

# KI6680 Fiber Inspection Probe User Manual

Scan QR code to download KI6680 Img/Scope Viewer software from Google Play



# Table of Content

1. Introduction.....	- 3 -
2. Instrument Overview .....	- 3 -
2.1. Features:.....	- 3 -
2.2. Instrument Layout:.....	- 3 -
2.3. Specification.....	- 4 -
3. Instrument Basic Operation.....	- 4 -
3.1. Charging instrument.....	- 4 -
3.2. Replacing instrument battery.....	- 4 -
3.3. Installing Inspection Adaptor .....	- 5 -
3.4. Torch LED.....	- 6 -
4. Working with Software on Smart Devices (via WiFi connection only) .....	- 6 -
4.1. Download Software.....	- 6 -
4.2. Connect Instrument to Smart Devices.....	- 6 -
4.3. Starting KI6680 Img Viewer Imaging Software.....	- 6 -
4.4. Selecting an IEC61300-3-35 Visual Requirement for Analysis.....	- 7 -
4.5. Setting Up File Names to Save Analysis Image, Data and Report.....	- 8 -
4.6. Enabling Pass/fail Analysis Feature.....	- 9 -
4.7. Start Pass/fail Analysis.....	- 10 -
5. Working with Software on PC (via WiFi or USB connection) .....	- 11 -
5.1. Download Software.....	- 11 -
5.2. Connect Instrument to PC .....	- 11 -
5.3. Imaging Software Operation.....	- 12 -
5.4. To Captured and Save Images on PC .....	- 13 -
6. Eye Safety Precaution.....	- 13 -
7. Care of Your Instrument .....	- 13 -
8. Service and Support .....	- 14 -
9. Disclaimer and Warranty .....	- 14 -
10. Ordering Information.....	- 14 -
11. Standard Accessories.....	- 14 -
12. Optional Interchangeable Inspection Adaptors.....	- 15 -

# 1. Introduction

The KI6880 Mini Fiber Inspection Probe, with support of its imaging software *KI6680 Scope Viewer*, makes a handy tool for analysing optic connector end face as per IEC61300-3-35 requirements. The software which can be connected to the probe via WiFi or USB, works on PC(Window) and Android smart devices. With just a press of a button, an optical connector end face will be analysed with the resultant image, data, reports generated and saved automatically. The data saved in PC/smart devices can be easily exported via USB or shared via many popular social apps.

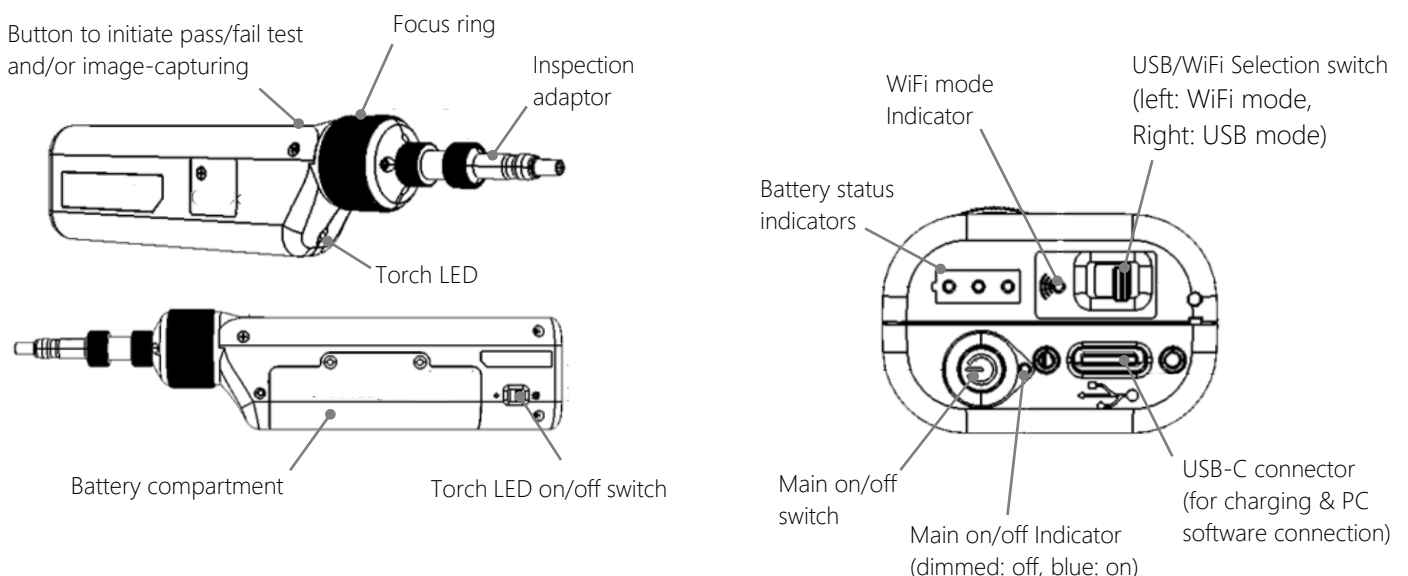
A combination of versatile and rugged design, easy operation, quality optics and durable construction ensures that this equipment will enhance the performance of installation and maintenance staff. It is suitable for single mode multimode fiber, with many connector options including MPO.

