Vision
ENGINEERING

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EVOCAM
ICON

User Guide

EVOCAM ICON digital microscope

FM 557119

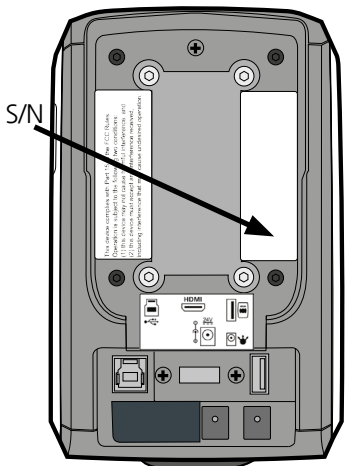
Vision Engineering Ltd has been certified for the quality management system ISO 9001:2008.

System serial numbers

Unit type	Serial number
EVOCAM ICON	
Multi-axis stand	
Ergo stand	
Focus assembly	
Transmitted substage illumination module (option)	

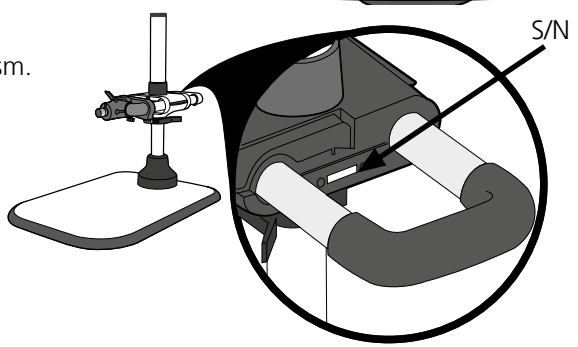
EVOCAM ICON

On the rear of the unit.



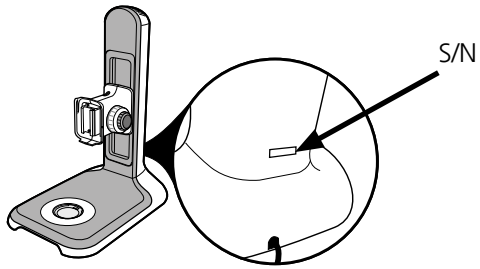
Multi-axis stand

On the rear of the stand mechanism.



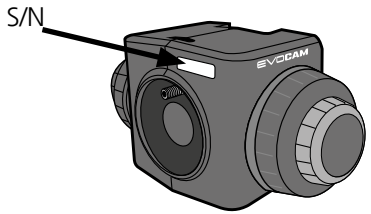
Ergo stand

At the base of the column at the back.



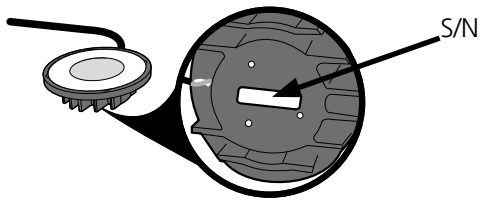
Focus assembly

On the rear of the unit.



Transmitted substage illumination module (option)

On the underside of the module.



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Vision Engineering Ltd.
Galileo Drive
Send Road, Send
Woking, Surrey, GU23 7ER, UK
www.visioneng.com

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General

Safety

Before using your system for the first time, please read the Health & safety section of the user guide.

Ensure that:

- Your system and accessories are operated, maintained and repaired by authorised and trained personnel only.
- All operators have read, understood and observe the user manual, in particular the safety regulations.

Cleaning

- Disconnect your system from the electrical source before cleaning.
- Do not use any unsuitable cleaning agents, chemicals or techniques for cleaning.
- Never use chemicals to clean coloured surfaces or accessories with rubberised parts.
- Use a specialist lens cloth to clean optical surfaces.

Servicing

Repairs may only be carried out by Vision Engineering-trained service personnel. Only original Vision Engineering spare parts may be used.

Symbols used

⚠ Warning!

A potential risk of danger exists. Failure to comply can cause i) a hazard to personnel; ii) instrument malfunction and damage. Please consult the operating instructions provided with the product.

⚠ Warning of electrical shock hazard

This symbol indicates the presence of electric shock hazards. Please consult the operating instructions provided with the product.

! Important information

This symbol indicates important information. Please carefully follow the instructions or guidelines.

Health & safety

! Unauthorised alterations to the instrument or non-compliant use shall invalidate all rights to any warranty claims.

Electrical safety

- Disconnect your system from the electrical source before undertaking any maintenance.

⚠ Do not disconnect the power cable when the camera is on, or connect the power cable when the mains supply is on.

- Avoid using any form of liquid near the system.
- Do not operate your system with wet hands.

Illumination safety

- Do not look directly at the illuminated LED's. This may cause damage to the eyesight.

Environmental considerations

- Avoid large temperature fluctuations, direct sunlight and vibrations.
- Ensure electrical components are at least 10cm from walls and combustible materials.
- Position the system on a firm, rigid and level table.
- The equipment should be positioned so that access to the electrical input connector is always available.
- Avoid positioning your system where bright reflections may affect the image.

Operator wellbeing

- The advanced ergonomic design and construction of Vision Engineering products are intended to deliver superior ergonomic performance, reducing the exertion of the user to a minimum. Depending on the duration of uninterrupted work, appropriate measures should be taken to sustain optimal operator performance. This could include: Optimal arrangement of workplace; Variation in task activity; Training of personnel on workplace ergonomics and general health and safety principles.
- It is important to set-up and optimise your working environment correctly in order to obtain maximum benefit from the advanced ergonomic design of your system. For more information visit: www.visioneng.com/ergonomics

Compliance statements

Vision Engineering and its products conforms to the requirements of the EC Directives on Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS).
All Vision Engineering products conform to the CE mark,

demonstrating that each product meets the requirements of the applicable EC directives. Where applicable, other characteristics of the CE directive are implied such as essential health and safety requirements from all the directives that applies to its product, including low voltage directive and the EMC directive.

Sub-assemblies

EVOCAM ICON
ECH007

Remote Keypad
(optional)
ECX155

Objective lenses
(see Optical data tables)

Standard box contents:

- EVOCAM ICON camera unit
- Power supply unit
- Plug cord
- HDMI cable
- USB3 cable
- Lens cloth
- 2mm HEX key

