

GLDP-105 series

105W Programmable Constant Current with Constant Power Output LED Driver



Features:

- Universal AC input voltage / Full range: 90-305VAC
- Constant current with Constant power output design with adjustable output current
- Output current adjustable via infrared controller or software interface
- Built-in active PFC function
- Protections: Short Circuit / Over Voltage / Over Temperature
- Cooling by free air convection
- Surge immunity: Differential Mode - 5kV, Common Mode - 10kV
- Dimming 3 in 1 (0-10V, PWM, Time dimming) function for M version
- IP67 design for indoor and outdoor applications
- Suitable for dry/damp/wet locations

Application:

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



DESCRIPTION

The GLDP-105W series is 105W outdoor programmable LED driver that operates in constant current model. Monitored by an infrared based programming device, the fully programmed drivers offer all dimming options and a wide range of output current in a single driver, which deliver maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminarie designs. GLDP provides built-in timer dimming schedules further increasing the energy savings and CO2 reductions achieved with LED lighting. It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enables the driver to operating with high reliability, and extending product lifetime. Overall protection is provided against lightning surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

MODEL INFORMATION

MODEL NUMBER	OUTPUT POWER [W]	OUTPUT VOLTAGE RANGE [VDC]	OUTPUT CURRENT ADJUSTABLE RANGE [A]	FULL POWER OUTPUT CURRENT ADJUSTABLE RANGE FOR [A]	DEFAULT SETTING	TYPICAL EFFICIENCY	POWER FACTOR	
							115VAC	230VAC
GLDP-105X062	105	20 ÷ 62	0.30 ÷ 3.00	1.69 ÷ 3.00	20 ÷ 36VDC / 2.91A	90%	0.99	0.96
GLDP-105X150	105	60 ÷ 150	0.14 ÷ 1.40	0.70 ÷ 1.40	60 ÷ 75VDC / 1.40A	92%	0.99	0.96
GLDP-105X305	105	120 ÷ 305	0.10 ÷ 0.86	0.344 ÷ 0.86	120 ÷ 150VDC / 0.70A	91%	0.99	0.96

Notes:

	X = R	X = M
1.	Example: GLDP-105R062 Programmable, output current adjustable via infrared controller, time dimming	Example: GLDP-105M062 Programmable, output current adjustable via infrared controller, time dimming; dimmable (0-10V, PWM)
2.	Output current adjustable range with constant power at max output power.	
3.	All specifications are measured at 25°C ambient temperature if no specific note.	

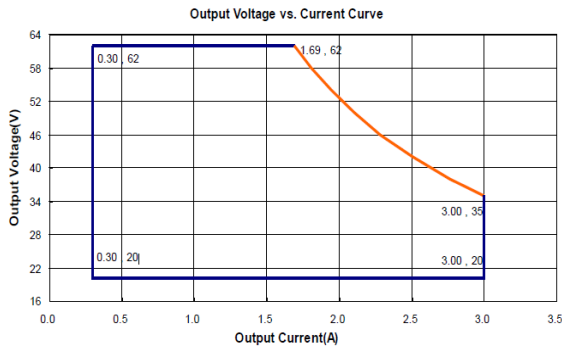
GLDP-105 series

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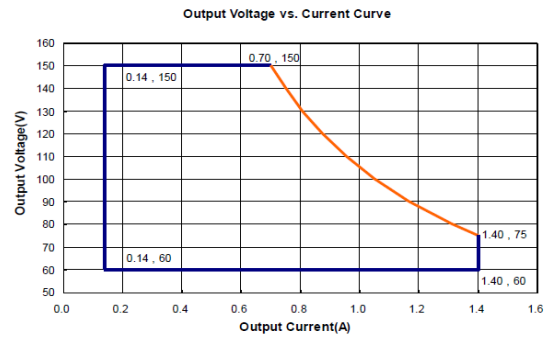


