SIONYX

OPSIN™

MDV-400C

USER MANUAL

DNVM1

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Register your device and stay up to date by visiting the URL or scanning the QR code below.

SIONYX, LLC

OPSIN
Made In Indonesia
SIONYX.com/patents

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WELCOME TO OPSIN

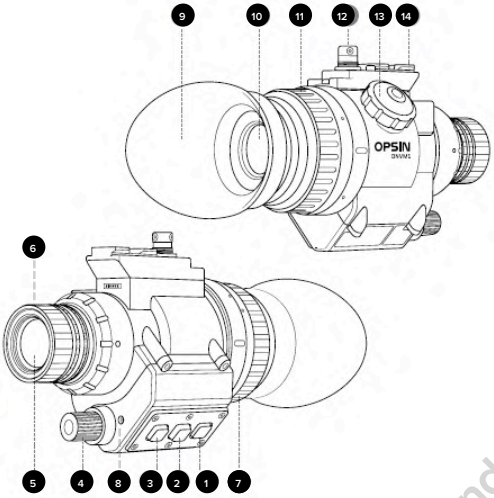
THIS IS SIONYX We believe that human endeavor should not be limited by daylight. In the darkness of night, greatness is possible. Adventure enabled. And a full sense of all sight achievable, no matter the light.

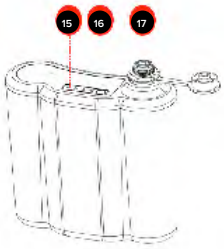
BOX INCLUDES:

OPSIN MDV-400C	**SOFT CARRY/STORAGE CASE**
BATTERY PACK	**EYE CUP**
BATTERY CABLE	**LENS CAP AND TETHER**
BATTERY CHARGER	**QUICK START GUIDE**
HELMET MOUNT QUICK-RELEASE	

GETTING STARTED

To get started, please review the following legend





BATTERY PACK

POWER CABLE

15	BATTERY LEVEL INDICATOR
16	BATTERY LEVEL BUTTON
17	BATTERYTERMINAL (WATERPROOF)
18	CAMERA CABLE CONNECTOR
19	BATTERY CABLE CONNECTOR
Not Shown	EYE PIECE BUMPER
Not Shown	LENS CAP & TETHER

LEGEND

1-3	BUTTONS
4	ON/OFF, BRIGHTNESS KNOB
5	OBJECTIVE LENS
6	LENS FOCUS RING
7	EVF DIOPTER ADJUST RING
8	MICROPHONE PORT
9	EYE CUP
10	ELECTRONIC VIEWFINDER (EVF)
11	EVF DIOPTER ADJUST RING
12	POWER CABLE CONNECTOR
13	SD CARD COVER
14	MINI RAIL

EYECUP AND VIEWFINDER BUMPER

1 Opsin comes supplied with a protective rubber eye-cup and an optional rubber bumper. (Fig. 1)

2 Fit either accessory over the end of the viewfinder until the ring grips the retaining ring on the device.

3 If using the eye cup, rotate until it fits in a comfortable position when looking through the viewfinder

FIG. 1

GETTING CONNECTED

CONNECTING TO POWER

1 Refer to Figure 2. Ensure your battery is fully charged before attempting to connect to your device

2 Remove the Battery Pack charge port cap

3 Attach the battery connector to the battery. Tighten the connector cover by turning it clockwise until hand-tight. This ensures a water resistant seal between cable and the battery

IV Device connector
I Battery
II Battery connector
III Locking connector

FIG.2

FIG. 3

3 Refer to Figure 3. Attach the locking connector to Opsin. To properly make the connection the white
dot on the locking connector body should align with the white dot on the device connector body

4 Push the two halves of the connector together until you hear an audible ‘click’

DISCONNECTING THE BATTERY

1 Refer to Figure 4. With one hand firmly gripping the device, use your thumb and first finger to pull the
rotating connector sleeve upwards away from the camera and pull. The connector will snap away from the device.

I Connector Sleeve
II Battery Connector

FIG. 4

2 Unscrew the battery connector (turn counter-clockwise) and replace the plastic cover
on the battery to protect its terminals from possible damage or debris.

3 Carefully stow the cable and the battery in the battery pouch provided.

OPERATING THE CAMERA

TURNING ON THE CAMERA

1 Ensure the camera is connected to the battery pack according to the steps on Page 4

2 Refer to Figure 5

I Viewfinder
II Power/Brightness Knob

FIG. 5

3 Look through the viewfinder and check that turning the power/brightness knob results in an image displayed on the screen. The camera takes a few seconds to boot up. Turning the knob controls the display brightness of the screen. To make the display brighter turn the knob clockwise. To make the display dimmer turn the knob counter-clockwise.

