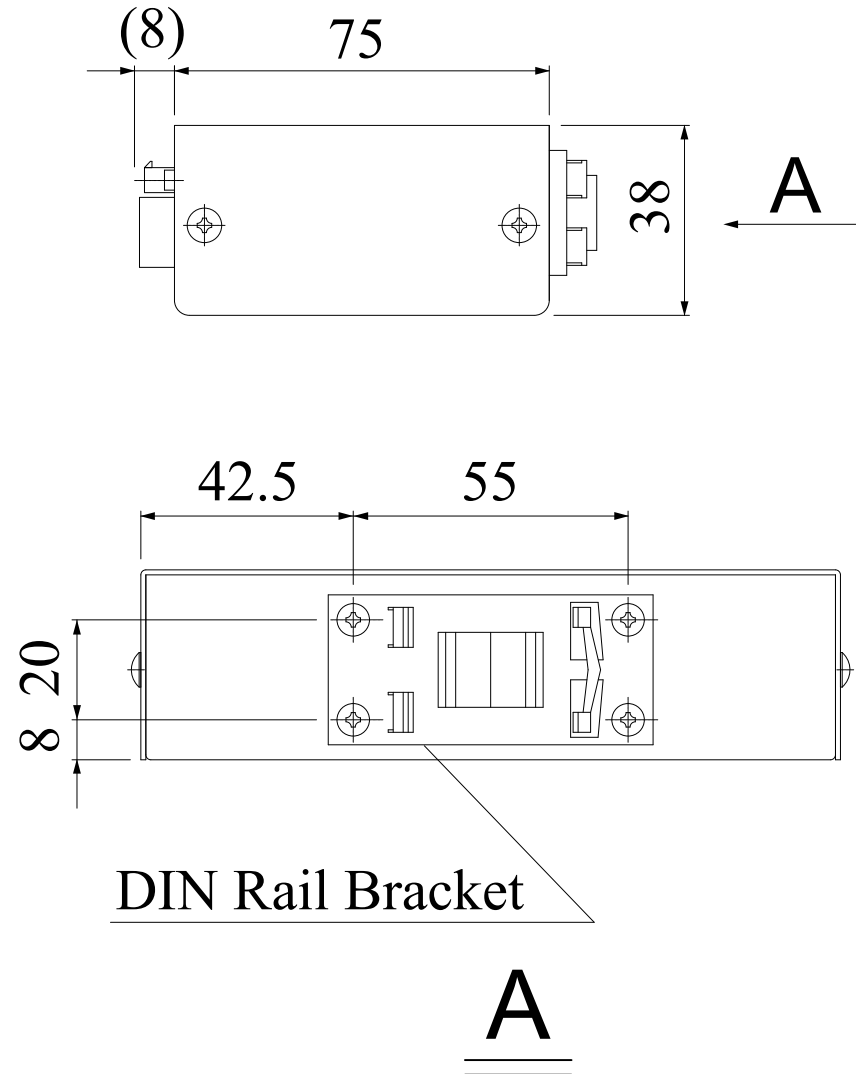
