

GLDP-120 series

120W 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
- European AC input / EU 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-120X062 (X = M, R)	120	0.30	3.00	20	62	45	2.67	91%	≤80
GLDP-120X170 (X = M, R)	120.4	0.14	1.40	60	170	114	1.05	92%	≤190
GLDP-120X305 (X = M, R)	120.4	0.07	0.70	120	305	171	0.7	92%	≤340

© APPROVAL MARKS and SYMBOLS

GLDP-120X062 (X = M, R)						IP67 SELV	tc: 85°C ta: 60°C		
GLDP-120X170 (X = M, R)						IP67	tc: 85°C ta: 60°C		
GLDP-120X305 (X = M, R)						IP67	tc: 85°C ta: 60°C		

© MODEL ENCODING

GLDP	-	120	X	y
Series name	Rated Output Power [W]		R - no dimming	062 - max output voltage is 62V
			M - 1-10V, PWM dimming	170 - max output voltage is 170V
				305 - max output voltage is 305V

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© ELECTRICAL SPECIFICATION

MODEL	GLDP-120X062	GLDP-120X170	GLDP-120X305
OUTPUT			
VOLTAGE RANGE	20 ÷ 62VDC	60 ÷ 170VDC	120 ÷ 305VDC
NO LOAD VOLTAGE (MAX.)	80VDC	190VDC	340VDC
CURRENT ADJUSTMENT RANGE	0.30 ÷ 3.00A	0.14 ÷ 1.40A	0.07 ÷ 0.70A
RATED POWER	120W	120.4W	120.4W
FACTORY CURRENT / VOLTAGE	2.67A / 45VDC	1.05A / 114VDC	0.7A / 171VDC
CURRENT ACCURACY	± 5.0%		
LINE REGULATION (FROM 200VAC 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	180 ÷ 305VAC		
FREQUENCY RANGE	47 ÷ 63Hz		
EFFICIENCY AT 100% LOAD (TYP.)	91% / U _{OUT} = 40VDC	92% / U _{OUT} = 86VDC	92% / U _{OUT} = 171VDC
	91% / U _{OUT} = 62VDC	92% / U _{OUT} = 114VDC	91% / U _{OUT} = 305VDC
	Refer to Efficiency vs. Output Voltage Curve		
AC CURRENT (MAX.)	1.0A		
INRUSH CURRENT (MAX.)	75A / 230VAC		
LEAKAGE CURRENT (MAX.)	0.75mA / 277VAC		
STANDBY POWER CONSUMPTION	< 5W	< 10W	
POWER FACTOR (TYP.)	0.96 / 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	75 ± 5VDC	185 ± 5VDC	330 ± 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)	