## 2. Instrument Overview

### 2.1. Features:

- IEC61300-3-35 compliant Auto pass/fail analysis with auto generated image, data & report
- Captive dust/protective cap
- Simplex and duplex connectors
- Quick-change adaptors for many connector styles
- Good image quality with easy focus
- Economical
- On-probe button to initiate pass/fail analysis and image capture
- Image can be centred and expanded
- LED torch for work in low light conditions
- Long operation hour with built-in battery rechargeable via USB-C cable
- Handy storage case for inspection adaptors
- Imaging software works on Android, iOS smart devices & PC

### 2.2. Instrument Layout:



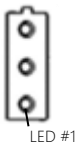
## 2.3. Specification

Parameters	Value
Optical magnification	10x
Resolving power	< 1 $\mu\text{m}$
Field of View	512 x 384 $\mu\text{m}$
Focus method	Manual
Communication interface	WiFi802.11 / USB2.0
Software feature	With IEC61300-3-35 compliant auto pass/fail analysis (on Android devices only)
Software compatibility	Smart devices (via WiFi only): Android 5.0 and above PC (via USB or WiFi): Win7 and above
Power	Built-in Lithium battery rechargeable via USB, 2.5hrs charging time (from 0 charge)
Operating / storage temp	-10 to +50 $^{\circ}\text{C}$ / -20 to + 50 $^{\circ}\text{C}$
Relative humidity	95%
Weight	188 g including battery
Size	211 x 44 x 33 mm

## 3. Instrument Basic Operation

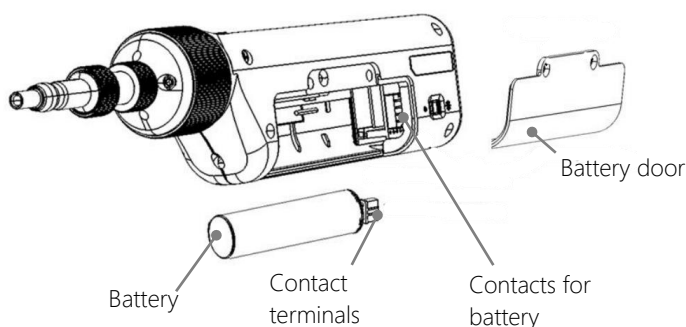
### 3.1. Charging instrument

Connect instrument to the supplied USB charger, or to USB port of PC using the supplied USB cable. The *Battery Status Indicator* (comprises of 3 white LEDs) show charging status as below,

Battery status indicator pattern		Meaning
	Only LED #1 lights up & blinking	Low battery. Instrument will turn off automatically if not recharged.
	All 3 LEDs light up in running mode	Instrument is being charged. Max charging time needed is 2.5 hrs.
	All 3 LEDs light up continually	Instrument is fully charged.
	All 3 LEDs light up & blinking	Battery connection error

### 3.2. Replacing instrument battery

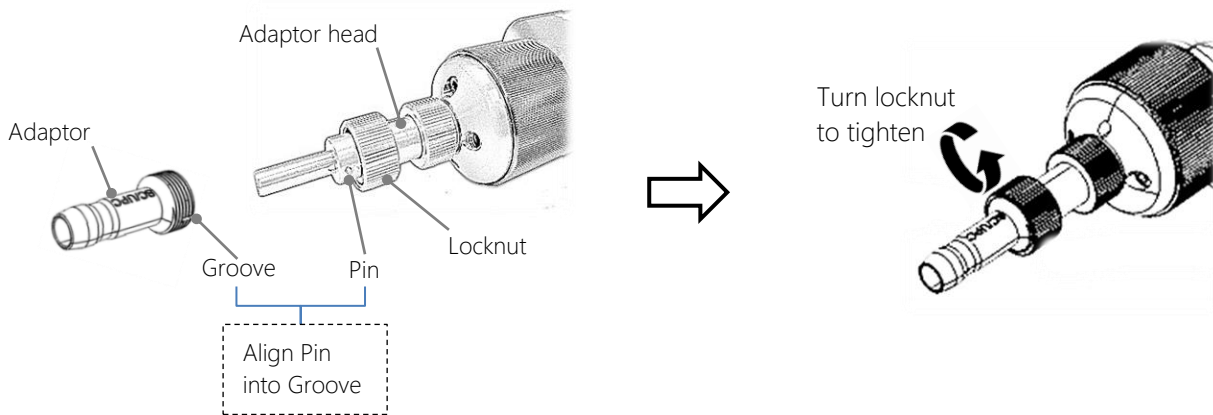
The instrument is powered by a specific built-in Lithium battery which could be replaced as shown below. Contact Kingfisher for replacement battery.



- ❶ Remove 2 screws, using a special screwdriver, to open battery door
- ❷ Pull battery out of battery compartment
- ❸ Insert new battery in an angle, and make sure that the contacts on battery are aligned with that in battery compartment
- ❹ Replace battery door and screws. Do not over-tighten screws.
- ❺ Charge instrument as described in the last section

