PROMON U1000 – High Speed Camera

PROMON U1000 – high speed power via USB3

PROMON U1000 is a high speed camera that connects directly to your PC via a single USB3 cable. The comprehensive software controls image acquisition, instant playback, post recording analysis and file conversion. The high resolution sensor with 2.3 megapixel provides frame rates from 150 fps at full resolution up to 3145 fps by reducing the resolution.

PROMON U1000 is a high speed camera system combination of unique software with state of the art camera hardware. The small USB3 camera delivers high resolution images directly to your PC. PROMON U1000 is ideal for educational purposes and for true mobile applications. This extremely economical high speed camera is the perfect companion when traveling and mobility is of essence. Nevertheless PROMON U1000 with its powerful camera control software leaves no compromise open in view of functionality and offers all advantages of a high speed camera such as circular buffer recording, triggering by external discrete signals or by motion detection. In addition, for longer recording time, you may stream directly to hard disk for minutes or hours making sure to capture the most intermittent events of your measurements. Easy export of data to the most common movie formats is just another one of the many features of the software.

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Unique features

- **Direct to PC** - While observing the scene in the live image PROMON U1000 streams image data directly to your PC RAM or hard disk. The comprehensive software allows making the most demanding recordings and also supports 24/7h recordings.
- **Setup that works** - Camera and software come from the same supplier, install software, connect camera and you are ready to record.
- **Long recording times** - Recording times of minutes or even hours allow to record, analyze and archive a complete process in all detail, important to detect trends and to catch those sporadic and intermitted occurring incidents.
- **Image trigger** - Extends the versatility of your PROMON by letting the camera trigger the system when an incident is visually detected.

PROMON U1000 – Key Specifications

Typical recording times vs resolution/frame speeds

Resolution ▸	Resolution @ fps	Resolution @ fps	Resolution @ fps	Resolution @ fps	Resolution @ fps	Resolution @ fps
	1900x1200@151	1280x720@350	1024x1024@305	800x600@604	640x480@817	320x240@1393
Memory ▾	Recording time	Recording time	Recording time	Recording time	Recording time	Recording time
2 GB RAM	6.2 secs	6.7 secs	6.7 secs	7.4 secs	8.6 secs	20.1 secs
500 GB SSD	26 mins	27 mins	27 mins	30 mins	35.7 mins	83.6 mins

Table shows typical recording time and fps with good PC performance. Recording time in memory depending on available free memory in PC

Typical frame rates vs resolution

	1264	1200	1080	1024	800	720	640	480
1984	139	146	162	170	216	239	267	349
1920	143	**151**	**167**	175	222	246	275	359
1280	206	151	217	252	318	**350**	390	507
1024	250	263	290	**305**	383	422	469	606
640	348	365	402	422	527	578	**641**	**817**

Table shows typical resolution vs. fps, Resolution is freely adjustable within limitations of camera/sensor

Camera/Sensor specifications

Camera Model	USB 3 camera with CMOS sensor
Light Sensitivity	Color: ISO 2400 Mono: ISO 3600
Image Sensor	1984 x 1264 pixel with 8 Bit dynamic range
Sensor Size	4.8 µm pixel size / 2/3" (9.2 mm x 5.8 mm)
Optical Fill Factor	56 %
Shutter Type	Global, independent of frame rate
Exposure Time	Free adjustable from 105 µsec to 1 / fps by software
I/O Interface	Hi-Rose HR10A-7P-6S Trigger Set: AOS Art. Nr. 2200204 (Opto-isolated, 30 V tolerance)
Camera Mount	C-Mount
Temperature	Operating: 0 … +50 °C / +32 … +122 °F Storage: -40 … +70 °C / -40 … +158 °F
Size	30 x 30 x 30 mm / 80 gr 1.18" x 1.18" x 1.18" 0.18lb
Mounting Threads	4 x M2 mounting threads on bottom UNC ¼" on bottom for tripod mounting

PC requirements

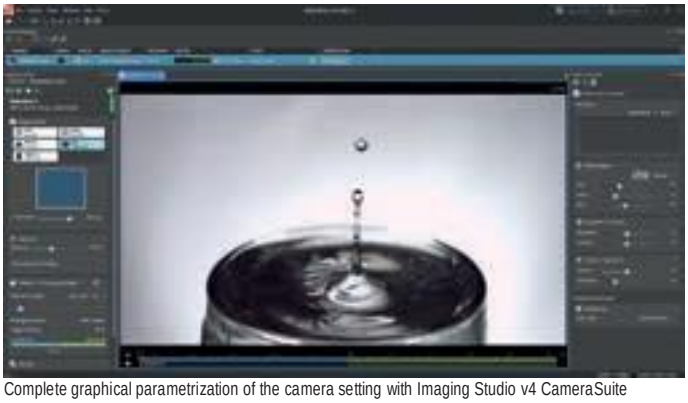
Operation System	Win 7/10 64 bit
CPU	Pentium Core i5 or better
RAM	4 GB or higher (only part of it usable for recording)
Hard Disk	**Separate SSD for image data recording is strongly recommended in order to avoid damage to operation system partition**
Interface	USB3: Full open USB3 interface dedicated for camera Recommended chipset: Intel USB 3.0 eXtensible host controller

Ordering information

510111-00-000	• PROMON U1000 camera color • 3 m USB cable, lockable on camera side • Trigger adapter with BNC connector • Software, manual and documentation > download from aos cloud
510113-00-0000	• PROMON U1000 camera monochrome • 3 m USB cable, lockable on camera side • Trigger adapter with BNC connector • Software, manual and documentation > download from aos cloud
Optional Accessories	• LED lights • Mounts and tripods • Lenses

Software

PROMON U1000 cameras are delivered with comprehensive Imaging Studio v4-software. This modern and intuitive operating software can be installed on any number of computers, in order to edit recorded sequences without a camera, convert these into other formats, or perform further analysis. If connected to a camera, all device and recording parameters can be easy and clearly set. This is software that is unmatched.



Complete graphical parametrization of the camera setting with Imaging Studio v4 CameraSuite

Comprehensive editing- and export function of the recorded sequence with Imaging Studio v4 MovieSuite

Parameters	Camera control, recording settings, playback and file conversion
Auto-store Function	Auto-store function in PC for 24/7 recording supported
Trigger Modes, Positions	Pre-post recording, adjustable by software from 0% to 100% in increments of 1% of total available recording time Re-arm after trigger for instantaneously new recording
File Formats	Recording in AOS native format for performance reasons, conversion to avi, mpeg, mpeg4 single image formats such as BMP, JPEG, TIFF, Gif etc.
Snap Shot	Single snapshot of live images supported
Motion Detection	Motion trigger and motion event marking in file
Auto Exposure	Auto exposure, free adjustable ROI
Event Markers / Bookmarks	Events in the sequence can be tagged by bookmarks for easy orientation / finding
OSD	Information on camera, recording features, time stamp, camera name maybe added in image data, Position of OSD is set by user
Custom Specific	Extended functions for custom specific use are easy to integrate Contact us for further details

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Specifications are subject to change without prior notice – v09.2017