

GLDP-150 series

150W Programmable Constant Current with Constant Power Output LED Driver



Features:

- Universal input voltage / Full range: 90-305VAC
- Constant power design, output programmable
- Output current reconfigurable by infrared controller
- Protections: SCP / OVP / OTP
- Surge protection: line-line - 5kV, line-earth – 10kV
- Dimming 3 in 1(1-10VDC, PWM, Timer dimming)
- IP67 design for indoor and outdoor applications
- Suitable for dry / damp / wet locations
- 5 Years warranty

Application:

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



DESCRIPTION

The GLDP-150W series is 150W 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. LDP 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 lightening 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-150X054	150	20 ÷ 54	0.42 ÷ 4.20	2.80 ÷ 4.20	20 ÷ 36V / 4.20A	90%	0.99	0.96
GLDP-150X120	150	60 ÷ 120	0.21 ÷ 2.10	1.25 ÷ 2.10	60 ÷ 107V / 1.40A	91%	0.99	0.96
GLDP-150X214 -A	150	80 ÷ 160	0.11 ÷ 1.10	0.94 ÷ 1.10	80 ÷ 143V / 1.05A	91%	0.99	0.96
GLDP-150X214 -B	150	140 ÷ 214	0.09 ÷ 0.94	0.70 ÷ 0.94	140 ÷ 214V / 0.70A	91%	0.99	0.96
GLDP-150X335	150	176 ÷ 335	0.07 ÷ 0.70	0.45 ÷ 0.70	176 ÷ 214V / 0.70A	92%	0.99	0.96

Notes:

1.	X = R	X = M
	Example: GLDP-150R054 Programmable, timer dimmable	Example: GLDP-150M054 Programmable, 3-in-1 dimmable
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.	

