s)
- Universal Voltage (120 - 277V)
- Multiple Output Channels
- Constant Current
- 0-10V Dimmable
- Integrates with Adaptive Lighting Control Systems
- Compatible with LED modules and Coretech LED tubes
- UL, cUL, UL8750 Class 2
- FCC Part 15 Class A

### 2 LAMP WIRING DIAGRAM



\*Dual-Relay Output Current Selection

Input Line	Output Current
L2 (BLK/WHT)	250mA
L1 (BLK)	360mA
L1 + L2	500mA

Model No.	Output Current	Driver Type	Max Wattage (W)	No. of Channels	Input Voltage (V)	Dimming
<b>Field Adjustable LED Driver</b>						
VPL50-2C-025/036/050 TAA	250/360/500mA	Constant Current	50	2	120 - 277	0-10V

See [espentech.com](http://espentech.com) for CoreTech™ and VersaLinear™ specifications.

# DRIVER



## Emergency Inverter

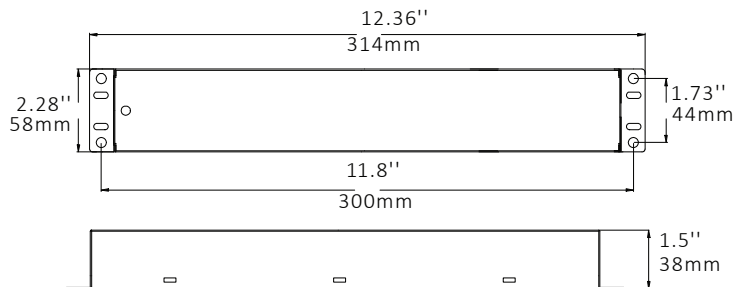
### FEATURES AND BENEFITS

- Universal 120-347V AC, 50/60Hz Input
- Open Circuit Voltage 170VDC
- Charge/Power "ON" LED Indicator Light and Push-to-Test Switch for Code Compliance Testing
- Long Life, Maintenance Free, Lithium-Ion Battery
- Output Short and Overcurrent Protection: Electronic Limiting, with Normal Operation Resuming
- 90 Minute Minimum Emergency Operating Time Over Full Temperature Range
- Durable Steel Housing contains LED Driver and Battery
- 24 Hour Maximum Battery Recharge Time
- Major application includes commercial downlight and 0-10V fixtures and 0-10V fixtures
- 5 Year Warranty
- Meets UL924
- IC Rated

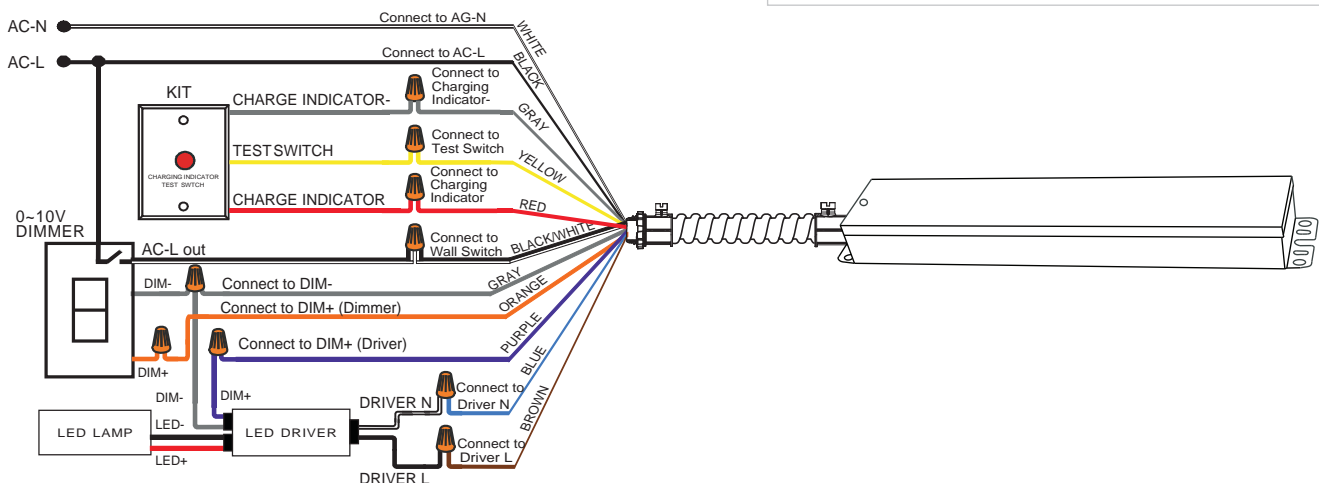


Model No.	Description
VEMB15W-10V (C) TAA VEMB8W-10V (S) TAA	Operates Espen Commercial Downlight or 0-10V Dimming

