Multi-Spectrum Ring Shadowless Light OPT-RIPM Series New

Product Description

Main Features

- The light includes 8 wavelengths, such as red, green, blue, white, infrared and ultraviolet.
- Each wavelengththis uniformly distributed in four regions, and each wavelength in each region can be controlled separately.
- It is suitable for complex applications such as color recognition and surface 3D information extraction.

Application Cases

- Quality inspection of food and drug
- Color difference control and transparent character detection
- Fingerprint detection
- Defect detection of reflective, textured, irregular objects
- STEREO 3D detection
- Contour detection of transparent objects
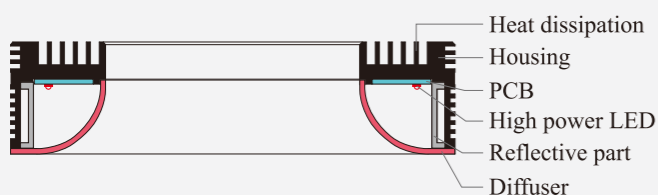
Selection Guide

OPT-RIPM 175
- Outer diameter
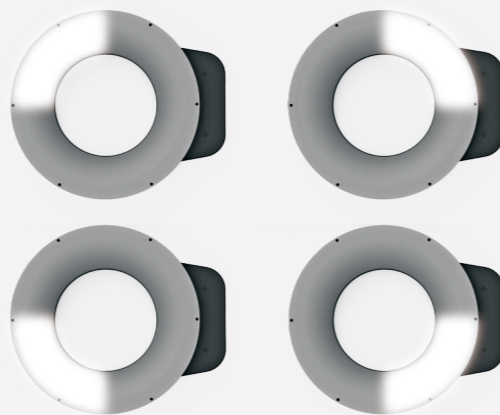- Multi-Spectrum Ring Shadowless Light
- Brand name

Customizable Items

Color   Mounting   Size

Heat dissipation

Section Structure Drawing

- Heat dissipation
- Housing
- PCB
- High power LED
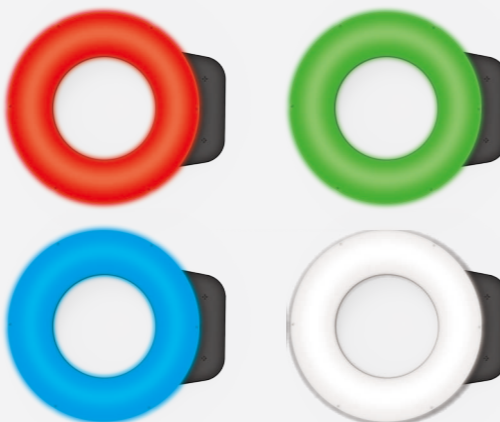- Reflective part
- Diffuser

Series features

Regional control
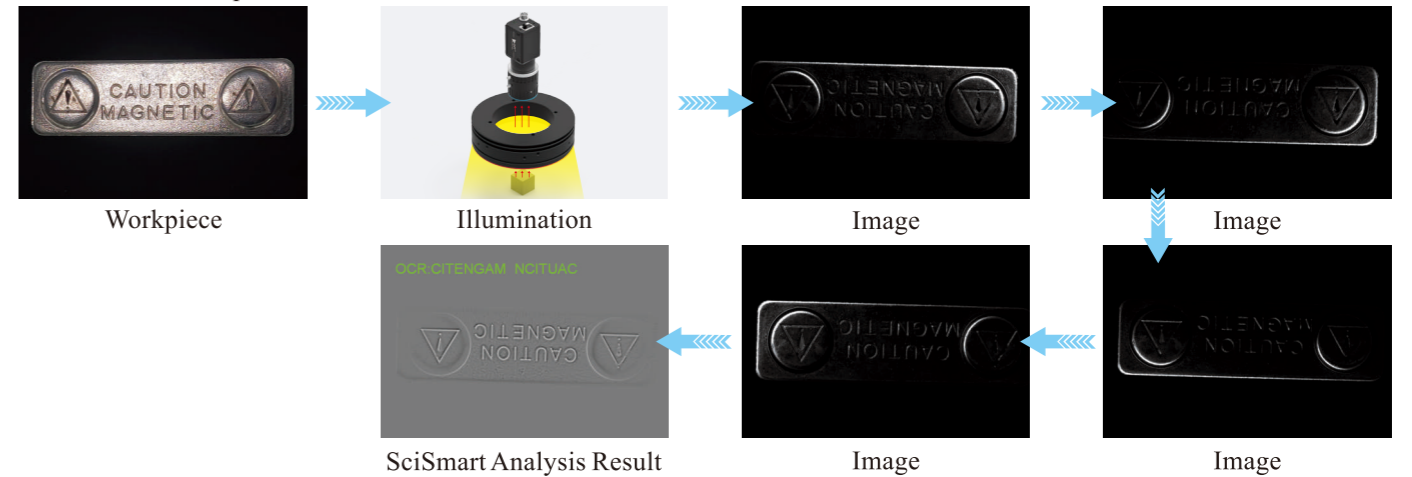
Four areas are evenly distributed, each covering 8 colors