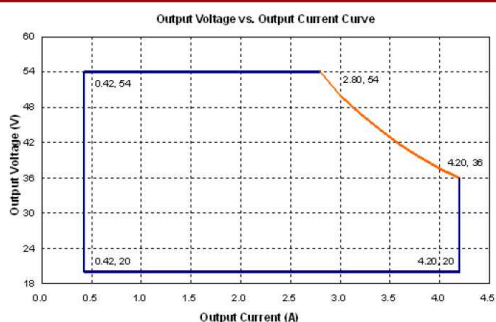
GLDP-150 series

150W Programmable Constant Current with Constant Power Output LED Driver

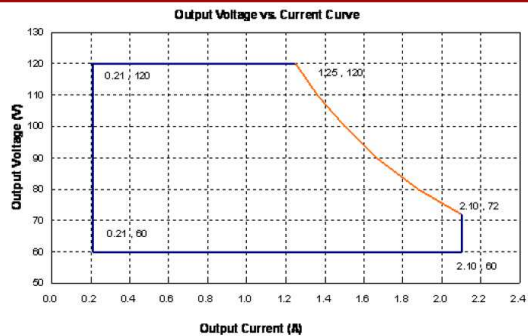


© OPERATING AREA I-V

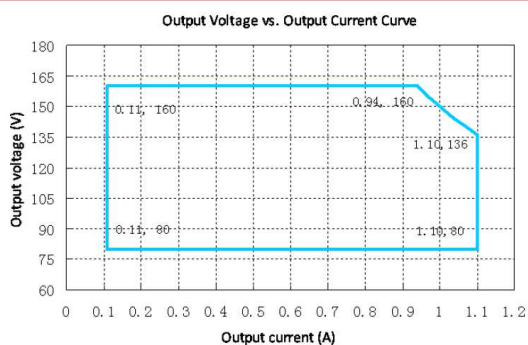
GLDP-150X054



GLDP-150X120

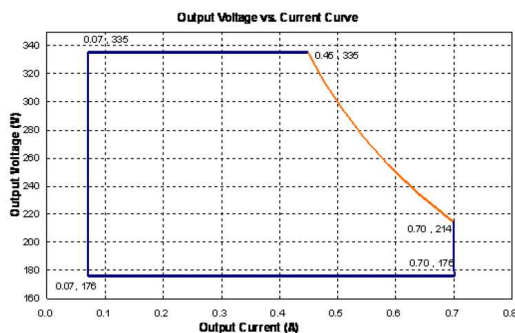


GLDP-150X214-A



GLDP-150X214-B

GLDP-150X335



© INPUT SPECIFICATIONS

PARAMETER	Min.	Typ.	Max.	Notes
INPUT VOLTAGE	90VAC	100 ÷ 240VAC	305VAC	-
INPUT FREQUENCY	47Hz	50/60Hz	63Hz	-
LEAKAGE CURRENT	-	-	0.75mA	240VAC/60Hz
INPUT AC CURRENT	-	-	2.0Amax	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
	-	-	15%	240VAC, 70 ÷ 100% load

GLDP-150 series

150W Programmable Constant Current with Constant Power Output LED Driver



Ⓢ 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-150X054	0.42A		4.2A	
GLDP-150X120	0.21A		2.10A	
GLDP-150X214 -A	0.11A	-	1.10A	-
GLDP-150X214 -B	0.09A		0.94A	
GLDP-150X335	0.07A		0.70A	
OUTPUT CURRENT SETTING RANGE WITH CONSTANT POWER				
GLDP-150X054	2.8A		4.20A	
GLDP-150X120	1.25A	-	2.10A	-
GLDP-150X214 -A	0.94A		1.10A	
GLDP-150X214 -B	0.70A		0.94A	
GLDP-150X335	0.45A		0.70A	
TOTAL OUTPUT CURRENT RIPPLE (PK-PK)	-	10%	16%	230VAC & full LED load, ripple is different with difference LED load
STARTUP OVERSHOOT CURRENT	-	-	10%	115 ~ 277VAC & 100% load, load is LED
NO LOAD OUTPUT VOLTAGE				
GLDP-150X054			60V	
GLDP-150X120			140V	
GLDP-150X214 -A	-	-	240V	-
GLDP-150X214 -B			240V	
GLDP-150X335			370V	
LINE REGULATION	-	-	1%	25°C ± 10°C ambient temperature, input voltage changes from 115VAC to 277VAC
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-150X054				
$I_O = 4.88A$	86%	88%		
$I_O = 6.30A$	86%	88%		
GLDP-150X120				
$I_O = 2.22A$	88%	90%		
$I_O = 2.80A$	88%	90%		
GLDP-150X214-A				
$I_O = 1.67A$	88%	90%	-	25°C ambient temperature, full load
$I_O = 2.22A$	88%	90%		
GLDP-150X214 -B				
$I_O = 0.91A$	88%	90%		
$I_O = 1.40A$	88%	90%		
GLDP-150X335				
$I_O = 0.45A$	88%	90%		
$I_O = 0.70A$	87%	89%		