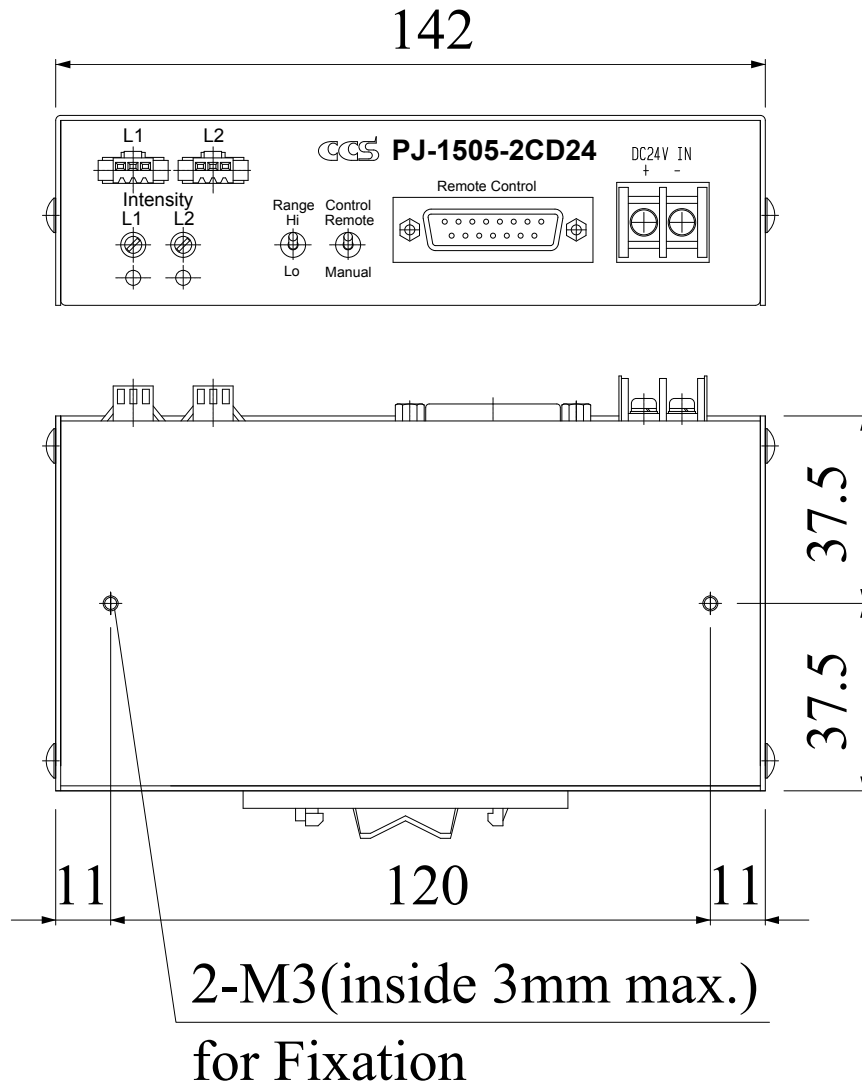


