

REFRACTOR 900

Technology you trust, design that delivers

Look closer. See further.

 HAAG-STREIT
DIAGNOSTICS

REFRACTOR 900

Reliable. Fast. Accurate.

Haag-Streit's legacy of high-precision mechanics spans over 165 years, and the Refractor 900 is the latest expression of that legacy. By combining trusted, high-quality components, ensuring stability and performance, with advanced vision testing technology and an innovative design, our digital phoropter brings a new level of performance to today's modern practice. Built to handle the demands of busy clinics, the Refractor 900 ensures reliable, fast, and accurate refractions – a trifecta that helps you maintain confidence in every prescription.

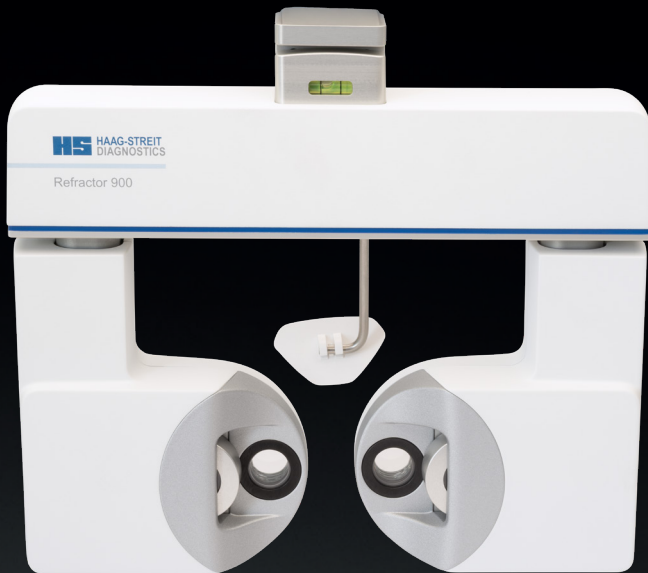
Comfort by design

Beyond its robust mechanics, the Refractor 900 offers a compact, slim design focused on user ergonomics and patient comfort. Its intuitive control panel and near-silent lens changes reduce distractions and minimize hand movements, creating a smoother exam process for both practitioner and patient.

Future-ready connectivity

Seamless, secure integration with EMR systems, diagnostic devices, and vision testing tools further sets the Refractor 900 apart. The optional Converter Box enables compatibility with a wide range of clinical setups, while one-button data exchange reduces manual entry and errors – freeing you to focus on delivering personalized care.

In short, the Refractor 900 is more than an instrument – it is a complete digital refraction solution, delivering everything a manual phoropter can do and more. It embodies our commitment to quality and innovation, making it a strategic investment for practices focused on efficiency, patient satisfaction, and the optical precision that defines Haag-Streit.



Confidence in every refraction

Accelerate your refraction workflow without compromising on accuracy or reliability. Designed for today's busy eyecare professionals, the Refractor 900 delivers results you can trust. Its robust construction ensures reliable performance. Features like ultra-fast lens changes, precise 1/8 diopter adjustments, and real-time VD imaging support fast and accurate prescriptions.

Smart & ergonomic

The Refractor 900 features a slim design with flexible setup options to fit any space. Its intuitive touchscreen and ergonomic button layout enable smooth, efficient operation. A quiet motor and transparent lens carrier help reduce distractions, creating a calmer, more comfortable experience for both patient and practitioner.



Secure & seamless integration

The Refractor 900 ensures seamless EMR integration and efficient data exchange, reducing manual input and errors. Multi-device compatibility brings all your diagnostic data together, while direct control of vision testing tools streamlines exams – keeping your workflow connected, organized, and running smoothly from start to finish.

