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Image Engineering iQ-Near Focus Measurement Device User Manual

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Image Engineering

Image Engineering iQ-Near Focus Measurement Device



INTRODUCTION

Important information: Read the manual carefully before using this device. Inappropriate utilization may cause damage to the device, to the DUT (device under test), and/or other components of your setup. Keep these instructions in a safe place and pass them on to any future user.

Conformity

We, Image Engineering GmbH & Co. KG, hereby declare that the iQ-Near Focus corresponds to the essential requirements of the following EC directive:

- Electromagnetic Compatibility – 2014/30/EU
- RoHS 2 – 2011/65/EU

Intended use

iQ-Near Focus is used to focus the automatic focusing system of a camera to a defined, short distance with high temporal accuracy. A high contrast, translucent checkerboard chart is used for this purpose. A typical use of iQ-Near Focus is to measure the camera release time in conjunction with the LED-Panel.

Note: iQ-Near Focus is only suitable for indoor use.

User safety

Manual and safety instructions

Read the manual and user safety instructions carefully before switching on iQ-Near Focus for the first time. The device must only be operated by instructed personnel.

Keep hands clear of moving parts

Moving parts can crush and cut. Keep Hands clear while operating the iQ-Near Focus. Do not operate iQ-Near Focus



with the safety cover removed.

DO NOT reach into the safety cover or the chart window at any point during operation.

Safety distance

Keep to a safe distance of approximately 1 m from the device during operation to ensure user safety. The iQ-Near Focus comes with an extended wire remote control to keep a safe distance

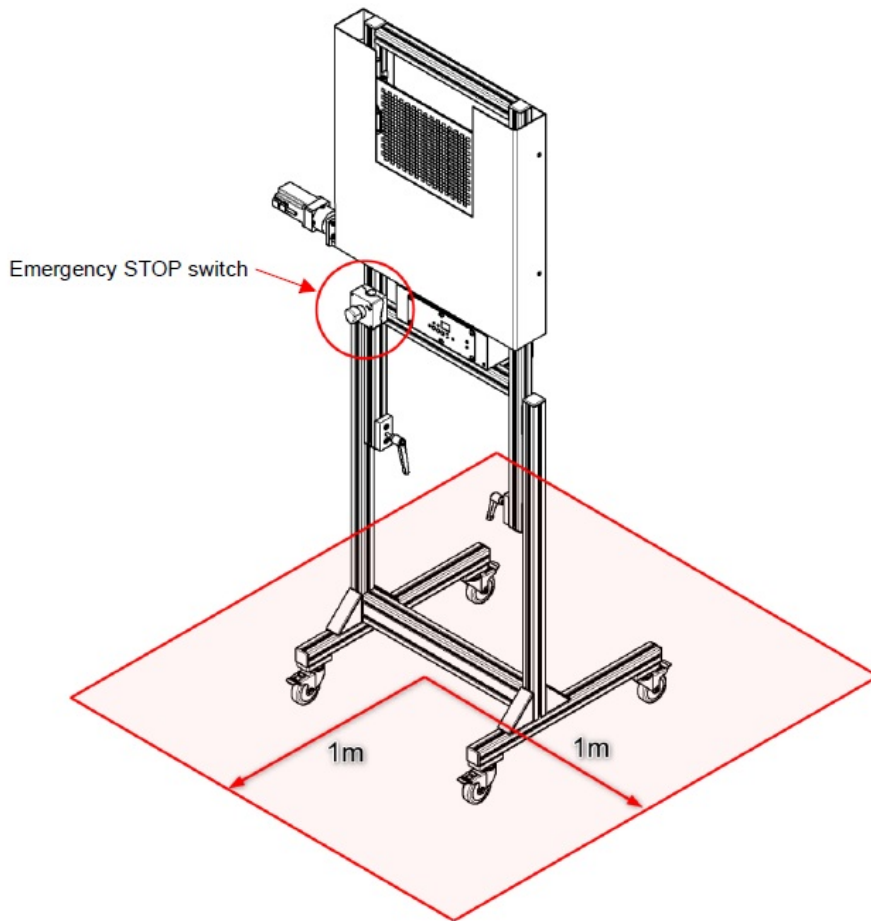


Figure 1: Safety distance during operation

Of course, this distance cannot be maintained while using the control unit (located below chart housing) to make adjustments. During the test process, ensure that no part of your body, clothing, or hair protrudes into the chart opening or the safety cover.

