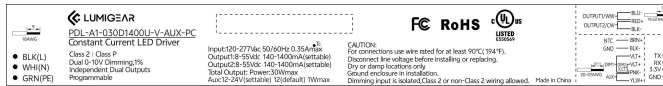


Features & Benefits

- Universal AC Input Voltage(120-277VAC)
- Linear form factor, Metal sheet case(White), Side feed
- Two Isolated 0-10V dimming interfaces, dim down to true 1%, independent dual outputs
- Low standby power: <0.6W@120VAC
- Suitable for indoor use
- Flicker free, excellent camera compatibility, spec-grade smoothness
- UL Class2, Class P
- Operating temperature: -30°C~+50°C
- Comply IEEE1789, UL8750

USB Programmable:

- ◆ Output current, Dim to off, Min Dimming Level, Output voltage of aux power
- ◆ OTP point , Luminous decay compensation, LED thermal protection(NTC)
- ◆ End-of-life indicator, Fade in time, Over load protection point
- ◆ Log/linear/square dim curves
- ◆ Selectable for dimming mode: warm dim, tunable white,and Solo.



Model List

Model Name	Rated Input Voltage	Max Output Power(Total)	Output Current(Total)	Rated Output Voltage	Efficiency	Dimension
PDL-A1-030D1400U-V-AUX-PC	120-277VAC	30W max.	2*(140-1400)mA (1mA step)	2*(8-55)VDC	89%	280*30*21.5 mm 11×1.2×0.8 in.

Optional Function

Aux power: 12-24V programmable,1W

Approvals



Model name code

PDL-A1	-	030D	1400	U	-	V	-	AUX	-	PC
①		②	③	④		⑤		⑥		⑦

①	Series	PDL 2*10V Series
②	Output power	Maximum output power: 30W
③	Output Current(max)	Output current:1400mA
④	Input voltage	U:120-277VAC M:120-347VAC
⑤	Dimming Control	0-10V
⑥	AUX	BLANK: Without aux power AUX:Aux power: 12-24V programmable,1W
⑦	Programmable	USB-PC

Specification:

Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
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INPUT

Input Voltage	V_{IN}		108		305	V_{AC}
Rated Input Voltage	$V_{IN\ RATED}$		120		277	V_{AC}
Input Frequency	f_{line}		47	50/60	63	Hz
Input Current	I_{IN}	Full Load, $V_{IN} = 120V_{AC}$			0.35	A
Inrush Current	I_{INRUSH}	Cold Start, $V_{IN} = 277V_{AC}$			60	A
Leakage Current	$I_{Leakage}$	$V_{IN} = 277V_{AC}$ 60Hz			0.75	mA

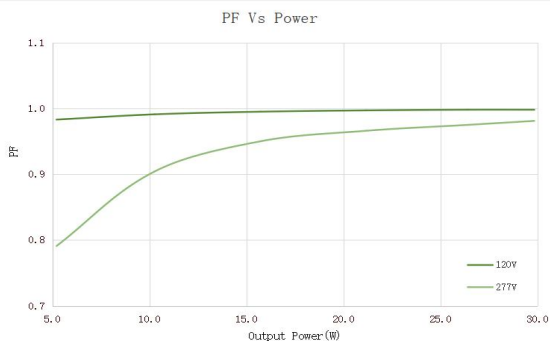
Number of Drivers per MCB(Circuit Breaker)	MCB type	B10	C10	D10	B13	C13	D13	B16	C16	D16	B20	C20	D20
	120V _{AC}	19	22	26	25	29	34	31	36	41	39	45	52
	277V _{AC}	13	22	44	17	29	58	21	35	71	26	44	89

