

## DPA Digital Current Controller Patented



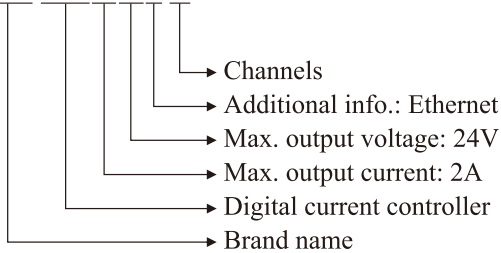
- RS232 interface
- 100Mb Ethernet interface
- Temperature-controlled fan
- Convenient mounting with screws or on DIN rails

### Specifications

Model	Specifications	Description	
Input voltage	100 - 240V AC 50/60Hz		
Input current	1.8A/115VAC 1A/230VAC		
Lighting mode	Continuous/strobe	Set via the working mode switch or DEMO software	
Auto sensing of light rated current	For 10mA-2A 24V LED light	Set via DEMO software	
Manual setting for max. output current	10mA - 2A	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.	
Triggering	Level		
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	2A output per channel		
High intensity trigger pulse width	0.01 - 5.00ms	Set via the adjustment knob or DEMO software	
Programmable trigger	Support up to 64 processes	The intensity, pulse width, and trigger source of each step can be set.	
Response time	≤ 20μs	See "Reference Table of Trigger Response Time" for details	
Response frequency	≤ 20kHz	See "Reference Table of Trigger Response Time" for details	
Fan control	Via temperature		
Output power	48W/CH	4CH/8CH total output: ≤ 48W; 16CH total output: ≤ 150W	
Communication	RS232/Ethernet		
Standby power consumption	4CH	6.6W	Tested at 220V AC
	8CH	8.7W	
	16CH	12.5W	
Hi-Pot test	1500VAC 1Min	Leakage current < 10mA	
Insulation	500VDC	Insulation resistance > 20MΩ	
Operating temperature	-5°C - 50°C		
Dimensions (mm <sup>3</sup> ) (L × W × H)	4CH	91×132×170	Refer to the drawings for details
	8CH	108×132.4×172.1	
	16CH	140×132.5×172.1	
Weight (kg)	4CH	0.84	
	8CH	1.2	
	16CH	1.6	

### Selection Guide

OPT-DPA2024E-X

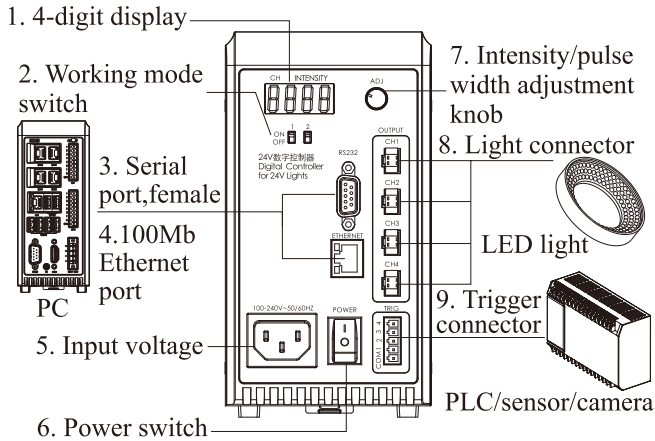


Model	Channels	Compatible Light
OPT-DPA2024E-4	4	10mA~2A 24V
OPT-DPA2024E-8	8	10mA~2A 24V
OPT-DPA2024E-16	16	10mA~2A 24V

### Product Features

- Maximum of 64 programmable steps: intensity, pulse width and trigger source can be defined in each step.
- Autosense™ technology
- ≤ 20μs trigger response time
- Up to 20kHz trigger response frequency
- Simultaneous communication of multiple channels
- Manual setting for max. output current
- 256-level light intensity control
- External trigger: External trigger input (e.g. camera trigger signal) for related light strobes and other sequences. (Strobe mode can greatly improve light source life expectancy.)

## Device Overview



## 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

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

## Trigger

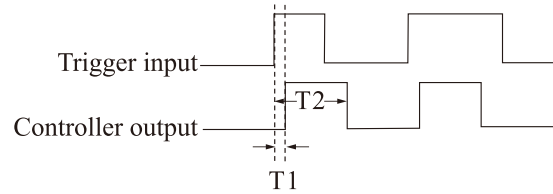
Trigger Mode	Trigger Polarity
Normal trigger	Rising edge trigger
	Falling edge trigger
	Positive follow trigger mode
	Negative follow trigger mode
High intensity trigger	Rising edge trigger
	Falling edge trigger
	Negative follow trigger mode
Programmable trigger	Rising edge trigger
	Falling edge trigger

Remark: Rising edge trigger is the default trigger polarity.

