



LED Drivers for  
UL Class I Fixed



LED Drivers for  
UL Class I Dimming



LED Drivers for  
UL Class I Programmable



LED Drivers for  
UL Class 2 Fixed



LED Drivers for  
UL Class 2 Dimming



LED Drivers for UL Class 1 & 2  
Downlighting and Tracklighting

# Xitanium LED ELECTRONIC DRIVERS

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# Xitanium LED ELECTRONIC DRIVERS

## Philips Xitanium Programmable LED Drivers

Ultimate flexibility for LED lighting manufacturers

Optimized to meet the ever-evolving needs of today's LED lighting manufacturers, Xitanium Programmable LED Drivers are a one-stop solution for the varying power needs of industrial high bay, highway, urban street, as well as area and flood lighting applications. Offering an unparalleled level of flexibility, these drivers provide a large number of features which can be customized based on the desired functionality of the luminaire design with a simple programming\* interface. With multiple choices for current output levels, module temperature control settings and a network-ready DALI interface, this is an easily integrated driver solution. Luminaire designers and manufacturers are also able to streamline logistics without compromising on performance.

Benefits include:

- Robust programmable solution that offers ultimate design flexibility with a reliable long lifetime
- Reduced SKU complexity and simplified logistics management (one driver to serve many needs)
- Multiple dimming options provide energy savings and can reduce light pollution and CO<sub>2</sub> impact
- Easily programmable user interface for onsite customization of driver requirements
- Optimized life expectancies of up to 100,000 hours\*\*
- Driver programmability provides hours for the ever-evolving improvements in LED efficacy, removing the need to design-in a new LED driver as technology improves or changes



\* Programming the driver requires an interface device between your computer and the DALI connection on the driver. Please contact your Philips sales representative for the programming interface.

\*\* Minimum 90% survivals based on MTBF modeling.

# Xitanium LED ELECTRONIC DRIVERS

## Feature highlights

- Robust protection against moisture and vibration
- Programmable Adjustable Output Current (AOC): The power to choose the LED current that is optimal for the LED PCB
- Module Temperature Control Protection (MTC): Set the limit temperature level at which the driver starts to dim the LEDs
- Constant Light Output (CLO): Regulates required light output over life to maximize efficiency
- Over the Life (OTL): Driver provides an end of life signal for easy maintenance
- Integrated Dynadimmer; classic and time based, DALI or 1-10V dimming protocols (Dynadimmer override is also available)
- Lighting system diagnostic (beta version)

## Rugged design

Xitanium Programmable LED drivers are designed for both indoor and outdoor specification to foster reliability and long life. Exceptionally robust construction provides protection against dust, moisture and destructive vibrations, and full functionality across a wide temperature spectrum. The drivers are designed to deliver maximum lifetime of 100,000 hours.\*

## Reliability

Helping to improve the reliability of an LED luminaire, the Module Temperature Control (MTC) feature manages excessive temperatures of the PCB board. High heat negatively impacts the useful life of the module, and can increase maintenance costs. The driver reads the temperature of the LED module, and once it exceeds the specified threshold, will automatically reduce the current to the LEDs, dimming the lights and cooling down the module. Even the most robust LED solutions eventually approach end of useful life. The luminaire manufacturer can program the Over the Life (OTL) indicator function to signal that the LED module should be replaced.

## Minimizing power consumption over life

All lighting sources suffer from a depreciation of light output over time. To ensure the minimum required light levels at lamp's end of life, most systems consume more power than necessary. The Constant Light Output (CLO) functionality enables the LEDs to always deliver the required light output by gradually increasing the current over the lifetime of the module, compensating for the reduction in light.

## Benefits of dimming

The remarkable energy savings and CO<sub>2</sub> reductions achieved with LED lighting solutions can be further extended with dimming. Lowering the light levels during off-peak hours also minimizes light pollution. Xitanium Programmable LED drivers offer a full range of dimming options, with both stand-alone and network protocols. The integrated Dynadimmer functionality offers multiple dimming profiles. The 1-10V interface allows for simplified, one way management, while the DALI interface makes any installation with the Xitanium Programmable LED driver ready for a fully networked control system.

## Applications

- Highways
- Urban streets
- Area and flood lighting
- High bay, industrial

\* Minimum 90% survival based on MTBF modeling.

# Xitanium LED ELECTRONIC DRIVERS

## Product specifications

Output current range (mA)	Output voltage range (V)	Output power (W)	Dimming range (%)	Efficiency range (at max. load)	Input voltage range (Vac)	Inrush current peak (A)	Inrush current width to 50% (s)	Power factor (100% load)	Power factor (dimmed 50%)	Lifetime* @ Tcase life 71° C (10% failure)
<b>Xitanium 75W</b>										
350-700	80-152	30-75	100-10	≥ 92%	120-277	108	140	≥ 0.97	≥ 0.92	100,000
<b>Xitanium 150W</b>										
350-700	125-280	30-150	100-10	≥ 93%	120-277	108	140	≥ 0.97	≥ 0.94	100,000

\* Minimum 90% survivals based on MTBF modeling.