PJ-1505-2CD24

Model	PJ-1505-2CD24
Input	24V DC
Power Consumption	10W
Mass	360g
Output Connector	3P (1: Sense , 2: + , 3: -) x2

Third Angle Projection Units: mm



HLV Series dedicated power supply unit

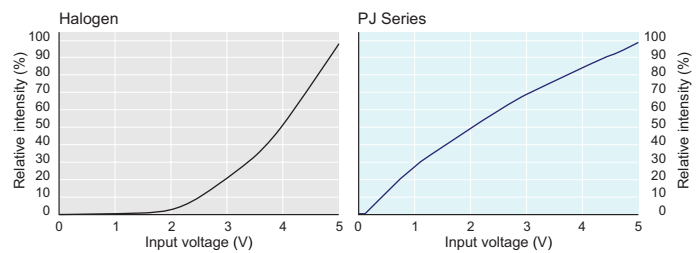
PJ Series

RoHS Directive Compatible



0-5V Analog Control

Utilizing the same 0-5V external control as a standard halogen light source, allows external control for the present system. Continuous current control enables adjustment of the light intensity more precisely than with halogen light sources. Four different types of controllers are available for various operating conditions.



240V AC type

2ch:PJ-1505-2CA 3ch:PJ-1505-3CA

24V DC type

2ch:PJ-1505-2CD24 3ch:PJ-1505-3CD24



Models with CE Marking

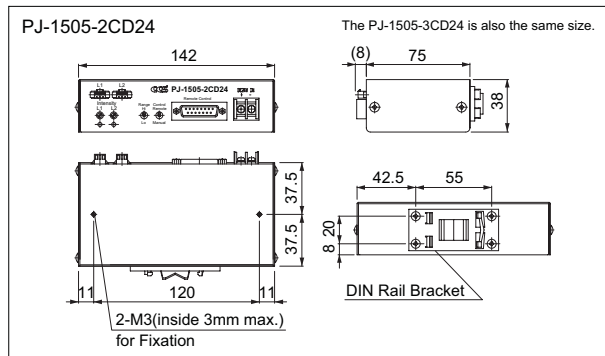
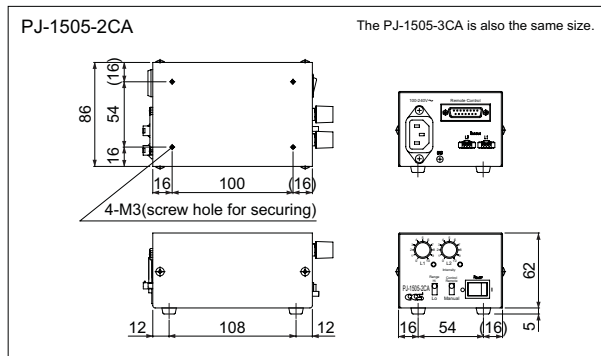
PJ-1505-2CA / PJ-1505-3CA / PJ-1505-2CD24 / PJ-1505-3CD24

Specifications

Model	PJ-1505-2CA	PJ-1505-3CA	PJ-1505-2CD24	PJ-1505-3CD24
Input	100-240V AC(50/60Hz)		24V DC	
Power consumption	27VA typ.	37VA typ.	10W typ.	14.5W typ.
Number of channels	2	3	2	3
DC output	5.5V max.			
Light intensity switch	Manual operation by panel switch (Manual), or remote light intensity (Remote)			
Light intensity control	Manual light intensity (Manual), panel dial, remote light intensity (Remote), analog voltage 0 to 5V (5.25V max.)			
Light OFF control	OFF: 2.5 to 5.0V (24V max.), ON: 0.8 to 0V *Internal pulldown			
Remote control connector	D-Sub, 15-pin (male)			
Weight	620g	640g	360g	360g

Note: The operable range of input voltage is: 85 to 265V AC for the PJ-1505-2CA and PJ-1505-3CA, and 10 to 26V DC for the PJ-1505-2CD24 and PJ-1505-3CD24.

Dimensions (Unit: mm)





PJ Series (DC input type) Instruction Guide



Power Supply for HLV(High Luminosity LED Spot Lighting)

(PJ-1505-2CD24/3CD24)






1 Safety Precautions * Read this instruction guide before using the product.

Thank you for purchasing a CCS product. To properly use the product, please read this instruction guide before use and keep it for your future reference.

Be sure to pay special attention to the information marked with " ⚠ Warning" and " ⚠ Caution." The information is provided to prevent injury from electric shock and other accidents.

 Warning	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 Caution	Indicates a potentially hazardous situation which, if not avoided, may result in injury or property damage.

Warning

- | | |
|---|---|
| (1) Do not open the cover of the unit.
Electric shock may occur, as the voltage of some internal parts is high. |  |
| (2) Connect the power supply plug directly to an outlet.
Fire and an electric shock may occur when connected to an extended table tap or a multiple outlet extension plug.
Connection and removal should be performed after disconnecting the CCS power supply and the third party power supply from the outlet. |  |
| (3) Do not use power supplies with any lighting other than CCS HLV series.
It may cause over-current, over-heating, and possible fire. | |
| (4) Do not touch input terminal with wet hands.
Electric shock may occur. |  |
| (5) In the following cases, stop using immediately, turn off the power and pull out the power plug from the outlet.
•Smoke rising from the unit.
•The surface of the unit is too hot.
•There are strange smells or strange sounds. |  |
| (6) Do not look at the light of high intensity directly.
Although LED illuminators are not highly focused, as is the case with semiconductor lasers, do not look at the light of high lumen directly, and do not view the flashing light directly for a long period. Eye damage may occur. |  |