© OPERATING AREA I-V

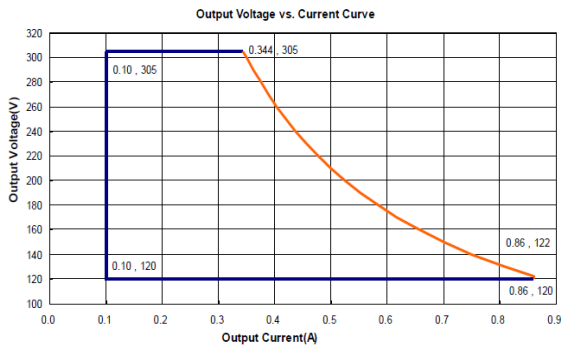
GLDP-105X062



GLDP-105X150



GLDP-105X305



© INPUT SPECIFICATIONS

PARAMETER	Min.	Typ.	Max.	Notes
INPUT VOLTAGE	90VAC	100 ÷ 277VAC	305VAC	-
INPUT FREQUENCY	47Hz	50/60Hz	63Hz	-
LEAKAGE CURRENT	-	-	0.75mA	277VAC/50Hz
INPUT AC CURRENT	-	-	3.3A	100 ÷ 277VAC, full load
INRUSH CURRENT	-	-	75A	230VAC, full load
POWER FACTOR	0.95	0.96	-	230VAC, full load
THD	-	-	20%	115 ÷ 277VAC, 70 ÷ 100% load

GLDP-105 series

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Ⓢ OUTPUT SPECIFICATIONS

PARAMETER	Min.	Typ.	Max.	Notes
OUTPUT CURRENT TOLERANCE	-5% I _{SET}	-	+5% I _{SET}	Full load
OUTPUT CURRENT SETTING RANGE (I_{SET})				
GLDP-105X062	0.30A	-	3.00A	-
GLDP-105X150	0.14A	-	1.40A	-
GLDP-105X305	0.10A	-	1.00A	-
OUTPUT CURRENT SETTING RANGE WITH CONSTANT POWER				
GLDP-105X062	1.69A	-	3.00A	-
GLDP-105X150	0.70A	-	1.40A	-
GLDP-105X305	0.344A	-	0.86A	-
TOTAL OUTPUT CURRENT RIPPLE (PK-PK)	-	10%	16%	230VAC & full LED load, ripple is different with difference LED load
NO LOAD OUTPUT VOLTAGE				
GLDP-105X062	-	-	80V	-
GLDP-105X150	-	-	170V	-
GLDP-105X305	-	-	340V	-
LINE REGULATION	-	-	1%	25°C ± 10°C ambient temperature, input voltage changes from 115VAC to 305VAC
LOAD REGULATION	-	-	3%	25°C ± 10°C ambient temperature, 230 VAC input load changes from 50% to 100%
TURN-ON DELAY TIME	-	-	3s	115VAC, full load
	-	-	0.5s	230VAC, full load

Ⓢ GENERAL SPECIFICATIONS

PARAMETER	Min.	Typ.	Max.	Notes
EFFICIENCY AT 115VAC				
GLDP-105X062				
I _o = 1.93A	88%	90%		
I _o = 3.00A	86%	88%		
GLDP-105X150			-	25°C ambient temperature, full load
I _o = 0.70A	88%	90%		
I _o = 1.40A	88%	90%		
GLDP-105X305				
I _o = 0.344A	87%	89%		
I _o = 0.86A	86%	88%		
EFFICIENCY AT 230VAC				
GLDP-105X062				
I _o = 1.93A	88%	90%		
I _o = 3.00A	88%	90%		
GLDP-105X150			-	25°C ambient temperature, full load
I _o = 0.70A	90%	92%		
I _o = 1.40A	90%	92%		
GLDP-105X305				
I _o = 0.344A	88%	90%		
I _o = 0.86A	87%	89%		

