tobii pro /glasses 3

Designed for the real world, our third-generation wearable eye tracking solution allows you to conduct behavioral research in a wide range of settings. Tobii Pro Glasses 3 delivers accurate and robust gaze data while giving users the freedom to move and interact naturally.

What you get with Tobii Pro Glasses 3

High-quality eye tracking
Pro Glasses 3 delivers comprehensive and reliable eye tracking data through a number of innovations.

- The system, with a wide-angle scene camera, covers a large portion of the wearer's field of view, which delivers comprehensive gaze data.
- The integration of eye tracking technology into the lenses allows for optimal positioning of eye cameras and illuminators and removes obstruction from the wearer's line of sight.
- Tobii's patented 3D eye model combined with two eye cameras per eye delivers very accurate gaze data with minimal data loss and robust pupil size estimation.
- Slippage compensation technology and persistent calibration enable robust and consistent eye tracking data throughout recordings, even if the glasses move on the participant's head, or are taken off and on.

Successful tracking of most people
Like all our eye trackers, Pro Glasses 3 can be successfully used on a very large proportion of the population regardless of their eye color or shape. This is also supported by a range of product accessories.

- Three interchangeable nose pads which ensure optimal fit for different wearers.
- Snap-on corrective lenses to cater for people with vision impairment.

Ability to withstand the elements
Pro Glasses 3 can withstand a range of environmental conditions thanks to optional add-ons and smart design.

- Add-on protective lenses (clear and tinted) that support research in bright environments and locations requiring protection for the Pro Glasses 3. The tinted version is IR blocking.
- A lightweight and robust design ensures the glasses can be worn easily under helmets and other protective gear.

Synchronization options
Get more from your research by combining eye tracking data from Pro Glasses 3 with other biometric measurements.

- Accurately sync eye tracking data with EEG, NIRS, GSR, motion capture systems, respiration rate, and heart rate monitors.
- Utilize a range of online and offline synchronization methods, like TTL, TCP/IP, and NTP while maintaining the highest level of sync with very low latency.

Software to support your work from beginning to end
We have a complete solution for your eye tracking research workflow. Start/stop recordings and view them live on your mobile or other device via our app, and then easily import them into our software for analysis.

- The Glasses 3 controller app works on macOS, Android, and Windows and allows you to wirelessly view eye tracking recordings in real time.
- Recorded data can be easily exported into Tobii Pro Lab for deeper analysis. This software includes tools for assisted mapping of data to snapshots, visualizations, and extracting statistics.
- The Tobii Pro Glasses 3 API allows you to build custom solutions and integrations. All data is accessible live through the API, which uses standard protocols to make it easy to consume, for example, with video stream available over WebRTC and RTSP.

Technical specifications

Eye tracking

Eye tracking technique	Corneal reflection, dark pupil, stereo geometry
Binocular eye tracking	Yes
Sampling rate	50 Hz or 100 Hz
Calibration procedure	One point
Parallax compensation tool	Automatic
Slippage compensation	Yes, 3D eye tracking mode
Pupil measurement	Yes, absolute measure
Accuracy	0.6°

Head unit

Material	Grilamid plastic, stainless steel, optical-grade plastic lenses
Nose pad	Grilamid plastic, with clip on attachments
Scene camera, video resolution	1920 × 1080 at 25 fps
Scene camera, video format	H.264
Scene camera, field of view (diagonal)	106 deg. 16:9 format
Scene camera, field of view (horizontal and vertical)	95 deg. horizontal / 63 deg. vertical
Weight	76.5 grams including cable
Frame dimensions (width ×depth ×height)	153 ×168 ×51 mm
Cable length	1200 mm
Audio	16-bit mono, integrated microphone
Design characteristics	Lightweight and discreet
Number of eye tracking sensors	4 sensors (2 per eye)
Fixed geometry	Yes
Sensors	ST™ LSM9DS1 sensors: Gyroscope and Accelerometer (sampled at 100 Hz); Magnetometer: (sampled at 10 Hz)
Input voltage and current rating	5.5Vdc max, 0.5A

Recording unit

Battery recording time	105 min.
Battery type	Rechargeable 18650 Li-ion, Capacity: 3400 mAh
Storage media	SD (SDXC, SDHC) card
Connectors	Micro USB, RJ45 (Ethernet), 3.5 mm jack (sync port), head unit connector
Dimensions (height x width x depth)	130 x 85 x 27 mm
Weight	312 grams
Sync Port	3.5 mm jack (TTL signal)

Accessories*

Corrective Lenses
Clear Protective Lenses
Tinted Protective Lenses with IR blocking
Motion Capture Marker Set

Corrective Lenses*

Corrective Lenses	32 pieces, ranging from –5.0 dpt. to +3.0 dpt. in increments of 0.5 dpt. Made of optical-grade plastic with hard coating
Dimensions (height x width x depth)	80 x 270 x 370 mm (complete kit)
Weight	1150 grams (complete kit)

Pro Glasses 3 controller app — system requirements

Operating System	Windows 10 64-bit Professional or Enterprise, version 2004	Android OS version 9 or later	macOS 11 (Big Sur)
CPU	Intel® Core™ i5 dual core or later	Snapdragon 835 (8 cores, 2.0 GHz) or equivalent	Intel Core i-series
RAM	8 GB	6 GB	8 GB

Analysis software

Tobii Pro Lab*
Tobii Pro Glasses 3 API
Any application built on Pro Glasses 3 API

*purchased separately.

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DESIGN AWARD 2021

Tobii Pro provides eye tracking research solutions and services designed to deepen understanding of human behavior. Headquartered in Sweden, with local teams active on six continents, we help business and science professionals to further their research.

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