

Digital Control Units

PD3-3024-3 Series

Select a Digital Control Unit for Your Network Configuration

The PD-3024-3 is a series of high-performance Digital Control Units with a full suite of external control functions. Parallel, EIA-485, and Ethernet communications protocols are all supported for external control. There are three output channels for Light Units and each can be controlled independently. The light intensity can be set to any of 256 different levels. And constant lighting, ON/OFF lighting, and strobe lighting modes are supported.

■ Strobe Lighting Times

40 μs/80 μs/120 μs/200 μs/600 μs/1 ms/4 ms/10 ms/20 ms/40 ms/
* These Control Units do not include an overdrive.



Three Types of External Control » Select from parallel, EIA-485, and Ethernet models.

PD3-3024-3-PI

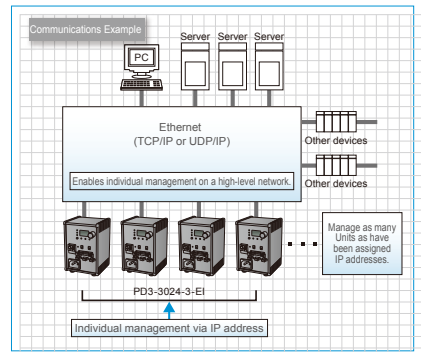
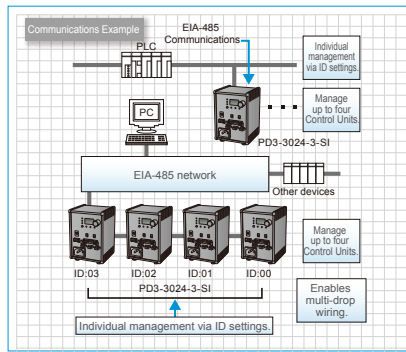
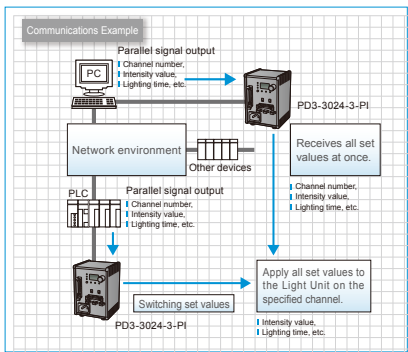
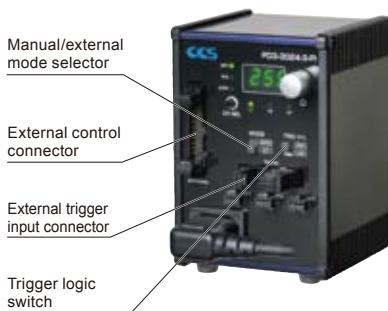
The Parallel Model offers the fastest time for switching between set values. Parallel signal reception enables high-speed control.

PD3-3024-3-SI

The EIA-485 Model enables multi-drop wiring for individual management of up to four Control Units.

PD3-3024-3-EI

The Ethernet Model supports the standard TCP/IP and UDP/IP protocols for maximum convenience.



* Use the optional Relay Cable for EIA-485 Communications (EXCB2-E3-E3-0.2) for multi-drop wiring.

Control Unit



Common Specifications

Lighting method	Constant lighting
Drive method	Constant-voltage system
Light intensity control method	PWM control and lighting time control.
Number of channels	3 channels
Applicable Light Unit rating	24 V, 28 W
PWM frequency	125 kHz
Error detection display	"OCP" displayed on front-panel digital display
Overcurrent protection*	Operates at 107% of the rated current. Reset when power is restored.
Rated input voltage	100 to 240 VAC
Power consumption (typ.)	78 VA
Frequency	50/60 Hz
Rated output voltage	24 VDC
Rated output current	Total for 3 channels: 1.1 A
Operating temperature and humidity	Temperature: 0 to 40°C, Humidity: 20% to 85%RH (with no condensation)
Storage temperature and humidity	Temperature: -20 to 60°C, Humidity: 20% to 85%RH (with no condensation)
Cooling method	Natural air cooling
CE Marking	Safety standard: Conforms to EN 61010-1, EMC standard: Conforms to EN 61326, Class A.
Material and surface processing	Material: Aluminum and resin, Surface processing: Blue alumite
Weight	600 g max.
Accessories	2-m long 3-prong power cord with ground terminal

* Do not intentionally short-circuit the positive and negative output terminals.

