



500 meters infrared laser illuminator

BSD-500-HD

product specification

1 Security considerations

•1.1 warning



当心激光
CAUTION LASER

This product belongs to the class 3b laser product.

- ◆ This product should be strictly implementing the international electrotechnical commission (IEC) about laser product safety standard (IEC 60825-1:2007), the international commission on illumination (CIE), the European Union (EN).
 - ◆ This product conforms to the national standard "GB16796-2009 security alarm equipment、 safety requirements and test methods".
 - ◆ When the product is working, not have any obstacle from the laser light outlet 30 cm, so as to avoid fire.
 - ◆ When the product is working, do not use hand or other body parts for laser obstacle, in order to avoid damage to the skin.
 - ◆ On the basis of the most authoritative to the latest standards of the international electrotechnical commission (IEC 60825-1:2007), at 808 nm wavelength laser products continuously, for example, the MPE values (eyes acceptable maximum radiation) is 16.44 w/m2.

According to the standard testing, BSD-500-HD absolutely safe distance about 4 meters, so our company advice:

- (1) This product (BSD-500-HD), the lighting distance can completely satisfy the demand of about 30 times integrative camera, can be widely used in outdoor medium range night-vision surveillance.
- (2) The user should be post clear laser security identity in the product prominent place, strengthen laser security protection measures and personnel training especially in the product installation, commissioning, maintenance, use , etc.
- (3) The safe distance of product is 4 meters, the customer should install it in 4 meters above the ground PTZ or on High Speed Dome, make sure it's gathered to the minimum angle (about 2°) for a long time (30000 seconds) direct to the human eye is completely harmless.
 - ◆ Before installation and use of this product, please read the user manual carefully, and properly kept for future reference.
 - ◆ Please comply with all the cautions on the user manual, observe all instructions and directions for use.
 - ◆ In use must comply with electrical safety standard, do well the protective measures such as lightning protection, surge protection.
 - ◆ Don't using this product under the conditions that beyond the limits of temperature, humidity, or the power specification.
 - ◆ Please don't dismantle parts, so as not to affect use, do not attempt to maintain by yourself, all maintenance matters, please contact with our company.

•1.2 attention

- ◆ Infrared laser illuminator is made up of integration of precision optical devices, in the process of transportation, storage and installation to prevent stress, violent vibration, incorrect operating method, otherwise may damage to the product.
 - ◆ Don't put the product in outdoor use directly, to avoid get wet in the rain, moisture, etc. Please do not use in damp places.
 - ◆ Don't direct vision the lens of light source, so as not to damage the eyes.
 - ◆ If lens sticky with dust, please use a dedicated lens paper to wipe.
 - ◆ When using do not exceed recommended range of ambient temperature, so as to avoid affecting the service life of the product.
 - ◆ Do not frequently switch the infrared laser.

- ◆ Be sure to post laser warning labels on the outside of the product.
- ◆ To avoid accidental faults, the product should be work within the scope of following environment:

Content	Adaptation range	Note
Storage temperature	-40°C ~ +80°C	
Storage Humidity	<90%	Recommend 50%
Input power	DC12V±10% , 3000mA	
Working temperature	-20°C ~ +50°C	
Working humidity	<90%(No condensation, without heating)	
working pressure	0.7 ~ 1.3 standard atmospheric pressures	

