



Instructions Manual for  
**Control Unit for Optilia High Definition Cameras**  
Product No. OP-009 020



This manual describes how to use Control Unit together with W10x-HD, W20x-HD, HD10 and HD20 cameras

## 1. Description

Camera Control Unit is a user friendly and ergonomically designed device for direct control of Optilia High Definition inspection cameras without use of PC.

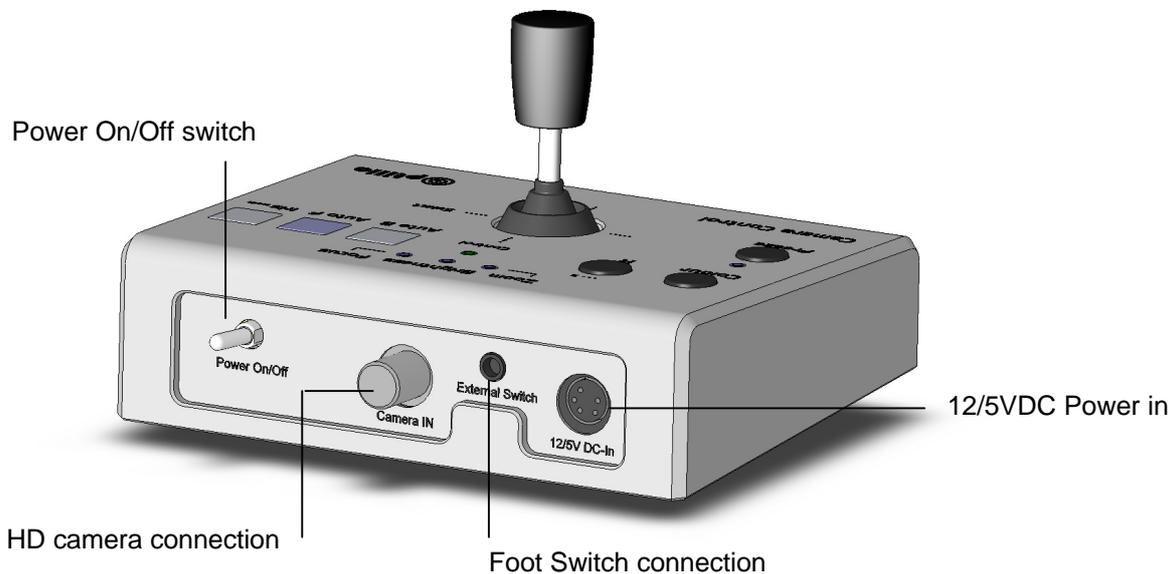
Camera parameters and functions like Zoom, Colour, Brightness, Focus, Iris and Exposure time are directly selected by functions buttons and controlled by Joystick. In addition, the operator can Freeze the live image or Save and Recall any configuration by pressing one button.

Camera Control Unit communicates with Optilia HD cameras via serial RS232 communication protocol.

## 2. Connections Power-On Sequence

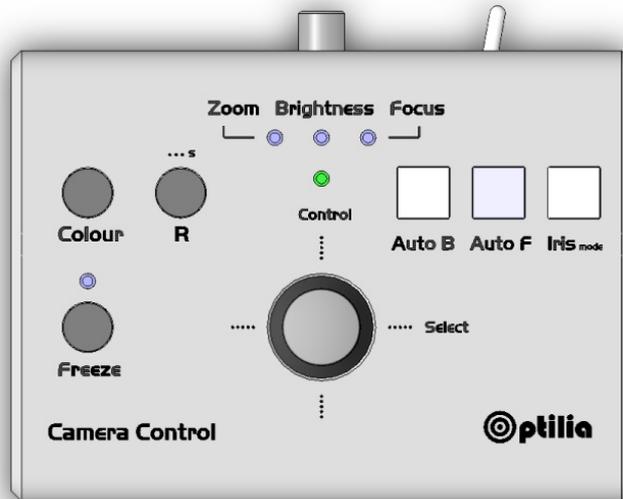
- a) Attach circular connector of HD camera to the mating connector on Control Unit.
- b) Attach the Foot Switch to external foot switch input of the Control Unit (Optional)
- c) Connect the Power supply to 12/5 V DC-input of Control Unit.
- d) Switch On the Control Box.

After switching on the Control Box it will load the last saved configuration and start the Camera.



**Note:** W10x-HD camera has a local On/Off switch on its rear panel. Always set this switch to "ON" when operating the camera with Control Unit.

## 4. Controls and Functions



**Joystick Left/Right:** Selects **Zoom**, **Brightness** and **Focus** functions.

**Joystick Up/Down:** Increase/Decrease value of the selected function.

**Auto B:** Switches between auto brightness and manual brightness modes.

- When **Auto B** is activated, brightness of the picture is controlled automatically. Joystick up/down will change “target” value of the brightness adjustment control.
- When **Auto B** is turned off, the camera goes to manual brightness control. Level of the image brightness can be adjusted manually by Joystick up/down.

**Auto F:** Switches between automatic focus and manual focus control modes.

- When **Auto F** is activated, camera will adjust the focus automatically.
- When **Auto F** is turned off, image focus is adjusted manually by Joystick up/down.

**Note:** Image brightness needs to be set to sufficient level for smooth **Auto F** function.

**Note:** Working distance of the camera shall be set right. Camera cannot focus on the object if working distance is out of the specified range.

**Iris mode:** Push this button shortly to activate **Iris mode**.

- When **Iris mode** is activated, camera will fix the Gain and Exposure time and allows user to control Iris (aperture) of the camera. Iris size (aperture diameter) is adjusted by Joystick up/down. Make sure **Brightness** function is selected to adjust Iris.

**Note:** Iris adjustment allows the user to control depth of field (dept of focus). Decreasing Iris size will produce images with larger depth of field.

**Note:** Image quality is improved in most cases when Iris size is decrease due to less aberration.

**Note:** Image brightness is lowered, why more illumination is needed when Iris is decreased.

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- When **Iris** mode is deactivated, camera goes to **Brightness** mode.

**Exp ... : Exposure mode** is activated if **Iris mode** button is held pressed for minimum two seconds. Indication LED starts flashing slowly when camera is on **Exposure mode**.

- When **Exp** is activated, exposure time of the image sensor is controlled manually by Joystick up/down. Gain will be fixed to a low value and Iris will remain unchanged when **Exposure** mode is activated.

**Note:** *Exposure control is useful for producing good pictures at Iris mode when illumination level is too high or too low.*

**Note:** *Long Exposure time (Joystick up) affects frame rate of the camera negatively.*

**Note:** *Selecting **Auto B** button resets Iris size and Exposure time to factory default values.*

**Colour:** Sets white balance of the camera to 3 different colour temperatures. Press **Colour** button to toggle between Automatic, Cold and Warm colours.

**Freeze:** Freezes the live video. Indication LED lights when image is freeze. Pressing any button or moving joystick will reset the image to live.

**R (...s):** Saves and Recalls camera adjustments.

- Press and hold the **R** button for 5 seconds until green (control) LED starts to flash. Current adjustments, like zoom position, brightness, iris size, exposure time and colour are recorded in camera.
- Press **R** shortly to recall recorded adjustments any time.

#### **Optilia Instruments AB**

Address:

Djupdalsvägen 22

S-192 51, Sollentuna

Sweden

Phone: +46 (0)8 35 33 60

Fax: +46 (0)8 35 33 63

E-mail: [Info@optilia.eu](mailto:Info@optilia.eu)

Web: [www.optilia.eu](http://www.optilia.eu)

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