TURNING OFF THE CAMERA

1 Turn the knob clockwise until the knob clicks. The camera is turned off, however it is safest to disconnect the battery cable and store the battery when not using the camera.

AJUSTING THE OPTICS

FOCUS THE DIOPTER

1 Refer to Fig. 6. Turn the diopter adjustment ring clockwise or counter clockwise to change until the characters on the display appear in focus. Each person will probably have a different position.

❶ Diopter adjustment ring

FIG. 6

MANUAL FOCUS

1 Refer to Fig. 7. Focus the lens to the subject by turning the manual focus adjustment. Turning the ring clockwise brings closer subjects into focus and turning the ring counter clockwise brings far away subjects into focus.

❶ Focus adjustment ring

FIG. 7

VIEWFINDER DISPLAY

1 Opsin's viewfinder displays the image seen by the camera. The top edge of the display shows critical information such as battery life GPS position and compass heading

2 For detailed description of each of the features shown in the viewfinder see the section titled "Using Opsin"

FIG. 8

USING OPSIN

1 Opsin has a number of different capabilities besides live view of the dark scene in front of the user.

2 This list is evolving

FIG. 8

DISPLAY REFRESH RATE

1 Opsin can display the live camera image at 30, 60 or 90 frames per second. Lowering the frame rate results in longer battery life, however 90 frames per second creates a real-life smooth viewing experience.

2 To change the refresh rate, press and quickly release the center button. Each press of the button cycles through the available frame rate options.

NAVIGATION

1 The Opsin GPS and electronic compass provide navigation assist information.

2 The compass provides approximate heading information once it is properly calibrated. As long as Opsin is turned on it continues to gather calibration information. It is possible to reset the calibration data by selecting "calibrate compass" from the camera settings menu

3 The GPS can be turned on and off from the camera settings menu. When the GPS has determined a fix, it will display the coordinates in the EVF display. While it is obtaining the fix, the coordinates will be represented by '-" for each coordinate value.

STILL/VIDEO IMAGE RECORDING

INSERTING/FORMATTING SD CARD

1 Remove the SD card cover (refer to figure 7)

FIG. 9

❶ SD Card Cover

2 Insert an SD Card (up to 256 GB) into the SD Card slot

3 Reattach the SD Card cover and check to insure it is properly tightened (approx. 1/8 turn) to maintain the water resistance of the device.

4 Navigate the menu using the buttons to the SD Card Format instruction. Follow the instructions given in the display. For help with the menu see the section
"Navigating the Menus" on page 10

RECORDING A STILL PICTURE

1 Refer to Figure 10 for position and descriptions of the buttons.

3 To take a picture simply aim the camera at the subject and press the front button. The picture is automatically saved to the SD Card.

FIG. 10

RECORDING A VIDEO CLIP

1 Refer to Figure 8 for position and descriptions of the buttons.

3 To record a video clip simply aim the camera at the subject and press the rear button to start the recording and press again to stop the recording. The video clip is automatically saved to the SD Card.

VEWING IMAGES

3 Opsin is not equipped with playback capability. Remove the SD Card and load it into another device (e.g. PC) to view and save the captured images and video files.

OPSIN SETTINGS

MENU STATE (JUNE 2022)

The menu functions are subject to change as more features and capabilities are added. However their basic operation will remain the same.

Opsin Current Implemented Button Functionality (1 JUN 2022)

Normal Operation			
Button	**Short Press**	**Medium Press**	**Long Press**
Front	Take Picture	Trigger Capture Menu	N/A
Center	Today FPS change but need to match spec	Trigger General Menu	N/A
Rear	Today, for engineering only, capture 30 pictures	Trigger Capture Menu	N/A

Capture/General Menu Functionality			
Button	**Short Press**	**Medium Press**	**Long Press**
Front	Up	No Function	N/A
Center	Set or select	Back out a menu level or clear	N/A
Rear	Down	No Function	N/A

Press Definition	**Duration (sec)**
Short	0 - 1.5
Medium	> 1.5
Long	N/A

NAVIGATING THE MENUS

CAMERA SETTINGS

1 The menus are turned on by pressing and holding the center button for more than 1.5 seconds. Pressing again for 1.5 seconds will turn off the menu and return the function to live view

2 Once the menu is showing in the screen navigate using the forward and back buttons. The cursor points to the currently active menu item and will wrap around to the beginning or end with repeated button presses.

3 To select a setting to adjust, press the center button once quickly (short press) to navigate down a level . At that point the display will show the settings options . The cursor will now point at the first of one or more available choices.