## Trigger Sequence

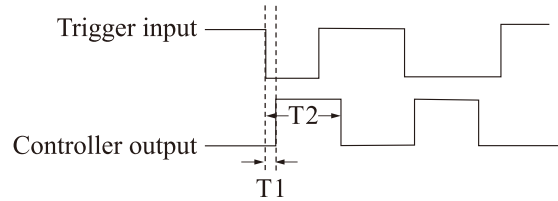
### Rising edge trigger

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



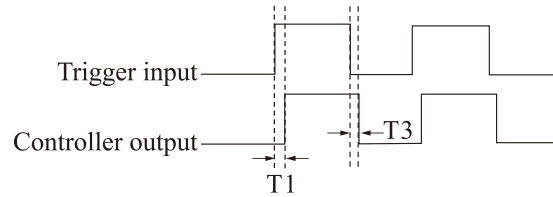
### Falling edge trigger

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



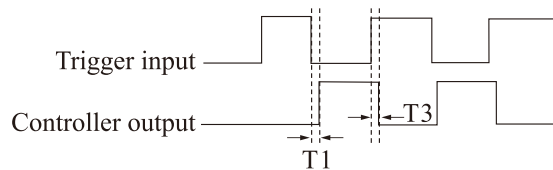
### Positive follow trigger mode

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



### Negative follow trigger mode

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



### Remarks

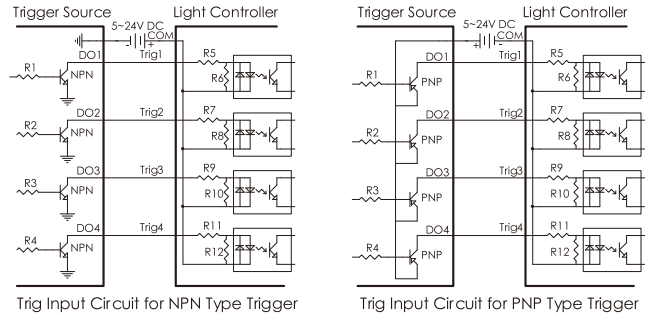
- T1: Enabling response time; T2: Trigger pulse width; T3: Disabling response time
- T2 setting range: 1μs - 30s; Please refer to the table of trigger response time for T1 and T3

## Reference Table of Trigger Response Time

Trigger Voltage (V)	Output Current (mA)	200		1000		2000	
		T1 (μs)	T3 (μs)	T3 (μs)	T3 (μs)	T1 (μs)	T3 (μs)
5		15	4	18	4	18	4
12		15	4.6	18	4.7	19	4.7
24		10	15	15	15	12	15

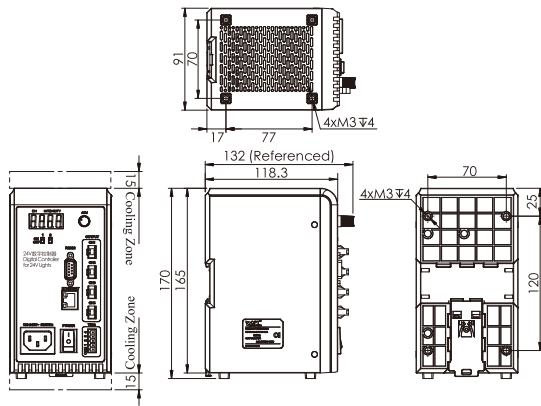
### Level Trigger Wiring Diagrams

4 trigger channels, and bidirectional optocoupler inside.  
Low level: 0 - 2V input voltage; high level: 5 - 24V input voltage. The rising edge trigger is the default trigger polarity. The diagrams are on the right.

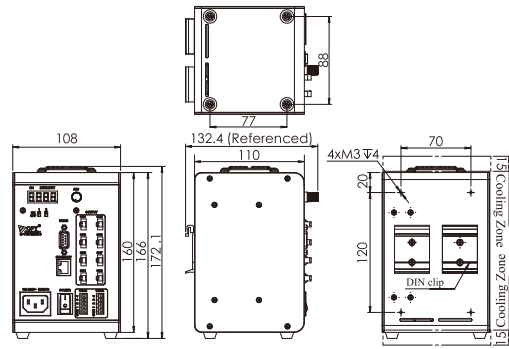


### Dimensions (mm)

1.OPT-DPA2024E-4



2.OPT-DPA2024E-8



3.OPT-DPA2024E-16

