

GLDP-075 series

75W Programmable Constant Power LED Driver with Dimming Function



Features:

- Constant power design with adjustable output current
- Output 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-075X054 (X = M, R)	75.6	0.21	2.1	20	54	36	2.1	87%	60
GLDP-075X062 (X = M, R)	75.15	0.17	1.67	35	62	62	1.05	87%	70
GLDP-075X141 (X = M, R)	74.8	0.11	1.10	60	141	107	0.7	88%	160
GLDP-075X270 (X = M, R)	75.6	0.05	0.53	120	270	214	0.35	87%	300

© APPROVAL MARKS and SYMBOLS

GLDP-075X054 (X = M, R)						IP67 SELV	tc: 85°C ta: 60°C		
GLDP-075X062 (X = M, R)						IP67 SELV	tc: 85°C ta: 60°C		
GLDP-075X141 (X = M, R)						IP67	tc: 85°C ta: 60°C		
GLDP-075X270 (X = M, R)						IP67	tc: 85°C ta: 60°C		

© MODEL ENCODING

GLDP	-	75	X	Y
Series name	Rated Output Power [W]		R - no dimming	054 - max output voltage is 54V
			M - 1-10V, PWM dimming	062 - max output voltage is 62V
				141 - max output voltage is 141V
				270 - max output voltage is 270V

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© ELECTRICAL SPECIFICATION

MODEL	GLDP-075X054	GLDP-075X062	GLDP-075X141	GLDP-075X270
OUTPUT				
VOLTAGE RANGE	20 ÷ 54VDC	35 ÷ 62VDC	60 ÷ 141VDC	120 ÷ 270VDC
NO LOAD VOLTAGE (MAX.)	60VDC	70VDC	160VDC	300VDC
CURRENT ADJUSTMENT RANGE	0.21 ÷ 2.10A	0.17 ÷ 1.67A	0.11 ÷ 1.10A	0.05 ÷ 0.53A
RATED POWER	75.6W	75.15W	74.8W	75.6W
FACTORY CURRENT / VOLTAGE	2.1A / 36VDC	1.05A / 62VDC	0.7A / 107VDC	0.35A / 214VDC
CURRENT ACCURACY	± 5.0%			
LINE REGULATION (FROM 115VAC 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	< 3s / 230VAC at full load; < 3s / 115VAC at full load			

INPUT				
VOLTAGE RANGE	90 ÷ 305VAC			
FREQUENCY RANGE	47 ÷ 63Hz			
EFFICIENCY AT 100% LOAD (TYP.)	87% / U _{OUT} = 36VDC	87% / U _{OUT} = 45VDC	88% / U _{OUT} = 68VDC	86% / U _{OUT} = 142VDC
	87% / U _{OUT} = 54VDC	87% / U _{OUT} = 62VDC	87% / U _{OUT} = 141VDC	87% / U _{OUT} = 270VDC
	Refer to Efficiency vs. Output Voltage Curve			
AC CURRENT (MAX.)	1.0A			
INRUSH CURRENT (MAX.)	75A / 230VAC			
STANDBY POWER CONSUMPTION	< 6W			
LEAKAGE CURRENT (MAX.)	0.75mA / 277VAC			
POWER FACTOR (TYP.)	0.97 / 230VAC at full load			
THD	< 20% / 230VAC at 70-100% load (Refer to THD vs. Load Curve)			

PROTECTIONS				
SHORT CIRCUIT	Type: hiccup mode, auto-recovery. Input power < 8W			
OVER VOLTAGE	60 ± 2VDC	70 ± 3VDC	155 ± 5VDC	300 ± 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)	

