(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :04/12/2023

(21) Application No.202311082300 A
(43) Publication Date : 12/01/2024

(54) Title of the invention : AN AUTOMATIC HANDHELD AND PORTABLE DEVICE FOR DRY EYE ASSESSMENT AND PROGRESSION MEASUREMENT

(51) International classification :A61B3/00
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
The present invention relates to anautomatic handheld and portable device (100) for dry eye assessment and progression measurement.The device (100) incorporates a Placido disc (102) with concentric illuminated black and white rings to illuminate the eye surface, coupled with an embedded infrared camera module at its center for acquiring corneal and eye surface images. An image processor(110), preloaded with baseline data and normative values, analyzes the acquired images to predict the severity of dry eye. The device (100) includes a display unit (104) presenting comprehensive data such as dryness, ocular surface inflammation, temperature, humidity, location of measurement, and time variation of dryness post-blink. Additionally, it features sensors for measuring temperature, humidity, and GPS (116) to provide a holistic understanding of environmental conditions during measurements. This handheld device offers a promising and comprehensive solution for efficient dry eye evaluation in a portable and user-friendly manner.

No. of Pages : 20 No. of Claims : 10