GLDP-200 series

200W Programmable Constant Power LED Driver with Dimming Function

GLP GLOBAL LEADER POWER

Features:

- *Constant power design with adjustable output current*
- *Ouput current adjustable via infrared controller or software interface*
- *Built-in active PFC function*
- *Universal AC input / Full range*
- *Protections: Short Circuit / Over Voltage / Over Temperature*
- *Cooling by free air convection*
- *Surge immunity: Differential Mode - 5kV, Common Mode - 10kV*
- *Dimming 3 in 1(1-10V, PWM, Time dimming) function for M version*
- *IP67 design for indoor and outdoor applications*

Application:

- *LED street / tunnel lighting*
- *Industrial lighting*
- *Flood lighting*
- *Grow lights*

© MODEL INFORMATION

Model Number	Output Power [W]	Output Current adjustable range [A]		Output Voltage Range [V]		Default Spec		Efficiency typ. [%]	No load max. Output Voltage [V]
		min	max	min	max	Voltage [V]	Current [A]		
GLDP-200X054 (X = M, R)	201.6	0.63	6.30	20	54	36	5.55	91	60
GLDP-200X120 (X = M, R)	201.6	0.28	2.80	60	120	72	2.8	91	140
GLDP-200X305 (X = M, R)	200.2	0.14	1.40	120	305	143	1.4	92	340
GLDP-200X445 (X = M, R)	200.2	0.07	0.70	230	445	286	0.7	93	490

© APPROVAL MARKS and SYMBOLS

GLDP-200X054 (X = M, R)	RoHS IP67 SELV	tc: 85°C ta: 60°C	EN 25 TÜV SÜD
GLDP-200X120 (X = M, R)	RoHS IP67	tc: 85°C ta: 60°C	EN 25 TÜV SÜD
GLDP-200X305 (X = M, R)	RoHS IP67	tc: 85°C ta: 60°C	EN 25 TÜV SÜD
GLDP-200X445 (X = M, R)	RoHS IP67	tc: 85°C ta: 60°C	EN 25 TÜV SÜD

© MODEL ENCODING

GLDP	-	200	X	Y
Series name		Rated Output Power [W]	**R** - no dimming	**054** - max output voltage is 54V
			M - 1-10V, PWM dimming	**120** - max output voltage is 120V
				305 - max output voltage is 305V
				445 - max output voltage is 445V

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⊙ ELECTRICAL SPECIFICATION

MODEL	GLDP-200X054	GLDP-240X120	GLDP-240X305	GLDP-240X445
OUTPUT				
Voltage Range	20 ÷ 54VDC	60 ÷ 120VDC	120÷ 305VDC	230 ÷ 445VDC
No Load Voltage (max.)	60VDC	140VDC	340VDC	490VDC
Current Adjustment Range	0.63 ÷ 6.30A	0.28 ÷ 2.80A	0.14 ÷ 1.4A	0.07 ÷ 0.70A
Rated Power	201.6W	201.6W	200.2W	200.2W
Factory Current / Voltage	5.5A / 36VDC	2.8A / 72VDC	1.4A / 143VDC	0.70A / 286VDC
Current accuracy	± 5.0%			
Line Regulation (from 105VAC to 305VAC)	± 1.0%			
Load Regulation (from 50% to 100% load)	± 3.0%			
Current Ripple for LED Load (peak to peak)	< 16% I_{OUT}			
Setup Time	< 0.5s / 230VAC at full load; < 3s / 115VAC at full load			
INPUT				
Voltage Range	90 ÷ 305VAC			
Frequency Range	47 ÷ 63Hz			
Efficiency at 100% load (typ.)	90% / U_{OUT} = 32VDC	91% / U_{OUT} = 72VDC	91% / U_{OUT} = 143VDC	91% / U_{OUT} = 286VDC
	91% / U_{OUT} = 54VDC	91% / U_{OUT} = 120VDC	92% / U_{OUT} = 305VDC	93% / U_{OUT} = 445VDC
	Refer to Efficiency vs. Output Voltage Curve			
AC Current (max.)	2.8A			
Inrush Current (max.)	75A / 230VAC			
Leakage Current (max.)	0.75mA / 277AC			
Standby Power Consumption	< 10W			
Power Factor (typ.)	0.95 / 230VAC at 100% load (Refer to Power Factor vs. Output Power Curve)			
THD	< 20% / 230VAC at 70-100% load (Refer to THD vs. Load Curve)			
PROTECTIONS				
Short Circuit	Type: hiccup mode, auto-recovery. Input power < 10W			
Over Voltage	60 ± 2VDC	135 ± 5VDC	330 ± 10VDC	480 ± 10VDC
	Type: shut off output voltage, restart on to recovery.			
Over Temperature	Temperature of enclosure > 85°C			
	Type: Output current is limited in 30% (typ.)			
WORKING ENVIRONMENT				
Working Temperature	-40°C ÷ 60°C (Refer to Derating Curve)			
Working Humidity	20 ÷ 95% RH non-condensing			
Storage Temperature and Humidity	-40°C ÷ 85°C, 20 ÷ 95% RH non-condensing			
Vibration	10 to 500Hz sweep at constant acceleration 1G (depth 3.5mm) for 1 hour for each X, Y, Z axes			
Degree Of Protection [2]	IP67			

