



Digital Current Controller **Patented**



Selection Guide

OPT-DPA2024EB-X

- Channels
- Additional info: E-Ethernet, B-versions
- Max. output voltage: 24V
- Max. output current: 2A
- Digital current controller
- Brand name

Model	Channels	Compatible Light
OPT-DPA2024EB-4	4	10mA~2A 24V
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.)
- Rs232 interface
- 100Mb Ethernet interface
- Convenient mounting with screws or on DIN rails

Device Overview

OPT-DPA2024EB-4

- 4-digit display
- Indicator light
- Function buttons
- Serial port (female)
- Ethernet (100Mb)
- Input voltage
- Power switch
- Light connector
- Trigger connector

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	Indicator light	The current operating modes indicated:"CON" Constant mode,"NTR"Normal trigger ,mode, "HTR"High trigger mode"LOC"Key lock
3	Function keys	The (MOD) key is the working mode setting key. In the panel control mode, pressing this key for about 1S can switch the working mode to the constant light mode, common trigger mode and high light trigger mode, and the corresponding working mode indicator light will also light up; the (SEL) key is the parameter setting key. In the panel control mode, tapping this key can select the corresponding value displayed on the digital tube; the (+) key is for increasing the operation and the (-) key is for decreasing the operation.
4	Serial port (female)	Use RS232 to communicate with PC devices.
5	Ethernet (100Mb)	Communicate with PC devices via Ethernet.
6	AC input	Input: AC 100~240V, 50/60Hz
7	Power switch	Turn on/off the controller power
8	Light source interface	There are a total of 4 light source outputs, each independently controllable.
9	Trigger connector	Strobe mode can be also achieved by external trigger; trigger pulse width settable



Specifications

Model	DPA2024EB-4	DPA2024E-4	DPA2024E-8	DPA2024E-16
Input voltage	AC100~240V 50/60Hz			
Input current	1.8A/115VAC 1A/230VAC			
Lighting mode	Continuous/strobe			
Auto sensing of light rated current	For 10mA-2A 24V LED light			
Manual setting for max. output current	10mA~2A			
Intensity control	Adjustable brightness in 256 levels			
Short-circuit protection	When a controller output is short-circuited, the corresponding channel's short-circuit protection activates, which will disable the channel and display "Er2" on the digital display to indicate the error.			
Overcurrent protection	When the current output of a corresponding channel on the controller exceeds the set value, the overcurrent protection for that channel activates. It will shut down the channel and display "Er1" on the digital display to indicate the error.			
Triggering	Level triggering (Low level: 0~2V; High level: 5~24V)			
Normal trigger	Adjustable brightness in 256 levels			
Normal trigger time unit	1 μs/ 10 μs/ 1 ms/100 ms			
Normal trigger pulse width	1 μs~30 s			
High intensity trigger	2A output per channel			
High intensity trigger pulse width	0.01~5.00 ms			
Programmable trigger	Supports up to 64 processes, with settings for brightness, pulse width, and trigger source.			
Response time	≥ 30μs	≤20μs		
Response frequency	≤ 10KHz	≤20kHz		
Output power	48W per channel, total power 48W			48W per channel, total power 150W
Communication	RS232/Ethernet			
Standby power consumption	3.2W	6.6W	8.7W	12.5W
Hi-Pot test	AC 1500V for 1 minute, leakage current < 10mA			
Insulation	DC500V, Insulation resistance > 20MΩ			
Operating temperature	-5℃~50℃			
Dimensions(mm ³)(L × W × H)	65×126.2×170 mm	91×132×171 mm	108×132.4×172.1 mm	140×132.4×172.1 mm
Weight (kg)	0.68	0.84	1.2	1.6

Mode Switching Settings

OPT-DPA2024EB-4

Mode	Indicator light display
Continuous light emission mode	CON light on
Normal trigger mode	NTR light on
High trigger mode	HTR light on
/	LOC light on, panel locked, can be operated via Demo software

OPT-DPA2024E-X

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

This series of controllers features three trigger modes: normal, high , and programmable . It also supports four trigger polarities: rising edge, falling edge, positive pulse, and negative pulse. The default setting is rising edge trigger (see specific details in the table below).

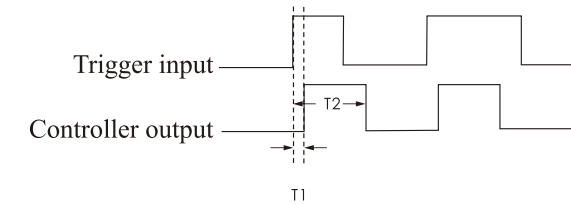
Trigger Mode	Trigger Polarity
Normal trigger	Rising edge trigger
	Falling edge trigger
	Positive follow trigger mode
	Negative follow trigger mode
High intensity trigger	Rising edge trigger
	Falling edge trigger
Programmable trigger	Rising edge trigger
	Falling edge trigger