## General product characteristics

Rated frequency:	50/60 Hz
T ambient:	-40 to +55° C
T max:	+80° C
THD:	20%

## External RSET

Factory default setting enables customization of the output current without the programming interface, offering choices in a continuous range between 350 and 700 mA. The current value is determined by placing a specific resistor between the Rset (yellow) and Common (ble/wht) wires (RSET) and Signal ground (COMIN) wires. Please refer to the Design-in Guide for full range of values.

## Programming note

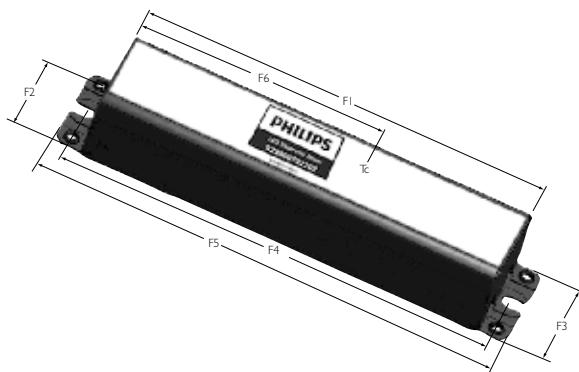
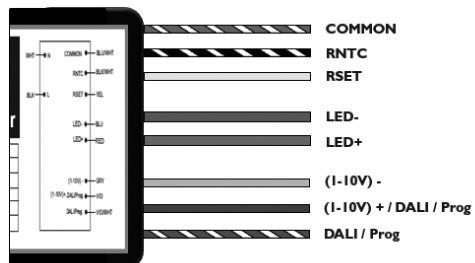
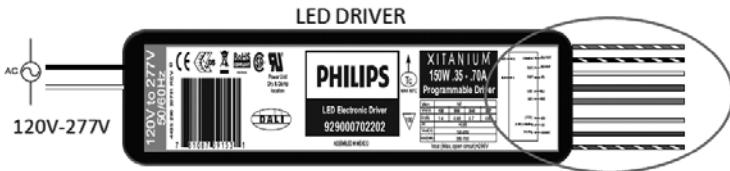
Xitanium Programmable LED drivers are shipped from factory with the following default settings:

Adjustable output current (AOC)	Use external RSET. If no resistor connected, driver will deliver 700mA
Module thermal protection (MTC)	Enabled (NTC2-15 k+390 Ohm)
Adjustable startup time	1000 ms
Over the life (OTL) indicator	Disabled
Dimming interface selection	I-10 V (minimum dim level 10%)
Constant light output (CLO)	Disabled

For complete details, please refer to the Design-in Guide.

## Dimensions

Xitanium 75W & 150W Programmable LED drivers	F1	F2	F3	F4	F5	F6
inches	8.31"	1.48"	2.33"	8.84"	9.47"	5.2"
mm	211.14	37.61	59.13	224.63	240.51	130