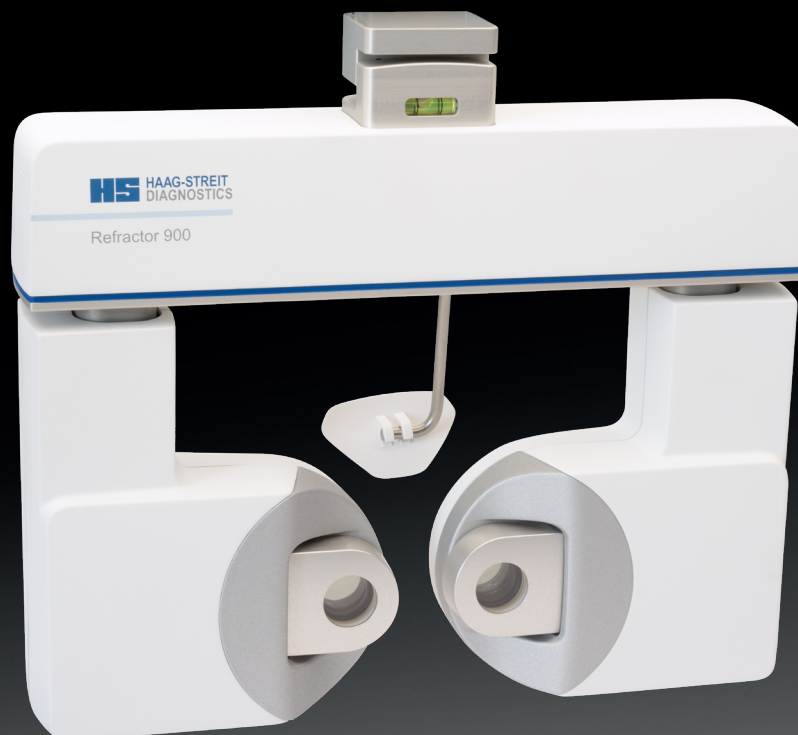
Robust, efficient & precise The complete digital refraction solution

In a busy clinical environment, you need a phoropter that keeps pace without compromising quality. The Refractor 900 is built with robust engineering to deliver reliable performance day after day, helping you maintain a steady patient flow without worrying about downtime. At the same time, its digital features streamline the refraction process, significantly reducing manual effort.

Yet reliability and speed only tell part of the story. Accuracy is also essential, and the Refractor 900 excels by offering fine adjustments in 1/8 diopter increments in both sphere and cylinder – allowing

practitioners to precisely refine each prescription. Its optical design, with a wide aperture and short optical path, minimizes tunnel vision and reduces the risk of instrument myopia.

This careful integration of advanced digital control and superior optics ensures that every measurement – whether for simple refractions or complex prism corrections – is consistently accurate. In doing so, the Refractor 900 addresses the everyday challenges of eye care professionals, providing a powerful tool for achieving precise, high-quality outcomes.



RELIABLE

Built to last

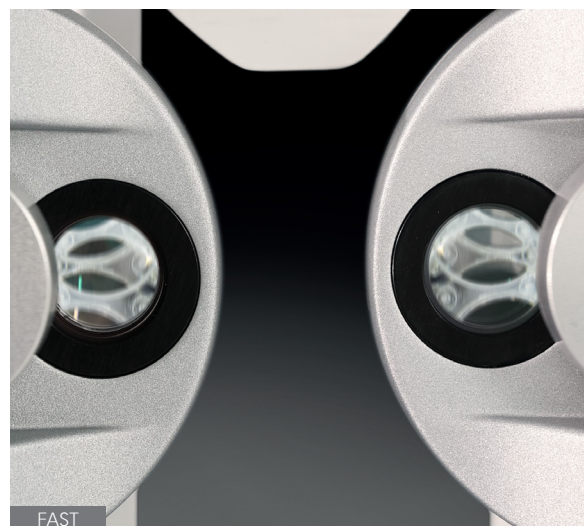
The Refractor 900 is designed and engineered to perform consistently to meet the demands of a busy clinical environment. Its robust mechanical design is built to withstand up to one million movements, minimizing downtime and the need for time-consuming maintenance – so your practice continues running smoothly. This robust construction ensures that the Refractor 900 maintains the high-quality and consistent performance for which Haag-Streit is known – providing peace-of-mind in any practice setting.



FAST

Accelerate your workflow

Refraction should be fast and intuitive; the Refractor 900 delivers both. As a digital phoropter, it minimizes the manual adjustments required by traditional devices, allowing you to shorten exam times. Ultra-fast (120ms) lens changes and an innovative transparent lens carrier help reduce patient eye accommodation. For a quick determination of astigmatism, the Refractor 900 is equipped with a cross-cylinder function with Stokes technology. The result is a more efficient refraction that benefits both practitioners and patients.



ACCURATE

Precision you can count on

The Refractor 900 enables refined prescriptions by offering 1/8 diopter increments in both sphere and cylinder, allowing close alignment with each patient's needs. Its wide aperture and short optical path minimize tunnel vision and reduce the risk of instrument myopia, promoting consistently reliable results.

An integrated video stream provides real-time imaging of the patient's eye, simplifying cornea-to-vertex distance (VD) measurements – especially important in high-prescription cases. These features ensure that the Refractor 900 delivers the precision that practitioners demand.