Optical data

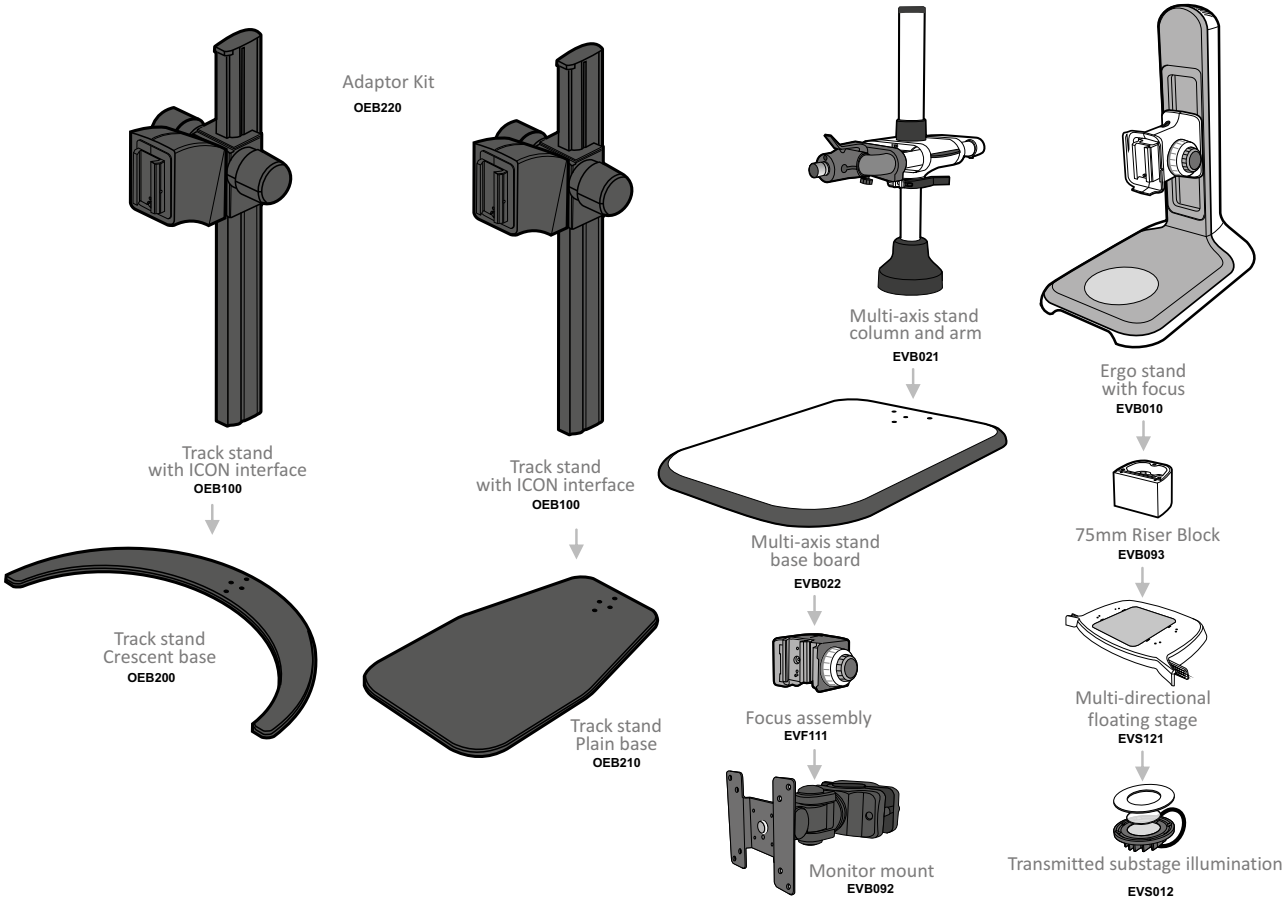
Objective lens	Part number	Magnification zoom range*	Working distance	Field of view at min. zoom (width / height)	Field of view at max. zoom (width / height)
0.45x	ECL001	Full field: 2.27x – 68.04x	160mm	241.0mm / 134.0mm	7.8mm / 4.2mm
		Optimal: 3.78x – 68.04x		142.6mm / 82.6mm	7.8mm / 4.2mm
0.62x	ECL002	Full field: 3.12x – 93.74x	106mm	173.1mm / 96.8mm	5.5mm / 3.1mm
1.0x	ECL003	Full field: 5.04x – 151.2x	85mm	88.0mm / 57.0mm	3.5mm / 2.0mm
		Optimal: 12.56x – 151.2x		40.2mm / 23.1mm	3.5mm / 2.0mm
1.5x	ECL150	Full field: 7.56x – 226.8x	43mm	45.0mm / 36.0mm	2.3mm / 1.2mm
		Optimal: 16.38x – 226.8x		28.5mm / 17.0mm	2.3mm / 1.2mm
2.0x	ECL200	Full field: 10.08x – 302.4x	29mm	37.0mm / 27.0mm	1.5mm / 1.0mm
		Optimal: 23.18x – 302.4x		20.5mm / 12.5mm	1.5mm / 1.0mm

* with 24" monitor

Objective lens	Part number	Magnification zoom range*	Working distance	Field of view at min. zoom (width / height)	Field of view at max. zoom (width / height)
4 dioptre	ECL040	Full field: 1.71x – 51.41x	245mm	293mm / 171mm	10mm / 5.5mm
5 dioptre	ECL050	Full field: 2.12x – 65.5x	197mm	232mm / 135mm	8mm / 4.5mm

* with 24" monitor

Stand options

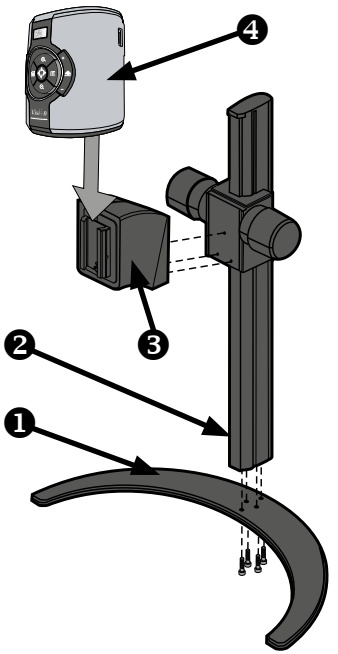


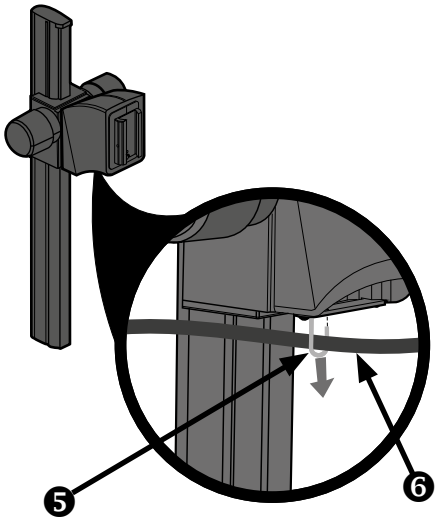
Other stands are also available.

Track stand assembly and fitting

Crescent base

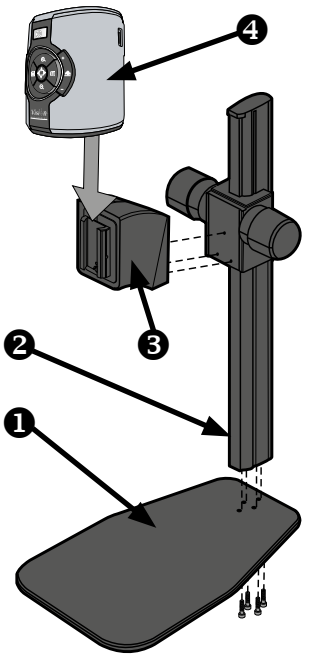
- Fit the crescent base ❶ to the column ❷.
- Fit the ICON interface bracket ❸ to the column.
- Fit the ICON ❹ to the interface bracket.
- To secure a cable, pull down the securing clip ❺ and loop the cable ❻ into position.
- Return the securing clip back into the interface bracket, ensuring it is correctly relocated

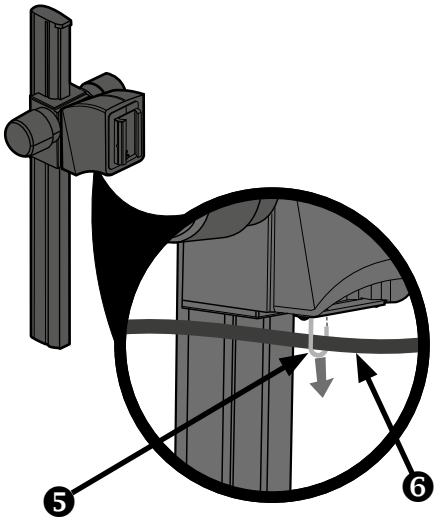




Plain base

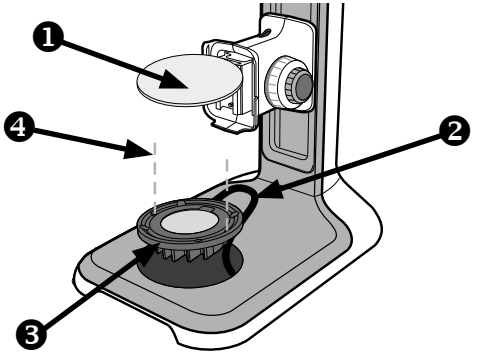
- Fit the plain base ❶ to the column ❷.
- Fit the ICON interface bracket ❸ to the column.
- Fit the ICON ❹ to the interface bracket.
- To secure a cable, pull down the securing clip ❺ and loop the cable ❻ into position.
- Return the securing clip back into the interface bracket, ensuring it is correctly relocated