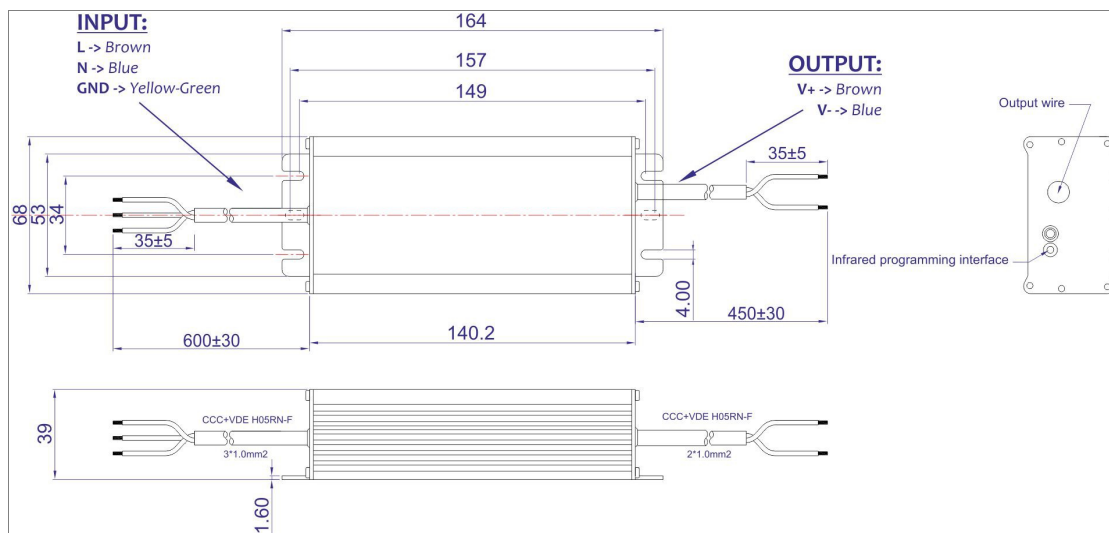
OTHERS

Input Wire	H05RN-F 3 x 1.0mm ² , length = 600 ± 30mm
Output Wire	H05RN-F 2 x 1.0mm 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)	164 * 68 * 39mm
Weight	755 ± 50g

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-075R type

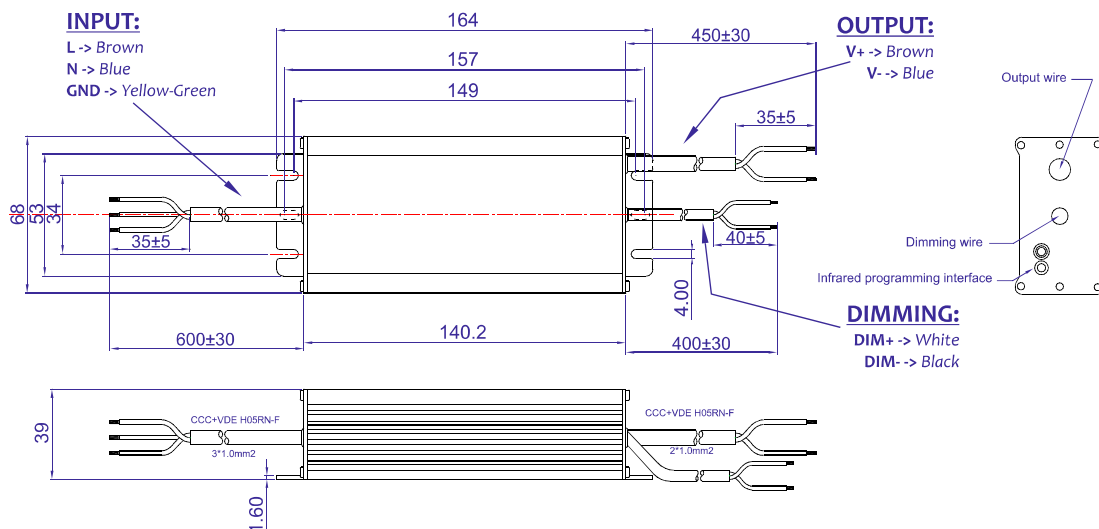


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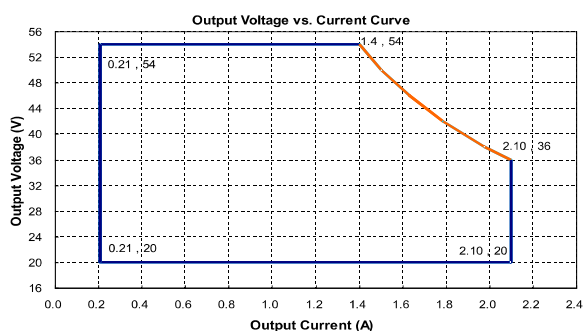