Smart design

Developed for seamless operation & patient comfort at every step

Designed with both practitioner and patient in mind, the Refractor 900 supports a more efficient, comfortable, and reassuring refraction process from start to finish. Its configurable system allows you to tailor the setup to meet your specific clinical requirements.

The Refractor 900's intuitive user interface streamlines operation with large, clearly labeled icons, customizable settings, and minimal hand movements – all contributing to reduced operator fatigue. This thoughtful design lets practitioners focus on the patient rather than navigating complex menus or repeating steps, making each exam both quicker and more personalized.

Features such as quiet lens changes promote a calm exam environment, while motorized positioning and ergonomically placed controls enhance ease of use. From the overall interface layout to the near-silent motor operation, every detail reflects a commitment to smart, functional design.

The result is a refined, user-friendly experience that delivers accurate results without sacrificing speed, comfort, or workflow efficiency.



DESIGNED FOR TODAY'S MODERN PRACTICE

Tailored to your individual needs

Offering flexible setup options and optional modules, the Refractor 900 adapts to a wide range of clinical needs. Its compact, modern design saves space, while fully motorized positioning minimizes manual adjustments and ensures a comfortable distance between patient and practitioner. Optional modules – such as a prism compensator – and the ability to operate via PC or tablet add even more versatility.

Whether upgrading from a manual system or integrating multiple diagnostic devices, the Refractor 900 blends smoothly into your workflow, providing the adaptability and efficiency today's practices demand.



DESIGNED FOR TODAY'S MODERN PRACTICE

DESIGNED FOR EFFORTLESS OPERATION

Intuitive controls at your fingertips

From the first interaction, the Refractor 900 is designed for ease of use. Its ergonomic control panel places essential key buttons and tests exactly where needed, minimizing hand movement and reducing physical strain. A multi-function wheel enables smooth, one-handed operation, while the 10.1-inch touchscreen presents an intuitive, organized interface with clearly highlighted menu icons.

Packed with features to enhance your workflow, the Refractor 900 supports customizable refraction sequences and pre-programmed settings, helping practitioners save time and streamline every exam.



DESIGNED FOR EFFORTLESS OPERATION

DESIGNED FOR PATIENT COMFORT

Comfortable testing, confident results

The Refractor 900's compact, modern design contributes to a more comfortable and patient-friendly experience. Its near-silent motor minimizes distractions during lens changes, promoting a calm exam environment. A transparent lens carrier reduces visual disruptions and eye accommodation, helping patients compare lenses more naturally. Examinations can be performed at a comfortable distance for both patient and practitioner.

A one-button comparison clearly shows changes in prescription, encouraging more informed discussions and reinforcing confidence in the results.



DESIGNED FOR PATIENT COMFORT

Frictionless connectivity

One connected platform for a more efficient workflow

Efficient data exchange is essential for streamlined patient record management and optimized workflows in modern eye care. The Refractor 900 meets this need by seamlessly integrating with EMR systems, multiple diagnostic devices, and Haag-Streit's optional Acuity Chart 900. This seamless integration ensures that patient information is consistent across all systems, increasing both speed and accuracy.

Whether you need one-button EMR integration, multi-device compatibility, or direct control of your vision testing display, the Refractor 900 provides a comprehensive solution that saves time and keeps your data readily available – all within a fully connected platform.



SEAMLESS EMR INTEGRATION

Efficient data exchange

The Refractor 900 integrates effortlessly with most industry-standard EMR systems, enabling one-button import and export of refraction data. It eliminates compatibility gaps by automatically transferring refraction values and past exam records – no manual entry required. This efficient data exchange keeps vital patient information readily accessible.

For practices with intermittent network connectivity, secure NFC cards provide a portable way to transfer patient data between devices, further minimizing manual input and reducing errors.



SEAMLESS EMR INTEGRATION

MULTI-DEVICE COMPATIBILITY

All your data in one place

Designed to work with a wide range of diagnostic instruments – including autorefractors, lensmeters, and keratometers – the Refractor 900 automatically consolidates critical measurements into a unified platform. Its optional Converter Box enables automated data integration from multiple sources, including older third-party devices, ensuring compatibility and easy comparison of key refraction values and patient history.

This streamlined data access supports quick comparisons and faster, better-informed clinical decisions.