## Catalog Number Explanation

General

#### LED Xitanium LED Driver



# Xitanium LED Electronic Drivers

Max Output Power (W)	Output Voltage (V)	Output Current (Amps)	Min/Max Ambient Temp (C/F)	Input Volts	Catalog #	Certifications	Input Current Max (A)	Input Power Max (W)	Max. THD %	Power Factor	Env. Rating	Dim./Wiring Dia.	
<b>UL Class I Fixed Drivers</b>													
100	60 ~ 140	0.350	-40C / 55C	120	LEDINTA700C140F3O	✓	✓	0.53	64	20	0.99	Dry, Damp	
				230				0.29	67				
				277				0.25	69				
		0.525		120				0.78	94				
				230				0.41	94				
				277				0.35	97				
		0.700		120				1.04	125				
				230				0.55	127				
				277				0.46	127				
115	120 ~ 280	0.400	-40C / 55C	120 277	LEDINTA0400C280FO	✓	✓	1.07	128	20	0.90	Dry, Damp	
115	120 ~ 280	0.400	-40C / 55C	347 480	LEDHCNA0400C280FO	✓	✓	0.37	128	20	0.90	Dry, Damp	
150	120 ~ 425	0.350	-40C / 55C	120 277	LEDINTA0350C425FO	✓	✓	1.40 0.60	165	20	0.90	Dry, Damp	
150	60 ~ 210	0.700	-40C / 55C	120 250 277	LEDINTA0700C210FO	✓	✓	1.40 0.67 0.60	165	20	0.99	Dry, Damp	
150	120 ~ 425	0.350	-40C / 55C	347 480	LEDHCN0350C425FO	✓	✓	0.50 0.35	165	20	0.99	Dry, Damp	
150	60 ~ 210	0.700	-40C / 55C	347 480	LEDHCN0700C210FO	✓	✓	0.50 0.35	165	20	0.99	Dry, Damp	
150	60 ~ 210	0.700	-40C / 55C	120 277	LEDINTA700C210A54	✓	✓	1.40	165	20	0.90	Dry, Damp	
<b>UL Class I Dimming Drivers</b>													
40	40 ~ 77	0.35~0.52	-40C / 55C	120 277	LEDINTA0520C80DB	✓	✓	0.36	47	20	0.90	Dry, Damp	
150	120 ~ 425	0.35	-40C / 55C	120 277	LEDINTA0350C425DO	✓	✓	1.40 0.60	165	20	0.90	Dry, Damp	
150	120 ~ 180	0.53	-40C / 55C	120 277	LEDINTA0530C280DO	✓	✓	1.40 0.60	165	20	0.90	Dry, Damp	
150	60 ~ 210	0.7	-40C / 55C	120 277 250Vdc	LEDINTA0700C210DO	✓	✓	1.40 0.60 0.67	165	20	0.90	Dry, Damp	
150	40 ~ 140	1.05	-40C / 55C	120 240 277	LEDINTA1050C140DO	✓	✓	1.37 0.71 0.59	165	20	0.90	Dry, Damp	
150	120 ~ 425	0.35	-40C / 55C	347 480	LEDHCNA0350C425DN	✓	✓	0.50 0.35	165	20	0.90	Dry, Damp	
150	120 ~ 180	0.53	-40C / 55C	347 480	LEDHCNA0530C280DN	✓	✓	0.50 0.35	165	20	0.90	Dry, Damp	
150	60 ~ 210	0.7	-40C / 55C	347 480	LEDHCNA0700C210DN	✓	✓	0.50 0.35	165	20	0.90	Dry, Damp	



# Xitanium LED Electronic Drivers

Max Output Power (W)	Output Voltage (V)	Output Current (Amps)	Min/Max Ambient Temp (C/F)	Input Volts	Catalog #	Certifications		Input Current Max (A)	Input Power Max (W)	Max. THD %	Power Factor	Env. Rating	Dim./Wiring Dia.
<b>UL Class I Programmable Drivers</b>													
75	80 ~ 152	0.350 ~0.70	-40C / 55C	120 200 240 277	929000702302M	✓	✓	0.70 0.45 0.35 0.30	85	20	0.95	Dry, Damp	F/12
75	80 ~ 152	0.350 ~0.70	-40C / 55C	120 200 240 277	929000704913M	✓	✓	0.70 0.45 0.35 0.30	85	20	0.95	Dry, Damp	F/12
150	125 ~ 280	0.350 ~0.70	-40C / 55C	120 200 240 277	929000702202M	✓	✓	1.40 0.85 0.70 0.60	165	20	0.95	Dry, Damp	F/12
150	125 ~ 280	0.350 ~0.70	-40C / 55C	120 200 240 277	929000705113M	✓	✓	1.40 0.85 0.70 0.60	165	20	0.95	Dry, Damp	F/12



