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## SMART DR<sup>®</sup> 19

AUTO DIGITALIZED REFRACTOR

Bluetooth

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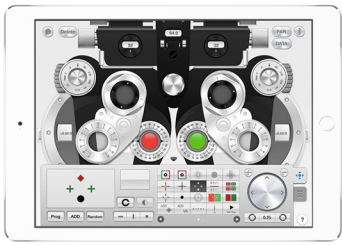


## SMART DR-19 provides accuracy and convenient vision test



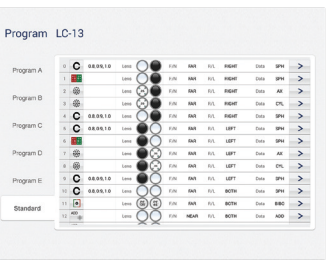
### Compatible Control

Both Digital/Manual Phoropter mode and vision test chart, LED visual chart, and unit table can be controlled in one screen. The total refraction time is reduced significantly. / Patent No. KR10-1390286 / US 9,241,621 B2



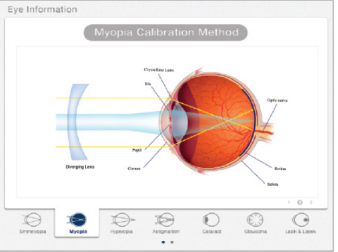
### Manual Operation Mode

Manual Operation Mode provides full practical experience to users who are familiar with manual phoropter. / Patent No. KR10-1390287 / US 9,241,621 B2



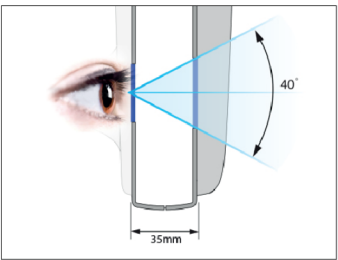
### Basic inspection program / user setting program function

A standard program with 16 automatic inspection is provided, and five types are provided for the inspector to set up the inspection program directly, and the program corresponding to each of the maximum 20 steps can be saved for efficient and comfortable inspection.



### Information about Eye Care

Educational pages are useful to explain symptoms, causes, or treatment for the eye care such as refraction errors (astigmatism / myopia/hyperopia), cataract, and glaucoma.



### Wide Viewing Angle

Simmer body thickness allows patients to enjoy 40° of wide viewing angle. Convenient testing is available since both PD value and each eye's PD value can be checked by using our application.

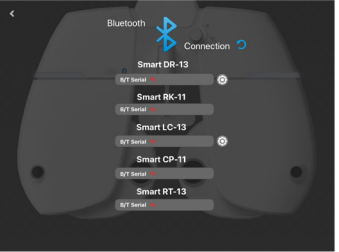


### Use of the Auxiliary Lens

The refraction time is reduced significantly with the one-touch using of the auxiliary lens and test window open/close function.

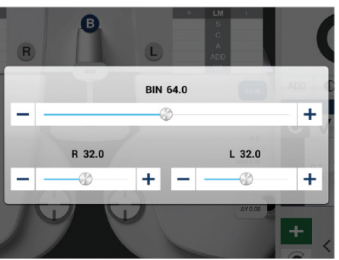
### Dual Cross Cylinder

Precise and easy testing of astigmatic test is assured by using Jackson Cross Cylinder and Dual Cross Cylinder.



### SMART SERIES Connection

Bluetooth connection increases the connectivity of the optometry devices of RK-11, CP-11, LC-13 and RT-13. Data can be diagnosed easy and fast.



### One Step PD meter control

Adjustment of Binocular and Monocular can be controlled on the same sequence. PD adjustment can be easy and fast.



### Friendly UI design

Its intuitive users interface design makes it easy for anyone to understand and use.

## DR-19 Specification

Measurement Range	
Spherical Lens	<ul style="list-style-type: none"><li>• -29.00 ~ +26.75D</li><li>(0.12 / 0.25 / 0.5 / 1 / 2 / 3D increments)</li><li>• -19.00 ~ +16.75D (Cross cylinder, Prism)</li></ul>
Cylinder Lens	<ul style="list-style-type: none"><li>• 0.00 ~ ±8.75D (0.25 / 5 / 1 / 2 / 3D increments)</li></ul>
Cylinder Axis	<ul style="list-style-type: none"><li>• 0 ~ 180° (1 / 5 / 15 / 30 / 45° increments)</li></ul>
PD (Pupil Distance)	<ul style="list-style-type: none"><li>• 48 ~ 80mm (In distance mode</li><li>0.5 / 1.0 mm increments)</li><li>• Near PD 50 ~ 74mm</li><li>(Near working distance : 30~70cm)</li></ul>
Rotary Prism	<ul style="list-style-type: none"><li>• 0 ~ 20Δ (0.1 / 0.2 / 0.5 / 1 / 2Δ increments)</li></ul>
Cross Cylinder Lens	<ul style="list-style-type: none"><li>• ±0.25D, ±0.50D, ±0.25 Dual Cross Cylinder Lens</li></ul>
Retinoscope	<ul style="list-style-type: none"><li>• +1.5D, +2.0D</li></ul>
View Angle	40° (at VD: 12mm)
Auxiliary Lenses	
Pin Hole Lens	φ2mm
Moddox Rod	Right eye (Red, Horizontal), Left eye (Red, Vertical)
Red/Green Filter	Right eye (Red), Left eye (Green)
Split (dissociation) Prism	Right eye (6ΔBU), Left eye(10ΔBI)
Fixed Cross Cylinder Lens	±0.50D (Fixed with the Axis set at 90°)
Dimensions	
Main Body	420 [W] X 110[D] X 280/310 with bracket[H]mm / 4kg [8.81lbs]
Junction Box	92(W) * 32(D) * 61(H) mm / 500g
Power Supply	AC 100 ~ 240V, 50 / 60 Hz (Free Voltage)
Power Consumption	130VA
Controller	
Smart Pad ( iPad, Android Tablet )	
Interface	Bluetooth



### Near Vision LED Illumination

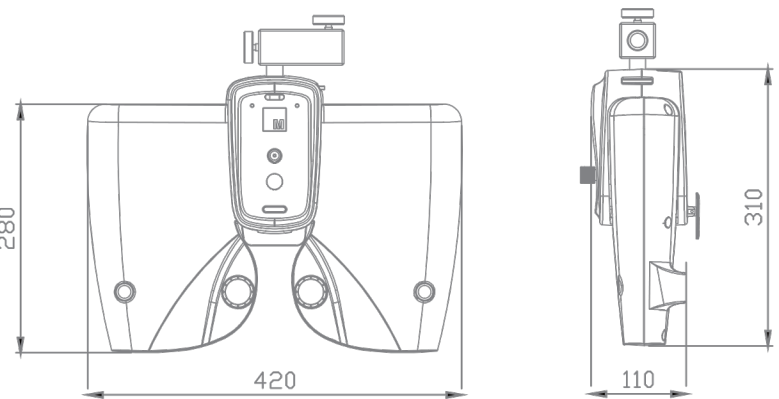
LED illumination from the body helps patients to recognize the near vision chart clearly even in dark refraction room.



DR19 front



DR19 back



## SMART DR® 19

### Wide Range of Measurement

Systematic optometry is able using Spherical lens ranging from -29.00D to +26.75D and Cylinder lens ranging from 0 to ± 8.75D. 0.1Δ of delicate and precise increment of rotary prism that goes up to 20Δ and automatic open/close feature assures heterophoria can be measured accurately.