



Ultra-high Power Digital Current Controller NEW



Selection Guide

OPT - DPA20024EB-X

- Channels
- Additional info: E-Ethernet, B-versions
- Max. output voltage: 24V
- Max. output current: 20A
- Digital current controller
- Brand name

Model	Channels	Compatible Light
OPT-DPA20024EB-1	1	Connecting OPT 24V six-pole light source
OPT-DPA20024EB-2	2	Connecting OPT 24V six-pole light source

Product Features

- Autosense™ technology
- Simultaneous communication of the two 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.)
- Trigger pulse width setting
- RS232 interface
- 100Mb Ethernet interface

Specifications

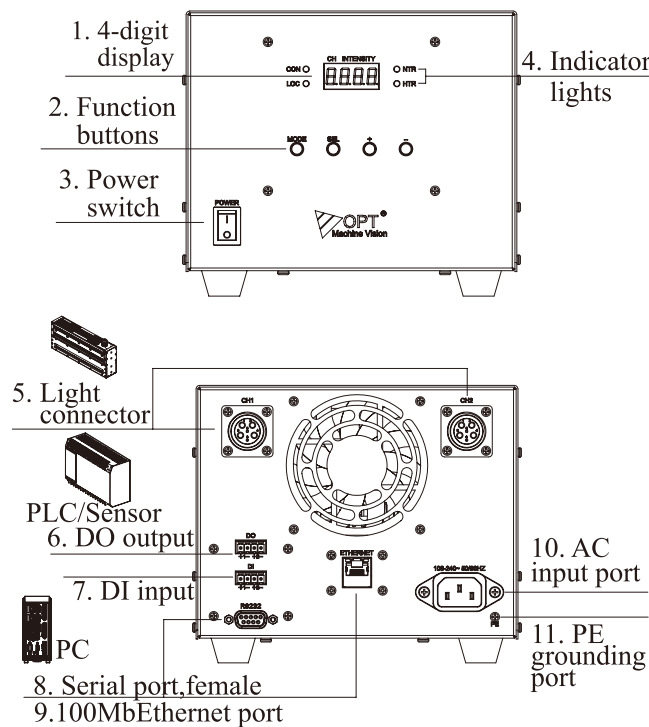
Model	DPA20024EB-1	DPA20024EB-2
Input voltage	AC100~120V / AC200~240V 50/60Hz	AC100~120V / AC200~240V 50/60Hz
Input current	6.5A/115VAC 3.2A/230VAC	24A/115VAC 15A/230VAC
Lighting mode	Continuous/strobe	
Auto sensing of light rated current	Connect 1A~20A OPT light source	
Manual setting for max. output current	100mA~20A	

Specifications

Model	DPA20024EB-1	DPA20024EB-2
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. It will disable the channel and display "Er2" on the digital display to indicate the error.	
Overcurrent protection	When the output current of the corresponding channel of the controller is greater than the set value, the overcurrent protection of the corresponding channel will be activated, the corresponding channel will be closed, and the digital tube will display Er1 error message.	
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	Single channel output at 20A, with a maximum voltage output not exceeding 24V.	
Highlight trigger pulse width time unit	1 μs/10 μs/1 ms	
Highlight trigger pulse width	1 μs~500 ms	
Programmable trigger	Supports up to 64 processes, with settings for brightness, pulse width, and trigger source.	
DO output	/	5V~24V, 50mA, open-drain output
Response time	≥ 200 μs	≥ 100 μs
Response frequency	≤ 2KHz	≤ 10μs
The unit for setting trigger delay time	1 μs/10 μs/1 ms	
Set trigger delay	1 μs~6500 ms	
Output power	480W/CH	
Communication	RS232/Ethernet	
Standby power consumption	≤ 17.4KHz	≤ 18W
Hi-Pot test	AC1500V 1Min, Leakage current < 10mA	
Insulation	DC500V, Insulation resistance > 20MΩ	
Operating temperature	-5°C - 50°C	
Dimensions (mm ³) (L×W×H)	147×353.3×144.5mm	182×353.17×157mm
Weight (kg)	3.26	8.62



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	Function button	(MOD) button is the work mode setting button. In panel control mode, pressing this button for about 1S will switch the work mode to constant illumination mode, common trigger mode, or high brightness trigger mode. The corresponding work mode indicator light will also turn on. The (SEL) button is the parameter setting button. In panel control mode, tapping this button will select the corresponding digit on the digital display. The (+) button is for increasing values, and the (-) button is for decreasing values.
3	Power switch	Turns on/off the controller
4	Indicator light	They indicate the current work mode: "CON" for constant illumination mode, "NTR" for common trigger mode, "HTR" for high brightness trigger mode, and "LOC" for key lock.
5	Light connector	Corresponding 6-pin aviation connector light source interface.
6	DO output	Open-drain output
7	DI trigger port	External signal input, trigger pulse width adjustable
8	Serial port, female	Communication with PC via the RS232 interface
9	100Mb Ethernet port	Communication with PC via the Ethernet interface
10	PE grounding port	Grounding protection
11	Input voltage	100 - 120V/200 - 240V AC

Light Connector

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

Mode Switching Settings

Mode	Indicator light display:
Constant Illumination Mode	CON light on
Common Trigger Mode	NTR light on
High Brightness Trigger Mode	HTR light on
/	LOC light on, panel locked, can be operated in Demo software

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.