### DIMENSIONS



### WIRING DIAGRAM





## LED Linear Module Retrofit Kits



Without Diffusor Lens  
TAA

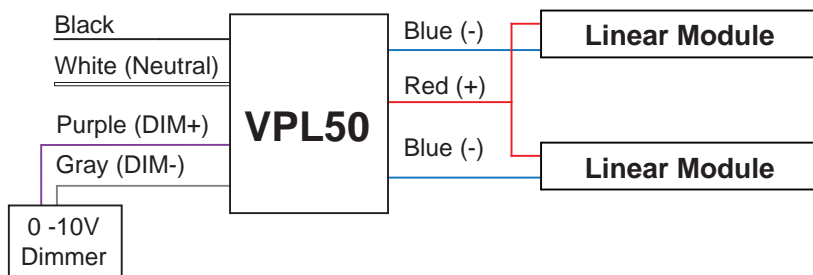


### FEATURES AND BENEFITS

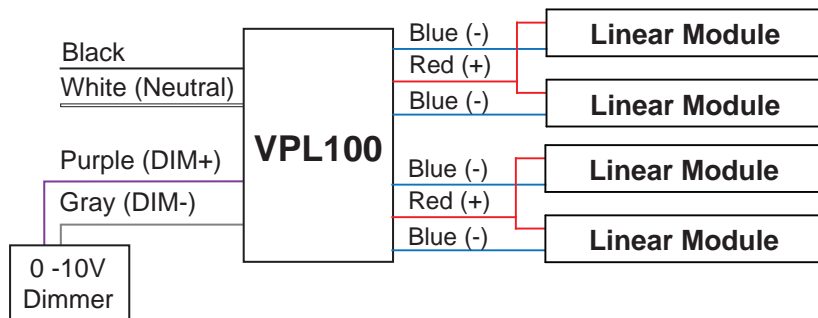
- Designed to Achieve High Lumen Output
- Each Kit Includes LED Modules Paired with an LED Driver
- LED Modules Feature Durable Aluminum Structures
- Magnetic Backing for Easier Installation
- Available with Frosted Diffusor Lens or No Diffusor Lens
- Kits Retrofit 2, 3 and 4 foot T5 and T8 Fixtures
- End-to-End Lighting with No Dark Spots
- 120 - 277V Input Voltage
- 80+ CRI
- 50,000 Hours Life
- Dimmable
- 5 Year Warranty



