

PROMICRA

QuickPHOTO MICRO

Software for digital photomicrography, image editing and measurements designed for biological, life science, and earth science applications

The screenshot displays the QuickPHOTO MICRO software interface. The main window shows a central image of a wasp with a green line segment measuring its length, labeled $L1=13.64\text{ mm}$. A 2 mm scale bar is visible in the bottom right of this image. To the right, a magnified view of the wasp's wing shows a red line segment measuring a specific part, labeled $P4=4.47\text{ mm}$ and $A4=1.54\text{ mm}^2$. A 0.2 mm scale bar is present in the bottom right of this magnified view. Below the main image, a 'Table of Measured Values' window is open, displaying the following data:

Object Type	Measurand	Meas. Nr.	Value	Units	Description	Measurand	Length
Line Segment	Length	1	13.65	mm		Number of Measurements	1
						Minimal Value	13.65
						Maximal Value	13.65
						Average Value	13.650
						Standard Deviation	0.000

The interface also includes a thumbnail browser on the left with four images, a menu bar at the top, and a toolbar at the bottom with options like 'Export Values', 'Hide', 'Undo', 'AI', 'Dimensions', 'Perimeters', 'Areas', 'Angles', 'Objects', and 'Phases'.

QuickPHOTO MICRO

QuickPHOTO MICRO program is designed for acquisition of digital images from microscopes equipped with digital cameras, editing, annotating and saving of acquired images and for measurements. This easy-to-learn program is designed for use especially in biological, life science, and earth science application.

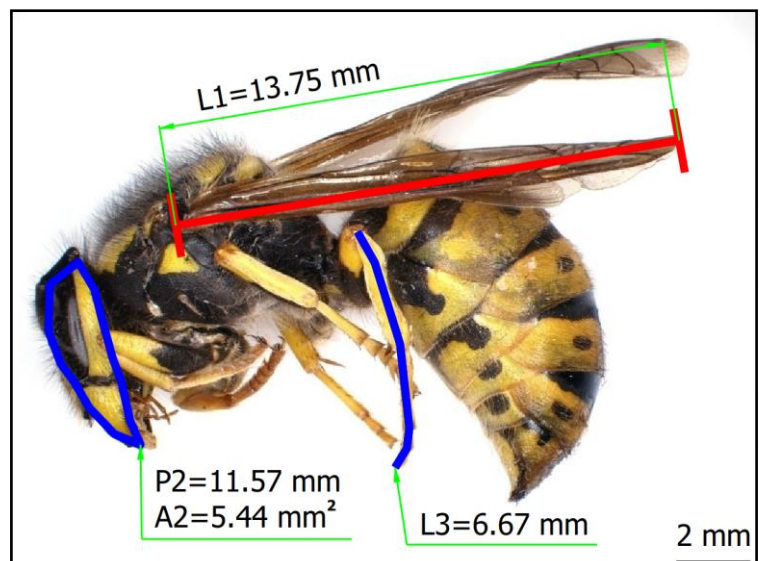
QuickPHOTO MICRO program is equipped with variety of measuring functions: measuring of lengths, perimeters, areas, angles, counting of objects, phase analysis. A built-in time-lapse image acquisition module enables acquisition of images in a predefined time interval.

Main Features Overview:

- **Image acquisition and live view from a wide range of imaging devices:** microscope digital cameras, DSLR cameras, scanners
- **Measurements in acquired images and in live view***
- **Metric and imperial units are supported:** μm , mm, in, mils, thou.
- **Measured values are displayed in a well-arranged table with basic statistics:** number of measurements, min and max value, average value, standard deviation. Particular measurements can be annotated.
- **Measured values can be exported to a Microsoft® Excel® file** (optionally also with the measured image) or a text file.
- **Advanced functions for saving of multiple images at once**
- **Option to automatically save acquired images to a predefined folder right after acquisition**
- **Export of images and tables of measured values to Microsoft® Word reports.** Users can create custom report templates with various layouts and number of images.
- Support for zooming units, magnification changer units and magnification encoders (devices for automatic determination of currently used microscope magnification)
- **Image editing functions, indication and annotation of interesting areas of the image, image descriptions**
- **Advanced printing functions** including interactive preview
- **Automatic time-lapse image capturing** with the options to control computer-controlled illuminators and time-lapse HD video creating
- Option to acquire images using an optional remote trigger
- **Calibrations can be locked with a password protection; the calibrations are protected by a digital signature against unauthorized modifications.**
- Support of work on two-monitor workstations
- **Multilingual, user friendly, adjustable graphical interface in:** English, German, Czech, Slovak, Polish, Spanish, Hungarian, Russian, Ukrainian, Traditional Chinese.
- Option to extend functions with additional modules: Deep Focus, HDR, Image Stitching, RECORD IT, Figure Maker, FLUO+
* Live view measurements are available only for some of the supported imaging devices.