# Xitanium LED Electronic Drivers

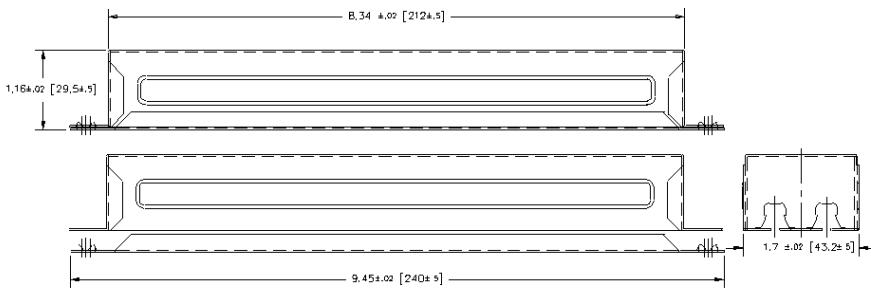
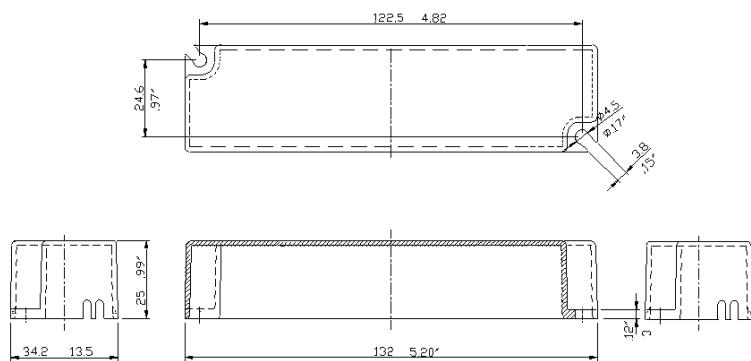
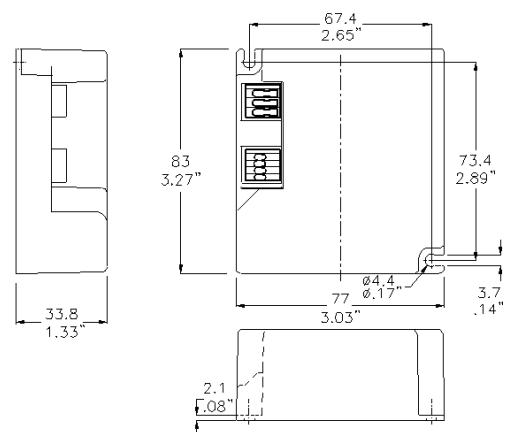
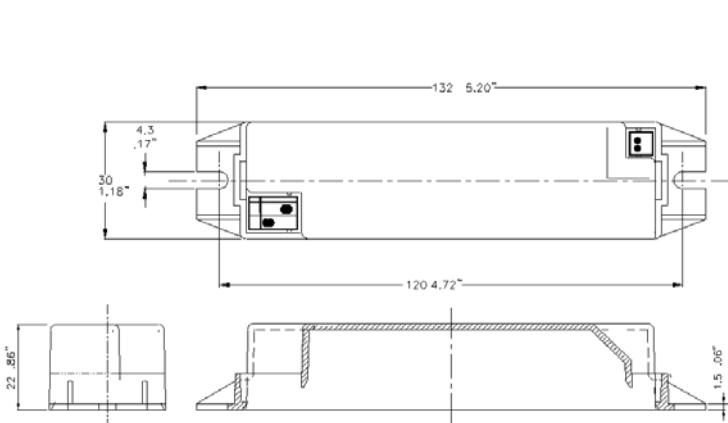
Max Output Power (W)	Output Voltage (V)	Output Current (Amps)	Min/Max Ambient Temp (C/F)	Input Volts	Catalog #	Certifications		Input Current Max (A)	Input Power Max (W)	Max. THD %	Power Factor	Env. Rating	Dim./Wiring Dia.	
						CSA®	UL®							
<b>UL Class 2 Fixed Drivers</b>														
3.5	12	0.350	-10C / 40C	120 230	LEDUNIA0350C12F		✓	0.06	7	20	0.9	Dry	G/3	
8	2.8 ~ 12	0.700	-10C / 40C	120 230	LEDUNIA0350C12F		✓	0.25	15	20	0.9	Dry	G/3	
12	2.8 ~ 33	0.350	-40C / 55C	120	LED120A0350C33F	✓	✓	0.13	15	20	0.9	Dry	A/6	
12	2.8 ~ 28	0.350	-40C / 55C	120	LED120A0350C28FO	✓	✓	0.10	12.5	20	0.9	Dry, Damp	C/I	
12	2.8 ~ 12	1.000	-40C / 55C	120	LED120A0012V10F	✓	✓	0.13	15	20	0.9	Dry, Damp	C/I	
17	2.8 ~ 24	0.700	-40C / 55C	120	LED120A0700C24F	✓	✓	0.18	21.5	20	0.9	Dry	A/6	
17	2.8 ~ 24	0.700	-40C / 55C	120	LED120A0700C24FO	✓	✓	0.18	21.5	20	0.9	Dry, Damp	C/I	
17	24	0.700	-40C / 55C	120	LED120A0024V07F	✓	✓	0.18	21.5	20	0.9	Dry, Damp	A/6	
20	2.8 ~ 28	0.700	-40C / 55C	120	LED120A0700C28FO	✓	✓	0.20	24	20	0.9	Dry, Damp	C/I	
20	10 ~ 28	0.700	-40C / 55C	277	LED277A0700C28FO	✓	✓	0.09	24	20	0.9	Dry, Damp	C/I	
25	18 ~ 36	0.3~0.7	-20C / 55C	120 277	929000601003	✓	✓	0.20	30	20	0.9	Dry, Damp	B/8	
25	2.8 ~ 12	2.100	-40C / 60C	120	LED120A0012V21F	✓	✓	0.25	30.5	20	0.9	Dry	B/8	
25	2.8 ~ 24	1.050	-40C / 60C	120	LED120A0024V10F	✓	✓	0.26	30.9	20	0.9	Dry	B/8	
34	2.8 ~ 24	1.400	-40C / 60C	120	LED120A1400C24F	✓	✓	0.35	42	20	0.9	Dry	B/8	
34	2.8 ~ 24	1.400	-40C / 60C	120	LED120A0024V14FO	✓	✓	0.35	42	20	0.9	Dry, Damp	E/7	
