

BLUE-x-FOCUS

User Manual & Service Instructions

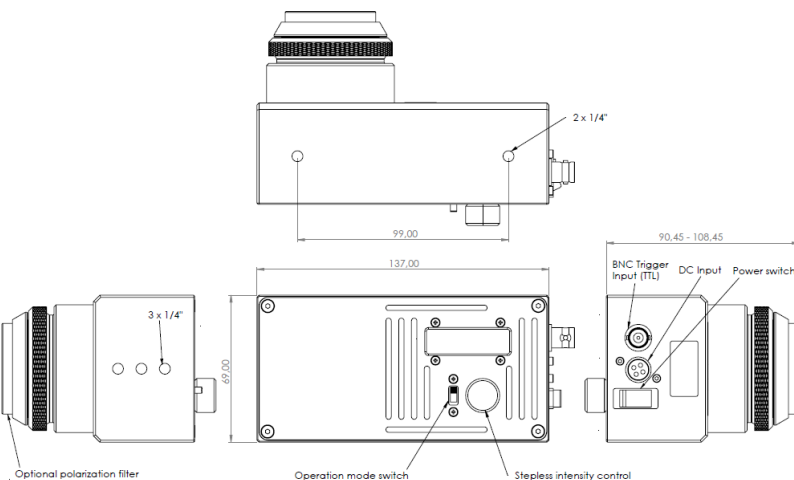


Technical Description

The all-new Blue-x-Focus is designed for AC use from 110 - 230 V and 50/60 Hz. It is equipped with one 100 W high-power single cell LED and generates a flicker-free light which is ideal for digital image correlation applications. The device can be synchronized with a DAQ and can trigger up to 40kHz in Pulse mode. The power of the LED is fully adjustable via a dial on the back of the device. For safety, the light is equipped with a special active cooling fan and an integrated temperature safety switch-off. The Blue-x-Focus can be mounted in different directions and allows the light beam to be focused in a variety of configurations (spot light, flood light, etc).

Technical Data

- ▶ Type: Blue-x-Focus
- ▶ Power: 100 W @ CW | 180 W @ pulse
- ▶ Ambient Temperature (Ta): -15° to +40° C
- ▶ Voltage: 110 - 230 V 1,0A 50/60 Hz
- ▶ Weight: 860 g
- ▶ Surface Temperature: 60° C



Controls

- ▶ **Display:** On the back of the device, there is a seven-segment display which shows the current power in percent and a dial to manually adjust the power of the device.
- ▶ **Continuous Wave/Pulse Switch:** On the left side of the dial there is a switch to change the operation mode from continuous wave to pulse.
- ▶ **ON/OFF Switch:** Next to the DC input and trigger input is a switch to turn the light ON & OFF.

Safety & Operation Instructions for Blue-x-Focus

Please read the accompanying operating instructions, with particular attention to the safety regulations, before the system's initial operation. Save these documents together with the technical brochures and accessories for later reference.

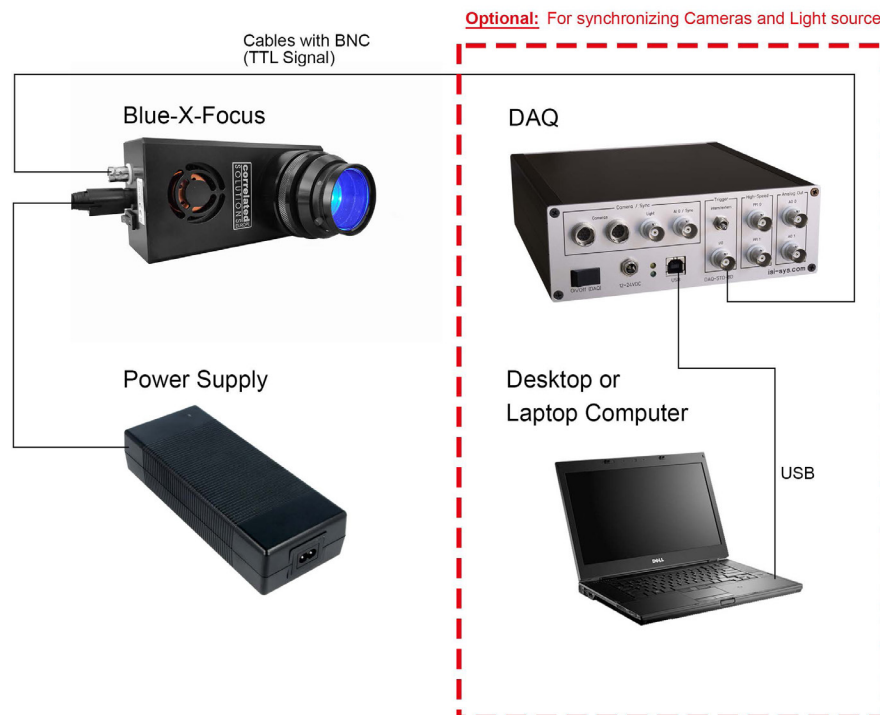
Note: It is only allowed to set up and used the system persons instructed and trained by isi-sys or through their authorized partners.