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SAFETY AND EMC REGULATIONS

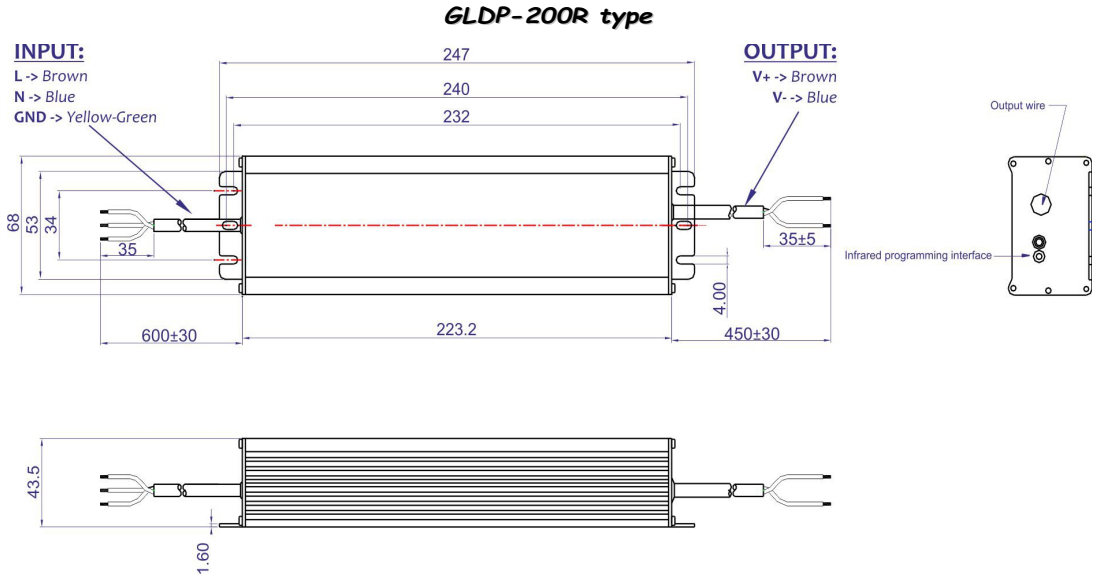
Safety Standards	CB	IEC61347-1; IEC61347-2-13
	CE	EN61347-1; EN61347-2-13
EMC Standards	CE	EN55015; EN61000-3-2; EN61000-3-3; EN61547
Withstand Voltage	IN/OUT: 3.75kVAC; IN/GND: 1.6kVAC; OUT/GND: 1.6kVAC; 60s, current < 10mA	
Grounding Resistance	< 0.1Ω (60S/25A)	
Insulation Resistance	IN/OUT, IN/GND, OUT/GND > 50MΩ (500VDC/60s)	