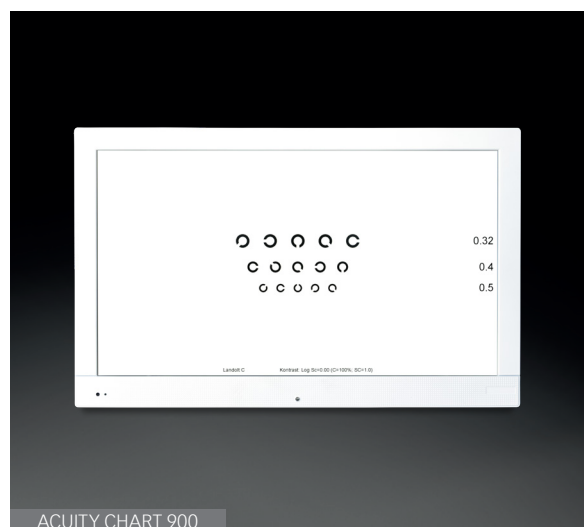


MULTI-DEVICE COMPATIBILITY

ACUITY CHART 900

Streamlined vision testing

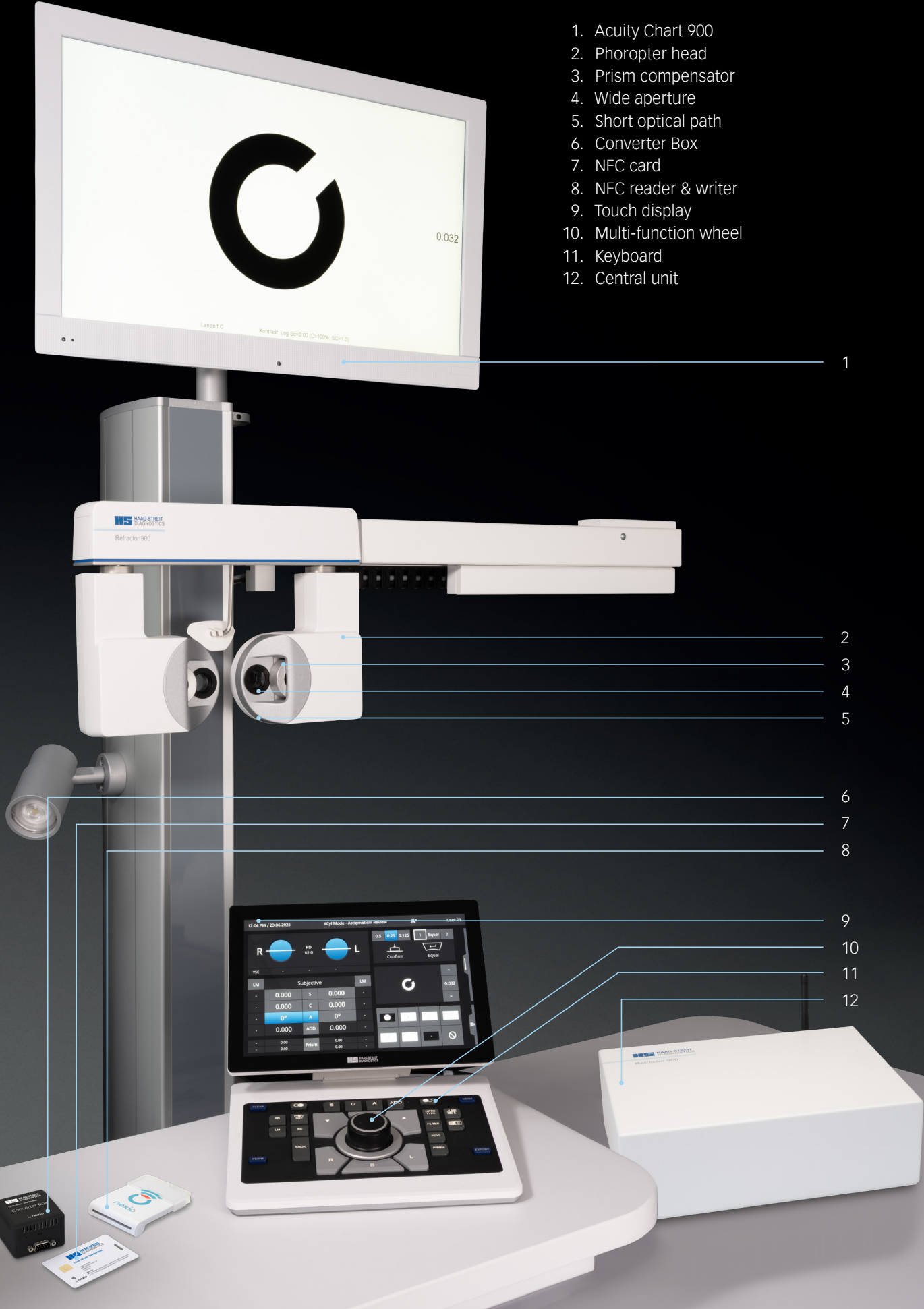
Haag-Streit's optional new Acuity Chart 900 features a 24-inch monitor with both polarized and non-polarized options, providing a versatile solution for vision testing. Directly controlled via the Refractor 900's control panel, it eliminates the need for a separate remote, thus streamlining your workflow. With a range of standard optotypes available, you can easily display and adjust test symbols at the touch of a button.