PD3-3024-3-P (Parallel Model) Specifications

Direct number	2000775
Light intensity setting	Manual: 256 levels set via the front setting switch External: 8-bit input (B0 to B7), write pulse (BRTWR), channel select (CHSEL0 to CHSEL2)
ON/OFF setting	External trigger input
Lighting mode setting	Manual: 11 levels set via the front setting switch External: 4-bit input (M0 to M3), write pulse (TRGWR), channel select (CHSEL0 to CHSEL2)
Error detection output	Transistor output to external control connector pins 19 and 20. Normal operation: OFF Overcurrent output detected: ON
External control connector	Trigger input: 10-pole MIL connector Intensity and lighting mode settings: 20-pole MIL connector

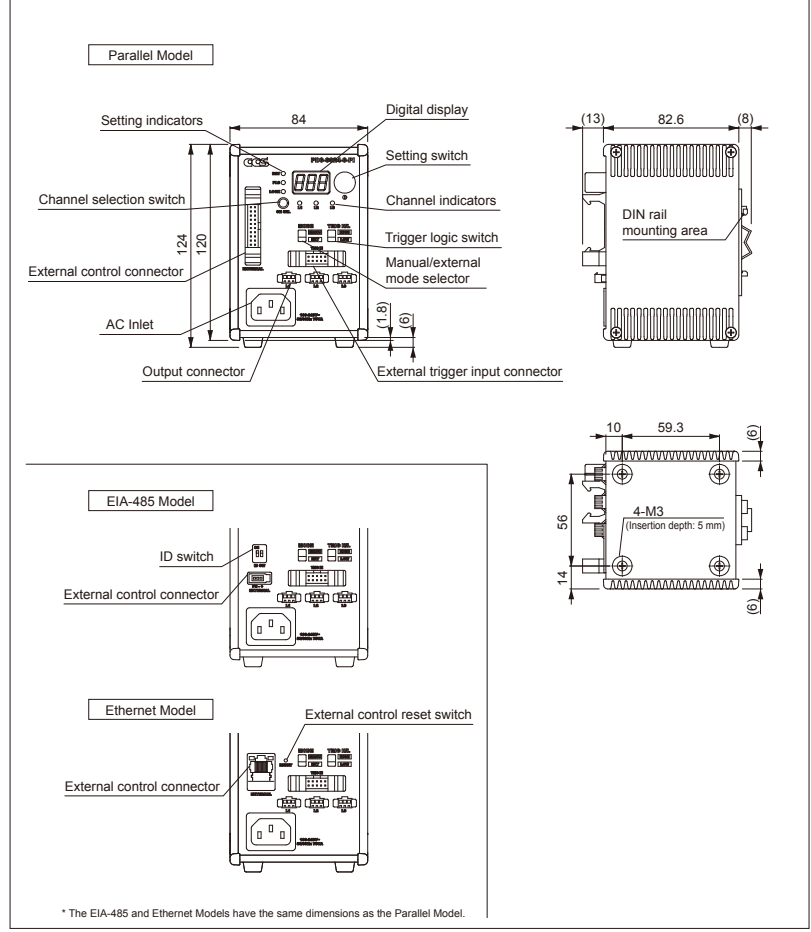
PD3-3024-3-S (EIA-485 Model) Specifications