Wavelength control

Each color can be controlled separately according to application requirements.

Application Example

☑ Gear surface inspection

Workpiece   Illumination   Image   Image

SciSmart Analysis Result   Image   Image

Model Table

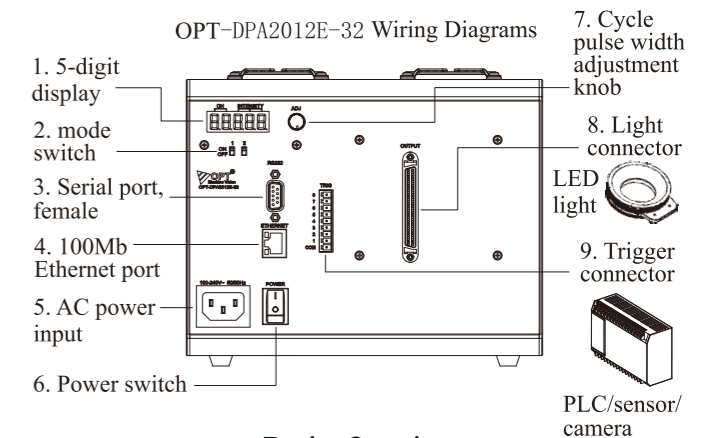| No.	Model	central wavelength	✱ Output	Recommended controller
1	OPT-RIPM175-8C	405nm	16W	OPT-DPA2012E-32
		475nm	16W	
		530nm	16W	
		590nm	10W	
		660nm	16W	
		730nm	16W	
		850nm	16W	
		3000K	16W	

✱ Multicolor lights not support at the same time.
✱ Note: The data is for reference only.

Dedicated controller

Item	Parameter	Description
Input voltage	100 - 240V AC 3.5A 50/60Hz	
Lighting mode	Continuous/strobe	Set via the working mode switch or DEMO software
Manual setting for max. output current	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.
Normal trigger	256 intensity levels settable	
High intensity trigger	2A output per channel	
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 pulse width	0.01~5.00ms	Set via the adjustment knob or DEMO software
Programmable trigger	Yes	The intensity, pulse width, and trigger source of each step can be set.
Trigger response time	≤15μs	
Trigger response frequency	20KHz	
Output power	24W/CH	total output ≤ 260W
Communication	RS232/Ethernet	
Standby power consumption	30W	220V
Hi-Pot test	1500VAC 1min	Leakage current < 10mA
Insulation	500VDC	Insulation resistance > 20MΩ
Operating temperature	-5°C~50°C	
Dimensions (mm) (L × W × H)	206.4*132.4*172.1	Refer to the drawing for details
Weight (kg)	2.6	

Controller wiring instructions

OPT-DPA2012E-32 Wiring Diagrams

1. 5-digit display
2. mode switch
3. Serial port, female
4. 100Mb Ethernet port
5. AC power input
6. Power switch
7. Cycle pulse width adjustment knob
8. Light connector — LED light
9. Trigger connector — PLC/sensor/camera

Device Overview

| No.	Item	Description
1	5-digit display	Current operation channels:1st and 2nd bits from left, corresponding values:3th, 4th and 5th bits.
2	working mode switch	Switching function
3	Serial port, female	Communication with PC via the RS232 interface
4	100M Ethernet port	Communication with PC via the Ethernet interface
5	AC power input	100 - 240V AC, 50/60Hz
6	Power switch	Turns on/off the controller
7	Cycle 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 Multi-Spectrum Ring Shadowless Light
9	Trigger connector	Connects external trigger for strobe; trigger pulse width settable