ACUITY CHART 900

Refractor 900

- 1. Acuity Chart 900
- 2. Phoropter head
- 3. Prism compensator
- 4. Wide aperture
- 5. Short optical path
- 6. Converter Box
- 7. NFC card
- 8. NFC reader & writer
- 9. Touch display
- 10. Multi-function wheel
- 11. Keyboard
- 12. Central unit



Technical specifications

Refractor 900

Power supply

Type	SL Power Electronics Corp.
Model	SLE65S2403N01
Mains voltage	100 – 240 VAC
Current consumption	64.8 VA
Operating frequency	50 – 60 Hz

Control panel

Dimensions L x W x H	241 x 280 x 213 mm
Screen resolution	1280 x 800
Screen resolution (inch)	10.1
Adjustment angle of screen	30 – 45°
Weight	2.5 kg

Phoropter head

Spherical power	Adjustment range	20 to -20 dpt
	Adjustment steps	0.125, 0.25 & 1.0 dpt
Cylinder power	Adjustment range	0 – 8 dpt
	Adjustment steps	0.125, 0.25 & 1.0 dpt
Axis	Adjustment range	0° – 179°
	Adjustment steps	1° & 10°
Cross cylinder	Adjustment steps	0.125 / 0.25 & 0.5 dpt
Prism power*	Adjustment range	0 – 20 cm/m
	Adjustment steps	0.25 & 1 cm/m
Corneal vertex distance (CVD)	Marker position	16 mm
	Marker position tolerance	± 0.15 mm
Forehead support	Marker position	0 – 20 mm
	Marker position tolerance	0.1 mm
Pupil distance (PD)	Adjustment range	48 – 80 mm
	Adjustment steps	0.1 & 0.5 mm
Pupil height (PH)	Adjustment range	0 – 13 mm
	Adjustment steps	0.5 & 1.0 mm
Convergence	Position	400 mm
Leveling		Spirit level for centre connection
Free aperture		23 mm
Thickness of the housing at the viewing opening		26 mm
General data	Dimensions L x W x H (with PD = 64mm)	309 x 75 x 235 mm
	Refractor 900 weight	3.3 kg
	Refractor 900 weight with prism	3.3 kg
	Refractor 900 weight (connection R or L)	3.3 kg
	Refractor 900 weight with prism (connection R or L)	3.3 kg

*only Refractor 900 with prism

Minimum network requirements

Minimum network requirements for communication:	LAN	100 Mbit/s
	WLAN	100 Mbit/s, 2.4 GHz frequency band

Minimum security requirements

Minimum security requirements for communication:	LAN/WLAN protocol	RFC 2616 HTTP/1.1
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Wireless communication

Module	Raspberry Pi RM0
Frequency	2.4 GHz (2.400 GHz to 2.495 GHz)
	5 GHz (5.150- GHz to 5.825 GHz)
	The range may vary depending on the country
Power of WLAN (2.4 GHz & 5 GHz)	20 dBm (100 mW)
Power of Bluetooth (2.4 GHz)	10 dBm (10 mW)

Central unit

General data	
Dimensions L x W x H	200 x 270 x 90 mm
Weight	2.8 kg
Electrical	
Input voltage	24 VDC / ±5%
Power	2.7 A / 64.8 VA
Fuses	2 x T3.15 AH / 250 V
Ports	
Phoropter	PoE
Control panel	PoE
Acuity Chart 900	Bluetooth
EMR system	RJ45
Converter Box	RJ45
NFC system	USB



HAAG-STREIT AG

Gartenstadtstrasse 10
3098 Koeniz
Switzerland
Phone +41 31 978 01 11
Fax +41 31 978 02 82
info@haag-streit.com
www.haag-streit.com