Direct number	2000777
Light intensity setting	Manual: 256 levels set via the front setting switch External: Command input through EIA-485 communications
ON/OFF setting	External trigger input or Command input through EIA-485 communic
Lighting mode setting	Manual: 11 levels set via the front setting switch External: Command input through EIA-485 communications
Error detection output	Command is sent when overcurrent output is detected.
External control connector	Trigger input: 10-pole MIL connector Intensity and lighting mode settings: e-CON 3-pole connector

PD3-3024-3-E (Ethernet Model) Specifications

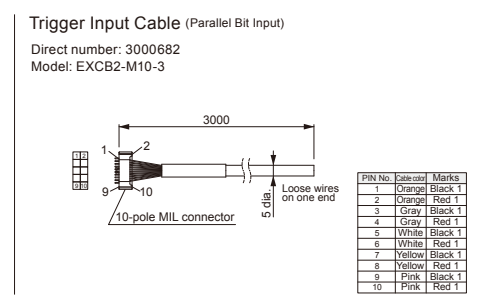
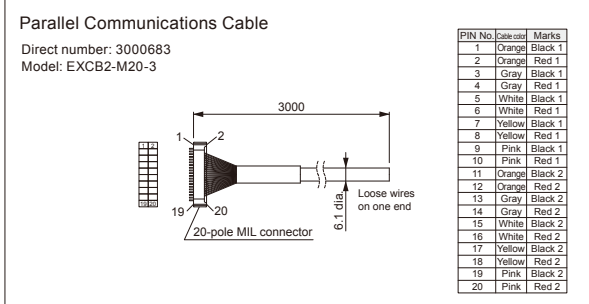
Direct number	2000776
Light intensity setting	Manual: 256 levels set via the front setting switch External: Command input through TCP/IP UDP/IP communications
ON/OFF setting	External trigger input or Command input through TCP/IP UDP/IP communications
Lighting mode setting	Manual: 11 levels set via the front setting switch External: Command input through TCP/IP UDP/IP communications
Error detection output	Command is sent when overcurrent output is detected.
External control connector	Trigger input: 10-pole MIL connector Intensity and lighting mode settings: RJ-45 connector

Dimension Diagrams (mm)

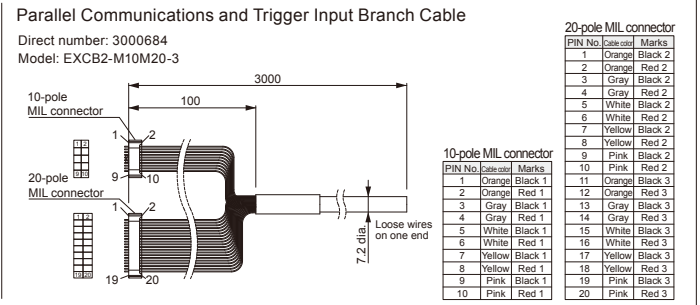
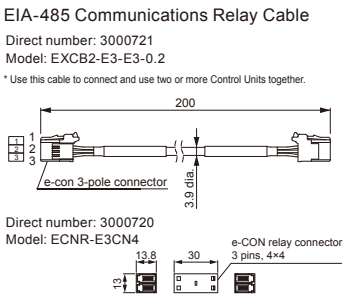
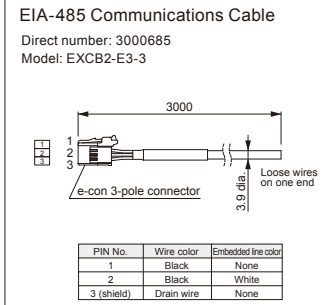
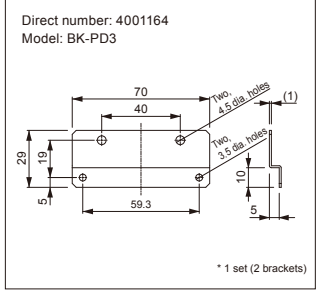