2 product brief introduction

2.1 key features

- **Absolutely safe:** (1) This product should be strictly implementing the international electrotechnical commission (IEC) about laser product safety standard (IEC 60825-1:2007), the international commission on illumination (CIE), the European Union (EN), can be sold all over the world market.(2) the safe distance of product is 4 meters, the customer should install it in 4 meters above the ground PTZ or on High Speed Dome, make sure it's gathered to the minimum angle (about 2 °) for a long time (30000 seconds) direct to the human eye is completely harmless.
- **Green energy-saving:** (1) photoelectric conversion efficiency is high, the laser chip of product photoelectric conversion efficiency as high as 55%.(2) high utilization efficiency of light energy, lighting in the same range of cases, this product is over 50% of energy than similar laser products. (3) Maximum power consumption only 9 watts.
- **Effect is perfect:** Use time integral smoothing technique, the focal length supplemental lighting uniform fine, completely without speckle.
- **Synchronous zoom:** Continuous adjustable illumination angle 68 ° ~ 1.5 °, the focal length to eliminate flashlight effect, perfect to achieve single lamp to zoom.
- **Intelligent light-adjusted:** Automatically adjust the power of infrared laser light and avoid the reflective object and close range images overexposure, and prolong lamp life.
- **Range of illumination:** (1) supplemental lighting distance is five times of infrared light-emitting diodes (LED), up to 500 meters, completely meet the need for about 30 times HD integrated camera supplemental light at night. (2) Illumination area reached 785000 square meters is the infrared LED more than 25 times. To make supplemental light distance for radius of the circle is the PTZ or High Speed Dome night vision scope, completely covered with night vision surveillance blind Angle. (3) Wide- Angle (more than 60 °) supplemental lighting, supplemental lighting distance more than 80 meters, the effect is far more than infrared led.
- **Stable and reliable:** (1) all metal structure, the strict reliability test, strict high and low temperature test (-40 ° C to + 70 ° C); (2) high stability, the product life is more than 20000 hours; (3) reliability strictly follow Telecordia468 and NASA about the reliability certification standards of the laser product.
- **Integration is convenient:** Give adequate consideration to the details, shorten the development cycle and cost. Reserved the interface, the customers can upgrade control program by themselves.

2.2 technical parameters

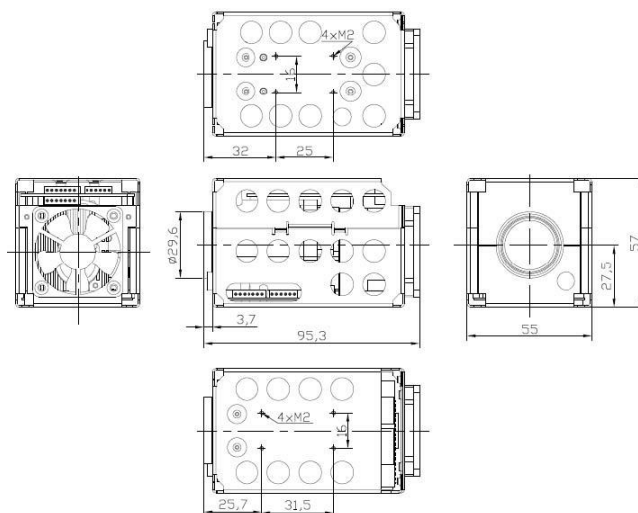
Product type	500 meters infrared laser light
Model	BSD-500-HD
Wavelength	808±5nm (808nm to 980nm)
Laser chip	Optical power is 3W

Illumination angle	Electric synchronous zoom 68° ~ 1.5° continuous adjustable
Zoom Speed	About 2.5 seconds (optical, Wide-angle - Tele-angle)
Effective distance	Tele-angle : Effective distance > 500m Wide-angle : Effective distance > 80m
Illumination range	Angle of 360 ° full lighting, Illumination range of 785000 square meters
Illumination effect	With time integral smoothing technique, the focal length supplemental lighting uniform fine, completely without speckle.
The control mode	Photosensitive model / Command mode
The brightness Settings	Automatic dimmer / manual
Working voltage	DC12V±10%
Maximum power consumption	9W
Storage temperature	-40°C ~ +80°C
Working temperature	-20°C ~ +50°C
Product life	More than 20000 hours
Appearance of the size	Length * width * height : 95*55*57 mm
Weight	about 270g
communication mode	Sony VISCA (Baud rate :9600bps)