GLDP-075M type

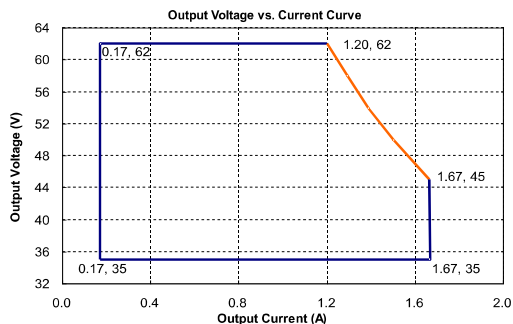


© Maximum Output Voltage vs. Output Current Curve

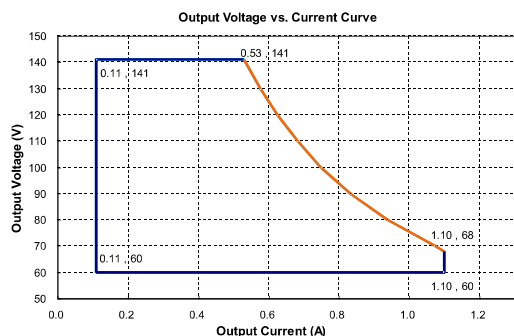
GLDP-075X054



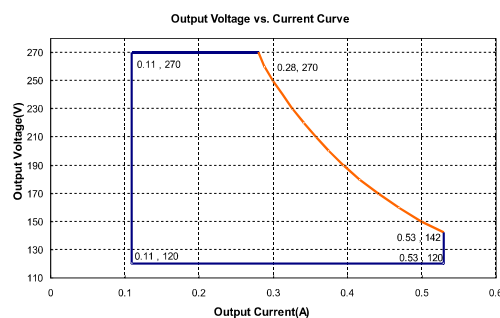
GLDP-075X062



GLDP-075X141



GLDP-075X270



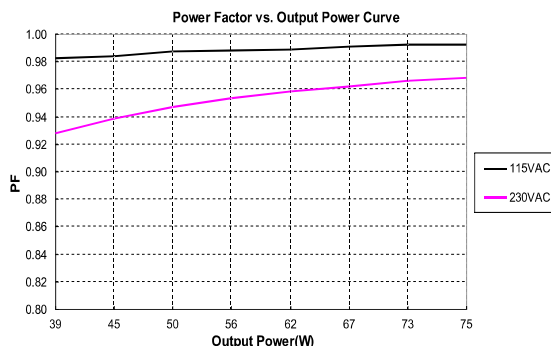
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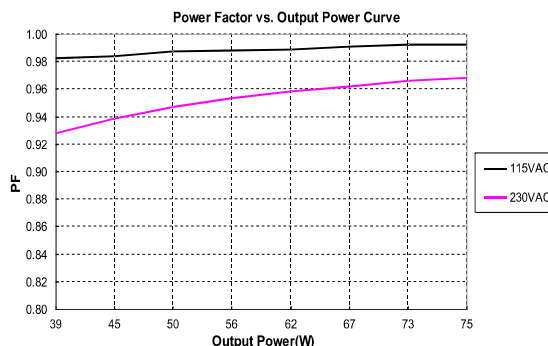


© Power Factor vs. Output Power Curve

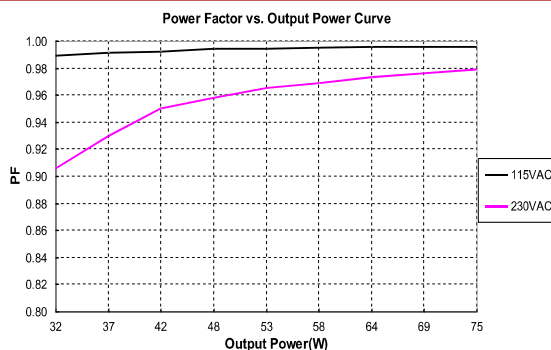
GLDP-075X054



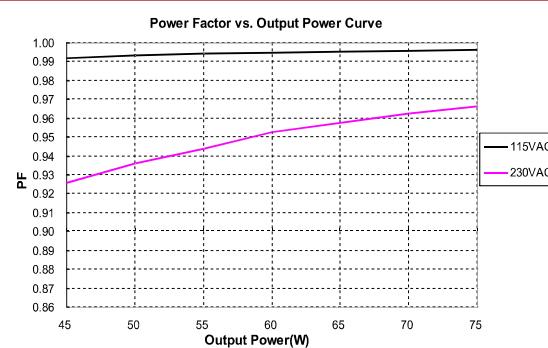
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GLDP-075X141