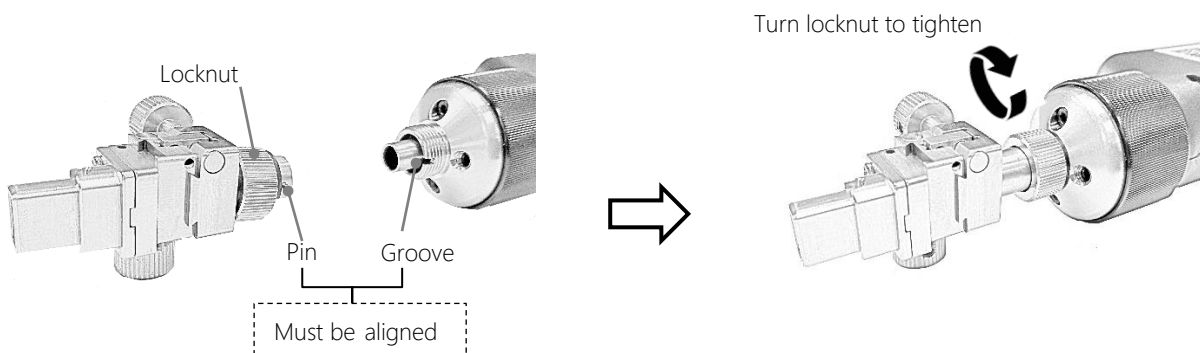
### 3.3. Installing Inspection Adaptor

Mount inspection adaptor onto instrument's adaptor head, make sure that pin on adaptor head is aligned into groove of adaptor, tighten locknut of adaptor head by turning it in the direction shown in diagram below.

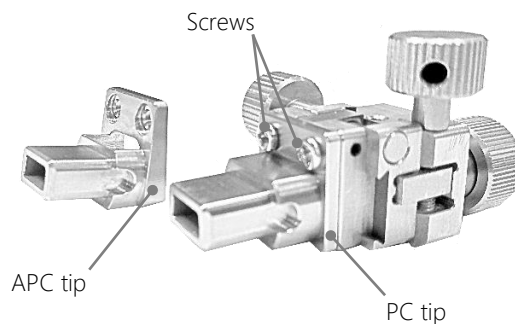


#### *For MPO Inspection adaptor,*

Remove adaptor head on instrument. Place MPO inspection adaptor on instrument, make sure that pin on adaptor is aligned into the groove on instrument, tighten locknut by turning it in the direction shown in diagram below.



Note: MPO inspection adaptor comes with a PC and an APC tips which are interchangeable by loosening / tightening 2 crews as shown below,



### 3.4. Torch LED

The built-in Torch LED on instrument can be turned on to assist works in dark or low light conditions. To turn light on, flip *Torch LED on/off switch* to "☀". To turn off, flip the switch to "○".

## 4. Working with Software on Smart Devices (via WiFi connection only)

**Note:** This software with auto pass/fail analysis feature only supports Android devices for the time being.

### 4.1. Download Software

Download the Imaging [Software – Android](#) (KI6680 Img/Scope Viewer) from [Kingfisher's website \(kingfisherfiber.com\)](http://kingfisherfiber.com) or [Google Play store](#).

See section 2.3 for Software Compatibility on Smart Devices.

### 4.2. Connect Instrument to Smart Devices

Press down *Main on/off Switch* to power up instrument. The blue LED near the switch will light up. Flip *WiFi/USB Selection Switch* to "WiFi". Wait until the green LED to light up continually. Turn on WiFi of your Smart Device and connect it to instrument using the network name below,

Name: EasyGet\_x                      x represents the serial number of instrument.