Attention! In the event of an accident, the device must be stopped immediately with the emergency stop switch located right next to the control unit. Push it to stop the motor instantly.

General safety information

Do not open the device without instructions from the Image Engineering support team or when connected to a power supply.

GETTING STARTED

Scope of delivery

- iQ-Near Focus

- 3 m cable (male 6.35 mm TRS connector to male 3.5 mm TRS connector)
- Hex keys for frame assembly

Commissioning

The iQ-Near Focus comes almost ready to use. The following assembly steps need to be performed before using it:

- Step 1: Mount the feet of the frame to the lower frame using the hex keys.
- Step 2: Cover open mounting brackets and profile surfaces with plastic caps.
- Step 3: Join the upper and lower part of the frame by sliding the gliders into the corresponding grooves, as shown in step 3 below.

Step 1

Guide the slot nuts into the corresponding groove on each foot profile (Figure 2). Slide on until the hole in the foot profile aligns with the screw head between the four slot nuts (Figure 3). Tighten screw.

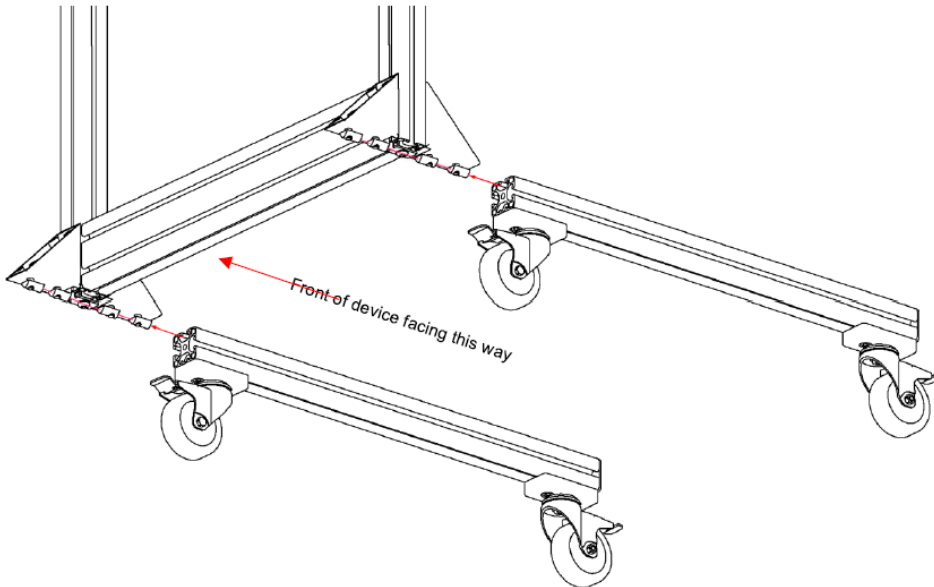


Figure 2: Frame assembly

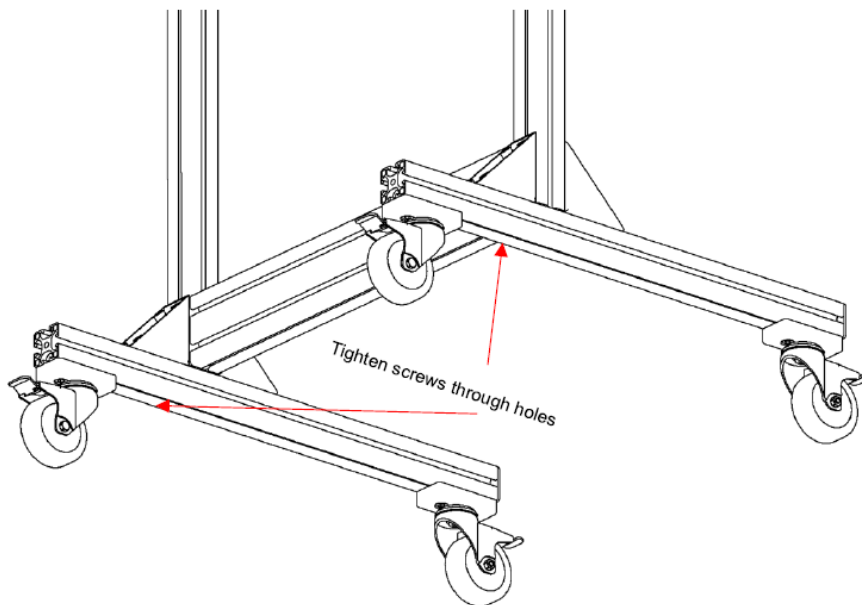


Figure 3: Frame assembly

Step 2

Tighten downward-facing screws on both sides to secure the feet and stabilize the frame. The cover caps are placed on the brackets and the open ends of the profiles to complete the assembly (Figure 3).