Options

External Control Cables



Base Brackets



Control Units for CCS LED Lights

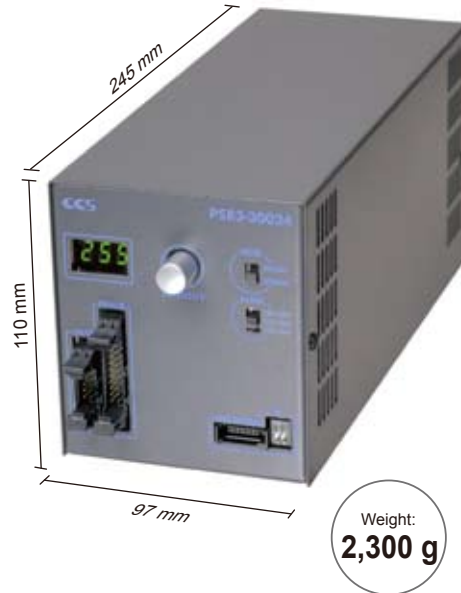
Please select a best-suited control unit according to your intended use and objective.

Analog Control Units

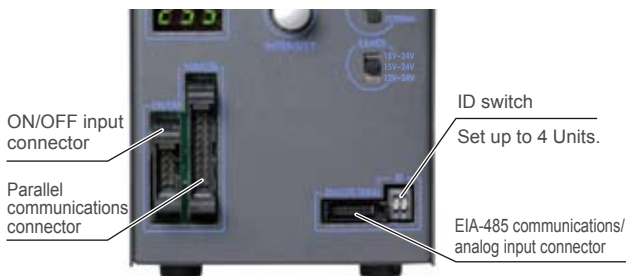
PSB3-30024

Analog Control Units with High Capacity of 300 W

The PSB3-30024 is a high-capacity (300 W) Analog Control Unit. Light Unit output is provided for one channel/four connectors (two metal connectors and two EL connectors). Light intensity can be set to any of 256 levels, even though the PSB3-30024 is an Analog Control Unit. Equipped for parallel, serial, or analog control all in a single Unit. Setting the light intensity has been optimized via the intensity range switch to select the optimal output for your Light Units.



Parallel, Serial, and Analog Control in a Single Unit



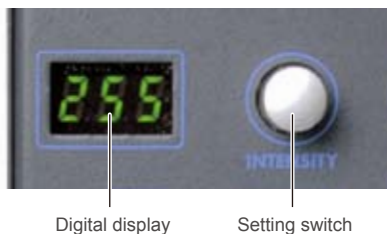
Control mode	Description	
Parallel communications	Light intensity control	Control the intensity to 256 levels via parallel signal inputs.
EIA-485 communications(serial)	Light intensity control	Command input for 256 levels of intensity via EIA-485 communications.
	ON/OFF control	Command input via EIA-485 communications
Analog input	Light intensity control	Control the intensity to 256 levels via an analog voltage (0 to 5 V).

ON/OFF input connector

ON/OFF control is possible in combination with parallel, serial, or analog control.

ON/OFF control	ON/OFF control via OFF signal input (parallel bit method).
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Supports the reproducibility of intensity values through a digital display.

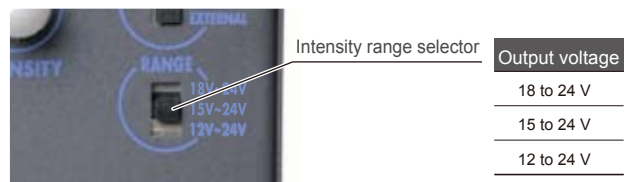


Quick operation through a pushbutton dial

- Intensity setting to any of 256 levels
- Turn ON the power supply while pressing the button for external control mode.
- Push and hold for two seconds to lock the intensity value.