40	2.8 ~ 24	1.750	-40C / 60C	120	LED120A0024V18F	✓	✓	0.42	50	20	0.9	Dry	B/8	
40	2.8 ~ 24	1.750	-40C / 60C	120	LED120A0024V18FO	✓	✓	0.42	50	20	0.9	Dry, Damp	E/7	
48	24	0.10 ~ 2.000	-40C / 55C	120 277	LEDINTA0024V20FLO	✓	✓	0.48	57	20	0.9	Dry, Damp	F/I	
53	24	2.200	-40C / 55C	120 277	LEDINTA0024V22FO	✓	✓	0.50		62	20	0.90	Dry, Damp	D/I
58	9 ~ 36	1.600	-40C / 55C	120 277	LEDINTA1600C36FO	✓	✓	0.55	68	20	0.90	Dry, Damp	D/I	
58	9 ~ 36	1.600	-40C / 55C	120 277	LEDINTA1600C36FO	✓	✓	0.25		68	20	0.90	Dry, Damp	D/I
10 ~ 60	12	0.8 ~ 5.000	-40C / 55C	120	LED120A0012V50F	✓	✓	0.63	75	20	0.90	Dry, Damp	D/I	
60	12	0.10 ~ 5.000	-40C / 55C	120 277	LED120A0012V50FO	✓	✓		60	70	20	0.99	Dry, Damp	D/I
67	24	0.10 ~ 2.800	-40C / 55C	120 277	LEDINTA0024V28FO	✓	✓	0.65	78	20	0.99	Dry, Damp	D/I	
72	24	31.10 ~ 3.000	-40C / 55C	120 277	LEDINTA0024V30FLO	✓	✓	0.28		86	20	0.90	Dry, Damp	F/I
77	24	3.200	-40C / 55C	120 277	LEDINTA0024V32FO	✓	✓	0.75	91	20	0.90	Dry, Damp	D/I	
77	24	3.200	-40C / 55C	120 277	LEDINTA0024V32FO	✓	✓	0.35		91	20	0.90	Dry, Damp	D/I
10 ~ 80	24	0.8 ~ 3.300	-40C / 55C	120	LED120A0024V33F	✓	✓	0.79	95	20	0.99	Dry, Damp	D/I	
100	3.5 ~ 24	0.10 ~ 4.160	-40C / 55C	120 277	LEDINTA0024V41FLO	✓	✓	0.95	117	20	0.90	Dry, Damp	F/I	
100	3.5 ~ 24	0.10 ~ 4.160	-40C / 55C	120 277	LEDINTA0024V41FO	✓	✓	0.42		117	20	0.90	Dry, Damp	F/I
100	3.5 ~ 24	0.10 ~ 4.160	-40C / 55C	347 480	LEDHCNA0024V41FLO	✓	✓	0.32	117	20	0.90	Dry, Damp	F/I	
100	3.5 ~ 24	0.10 ~ 4.160	-40C / 55C	347 480	LEDHCNA0024V41FLO	✓	✓	0.23		117	20	0.90	Dry, Damp	F/I
<b>DC/DC Dimming Controller</b>														
60	12	5.000	-40C / 55C	12Vdc 24Vdc	913710830902	✓	✓	5.00	60	20	0.90	Dry, Damp	C/4	
100	24	4.100	-40C / 55C	347 480	913710830902	✓	✓	4.10	100		20	0.90	Dry, Damp	C/4