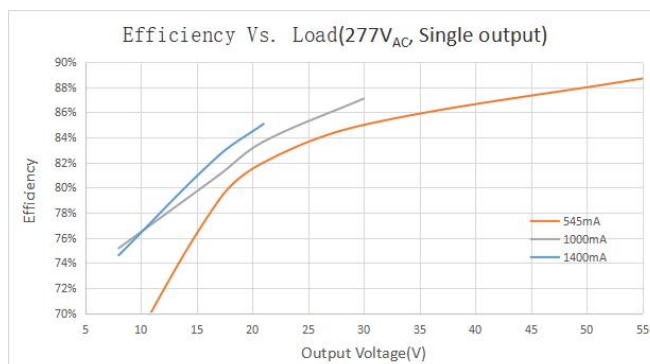
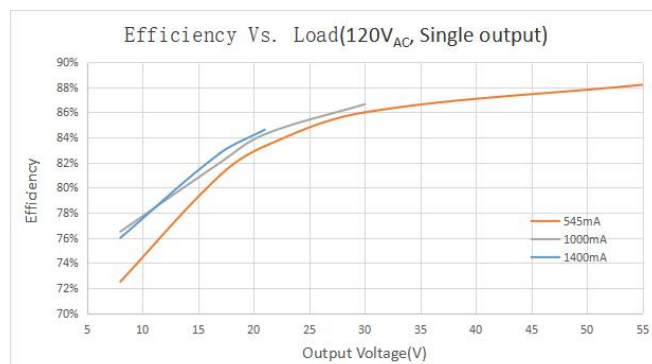


Input Voltage	Inrush Current	t(us)10%-10%
120VAC	12.2A	186
277VAC	31.2A	180
347VAC	NA	NA

General Characteristics

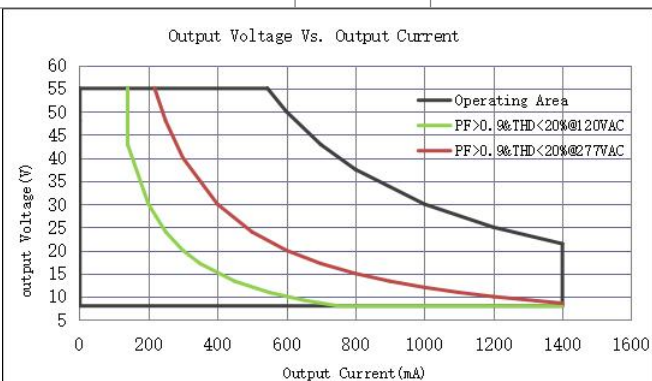
Power Factor	PF	20-100% load, $V_{IN} = 120V_{AC}$	0.95			PF
		40-100% load, $V_{IN} = 277V_{AC}$	0.9			
Total Harmonic Distortion	THD	20-100% load, $V_{IN} = 120V_{AC}$			20	%
		40-100% load, $V_{IN} = 277V_{AC}$			20	
Efficiency	η	Full load, $V_{IN}=120V_{AC}$, $I_{OUT}=545mA$, $V_{OUT}=55V$, Steady state	87	88		%
		Full load, $V_{IN}=277V_{AC}$, $I_{OUT}=545mA$, $V_{OUT}=55V$, Steady state	88	89		%
Turn On Delay Time	T_{on_delay}	Cold Start, 400-1400mA			0.5	S
		Cold Start, 140-399mA			1	S





OUTPUT

Programmable Current	Output	I_{OUT}	One Channel	140		1400	mA
Number of Output		N	Independent		2		
Output current tolerance	t		$I_{OUT}=400-1400mA$			5	%
			$I_{OUT}=140-399mA$			7	%
Output Current Range		I_{OUT}	Amplitude Control.	1.4		1400	mA
Output Voltage		V_{OUT}		8		55	V
Output Power		P_{OUT}	See "Operating window"			30	W
Line Regulation		$V_{OUT-LINE}$				1	%
Load Regulation		$I_{OUT-LOAD}$	V_{OUT} from MIN. to MAX.			5	%
Ripple Current		$I_{OUT-RIPPLE}$	Full Load, $(I_{Omax}-I_{Omin})/(I_{Omax}+I_{Omin})$			10	%
Output Current Overshoot		$I_{OVERSHOOT}$	Turning Power ON			10	%

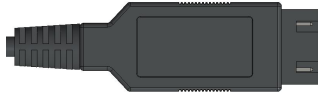


Programming (Optional)

The driver can be programmed through USB.