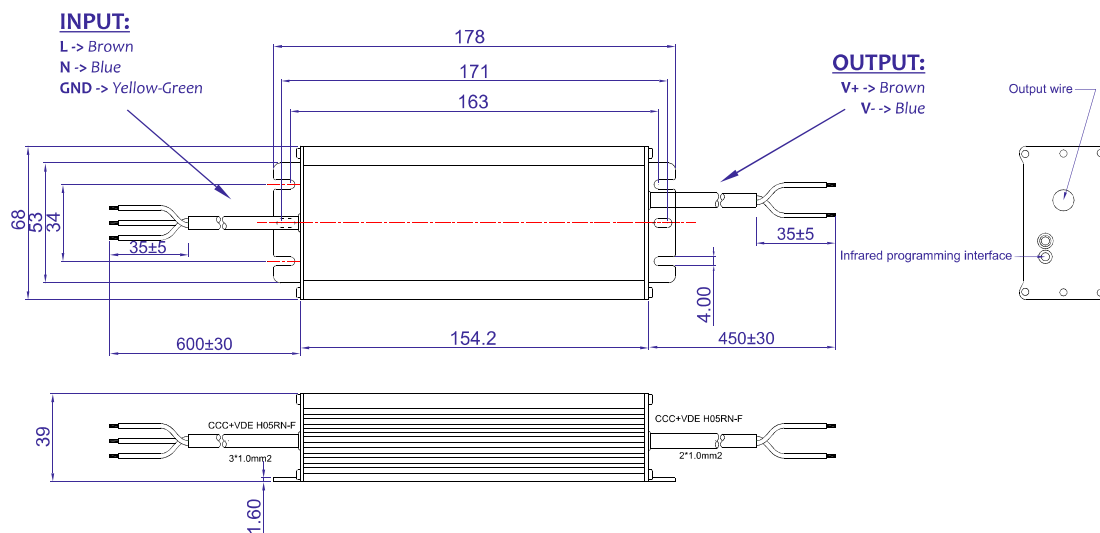
OTHERS

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)	178 * 68 * 39mm
Weight	750 ± 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-120R type

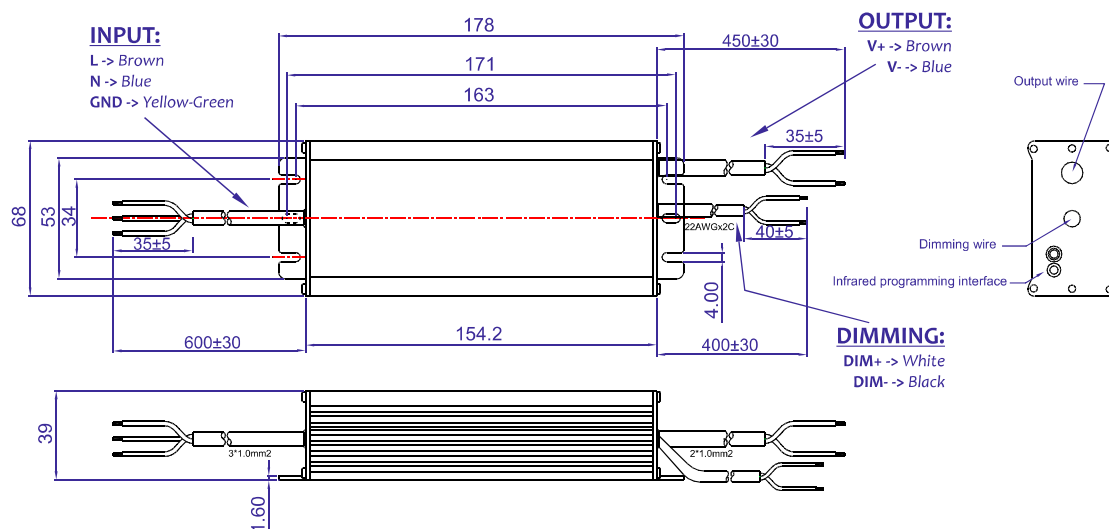


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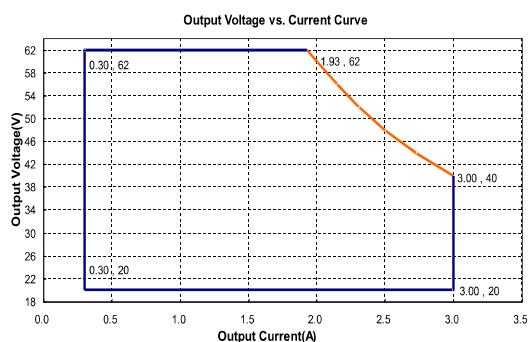