### HIGH EFFICIENCY 2 LAMP WIRING DIAGRAM



### HIGH EFFICIENCY 4 LAMP WIRING DIAGRAM



## LED Linear Module Retrofit Kits

Order No.	DLC Model No.	Replaces	Diffusor Lens	No. of Modules Included	Driver Included	Driver Current (per module)	System Power (W)	System Lumens (lm)	System Efficacy (lm/W)
<b>2 Foot HE - High Efficiency</b>									
VEKM-L21C/8XX TAA <sup>1,2</sup>	D546-1M-302 C	1 X F17T8	No Lens	1	VPL50	250mA	8.5	1060	125
			No Lens			300mA	10	1250	125
			No Lens			360mA	12	1500	125
VEKM-L22C/8XX TAA <sup>3</sup>	D546-2M-302 C	2 X F17T8	No Lens	2	VPL50	250mA	17	2120	125
			No Lens			300mA	20	2500	125
			No Lens			360mA	24	3000	125
VEKM-L23C/8XX TAA <sup>1,2</sup>	D547-3M-302 C	3 X F17T8	No Lens	3	VPL100	250mA	23	3000	130
			No Lens			300mA	28	3600	129
			No Lens			360mA	34	4300	126
VEKM-L24C/8XX TAA <sup>3</sup>	D547-4M-302 C	4 X F17T8	No Lens	4	VPL100	250mA	30	3900	130
			No Lens			300mA	36	4700	131
			No Lens			360mA	43	5600	130
<b>3 Foot HE - High Efficiency</b>									
VEKM-L31C/8XX TAA <sup>1,2</sup>	D546-1M-303 C	1 X F25T8	No Lens	1	VPL50	250mA	10.5	1460	139
			No Lens			300mA	13	1750	135
			No Lens			360mA	16	2100	131
VEKM-L32C/8XX TAA <sup>1,2</sup>	D546-2M-303 C	2 X F25T8	No Lens	2	VPL50	250mA	21	2900	135
			No Lens			300mA	26	3500	135
			No Lens			360mA	32	4250	133
VEKM-L33C/8XX TAA <sup>1,2</sup>	D547-3M-303 C	3 X F25T8	No Lens	3	VPL100	250mA	31.5	4150	132
			No Lens			300mA	38	5000	132
			No Lens			360mA	46	6100	133
VEKM-L34C/8XX TAA <sup>1,2</sup>	D547-4M-303 C	4 X F25T8	No Lens	4	VPL100	250mA	42	5450	130
			No Lens			300mA	50	6500	130
			No Lens			360mA	60	8000	133
<b>4 Foot HE - High Efficiency</b>									
VEKM-L41C/8XX TAA <sup>1,2</sup>	D546-1M-304 C	1 X F34T8	No Lens	1	VPL50	250mA	11.5	1550	134
			No Lens			300mA	14	1850	132
			No Lens			360mA	18	2300	128
VEKM-L42C/8XX TAA <sup>1,3</sup>	D546-2M-304 C	2 X F34T8	No Lens	2	VPL50	250mA	23	3150	137
			No Lens			300mA	27	3700	137
			No Lens			360mA	35	4600	131
VEKM-L43C/8XX TAA <sup>1,2</sup>	D547-3M-304 C	3 X F34T8	No Lens	3	VPL100	250mA	33	4680	142
			No Lens			300mA	39	5550	142
			No Lens			360mA	50	6900	138
VEKM-L44C/8XX TAA <sup>1,3</sup>	D547-4M-304 C	4 X F34T8	No Lens	4	VPL100	250mA	42	6200	147
			No Lens			300mA	51	7400	145
			No Lens			360mA	65	9250	142
<b>4 Foot HO - High Output</b>									
VEKM-L41C/HO/8XX TAA <sup>1,3</sup>	D546-1M-304 C/HO	1 X 4' HO	No Lens	1	VPL50	600mA	24	3500	145
VEKM-L42C/HO/8XX TAA <sup>1,3</sup>	D547-2M-304 C/HO	2 X 4' HO	No Lens	2	VPL100	600mA	50	7250	145
<b>4 Foot VHO - Very High Output</b>									
VEKM-L41C/VHO/8XX TAA <sup>1,3</sup>	D547-1M-304 C/VHO	1 X 4' VHO	No Lens	1	VPL100	1200mA	50	7250	145

1 XX= 30, 35, 40 or 50.

30 = 3000K, 35 = 3500K, 40 = 4000K, 50 = 5000K (3000K maybe subject to longer lead time and availability.)