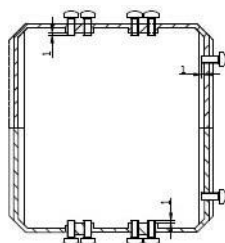
3. Product installation instructions

3.1 Structure size chart

BSD-500-HD Structure size chart



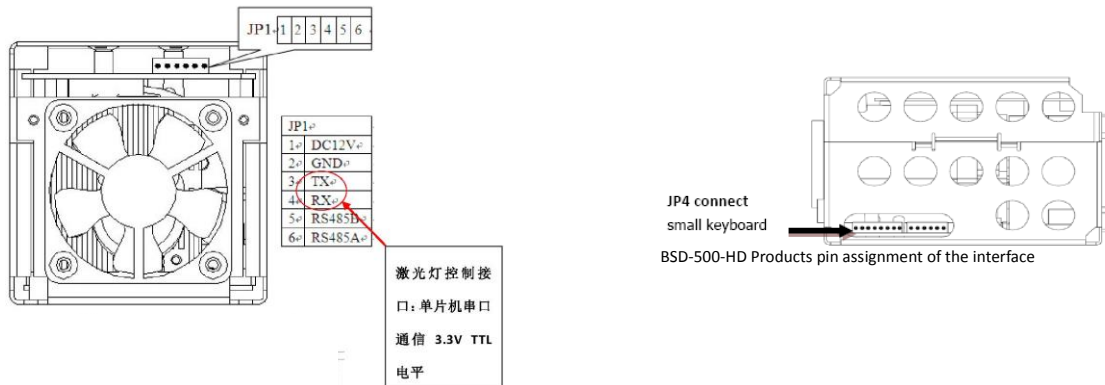
BSD-500-HD Installation instructions:



Product fixed points on both sides, according to customer design specific fixed, fixed with 4 M2 screw holes on the each surface, specific size please see the structure size chart above. As shown on the left, must pay attention to the screw mechanism parts inner bottom part shall not exceed 1.0 mm when fixed.

3.2 System interface specification

1. The laser illuminator has two interfaces, respectively is J1, JP4.
2. The J1 connection control equipment (High Speed Dome or PZT), used in the laser light power input and control.
3. JP4 is infrared laser own button interface(convenient debug or test), use the button to control laser vision angle and current.



3.3 Common failure analysis

Phenomenon of the problem	possible cause	countermeasures
Power up ,the product is not self-inspection	Power supply damage or power shortage	Change power supply which meets the requirements
	The power connect wrong	Connection again
Self-inspection is not normally associated with the motor twitter	Mechanical failure	maintenance
	Power is not enough	Change power supply which meets the requirements
Self-inspection action is normal, but can't open the laser	Power supply damage or power shortage	Change power supply which meets the requirements
	Communication line is wrong	correct
Self-checking success but can't control	Communication line connect is wrong	Connection again
	poor contact	exclusion

4 Quality assurance and after-sales service

(Applies only to China mainland)

My company always adhere to customer first, service first, wholeheartedly for customer service, in order to ensure the products timely, safe and normal use, our company will offer perfect service to achieve customer satisfaction.

- 1, our company guarantees that the factory's products are in strict accordance with national standards for production and inspection, unqualified products will not be leaving the factory. Products are all equipped with inspection instruction and instruction for use, to ensure that users are able to correctly install and use our products.
- 2, the company's products since the date of sale (the delivery order date as the criterion), within ten days, if the product appear quality problem and the faults caused by the unartificial operating error, we will provide free repair, replacement or return.
- 3, the products that our company sell, offer one year (12 months) free warranty, provide 3 years (36 months) maintenance. Outside the warranty period, we provide components to repair at cost.
- 4, our company will irregularly scheduled to tracking service products, and according to the requirement of the

- user to provide maintenance, our technician can meet customer request arrived scene on time.
- 5, the company with after-sales service agencies, to provide users with 24-hour hotline service and free technical support for a long time, when necessary, will send technicians to the scene for technical communication and support.
- 6, if the product failure affect users, our company after receiving repair service notice in five working days arrived on the scene and solve the problem, if the fault cannot be repaired within the agreed time, our company will provide free products in the same class for user temporary use.
- 7, during the warranty period, the following situation will be a paid service:
- (1) The damage due to man-made or force majeure factors;
 - (2) The fault or damage caused by improper operation;
 - (3) The failure or damage due to the transformation, decomposition and assembly products.
- 8, when buying our products, we will attach the product after-sales service commitment, we will strictly comply with the warranty commitment.

