

Controller with EtherNet/IP™ Interface

CN-4024-2-EIPT

Light Control through an EtherNet/IP Network



EtherNet/IP
ODVA

CN-4024-2-EIPT

Best Fit for Inspection Systems on EtherNet/IP Networks

Conforms to ODVA Composite Conformance Test Revision CT15.



A smart device for the IoT era

You can get the following values through an EtherNet/IP network:

Accumulated trigger count, accumulated lighting duration, and error status

Additionally, you can set and check the following values:

Lighting mode, trigger logic, ON/OFF setting for the Light Unit, light intensity, strobe time, and lighting delay

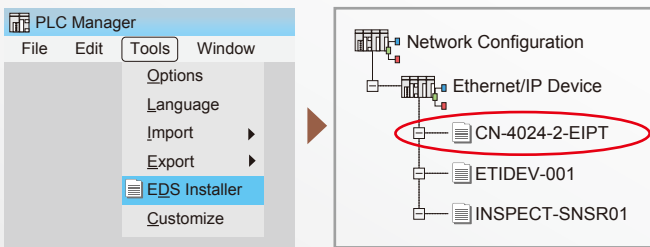
The CN Controller also provides TCP/IP commands for the same operations.



Note: The CN Controller is operated only through external control, and cannot be controlled manually.

Easy Installation

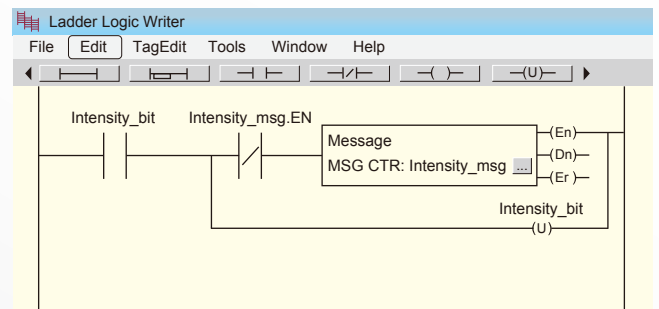
We will offer an Electronic Data Sheet (EDS) file which describes the communications configuration of the device. Registering the EDS file to a PLC automation system reduces labor and time required for setting up the device.



Conceptual image

Easy Operation

When you use a PLC ladder editor, you can get and set the operation values for the CN Controller with explicit messages.



