

High Power Digital Current Controller **NEW**



Selection Guide

OPT - DPA 100 24 EB - 1

- Channels
- Additional info.: E-Ethernet B-version
- No-load output voltage: 24V
- Max. output current: 10A
- Digital current controller
- Brand name

Product Features

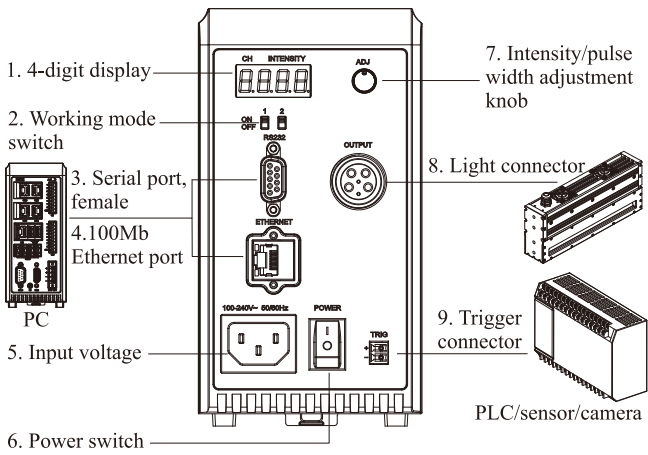
- Compact size
- Autosense™ technology
- Maximum of 64 programmable steps with intensity, pulse width and trigger source can be defined in each step.
- ≤ 10μs trigger response time
- Up to 40kHz trigger response frequency
- Trigger pulse width range: 1μs - 30s
- RS232 interface
- 100Mb Ethernet interface
- Provide software trigger function
- Achieve online upgrade function of the whole device
- Temperature-controlled fan function
- Convenient mounting with screws or on DIN rails

Specifications

Item	Parameter	Description
Input voltage	100~240V AC 50/60Hz	
Input current	4.2A/115VAC 2.1A/230VAC	
Lighting mode	Continuous/strobe	Set via the working mode switch or DEMO software
Auto sensing of light rated current	For 200mA-10A 24V LED light	Set via DEMO software
Manual setting for max. output current	50mA~10A	Set via DEMO software
Intensity control	256 levels	Set via the adjustment key or DEMO software
Short-circuit protection	Yes	The related channel is shut down and "Er2" displays.
Overcurrent protection	Yes	Enabled when the output current is higher than 110% of the set value; the related channel is shut down and "Er1" displays.
Overload protection	Yes	Enabled when the Output power is higher than 265W of the value; the related channel is shut down and "Er6" displays.
Normal trigger	256 intensity levels settable	
Normal trigger time unit	1μs/10μs/1ms/100ms	Set via DEMO software
Normal trigger pulse width	1μs~30s	Set via the adjustment knob or DEMO software
High intensity trigger	Output 12A	Max. output voltage does not exceed 28V
High intensity trigger pulse width time unit	1μs/10μs/1ms	Set via DEMO software
High intensity trigger pulse width	1μs~999ms	Set via the adjustment knob or DEMO software
Programmable trigger	Supports up to 64 processes	The intensity, pulse width, and trigger source of each step can be set.
Response time	≤10μs	See "Reference Table of Trigger Response Time" for details
Response frequency	≤40kHz	See "Reference Table of Trigger Response Time" for details
Output power	240W	

Item	Parameter	Description
Communication	RS232/Ethernet	
Standby power consumption	10W	Tested at 220V AC
Hi-Pot test	1500VAC 1Min	Leakage current < 10mA
Insulation	500VDC	Insulation resistanc > 20MΩ
Operating temperature	-5°C - 50°C	
Dimensions (mm ³) (L × W × H)	91×132.5×170	Refer to the drawings for details
Weight (kg)	1.3	

Device Overview



No.	Item	Description
1	4-digit display	The first digit from the left indicates the operating channel, and the other 3 indicate the operating intensity or pulse width.
2	Working mode switch	Functional conversion; please refer to the working mode setting for details.
3	Serial port, female	Communicate with PC via RS232 interface
4	100Mb Ethernet port	Communicate with PC via Ethernet interface
5	Input voltage	100 - 240V AC 50/60Hz
6	Power switch	Turns on/off the controller
7	Intensity/pulse width adjustment knob	Press the knob, the digit that flashes is chosen; press it again, the next digit is chosen; turn the knob in clockwise to increase the value and in anti-clockwise to reduce the value
8	Light connector	Connect with OPT six-core high-power light source
9	Trigger connector	Strobe mode can be also achieved by external trigger; trigger pulse width settable