# Xitanium LED Electronic Drivers

Max Output Power (W)	Output Voltage (V)	Output Current (Amps)	Min/Max Ambient Temp (C/F)	Input Volts	Catalog #	Certifications		Input Current Max (A)	Input Power Max (W)	Max. THD %	Power Factor	Env. Rating	Dim./Wiring Dia.
<b>UL Class 2 Dimming Drivers</b>													
20	10.0 ~ 28.0	0.7	-20C / 55C	120	LED120A0700C28DO	✓	✓	0.2	24	20	0.90	Dry Damp	C/2
25	24.0	0.6 ~ 1.05	-20C / 55C	120	LED120A0024V10D		✓	0.25	30	20	0.90	Dry Damp	B/9
48	24.0	1.0 ~ 2.0	-20C / 55C	120	LEDINTA2000C24DO	✓	✓	0.5	59	15	0.90	Dry Damp	I/15
				230				0.25					
				277				0.2					
48	24.0	0.10 ~ 2.0	-40C / 55C	120	LEDINTA0024V20DLO	✓	✓	0.48	57	20	0.90	Dry Damp	F/2
				277				0.22					
72	24.0	0.10 ~ 3.0	-40C / 55C	120	LEDINTA0024V30DLO	✓	✓	0.72	86	20	0.90	Dry Damp	F/2
				277				0.322					
100	24.0	0.10 ~ 4.16	-40C / 55C	120	LEDINTA0024V41DLO	✓	✓	0.95	117	20	0.90	Dry Damp	F/2
				277				0.40					
<b>UL Class I and Class 2 Dimming Drivers for downlighting and tracklighting</b>													
30	25 ~ 56	350 ~ 520	-20C / 55C	120 277	LEDINTA0520C60DB	✓	✓	0.30	36	20	0.90	Dry Damp	H/14
39	20 ~ 56	200 ~ 700	-40C / 55C	120 277	913701213402	✓	✓	0.34	44	20	0.90	Dry Damp	H/13
40	40 ~ 77	350 ~ 520	-20C / 55C	120 277	LEDINTA0520C80DB	✓	✓	0.36	47	20	0.90	Dry Damp	H/14
50	25 ~ 48	700 ~ 1050	-40C / 55C	120 277	LEDINTA1000C60DB	✓	✓	0.50	59	20	0.90	Dry Damp	H/14
<b>UL Class I and Class 2 Indoor Programmable Drivers for downlighting and tracklighting</b>													
50	27 ~ 54	0.300 ~ 1.000	-20C / 50C	277	XV050C100V054DPM1M	✓	✓	0.205	57	20	0.90	Dry Damp	H/14
60	50 ~ 80	0.300 ~ 1.000	-20C / 50C	277	XV060C100V080DPM1M	✓	✓	0.246	68	20	0.90	Dry Damp	H/14
25	18 ~ 36	0.300 ~ 1.000	-20C / 50C	277	XV025C100V036DPM1M	✓	✓	0.103	28	20	0.90	Dry Damp	H/14
25	27 ~ 54	0.200 ~ 0.500	-20C / 50C	277	XV025C050V054DPM1M	✓	✓	0.103	28	20	0.90	Dry Damp	H/14
50	27 ~ 54	0.300 ~ 1.000	-20C / 50C	120	XR050C100V054XPM1M	✓	✓	0.473	57	20	0.90	Dry Damp	H/14
60	50 ~ 80	0.300 ~ 1.000	-20C / 50C	120	XR060C100V080XPM1M	✓	✓	0.568	68	20	0.90	Dry Damp	H/14
25	18 ~ 36	0.300 ~ 1.000	-20C / 50C	120	XR025C100V036XPM1M	✓	✓	0.237	28	20	0.90	Dry Damp	H/14
25	27 ~ 54	0.200 ~ 0.500	-20C / 50C	120	XR025C050V054XPM1M	✓	✓	0.237	28	20	0.90	Dry Damp	H/14
25	18 ~ 36	0.300 ~ 1.000	-20C / 50C	120	XR025C100V036LPM1M	✓	✓	0.237	28	20	0.90	Dry Damp	H/14
25	18 ~ 36	0.300 ~ 1.000	-20C / 50C	120 277	XI025C100V036XPL1M	✓	✓	0.237 0.101	28 28	20	0.90	Dry Damp	H/14
50	27 ~ 54	0.300 ~ 1.000	-20C / 50C	120 277	XI050C100V054XPL1M	✓	✓	0.473 0.203	57 56	20	0.90	Dry Damp	H/14
75	27 ~ 54	0.700 ~ 2.000	-20C / 50C	120 277	XI075C200V054YPT1M	✓	✓	0.710 0.304	85 84	20	0.90	Dry Damp	I/14
75	27 ~ 54	0.700 ~ 2.000	-20C / 50C	120 277	XI075C200V054XPT1M	✓	✓	0.710 0.304	85 84	20	0.90	Dry Damp	I/14

