

Instructions Manual for

**Control Unit with Double Save/Recall,
Cross-line and Zoom Display**

Product No. OP-009 220



Content	page
1. Description	3
2. Connections and Power-On Sequence	3
3. Controls and Functions	4
4. Brightness	4
5. Focus	4
6. Iris mode	5
7. Shutter mode	5
8. Save and Recall camera adjustments	6
9. Freeze	6
10. Display mode (Zoom factor and Cross line)	6
11. Notes	8

1. Description

Camera Control Unit is an ergonomically designed user friendly 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, Save and Recall 2 configurations.

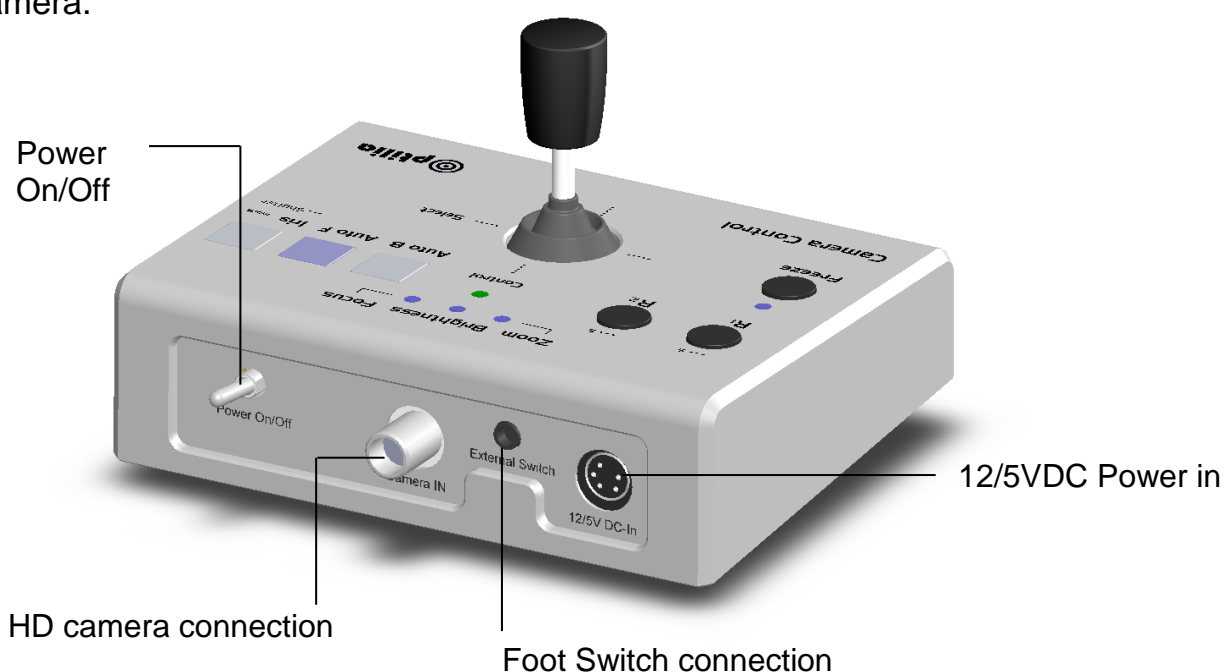
Optical Zoom factor and Cross line can be displayed on live image of the W20x-HD and W30x-HD camera microscopes.

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

2. Connections and Power-On Sequence

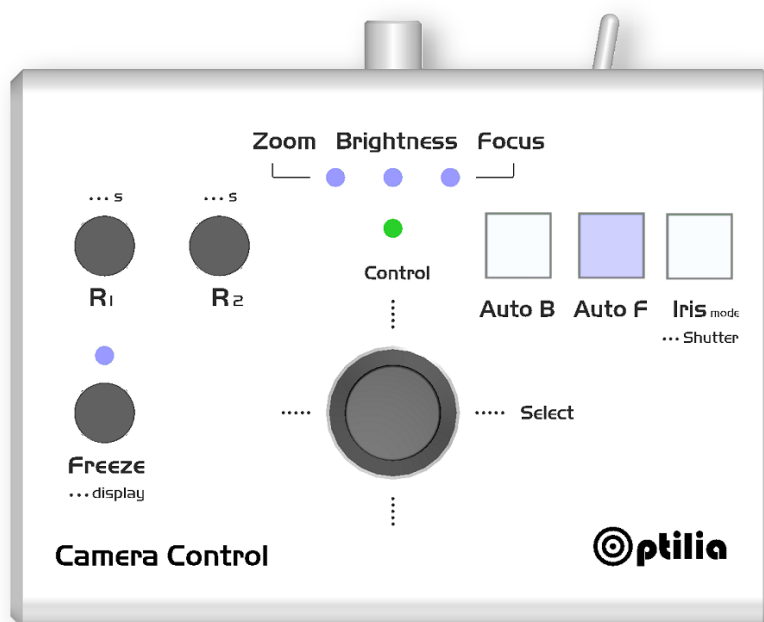
- Attach circular connector of HD camera to the mating connector on Control Unit.
- Attach the Foot Switch to external foot switch input of the Control Unit (Optional)
- Connect the Power supply to 12/5 V DC-input of Control Unit.
- Switch On the Control Unit.