GLDP-120M type

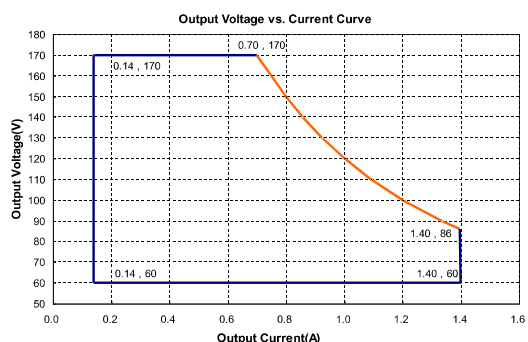


© Maximum Output Voltage vs. Output Current Curve

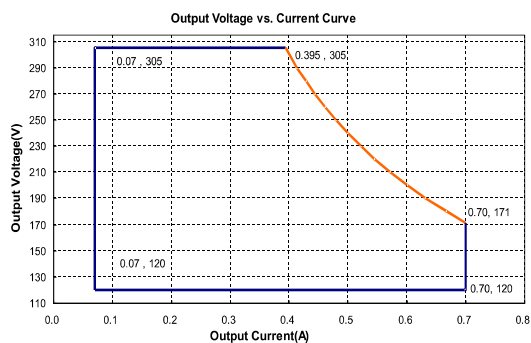
GLDP-120X062



GLDP-120X170



GLDP-120X305



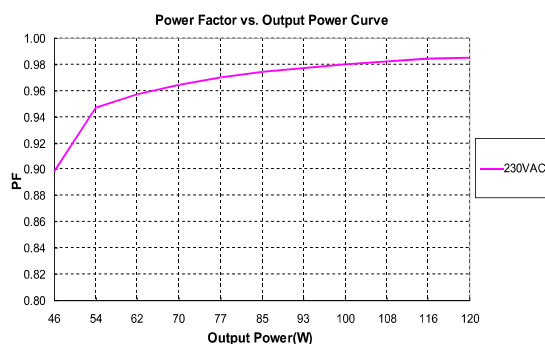
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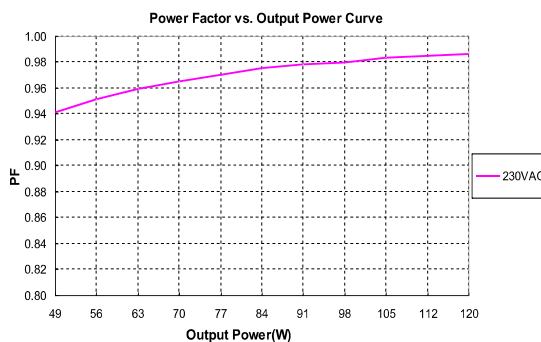