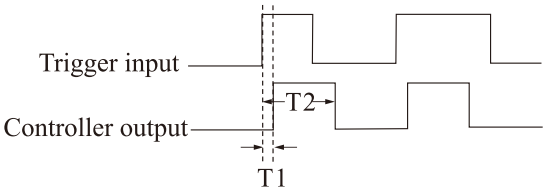
Trigger

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

Trigger Sequence

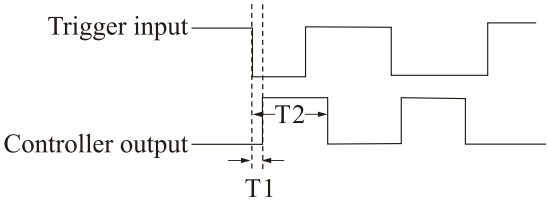
Rising edge trigger

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



Falling edge trigger

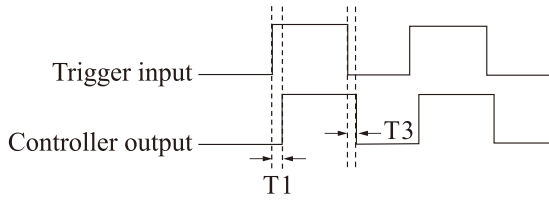
The illumination time is equal to the trigger pulse width, which is set via DEMO software or the adjustment knob.





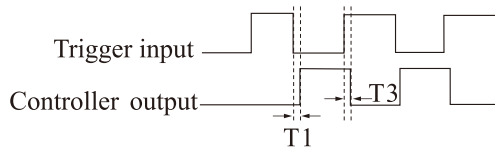
Positive follow trigger mode

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 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: 10 μ s - 999ms;
Please refer to the table of trigger response time for T1 and T3

Reference Table of Trigger Response Time

DPA20024EB-1

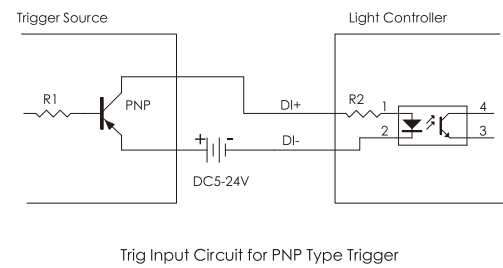
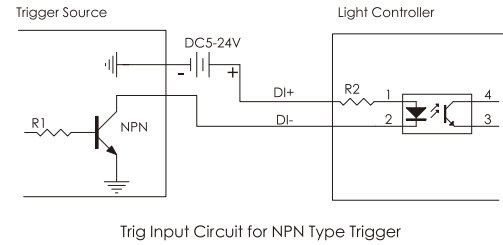
Trigger Voltage (V)	Output Current (mA)	2		10		20	
		T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)
5		1000	60	300	60	200	60
12		1000	60	300	60	200	60
24		1000	60	300	60	200	60

DPA20024EB-2

Trigger Voltage (V)	Output Current (mA)	2		10		20	
		T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)	T1 (μ s)	T3 (μ s)
5		600	10	150	10	5	10
12		600	10	150	10	5	10
24		600	10	150	10	5	10

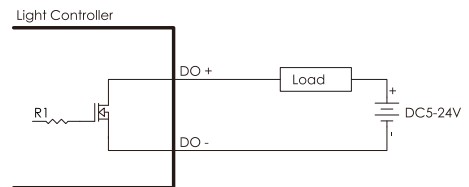
Level Trigger Wiring Diagrams

In this series, the controller's DI (digital input) is optically isolated. A voltage input of 0~2V represents a low level, while 5~24V represents a high level.



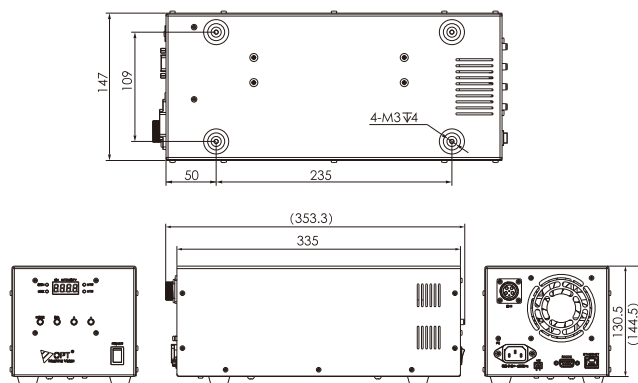
DO Wiring Diagram

Any DO of the controller is connected to the positive and negative terminals of the external device inputs. Such as PLC acquisition card, etc. As shown in the figure below:



Dimensions (mm)

1.OPT-DPA20024EB-1



2.OPT-DPA20024EB-2