GLDP-105 series

105W Programmable Constant Current with Constant Power Output LED Driver



PARAMETER	Min.	Typ.	Max.	Notes
EFFICIENCY AT 277VAC				
GLDP-105X062				25°C ambient temperature, full load
$I_o = 1.93A$	89%	91%		
$I_o = 3.00A$	87%	89%		
GLDP-105X150				
$I_o = 0.70A$	89%	91%	-	
$I_o = 1.40A$	89%	91%		
GLDP-105X305				
$I_o = 0.344A$	89%	91%		
$I_o = 0.86A$	88%	90%		
MTBF	-	200 000 hours	-	230VAC, 80% load (MIL-HDBK-217F)
LIFETIME	-	50 000 hours	-	230VAC, 100% load, 70°C case temperature
OPERATING CASE TEMPERATURE FOR SAFETY T_{cS}	-40°C	-	+85°C	-
OPERATING CASE TEMPERATURE FOR SAFETY T_{cW}	-40°C	-	+70°C	-
STORAGE TEMPERATURE	-40°C	-	+85°C	Humidity: 10% to 95% RH
DIMENSIONS (L x W x H)	178 x 68 x 39mm			-
NET WEIGHT	750 ± 50g / pc.			-
PACKAGE (L x W x H)	500 x 310 x 60mm; 10pcs/ctn; G.W.: 8.65kg			-

⊙ DIMMING

PARAMETER	Min.	Typ.	Max.	Notes	
0-5V / 0-10V ABSOLUTE MAXIMUM VOLTAGE ON THE V_{DIM} (+) PIN	-	5V / 10V	-	-	
0-5V / 0-10V SOURCE CURRENT ON THE V_{DIM} (+) PIN	-	-	2mA	-	
DIMMING OUTPUT RANGE	GLDP-105X062	10% I_{MAX}	-	100% I_{MAX}	$I_{MAX} = 3.00A$ $I_{MAX} = 1.40A$ $I_{MAX} = 0.86A$
	GLDP-105X150				
	GLDP-105X305				
	GLDP-105X062	0.30A	3.00A	-	
GLDP-105X150	0.14A	1.40A	-		
GLDP-105X305	0.10A	0.86A	-		
RECOMMENDED DIMMING RANGE FOR 0-5V	0V	-	5V	-	
RECOMMENDED DIMMING RANGE FOR 0-10V	0V	-	10V	Default 0-10V / 10V PWM Dimming	
PWM_{IN} HIGH LEVEL	9.7V	-	10.3V		
PWM_{IN} LOW LEVEL	0V	-	0.3V		
PWM_{IN} FREQUENCY RANGE	250Hz	-	1000Hz		
PWM_{IN} DUTY CYCLE	1%	-	99%		

GLDP-105 series

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© SAFETY STANDARDS

SAFETY CATEGORY	COUNTRY / TERRITORY	STANDARDS
CCC	China	GB19510.1
		GB19510.14
CE	Europe	EN61347-1
		EN61347-2-13
CB	CB Countries	IEC61347-1
		IEC61347-2-13
UL	USA	UL8750
		UL1310 (Class 2 Power Units)
		UL1012
CUL	Canada	CSA C22.2 No.250.13-12
		CSA C22.2 No.223-M91 (Power Supplies with Extra-Low Voltage Class 2 Outputs)
KC	South Korea	K61347-1
		K61347-2-13
		K62384
PSE	Japan	J61347-1
		J61347-2-13
SAA	Australia	AS/NZS IEC61347-2-13
		AS/NZS IEC61347.1

© EMC STANDARDS

EMC CATEGORY	COUNTRY / TERRITORY	STANDARDS
CCC	China	GB17743
		GB17625.1
CE	Europe	EN55015
		EN61000-3-2
		EN61000-3-3
		EN61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

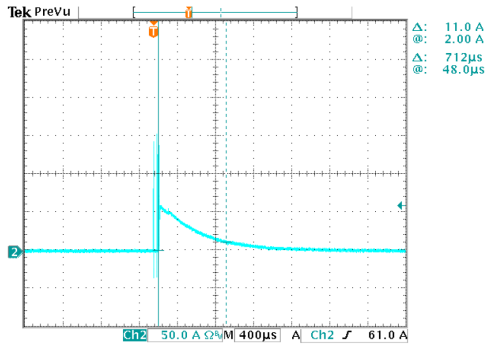
Note: This LED driver meets the EMC specifications above, but EMC performance of luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