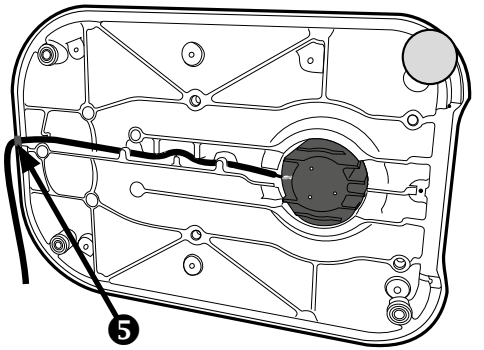


Transmitted substage illuminator (option)

- Remove the stage cover plate ❶ and thread the lead ❷ through the stand base.
- Locate the illuminator ❸ into the stage base and secure it with the 2 screws ❹.

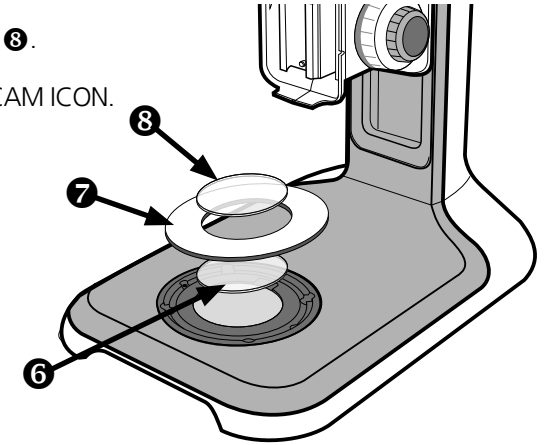


- Carefully lay the Ergo stand on to its side and thread the lead through the base as shown.
- Push the cable grommet ❺ into the stand.



- Turn the Ergo stand upright and replace the illuminator diffuser ❻ shiny side up, surround ❼ and glass ❽.
- Once EVOCAM ICON is installed on the stand (see *page 12*) connect the sub-stage power cable to the EVOCAM ICON.

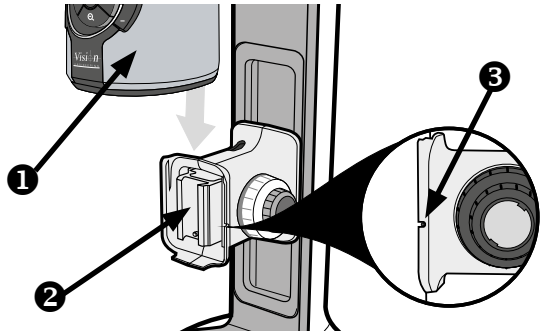
If assembling the optional glare reducing filter, this needs to be placed between the diffuser and the surround.



Stand mounts

Ergo stand

- Locate EVOCAM ICON ❶ on to the stand's dovetail interface ❷.
- Tighten securing grub screw ❸ with HEX key provided



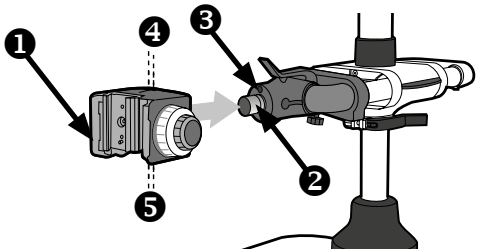
Polarisation filter (option)

Please contact Vision Engineering to have polariser fitted into the unit by an authorised engineer.

Multi-axis stand

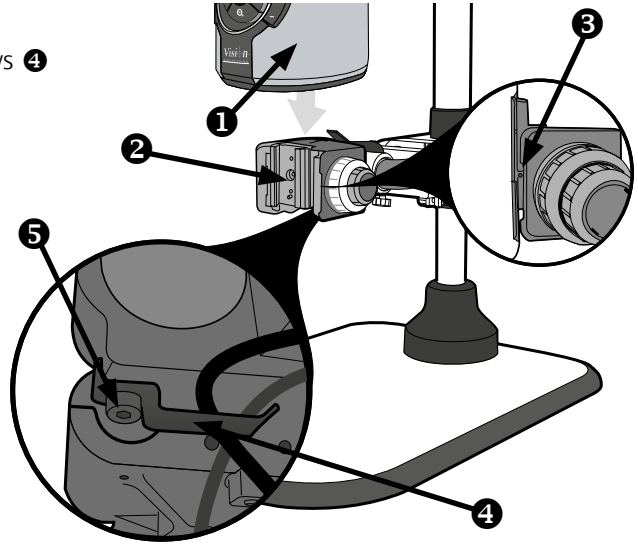
- Place focus assembly ❶ on the mounting post ❷ so that the locator pin is located in the locator pin recess ❸.

To change the camera rotation, remove the locator pin from the focus assembly before attaching it to the mounting post and attach the focus assembly in the desired orientation.



Take care when mounting EVOCAM ICON.

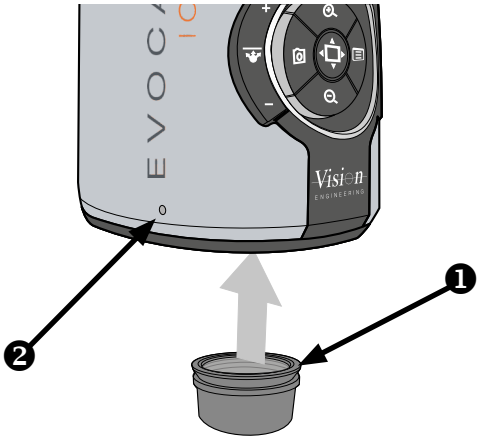
- Ensure the mounting plate is perpendicular to the base or work bench. Tighten the 2x grub screws ❹ at the top of the focus assembly and the 2x grub screws ❺ at the bottom of the focus assembly.
- Locate EVOCAM ICON ❶ on to the stand's dovetail interface ❷.
- Tighten securing grub screw ❸ with HEX key provided
- Secure the cable retaining clip ❹ under the knuckle of the multi-axis stand using the screw ❺ provided. The clip can be secured to the left or right side.



Objective lens

- While holding the objective lens ❶ in position, use the HEX key supplied to secure the lens by tightening the grub screw ❷ finger tight.

Do not over tighten the grub screw holding the lens in place.