2 Not DLC listed. 3 DLC listed.



Order No.	DLC Model No.	Replaces	Diffusor Lens	No. of Modules Included	Driver Included	Driver Current (per module)	System Power (W)	System Lumens (lm)	System Efficacy (lm/W)
<b>2 Foot HE - High Efficiency</b>									
VEKM-L21F/8XX TAA <sup>1,2</sup>	D546-1M-302 F	1 X F17T8	Frosted lens	1	VPL50	250mA	8.5	900	105
			Frosted lens			300mA	10	1050	105
			Frosted lens			360mA	12	1250	104
VEKM-L22F/8XX TAA <sup>1,2</sup>	D546-2M-302 F	2 X F17T8	Frosted lens	2	VPL50	250mA	17	1800	105
			Frosted lens			300mA	20	2100	105
			Frosted lens			360mA	24	2550	105
VEKM-L23F/8XX TAA <sup>1,2</sup>	D547-3M-302 F	3 X F17T8	Frosted lens	3	VPL100	250mA	23	2450	107
			Frosted lens			300mA	28	3000	107
			Frosted lens			360mA	34	3550	104
VEKM-L24F/8XX TAA <sup>1,3</sup>	D547-4M-302 F	4 X F17T8	Frosted lens	4	VPL100	250mA	30	3250	108
			Frosted lens			300mA	36	3900	108
			Frosted lens			360mA	43	4600	107
<b>3 Foot HE - High Efficiency</b>									
VEKM-L31F/8XX TAA <sup>1,2</sup>	D546-1M-303 F	1 X F25T8	Frosted lens	1	VPL50	250mA	10.5	1140	108
			Frosted lens			300mA	13	1400	108
			Frosted lens			360mA	16	1700	106
VEKM-L32F/8XX TAA <sup>3</sup>	D546-2M-303 F	2 X F25T8	Frosted lens	2	VPL50	250mA	21	2300	110
			Frosted lens			300mA	26	2850	110
			Frosted lens			360mA	32	3550	110
VEKM-L33F/8XX TAA <sup>1,2</sup>	D547-3M-303 F	3 X F25T8	Frosted lens	3	VPL100	250mA	31.5	3500	111
			Frosted lens			300mA	38	4200	111
			Frosted lens			360mA	46	5050	110
VEKM-L34F/8XX TAA <sup>1,2</sup>	D547-4M-303 F	4 X F25T8	Frosted lens	4	VPL100	250mA	42	4550	108
			Frosted lens			300mA	50	5400	108
			Frosted lens			360mA	60	6500	108
<b>4 Foot HE - High Efficiency</b>									
VEKM-L41F/8XX TAA <sup>1,2</sup>	D546-1M-304 F	1 X F34T8	Frosted lens	1	VPL50	250mA	11.5	1280	111
			Frosted lens			300mA	14	1550	111
			Frosted lens			360mA	18	1850	103
VEKM-L42F/8XX TAA <sup>1,3</sup>	D546-2M-304 F	2 X F34T8	Frosted lens	2	VPL50	250mA	23	2650	115
			Frosted lens			300mA	27	3100	115
			Frosted lens			360mA	35	3900	111
VEKM-L43F/8XX TAA <sup>1,3</sup>	D547-3M-304 F	3 X F34T8	Frosted lens	3	VPL100	250mA	33	3900	118
			Frosted lens			300mA	39	4600	118
			Frosted lens			360mA	50	5850	117
VEKM-L44F/8XX TAA <sup>1,3</sup>	D547-4M-304 F	4 X F34T8	Frosted lens	4	VPL100	250mA	42	5100	121
			Frosted lens			300mA	51	6150	121
			Frosted lens			360mA	65	7800	120
<b>4 Foot HO - High Output</b>									
VEKM-L41F/HO/8XX TAA <sup>1,3</sup>	D546-1M-304 F/HO	1 X 4' HO	Frosted lens	1	VPL50	600mA	24	3240	135
VEKM-L42F/HO/8XX TAA <sup>1,3</sup>	D547-2M-304 F/HO	2 X 4' HO	Frosted lens	2	VPL100	600mA	50	6750	135
<b>4 Foot VHO - Very High Output</b>									
VEKM-L41F/VHO/8XX TAA <sup>1,3</sup>	D547-1M-304 F/VHO	1 X 4' VHO	Frosted lens	1	VPL100	1200mA	50	6750	135

## Commercial Recessed Downlight



### FEATURES AND BENEFITS

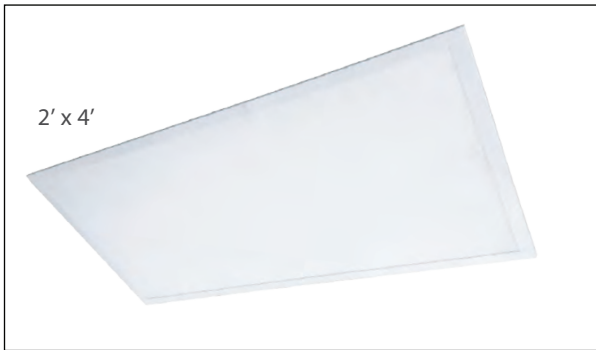
- Commercial Recessed Downlight
- Universal Voltage 120-277V
- UL for Safety
- Three Adjustable Lumen Output
- Three Adjustable CCT Options (3000K, 3500K, 4000K)
- High CRI
- Long Life
- Convenient and quick installation
- 0-10V Dimmable
- 25" Flexible Conduit
- Works in cold temperature applications
- 5 year warranty