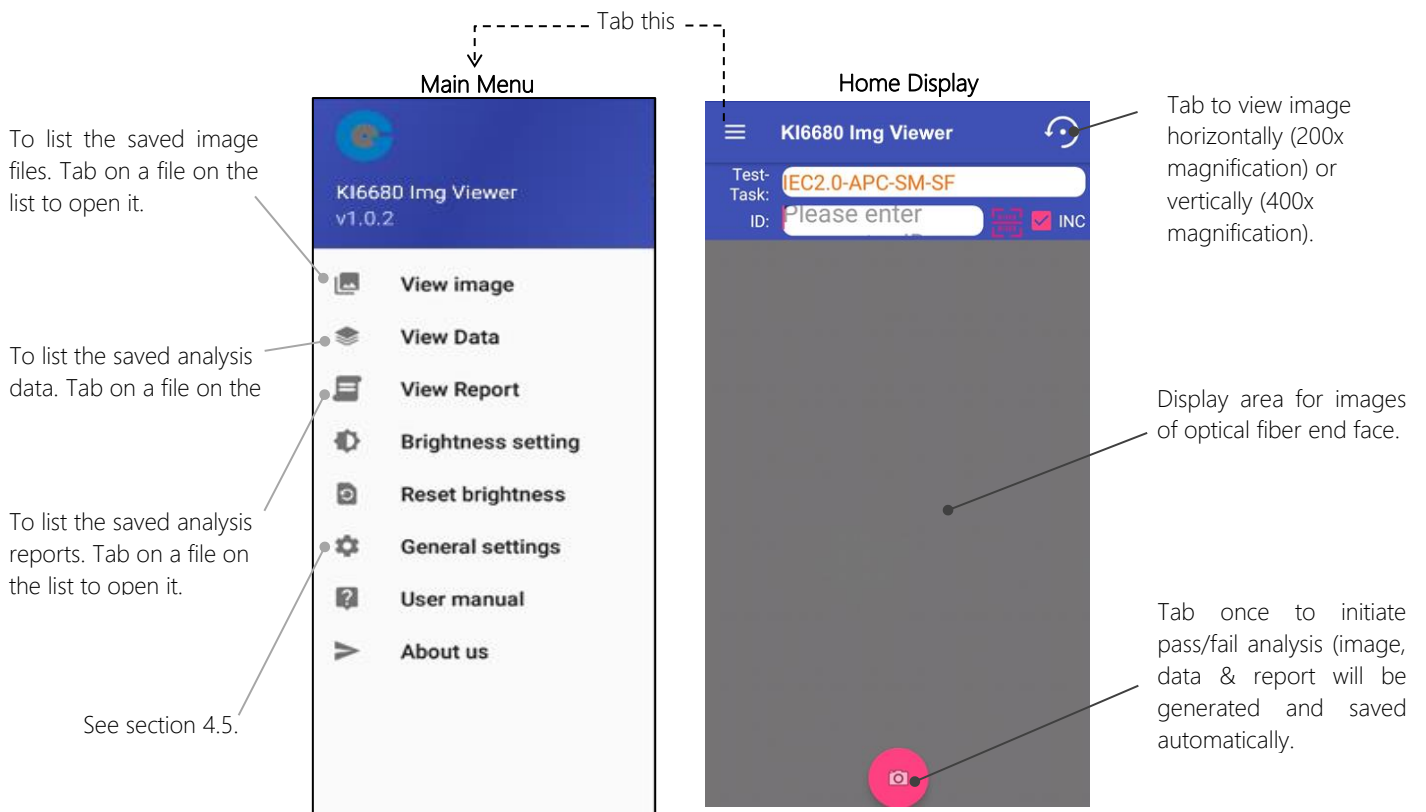
Password: 12345678

### 4.3. Starting KI6680 Img/Scope Viewer Imaging Software

To start the software, tap icon  on your Smart Device.

If prompted with the message, "The device is not connected", check that WiFi mode on instrument is enabled (indicated by the green LED which should have lighted up continuously), and that WiFi connection on your smart device is enabled. You may need to re-establish the connection.

See below for an introduction of the software's menu and their respective functions.

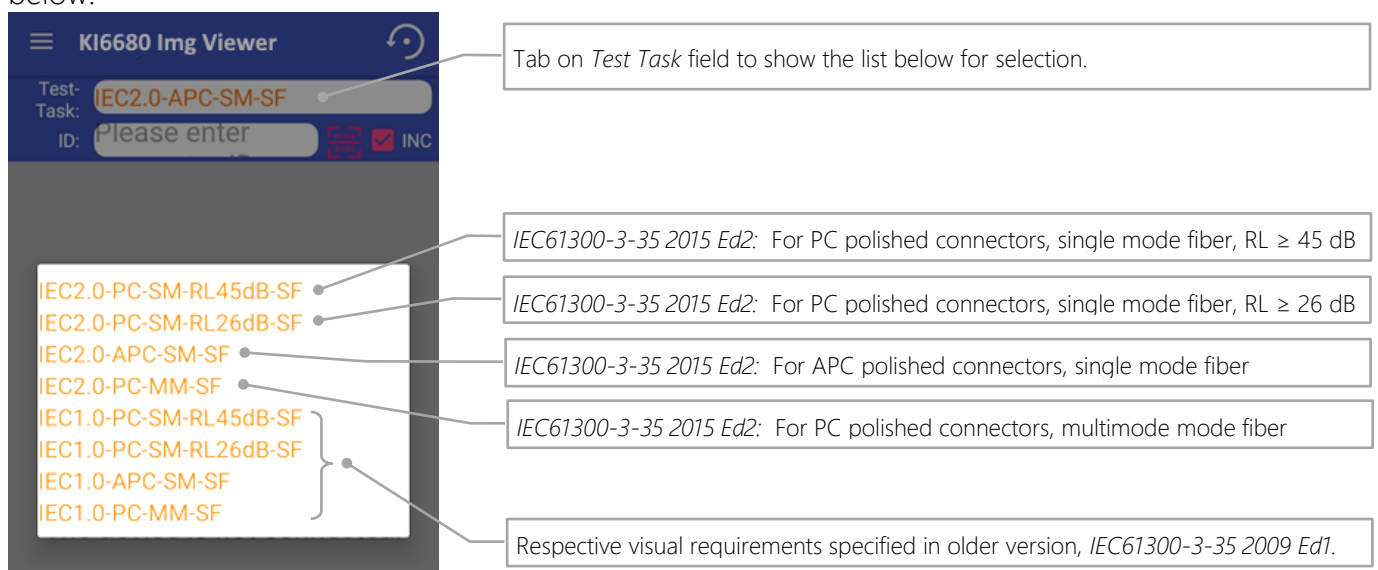


**Note:**

Your Smart Device's *Return* button can be used to return to a previous display or Home Display.

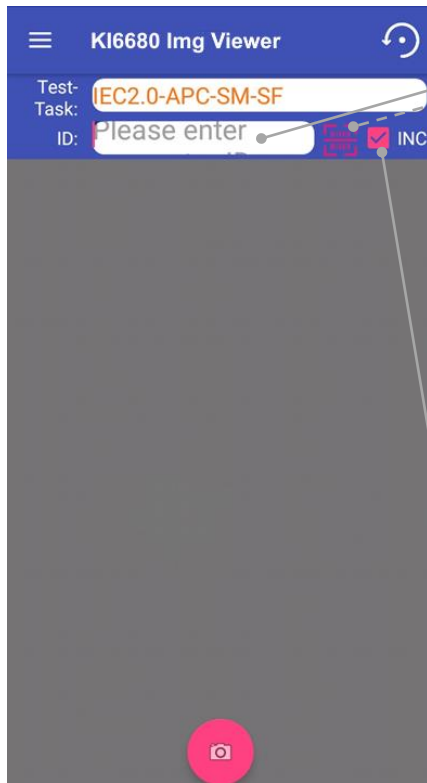
#### 4.4. Selecting an IEC61300-3-35 Visual Requirement for Analysis

A suitable visual requirement should be selected for pass/fail analysis depending on the type (SM or MM), polishing (PC or APC) and specified Return Loss of the optical fiber. The software has been pre-programmed with the 4 IEC61300-3-35 visual requirements, select the suitable one from its list as shown below.