Caution

- (1) **Switch off the power before connecting/disconnecting cables.**
Otherwise, fire and electric shock may occur.
- (2) **The off to on interval must be at least two seconds, or faulty operation may occur.**
- (3) **Do not use the unit in an enclosed space, as the light becomes hot.**
Cool down with fans, etc. when using in an enclosed space.
- (4) **Install the unit under the conditions as specified below:**
 - Temperature: 0 to 40°C, Humidity: 20 to 85%RH. (No condensation.)
 - In a stable location, isolated from vibration.
 - In a well-ventilated location, not exposed to dust.
 - Isolated from a location where a sudden temperature change may occur.
 - Isolated from faucets, boilers, humidifiers, air conditioners, heaters, or any equipment containing water.
(Not in a location where temperature and humidity are too high or too low.)
- (5) **Follow the articles below.**
 - Take the power as a dedicated power source from the space with steady voltage.
 - Do not operate the unit with the same power source as an air conditioner, a copy machine, etc., as this causes improper operation.
 - Remove the power plug from the outlet when not using for a long period.
 - Do not damage the power cable or place it near the heating appliances.
 - Do not touch the product and power plug during an electrical storm.
- (6) **A cable of not more than 5m should be used for an extension cable of a lighting output.**
If an extension cable of more than 5m is used, a constant current circuit will not carry out normal operation due to the voltage descent by direct-current resistance of the cable; in spite of the light intensity setting being at the 100% light intensity, rated current will not be reached so the light output will be less than 100% intensity.
- (7) **Use the LED illuminator under suppressed heat-generation.**
 - Using the illuminator at high temperature shortens its life. In case of continuous use, setting the light level to 50% intensity could prolong its life with stable performance.
 - Turning on the illumination only when taking an image (intermittent light-up) makes it possible to use the unit under the stable condition with less heat generation.

2. General Description

The PJ power supply series is an exclusive power supply for intensity control of CCS high luminosity LED spot lighting HLV series.

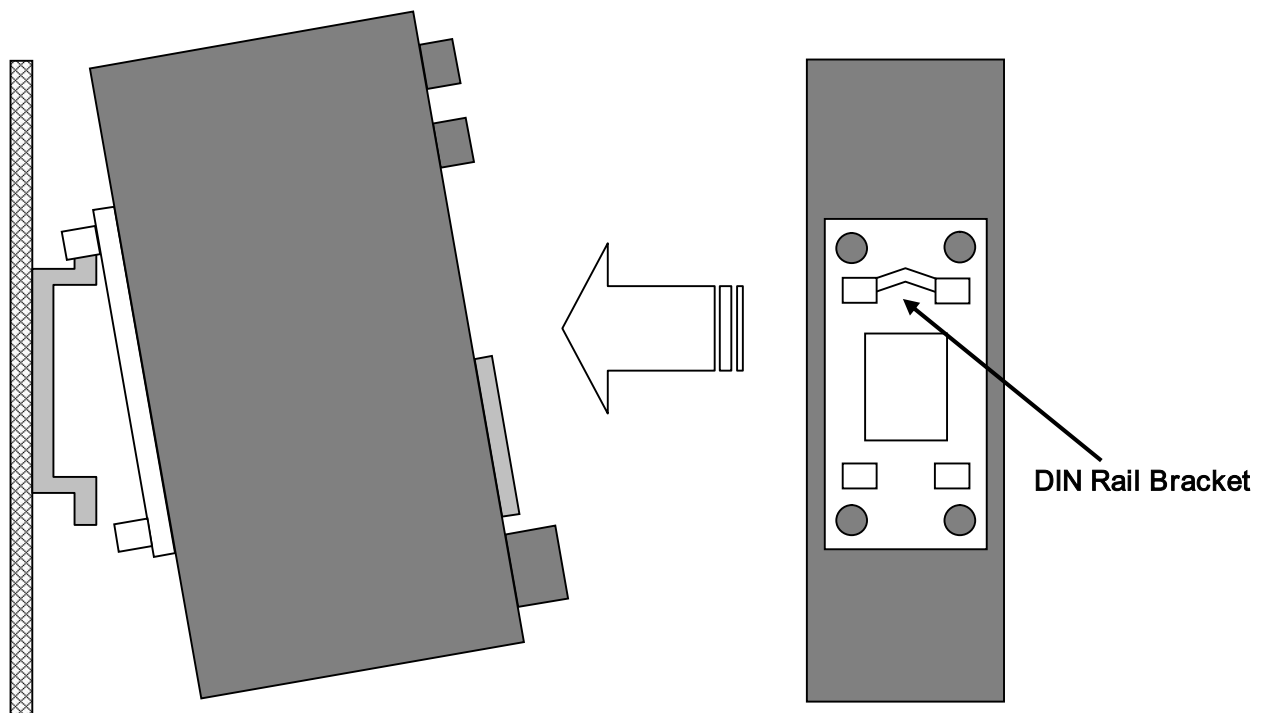
PJ-1505-*CD24 operates utilizing factory supplied 24V DC input. The series consists of 2 and 3-channel types, which control the intensity using external analog voltage, as well as turning the lighting on and off.

