MOTIC 1100600100501

Moticam Pro 282A Scientific Camera User Manual

Model: 1100600100501

Introduction

The Moticam Pro 282A Scientific Camera is a high-quality CCD-based imaging device designed for digital microscopy. It offers a robust platform for various scientific and industrial applications, providing sensitive and precise image capture capabilities. This new range of CCD cameras features optional Peltier Cooling devices, which can bring down the ambient temperature up to 10 degrees Celsius. Our software will constantly show you both Ambient and Sensor Temperature.

Key features include:

- C/CS mount scientific camera compatibility.
- ICX282AQ 2/3” CCD Color sensor for accurate color reproduction.
- 5.0 Megapixel resolution (2580x1944 pixels) with USB2.0 output.
- On-board 4-frame image buffer for enhanced performance.
- TTL port for external synchronization.

Figure 1: The Moticam Pro 282A Scientific Camera. This image shows the compact, rectangular camera unit with a black top housing and a white body, featuring the "Moticam Pro" branding on its side.

Setup

1. **Unpacking:** Carefully remove the Moticam Pro 282A camera and all accessories from the packaging. Verify that all components listed in the packing list are present.
2. **Software Installation:** Before connecting the camera, install the Motic Images Plus software from the provided CD or download the latest version from the official Motic website. Follow the on-screen instructions for installation.
3. **Mounting the Camera:**
    - Attach the Moticam Pro 282A to your microscope's C-mount or CS-mount port. Ensure a secure and stable connection.
    - If using an adapter, ensure it is correctly seated and tightened.
4. **Connecting to Computer:** Connect the camera to your computer using the supplied USB 2.0 cable. Plug one end into the camera's USB port and the other into an available USB 2.0 port on your computer.
5. **Power On:** The camera is typically powered via the USB connection. Once connected, the camera's

indicator light should illuminate, signifying it is receiving power.

6. **Driver Recognition:** After connecting, your operating system should automatically detect the camera and install the necessary drivers. If prompted, direct the system to the driver files located in the Motic Images Plus software installation directory.

Operating Instructions

This section outlines the basic steps for operating your Moticam Pro 282A camera with the Motic Images Plus software.

1. **Launch Software:** Open the Motic Images Plus software application on your computer.
2. **Select Camera:** In the software interface, navigate to the camera selection menu and choose "Moticam Pro 282A" from the list of detected devices.
3. **Live View:** Once selected, a live video feed from the camera should appear in the software window. Adjust the microscope's focus to achieve a clear image.
4. **Image Adjustments:**
    - **Exposure:** Adjust the exposure settings within the software to control the brightness of the image.
    - **White Balance:** Perform a white balance calibration to ensure accurate color representation.
    - **Gain:** Modify the gain setting to increase signal amplification, useful in low-light conditions, but be aware of potential noise.
5. **Capturing Images:**
    - To capture a still image, click the "Capture" or "Snapshot" button in the software.
    - Images will be saved to the default directory specified in the software settings.
6. **Recording Video:**
    - To record video, click the "Record" button. Click again to stop recording.
    - Video files will be saved to the designated directory.
7. **Software Features:** Explore other features of the Motic Images Plus software, such as measurement tools, annotation, image processing, and database management. Refer to the software's help documentation for detailed instructions on these advanced functions.

Maintenance

Proper maintenance ensures the longevity and optimal performance of your Moticam Pro 282A camera.

- **Cleaning the Camera Body:** Use a soft, dry, lint-free cloth to wipe the exterior of the camera. For stubborn dirt, slightly dampen the cloth with water or a mild, non-abrasive cleaning solution. Avoid using harsh chemicals or solvents.
- **Cleaning the Sensor/Lens:** The camera's sensor and internal lens are delicate. If dust or smudges appear on the live image, it may indicate contamination on the sensor or the protective glass.
    - For external lens surfaces, use a lens cleaning brush or a specialized lens cleaning cloth.
    - For internal sensor cleaning, it is highly recommended to contact Motic technical support or a qualified service technician to avoid damage.
- **Storage:** When not in use, store the camera in a clean, dry, and dust-free environment. Use the original packaging or a protective case to prevent physical damage.
- **Software Updates:** Regularly check the Motic website for software and driver updates. Keeping your

software up-to-date ensures compatibility and access to new features or bug fixes.

- **Environmental Conditions:** Operate and store the camera within the recommended temperature and humidity ranges specified in the product's technical specifications to prevent condensation or overheating.

Troubleshooting

Problem	Possible Cause	Solution
No image in live view.	Camera not connected, drivers not installed, software not recognizing camera.	Ensure USB cable is securely connected to both camera and computer. Verify camera is selected in Motic Images Plus software. Reinstall camera drivers if necessary. Try a different USB port.
Image is too dark or too bright.	Incorrect exposure or lighting settings.	Adjust exposure time and gain settings in the software. Check microscope illumination intensity.
Image appears blurry or out of focus.	Microscope focus, camera mounting, or dirty lens/sensor.	Adjust the fine and coarse focus knobs on your microscope. Ensure the camera is securely mounted and the C-mount adapter is correctly installed. Clean the camera lens or protective glass if smudges are visible.
Colors are inaccurate.	Incorrect white balance setting.	Perform a white balance calibration using a white reference slide in the software.
Software crashes or freezes.	Outdated software/drivers, system resource issues, or software conflict.	Update Motic Images Plus software and camera drivers to the latest version. Close other demanding applications. Restart your computer.

Specifications

Feature	Detail
Model Number	1100600100501
Sensor Type	ICX282AQ 2/3” CCD Color
Resolution	5.0 Megapixel (2580x1944 pixels)
Output Interface	USB 2.0
Mount Type	C/CS Mount
Image Buffer	On-board 4-frame

Feature	Detail
Additional Ports	TTL port
Item Weight	0.71 ounces
Manufacturer	Motic Instruments
First Available Date	July 18, 2012

Warranty and Support

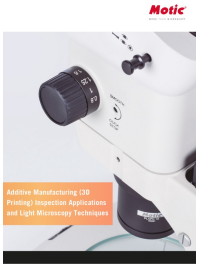
Motic products are manufactured to high standards and undergo rigorous quality control. For specific warranty terms and conditions applicable to your Moticam Pro 282A, please refer to the warranty card included with your product or visit the official Motic website.

For technical support, driver downloads, software updates, or service inquiries, please contact Motic customer support through their official website or the contact information provided in your product documentation. When contacting support, please have your camera's model number (1100600100501) and serial number ready.

Online Resources:

- Official Motic Website: www.motic.com
- Software & Driver Downloads: Check the support section of the Motic website.

Related Documents

	Moticam BTW Microscope Tablet/Camera Use and Care Manual Comprehensive guide for setting up, connecting, and using the Moticam BTW microscope tablet and camera system, including software installation, WiFi connectivity, and calibration procedures.
	Moticam X4 Quick Start Guide: Setup and Usage A comprehensive guide to setting up and using the Moticam X4 digital microscope camera, covering installation, parts, and connectivity with various devices.
	Additive Manufacturing Inspection Applications and Light Microscopy Techniques with Motic SM7 Series Explore how Motic's SM7 Series microscopes and Moticam cameras are used for inspection and analysis in Additive Manufacturing (3D Printing), focusing on Powder Bed Fusion processes. Learn about powder material analysis, process analysis, defect detection, and surface analysis.

[Motic SM7 Microscopes for Flat Panel Quality Control]

Explore how Motic SM7 optical microscopes enhance quality control in flat panel electronics manufacturing. This guide details common defects, inspection techniques, and the advanced features of the Motic SM7 series.