Please only use original parts from isi-sys GmbH. isi-sys GmbH does not give any warranty for damages or malfunction caused by additional parts not supplied by isi-sys GmbH. Additional cables or connectors will change the calibration and other specified data. This can change the specified properties of the device and cause it to malfunction.

Do not open the device! There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.

Setup Scheme

The Blue-x-Focus can be operated standalone in continuous wave mode when connected to the power supply through the lamp connector cable. To operate the Blue-x-Focus in pulse mode, Lamp has to be connected to a trigger device (TTL Signal). The setup scheme shown below illustrates possible setup schemes. The higher power of 180W can only be reached through pulse mode. The power is adjustable manually or external by pulse length and frequency.



Recommended Usage

We always recommend using pulse mode when connected to a DAQ. This leads to a longer lifetime and higher power output as the continuous wave mode leads to higher internal temperatures and a possible safety switch-off.

Using the Lamp in Continuous Wave (CW) mode:

The lamp can be used in CW mode until a certain power level (< 85%) without a safety switch off. This safety switch off is programmed to prevent accelerated aging of the LED. Above this limit, the lamp can only be operated in pulse mode.

Using the Lamp in Pulse Mode:

To use the lamp in pulse mode a trigger signal input via TTL on the BNC socket is necessary. Pulse mode allows to operate the lamp above 85% power level if the trigger pulses are 5ms and lower.

Focusing Mechanism

To adjust the light beam simply pull or push the lens tube. There is a slight resistance when doing so, if the resistance is to low/to high adjust it by turning the ribbed ring clockwise/counter-clockwise.

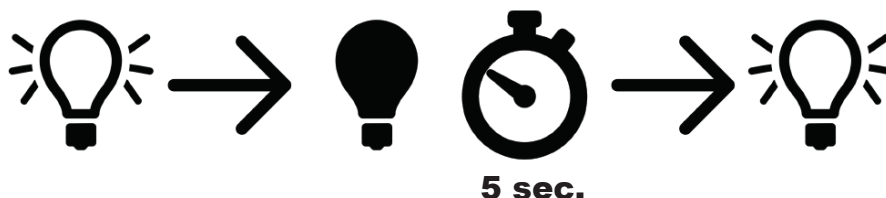


CAUTION! Do not adjust the light beam while the lamps power level is high as it can lead to burns.

Troubleshooting:

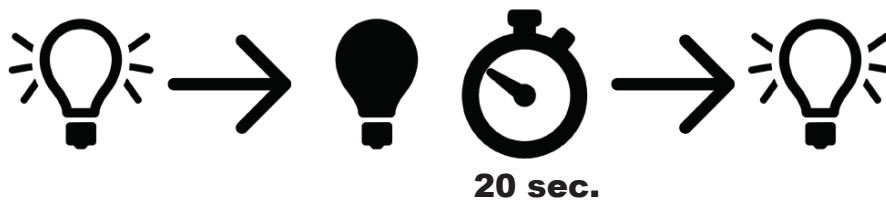
The light shuts off for 5 seconds before turning on again

The lamp is being operated in CW mode with a power level higher than 82.5%. Consider switching to Pulse mode or lower the power level.



The light shuts off for 20 seconds before turning on again.

The lamp is reached the thermal limit for safe operation. Consider to lower the power level and make sure that air circulation is possible.



CAUTION! Refer to the operators manual for additional information, such as important operating and maintenance instructions. The following section includes important instructions for the installation of the device. These must be strictly observed for the safe operation of the system.