Range Hi/ Lo allows fine adjustment in low intensity range. (only L1 channel)

3. Instructions for Use

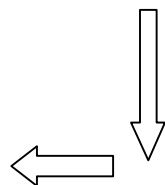
(1) Mounting

- When attaching by DIN rail attachment in the lengthwise orientation, the attachment should be made so the output connector is facing up, and the 24V DC IN terminal faces down to aid in heat dissipation. (Please refer to the diagram below.)
- When fixing it to a system rack or a case, make the insertion depth of the screw into the power supply case less than 3mm into PJ-1505-*CD24.



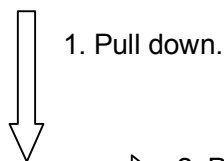
How to mount:

2. Fix it by pushing it until it clicks.



1. Hook the top of the bracket in the DIN rail. Then, pull down.

How to dismount



1. Pull down.

2. Pull to dismount.

(2) Connections

Connect the power supply cable into the input terminal. Prior to connection, make sure that the DC 24V power supply side has no connection or the power switch is in the OFF position to avoid sparks caused by the short circuit of (+) terminal and (-) terminal.

Note: This product does not come with the power cable, therefore please arrange the cable at your end and please keep the cable length less than 10m.

Connect the illuminator cable into the output connector, L1 to L2(L3).

(3) Range Changeover(L1 channel only)

The Range switch in Hi position makes for the general light intensity use.

Setting the Range switch to the Lo position allows fine intensity adjustment for low intensity of 30mA(typ).

(4) Power On

The illuminator, which is connected to PJ power supply, lights up by turning the DC 24V power supply on. (PJ-1505-*CD24 does not have a power switch).

(5) Intensity Control

PJ power supply controls the intensity level by varying the output current.

If the knob of potentiometer on front panel is turned clockwise, intensity will increase, and if it is turned counterclockwise, it will lower the intensity, if the intensity control changeover switch is in the Manual position.

If the changeover switch is in the Remote position, the panel side potentiometer is disabled and Intensity is controlled with analog voltage (0 to 5V) to the external connector. The lights are turned off when the input is in the open position.

To control intensity, a small slotted screwdriver is needed.

(6) On - Off Control

The lighting may be switched off by inputting signal 5V of turning-off control.

When not in use, the lighting life can be prolonged by turning the light off.

4. External Control

(1) Connector Connection

Cable Connector Dsub 15S (Female) (Only power supply side)

Female Connector XM2D-1501 [OMRON]

Hood XM2S-1511 [OMRON]

} Equivalent

Use a shielded cable of 3 m or less for the control line.

Pin No.	Signal
1	L1 OFF Control Input (Turn off by +5V input)
2	GND *2)
3	L2 OFF Control Input (Turn off by +5V input)
4	L2 External Potentiometer Input
5	L3 OFF Control Input (Turn off by +5V input) *1)
6	L3 External Intensity Control Analog Input (0 to 5V) *1)
7	L2 External Intensity Control Analog Input (0 to 5V)
8	GND *2)
9	L1 External Potentiometer Input
10	L1 External Intensity Control Analog Input (0 to 5V)
11	GND *2)
12	L3 External Potentiometer Input *1)
13	The bias power supply for external VR (+2.5V 3mA Max.)
14	+ 5.5V Output (20mA Max.)
15	GND *2)