## 4.5. Setting Up File Names to Save Analysis Image, Data and Report

Enter the appropriate value/name onto the various fields of the software as per step ❶ thru ❹ below.



❶ Manually enter text, number, or a combination of text & number in the *ID* field e.g. the ID of the optical fiber.

**Note:** The text/number entered here will be used as part of the file name for saving end face image, data & report automatically upon completion of a pass/fail analysis.

Alternatively, tap this to scan barcode ID attached on optical fiber (if any) into the *ID* field.

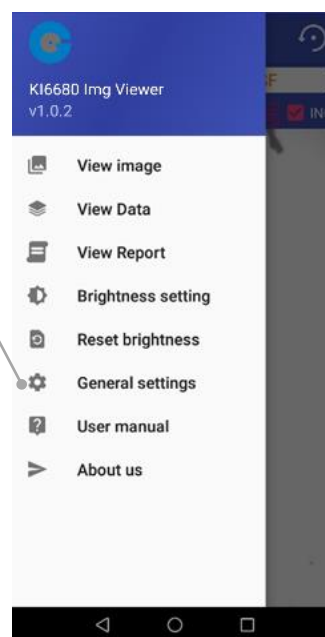
**If checked:** Upon completion of a pass/fail analysis, the right-most number of an alphanumeric entry in ID field will be incremented otherwise, the number, "1" will be appended to the right of an all-text entry.

**If unchecked:** The ID name entered in the field will remain unchanged after subsequent pass/fail analysis. The content (image, data report) saved under the file named after that ID will be overwritten by the results of the last operation.

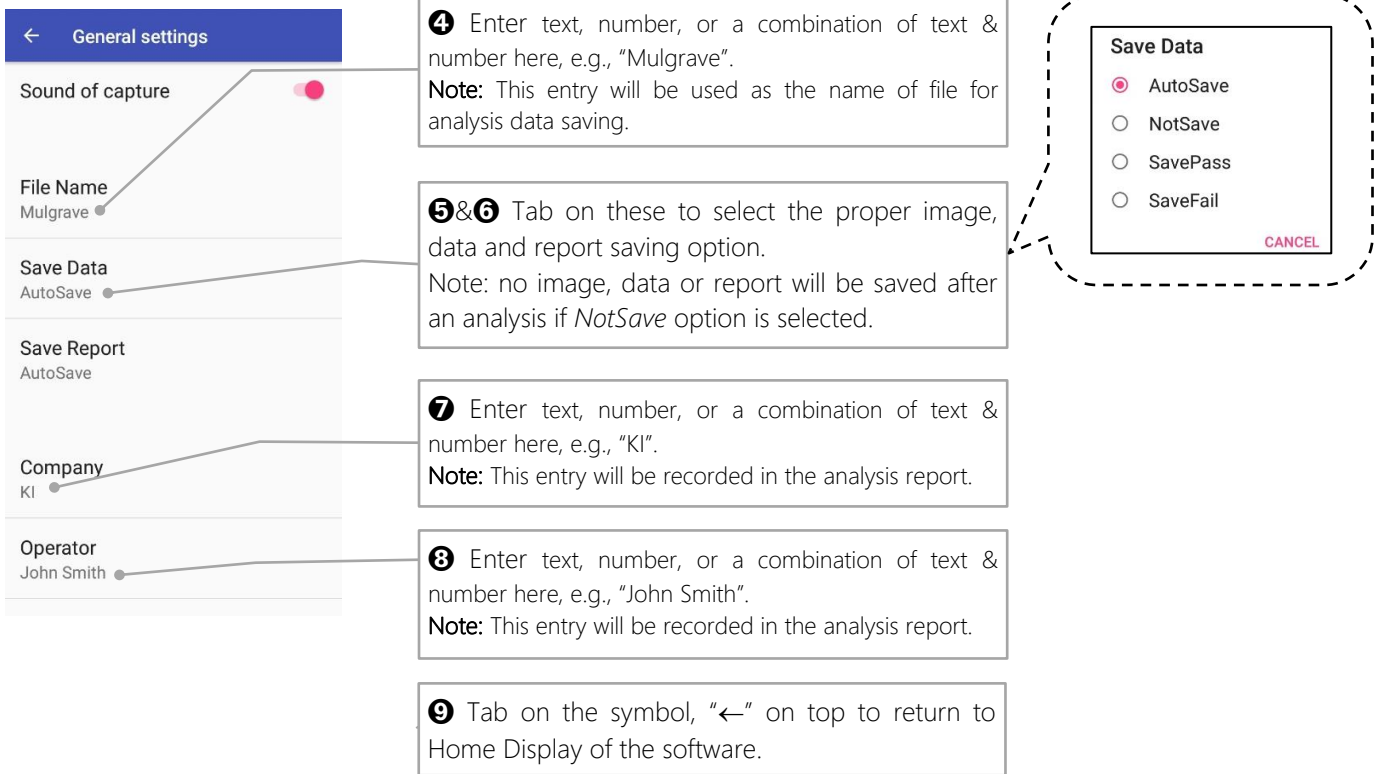
❷ Tab here to open Main Menu.