Light Connector

	Pin	Pin Definition
	1	Fan+
	2	Fan-
	3	Light-
	4	Light+
	5	Res
	6	Res

Working Mode Setting

Mode	Working mode switch 1	Working mode switch 2
Continuous	ON	ON
Auto sensing of light rated current once	ON	OFF
Normal trigger	OFF	ON
High intensity trigger	OFF	OFF

Error Code Description

Code	Description	Display	Solution
Er0	No LED light connected	“Er0”	Connect an LED light
Er1	Overcurrent protection	“Er1”	Remove ERR and reboot
Er2	Short-circuit protection	“Er2”	Remove ERR and reboot
Er3	Overvoltage protection	“Er3”	Remove ERR and reboot
Er4	Driver hardware communication ERR	“Er4”	Return to OPT for repair
Er5	Display hardware communication ERR	“Er5”	Return to OPT for repair
Er6	Overload protection	“Er6”	Remove light and reboot

Remark: “----” displays when the controller is turned on, and the corresponding value displays later.

Trigger

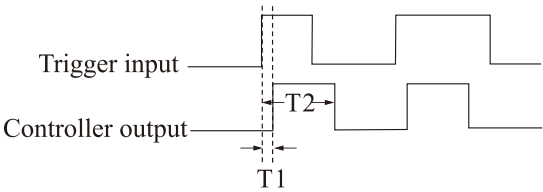
Trigger Mode	Trigger Polarity
Normal trigger	Rising edge trigger
	Falling edge trigger
	Positive follow trigger mode
	Negative follow trigger mode
High intensity trigger	Rising edge trigger
	Falling edge trigger
Programmable trigger	Rising edge trigger
	Falling edge trigger

Remark: Rising edge trigger is the default trigger polarity.

Trigger Sequence

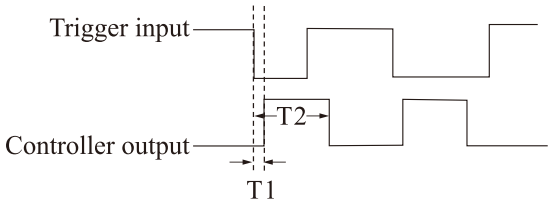
Rising edge trigger

The illumination time is equal to the trigger pulse width, which is set via DEMO software or the adjustment knob.



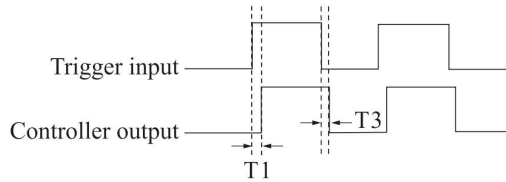
Falling edge trigger

The illumination time is equal to the trigger pulse width, which is set via DEMO software or the adjustment knob.



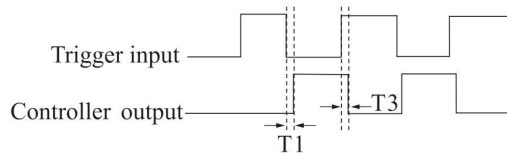
Positive follow trigger mode

When the trigger signal is at high level, the illumination time is same with the high-level pulse width.



Negative follow trigger mode

When the trigger signal is at low level, the illumination time is same with the low-level pulse width.



Remarks

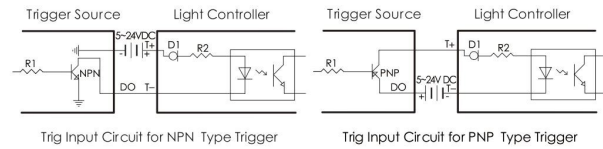
1. T1: Enabling response time; T2: Trigger pulse width;
T3: Disabling response time
2. T2 setting range: 1 μ s - 30s;
Please refer to the table of trigger response time for T1 and T3

Reference Table of Trigger Response Time

Trigger Voltage (V)	Output Current (A)		0.8		1		5		10	
	T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)
5	6	2	2.2	1.6	5.5	1.6	7.6	1.6		
12	6	2	2.2	1.7	5.5	1.7	7.6	1.7		
24	6	2	2.2	1.8	5.5	1.8	7.6	1.8		

Level Trigger Wiring Diagrams

There are 1 trigger port in this series of controllers (shown in the figure below), including unidirectional optocoupler isolation inside. It is low level when the input voltage is 0~2V, and high level when the input voltage is 5~24V. Two trigger wiring diagrams are given as below:



Dimensions (mm)