OTHERS

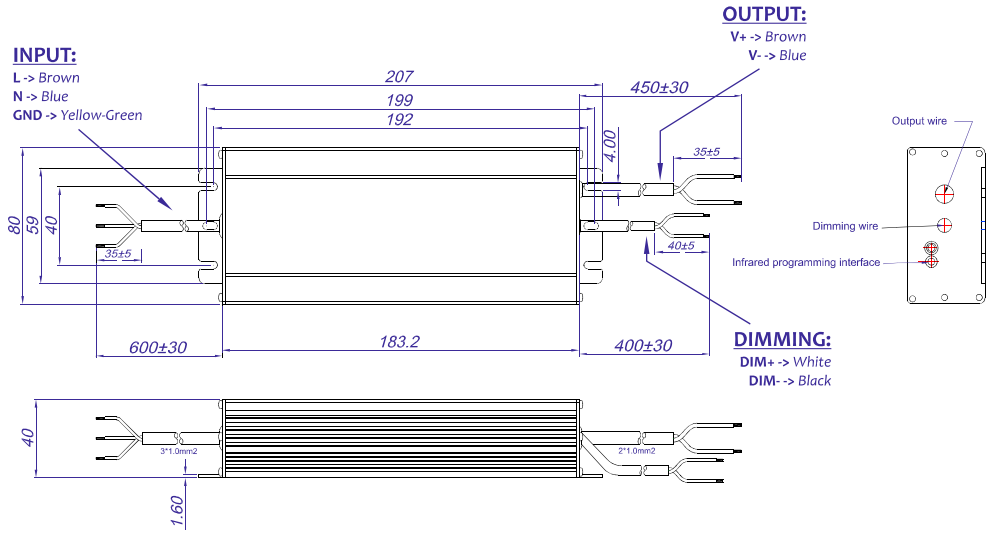
Input Wire	H05RN-F 3 x 1.0mm^2, length = 600 ± 30mm
Output Wire	H05RN-F 2 x 1.5mm^2, length = 450 ± 30mm
Dimming Wire (only for M model)	2 x 22AWG, length = 400 ± 30mm
MTBF	200 000h at 230VAC / 80% load and ta < 25°C
Life Time (min.)	50 000h at 230VAC / 100% load and tc < 70°C (Refer to Life Time vs. T_C Curve)
Dimensions (Length * Width x Height)	207 * 80 * 40mm
Weight	1100 ± 100g

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Suitable for indoor or outdoor use. Please avoid direct exposure to sunlight and immersion in water for over 30 minutes.
3. Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC and LVD Directives.