❸ Select "General settings"





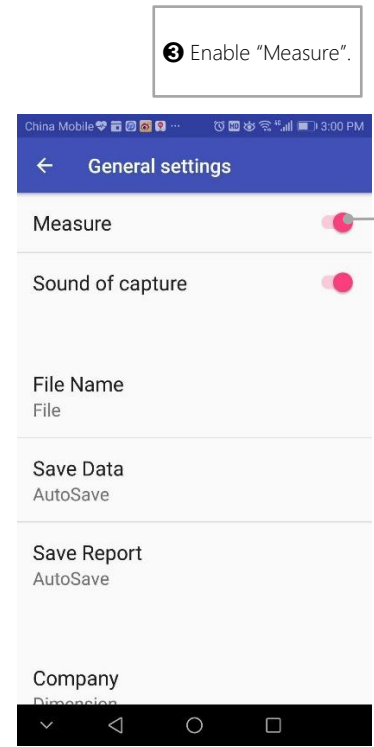
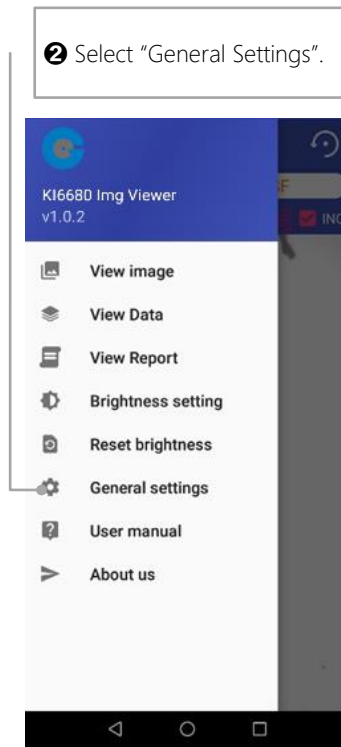


The 3 files (JPG) generated and saved upon completion of a pass/fail analysis:

- **Image file**
  - Name format: "entry in *ID* field"\_"year code"-"month code"-"date and time codes" (e.g. FIBERID001\_2020-06-02150016)
  - Content: Image of the end face of an optical fiber (without pass/fail analysis result)
  
- **Data file**
  - Name format: "entry in *File Name*" (e.g., Mulgrave)
  - Content: Pass/fail data and results for all optical fibers analysed and saved under the same file name.
  
- **Report file**
  - Name format: "entry in *File Name* field"\_"entry in *ID* field"\_"year code"\_"month code"\_"date and time codes" (e.g. Mulgrave\_FIBERID001\_20200602150016)
  - Content: Report completed with the analysis image, data, and result for an optical fiber.

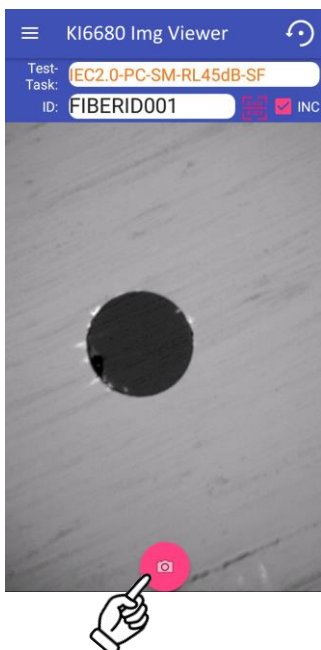
#### 4.6. Enabling Pass/fail Analysis Feature

To perform pass/fail analysis on a fiber end-face image, make sure that this feature in the software is enabled as shown below.

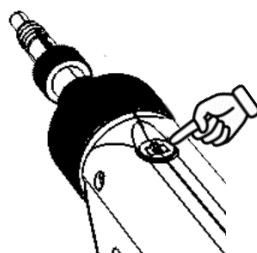


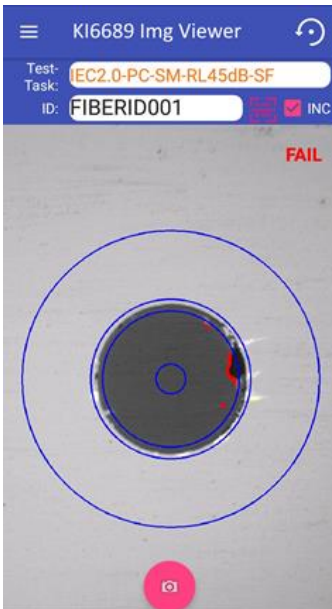
#### 4.7. Start Pass/fail Analysis

Make sure that instrument is connected to the software. Insert the optical connector onto instrument's adaptor, turn *Focus Ring* on instrument clockwise or anticlockwise, until a sharp connector end face image is seen at the centre of the software's Home Display. Do the following to start an analysis and view the result.



To start analysis, tab on the round camera symbol on software or press the physical button on instrument (see below).





Depending on their sizes, the detected debris/damages are highlighted in red (reject) and/or, yellow (accept) in the different zones (core, cladding, contact) of the optical fiber. These zones are defined by the blue circles.

The overall analysis result is displayed as "PASS" (green) or "FAIL" (red) at the top right corner.

**Note:**

1. An extremely dirty optical connector end face may result in erroneous analysis outcome. In that case, clean connector end face before repeating the analysis.