Conceptual image

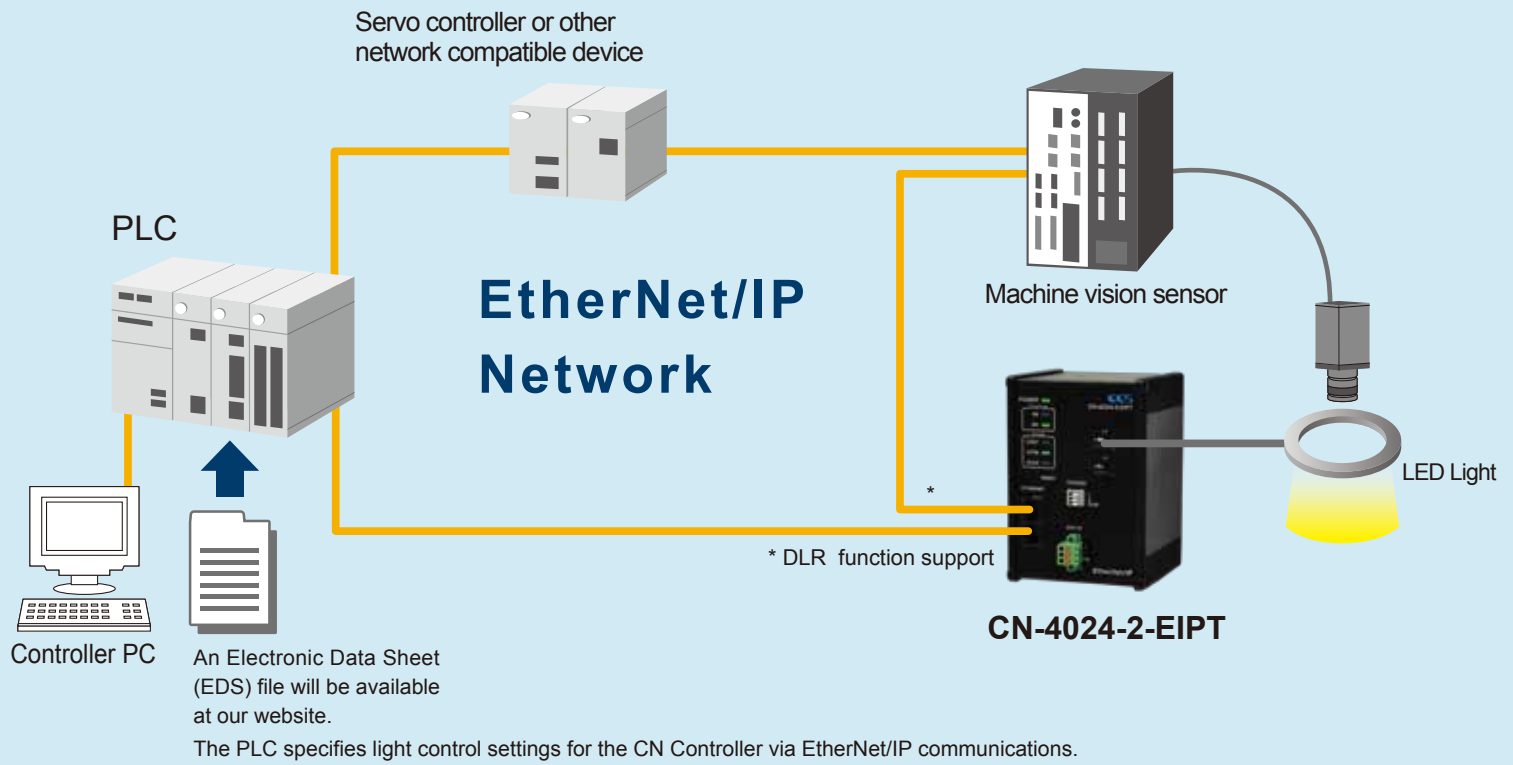
Operation Data Output

The following values can be obtained for system operation: Accumulated trigger count which counts the number of Light Unit ON operations, accumulated lighting duration which counts the total period that the Light Unit is ON in hours, and error status.

DLR Function

The CN Controller is equipped with the Device Level Ring (DLR) function.

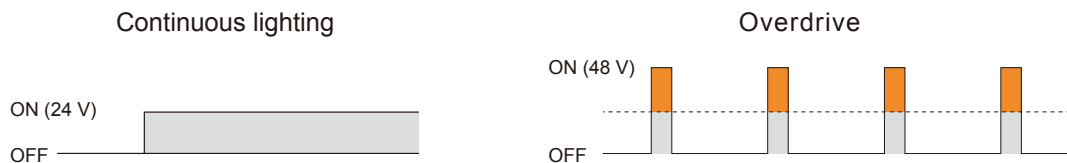
Connect two LAN cables to the CN Controller, and if a communications error occurs, the CN Controller will change the communications route immediately. (Refer to the illustration on the right page.)



Three Selectable Lighting Modes

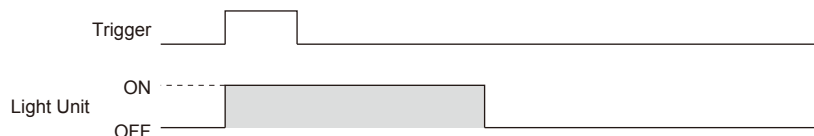
1. Overdrive Mode (48 VDC output, Strobe time control: 1 to 1,000 μ s, Maximum duty ratio: 7%)

When an external trigger signal is input to the CN Controller, the corresponding Light Unit flashes. By overdriving the voltage that is applied to the Light Unit, you can make the Light Unit flash a few times brighter than when the Light Units operate in any other lighting modes.



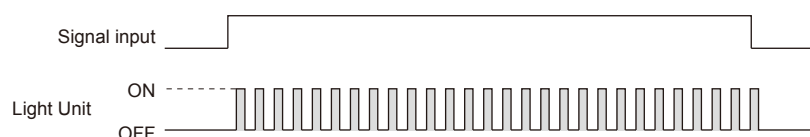
2. Strobe Mode (24 VDC Output, Strobe time control: 1 to 10,000 μ s)

When an external trigger signal is input to the CN Controller, the corresponding Light Unit flashes. LED Lights can withstand being turned on and off frequently. Turning on the Light Unit only when taking images will reduce heat generation, provide a more stable radiation output, and increase the service life of the Light Unit.



3. Continuous Mode (24 VDC Output, PWM Control: the light intensity can be set to any of 512 levels.)

The Light Unit will be ON (or OFF) as long as there is an external trigger signal input to the CN Controller.