# Xitanium LED ELECTRONIC DRIVERS



# Xitanium LED ELECTRONIC DRIVERS

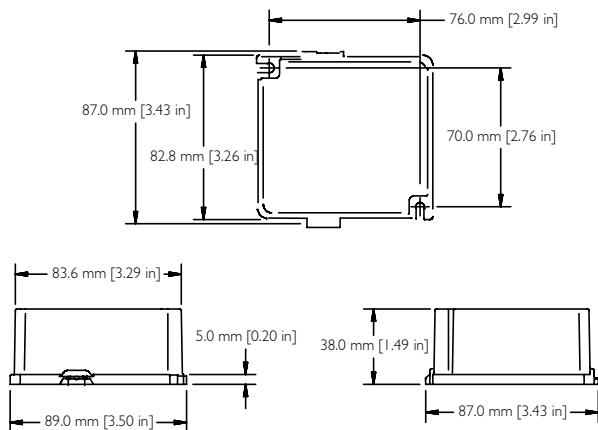


Fig. E

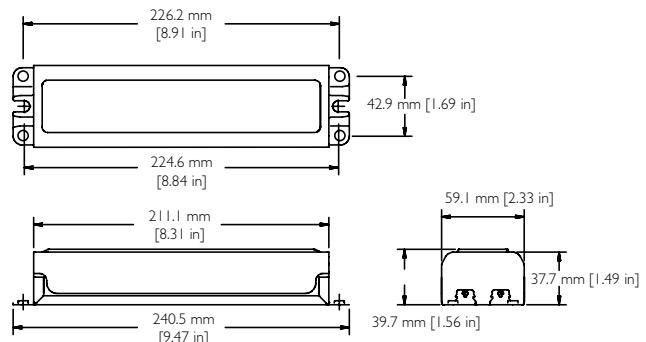


Fig. F

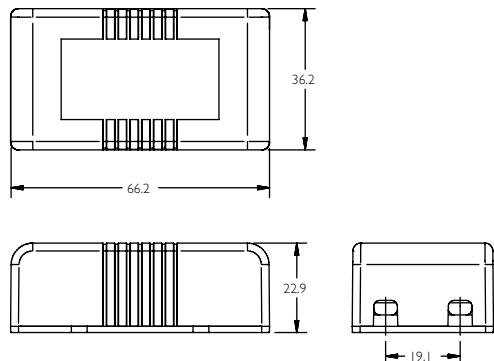


Fig. G

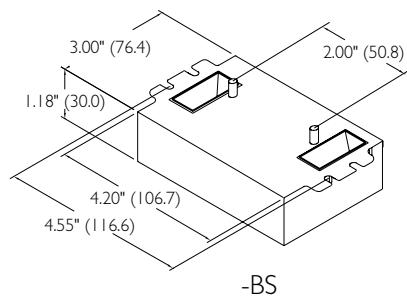


Fig. H

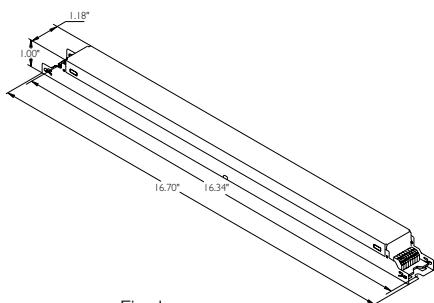
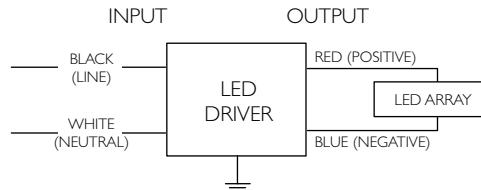