Trigger Sequence

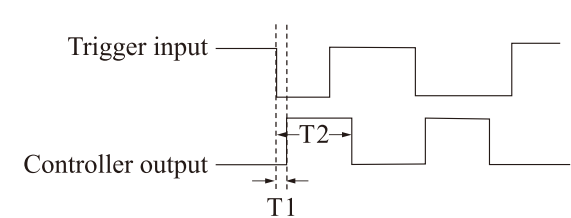
Rising edge trigger

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



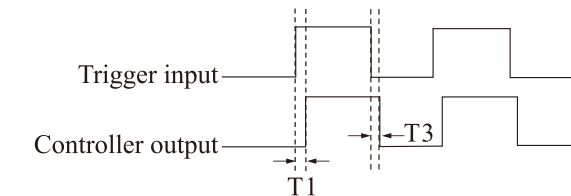
Falling edge trigger

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



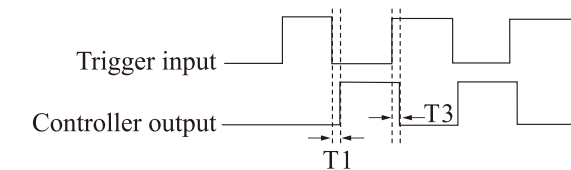
Positive follow trigger mode

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. T2 setting range: 1μs - 30s;
- Please refer to the table of trigger response time for T1 and T3

Trigger Response Time Reference Table

OPT-DPA2024E-4

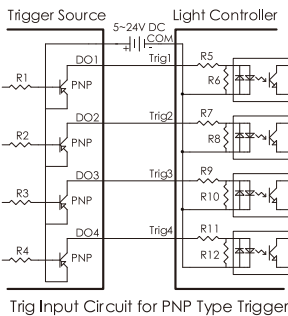
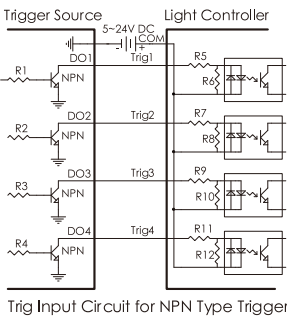
Trigger Voltage (V)	Output Current (mA)	200		1000		2000	
		T1 (μs)	T3 (μs)	T1 (μs)	T3 (μs)	T1 (μs)	T3 (μs)
5		130	10	48	12	34	15
12		140	10	40	13	30	16
24		140	19	40	22	30	25

OPT-DPA2024E-X

Trigger Voltage (V)	Output Current (mA)	200		1000		2000	
		T1 (μs)	T3 (μs)	T1 (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

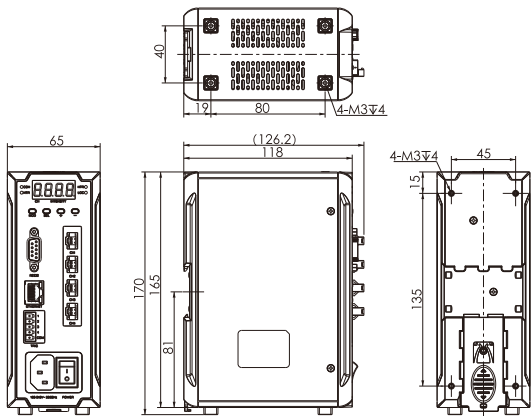
Level Trigger Wiring Diagrams

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.

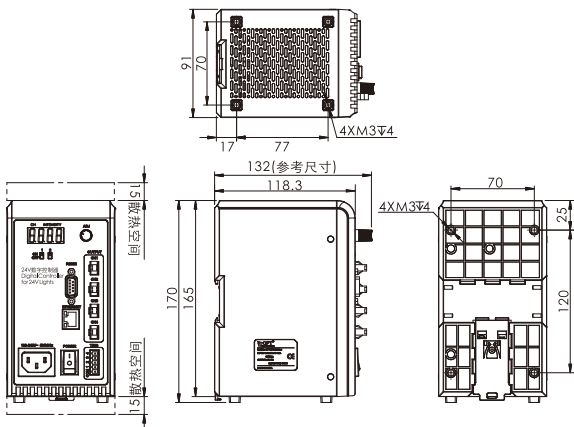


Dimensions (mm)

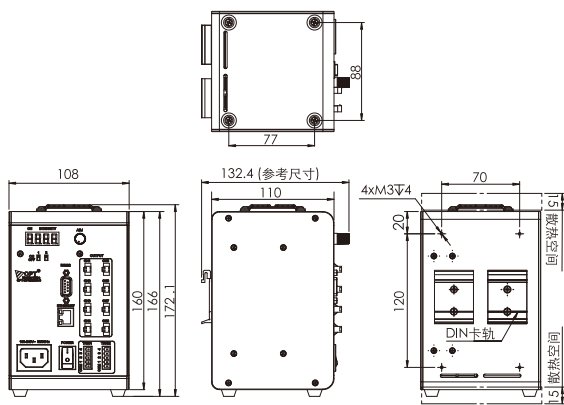
1. OPT-DPA2024EB-4



2.OPT-DPA2024E-4



3. OPT-DPA2024E-8



4. OPT-DPA2024E-16