Cabling

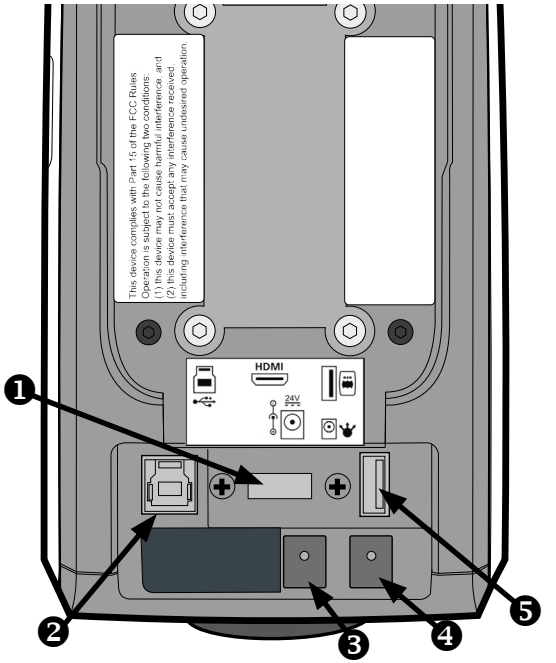
- Plug the HDMI cable into the EVOCAM ICON connector ❶ and the other end into your HDMI-compatible monitor or TV.
- The USB3 connetor ❷ is used for video out and software control.
- Plug the power supply into a mains socket. Plug the power lead from the power supply into the EVOCAM ICON power connector ❸ on the back of the unit.

Only use a Vision Engineering-authorised external ringlight with EVOCAM ICON.

- Plug the transmitted substage illuminator cable into the connector ❹ on the rear panel of EVOCAM ICON.

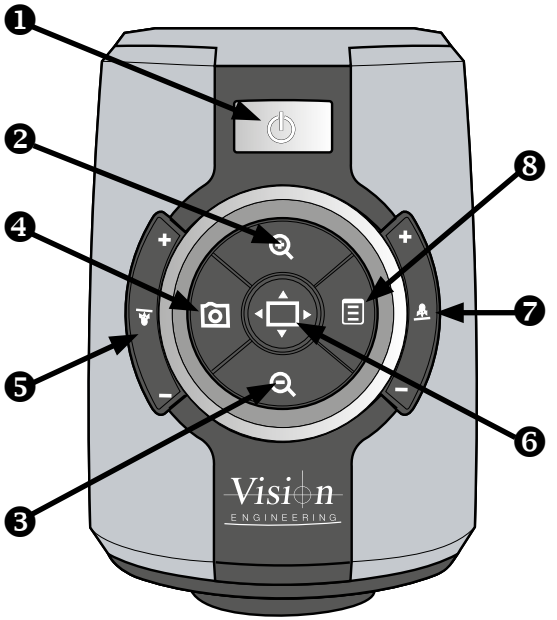
The transmitted substage illuminator is an option for use with the Ergo stand.

- Plug the external remote keypad (optional) into socket ❺ at rear of EVOCAM ICON.



Quick start

❶ Power on/off
❷ Zoom in
❸ Zoom out
❹ Image capture
❺ Transmitted substage illuminator (option)
❻ Overview mode
❼ Ringlight illumination control (option)
❽ Menu



Power on/off

❶ - Short press = Power on
- Long press = Power off

Zoom control

❷ - Zoom in
❸ - Zoom out

Image capture

❹ - Capture image

Transmitted substage illuminator (option)

❺ - Press '+' to increase brightness
- Press '–' to decrease brightness

Press and hold '+' or '-' for fast change to illumination.
Short press '+' or '-' for fine adjustment

Overview mode

❻ - Short press = Activate overview mode
(Press any button to exit overview mode)

Ring-light illumination control (option)

❼ - Press '+' to increase brightness
- Press '–' to decrease brightness

Press and hold '+' or '-' for fast change to illumination.
Short press '+' or '-' for fine adjustment

Menu

❽ - Short press = Access camera menu
(see *page 17*)

❹ - Short press = exit menu

Image brightness shortcut

In AE or AP mode while on the main screen.

❽ - Long press (3s) to activate the image brightness shortcut

❷ - Press to increase image brightness

Not available in ME mode.

Control functions

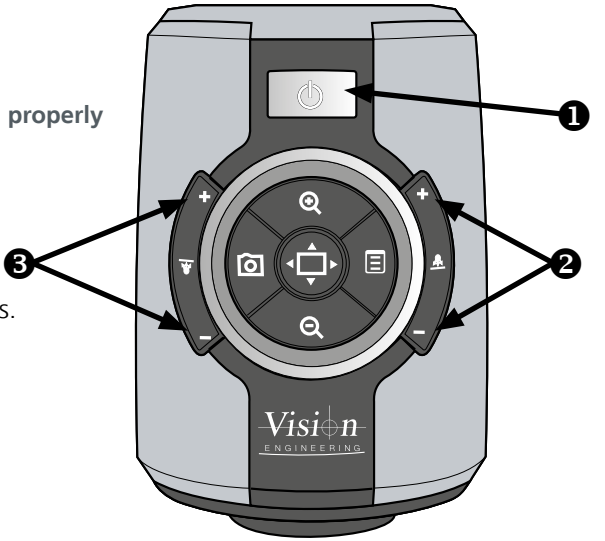
Power on/off

When the system is plugged in the unit will take approximately 8 seconds before it can power on properly

- Push the power button ❶ to turn the unit on. After four beeps and a few seconds the picture from the camera will appear. If not, switch your monitor to the input used for EVOCAM ICON.

- There will also be a panel in the top left of the screen displaying the EVOCAM ICON's current settings.
- To turn EVOCAM ICON off, hold the Power button in for approximately 2 seconds.

Do not disconnect the power cable when the camera is on, or connect the power cable when the mains supply is on.



Illumination control

- The integrated ringlight illumination level can be adjusted by the right hand side buttons ❷.
- The optional sub-stage illuminator intensity can be adjusted using the left hand side buttons ❸.
- When connected, the external rightlight illumination level can be adjusted using the right hand side buttons ❷.

Holding down the buttons will allow for faster control of the light settings.
The internal ringlight is disabled when an external ringlight is connected.