Thank you for choose our products, please read product manual carefully before using this product, this manual will provide you with the right product parameters, instructions and the matters needing attention. As to the content of the manual, the company reserves the final interpretation.

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You can log in our company website [www. Resourcesphotonics.com](http://www.Resourcesphotonics.com) at any time, to understand the latest information on related products.



800 meters infrared laser illuminator

BSD-800-HD

product specification

1 Security considerations

•1.1 warning

- ♦  product belongs to the class 3b laser product.

当心激光
CAUTION LASER

- ♦ This product should be strictly implementing the international electrotechnical commission (IEC) about laser product safety standard (IEC 60825-1:2007), the international commission on illumination (CIE), the European Union (EN).
 - ♦ This product conforms to the national standard "GB16796-2009 security alarm equipment、 safety requirements and test methods".
 - ♦ When the product is working, not have any obstacle from the laser light outlet 30 cm, so as to avoid fire.
 - ♦ When the product is working, do not use hand or other body parts for laser obstacle, in order to avoid damage to the skin.
 - ♦ On the basis of the most authoritative to the latest standards of the international electrotechnical commission (IEC 60825-1:2007), at 808 nm wavelength laser products continuously, for example, the MPE values (eyes acceptable maximum radiation) is 16.44 w/m2.

According to the standard testing, BSD-800-HD absolutely safe distance about 5 meters, so our company advice:

- (1) This product (BSD-800-HD), the lighting distance can completely satisfy the demand of about 30 times integrative camera, can be widely used in outdoor medium range night-vision surveillance.
- (2) The user should be post clear laser security identity in the product prominent place, strengthen laser security protection measures and personnel training especially in the product installation, commissioning, maintenance, use , etc.
- (3) The safe distance of product is 5 meters, the customer should install it in 5 meters above the ground PTZ or on High Speed Dome, make sure it's gathered to the minimum angle (about 2°) for a long time (30000 seconds) direct to the human eye is completely harmless.
 - ♦ Before installation and use of this product, please read the user manual carefully, and properly kept for future reference.
 - ♦ Please comply with all the cautions on the user manual, observe all instructions and directions for use.
 - ♦ In use must comply with electrical safety standard, do well the protective measures such as lightning protection, surge protection.
 - ♦ Don't using this product under the conditions that beyond the limits of temperature, humidity, or the power specification.
 - ♦ Please don't dismantle parts, so as not to affect use, do not attempt to maintain by yourself, all maintenance matters, please contact with our company.

•1.2 attention

- ♦ Infrared laser illuminator is made up of integration of precision optical devices, in the process of transportation, storage and installation to prevent stress, violent vibration, incorrect operating method, otherwise may damage to the product.
 - ♦ Don't put the product in outdoor use directly, to avoid get wet in the rain, moisture, etc. Please do not use in damp places.
 - ♦ Don't direct vision the lens of light source, so as not to damage the eyes.
 - ♦ If lens sticky with dust, please use a dedicated lens paper to wipe.
 - ♦ When using do not exceed recommended range of ambient temperature, so as to avoid affecting the service life of the product.
 - ♦ Do not frequently switch the infrared laser.