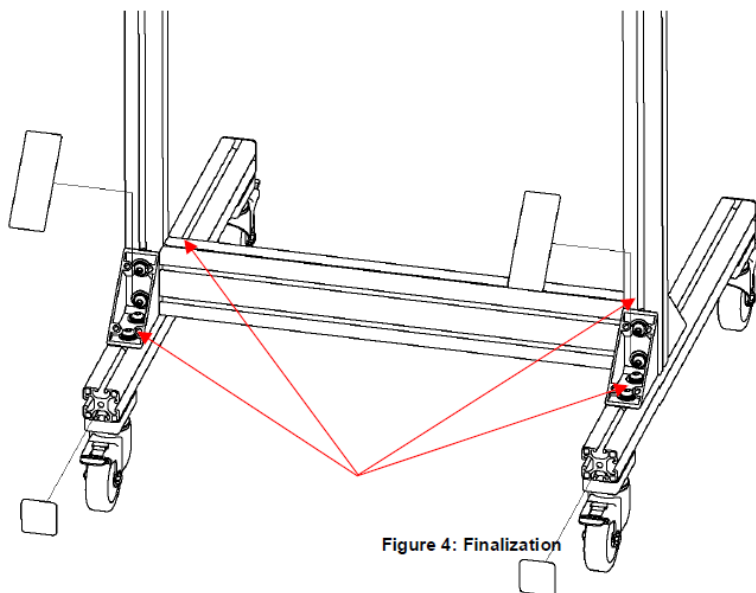


Figure 4: Finalization

Step 3

To connect the upper frame to the lower frame, guide the gliders fixed to the upper frame into the corresponding groove of the lower frame, as shown in the images below. Make sure that the two hand levers are not tightened.

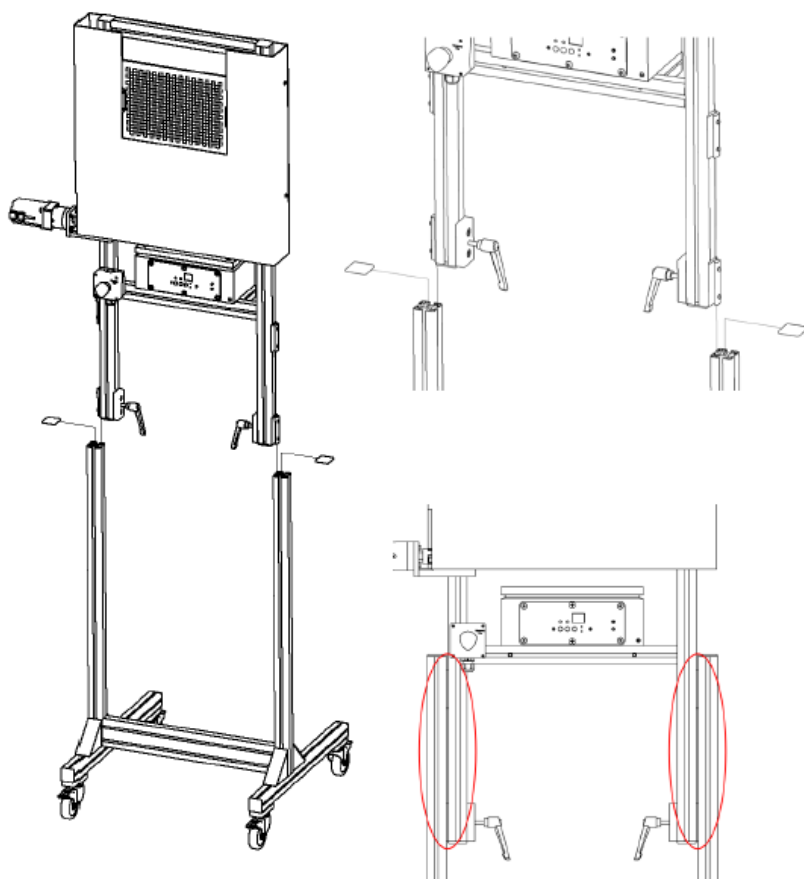


Figure 5: Connecting upper and lower frame

Slide the frame parts towards one another until both sides' gliders are fully seated in the groove. Then place the supplied profile caps on the open ends of the frame. A rubber mallet can be helpful here. Finally, tighten the hand levers to secure the upper frame's position.