4 With the cursor next to the new value. press the center button. Two things will happen: 1) the camera will adopt the new value as its setting, and 2) the menu will disappear, returning the user to the live view mode. This allows for quick changing of a few settings with minimal distraction to the user.

Opsin Current Implemented Button Functionality (1 JUN 2022)

Normal Operation			
Button	Short Press	Medium Press	Long Press
Front	Take Picture	Trigger Capture Menu	N/A
Center	Today FPS change but need to match spec	Trigger General Menu	N/A
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Capture/General Menu Functionality			
Button	Short Press	Medium Press	Long Press
Front	Up	No Function	N/A
Center	Set or select	Back out a menu level or clear	N/A
Rear	Down	No Function	N/A

NAVIGATING THE MENUS CONTINUED

CAPTURE SETTINGS

1 There are special settings for controlling how the camera captures still or video images. These can be reached by pressing either the forward or back button for more than 1.5 seconds (both buttons do the same thing)

2 Once the menu is showing in the screen navigate using the forward and back buttons. The cursor points to the currently active menu item and will wrap around to the beginning or end with repeated button presses.

3 To select a setting to adjust, press the center button once quickly (short press) to navigate down a level. At that point the display will show the settings options. The cursor will now point at the first of one or more available choices.

4 With the cursor next to the new value. press the center button. Two things will happen: 1) the camera will adopt the new value as its setting, and 2) the menu will disappear, returning the user to the live view mode. This allows for quick changing of a few settings with minimal distraction to the user.

HELMET INSTALLATION

ACCESSORIES TO ATTACH TO HELMET

- I Power Connector
- II Quick Release Button
- III Adjustment Screw
- IV Mini Rail
- VI Dovetail, Rhino Mount (Optional)

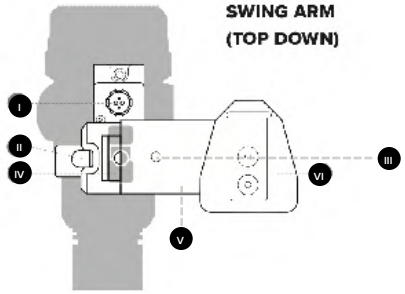


FIG.9

1 Refer to Figure 11. Assemble an appropriate flip-style helmet mount if necessary. Cables must be routed correctly, to maximize performance and prolong cable life.
• Do NOT bend cables excessively

ACCESSORIES TO ATTACH TO HELMET

i Mini Rail Mount
ii Quick Release Button
iii Adjustment Screw
iv Dovetail Rail
v Rhino Mount (Optinal)

FIG. 10

1 Refer to Figure 10. Assemble an appropriate flip-style helmet mount if necessary. Cables must be routed correctly, to maximize performance and prolong cable life.
• Do NOT bend cables excessively

2 Align mini rail receiver of swing arm to mini rail on OPSIN and slide straight back until locking arm clicks into place (Figure 11)

FIG 11

i Mini Rail

3 Adjust interpupillary distance as needed. (Figure 12)

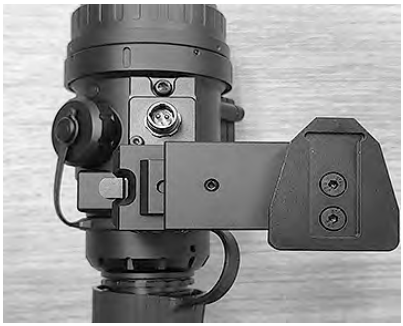


FIG 12.

4 To remove swing arm from OPSIN, press the quick release button and slide swing arm out

SAFETY

IMPORTANT PRODUCT AND SAFETY INSTRUCTIONS

The use of this product is an acknowledgment and agreement to all the product instruction, safety warnings, private policy and other pertaining documentation outlined or reference in this document.

THIS DOCUMENT CONTAINS IMPORTANT SAFETY AND HEALTH INFORMATION THAT MUST BE READ BEFORE USE.

WARNING

Failure to properly set up, use, and care for this product can increase the risk of serious injury, death, property damage, or damage to the product or related accessories. Exercise caution when using a SIONYX product as part of your active lifestyle. Always be aware of your surroundings to avoid injury to yourself and others.

1. Product shall be used in accordance with all manufacturing instruction and limits.
2. Read all provided documentation, and keep it for future reference.
3. Follow all instructions and heed all warnings.
4. Properly install, use, and maintain all power and data cable as per manufacturing specification.
5. Only use attachments and accessories specified and/or approved by SIONYX.
6. SIONYX OPSIN is designed to be serviced only by qualified service

personal. Visit SIONYX.com for more information.