Trigger

The controller has three trigger modes of common trigger,high intensity trigger and programmable trigger,and four trigger polarities of rising edge trigger,falling edge trigger,positive follow trigger and negative follow trigger,see the following details:

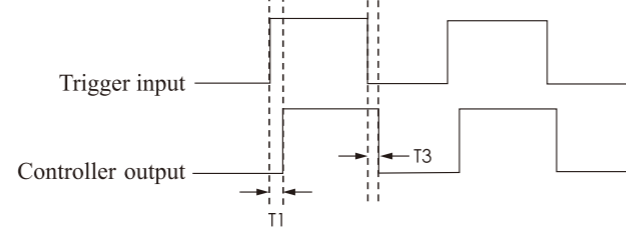| Trigger Mode	Trigger Polarity
Normal trigger	Rising edge trigger
	Falling edge trigger
	Positive follow trigger mode
	Negative follow trigger mode
High intensity trigger	Rising edge trigger
	Falling edge trigger
	Positive follow trigger mode
	Negative follow trigger mode
Programmable trigger	Rising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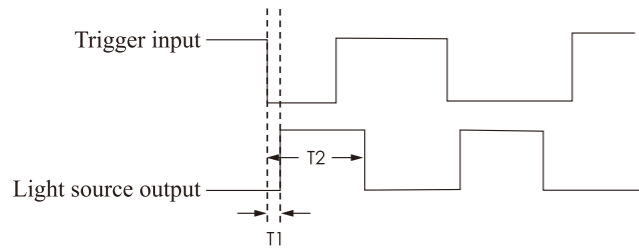
Trigger input

Light source output

T2

T1
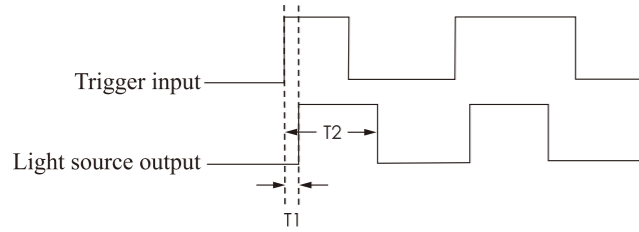
Positive follow trigger mode

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

Trigger input
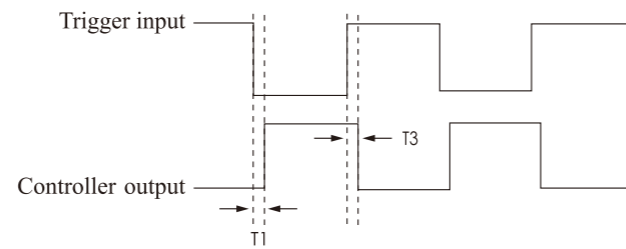
Controller output

T3

T1

Falling edge trigger

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

Trigger input

Light source output

T2

T1

Negative follow trigger mode

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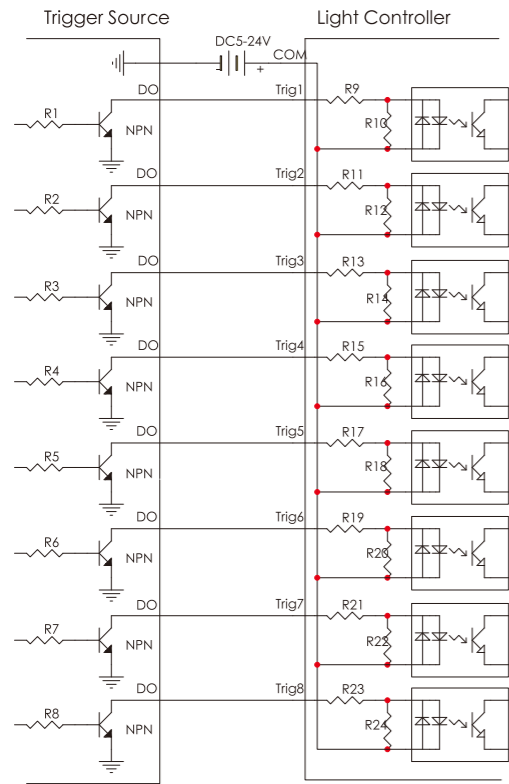
Trigger input