2. 3 files (for image, data, report) will be generated and saved automatically upon completion of each analysis, see section 4.5. To view these saved files, select the relevant function in the Main Menu (section 4.3.).

*To exist analysis mode, tab the software camera symbol or press instrument button again.*

## 5. Working with Software on PC (via WiFi or USB connection)

Note: The PC software version does not support pass/fail analysis.

### 5.1. Download Software

See section 2.3 for Software Compatibility on PC.

Download from [Kingfisher website \(kingfisherfiber.com\)](http://kingfisherfiber.com), **Imaging Software – Window** (Fiber Endface Inspectr WiFi) onto your PC. Upon unzipping the downloaded file, select *Fiber Endface Inspector Wifi V1.xxxxxx.exe* to Install the software as per the prompted instructions.


### 5.2. Connect Instrument to PC

Power up instrument by pressing down *Main On/off Switch*. The blue LED near the switch will light up. Instrument can now be connected to PC via WiFi or USB mode.

*For WiFi mode connection:*

Note:


To connect the instrument via WiFi to a Windows 10 PC with active firewall, you must first "Allow Firewall Exception" on that PC to allow the imaging software to communicate through the firewall.

Move *WiFi/USB Selection Switch* to . Wait until the green LED has lighted up continually. Turn on WiFi of your PC, connect it to instrument with the network name below,

Name: EasyGet\_x                      x represents the serial number of instrument.  
 Password: 12345678

If prompted with the message, "Device connect failed", check that WiFi mode of instrument is enabled (indicated by the green LED, which should have lighted up continuously), and the WiFi connection on PC is enabled, and the correct connection option on the software i.e., "WiFi" has been selected. You may need to re-establish the connection.

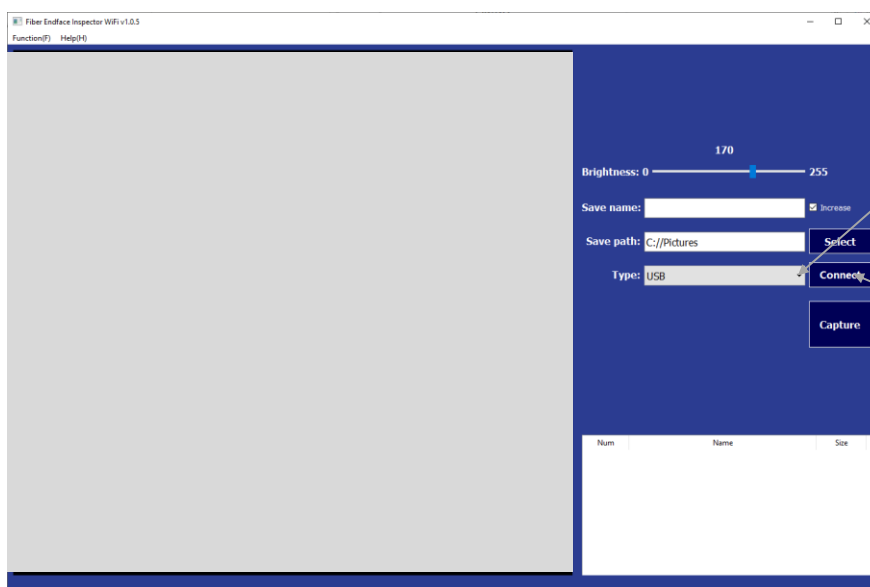
**For USB mode connection:**

Move *WiFi/USB Selection Switch* away from . Connect instrument to PC using the supplied USB cable.

If prompted with the message, "Device connect failed", check that WiFi mode of instrument is disabled (indicated by the dimmed *WiFi Mode Status Indicator*), instrument has been properly connected to PC using the supplied USB cable, WiFi connection of PC is disabled, the correct connection option on the software i.e., "USB" has been selected. You may need to re-establish the connection.

### 5.3. Imaging Software Operation

Double click on icon, "*Fiber Endface Inspector WiFi*" on your PC to start the imaging software. The main display below will show up. Follow steps ❶ thru ❷ below to connect instrument to software.



❶ For *WiFi mode* connection, select "WiFi" from drop down menu.

For *USB mode* connection, select "USB" from drop down menu.

❷ Click to connect instrument to software

See image below for descriptions/explanations of different sections of the software's UI.