MECHANICAL SPECIFICATION

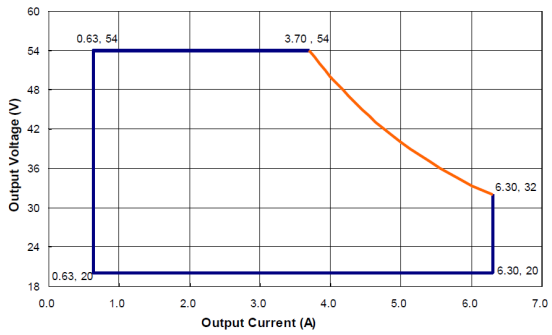


GLDP-200M type

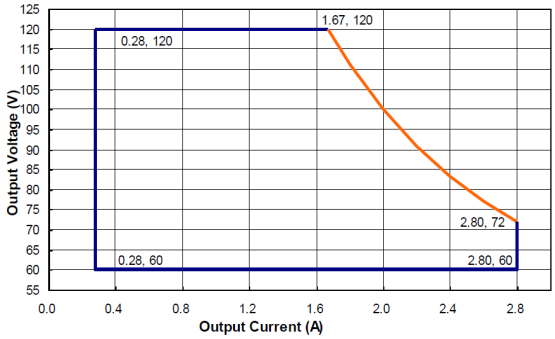


© Maximum Output Voltage vs. Output Current Curve

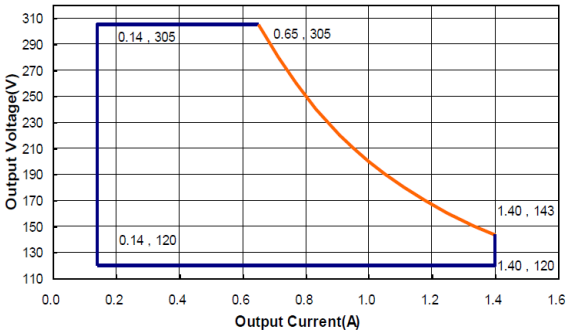
GLDP-200X054



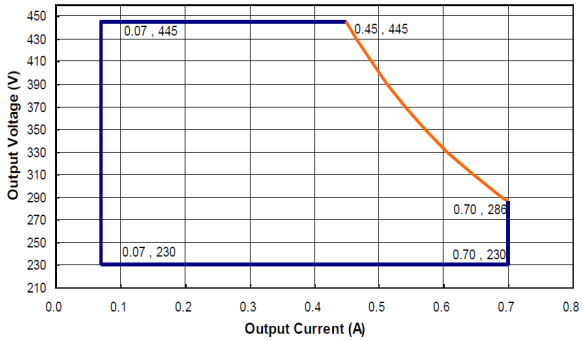
GLDP-200X120



GLDP-200X305

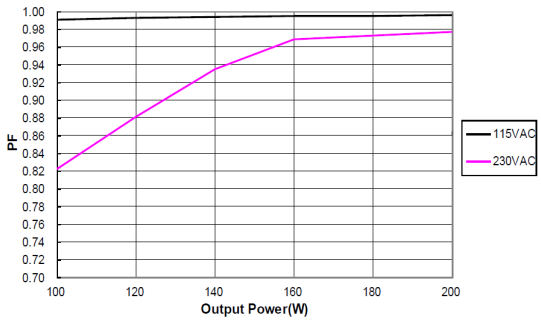


GLDP-200X445

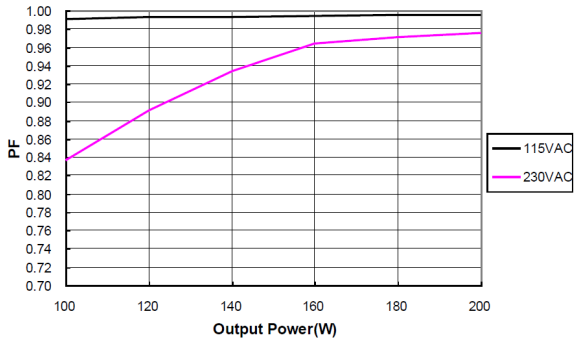


© Power Factor vs. Output Power Curve

GLDP-200X054



GLDP-200X120



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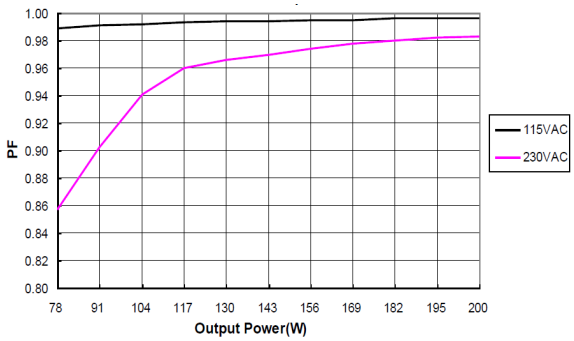
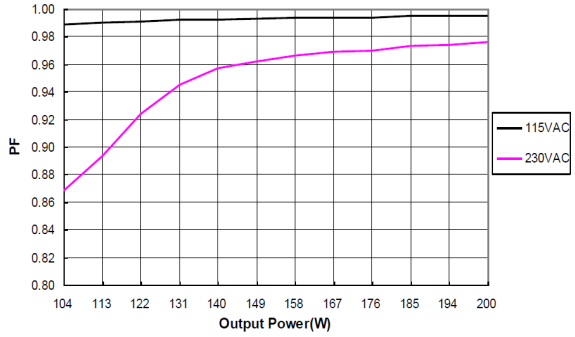
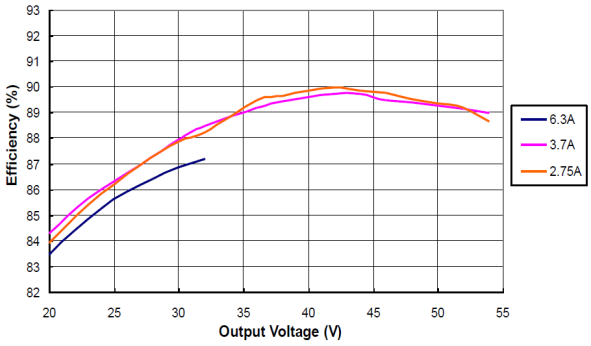