GLDP-150 series

150W Programmable Constant Current with Constant Power Output LED Driver



PARAMETER	Min.	Typ.	Max.	Notes
EFFICIENCY AT 230VAC				
GLDP-150X054				
$I_o = 4.88A$	89%	91%		
$I_o = 6.30A$	88%	90%		
GLDP-150X120				
$I_o = 2.22A$	89%	91%		
$I_o = 2.80A$	89%	91%		
GLDP-150X214-A			-	25°C ambient temperature, full load
$I_o = 1.67A$	89%	91%		
$I_o = 2.22A$	89%	91%		
GLDP-150X214 -B				
$I_o = 0.91A$	89%	91%		
$I_o = 1.40A$	89%	91%		
GLDP-150X335				
$I_o = 0.45A$	90%	92%		
$I_o = 0.70A$ $I_{Io} = 0.70A$	89%	91%		
EFFICIENCY AT 277VAC				
GLDP-150X054				
$I_o = 4.88A$	90%	92%		
$I_o = 6.30A$	89%	91%		
GLDP-150X120				
$I_o = 2.22A$	90%	92%		
$I_o = 2.80A$	90%	92%		
GLDP-150X214-A			-	25°C ambient temperature, full load
$I_o = 1.67A$	90%	92%		
$I_o = 2.22A$	90%	92%		
GLDP-150X214 -B				
$I_o = 0.91A$	90%	92%		
$I_o = 1.40A$	90%	92%		
GLDP-150X335				
$I_o = 0.45A$	91%	93%		
$I_o = 0.70A$	90%	92%		
MTBF	-	200 000 hours	-	230VAC, 80% load (MIL-HDBK-217F)
LIFETIME	-	50 000 hours	-	230VAC, 100% load, 70°C case temperature, refer to lifetime VS Tc curve for details
OPERATING CASE TEMPERATURE FOR SAFETY T_{c_s}	-40°C	-	+85°C	-
OPERATING CASE TEMPERATURE FOR WARRANTY T_{c_w}	-40°C	-	+70°C	-
STORAGE TEMPERATURE	-40°C	-	+85°C	Humidity: 5% to 100% RH
DIMENSIONS (L x W x H)	207 x 68 x 39mm			-
NET WEIGHT	900 ± 50g / pcs.			-
PACKAGE (L x W x H)	500 x 370 x 160mm; Gross Weight: 9.84kg; 10pcs/ctn			-

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© DIMMING

PARAMETER		Min.	Typ.	Max.	Notes
0-5 / 0-10V ABSOLUTE MAXIMUM VOLTAGE ON THE V_{DIM} (+) PIN		-	5V/10V	-	-
0-5 / 0-10V SOURCE CURRENT ON THE V_{DIM} (+) PIN		-	-	2mA	-
DIMMING OUTPUT RANGE	GLDP-150X054 GLDP-150X120 GLDP-150X214 -A GLDP-150X214 -B GLDP-150X335	10% I_{MAX}	-	100% I_{MAX}	$I_{max}=4.20A$ $I_{max}=2.10A$ $I_{max}=1.10A$ $I_{max}=0.94A$ $I_{max}=0.70A$
	GLDP-150X054 GLDP-150X120 GLDP-150X214 -A GLDP-150X214 -B GLDP-150X335	0.42A 0.21A 0.11A 0.09A 0.07A	-	4.20A 2.10A 1.10A 0.94A 0.70A	
RECOMMENDED DIMMING RANGE FOR 0-10V		0V	-	5V	Default 0-10V / 10V PWM Dimming
PWM _{IN} HIGH LEVEL		9.7V	-	10V	
PWM _{IN} LOW LEVEL		0V	-	0.3V	
PWM _{IN} FREQUENCY RANGE		250Hz	-	1000Hz	
PWM _{IN} DUTY CYCLE		1%	-	99%	

© 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

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150W Programmable Constant Current with Constant Power Output LED Driver