Measuring Functions in Acquired Images:

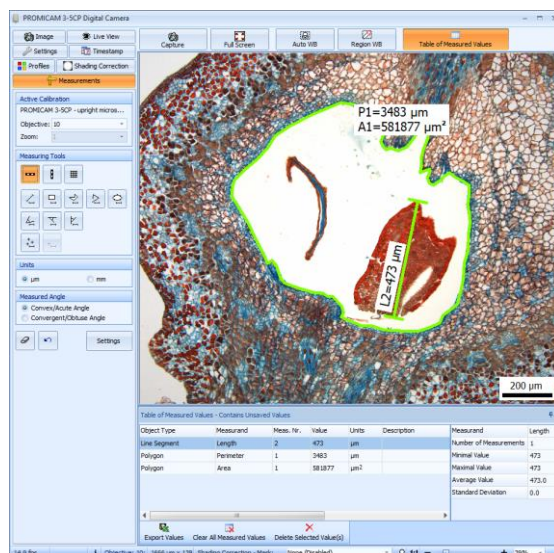
- **Insertion of a calibrated scale bar** - options to define type, size and colors; vertical or horizontal position
- **Measuring of line segment and polyline length**
- **Measuring of perimeter and area of ellipse**
- **Measuring of perimeter and area of rectangle/square**
- **Measuring of perimeter and area of polygon**
- **Measuring of angles:** arbitrary angle, angle from the X axis, angle from the Y axis
- **Manual object counting**
- **Basic phase analysis**
- **Display of a calibrated orthogonal overlay grid**
- Options to define measurands and their labeling for individual measuring tools



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Measuring Functions in a Live View*:

- **Quick measurements directly in a live view** without a need to acquire images first to perform measurements
 - **Insertion of a calibrated scale bar** - options to define type, size and colors; vertical or horizontal position
 - **Measuring of line segment and polyline length**
 - **Measuring of perimeter and area of ellipse**
 - **Measuring of perimeter and area of rectangle**
 - **Measuring of perimeter and area of polygon**
 - **Measuring of angles:** arbitrary angle, angle from the X axis, angle from the Y axis
 - **Manual object counting**
 - **Display of a calibrated orthogonal overlay grid**
 - Options to define measurands and their labeling for individual measuring tools
- * Live view measurements are available only for some of the supported imaging devices.

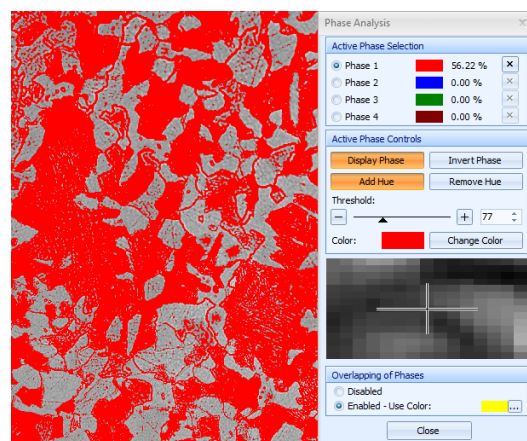


Phase Analysis

This feature enables measuring of percentage amount of a particular phase (color hue or grey level) in an image. Up to four phases can be measured within an image. It is possible to select various colors of displayed phases, add another color hue or grey level to the current phase, invert the phase, set tolerance and overlays. As a result, the percentage amount of each phase in the image is calculated.

Time-Lapse Image Capturing

The built-in *Timer* module enables time-lapse image capturing (automatic image capturing in defined time interval). The *Timer* module is capable to control computer-controlled illuminators. That way the illumination can always be switched on only for the time necessary for image acquisition to prevent a negative long-term effect of the illumination to the specimen.



Time-Lapse Video

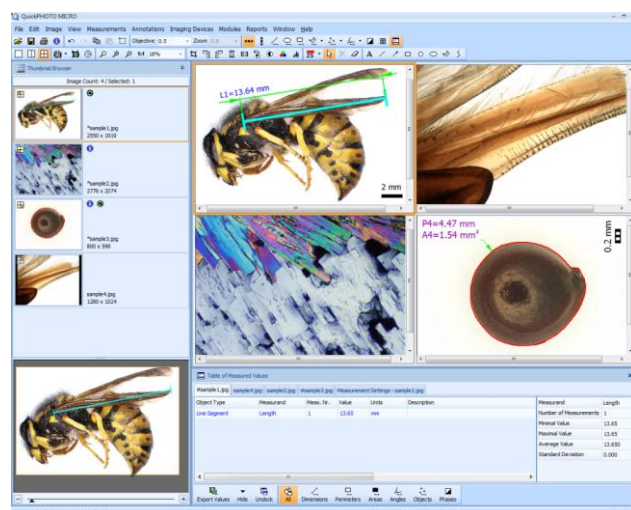
The built-in *Time-Lapse Video* module can be used to create HD video clips (with resolution up to 1920 x 1080 pixels) from time-lapse captured images. For example, when several (or several thousands) images of a slowly moving or changing object are acquired, the *Time-Lapse Video* module can be used to create a video file, in which the movement will be recorded in a speeded-up form.