GLDP-200X445

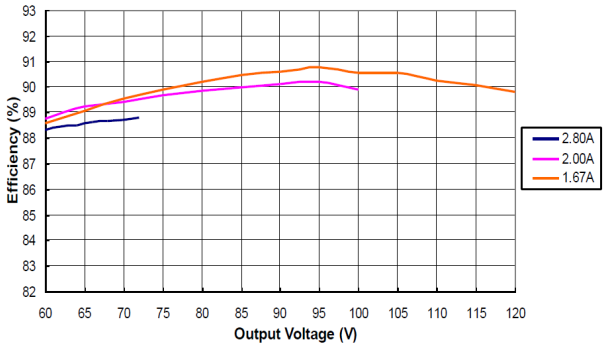


© Efficiency vs. Output Voltage Curve for 230VAC input

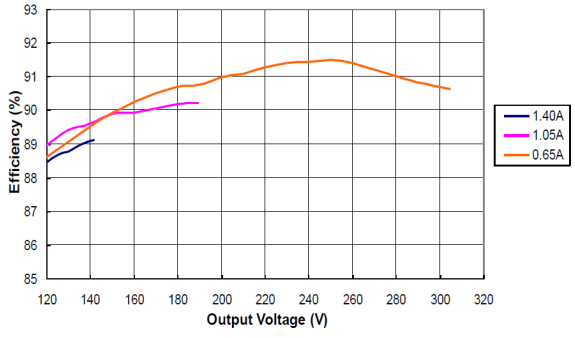
GLDP-200X054



GLDP-200X120



GLDP-200X305



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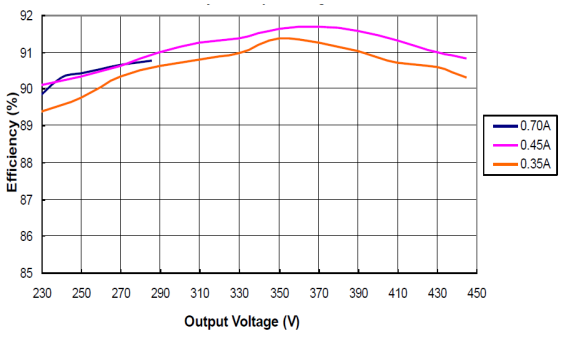
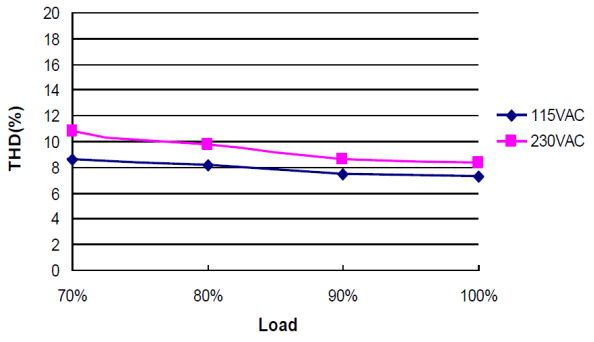
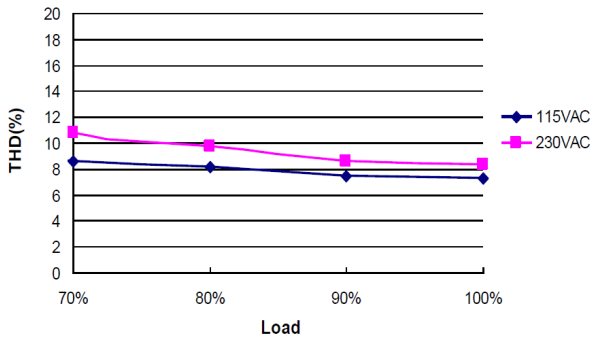