OPERATING INSTRUCTIONS HARDWARE

Controls

The following control elements are available on the iQ-Near Focus:

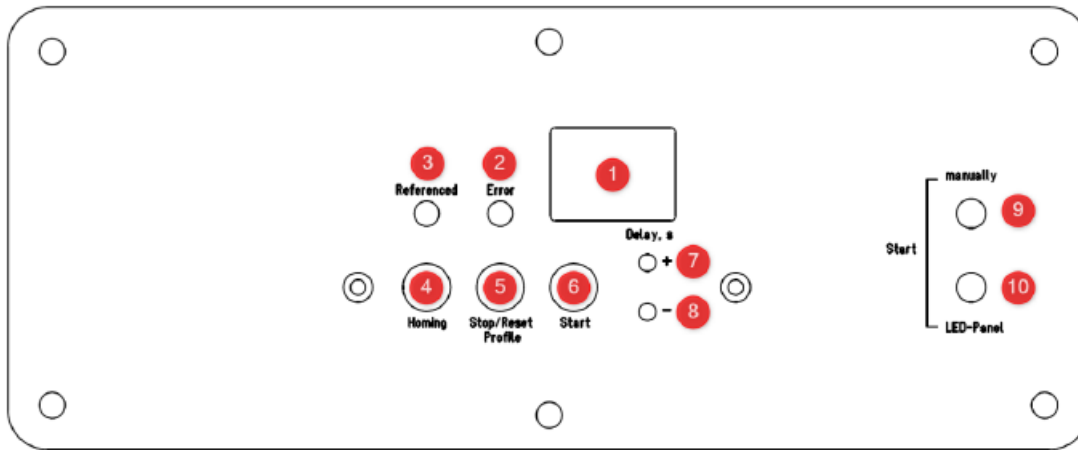
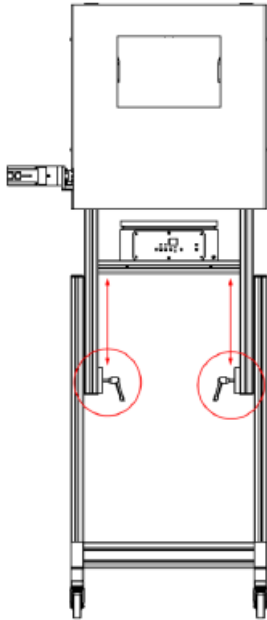


Figure 5: Controls of iQ-Near Focus

1. Seven-segment display: Shows the set delay between down/up motions. When the time has expired, the chart moves back to its starting position.
2. Red “Error” LED: Lights up to alert the user when the device has encountered an error. The “Error” LED is operated by the motor control unit.
Examples of possible errors include:
 - The chart could not be slowed down enough and moved past its END-position.
 - Solution: Reset the device by pressing the “Reset” button and perform a homing procedure by pressing the “Homing” button.
 - The chart is manually forced out of its homing position.
3. Solution: Reset the device by pressing the “Reset” button and perform a homing procedure by pressing the “Homing” button.
4. If iQ-Near Focus cannot be reset, disconnect the device from the power source, wait for five seconds, and reconnect it.
5. If you encounter an error that cannot be resolved, please contact the Image Engineering Support Team.
6. Green “Referenced” LED: Lights up after successful initialization and homing process after switching on the device. When the green LED is on, iQ-Near Focus is ready for use.
7. “Homing” Button. Manually restart the homing process in case the test chart has been moved by hand or you are unsure if the initial homing after startup is still valid.
8. “Stop” function: Stops the device immediately, regardless of the current chart position.
9. “Reset” function: Resets the device in case of an error and turns off “Error” LED.
10. “Profile” function: iQ-Near Focus has two modes of movement.
 1. Starting at the top position: Quickly move down to clear the camera’s FOV, stay down for the set duration and then slowly move back up.
 2. Starting at the bottom position: Quickly move up into the camera’s FOV, stay there for the set duration and then slowly move down to the starting position.
 3. Hold the “Stop/Reset, Profile” button to switch between these modes. The display will show “P1” or “P2”. Switch profiles by pressing the “+” or “-” button. The display will automatically show the set delay again when releasing the “Stop/Reset, Profile” button.
 4. “Start” Button: Starts the device using the previously set parameters.
 5. “+/-” Buttons: Increase/decrease the delay between movement steps of whole seconds. These buttons also cycle through movement modes (see label 5) “Profile” function.
 6. Start “manually” (2.5 mm TRS jack socket): Typically used to connect a standard remote shutter release.
 7. Start “LED-Panel” (3.5 mm TRS jack socket): This socket connects the iQ-Near Focus with the LED Panel to start both devices simultaneously with a remote shutter release.

