

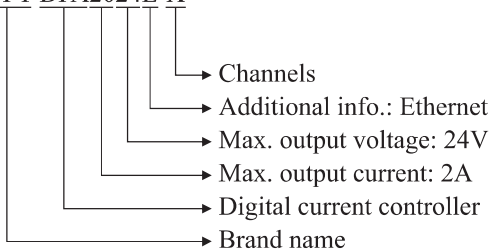
## DPA Digital Current Controller Patented

(DPA1024E will be discontinued in October 2019 and replaced with DPA2024E)



### Selection Guide

#### OPT-DPA2024E-X



Model	Channels	Compatible Light
OPT-DPA1024E-4	4	10mA - 1A 24V
OPT-DPA2024E-4		10mA - 2A 24V
OPT-DPA1024E-8	8	10mA - 1A 24V
OPT-DPA2024E-8		10mA - 2A 24V
OPT-DPA1024E-16	16	10mA - 1A 24V
OPT-DPA2024E-16		10mA - 2A 24V

### Product Features

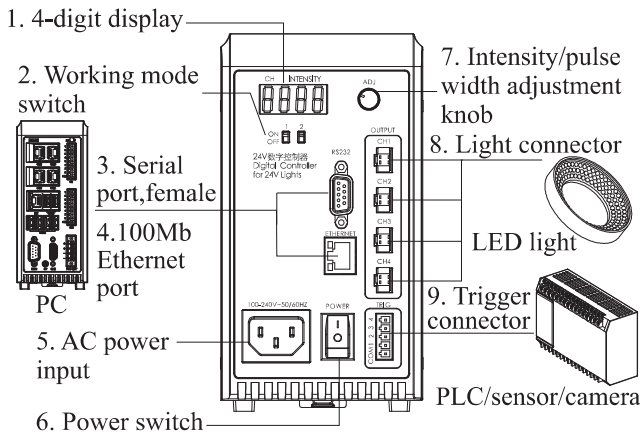
- Programmable trigger: Maximum of 32 programmable steps and intensity, pulse width and trigger source can be defined in each step.
- Autosense™ technology
- ≤ 15µs trigger response time
- Up to 20kHz trigger response frequency
- Simultaneous communication of multiple channels
- Manual setting for max. 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 expectancy.)

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

### Specifications

Model	DPA1024E	DPA2024E	Description
Voltage input	100 - 240V AC 2.3A 50/60Hz		
Lighting mode	Continuous/strobe		Set via the working mode switch or DEMO software
Auto sensing of light rated current	For 10mA-1A 24V LED light	For 10mA-2A 24V LED light	Enabled via DEMO software
Manual setting for max. output current	10mA - 1A	10mA - 2A	Enabled 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	1ms	1µs/10µs 1ms/100ms	Set via DEMO software
Normal trigger pulse width	1ms - 999ms	1µs - 30s	Set via the adjustment knob or DEMO software
High intensity trigger	1A output per channel	2A output per channel	
High intensity trigger pulse width	0.01 - 5.00ms		Set via the adjustment knob or DEMO software
Programmable trigger	No	Yes	The intensity, pulse width, and trigger source of each step can be set.
Response time	≤ 80µs	≤ 15µs	
Response frequency	≤ 4kHz	≤ 20kHz	
Fan control	Via constant voltage	Via temperature	
Output power	24W/CH	48W/CH	4CH/8CH total output: ≤ 48W; 16CH total output: ≤ 180W
Communication	RS232/Ethernet		
Standby power consumption	4CH: 8W	4CH: 9.6W	220V input
	8CH: 9.2W	8CH: 11.8W	
	16CH: 13.7W	16CH: 16.1W	
Hi-Pot test	1500VAC 1min		Leakage current < 10mA
Insulation	500VDC		Insulation resistanc > 20MΩ
Operating temperature	-5°C - 50°C		
Dimensions (mm) (L × W × H)	4CH	91×132×170	
	8CH	108×132.4×172.1	
	16CH	140×132.5×172.1	
Weight (kg)	4CH	1	1.1
	8CH	1.3	1.2
	16CH	1.7	1.6

### 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

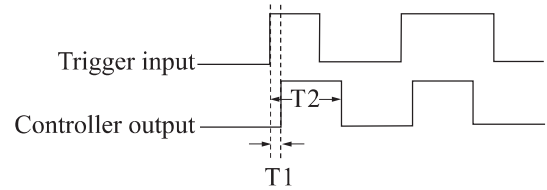
Trigger Mode	Trigger Polarity	Compatible Controller
Normal trigger	Rising edge trigger	DPA2024E DPA1024E
	Falling edge trigger	
	Positive follow trigger mode	
	Negative follow trigger mode	
High intensity trigger	Rising edge trigger	DPA2024E DPA1024E
	Falling edge trigger	
	Positive follow trigger mode	
	Negative follow trigger mode	
Programmable trigger	Rising edge trigger	DPA2024E
	Falling edge trigger	

Remark: Rising edge trigger is the default trigger polarity.