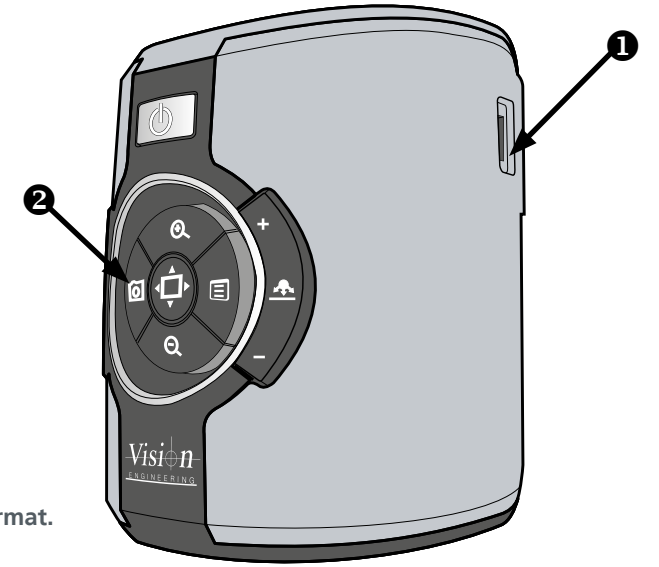


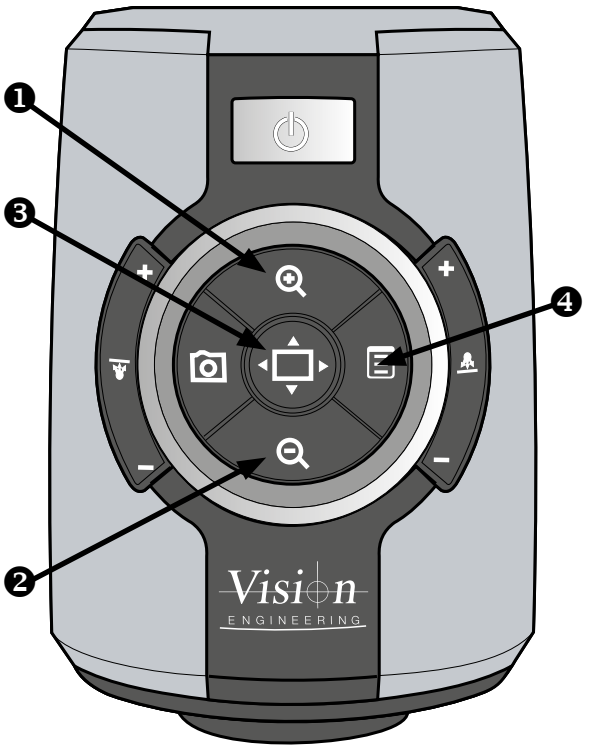
Image capture

- To use this feature, insert a USB memory stick into the USB port ❶.
- When the system has detected the USB memory stick it will report "USB Flash Drive Ready"
- When you have an image you want to capture, simply press the capture button ❷.
- The system will indicate the image is being saved to the drive. The image is saved in the format selected in settings (see *Save format options on page 25*).
- The image name is Date and Time stamped and saved in the format "IMG-date.png" where the date is arranged as in the camera settings (see *page 26*).

The USB memory stick must be in FAT File System Format. It will not work with any other format.
When USB memory stick is removed "USB Flash Drive Removed" message is shown

Magnification

- Press the Zoom-In button ❶ to enlarge the subject within the image and Zoom-Out button ❷ to reduce the subject size within the image. The unit will make a sound to indicate when it has reached maximum or minimum zoom limits.



Magnification level OSD (On Screen Display)

The current magnification level is displayed for example “x30”to show a magnification level of 30. When the magnification changes from optical to digital zoom a‘d’ is also displayed, e.g. “x60d” to indicate a magnification level of 60 including digital zoom.

When changing lenses or monitor, the Screen Size and Lens Power settings need to be changed using the menu options (see *page 23*) to ensure the correct magnification is displayed.

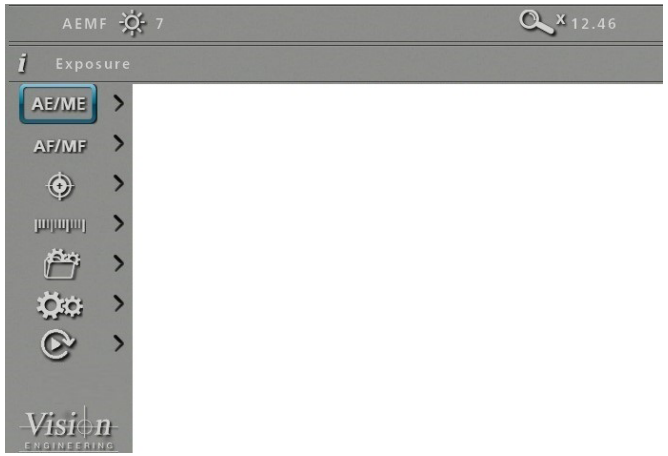
Overview

Overview allows you to easily locate a point of interest on the object you are viewing.

- Press and release the Overview button ❸ to make the camera zoom out fully.
- Place the point of interest in the centre of the screen and press any key to restore the magnification to the previous level.

Main menu options

- To access the Main Menu press the Menu button .



- Use the , , , and buttons to navigate the menu, and the button to make a selection.
- To Exit the menu simply press the image capture button until it is no longer displayed.

The following main menu options are available:

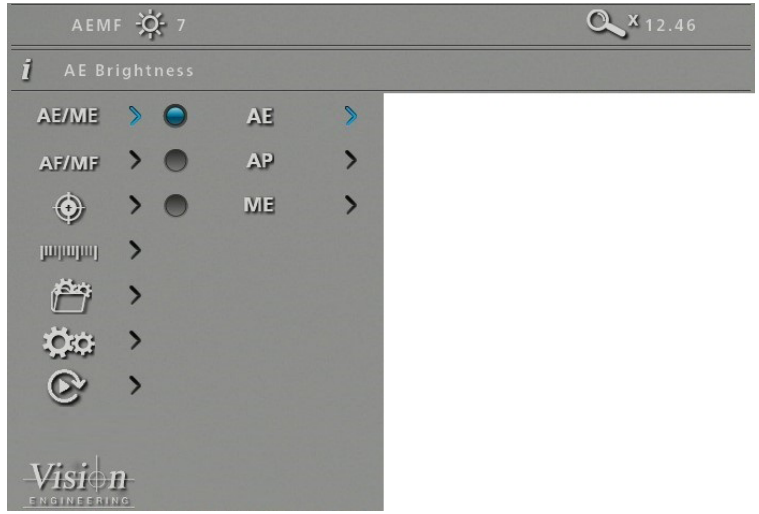
- Exposure
- Focus
- Calibration
- Measurement
- Presets
- Settings
- Set image replay settings

- Use the and buttons to select the option required and then press to display the relevant sub-menu.

Exposure options

The following main exposure options are available:

- Auto exposure
- Aperture priority
- Manual exposure

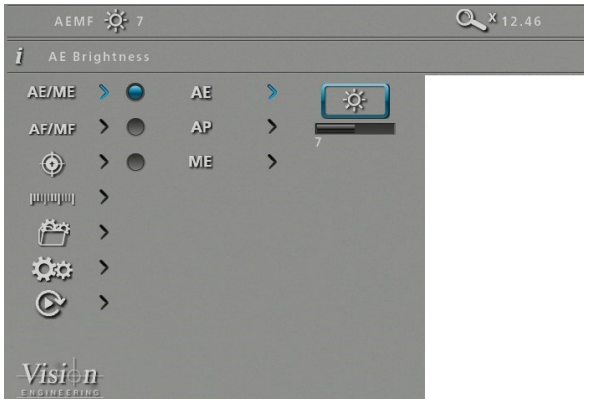


- Use the and buttons to highlight the option required and then press to enter the relevant settings screen or to select the option with the current settings then press to return to the main menu.

Auto exposure

Using this option, exposure is calculated and adjusted automatically. Target brightness can be set to users desired level.

- With the exposure options displayed, use the and buttons to highlight automatic exposure (AE).
- Press to display the highlighted brightness setting.

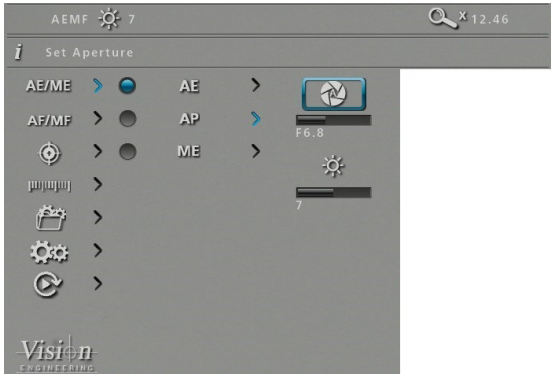


- Press to enable the value to be altered if necessary.
- Use the and buttons to decrease or increase the value as required.
- With the required value set, press to store it and then press to return to the exposure menu.
- Press to turn on the blue indicator next to the option to select it then press to return to the main menu.

Aperture priority

This option allows the exposure to be calculated automatically when the user sets the aperture value (F14 – F1.6 & closed). This allows easy control of the depth of field while maintaining the correct exposure. Target brightness can be set to users desired level.

- With the exposure options displayed, use the and buttons to highlight aperture priority (AP).
- Press to display the AP options and then use the and buttons to highlight either the f-number option or the brightness option.