At Switch On, the Control Unit will load the last saved configuration and start the Camera.



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

3. Controls and Functions



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

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

4. Brightness

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.

5. Focus

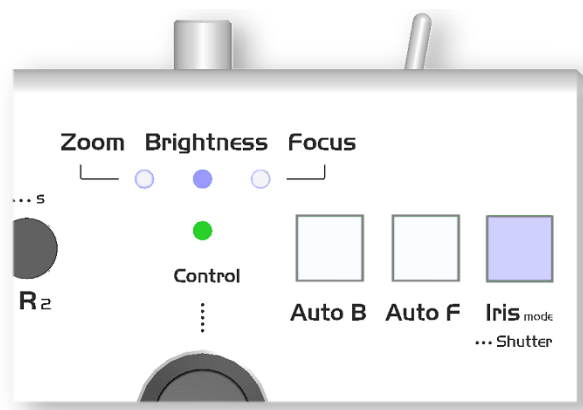
Auto F: Switches between automatic focus and manual focus control modes.

- 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.

6. Iris mode



Push **Iris** 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 (open diameter of lens aperture) is adjusted by Joystick up/down.
- When **Iris** mode is deactivated, camera goes to **Brightness** control.

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

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

7. Shutter mode.

Press and hold **Iris mode** button for minimum two seconds. Indication LED starts flashing slowly and **Shutter mode** is activated.

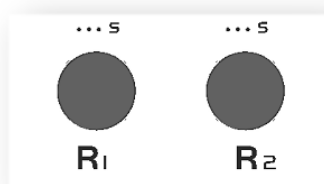
- When **Shutter** is activated, exposure time of the image sensor is controlled manually by Joystick up/down. Gain will be fixed to a low value and Iris will remain unchanged when **Shutter** mode is activated.

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.*

8. Save and Recall camera adjustments R_1 (...s) / R_2 (...s)



R_1 (...s) / R_2 (...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 display mode are recorded in camera.
- Press any of the R_1 or R_2 shortly to recall the recorded configuration any time.

9. Freeze

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

10. Display Mode

Display model enables W20x-HD and W30x-HD camera microscopes to show current Zoom factor and a black Cross line on the live camera image.

Press and hold the **Freeze (... Display)** button until the display mode changes.



Three display modes are supported:

1. Zoom Display:

Press and hold the **Freeze (... Display)** button to enable Zoom display mode.

The zoom factor is displayed on top-right corner of live image and current preset is displayed on down right-corner. Zoom control (Joystick) will function in stepped mode when zoom display is enabled.

- Push/Pull joystick shortly for 0.1x or smallest possible increment.
- Push/Pull and hold joystick for 1x increments.

2. Zoom Display and Cross Line.

Press and hold the **Freeze (... Display)** button to enable this display mode.

A cross line is displayed on the centre of the screen. The zoom factor is displayed on up-right corner and current preset is displayed on down right corner. The zoom control functions in stepped mode. In stepped mode joystick for zoom control functions as:

- Push/Pull joystick shortly for 0.1x or smallest possible increment.
- Push/Pull and hold joystick for 1x increments.

3. Standard.

Press and hold the **Freeze (... Display)** button to disable display mode.

Display is off. Control box will function as standard. The zoom control functions as standard.

Note: *At display mode, optical zoom position of camera microscope is displayed. Optical magnification or on screen magnification depends on which camera, monitor and if additional close-up lenses are used.*

Note: *When switching from Standard to Zoom Display mode zoom position will be set to last position in stepped mode.*