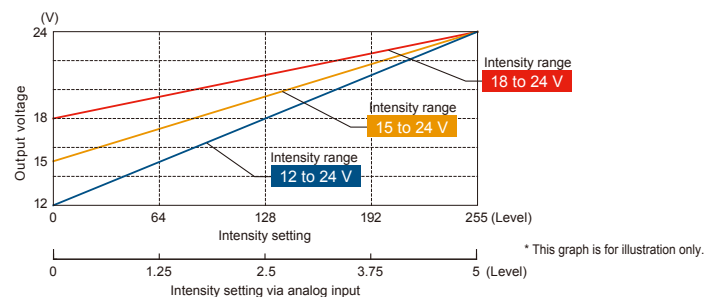


Optimal Intensity Settings through Minimum Intensity Value Switching



Select the intensity range that best suits the Light Unit.

* Output characteristics depend on the Light Unit.



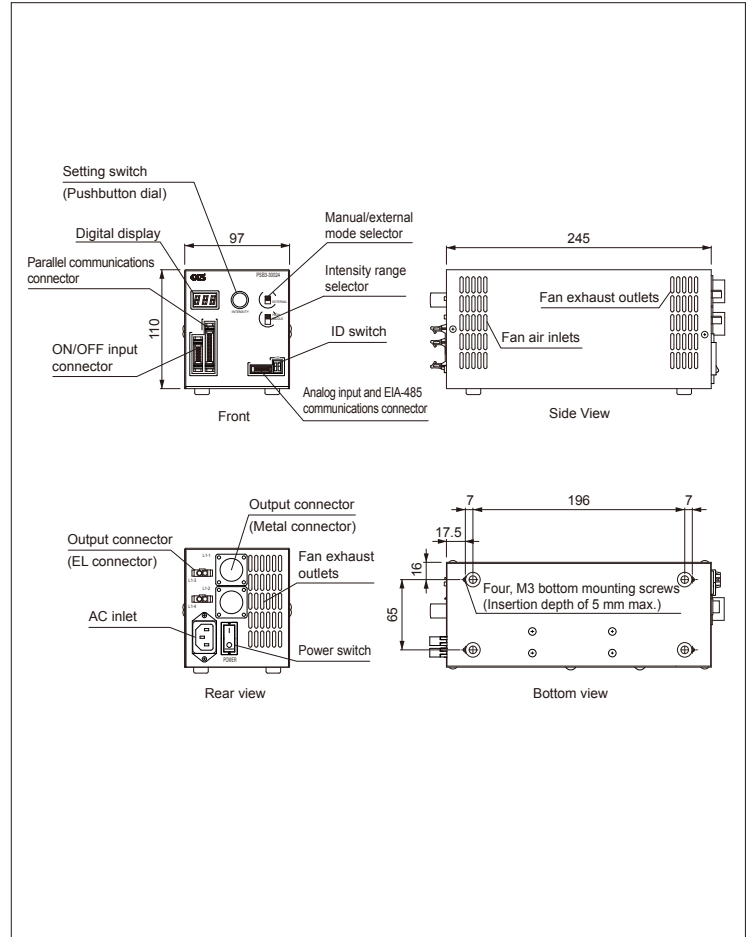
Control Unit



Common Specifications

Model	PSB3-30024	
Direct number	2000762	
Lighting method	Constant lighting	
Drive method	Constant-voltage system	
Light intensity control method	Variable-voltage control	
Number of channels	1 channel	
Applicable Light Unit rating	24 V 300 W	
Light intensity control	Manual and external intensity control	Front manual/external switch (MODE)
	Variable output voltage range	Select between 3 ranges via the front intensity range selector (RANGE).
	Manual	Set any of 256 levels via the setting switch. Press and hold the switch for 2 seconds to lock the intensity value.
	Parallel communications	8-bit intensity value setting (B0 to B7) and write signal (WR)
	External	Serial communications Command input via EIA-485 communications
	Analog input	Analog voltage (0 to 5 V)
	External control mode can be selected by pushing the setting switch while turning ON the power to the Control Unit.	
Lighting control	Parallel bit input	Lighting signal (OFF)
	Serial communications	Command input via EIA-485 communications
EIA-485 communications settings	ID	Set via the front ID switch (00 to 03). Maximum of 4 connected Units.
	Terminating resistance	Set via the front ID switch (terminating resistance is ON only when the ID is 00).
Lighting delay (typ.)	0.1 s	
Error detection display	"Err" displayed on front-panel digital display	
Error detection output	Error is output and light output is stopped for internal AC/DC error.	
	External control connector	Error output terminal (0C, 0E), photocoupler insulation, open-collector output, alarm open (load current of less than 20 mA), and error status (serial communications)
Overcurrent protection	Operation is restored automatically at 105% of the rated current.	
Overvoltage protection	Operation is restored when the power is turned ON again at 120% to 155% of the rated current.	
Rated input voltage	100-240 VAC	
Power consumption (typ.)	410 VA	
Frequency	50/60 Hz	
Inrush current (typ.)	20 A/40 A (primary/secondary value at 100 VAC), 40 A/40 A (primary/secondary value at 240 VAC) * From a cold start	