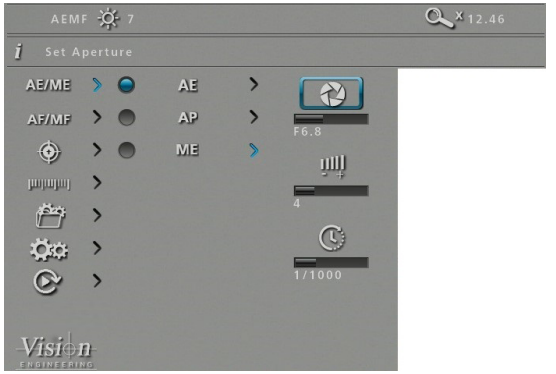


- With the required option selected, press to enable the value to be altered if necessary.
- Use the and buttons to decrease or increase the value as required.
- With the required values set, press to store it and then press to return to the exposure menu.
- Press to turn on the blue indicator next to the option to ensure it has been selected then press to return to the main menu.

Manual exposure

This option enables exposure controls to be set manually. Aperture, Gain and Exposure time can all be adjusted. Aperture (F14 – F1.6 & closed), Gain (1 - 15) and Exposure time (1/10,000 – 1s)

- With the exposure options displayed, use the and buttons to highlight manual exposure (ME).
- Press to display the ME options and then use the and buttons to highlight either the f-number, gain, or exposure time option.



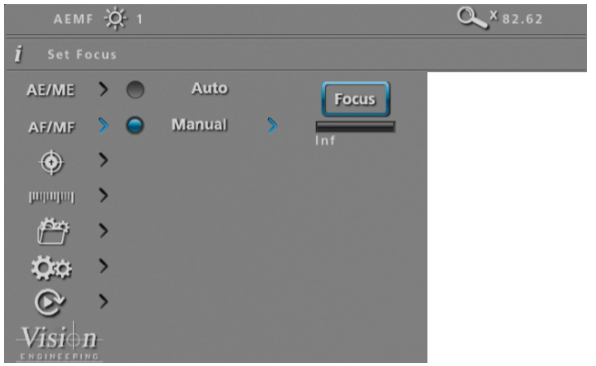
- With the required option selected, press to enable the value to be altered if necessary.
- Use the and buttons to decrease or increase the value as required.
- With the required values set, press to store it and then press to return to the exposure menu.
- Press to turn on the blue indicator next to the option to ensure it has been selected then press to return to the main menu.

Focus options

Auto/Manual focus

This option allows the user to set the EVOCAM ICON's focus to be set automatically if the subject is within range, or set a specific focal distance.

- With the focus options (AF/MF) displayed, use the and buttons to highlight automatic or manual focus as required.



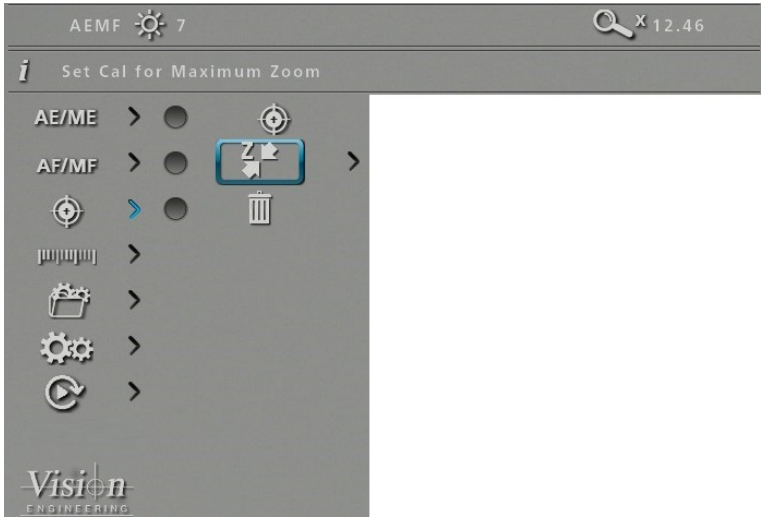
- Press to turn on the blue indicator next to the required option to ensure it has been selected.
- If the manual focus option is selected, press to display the distance setting.
- Press to enable the value to be altered if necessary.
- Use the and buttons to decrease or increase the value as required.

If the focus position is not set to 'Inf' the zoom will not maintain parfocality.

- With the required values set, press to store it and then press to return to the focus menu.

Calibration

Before setting a calibration, ensure the unit is in Manual Focus mode at Inf (infinity), see *page 19*. When a calibration is set, the unit is automatically set to Manual Focus mode and this can cause the object to move out of focus if working in Automatic Focus mode.



Zoom calibration

Zoom Calibration will lock the zoom to one point.

- Press the button enough times to hide the menu panel so only the header bar is shown (as below).

- Place a known point of measurement under the EVOCam lens. (e.g. a ruler) and use the EVOCam II zoom control to set the minimum zoom position to be calibrated.
- Press the to display the menu and use the and button to highlight the Calibrate options icon ( ) then press the button to display the options.
- Use the and buttons to highlight the Minimum Zoom icon and then press to enable the values to be entered as follows.
- Use the to highlight the left cursor icon and then press .
- Use the and buttons to move the left cursor to the required position.
- Use the to highlight the right cursor icon and then press .
- Use the and buttons to move the right cursor to the required position.
- With both left and right cursor positions set, press , and to set the calibration.

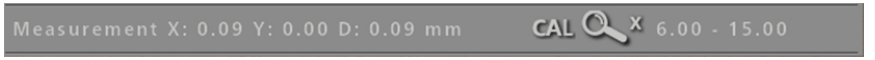
Zoom calibration

- Press the button enough times to hide the menu panel so only the header bar is shown (see below).

- Place a known point of measurement under the EVOCam lens. (e.g. a ruler) and use the EVOCam II zoom control to set the minimum zoom position to be calibrated.
- Press the to display the menu and use the and button to highlight the Calibrate options icon ( ) then press the button to display the options.
- Use the and buttons to highlight the Minimum Zoom icon and then press to enable the values to be entered as follows.
- Use the to highlight the left cursor icon and then press .
- Use the and buttons to move the left cursor to the required position.

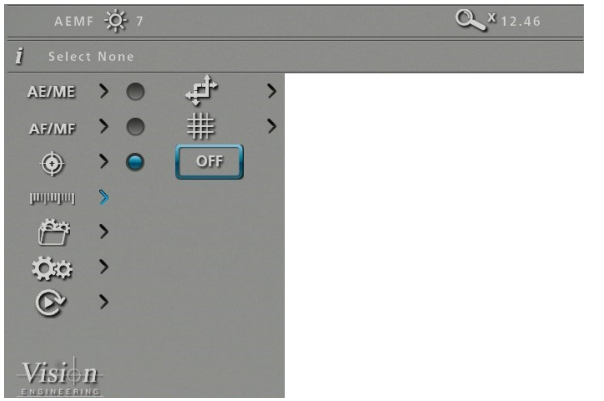
- Use the to highlight the right cursor icon and then press .
- Use the and buttons to move the right cursor to the required position.
- With both left and right cursor positions set, press enough times to hide the menu panel again.

When calibration is set and cursors are turned on, the system will display the calibrated range of the system in the measurements bar (see below) Measurements are most accurate at this zoom range. Values outside of this will be extrapolated.



Measurement

- With the measurement options ( ) displayed, use the and buttons to highlight the option required and then press to highlight and then enable the value to be altered if necessary.



Cursor

This option enables a measurement to be made between moveable cursors.

Calibration can be carried out with this option set. No units will be shown if calibration is not set.

The cursors' measurement units and colour can be altered using the settings option (see *page 23* and *page 26* respectively).