GLDP-105 series

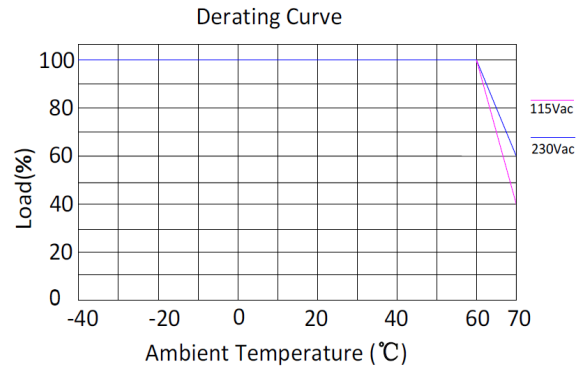
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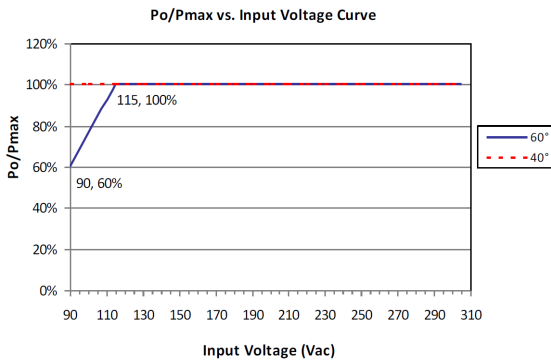
⊙ INRUSH CURRENT WAVEFORM