Ground leakage current	3.5 mA max. (264 V AC, 60 Hz, with no load)	
Output voltage variation range (typ.)	Select between 3 ranges via the front intensity range selector.	
	12 to 24 V	*With no load.
	15 to 24 V	*With no load.
	18 to 24 V	*With no load.
Operating temperature and humidity	Temperature: 0 to 40°C, Humidity: 20% to 85%RH (with no condensation)	
Storage temperature and humidity	Temperature: -20 to 60°C, Humidity: 20% to 85%RH (with no condensation)	
Vibration resistance	Acceleration: 19.6 m/s ² , frequency: 10 to 55 Hz, cycles: 3 minutes, sweep cycle: for 1 hour each in X, Y, and Z directions	
Cooling method	Forced air cooling	
CE Marking	Conforms to safety standard EN 61010-1.	Conforms to EMC standard EN 61326-1, Class A.
Environmental regulations	RoHS compliant	
Material, coating and surface processing	Steel plate, thickness of cover: 1.0, thickness of chassis: 1.6, N3 leather tone finish	
Weight	2,300 g max.	
Accessories	2-meter long 3-prong power cord with ground terminal (1)	

Dimension Diagrams (mm)



Options

External Control Cables

These cables are used for parallel communications, EIA-485 communications, and the analog input. Select the right cable for the required control method. (mm)

<p>■ Parallel Communications Cable</p> <p>Direct number: 3000683 Model: EXCB2-M20-3</p>	<p>■ ON/OFF Input Cable</p> <p>Direct number: 3000682 Model: EXCB2-M10-3</p>	<p>■ Parallel Communications and ON/OFF Input Branch Cable</p> <p>Direct number: 3000684 Model: EXCB2-M10M20-3</p>	<p>■ Analog Input Cable</p> <p>Direct number: 3000687 Model: EXCB2-E6AN-3</p>
<p>■ EIA-485 Communications Cable</p> <p>Direct number: 3000686 Model: EXCB2-E6SR-3</p>	<p>■ EIA-485 Communications Relay Cable</p> <p>Direct number: 3000717 Model: EXCB2-E6SR-E3-3</p> <p>This cable is used to connect two or more Control Units together.</p> <p>(Unit to relay connector)</p> <p>Direct number: 3000721 Model: EXCB2-E3-E3-0.2</p> <p>(Relay connector to Relay connector)</p> <p>Direct number: 3000720 Model: ECNR-E3CN4</p> <p>e-CON relay connector 3 pins, 4x4</p>	<p>■ EIA-485 Communications Relay Cable</p> <p>Direct number: 3000685 Model: EXCB2-E3-3</p> <p>This cable is used to connect to an external device when connecting two or more Control Units together.</p>	