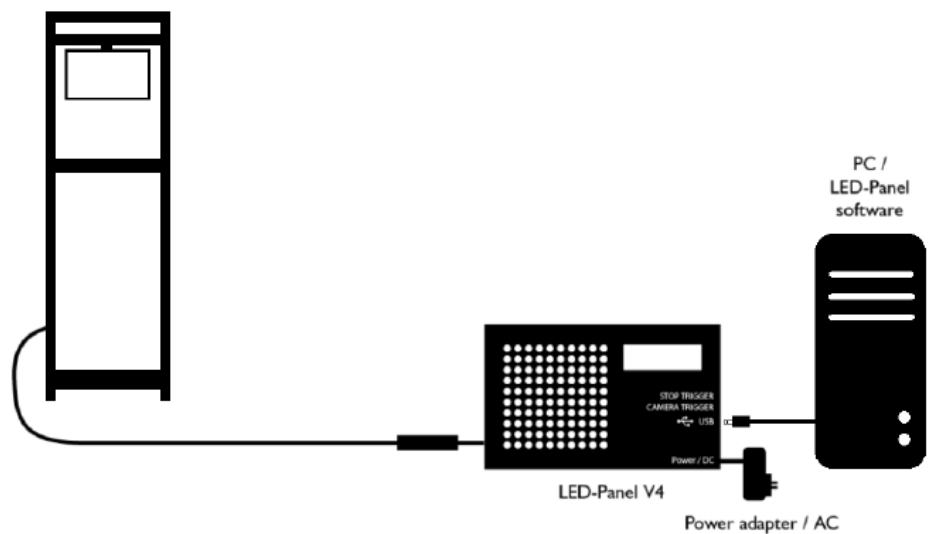
Height adjustment of frame

The upper part of the frame is height adjustable. The center of the chart resting in its upper position can be set to a height between 132 cm and 165 cm. We recommend changing the height with the help of another person.



- Secure the upper frame with one hand on either side.
- Loosen the highlighted handles by turning them counterclockwise
- Lift or lower the frame to the desired height
- Tighten the handles down again firmly to prevent the frame from dropping on its own.
- **WARNING:** Risk of pinching!

Using iQ-Near Focus with other IE measurement devices



LED-Panel (timing measurement)

Place iQ-Near Focus in front of the device under test and connect the TRS connector (6.35 mm “jack plug”) to the corresponding port labeled “Defocus” on the LED-Panel.

Please refer to the LED-Panel manual for details on measuring different timing parameters (shutter lag, autofocus time, etc.) and how to interpret the captured images.

Care instructions

- Always store the iQ-Near Focus in a safe and stable position
- Avoid contact with water
- Do not use any chemical cleaning agents
- Use compressed air or a dust blower to remove dust

ADDITIONAL INFORMATION

Storage and transport

Ensure that the iQ-Near Focus is fixed and the device is adequately wrapped for transport to avoid damage to the shutter blade. Unplug all cables/devices from iQ-Near Focus before storage/transport.

Disposal instructions

After the service life of iQ-Near Focus, it must be disposed of properly. Electrical and electromechanical components are included in iQ-Near Focus. Observe your national regulations. Ensure that third parties cannot use iQ-Near Focus after disposing of it. Contact Image Engineering if assistance for disposal is required.

TECHNICAL DATA SHEET

Refer to the technical data sheets. It can be downloaded from the website of Image Engineering at: <https://image-engineering.de/support/downloads>.

Documents / Resources



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iQ-Near Focus Measurement Device, iQ-Near Focus, Measurement Device, Device

References

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