◎ THD vs. Load Curve

GLDP-200X054



GLDP-200X120



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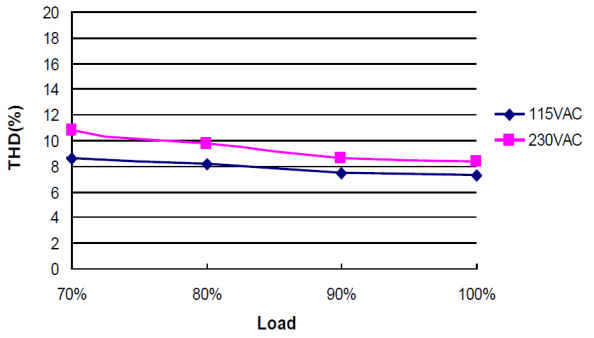
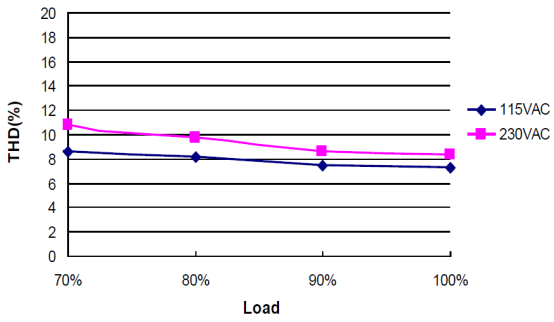
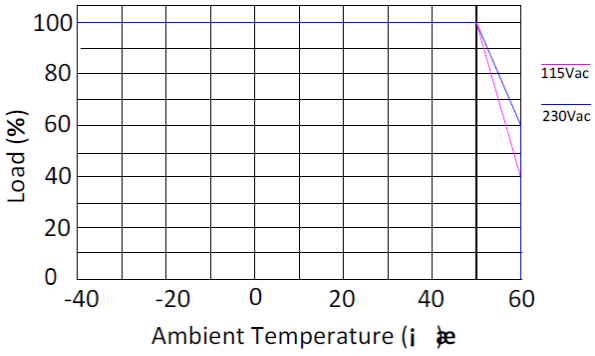