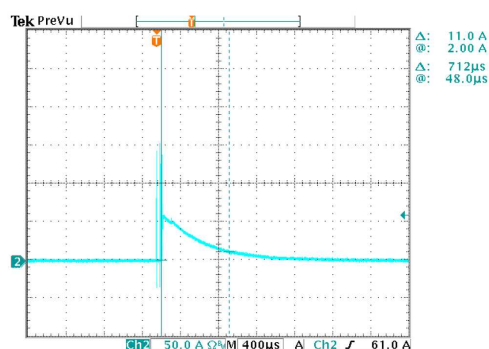


© EMC STANDARDS

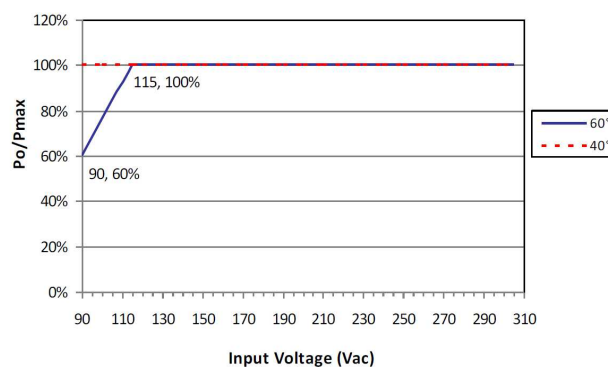
EMC CATEGORY	COUNTRY / TERRITORY	STANDARDS
CCC	China	GB17743
		GB17625.1
CE	Europe	EN55015
		EN61000-3-2
		EN61000-3-3
		EN61547
KC	South Korea	K61547
		K00015
PSE	Japan	J55015
FCC	USA	FCC part 15

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.

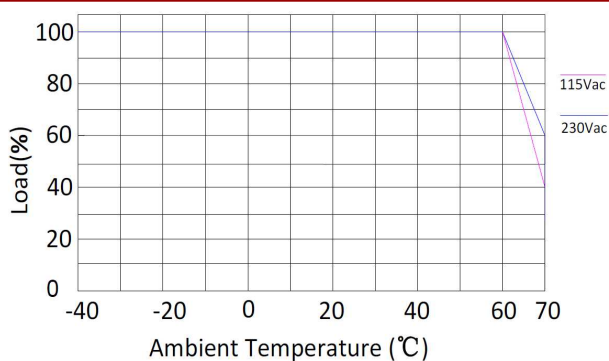
© INRUSH CURRENT WAVEFORM



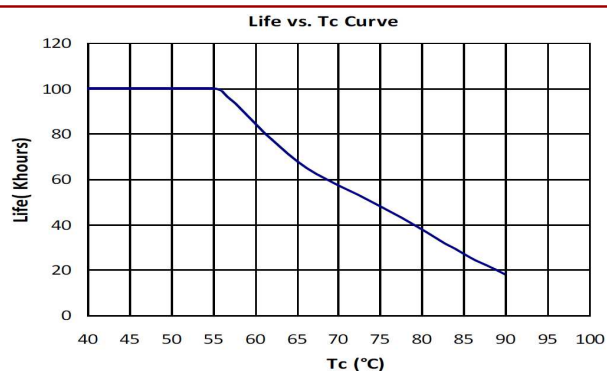
© P_o / P_{MAX} vs. INPUT VOLTAGE CURVE



© DERATING CURVE



© LIFETIME vs. CASE TEMPERATURE CURVE

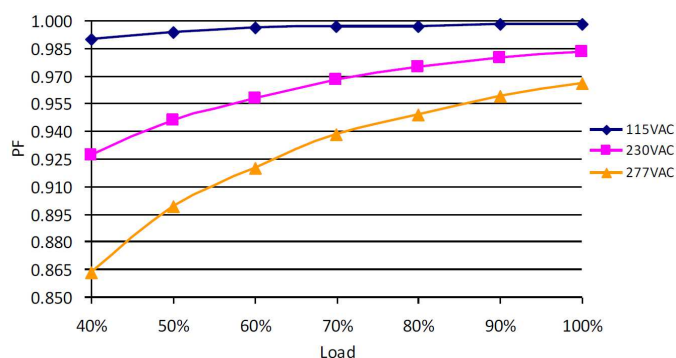


GLDP-150 series

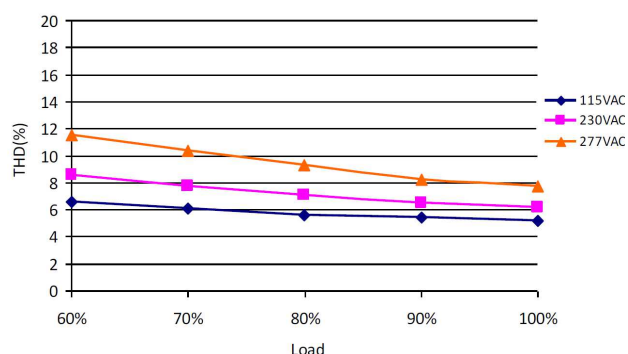
150W Programmable Constant Current with Constant Power Output LED Driver



