

## BINOCULAR AUTOREFRACTOR AND SCREENER

since 2001

 made  
in  
Germany



Accurate



Award-  
winning



Reliable



Compatible

## SPECIALIST IN PHOTOREFRACTION

Plusoptix was founded in 2001 and has been dedicated to the development of binocular handheld photorefractors since the very beginning. All product development (hard- and software) as well as manufacturing is performed in-house at our Nuremberg, Germany headquarters.

Because of long-term experience in the development of binocular photorefractors, Plusoptix devices deliver outstanding measurement accuracy, as well as highest product quality, marking it with the seal of quality Made in Germany. Along with this promise, Plusoptix offers many solutions for optimal process integration and connection with your Electronic Medical Record and strives to provide state-of-the-art customer service.

### Basic features in all devices:

- ✕ Simultaneous measurement of both eyes
- ✕ 1 meter (3.3 feet) working distance  $\pm 5\text{cm}$  ( $\pm 2\text{ in}$ )
- ✕ 0.5 second acquisition time
- ✕ Full refraction recording,  
i.e. sphere, cylinder, and axis
- ✕ Interpupillary distance, and pupil size readings
- ✕ Eye alignment, and asymmetry of gaze assessment

Binocular measurements from 1 meter (3.3 feet) away in less than 1 second enable measurements in infants (6 months and older). Therefore Plusoptix devices are often referred to as pediatric, but there is no limitation to children. Adults can be measured as well.



## ACCURATE

In photorefractometry, measurement results are derived from brightness patterns in the pupil in a manner similar to retinoscopy. Therefore three components are key to an accurate measurement:

### χ Optimal illumination

Plusoptix devices use a unique 54 LED strong flashlight. This optimally illuminates the pupil.



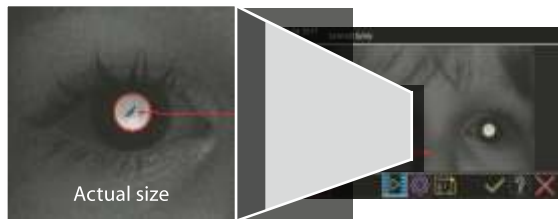
### χ Accurate measurement algorithm

Numerous peer-reviewed clinical studies validate that Plusoptix devices consistently deliver highly accurate refraction recordings.

Plusoptix devices take measurements automatically, when measurement prerequisites (i.e. distance, pupil size and eye alignment) are being met. Measurements are always accurate. There is no need to repeat it.

### χ High-resolution camera

The quality of a Plusoptix photo is not limited to simply derive refractive recordings. It enables an experienced user to identify media opacities within the pupil.



## AWARD-WINNING

Plusoptix devices have been awarded for their child-friendly appearance. The iconic smiley face and the attention grabbing warble sound attract an infants attention and lessen fears about the measurement.



reddot award 2014  
winner

*The friendly appearance of this auto refractometer instills trust and encourages children to get involved in the examination in a playful way.*

*(RedDot Award Jury)*



*A lovely tool that takes focus not only on technology and ergonomics in its design, but also the needs of the child being treated.*

*(GermanDesignAward Jury)*





## RELIABLE

The hardware design of Plusoptix devices is striving for safety, ergonomics, and reliability. Plusoptix devices meet all relevant standards as a medical device, and have passed independent testing. Guaranteeing the safety of patients and users is our main priority.

Main characteristics of the ergonomic design of Plusoptix devices are a lightweight, but sturdy design, a solid handhold for a secure grip, and a tilted touch screen for a comfortable posture of the head.

The latest Plusoptix devices have no moving parts, and therefore no physical wear and tear. They neither need to be serviced nor calibrated. Mobile models use standard AA size, rechargeable batteries that are easy to access, and inexpensive to exchange.



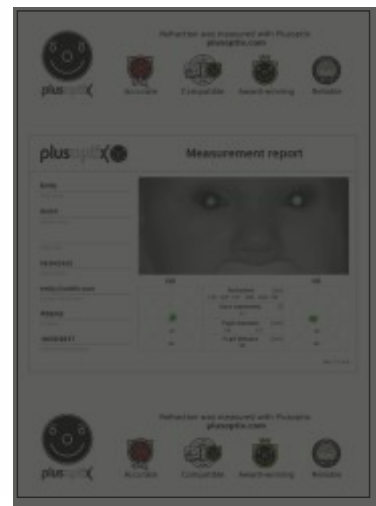
## COMPATIBLE

A seamless integration of new equipment in the existing workflow is crucial. Therefore, Plusoptix offers mobile and stationary models to choose from, and measurements can be documented on paper, or electronically.



Mobile models plusoptiX 12C, and plusoptiX 12R both run on rechargeable, standard AA size batteries. In case they run out of battery power, they are operational while charging. The model plusoptiX 12C can be connected to a computer network (WLAN), for a full integration with an Electronic Medical Record System (i.e. automated patient data import, and readings export). Once connected, letter size measurement reports can be printed on any already existing network printer, or PDF files can be manually attached to electronic patient files. For paper files, self-adhesive labels can be printed with optional wireless label printer plusoptiX P12.

Basically plusoptiX 12R offers the same documentation features as plusoptiX 12C. If a WLAN connection to a computer network is not required, plusoptiX 12R is an inexpensive alternative to consider.



# DEVICE VERSIONS



## Vision Screener

The purpose of a Plusoptix Vision Screener is to empower primary health care providers to detect most prevalent vision disorders in children as early as possible.

- ✕ Pass or Refer screening result
- ✕ Analysis of Hyperopia, Myopia, Astigmatism, Anisometropia, Anisocoria, and Eye alignment
- ✕ Recommended by 2016 AAP Policy statement Visual System Assessment in Infants, Children, and Young Adults by Pediatricians



## Binocular Autorefractor

The purpose of a Plusoptix autorefractor is to provide baseline refraction in the context of an entry exam.

- ✕ Accurate recordings of astigmatism, cylinder, axis, myopia, and anisometropia, even in un-dilated pupils
- ✕ Binocular and monocular readings (e.g. in strabismic or aphacic patients)
- ✕ Delegable measurement (application by ophthalmic technician saves precious chair time)
- ✕ Possibility to measure over glasses and contact lenses

Every Plusoptix device shares the very same measurement technology and algorithm, and therefore accuracy of measurements is the same across all available device models.

## EXCLUSIVE DISTRIBUTOR IN INDIA



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# AVAILABLE MODELS



reddot award 2014  
winner



MEASUREMENT VALUES	12C	12R
Measurement Technology	Binocular infrared photorefracton with unique 54 LED illumination	
Measurement range	-7.00 to +5.00 dpt in 0.25 dpt increments	
Pupil size	4.0 to 8.0 mm in 0.1 mm increments	
Acquisition time	dynamic, in average 0.5 sec.	
Measuring distance	1 m ± 5 cm (3.3 ft ± 2 in)	
Fixation target	Warble sound and Smiley face	
Certifications	FDA (USA), Health Canada (Canada), CE (Europe)	
Standards	EN 60601 -1	
TECHNICAL DATA	12C	12R
Touchscreen operation	5.7 Inch (capacitive)	4.3 Inch (resistive)
Weight	1.0 kg (35.3 oz)	0.8 kg (28.2 oz)
Interfaces	2x USB, IR, SD WLAN	
Power supply	6x rechargeable AA batteries	
Voltage / Frequency	100 - 120 V / 220 - 240 VAC / 50 - 60 Hz	