© Power Factor vs. Output Power Curve

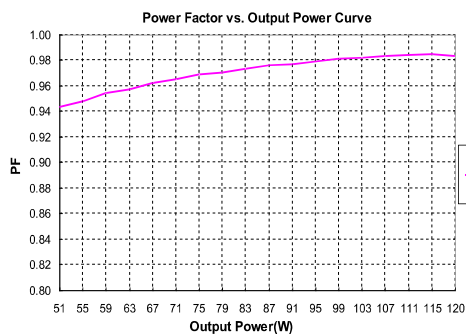
GLDP-120X062



GLDP-120X170

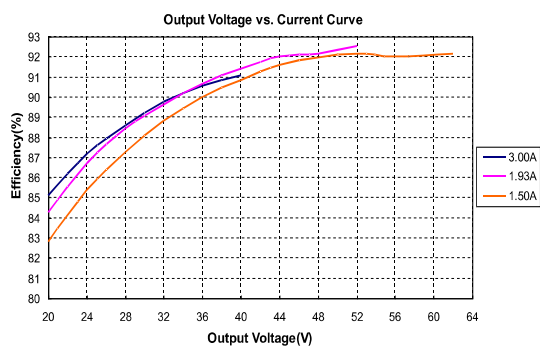


GLDP-120X305

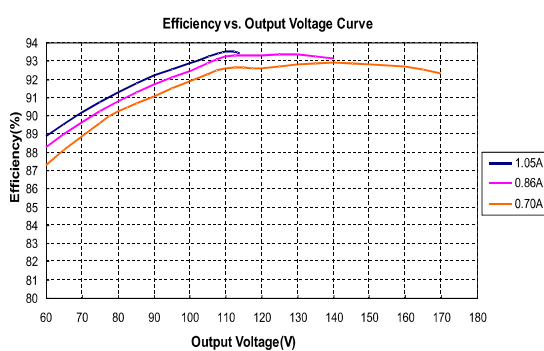


© Efficiency vs. Output Voltage Curve for 230VAC input

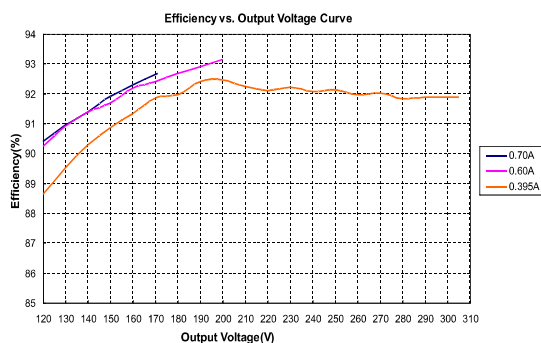
GLDP-120X062



GLDP-120X170



GLDP-120X305



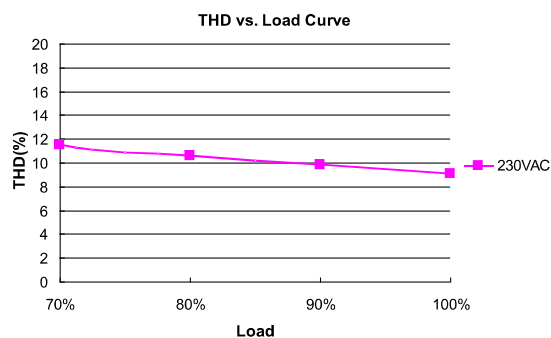
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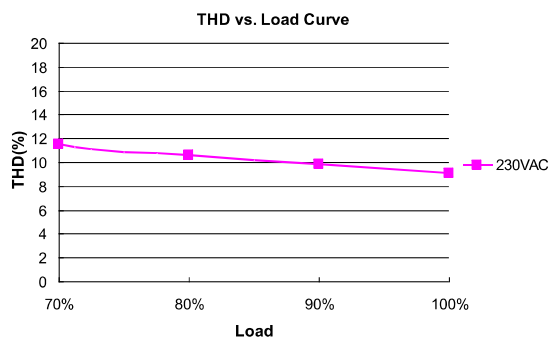


© THD vs. Load Curve

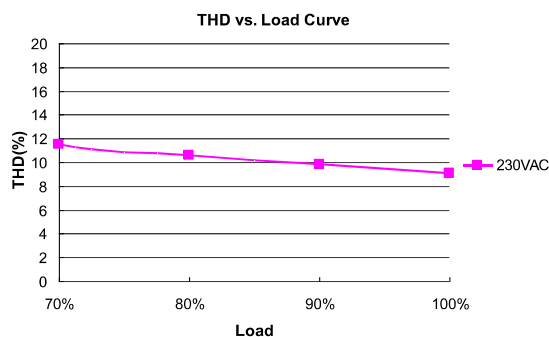
GLDP-120X062



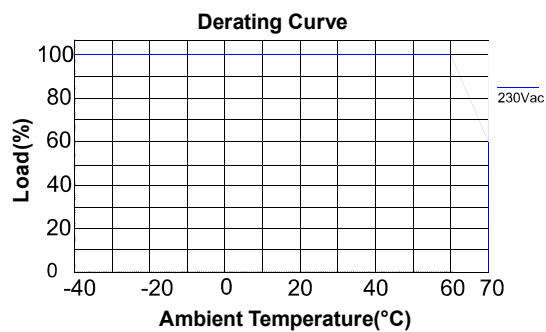
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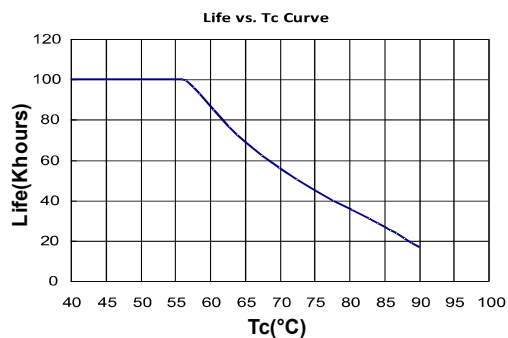
GLDP-120X305