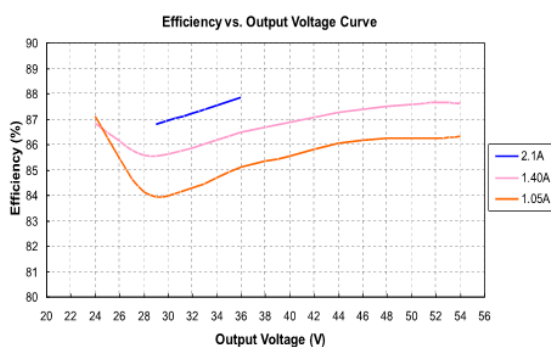


GLDP-075X270

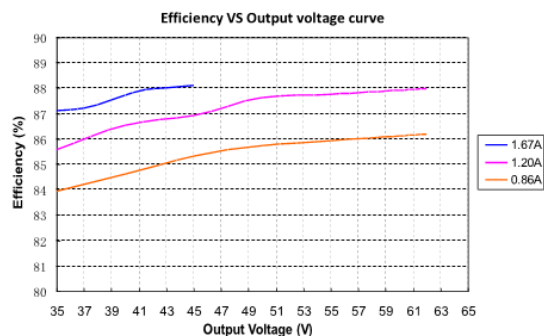


© Efficiency vs. Output Voltage Curve for 230VAC input

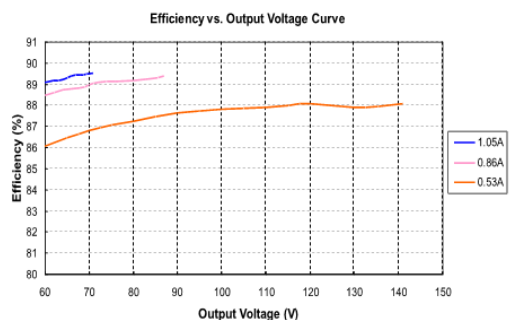
GLDP-075X054



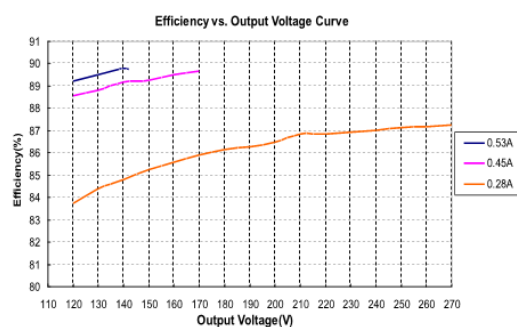
GLDP-075X062



GLDP-075X141



GLDP-075X270



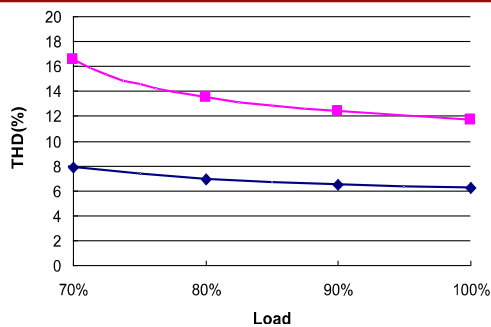
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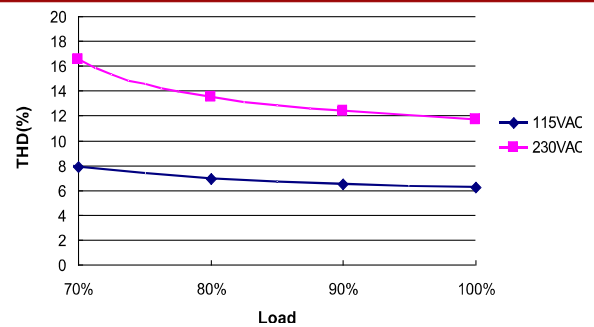