- ◆ Be sure to post laser warning labels on the outside of the product.
- ◆ To avoid accidental faults, the product should be work within the scope of following environment:

Content	Adaptation range	Note
Storage temperature	-40°C ~ +80°C	Recommend 50%
Storage Humidity	<90%	
Input power	DC12V±10% , 3000mA	
Working temperature	-20°C ~ +50°C	
Working humidity	<90%(No condensation, without heating)	
working pressure	0.7 ~ 1.3 standard atmospheric pressures	

2 product brief introduction

2.1 key features

- **Absolutely safe:** (1) This product should be strictly implementing the international electrotechnical commission (IEC) about laser product safety standard (IEC 60825-1:2007), the international commission on illumination (CIE), the European Union (EN), can be sold all over the world market.(2) the safe distance of product is 5 meters, the customer should install it in 5 meters above the ground PTZ or on High Speed Dome, make sure it's gathered to the minimum angle (about 2 °) for a long time (30000 seconds) direct to the human eye is completely harmless.
- **Green energy-saving:** (1) photoelectric conversion efficiency is high, the laser chip of product photoelectric conversion efficiency as high as 55%.(2) high utilization efficiency of light energy, lighting in the same range of cases, this product is over 50% of energy than similar laser products. (3) Maximum power consumption only 15 watts.
- **Effect is perfect:** Use time integral smoothing technique, the focal length supplemental lighting uniform fine, completely without speckle.
- **Synchronous zoom:** Continuous adjustable illumination angle 68 ° ~ 1.5 °, the focal length to eliminate flashlight effect, perfect to achieve single lamp to zoom.
- **Intelligent light-adjusted:** Automatically adjust the power of infrared laser light and avoid the reflective object and close range images overexposure, and prolong lamp life.
- **Range of illumination:** (1) supplemental lighting distance is five times of infrared light-emitting diodes (LED), up to 800 meters, completely meet the need for about 30 times HD integrated camera supplemental light at night. (2) Illumination area reached 20000 square kilometers is the infrared LED more than 25 times. To make supplemental light distance for radius of the circle is the PTZ or High Speed Dome night vision scope, completely covered with night vision surveillance blind Angle. (3) Wide- Angle (more than 60 °) supplemental lighting, supplemental lighting distance more than 80 meters, the effect is far more than infrared led.
- **Stable and reliable:** (1) all metal structure, the strict reliability test, strict high and low temperature test (-40 ° C to + 70 ° C); (2) high stability, the product life is more than 20000 hours; (3) reliability strictly follow Telecordia468 and NASA about the reliability certification standards of the laser product.
- **Integration is convenient:** Give adequate consideration to the details, shorten the development cycle and cost. Reserved the interface, the customers can upgrade control program by themselves.

2.2 technical parameters

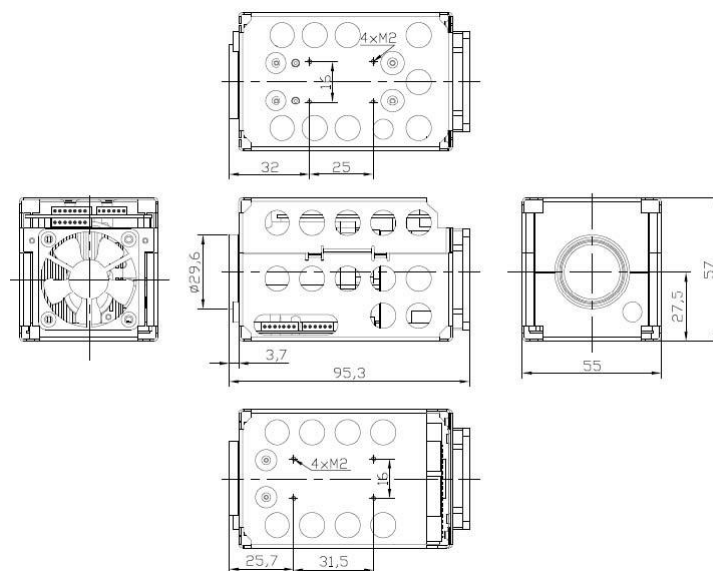
Product type	800 meters infrared laser light
Model	BSD-800-HD
Wavelength	808±5nm (808nm to 980nm)
Laser chip	Optical power is 5W