Hereby, SIONYX, LLC declares that the radio equipment type SIONYX OPSIN is in compliance with Directive 2014/53/EU. Visit WWW.SIONYX.com/support for full documentation and company contact information

The SIONYX OPSIN camera transmits at 2.412 GHz – 2.462 GHz. The maximum power transmitted in this frequency band is EIRP 16.97 dBm. Country specific rules and regulations can prevent or limit the use of some or all the listed frequency bands and power level.

SAFETY CONTINUED

WARNING

Failure to take the following precautions can result in serious injury or death from electric shock, fire, or damage to your
SIONYX camera or powered accessories:

• Do not drop, disassemble, open, crush, bend, deform, puncture, shred , microwave, incinerate or paint the camera or powered accessories.

• Do not insert foreign objects into any opening on the camera.

• Do not use the camera if it has been damaged—for example, if cracked , punctured or harmed by water.

• Do not dry the camera with an external heat source such as a microwave oven or hair dryer.

• Do not place naked flame sources, such as lighted candles, on or near the product.

Should the glass lens cover break, care should be taken to avoid injury.

•Keep out of reach of children.

•Do not use damaged equipment.

Contact SIONYX Customer Support at www.SIONYX.com/support

SAFETY CONTINUED

CAMERA TEMPERATURE

Extreme low or high temperature conditions may temporarily prevent the camera working properly if the camera's internal high temperature limit is exceeded. The temperature icon may appear when the camera exterior reaches a temperature which is considered unsafe. Turn off the camera to allow it to cool down before continuing use.

BE

PRIVACY & SAFE USE

Abide by all local laws and safety requirements when using your SIONYX OPSIN and related mounts and accessories, including all privacy laws, which may restrict recording in certain areas.

SAFETY CONTINUED

BATTERY SAFETY

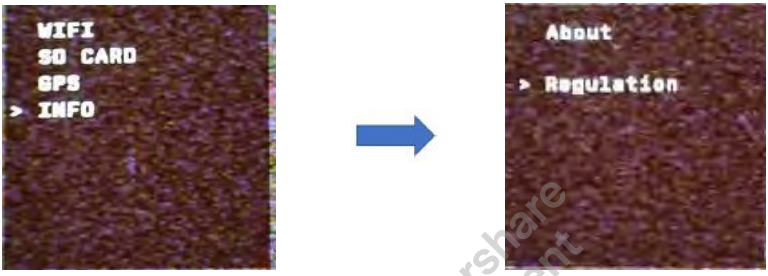
-Use caution as misusing or mishandling the battery may cause a FIRE or EXPLOSION which may result in personal
injury, property damage, or death. The user must have an appropriate understanding of the potential dangers of
LITHIUM ION BATTERIES before purchase and usage.
-BATTERY IS ONLY FOR USE IN PROTECTED BATTERY PACKS.
-WHEN NOT IN USE, ALWAYS STORE LITHIUM ION BATTERIES IN THE PROTECTIVE CASE/BOX IN WHICH BATTERIES
WERE DELIVERED.
-Misusing or mishandling lithium ion batteries can pose a SERIOUS RISK of PERSONAL INJURY, PROPERTY
DAMAGE, OR DEATH.
-BATTERIES MAY EXPLODE, BURN, OR CAUSE A FIRE IF MISUSED OR MISHANDLED.
-Usage of batteries is AT YOUR OWN RISK!
-DO NOT intentionally short circuit.
-KEEP AWAY from metal/conductive objects to prevent short circuiting.
-DO NOT use if PVC wrapper or terminal insulator is damaged or torn.
-DO NOT use if battery is damaged in any way.
-DO NOT over-charge or charge above the maximum voltage rating.
-DO NOT over-discharge or exceed the continuous discharge rating.
-DO NOT modify, disassemble, puncture, cut, crush, or incinerate.
-DO NOT expose to liquids or high temperatures.
-DO NOT solder onto battery.
-DO NOT use force to install or install in reverse/backwards.
-ONLY use within manufacturer's specification.
-KEEP AWAY from pets and children.
-ALWAYS charge in or on a fire-proof surface and never leave batteries charging unattended. ONLY use a smart
charger designed for this specific type of battery.
-STOP immediately if while charging/storing/using the battery it emits an unusual smell, feels hot, changes color
or shape, or appears abnormal in any way.
-It is your responsibility to determine that your charger or device is functioning properly.