- Output current for each channel(1mA step)
- Dim to off, Min Dimming Level
- Output voltage of aux power
- OTP point of driver
- LED thermal protection
- Luminous decay compensation
- End-of-life indicator
- Fade in time
- Over load protection point
- Log/linear/square dim curves

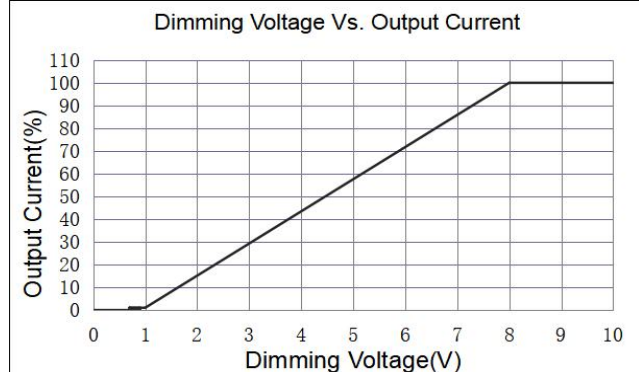
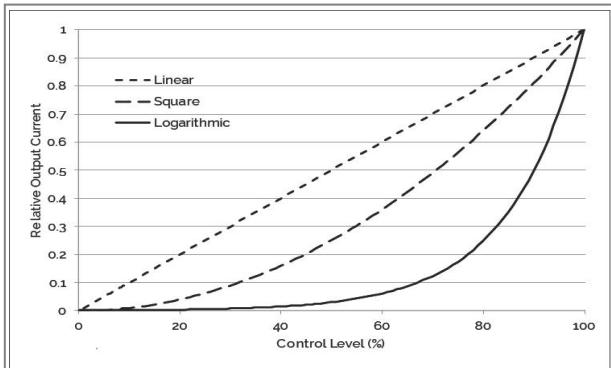
- Selectable for dimming mode: warm dim, tunable white, and solo.

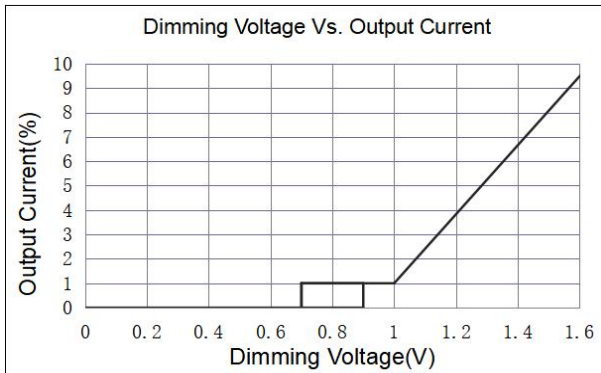
USB port	The USB port can recognize the type of input signal, analog or digital. So the driver can be easily connected to a digital control system, or can be connected to an external NTC / rheostat / current selection switch to set the driver(eg: output current , dimming level, and so on).					
	Programming software	“LUMIGEAR Programming Tool”				
	Programming tool	“Lumigear tool box”				
	Operating voltage			3.3	3.6	V
	Pull up resistor	TX is pulled up to +3.3V		62K		Ohm
		RX is pulled up to +3.3V		15K		Ohm
+3.3V Aux power				10	mA	
Programming Interface	PGT-USB-TPAC-A					
Programming Cables	PGT-USB-P254					

0~10V

The 0~10V dimming can be used to dim the output current via a standard commercial wall dimmer (0~10V_{DC}) or an external control voltage source (0~10V_{DC}).

Dimming Curve	Selectable: LOG, Linear, Square. please see “Dimming curve”.					
Dimming Mode	Selectable: warm dim, tunable white, and Solo.					
Absolute Maximum Voltage on 0~10V Pin	V _{DIM}		0		300	V
Source Current on 0~10V Dimming Pin	I _{DIM}		200		500	uA
Light On	V _{DIM-on}	Settable		0.7		V
Light Off	V _{DIM-off}	Settable		0.9		V
Clamp Voltage	V _{DIM-Clamp}	Settable		1		V
Dimming Voltage for Full Bright	V _{DIM-MAX}	Settable			8	V
Leakage Voltage	V _{Leak-rms}	Voltage between DIM- and Ground			20	V _{AC}
Standby power	P _{STANDBY}	Light Off, V _{IN} =120V			0.6	W





Auxiliary source (Optional)

Max.power	P_{AUX}				1	W
Voltage range	V_{AUX}	Programmable	12		24	Vdc
	$V_{AUX_DEFAULT}$	Default voltage		12		Vdc
Voltage tolerance	t_{AUX}				8	%
Over load Protection	P_{OLP_AUX}	Foldback mode			1.5	W