© POWER FACTOR vs. LOAD CURVE

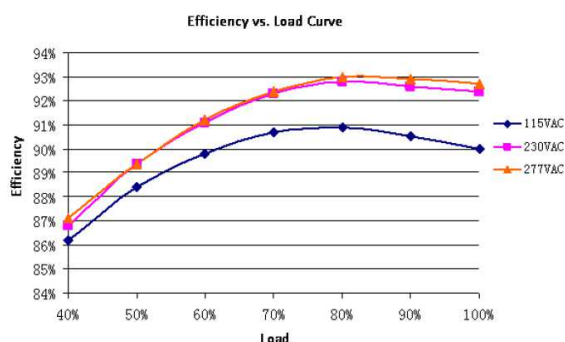


© THD vs. LOAD CURVE



© EFFICIENCY vs. LOAD CURVE

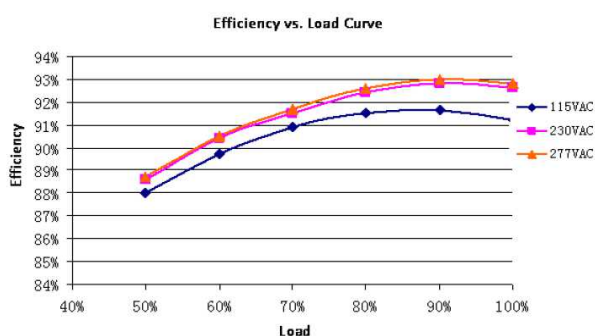
GLDP-150X054 ($I_{out} = 2.78A$)



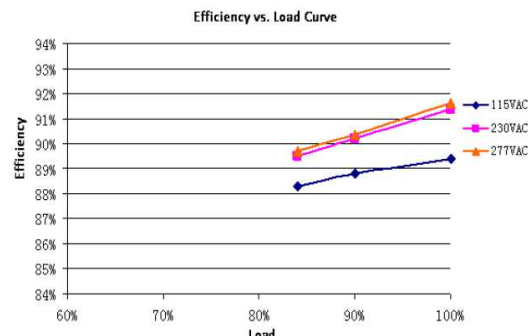
GLDP-150X054 ($I_{out} = 4.20A$)



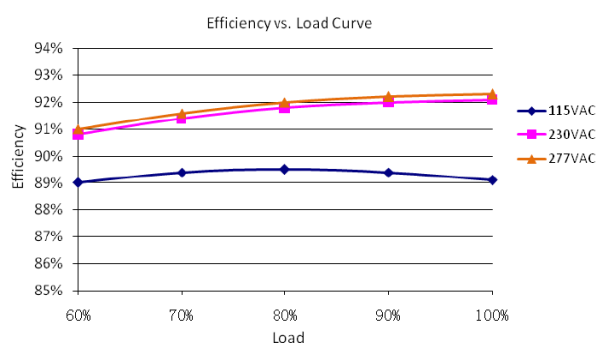
GLDP-150X120 ($I_{out} = 1.25A$)



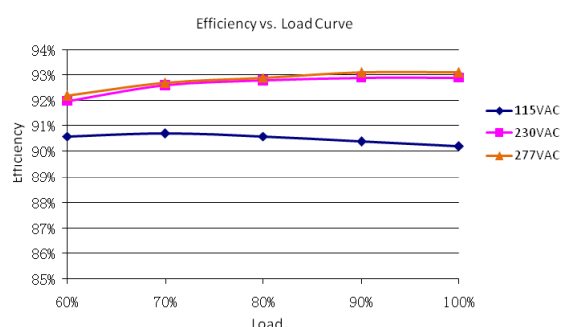
GLDP-150X120 ($I_{out} = 2.10A$)



GLDP-150X214-A ($U_{out} = 214V$)