Image Editing Functions

The images are immediately after acquisition automatically transferred from an imaging device to a computer and prepared for processing in the program's main window. QuickPHOTO MICRO program enables work with multiple images at the same time. For comparison two or four images can be displayed side by side. The *Thumbnail Browser* enables easy switch to another opened image by a single mouse click. The *Navigator* window facilitates work with magnified images.

The images can be edited using the following functions:

- **Crop** - crop size can be defined in pixels or in length units
- **Rotation** 90° clockwise or counter clockwise
- **Flip and mirror**
- **Resize** - new dimensions can be defined in pixels or in percentages
- **Brightness and contrast adjustment**
- **Color balance adjustment**
- **Histogram adjustment**
- **Filters:** sharpen, blur, negative, grey scale, median
- **White balance:** automatic or based on a reference point
- **Black balance** based on a reference point
- **Indication of interesting areas** by line, arrow, ellipse, rectangle, circle and freehand drawing tools
- **Insertion of text annotations**



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The Advantages of Working with Layers

All drawings, measurements and annotations inserted into an image are stored in a separate layer “above the image“. That makes possible to modify (change the line's color and thickness, change the size and position), delete, or hide them at any time. The whole layer with inserted objects can also be deleted or merged with the image. The program enables to undo unlimited number of performed operations.

Microsoft® Word Reports

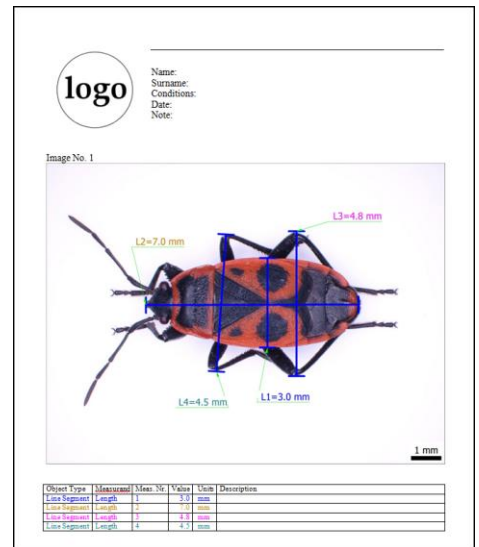
Images with measured values can be easily exported to reports in Microsoft® Word format. The user can create custom report templates with various layouts and number of images. Templates can be created in Microsoft® Word program using standard formatting functions.

Control Panels of Imaging Devices

Each of the supported imaging devices can be controlled by its dedicated control panel. The control panel contains a live view from the imaging device and elements for control of its functions and properties.

Imaging Devices Controlled via TWAIN Interface

Those imaging devices, which do not have their dedicated control panels in QuickPHOTO MICRO program, can be controlled via a TWAIN software interface, if it is available from the device manufacturer. Such devices can also be used in conjunction with built-in *Timer* module as well as with *Deep Focus* z-stacking optional extension module.



Two-Monitor Workstations Support

Two-monitor workstations are supported by QuickPHOTO MICRO program. The main program window can be displayed on a primary monitor, while the control panel of an imaging device can be displayed on a secondary monitor.

Remote Trigger

A remote trigger is an optional accessory which makes image acquisition even more comfortable. The images can be acquired by a press of a trigger button.



Extension Modules

QuickPHOTO MICRO program functionality can be extended by optional additional modules:

- **Deep Focus** – module for creating fully focused images from stacks of partially focused ones (so called focus stacking, z-stacking or Extended Depth of Field imaging). The module use can be motorized and combined with HDR module.
- **HDR** – module for creating of HDR images from bracketed image series (images with different exposures). The module can be combined with Deep Focus and Image Stitching modules.
- **Image Stitching** – module for stitching together multiple images to extend the field of view. The module can be combined with HDR module.
- **RECORD IT** – module for live view real-time video recording.
- **Figure Maker** – module for effortless creating of composite figures with scale bars and labels for publication.
- **FLUO +** – module for multi-color fluorescence image composition.



Minimal System Requirements:

Processor	RAM	USB Ports	Operating System	Minimal Monitor Resolution
Single-core 2.4 GHz or multi-core	1 GB	2x USB 2.0/3.0	Microsoft® Windows® XP(SP3)/Vista/7/8/10	1024 x 768 pixels

Supported Imaging Devices:

Complete list of currently supported devices can be found on the website: www.promicra.com.