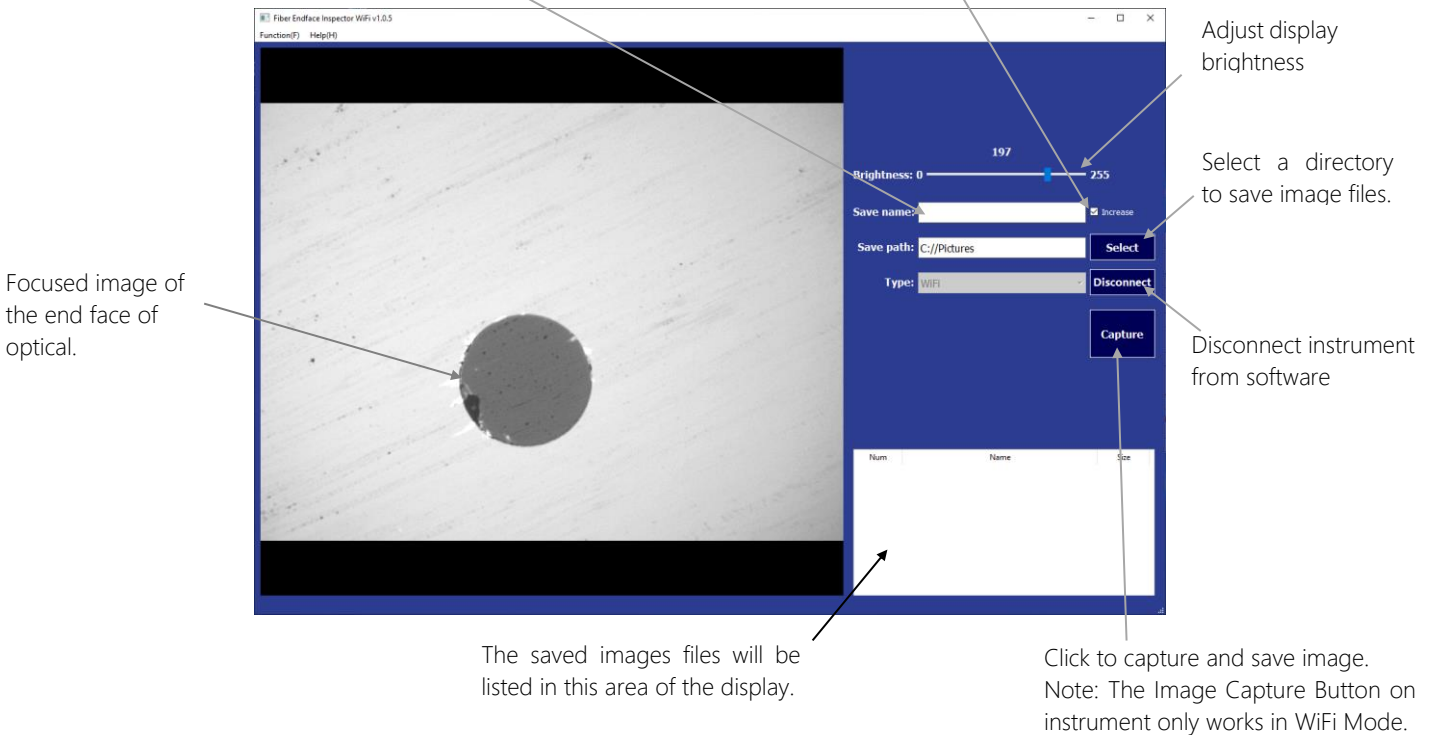
Type in preferred file name here to save captured image.

**Note:** If no file name is typed in here, images will be saved in the default file names which auto increment after each image saving operation.

**"Increase" box:**

*checked:* A preferred text filename will be appended with number which auto increment after each image saving operation.

*unchecked:* Content of the preferred filename will be overwritten with that of the last image saving operation.



#### 5.4. To Captured and Save Images on PC

Click on "Capture" button (see figure above) to capture and save images on PC using default or preferred file names as described in the figure.

Alternatively, press the button (with a camera symbol) on instrument to capture and save images when connected in WiFi mode. This button does not work when instrument is connected in USB mode.

### 6. Eye Safety Precaution

While handling live fibers, always observe eye safety procedures compliant with your company policy, relevant laser safety standards and safety practices.

### 7. Care of Your Instrument

This is a precision optical instrument. Keep it clean, dry and do not drop. Avoid exposure to moisture or excessive vibration. When not in use, always replace the dust cap to protect the instrument's adaptor or adaptor head from accidental damages.

## 8. Service and Support

For assistance, please visit our web site [www.kingfisherfiber.com](http://www.kingfisherfiber.com) for your local contact details, or for return material instructions (RMA). Our application support or service team would be pleased to help.

## 9. Disclaimer and Warranty

This manual is given in good faith for the benefit of the user. It cannot be used as the basis for claims against Kingfisher International or its representatives. This product is guaranteed against defective components and workmanship for 1 years from delivery, unless stated in the purchase contract. This warranty excludes connector adaptors or incorrect use. Opening the instrument invalidates the warranty. Liability is limited solely to repair of the equipment. Ordering Information

## 10. Ordering Information

Description	Part Number
Instrument, Mini Fiber Inspection Probe, WiFi / USB connection	KI 6680

## 11. Standard Accessories

Description	Quantity
Inspection adaptors: 1.25mm Male, 2.5mm Male, FC Female, SC Female, LC Female	1 each
Captive protective cap	1
USB charger with Interchangeable International Plug Style Adaptors (US, UK, EU, AU)	1 set
USB Cable (type A - type C)	1
Storage case for inspection adaptors	1
Carry case	1
Carry strap	1
Operation manual	1
QA certificate	1
Software: <i>KI6680 Img/Scope Viewer</i> (Android version)	Downloadable free from: <a href="#">Kingfisher website</a> or <a href="#">Google Play store</a>
Software: Imaging software-PC (PC version)	<a href="#">Kingfisher website</a>

## 12. Optional Interchangeable Inspection Adaptors

Description	Part number
Option, Mini Insp Probe Adaptor, 1.25mm Male, APC	OPT630A
Option, Mini Insp Probe Adaptor, 2.5mm Male, APC	OPT631A
Option, Mini Insp Probe Adaptor, LC Female, APC	OPT632A
Option, Mini Insp Probe Adaptor, SC Female, APC	OPT633A
Option, Mini Insp Probe Adaptor, FC Female, APC	OPT634A
Option, Mini Insp Probe Adaptor, MPO, PC/APC Interchangeable	OPT635

Please enquire for other PC or APC adaptor types

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