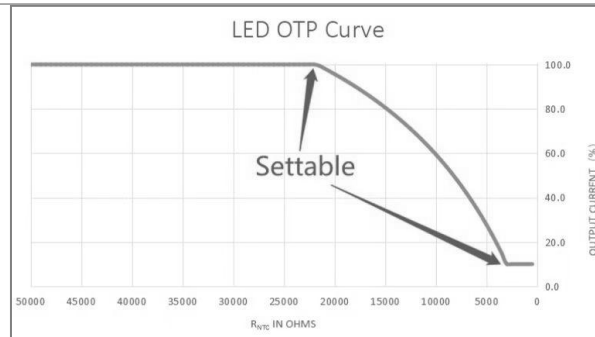
LED Thermal Protection (NTC) Characteristic

The LED thermal protection feature of the driver helps reduce the temperature of the LED module by reducing dual output current together in case of abnormal temperature conditions.

In the end application, care must be taken to place the NTC thermistor close to the hottest spot on the LED module.

If LED thermal protection is not required the NTC port on the LED power supply connector can be left open.

Graphs for reference. The derating limits can be programmed using the Light Touch. Please contact lumigear for details.



Protection

Over Voltage Protection	V_{OVP}	The unit will recover automatically after fault conditions is removed.			60	V
Over load Protection	P_{OLP}	Programmable. CC/CV mode	12		30	W
OLP tolerance	t_{OLP}		100		110	%
Over Temp. Protection	T_{OTP}	Programmable. Current foldback at hotspot greater than T_{OTP}		90		°C
Short Circuit Protection	Recover automatically after fault conditions is removed.					

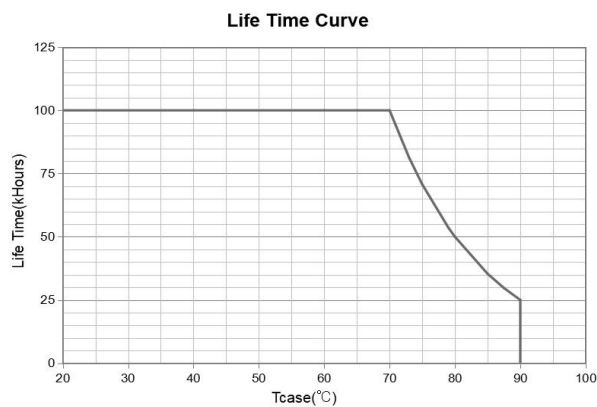
Environment

Storage Temperature	$T_{Storage}$	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Ambient Operating Temperature	T_a		-30	-	+50	°C
Max. Case Temperature	T_c	Hot spot on case			90	°C
Operating Relative Humidity	H_a	Non-Condensing	10		90	%

Acoustic Noise		Measured from 1 m w/o dimmer.			24	dBA
Cooling	Convection Cooling					
IP Rating	Dry and damp UL approved					

Others

Life Time	T_{Life}	Full Load, 80°C case temperature, $V_{IN} = 120/277V_{AC}$	50			kHrs
MTBF	T_{MTBF}	Full Load, 25°C ambient temperature $V_{IN} = 120/277V_{AC}$	200			kHrs
Net Weight	W_{NET}			280		g
Warranty	5 Years Warranty at $T_c \leq 80^\circ C$					
Flicker	IEEE 1789					