### Trigger Sequence

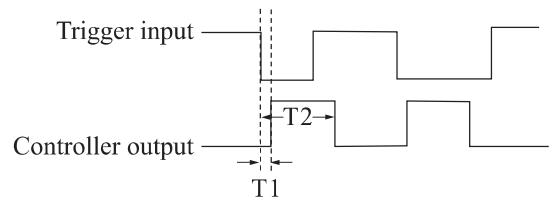
#### Rising edge trigger

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



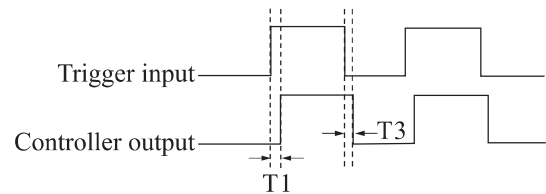
#### Falling edge trigger

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



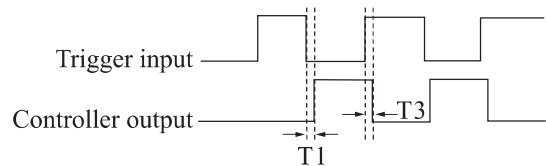
#### Positive follow trigger mode

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.

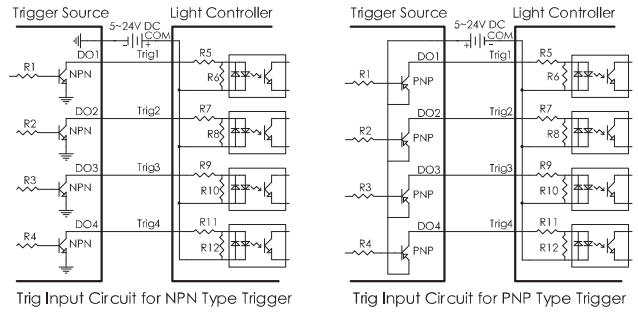


#### Remarks

1. T1: Enabling response time; T2: Trigger pulse width; T3: Disabling response time
2. Normal trigger: DPA1024E, T1 ≤ 80μs; T3 ≤ 10μs; T2 setting range: 1 - 999ms. DPA2024E, T1 ≤ 15μs; T3 ≤ 10μs; T2 setting range: 1μs - 30s
3. High intensity trigger: DPA1024E, T1 ≤ 80μs; T3 ≤ 10μs; T2 setting range: 0.01 - 5.00ms. DPA2024E, T1 ≤ 15μs; T3 ≤ 10μs; T2 setting range: 0.01 - 5.00ms

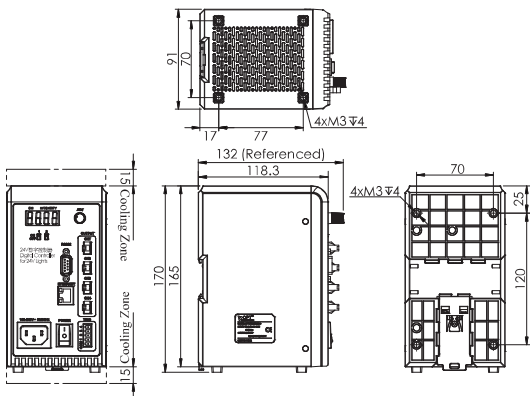
Level Trigger Wiring Diagrams

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.

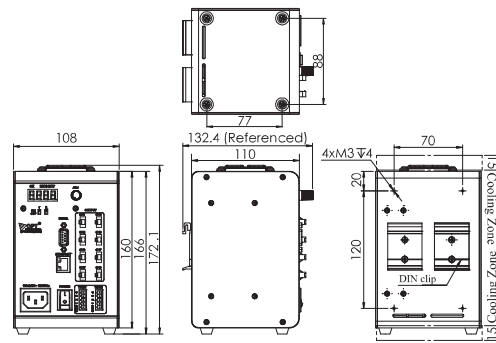


Dimensions (mm)

1.OPT-DPA2024E-4



2.OPT-DPA2024E-8



3.OPT-DPA2024E-16