© THD vs. Load Curve

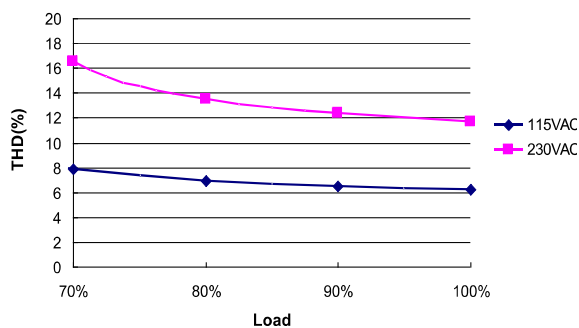
GLDP-075X054



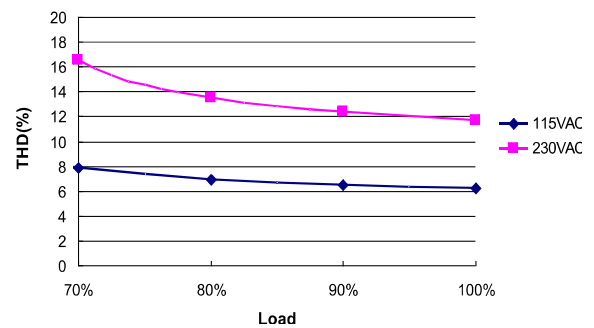
GLDP-075X062



GLDP-075X141

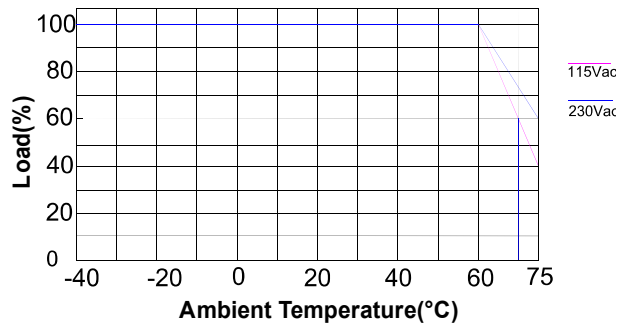


GLDP-075X270



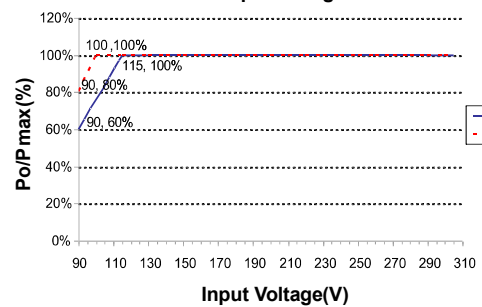
© Derating Curve

Derating Curve

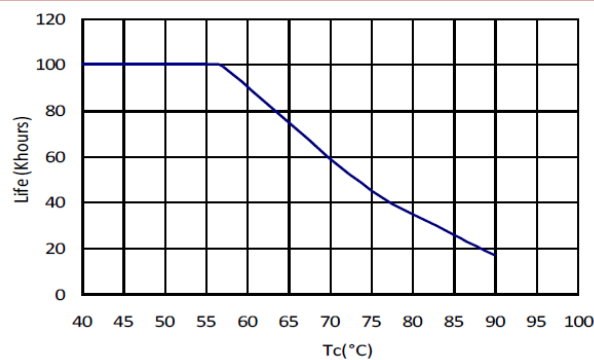


© P_O/P_{MAX} vs. U_{IN} Voltage

P_O/P_{MAX} vs. Input Voltage Curve



© Life vs. T_c curve

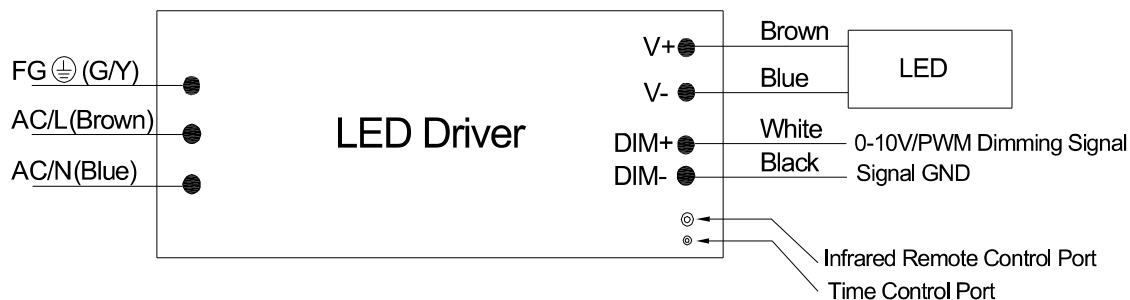


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© DEFINE OF INTERFACE



PWM Dimming

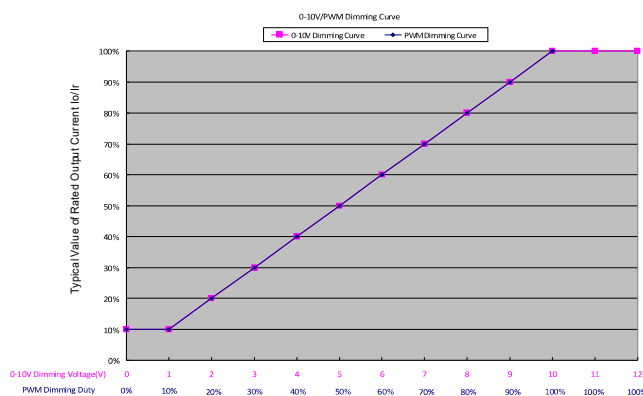
Frequency	250Hz ÷ 1kHz
High Voltage Level	9.7 ÷ 10.3V or 4.85 ÷ 5.15V
Low Voltage Level	0 ÷ 0.3V
Sink Current	< 2.0mA
Open Circuit of Dimming	100% output current
Linear Dimming Range	10% ÷ 100% I _r
Short Circuit of Dimming	10% I _r output current

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% I _r