- Use the and buttons to highlight either the top left cursor ( ) or lower right cursor ( ) and then press to select it in order to change its position.
- Use the , , and buttons to adjust the selected cursor's position and then press to save the altered position and return to the cursor option.
- Press to return to the measurement options.

Grid

This option enables a grid to be displayed on the screen. Both the size and position of the grid can be altered as follows:

Calibration can be carried out with this option set. No units will be shown if calibration is not set.

The grid measurement units and colour can be altered using the settings option (see *page 23* and *page 26* respectively).

- Use the and buttons to highlight either grid size ( ) or grid position ( ) and then press to select it in order to change its value.
- Use the , , and buttons to adjust the selected grid value and then press to save the altered setting and return to the grid option.
- Press to return to the measurement options.

Off

- Highlight the Off button and press to ensure neither the cursor or the grid are displayed.

Presets and hotkeys

The current camera settings can be saved as one of the 10 presets. These settings can then be exported and subsequently imported, enabling multiple EVOCAM ICON cameras to be standardised.

Any of the 10 presets can be assigned to one of the three hotkeys on the optional remote keypad.

Presets

- With the presets options ( ) displayed, use the and buttons to highlight the required preset and then press to select it.
- Press and then use the and buttons to enable one of the following options:

Save: press to save the current EVOCAM ICON settings to the selected preset
Export: press to export the current settings to a USB stick
Import: press to import a preset file from a USB stick

- Press to return to the preset options.

Hotkeys

This option enables each of the three hot keys on the optional remote keypad to have one of the 10 presets assigned to it.

- Press to highlight the Hotkeys option and then use the and buttons to highlight the required hotkey.
- Press and then use the and buttons to highlight one of the 10 presets (or None) as required.
- Press to assign the selected preset (or None) to the hotkey and then press to return to the preset options.

Settings

With the settings options ( ) displayed, use the and buttons to select from the following:

- Magnification
- Image mode
- User interface
- System set up

Magnification

- With the magnification ( ) options highlighted, press and then use the and buttons to enable one of the following options:
  - Set screen size
  - Set lens power
  - Set measurement units
  - Set digital zoom
  - Set zoom limits

Set screen size

- With set screen size ( ) highlighted, press .
- To alter the screen size (its diagonal measurement), press and then use the and buttons to set the size between 1 and 100 inches.
- With the required value set, press to store it and then press to return to the magnification options.

Set lens power

- With set lens power ( ) highlighted, press .

Some lenses have two options; Optimal Field and Full Field. Optimum Field has been designed to restrict minimum zoom to reduce any vignetting from the set lens. Full Field allows the full zoom range of the lens.

- To alter the lens power, use the and buttons to highlight the required value, press to store it and then press to return to the magnification options.

Set measurement units

- With set measurement units ( ) highlighted, press .
- To alter the units, use the and buttons to highlight either mm or inch, press to store the change and then press to return to the magnification options.

Set digital zoom

- With set digital zoom ( ) highlighted, press .
- To turn digital zoom on or off, use the and buttons to highlight the required state, press to store the change and then press to return to the magnification options.

Image settings

- With the image settings ( ) option highlighted, press and then use the and buttons to enable one of the following options:
  - Auto white balance
  - Black and white
  - Wide dynamic range
  - Infra red mode
  - Noise reduction
  - Save button options
  - Save format options
  - Time stamp positions

Auto white balance

- With auto white balance ( ) highlighted, press .
- To set auto white balance, press . The 'Auto white balance in progress' message will be displayed for a short time.
- When the message is no longer displayed, press to return to the image mode options.

White Balance data is lost when the power is turned off. To reset white balance please follow the procedure above.

Black and white

- With set black and white ( ) highlighted, press .
- To turn black and white on or off, use the and buttons to highlight the required state, press to store the change and then press to return to the magnification options.

Wide dynamic range

Wide Dynamic Range is only effective when in Automatic Exposure Mode.

Activate wide dynamic range to enhance image information in shadow and highlight areas of high contrast subjects.

- With wide dynamic range ( ) highlighted, press .
- To turn wide dynamic range on or off, use the and buttons to highlight the required state, press to store the change and then press to return to the magnification options.

Infra red mode

Activating the infra red mode removes the internal infrared filter to extend the range of sensitivity. Image is displayed in black and white to incorporate infrared wavelengths. Optionally, IR-transmitting filters (IR720) can be added to objectives for IR only imaging.

- With infra red mode ( ) highlighted, press .
- To turn infra red mode on or off, use the and buttons to highlight the required state, press to store the change and then press to return to the magnification options.

Noise reduction

This function reduces the noise in the image.

- With noise reduction button ( ) highlighted, press .
- Press to enable the value to be set and then use the and buttons to set the noise reduction level between 0 and 5.
- Press to store the setting and then to return to the magnification options.

Save action options

Set this option to **Freeze** to freeze image on first push of capture button with the second press to save. Or, to **Save** to save image on first push of capture button.

- With the save action button ( ) highlighted, press .
- To turn the capture mode to **Freeze** or **Save**, use the and buttons to highlight the required state, press to store the change and then press to return to the magnification options.

Save format options

- With the save format button ( ) highlighted, press .
- Use the and buttons to highlight the required format (.png, .jpeg+, .jpeg, or .jpeg-), press to store the format and then press to return to the magnification options.

Time stamp positions

- With the time stamp position button ( ) highlighted, press .
- Use the and buttons to highlight the required position (Off, Up left, Up right, low left, or low right), press to store the setting and then press to return to the magnification options.

User interface

- With the user interface ( ) option highlighted, press and then use the and buttons to enable one of the following options:
  - Language
  - Sound
  - Crosshair size
  - Crosshair colour
  - On screen display
  - Status bar
  - Transparency
  - Supervisor mode
  - Information text

Language

- With language ( ) highlighted, press .
- To select the required language, use the and buttons to highlight on of the following:
  - English
  - French
  - German
  - Spanish
  - Italian
  - Portuguese
  - Russian
  - Chinese
  - Japanese
  - Korean
- Press to store the change and then press to return to the user interface options.

Selecting the language changes the language of the information text only. Menu icons are not changed.

Sound

- With sound ( ) highlighted, press .
- To turn the sound on or off, use the and buttons to highlight the required state, press to store the change and then press to return to the user interface options.

Crosshair size

- With crosshair size ( ) highlighted, press .
- To set the crosshair size to off, short or long, use the and buttons to highlight the required state, press to store the change and then press to return to the user interface options.

The cross hairs will not appear if the measurement cursors are on the screen.

Crosshair colour

- With crosshair colour ( ) highlighted, press .
- To set the crosshair colour, use the and buttons to highlight the required colour, press to store the change and then press to return to the user interface options.

On screen display

- With on screen display (OSD) highlighted, press .
- To set the on screen display position to upper left, upper right, lower left, or lower right, use the and buttons to highlight the required position, press to store the change and then press to return to the user interface options.

Status bar

- With status bar (STATUS) highlighted, press .
- To set the status bar to off, or position it to upper left, upper right, lower left, or lower right, use the and buttons to highlight the required state or position, press to store the change and then press to return to the user interface options.

Transparency

- With transparency ( ) highlighted, press .
- To alter the transparency, press and then use the and buttons to set the percentage transparency of the menu.
- Press to store the change and then press to return to the user interface options.

Information text

- With information text (*i*) highlighted, press .
- To turn the information text on or off, use the and buttons to highlight the required state, press to store the change and then press to return to the user interface options.

Pressing the key with the *i* icon highlighted will display information on the software in the device. This will tell you if you have a standard or premium key.