GLDP-150X214-A ($U_{out} = 143V$)

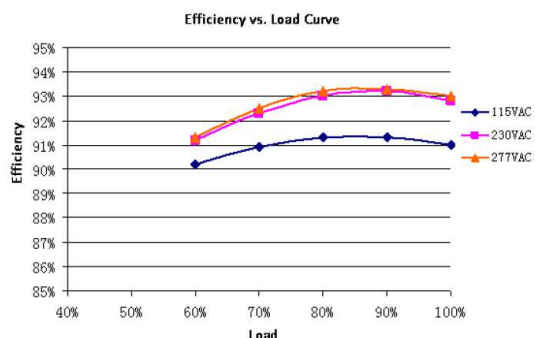


GLDP-150 series

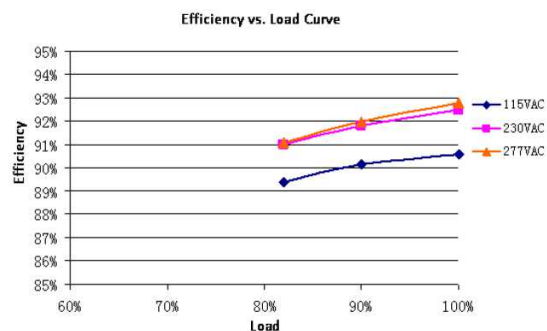
150W Programmable Constant Current with Constant Power Output LED Driver



GLDP-150X335 ($I_{out} = 0.45A$)



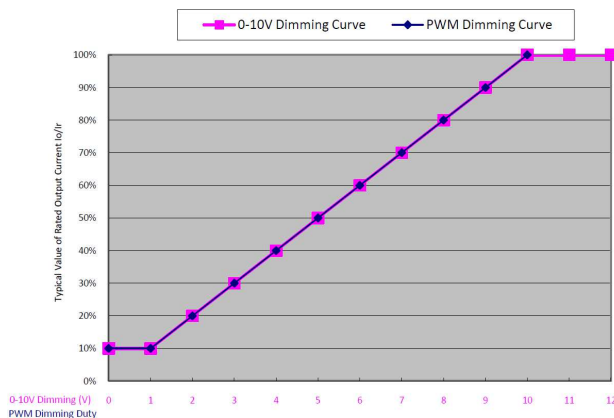
GLDP-150X335 ($I_{out} = 0.70A$)



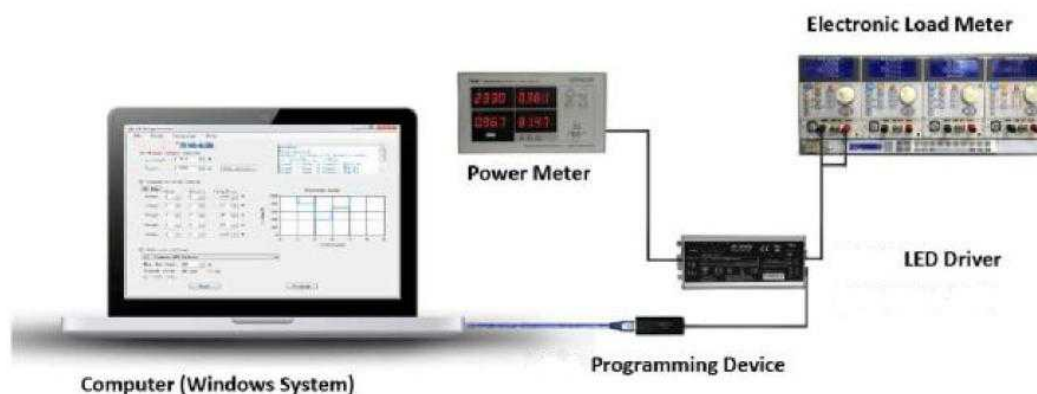
© PROTECTIONS

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.