Safety Compliance

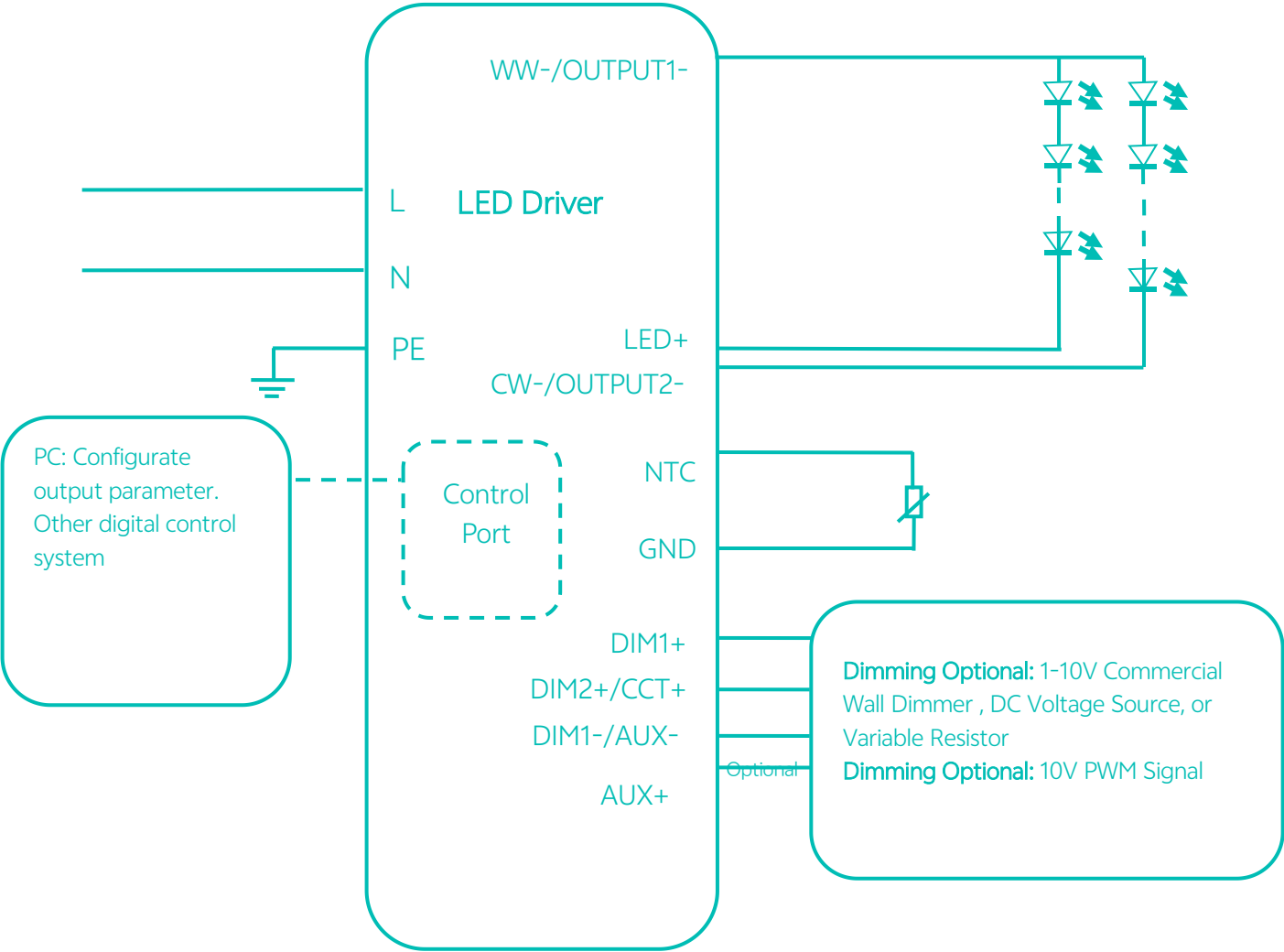
CUL/UL	UL8750, CAN/CSA-C22.2 No. 250.13
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Electromagnetic Compliance

EMC Requirements	Standard	Conditions
EMI Emissions	FCC Title 47 Part 15B	Class B at 120V _{AC} , Class A at 277V _{AC}
Voltage Fluctuations and Flicker	IEC61000-3-3	
Immunity Compliance	IEC 61000-4-2	±8kV air Discharge, ±6kV Contact Discharge
	ANSI C62.41	± 2kV Common and Differential Mode, test at 2 Ω, 5 strikes/1minute interval (40 total strikes)
	ANSI C62.41.1	2.5kV Ring Wave, test at 30Ω 7 Strikes/1 minute interval, Common and Differential mode, 56 total strikes
	IEC 61000-4-11	>95% dip, .5 period; 30% dip, 25 periods; 95% reduction, 250 periods
	IEC 61000-4-4	± 2kV Direct couple to Line input, 5kHz repetition rate, 15mS duration, 300mS period. 7 coupling paths, 1 minute per path (14 total combinations)

Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and rated voltage.

Typical Application:



Packaging

Driver quantity (pcs)	Layer	Weight (kg)	Outer dimensions of Carton L*W*H(mm)
63	7	15	330 X 305 X 240

Mechanical Drawing: 280*30*21.5 mm/ 11×1.2×0.8 in.

Dimensions(Unit:mm)

Default tolerance:±1mm