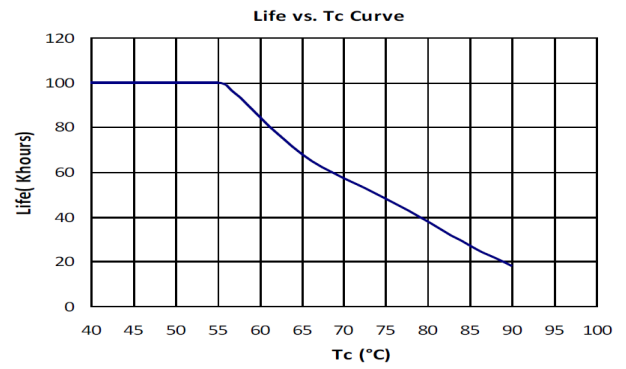
⊙ DERATING CURVE



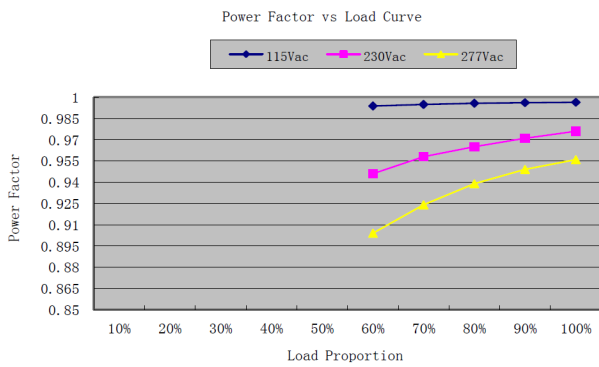
⊙ P_o / P_{MAX} vs. INPUT VOLTAGE CURVE



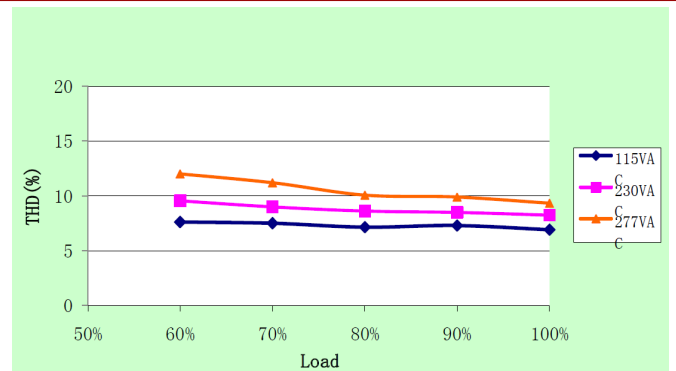
⊙ LIFETIME vs. CASE TEMPERATURE CURVE



⊙ POWER FACTOR vs. LOAD CURVE



⊙ THD vs. LOAD CURVE



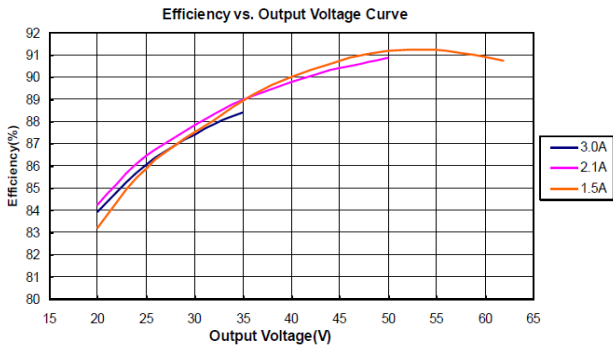
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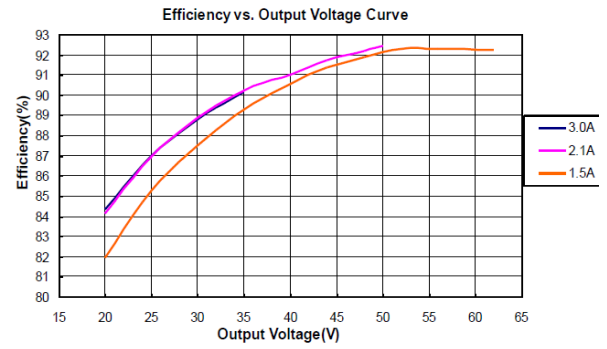


© EFFICIENCY vs. LOAD CURVE

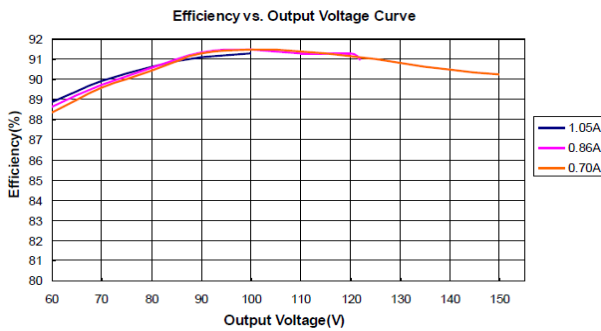
GLDP-105X062(Vin=115VAC)



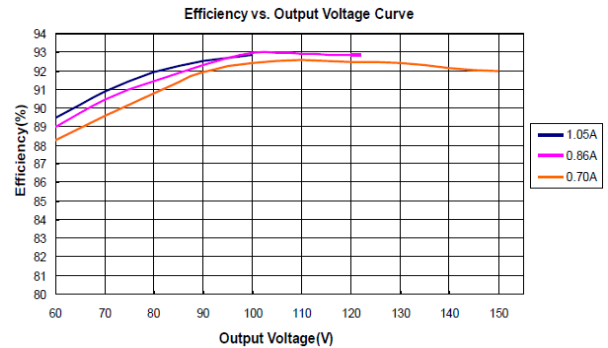
GLDP-105X062(Vin=230VAC)



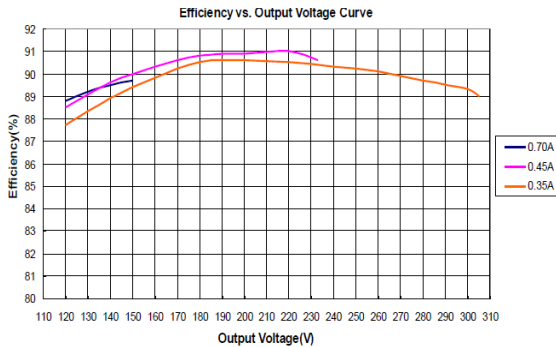
GLDP-105X150(Vin=115VAC)



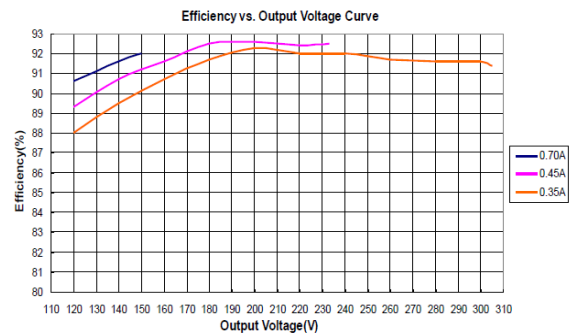
GLDP-105X150(Vin=230VAC)



