

Product Specifications

BXαRCLED Specifications

Product Name	LED Direct Ophthalmoscope BXαLED
Generic Name	Direct Ophthalmoscope
Illumination Source	L-101 (a customized LED bulb)
Correction Range	-36 D to +35 D (in increments of 1 D)
Filters (Illumination system)	Polarizing filter, Red-free filter
Observation Polarizing Filter	ON/OFF
Illumination Dial	Normal aperture, Small aperture, Slit, Concentric scale, Cobalt blue filter
Battery	1 pc. Lithium-ion battery (rated voltage 3.6V, 3200mAh)
Maximum Power Consumption	Below 2W (with the head attached)
Dimensions and Weight	45(W)×223(H)×34(D) Approx.230g (including the rechargeable battery)

BXαRCLED Classification

Degree of protection against electric shock	Internally powered ME equipment
Applied parts	No applied parts
Degree of protection against harmful ingress of water or particulate matter	IPX0
Method(s) of sterilization	Do not sterilize.
Suitability for use in an oxygen rich environment	Do not use in oxygen rich environments.
Mode of operation	Continuous operation
Light hazard (ISO 15004-2)	Group 1 (No potential light hazard exists.)

RC-III Specifications

Product Name	Charging Stand RC-III
Input power supply	AC 100V -240V / 50Hz -60Hz, 0.3A
AC adapter output	USB Type A connector DC 5V / 2A (maximum)
USB cable	Type A to C, 1.5m (with overheat and over current protection)
Power consumption	Below 30VA (while charging)
Dimensions and Weight	60(W)×60(H)×60(D) Approx. 175g (excluding the AC adapter)

RC-III Classification

Degree of protection against electric shock	Class II ME equipment
Applied parts	No applied parts
Degree of protection against harmful ingress of water or particulate matter	IPX0
Method(s) of sterilization	Do not sterilize.
Suitability for use in an oxygen rich environment	Do not use in oxygen rich environments.
Mode of operation	Continuous operation

Applied Standards

Electric Safety	IEC 60601-1:2020
Electromagnetic disturbances	IEC 60601-1-2:2020
Usability engineering	IEC 62366-1:2020
Alarm system	IEC 60601-1-8:2020
Biological evaluation	ISO 10993-1:2018
Ophthalmic instruments	ISO 15004-1:2020, ISO 15004-2:2007, prISO 15004-2:2024
Direct ophthalmoscopes	ISO 10942:2022
Medical device software	IEC 62304:2015
Battery regulation	2023/1542/EU
Hazardous substances	2011/65/EU and 2015/863/EU

Environmental Conditions

	Use	Storage	Transport
Temperature	+10 °C to +35°C	-10 °C to +55°C	-10 °C to +60°C
Relative humidity (no condensation)	30 % to 90 %	10 % to 95 %	10 % to 95 %
Atmospheric pressure	800 hPa to 1060 hPa	500 hPa to 1060 hPa	500 hPa to 1060 hPa

Accessory

Carrying case



LED Ophthalmoscope

BXαRCLED

Charging Stand

RC-III

The Features of LED Direct Ophthalmoscope BXaLED

2-3 TIMES Brighter Illumination Field
Two to three times brighter than our halogen bulb models.

SMOOTH Smooth Illumination Control
Smooth stepless light control from the minimum to the maximum.

Reduces the burden of the patient caused by photophobia. Clear fundus observation.

BOOST Boost Mode for More Brightness
Switchable between normal mode and much brighter boost mode.

For fluorescein examination.

Equipped with Cobalt Blue Filter

For fluorescein examination.

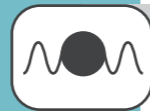
Ra:90 High Color-rendering LED
Ra: More than 90, R9: More than 80

Color temperature: 2700K
No need of light bulb replacement. Maintenance-free LED lifetime: 50,000 hours

Li-ion Powered by Li-ion Battery
The ophthalmoscope can be stored in the table-top charger while charging.



Basic Functions



Polarizing Filter

It is theoretically and experimentally confirmed that the corneal reflex in the fundus observation is minimized by inserting two polarizing filters with the polarization axes mutually perpendicular into the illumination system and observation system. However, the entire fundus image gets dark, and this is regarded as the drawback of this method. To solve this point, Neitz made the polarizing filter in the observation system rotatable to achieve the best balance between the corneal reflex and the brightness of the fundus image by changing the angle at which two polarization axes cross each other.



Auxiliary Lens

The Auxiliary Lens corrects the diopter from -36D to +35D in increments of 1D. The lens disc rotates endlessly and a large amount of change of the diopter is smooth.