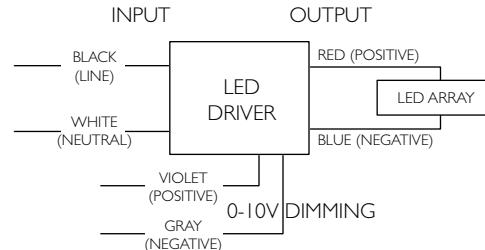
Fig. I

Includes connectors with no leads

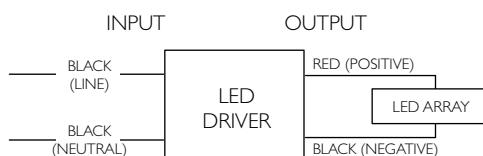
# Xitanium LED ELECTRONIC DRIVERS



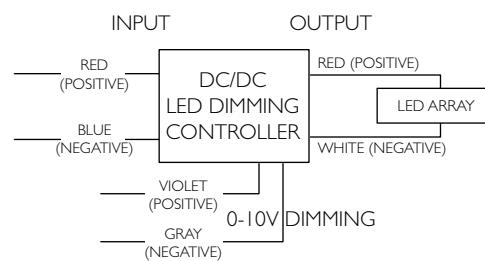
Diag. 1



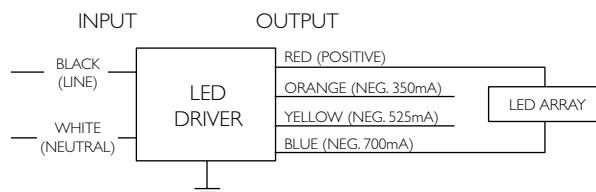
Diag. 2



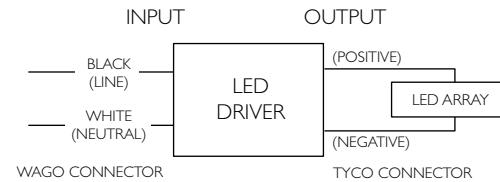
Diag. 3



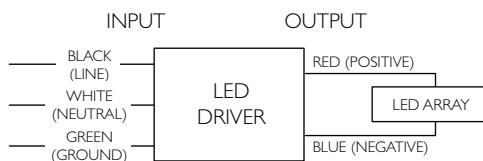
Diag. 4



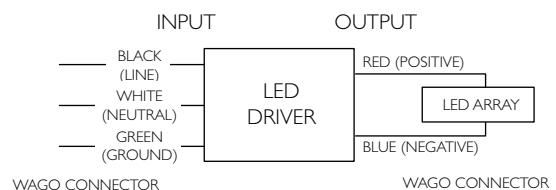
Diag. 5



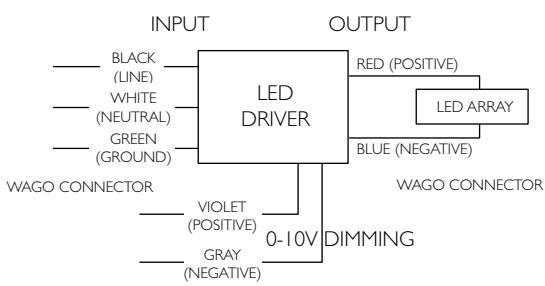
Diag. 6



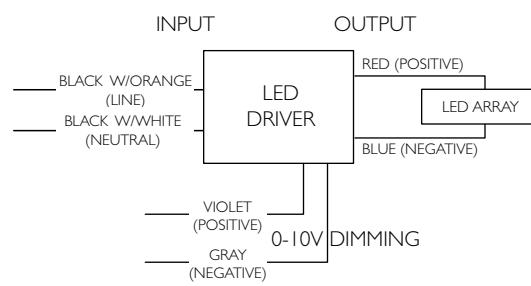
Diag. 7



Diag. 8

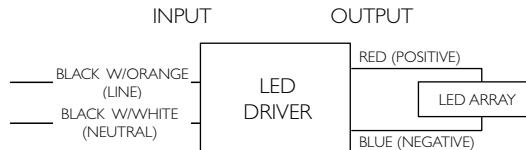


Diag. 9

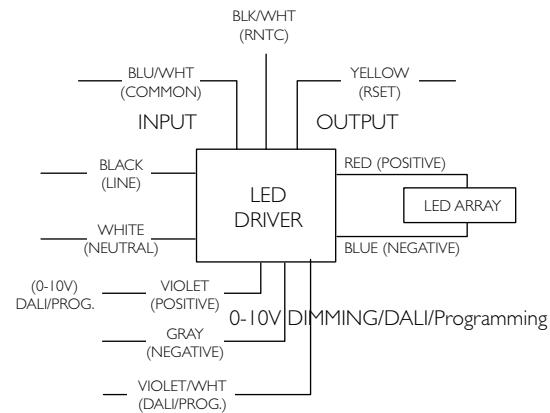


Diag. 10

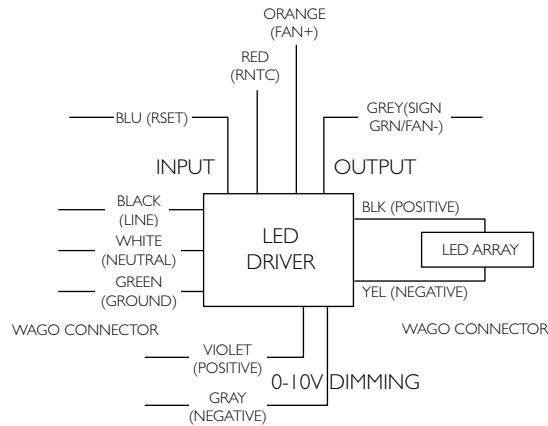
# Xitanium LED ELECTRONIC DRIVERS



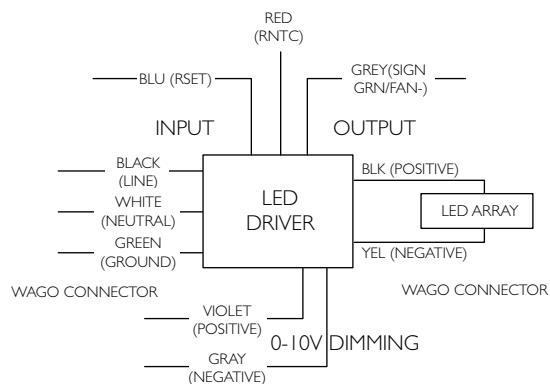
Diag. 11



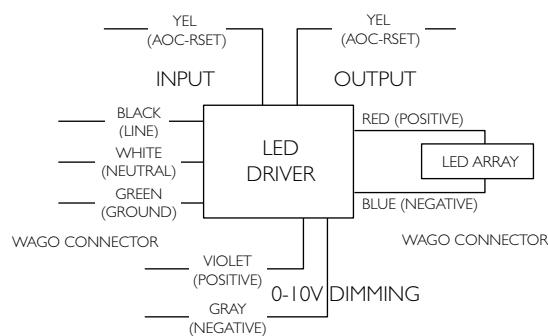
Diag. 12



Diag. 13



Diag. 14



Diag. 15