Model No.	Size	Power Adjustable (W)	Input Voltage (V)	Lumens Adjustable (lm)	CRI	Beam Angle	Power Factor	Dia. X Height
<b>90 CRI Series</b>								
VEKR4D/9T/14W-10V BAA/TAA	4"	6 / 9 / 14	120-277	550 / 770 / 1100	90	90°	0.9	5.71" x 3.54"
VEKR6D/9T/21W-10V BAA/TAA	6"	8.5 / 13.5 / 21	120-277	770 / 1100 / 1650	90	90°	0.9	8.27" x 4.10"
VEKR8D/9T/27W-10V BAA/TAA	8"	12 / 19 / 27	120-277	1100 / 1650 / 2200	90	90°	0.9	10.24" x 4.41"
VEKR9.5D/9T/45W-10V BAA/TAA	9.5"	23.5 / 32 / 45	120-277	2200 / 2750 / 3520	90	90°	0.9	11.22" x 4.89"
<b>80 CRI Series</b>								
VEKR6D/8T/13W-10V BAA/TAA	6"	6.5 / 9 / 13	120-277	790/1100/1560	>80	90°	0.9	8.27" x 4.25"
VEKR8D/8T/17W-10V BAA/TAA	8"	8.5 / 12 / 17	120-277	1030/1450/2040	>80	90°	0.9	10.24" x 4.57"
VEKR9.5D/8T/27W-10V BAA/TAA	9.5"	17 / 21 / 27	120-277	2070/2500/3240	>80	90°	0.9	11.2" x 5.04"



## LED Direct Lit Panel Retrofit Kits: 3 Power, 3 CCT Adjustable



### FEATURES AND BENEFITS

- Direct-Lit for better efficiency
- Utilizes Existing Housing to Reduce Installation Time and Cost of Labor
- Even Ambient Lighting
- -20° F to 130° F Ambient Operating Temperature
- Available in 2' x 2', 1' x 4' and 2' x 4' Sizes
- Installation Brackets Included *(as seen on page 32)*
- Dimmable (0-10V Dimming)
- UL Recognized
- CEC Title 20 Compliant
- 5 Year Warranty



### Installation Brackets

for versaKIT Panel & versaKIT Troffer



Model No.	Retrofits	Power (W)	Lumens (lm)	Efficacy (lm/W)	Voltage (V)	CCT (K)	CRI	Life (L70) hours
<b>DLC Premium</b>								
VEKT-DP2X2 BAA/TAA	2 x 2 Panel	18/22/25	2250/2750/3125	125	120 - 277	3500/4000/5000	80+	>100,000
VEKT-DP1X4 BAA/TAA	1 x 4 Panel	18/22/25	2250/2750/3125	125	120 - 277	3500/4000/5000	80+	>100,000
VEKT-DP2X4 BAA/TAA	2 x 4 Panel	23/30/36	2875/3750/4500	125	120 - 277	3500/4000/5000	80+	>100,000

## LED Center Basket 3-Level Troffer Retrofit Kits



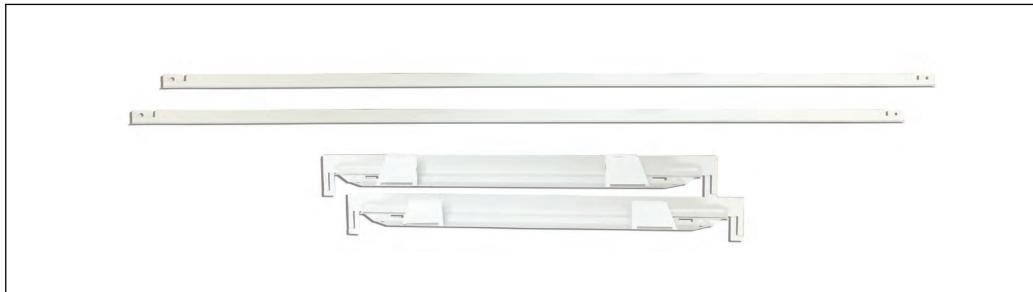
### FEATURES AND BENEFITS

- Central Basket Design
- Quick & Easy Installation
- 3-Level Selectable Current Setting
- Utilizes Existing Housing to Reduce Installation Time and Cost of Labor
- -20° F to 130° F Ambient Operating Temperature
- Center Diffuser Snaps in Place
- Reflective Surface for Uniform Distribution of Light
- Dimmable (0-10V Dimming), Dim-To-Off
- Dim-To-Off Optional
- Three Adjustable CCT (3000K, 3500K, 4000K)