Installation of Blue-x-Focus and Power Supply

- ▶ Allow adequate ventilation around the devices so that heat can properly dissipate.
- ▶ Do not block ventilated openings or place the devices near a radiator, or other heat sources.
- ▶ Do not use accessories other than the ones provided (e.g. power cord). Only plug the power cord into grounded power equipment and sockets.
- ▶ Do not put anything on top of the devices except those that are designed for that purpose.
- ▶ Do not focus on inflammable objects.
- ▶ Only work with the devices in a clean and dry environment! Only specially prepared devices can work under other conditions!
- ▶ Do not place heavy objects on any cables (e.g. power cords, sensor cables, actuator cables, optical cables).
- ▶ Plug in the power cord and connectors of cables carefully and completely so that it cannot loosen inadvertently.
- ▶ Leave sufficient space around the power plug so that it can be unplugged in emergencies.
- ▶ Install the system so that the on/off-switch is easily accessible at all times.
- ▶ The power plug is the cut-off point to the main power supply.

Immediately unplug your unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- ▶ When the cords or plugs are damaged.
- ▶ If any liquid, fluid or water has been spilled or objects have fallen onto the devices.
- ▶ If the device has been exposed to rain or water.
- ▶ If the device does not work as described in the manual.

The environmental operation conditions should meet the following requirements:

- ▶ Indoors preferred; Outdoor if protected against rain and in shadow
- ▶ Altitude of up to 2000m
- ▶ Temperature between -15°C and 40°C, recommended 20°C - 22°C
- ▶ At a relative humidity between: 5 % and 95 % (non condensing), recommended max. 80 %.

Safety instructions for connecting and disconnecting Blue-x-Focus and Power Supply:

- ▶ Do not touch the contacts or pins of the connector when connecting or disconnecting the connector with the power on, or after the connector has been disconnected.
- ▶ Insert connectors fully to sockets when connecting.
- ▶ Twisting the connector can result in damage or faulty contact.



CAUTION! Eye damage caused by high light intensity. Never look directly into the light source.

CAUTION! Risk of epileptic shock. Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.

- ▶ Never use a Blue-x-Focus with a defective lens.
- ▶ Under any circumstances keep the minimum safety distance(s) given in the technical specification to avoid damages caused by light beam(s) and / or thermal radiation and / or heat radiation to person(s), animal(s) and / or item(s) and / or object(s).
- ▶ In the case of a defect or damage of the lens (particularly while it is in operation): switch of the power immediately, disconnect it from the power socket, let it cool down completely and contact support for replacement of the lens.
- ▶ Never use a blue-x-focus unattended.
- ▶ Always disconnect the power supply from the power socket if it is not in use or in operation.
- ▶ In the case of overthrowing, falling down and/or jaring heavily a Blue-x-Focus has to be checked by support for damage.

Temperature Safety Measures:

Device stops operating when the internal temperature reaches a set threshold and stays off (20s) until a safe operating temperature band is reached. Therefore triggered mode is recommended for long time measurements.

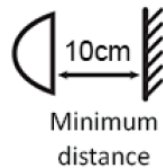
Trigger/Timing Safety Measures:

When operating above the power limit with inadmissible trigger times, the lamp switches off for 5 seconds and remains in this mode until the permissible trigger times have been set. This can be noticed through a blinking of the lamp every 5 seconds as long as the trigger is set.

Additional safety instructions

- ▶ The Blue-x-Focus produces a very intense, bright beam of light: never look directly into the bulb while it is in operation. Never light or flash directly into the eye(s) of a human or animal, this can cause permanent damage to the eye(s) or health threat(s) like sunburn.
- ▶ Please note, dazzle / glare caused by continuous light unit(s) or flash light unit(s) can cause an immediate (partly and/or temporarily) loss of vision - this can lead to accident(s) (traffic, stairs, and so forth).
- ▶ Please let the Blue-x-Focus cool-down completely after using it and before packing it away: not doing so can cause serious burning and/or the risk of sparking.
- ▶ Not used as intended and/or in the case of inappropriate use of the Blue-X-Focus and accessories there is the serious risk of a (deadly) electrical shock.
- ▶ The Blue-x-Focus is no toy, it is unsuitable for use by children. Always keep the Blue-x-Focus out of the reach of children.

Explanation of Symbols



Maintenance

For a secure operation of the Blue-x-Focus, it has to be maintained. Therefore: before using it has to be checked visually.

Limited Liability

For all injuries and/or damages to people and/or objects, which are caused by using isi-sys products in a way that they are not intended for the user is liable - not the manufacturer. If you do have a question to set up and/or to operate Correlated Solutions products, please contact us directly.