System set up

- With the system set up ( ) option highlighted, press and then use the and buttons to enable one of the following options:
  - Time (set time)
  - Date (set date and date format)
  - Reset (factory reset)
  - Frequency (set frame rate)
  - Import settings (load all settings from a USB stick)
  - Export settings (save all settings to a USB stick)
  - License

Time

- With time ( ) highlighted, press .
- To set the time, use the and buttons to highlight either hours (HR) or minutes (MIN) and then press to highlight the value.
- Use the and buttons to set the required value.
- Press to store the change and then press to return to the system set up options.

Date

- With date ( ) highlighted, press .
- To change the date format, use the and buttons to highlight the required format and then press to store the change.
- To set the date, use the and buttons to highlight either date (DD), month (MM) or year (YY) and then press to highlight the value.
- Use the and buttons to set the required value.
- Press to store the change and then press to return to the system set up options.

Reset (factory reset)

- To reset the EVOCAM ICON to its factory settings, ensure the reset icon (RESET) is highlighted, press and then press to carry out the reset.
- Press to return to the system set up options.

Frequency

- With frequency (Hz) highlighted, press .
- To select the required frame rate, use the and buttons to highlight the required frequency (50 or 60Hz), press to store the change and then press to return to the user interface options.

Import settings from a USB stick connected to the EVOCAM ICON

- To import all settings from a USB memory stick, ensure the import icon ( ) is highlighted, press and then press to carry out the import.
- Press to return to the system set up options.

Export settings to a USB stick connected to the EVOCAM ICON

- To export all settings to a USB memory stick, ensure the export icon ( ) highlighted, press and then press to carry out the export.
- Press to return to the system set up options.

Image replay settings

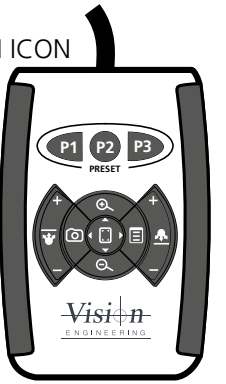
With the Image replay settings ( ) option highlighted, press and then use the and buttons to enable one of the following options:

- Image Comparison
- Image playback

Image playback

- With the Image Playback icon highlighted, press the to enter image playback mode. This mode will playback images stored in the root directory of a USB stick
- Use the and buttons to scroll through the images.
- Press and then again when prompted to exit playback mode.

Using the remote keypad (optional)



The optional remote keypad can be used with EVOCAM ICON and has identical controls to the EVOCAM ICON's front panel with the exception of the On/Off button but with the addition of three hotkeys (P1 to P3). These hotkeys allow one of 10 presets to be assigned to each of them (see *page 22*).

- Press a hotkey (P1 to P3) to activate the preset settings allocated to the hot key.

Auto/Manual exposure switch

- Press P1 for 3 seconds until the EVOCAM ICON beeps to quickly switch between Automatic exposure and manual exposure modes.
- Switch back by following the same procedure.

Front Panel Lock

The remote keypad can be used to lock out the access to the menu from the front of the EVOCAM ICON unit.

- Press P2 for 3 seconds until 'Front Panel Lock On' is displayed on the screen.
- Disable the lock by following the same procedure.

Auto/Manual focus switch

- Press P3 for 3 seconds until the EVOCamII beeps to quickly switch between Automatic focus and manual focus modes
- Switch back by following the same procedure.

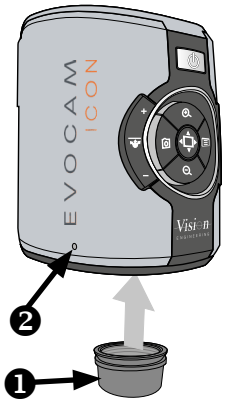
Quick Auto White Balance

- Press the button for 3 seconds until the Auto White Balance message appears to perform a quick auto white balance.

Changing the camera objective lens

- Holding the lens barrel ❶ from the bottom, use the HEX key supplied to partially unscrew the grub screw ❷ releasing the lens from its housing.
- While holding the objective lens ❶ in position, use the HEX key supplied to secure the lens by tightening the grub screw ❷.

Do not over tighten the grub screw holding the lens in place.



Using the Video Out via USB 3.

- Connect the USB 3 cable supplied with the system to the connection on the back of the EVOCAM ICON unit.
- Connect the other end of the cable to a free USB3 port on a PC.
- The video output from the camera is a Direct Show Video signal which can be used by a wide range of video viewers. (Windows 10 Camera App, AMCap, and many others)
- A number of software suites are available from Vision Engineering which allow for control of the camera functions via PC.
- Contact your local Vision Engineering Sales Representative for more information on the software available.

Troubleshooting

Taking care of your EVOCAM ICON

Do not touch the lens. Dirt on the lens will appear as a blurred or dim image or as fuzzy spots on the screen. If you believe the lens is dirty, it can be cleaned with a soft, dry cloth applying minimal pressure. As the lens is polished and coated, do not use a wet or coarse cloth, avoid detergents and abrasive substances or solvents to clean it.

Never look directly at the LED light source for any prolonged period of time.

Use only the supplied power supply and inspect the cabling regularly for damage.

EVOCAM ICON contains a small battery to enable time and date settings to be retained while the unit is powered off. Should the battery need replacing please contact you Vision Engineering representative who will be able to advise you.

Firmware upgrade

EVOCAM ICON includes a Firmware Upgrade Function allowing users to install new versions of the firmware.

Any update files will be provided directly from Vision Engineering.

- Place upgrade file on USB stick
- Insert stick into EVOCAM ICON
- Ensure EVOCAM ICON is in Standby State (e.g. unit is powered on at the mains, but not switched on and the power LED is not lit)
- Hold down Zoom In + Zoom Out, then simultaneously press the Power button until front panel LED starts flashing red.
- The flashing will stop when software update is complete
- Power off the unit at the mains and switch on again
- Unit can be powered on as usual
- Verify the software update by checking the unit software version number (navigate on the menu to the information text option (i) and press the overview button while the (i) is highlighted)

Camera resolution:	HD 1080p, 1920x1080 at 50/60 Hz
Monitor connections:	HDMI
Monitor requirements:	HD ready or full HD (recommended)
Outputs:	HDMI, USB3.0
Image capture:	USB 2.0 High-speed
Dimensions:	11 x 16.5 x 14 cm (w x h x d)
Power:	Max. 72 Watts - depending on external attachments
Operating temperature:	Storage: -10°C to +60°C. Operating: +5°C to +40°C

Service record

Service	Comments	Date of service	Date of next service	Company	Signature

Vision ENGINEERING

WARRANTY

This product is warranted to be free from defects in material and workmanship for a period of one year from the date of invoice to the original purchaser.

If during the warranty period the product is found to be defective, it will be repaired or replaced at facilities of Vision Engineering or elsewhere, all at the option of Vision Engineering. However, Vision Engineering reserves the right to refund the purchase price if it is unable to provide replacement, and repair is not commercially practicable or cannot be timely made. Parts not of Vision Engineering manufacture carry only the warranty of their manufacturer. Expendable components such as fuses carry no warranty.

This warranty does not cover damage in transit, damage caused by misuse, neglect, or carelessness, or damage resulting from either improper servicing or modification by other than Vision Engineering approved service personnel. Further, this warranty does not cover any routine maintenance work on the product described in the user guide or any minor maintenance work which is reasonably expected to be performed by the purchaser.

No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage, or other conditions beyond the control of Vision Engineering.

Except as stated herein, Vision Engineering makes no other warranties, express or implied by law, whether for resale, fitness for a particular purpose or otherwise. Further, Vision Engineering shall not under any circumstances be liable for incidental, consequential or other damages.