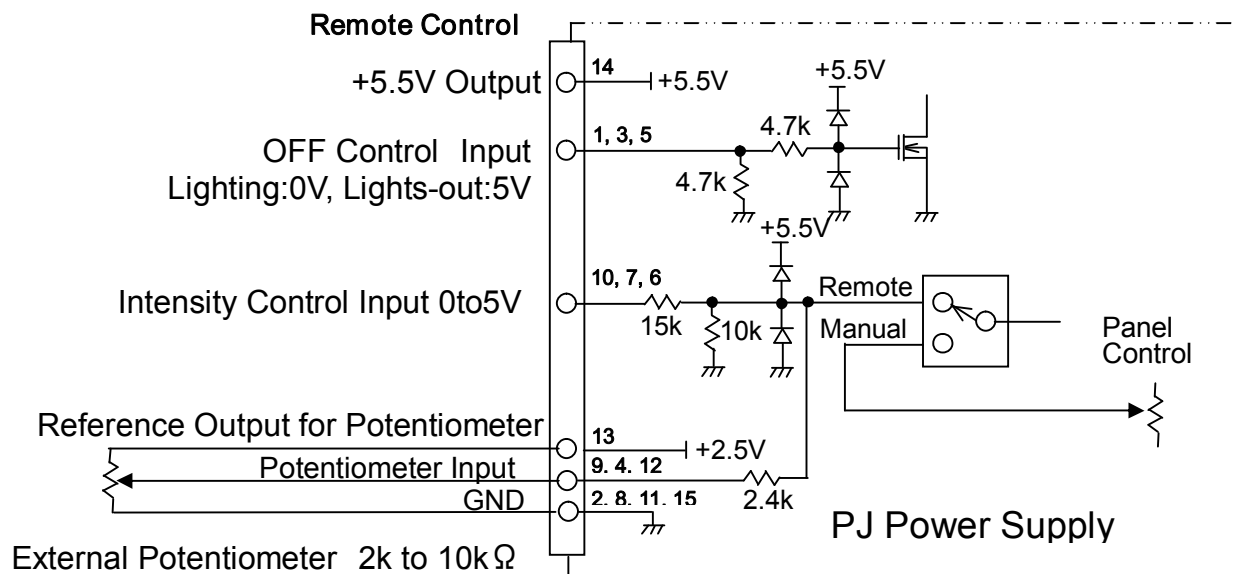
* 1) NC (No-connection) for 2 Channel type of PJ-1505-2CD24

* 2) Internal common GND

Use a shielded cable of 3 m or less for the control line.

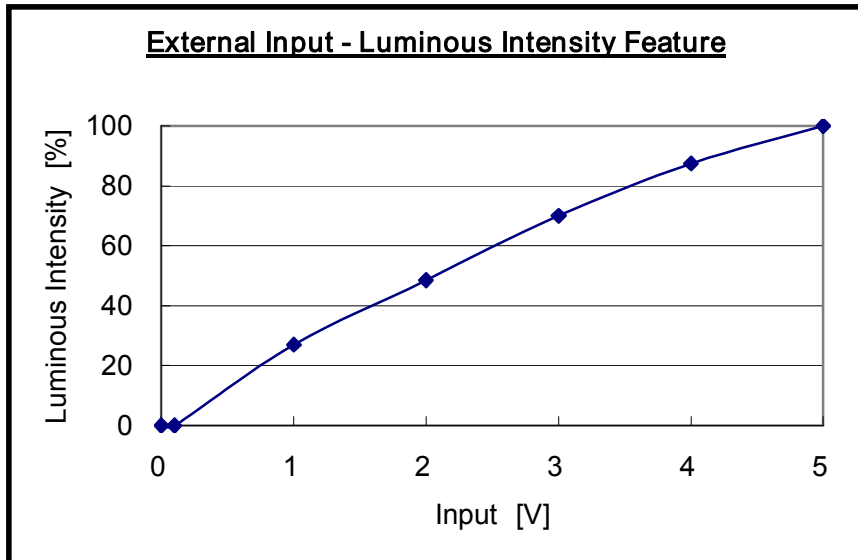
Option: External control cable (One side of the cable is open) manufactured by CCS

(2) Internal Circuit



Note) External analog intensity control and external potentiometer may not be used simultaneously.