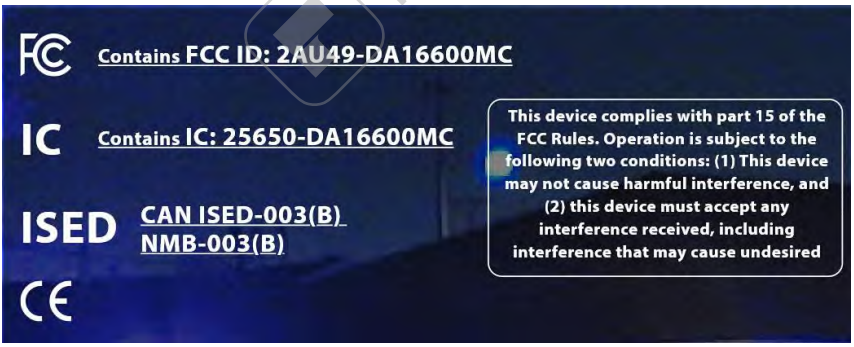
REGULATORY INFOMATION

E LABEL INFORMATION

1 This device has an electronic label for certification information.

2 To access it, please go to menu > INFO > Regulation.





For U.S.A.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause interference and; (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. MDV-400C has been tested and found to comply with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines.

The provided power cables must be used with this unit to ensure compliance with the class B FCC limits.

For Canada:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. MDV-400C has been tested and found to comply with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS- 102 of the ISED radio frequency (RF) Exposure rules.

Les connaissances scientifiques dont nous disposons n'ont mis en évidence aucun problème de santé associé à l' usage des appareils sans fil à faible puissance. Nous ne sommes cependant pas en mesure de prouver que ces appareils sans fil à faible puissance sont entièrement sans danger. Les appareils sans fil à faible puissance émettent une énergie fréquence radioélectrique (RF) très faible dans le spectre des micro-ondes lorsqu' ils sont utilisés. Alorsqu' une dose élevée de RF peut avoir des effets sur la santé (en chauffant les tissus), l' exposition à de faibles RF qui ne produisent pas de chaleur n' a pas de mauvais effets connus sur la santé. De nombreuses études ont été menées sur les expositions aux RF faibles et n' ont découvert aucun effet biologique. Certaines études ont suggéré qu' il pouvait y avoir certains effets biologiques, mais ces résultats n' ont pas été confirmés par des recherches supplémentaires.
MDV-400C a été testé et jugé conforme aux limites d' exposition aux rayonnements ISDE énoncées pour un environnement non contrôlé et respecte les règles d' exposition aux fréquences radioélectriques (RF) CNR-102 de l' ISDE.

WARNING

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For EU:

DISPOSAL

Electronics donation and recycling is a great way to help conserve resources and natural materials. It is important to make sure you are donating and/or recycling electronics safely and correctly.

The Waste Electrical and Electronic Equipment (WEEE) Directive requires the recycling of waste electrical and electronic equipment which contains materials, components and substances that may be hazardous and present a risk to human health and the environment when WEEE is not handled correctly.

Equipment marked with the crossed-out wheeled bin symbol indicates that the equipment should not be disposed of in unsorted household waste.

Local authorities in many regions have established collection schemes under which residents can dispose of waste electrical and electronic equipment at a recycling center or other collection point.

Hereby, SIONYX, LLC declares that the radio equipment type SIONYX OPSIN MDV-400C is in compliance with Directive 2014/53/EU.
Visit WWW.SIONYX.com/support for full documentation and company contact information.
At the address above, we publish the Declaration of Conformity.

The SIONYX OPSIN camera transmits at 2.412 GHz – 2.462 GHz. The maximum power transmitted in this frequency band is EIRP 16.97 dBm. Country specific rules and regulations can prevent or limit the use of some or all the listed frequency bands and power level.

For UK:

Hereby, SIONYX, LLC declares that the radio equipment type SIONYX OPSIN MDV-400C is in compliance with the relavant statutory requirements.
Visit WWW.SIONYX.com/support for full documentation and company contact information.
At the address above, we publish the Declaration of Conformity.

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MAINTAINANCE

The camera housing and lens will require occasional cleaning.
You should clean the lens when image quality degradation is noticed or excessive contaminant build up is seen.
•Do NOT wipe the lens window with a dry cloth, or with abrasive materials such as paper or scrub brushes, as this could scratch the coating.
•Do NOT use acid or ammonia based products.
•Do NOT pressure wash.
Particular care should be taken when cleaning the lens window, this has a protective anti-reflective coating which may be damaged by improper cleaning.
Switch off the power to the unit.
Clean the camera body with a clean, soft cotton cloth. You can moisten the cloth and use a mild detergent if required.
Clean the camera lens.