Short Circuit of Dimming	10% I _r 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. I_r 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 mode: 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% I_r output, 100% duty is process as 0-10V dimming signal.
6. Can setting to 0-5V dimming by programmer.

© DIMMING CURVE



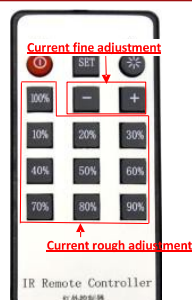
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© PROGRAMMING GUIDE

- Configure Iout with IR controller.

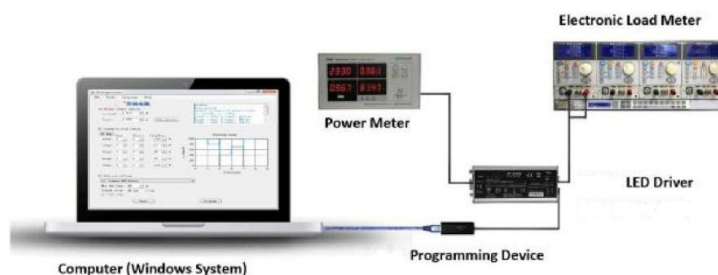


IR remote controller

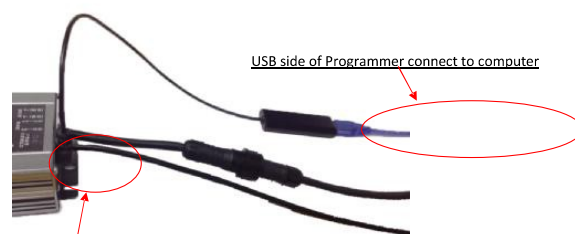
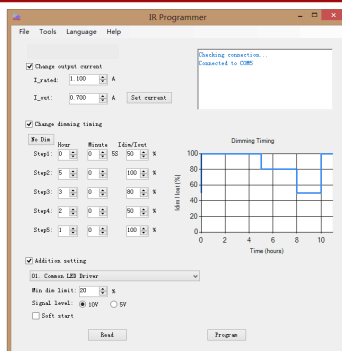


Insert the signal terminal into the bigger hole at the driver output side

- Software and programming device.



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



USB side of Programmer connect to computer

IR side of programmer connect to power supply