(3) Feature of Intensity Control (Reference)



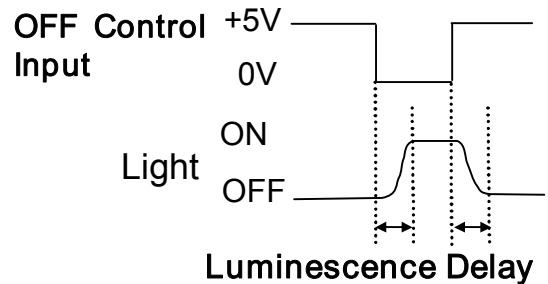
In order to turn the light off completely by input voltage 0V of the external intensity control, there is a domain does not emit light.

Max input voltage(without emitting light) (typ)= HLV-14-PJ series (140mV),
HLV-27 series and HLV-24 series (110mV), HLV-24-3W series (50mV)

(4) Luminescence Features

Intensity[%]	Luminescence Delay [μ s]					
	HLV-14-PJ		HLV-27/24		HLV-24-3W	
	ON	OFF	ON	OFF	ON	OFF
20	330	80	230	80	135	55
40	170	60	120	50	75	40
60	110	50	80	40	50	25
80	80	40	60	30	40	10
100	70	40	50	25	35	10

Intensity vs Luminescence delay time (typ)



Luminescence delay time varies depending on the light intensity.

5. LED Indicator

Indicator which monitors the status of the lighting.

Indicator	condition
On *)	connect HLV-14-PJ or HLV-24 series
Off	no connect connect HLV-27 series
blink(1/2Hz)	HLV distinction error (By the power supply restart, return)
blink(1Hz)	overcurrent error (By the power supply restart, return)

Note: HLV and indicator will be off momentarily after initial power -on to allow the supply to identify the lighting. (Only after power-on or at the time of the cable connection)

6. Specifications

Model Name	PJ-1505-2CD24	PJ-1505-3CD24
Input *1)	24V DC	
Power Consumption	10W	14.5 W
Channel(s)	2	3
DC Output	5.5V max.	
Intensity Control Mode	Manual operation (Manual) /Remote (Remote) Intensity control by Control Mode Switch slide switch on the panel	
Intensity Control	Manual intensity control (Manual) on basis of potentiometer on the panel. Remote Intensity Control (Remote) Analog Voltage 0 to 5V(5.25V max.) *2)	
Output Current Range	Hi/ Lo Range, L1 channel with the Range switch Hi Range: HLV series maximum current/ Lo Range: 30mA typ.	
On/Off Control	Turn-off :2.5 to 5.0V(max. 24V), turn-on : 0.8 to 0V (inside pull-down)	
Power Supply Input	Terminal block M3 screw, 7.62mm pitch	
External Control Connector	Dsub15P	
Output Connector	SMP-03V-BC[JST] 1: Sense 2: Output+ 3: Output-	
Starting Time	1.5 sec typ. (after Power Switch ON)	
Over-current Protection	105%(min) of HLV series maximum output power (By the power supply restart, return)	
Insulation	between Input and Output: Non-insulation AC300V, for 1second (1mA) between Input-Case: DC100V, Over 20MΩ	
Operating Conditions	Temperature: 0 to +40°C Humidity: 20 to 85%RH (without dew condensation)	
Storage Conditions	Temperature: -20 to +60°C Humidity: 20 to 85%RH (without dew condensation)	
Exterior Material	Iron plate 1mm thick, N3 Leather tone	
Cooling Method	Natural air-cooling	
Dimensions *3)	W142 x D75 x H38 mm	
Weight	360g max.	
Accessories	4 Non Skid Bumpers	
Option	External control cable (One side of the cable is open)	