### Installation Brackets

versaKIT Troffer



Model No.	Application	Power (W)	Lumens (lm)	Efficacy (lm/W)	Input Voltage (V)	CCT	CRI	Dimming	THD	Power Factor	Life (l70) hours
<b>FT LED Lamps</b>											
VEKT2X2H/8T (20W/25W/30W) TAA	2X2	20/25/30	2500/3125/3750	125	120 - 277	3500/4000/5000	>80	0-10V	<20%	0.9	>100,000
VEKT2X4/8T (25W/30W/34W) TAA	2X4	25/30/34	3125/3750/4250	125	120 - 277	3500/4000/5000	>80	0-10V	<20%	0.9	>100,000

## LED Channel Retrofit Kits



### FEATURES AND BENEFITS

- Utilizes Existing Housing to Reduce Installation Time and Cost of Labor
- Diffuser Lens Provides Uniform Ambient Lighting and Reduces Glare
- High Efficiency LED Module and LED Driver
- -20° F to 130° F Ambient Operating Temperature
- Dimmable (0-10V Dimming)
- Suitable for Damp Locations
- 5 Year Warranty



Model No	Retrofits	Length (ft)	Power (W)	Lumens (lm)	Efficacy (Lm/W)	Input Voltage (V)	CCT (K)	CRI	Life (L70) Hours
<b>For T8 or Slim Line Applications</b>									
VEKL4F/23-835 BAA/TAA	4' Channel	4	23	3000	130	120 - 277	3500	80+	>100,000
VEKL4F/23-840 BAA/TAA							4000		
VEKL4F/23-850 BAA/TAA							5000		
VEKL8F/46-835 BAA/TAA	8' Channel	8	46	5980	130	120 - 277	3500	80+	>100,000
VEKL8F/46-840 BAA/TAA							4000		
VEKL8F/46-850 BAA/TAA							5000		
<b>For HO or VHO Line Applications</b>									
VEKL4F/40-835 BAA/TAA	4' Channel	4	40	5240	131	120 - 277	3500	80+	>100,000
VEKL4F/40-840 BAA/TAA							4000		
VEKL4F/40-850 BAA/TAA							5000		
VEKL8F/65-840 BAA/TAA	8' Channel	8	65	8500	131	120 - 277	4000	80+	>100,000
VEKL8F/65-850 BAA/TAA							5000		
VEKL8F/90-835 BAA/TAA	8' Channel	8	90	11440	127	120 - 277	3500	80+	>100,000
VEKL8F/90-840 BAA/TAA							4000		
VEKL8F/90-850 BAA/TAA							5000		

#### OPTIONS:

- EM-10W (Emergency Battery Backup, 10 watts, ~1250lm)
- OCC (Bi-Level Occupancy Sensor, Microwave)
- BAA (Buy American Act Compliant)
- TAA (Trade Agreement Act Compliant)

## Emergency Inverter

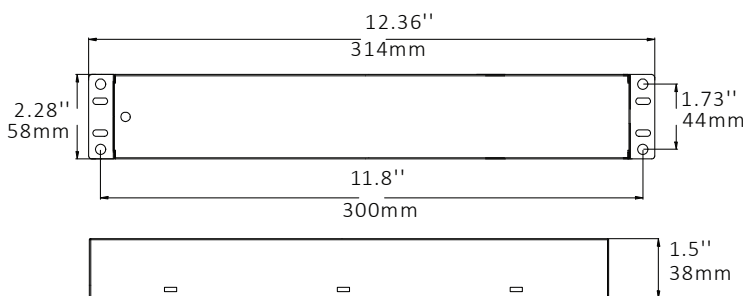
### FEATURES AND BENEFITS

- Universal 120-347V AC, 50/60Hz Input
- Open Circuit Voltage 170VDC
- Charge/Power "ON" LED Indicator Light and Push-to-Test Switch for Code Compliance Testing
- Long Life, Maintenance Free, Lithium-Ion Battery
- Output Short and Overcurrent Protection: Electronic Limiting, with Normal Operation Resuming
- 90 Minute Minimum Emergency Operating Time Over Full Temperature Range
- Durable Steel Housing contains LED Driver and Battery
- 24 Hour Maximum Battery Recharge Time
- Major application includes commercial downlight and 0-10V fixtures
- 5 Year Warranty
- Meets UL924
- IC Rated