Illumination angle	Electric synchronous zoom 68° ~ 1.5° continuous adjustable
Zoom Speed	About 2.5 seconds (optical, Wide-angle - Tele-angle)
Effective distance	Tele-angle : Effective distance > 800m Wide-angle : Effective distance > 80m
Illumination range	Angle of 360 ° full lighting, Illumination range of 20000 square kilometers
Illumination effect	With time integral smoothing technique, the focal length supplemental lighting uniform fine, completely without speckle.
The control mode	Photosensitive model / Command mode
The brightness Settings	Automatic dimmer / manual
Working voltage	DC12V±10%
Maximum power consumption	15W
Storage temperature	-40°C ~ +80°C
Working temperature	-20°C ~ +50°C
Product life	More than 20000 hours
Appearance of the size	Length * width * height : 95*55*57 mm
Weight	about 270g
communication mode	Sony VISCA (Baud rate :9600bps)

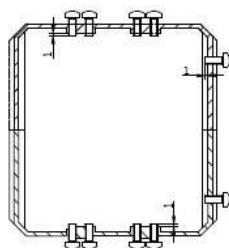
3. Product installation instructions

3.1 Structure size chart

BSD-800-HD Structure size chart



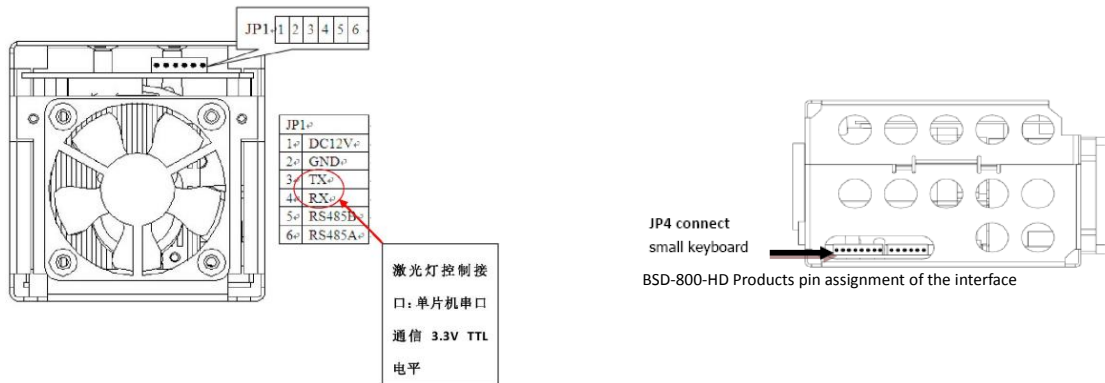
BSD-800-HD Installation instructions:



Product fixed points on both sides, according to customer design specific fixed, fixed with 4 M2 screw holes on the each surface, specific size please see the structure size chart above. As shown on the left, must pay attention to the screw mechanism parts inner bottom part shall not exceed 1.0 mm when fixed.

3.2 System interface specification

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3.3 Common failure analysis

Phenomenon of the problem	possible cause	countermeasures
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	The power connect wrong	Connection again
Self-inspection is not normally associated with the motor twitter	Mechanical failure	maintenance
	Power is not enough	Change power supply which meets the requirements
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- 3, the products that our company sell, offer one year (12 months) free warranty, provide 3 years (36 months) maintenance. Outside the warranty period, we provide components to repair at cost.
- 4, our company will irregularly scheduled to tracking service products, and according to the requirement of the

user to provide maintenance, our technician can meet customer request arrived scene on time.

5, the company with after-sales service agencies, to provide users with 24-hour hotline service and free technical support for a long time, when necessary, will send technicians to the scene for technical communication and support.

6, if the product failure affect users, our company after receiving repair service notice in five working days arrived on the scene and solve the problem, if the fault cannot be repaired within the agreed time, our company will provide free products in the same class for user temporary use.

7, during the warranty period, the following situation will be a paid service:

- (1) The damage due to man-made or force majeure factors;
- (2) The fault or damage caused by improper operation;
- (3) The failure or damage due to the transformation, decomposition and assembly products.

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