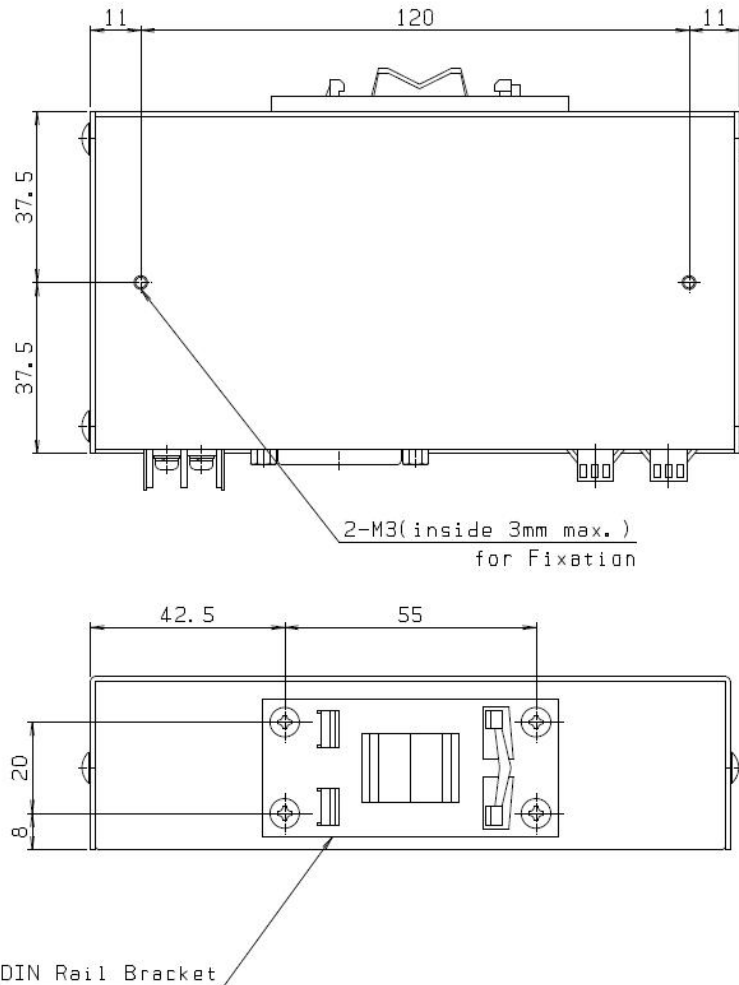
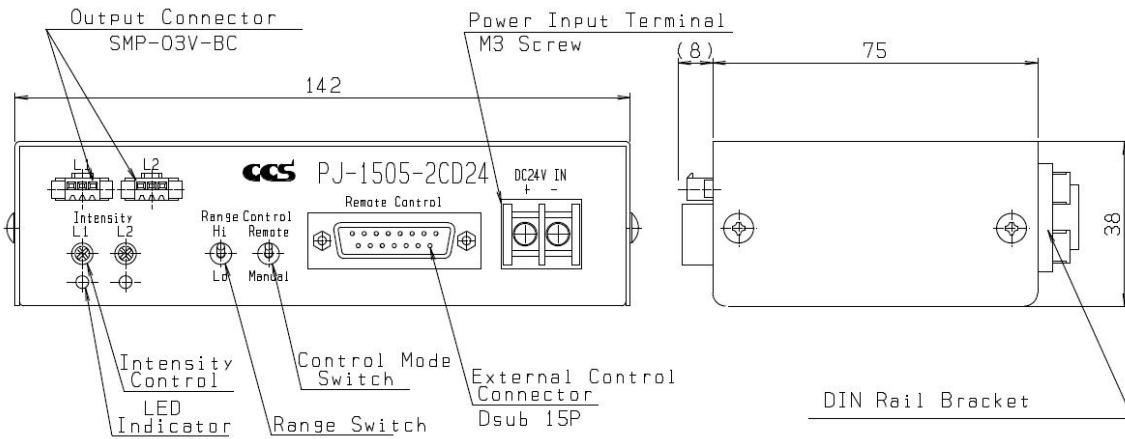
*1) Input voltage range of operation: 10 to 26V DC

*2) The light intensity will be 100 % at 5.0V Input signal. Please do not exceed 5.25V Input voltage, otherwise it causes some troubles due to the heat generation by excess current.

*3) Dimensions do not contain projections such as connectors and rubber foot.

7. Dimension Diagram

PJ-1505-2CD24 (PJ-1505-3CD24 is same size as PJ-1505-2CD24)



■ Exemption

We are exempt from to have any legal obligations or responsibilities to provide compensation for difficulties or damage, which occur both directly and indirectly from using the power unit and the LED light.

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