Controller output

T3

T1

Remarks
1. T1: Enabling response time; T2: Trigger pulse width; T3: Disabling response time
2. Normal trigger: T1 ≤ 15μs; T3 ≤ 10μs; T2 setting range: 1μs - 30s
3. High intensity trigger: 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 diagrams are as below.
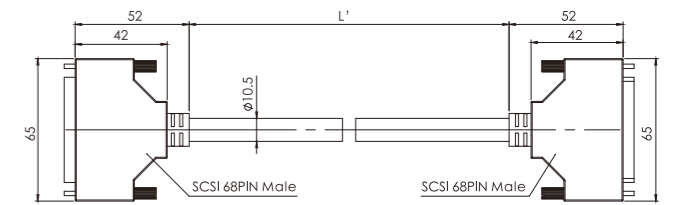
Trig Input Circuit for NPN Type Trigger
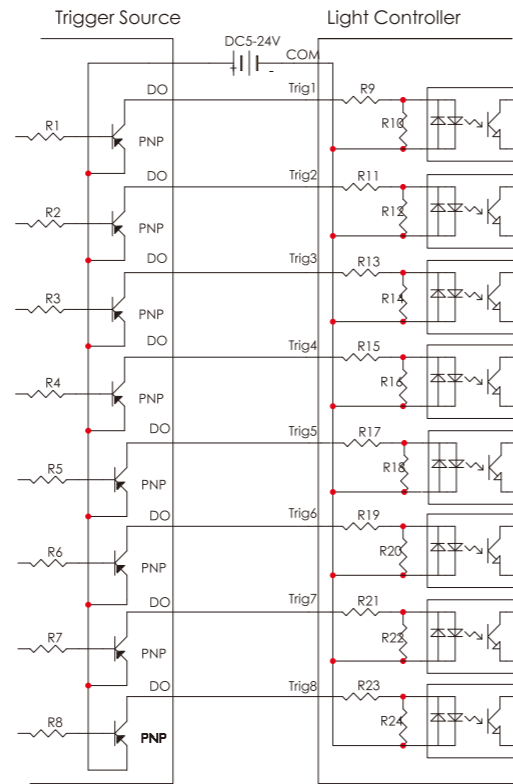
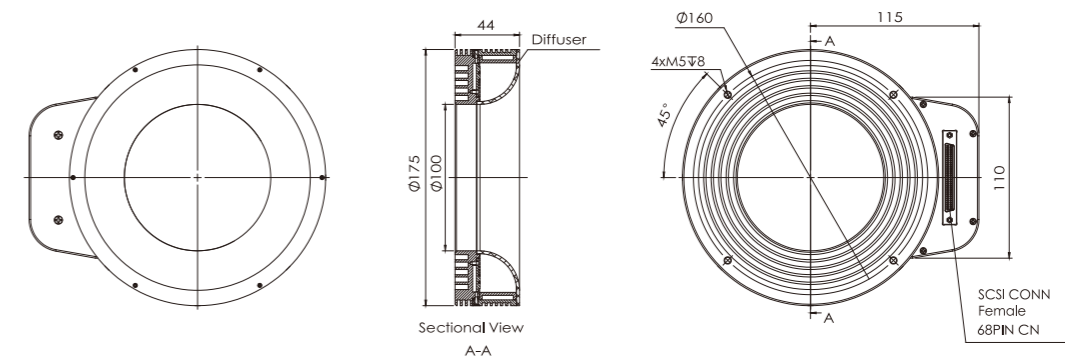Trig Input Circuit for PNP Type Trigger

Light source line

Model	Cable length(L)
OPT-DGYX1M-68P-S	1m
OPT-DGYX2M-68P-S	2m
OPT-DGYX3M-68P-S	3m

Note:Light source cable is required accessory and must be ordered separately.

SCSI 68PIN Male   SCSI 68PIN Male

Dimensions (mm)

1.OPT-RIPM175

Diffuser

Sectional View
A-A

2.OPT-DPA2012E-32

DIN Rail