ModeNo.	Description
VEMB15W-10V (C) TAA	Operates Espen Commercial Downlight 0-10V Dimming fixture up to 50W
VEMB8W-10V (S) TAA	Operates Espen Commercial Downlight 0-10V Dimming Fixture up to 80W

### DIMENSIONS



### Compatible With Espen Commercial Downlight





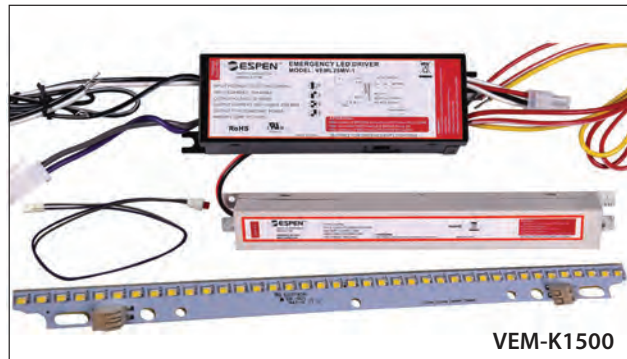
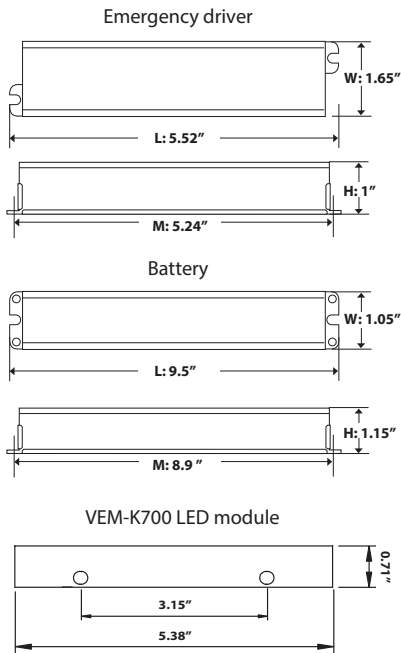
## Standalone Emergency Back-Up Kits

### Constant Wattage LED

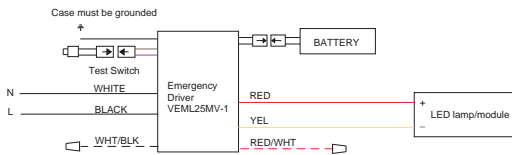
### FEATURES AND BENEFITS

- Constant Wattage & Light Output
- High Efficacy LED Module
- Does not Affect Existing Lighting Fixture / Luminaire
- UL Listed

### DIMENSIONS



### WIRING DIAGRAM



Model #	Dip Switch Setting	Emergency Mode Output Power	Emergency Mode Output Voltage	Emergency Mode Output Current	Battery Charging Current
VEM-K700		5W	12-50V	416-100mA	60mA
VEM-K1500		10W	12-50V	830-200mA	100mA

Model No.	Lumens (90min)	Wattage	Module Information
VEM-K700 TAA	700lm	5W	VLM0605L/850 5W, 5000K, CRI80
VEM-K1500 TAA	1500lm	10W	VLM1207L/850 10W, 5000K, CRI80





the Power to Create Better Light™

## BAA/TAA RETROFIT LIGHTING SOLUTIONS

### HEADQUARTERS

Espen Technology Inc.  
12257 Florence Ave  
Santa Fe Springs, CA 90670 USA

### WAREHOUSE

Espen Technology Inc.  
1350 Brookville Way, Suite F  
Indianapolis, IN 46239 USA

### SALES/CUSTOMER SERVICE

Toll Free Tel: (866) 933-7736  
Toll Free Fax: (888) 503-7736  
Tel: (562) 529-2938  
Fax: (562) 529-2978

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