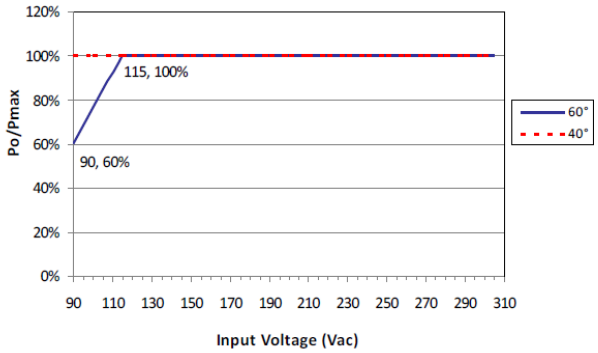
GLDP-200X445



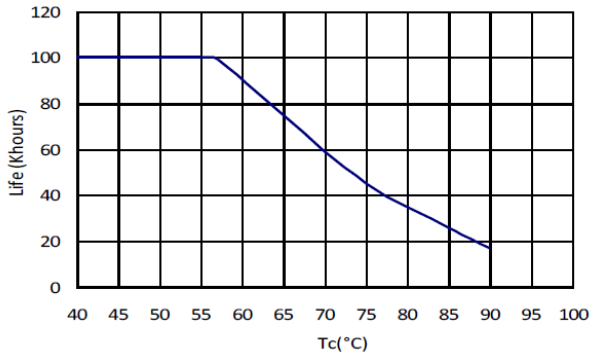
◎ Derating Curve



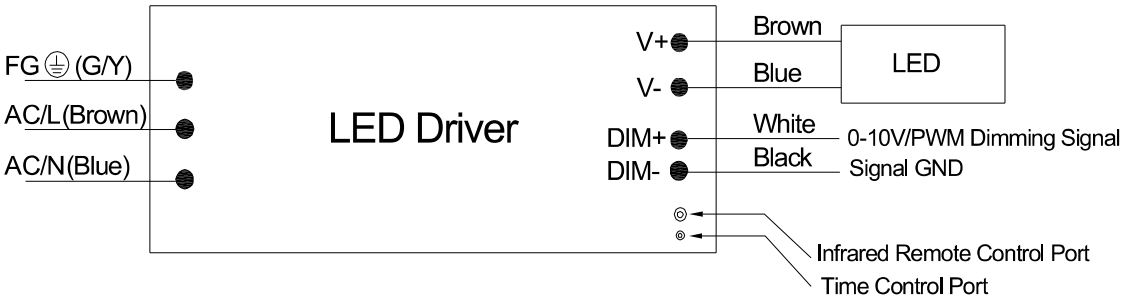
◎ P_O/P_{MAX} vs.U_{IN} Voltage



◎ Life vs. T_C curve



◎ DEFINE OF INTERFACE

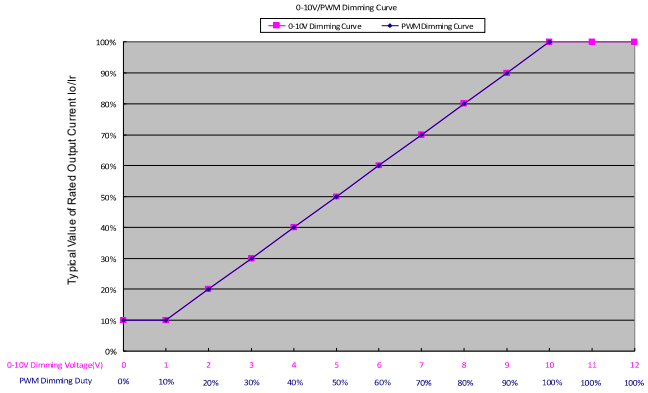


PWM Dimming	
Frequency	250Hz ÷ 1kHz
High Voltage Level	9.7 ÷ 10.3V or 4.85 ÷ 5.15V
Low Voltage Level	0 ÷ 0.3V
Sink Current	< 2.0mA
Open Circuit of Dimming	100% output current
Linear Dimming Range	10% ÷ 100% Ir
Short Circuit of Dimming	10% Ir output current

0 – 10 Dimming	
Dimming Signal Voltage	0 ÷ 10Vpp (±1%)
Sink Current	< 2.0mA
Open Circuit of Dimming	100% output current
Linear Dimming Range	10% ÷ 100% Ir
Short Circuit of Dimming	10% Ir output current

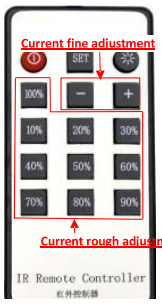
1. When connect external dimmer to LED driver, for the external driver, the maximum sink current should >70uA, maximum output current should >2mA..
2. Ir is maximum output current.
3. PWM dimming mode: detect outside PWM duty, change the output current depend the PWM duty, change the output current depending on proportion.
4. 0-10V dimming moge: detect outside voltage level of 0-10V dimming signal, change the output current depend the voltage level; change the output current depending on proportion
5. At two in one dimming mode, the maximum revolution definition is 1% at PWM mode, when voltage level of PWM is less than 10V, 99% duty is 100% Ir output, 100% duty is process as 0-10V dimming signal.
6. Can setting to 0-5V dimming by programmer.

◎ DIMMING CURVE



© PROGRAMMING GUIDE

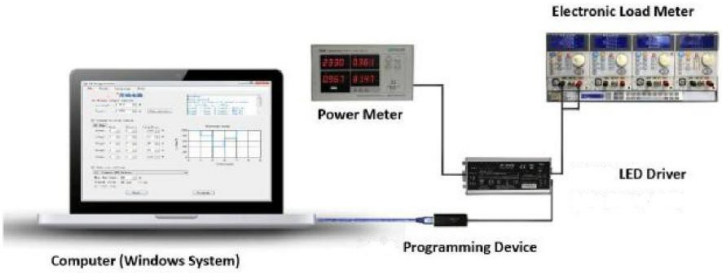
- Configure Iout with IR controler.



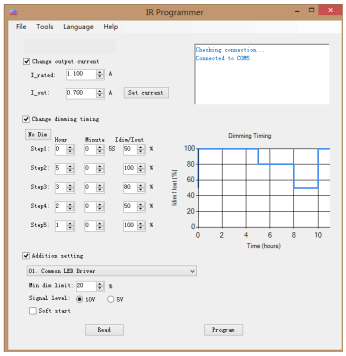
IR remote controller

Insert the signal terminal into the bigger hole at the driver output side

- Software and programming device.



- Software for changing the dimming signal level or start-up model.



IR side of programmer connect to power supply