EtherNet/IP Message Specifications

Device classification	Message type	Connection type for implicit messaging	Requested packet interval	DLR function
Adapter	Explicit (UCMM, Class 3), Implicit	Exclusive owner, Input only	10 to 3200 ms	Available
Port number to use (TCP)	Port number to use (UDP)	DHCP	Conformity	
44818	2222, 44818	Available (Default: fixed IP address)	ODVA Composite Conformance Test Revision CT15	

Specifications

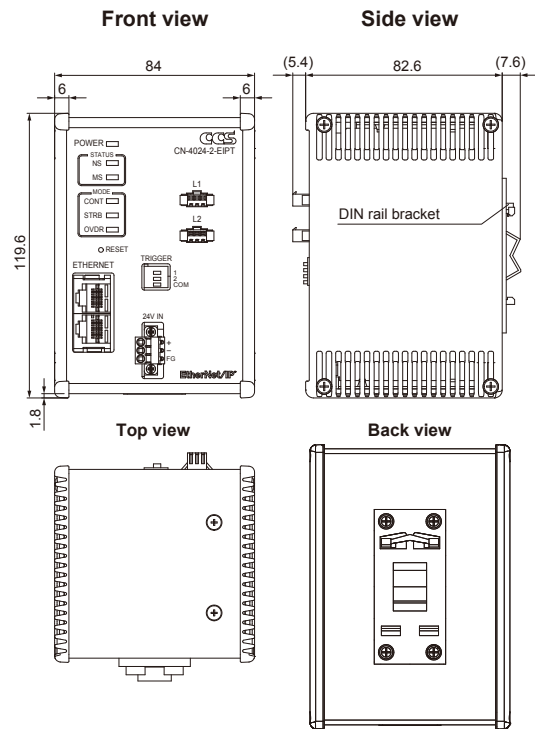
Model name	CN-4024-2-EIPT
Lighting method	Overdrive (O/D) Mode, Strobe Mode: Strobe lighting Continuous Mode: Continuous lighting
Drive method	Constant-voltage system
Intensity control method	O/D Mode, Strobe Mode: Lighting time control Continuous Mode: PWM control
PWM frequency	125 kHz
Number of channels	2 channels
Output ratings (O/D Mode)	48 VDC 5 A max./connector, Total for 2 channels: 7 A max.*1
Output ratings (Strobe Mode, Continuous Mode)	24 VDC 40 W max./connector, Total for 2 channels: 40 W max.
External control protocol	EtherNet/IP, TCP/IP
Strobe time	O/D Mode: 1 to 1,000 μ s (in steps of 1 μ s) Strobe Mode: 1 to 10,000 μ s (in steps of 1 μ s)
Lighting delay	O/D Mode, Strobe Mode: 0 to 10,000 μ s (in steps of 1 μ s)
Light intensity	Continuous Mode: Set any of 512 levels
Trigger input	Terminal block, 3 poles, Solid wires or stranded wires AWG 28 to 22 Maximum duty ratio (O/D Mode): 7%
Trigger input voltage (rating)	24 VDC
Power input	Terminal block, 3 poles, Solid wires or stranded wires AWG 24 to 16
Power input voltage (rating)	24 VDC
Power input voltage (range)	21.6 to 26.4 VDC
Average power consumption (typ.)	45 W
Peak power consumption (max.)	71.3 W *2

*1 Confirm the peak current of the LED Lights and use them within the above output current. For information on the availability of your LED Lights, refer to our website.

*2 When you select a power supply, the rated output power must be larger than the above peak power consumption.

Inrush current (typ.)	6.9 A, 21.4 μ s (reference values)
Insulation withstand voltage, Insulation resistance (i/o-FG)	250 VAC for one minute, Cutoff current: 10 mA, 500 VDC, 20 M Ω min.
Operating environment	Temperature: 0 to 40°C, Humidity: 20% to 85% (with no condensation), Indoor use only
Storage environment	Temperature: -20 to 60°C, Humidity: 20% to 85% (with no condensation)
Cooling method	Natural air cooling
CE marking	EMC standard: Conforms to EN61000-6-2, EN61000-6-4
Environmental regulations	RoHS compliant
Material and surface processing	Material: Aluminum and resin, Surface processing: Black alumite
Weight	500 g max.
Accessories	Instruction Guide

Dimensions (mm)



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"EtherNet/IP" is a trademark of ODVA, Inc.

CAUTION

- To ensure proper and safe use of the product, please read the instruction guide before using the product.
- The design and specifications of this product are subject to change without notification for product improvement.

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