© Derating Curve



© Life vs. T_c curve

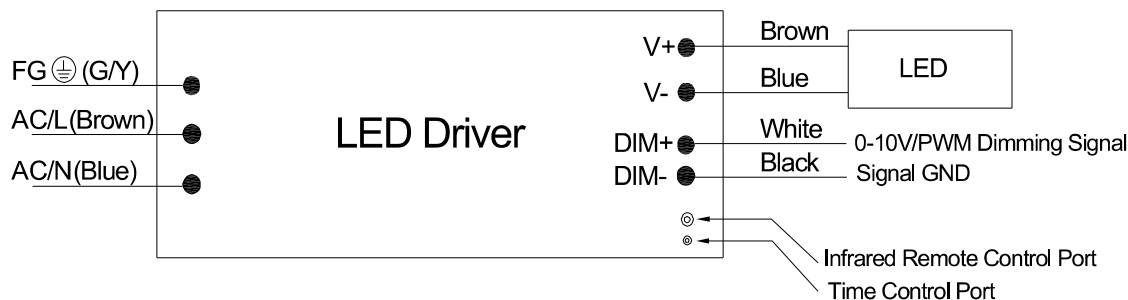


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© DEFINE OF INTERFACE



PWM Dimming

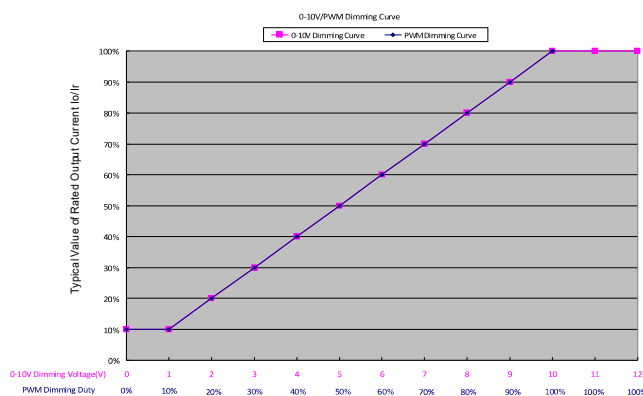
Frequency	250Hz ÷ 1kHz
High Voltage Level	9.7 ÷ 10.3V or 4.85 ÷ 5.15V
Low Voltage Level	0 ÷ 0.3V
Sink Current	< 2.0mA
Open Circuit of Dimming	100% output current
Linear Dimming Range	10% ÷ 100% I _r
Short Circuit of Dimming	10% I _r output current

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



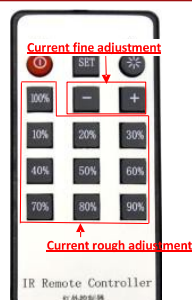
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© PROGRAMMING GUIDE

- Configure Iout with IR controller.

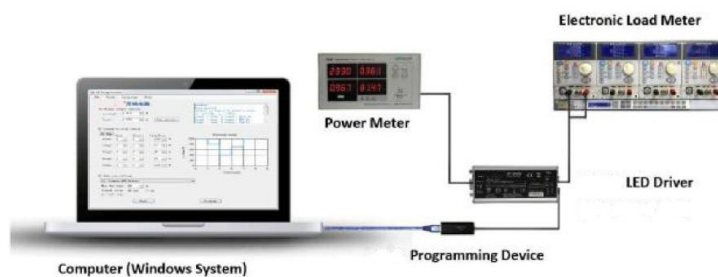


IR remote controller

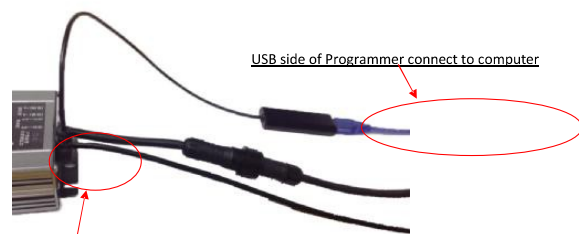
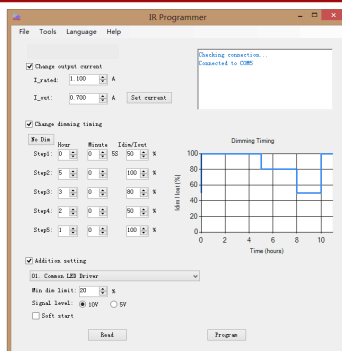


Insert the signal terminal into the bigger hole at the driver output side

- Software and programming device.



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



IR side of programmer connect to power supply