Direct-reading Diopter Indicator

Even when using the Auxiliary Lens for observation of high myopia or high hyperopia, the diopters on the correction lens can be read directly. The Diopter Indicator is illuminated and clearly readable in a dark room.



Illumination Dial

To select the small aperture for observation of macula, slit to recognize the roughness on the surface of the fundus, and the concentric scale. To use the cobalt blue filter for fluorescein examination to observe damage on the cornea, set the filter by turning the dial.



Filters

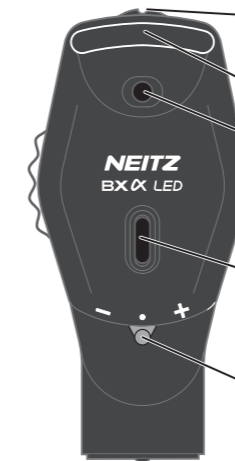
By moving the Filter Lever, insert the polarizing filter and the red-free filter that makes red tissue such as blood vessels appear black into the illumination system. Both filters can be used with all functions selected via the Illumination Dial.



Aperture Shutter

When ending to use the ophthalmoscope, shut the Aperture Shutter to prevent foreign materials from entering the optical system.

Various Functions



Observation Polarizing Filter Disc
The polarizing filter is inserted in the observation system by rotating this disc. Use when the reflected light from the cornea is glaring and hinders your observation.

Rubber Stabilizer

Viewing Window

Rekoss Disc

Diopter correction lens to focus on the fundus image. Correct hyperopia with convex lens and myopia with concave lens.

Diopter Indicator

Indication: - 12D to +11D
+ Diopters: + 12D to +35D
- Diopters: - 13D to -36D

Auxiliary Lens Selector

Insert the auxiliary lens by using this selector lever.



Aperture Shutter

Illumination Dial

- Cobalt blue : For fluorescein examination to observe damage on the cornea.
- Normal aperture : For typical fundus examinations.
- Small aperture : For examination of small pupils. In particular, when examining through constricted pupils such as during examination of the macula.
- ⊙ Concentric scale : While observing the patient's fundus, instruct the patient to fixate on the center of the concentric scale.
- | Slit: Using the slit illumination facilitates recognition of roughness on the surface of the fundus.

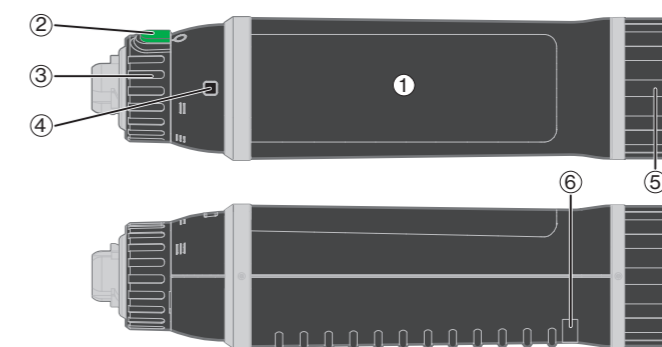
Filter Lever

RF: Red-free filter, P: Polarizing filter

To insert the polarizing filter and red-free filter that makes red tissue such as blood vessels appear black and facilitate detection of minute fundal hemorrhages.

LED Light Source (in the ophthalmoscope head)

LED Rechargeable Battery Handle



① LED Rechargeable Battery Handle (LH-1200)

② Switch Button

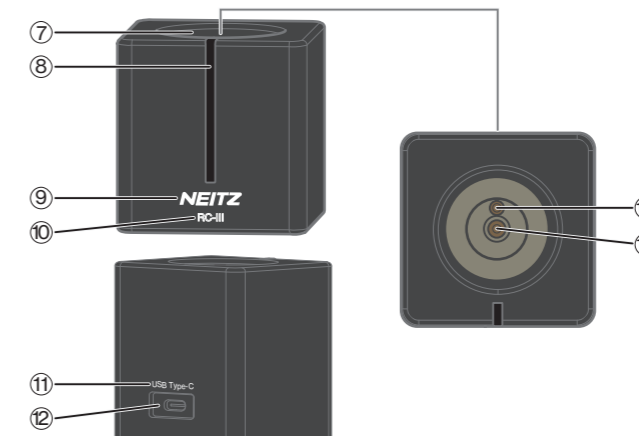
③ Switch Ring

④ Pilot Lamp

⑤ Bottom Cap with Built-in Battery Unit

⑥ Serial Number and Information Mark

Charging Stand



⑦ Charging Port

⑧ LED Indicator

⑨ Manufacturer's Logo

⑩ Model Logo

⑪ USB Type Logo

⑫ USB Jack

⑬ Negative Contact

⑭ Positive Contact