GLDP-105X305(Vin=115VAC)



GLDP-105X305(Vin=230VAC)



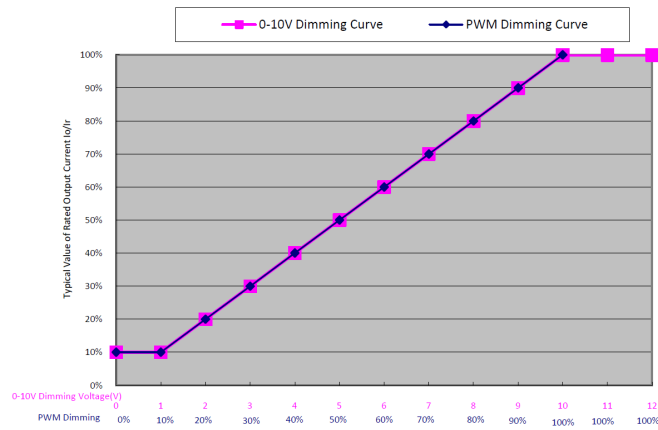
© PROTECTIONS

PARAMETER	NOTES
OVER TEMPERATURE PROTECTION	Decreases output current, returning to normal operation after over temperature is removed. The max. Derating could be 30%.
SHORT CIRCUIT PROTECTION	Hiccup mode and auto recovery. No damage will occur when output is under short circuit condition. The output shall return to normal operation when the fault condition is removed.
OVERT VOLTAGE PROTECTION	Run into protection mode when output voltage exceeds limit and return to normal operation when the fault condition is removed.