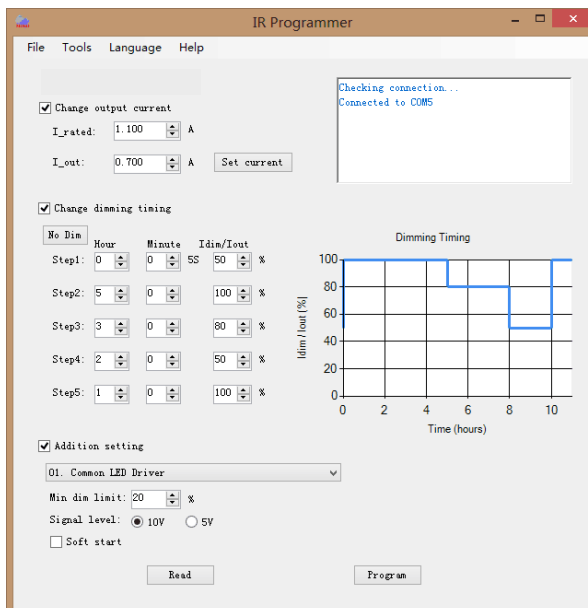
© 0-10V / PWM DIMMING



© PROGRAMMING CONNECTION



© PROGRAMMING GUIDE and SOFTWARE INTERFACE



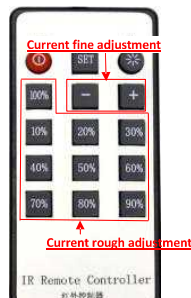
Programming by software:

- 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 automaticcaly

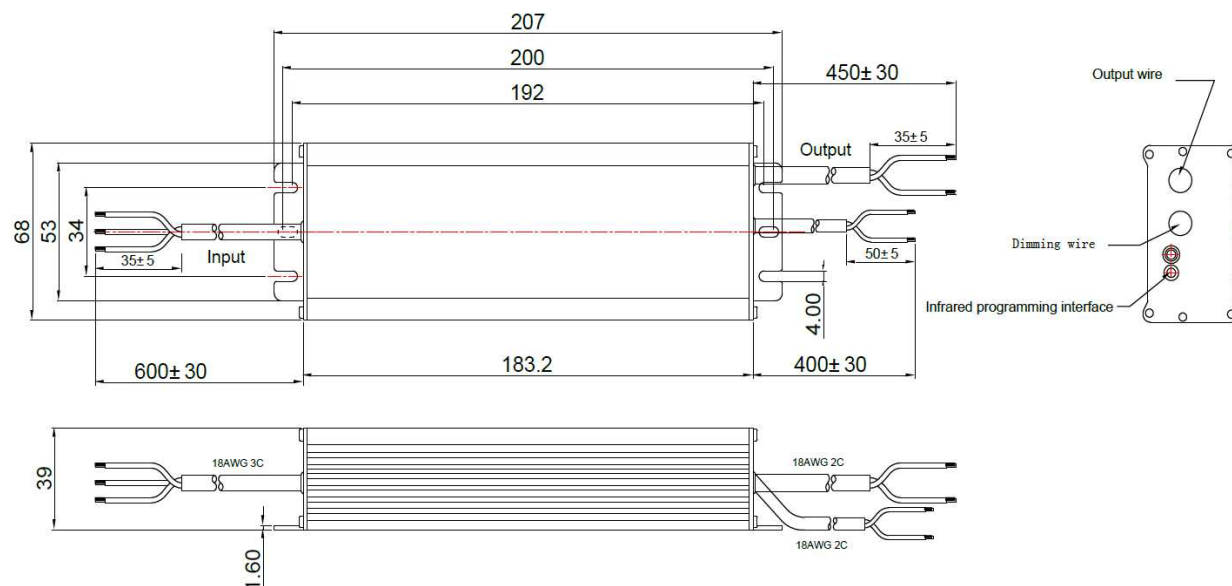
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MECHANICAL SPECIFICATIONS

GLDP-150M type



GLDP-150R type