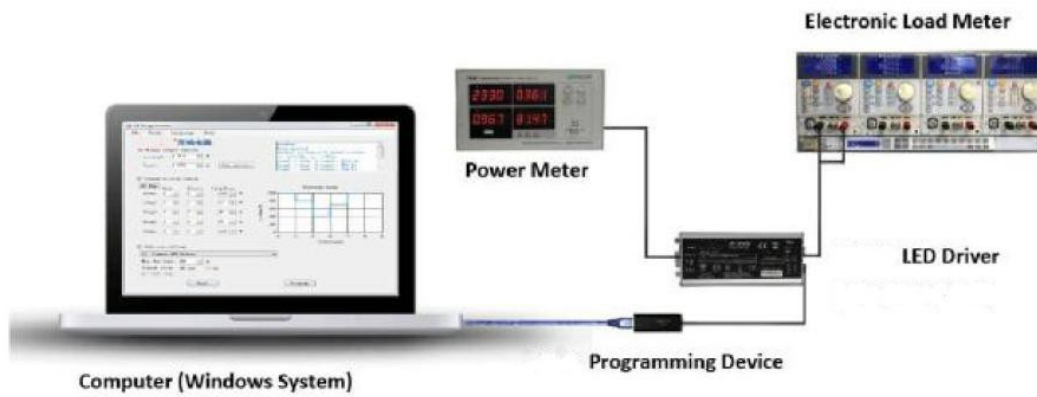
GLDP-105 series

105W Programmable Constant Current with Constant Power Output LED Driver

© 0-10V / PWM DIMMING



© PROGRAMMING CONNECTION

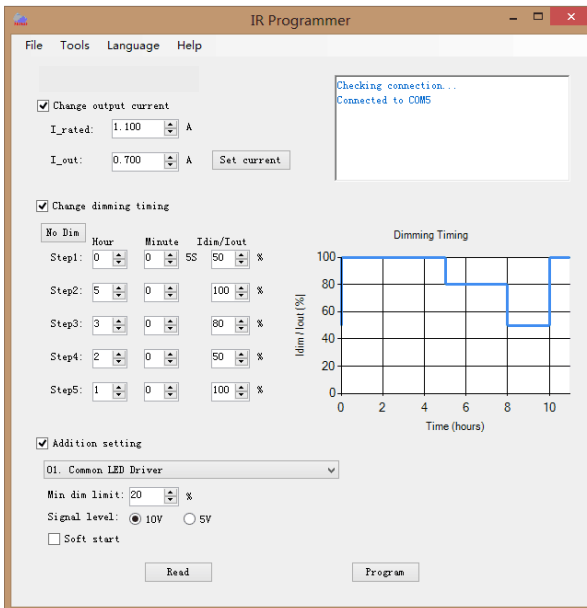


GLDP-105 series

105W Programmable Constant Current with Constant Power Output LED Driver



© PROGRAMMING GUIDE and SOFTWARE INTERFACE



Programming by software:

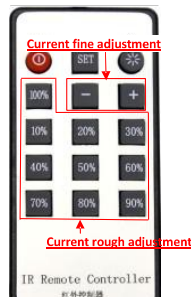
- 1) Read existing setting of the driver
- 2) Change output current
- 3) Set time dimming schedules
- 4) Additional setting:

- set min. Dim. Value
- set signal level can be 5V or 10V
- set soft start

© USING INFRARED CONTROLLER TO RESET OUTPUT CURRENT



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



IR remote controller

Operation instruction:

- 1) Insert cable terminal of the infrared controller into the infrared communication port, which is at DC output side of the driver.
- 2) Press "ON" key to power on the controller.
- 3) Within 10s interval press a function key to adjust output current to the percentage of max delivered current:

- "10%-100%": Percentage of maximum output current of driver
- "+/-": Fine adjustment of output current, increase/decrease 1% each time is pressed
- "ON": Power on controller
- "OFF": Set minimum output current of driver
- "SET": No function

Warning:

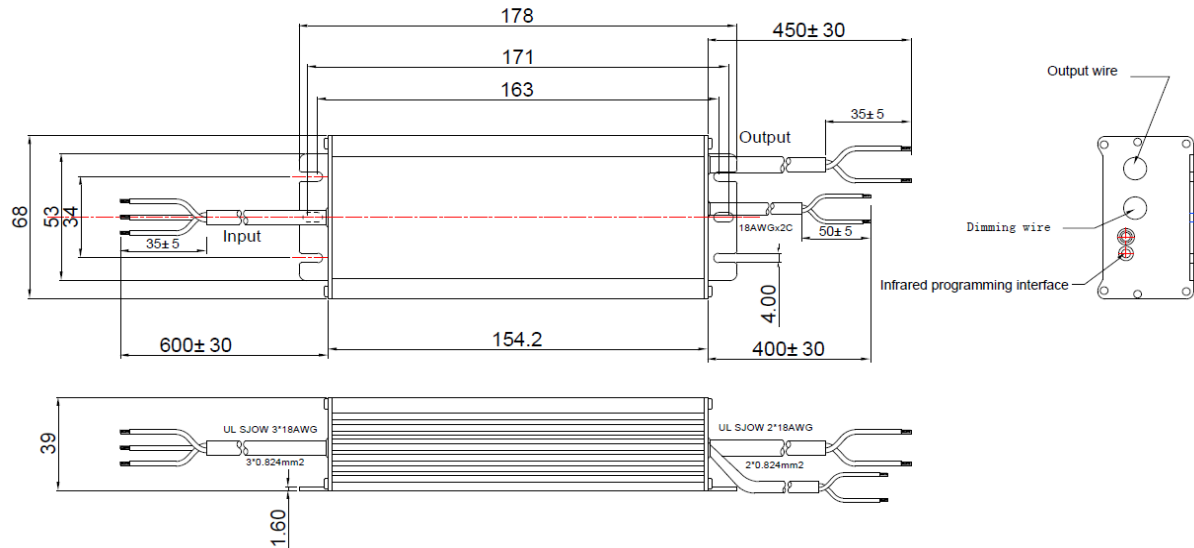
- Please do not hold "+" key to avoid over power protection and unstable output
- Each step of operation should be done within 10s interval, otherwise the controller is powered of automaticcally

GLDP-105 series

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© MECHANICAL SPECIFICATIONS

GLDP-105M type



GLDP-105R type

