## Specifications

<table>
<thead>
<tr>
<th>TRC-50DX</th>
<th>50DX(Type IA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capture Mode</strong></td>
<td>Color/Red-Free/FA</td>
</tr>
<tr>
<td><strong>Auto Fluorescence</strong></td>
<td>OPTION*</td>
</tr>
<tr>
<td><strong>Angle of Coverage</strong></td>
<td>60°/35°/20°</td>
</tr>
<tr>
<td><strong>Photographic Magnifications</strong></td>
<td>With 35mm camera at zero diopter 3.84x at 60°, 2.45x at 35°, 1.42x at 20°</td>
</tr>
<tr>
<td><strong>Working Distance</strong></td>
<td>39 mm</td>
</tr>
<tr>
<td><strong>Diopter Compensation</strong></td>
<td>0°&lt;0°&lt;+4°</td>
</tr>
<tr>
<td><strong>Range for patient’s eye</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Diopter Compensation at finder</strong></td>
<td></td>
</tr>
<tr>
<td><strong>-60°~+30°</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Split Focus</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Internal Fixation</strong></td>
<td>OPTION*</td>
</tr>
<tr>
<td><strong>Counter</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Optical Head tilt</strong></td>
<td>UP 15° / DOWN 10°</td>
</tr>
<tr>
<td><strong>Light Source</strong></td>
<td>For photography: Max 300W Xenon</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>100-120 V,200-240V / 50-60 Hz</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>150VA</td>
</tr>
<tr>
<td><strong>Dimensions / Weight</strong></td>
<td>340 mm(W) x 505 mm(D)x 908 mm(H) / Aprox. 55 Kg</td>
</tr>
</tbody>
</table>

* Subject to change in design and specifications without prior notice.

---

**IMPORTANT**

- TOPCON MEDICAL SYSTEMS INC.  360 IMPERIAL WAY, HAYWARD, CA 94545 USA, PHONE 888-866-8668 FAX 510-521-2031 INFO@TOPCON.COM
- TOPCON CANADA INC.  150 ALEXANDER DRIVE, MISSISSAUGA, ON L4Z 0A2, PHONE 905-206-9866 FAX 905-206-9867 INFO@TOPCON.COM
- TOPCON EUROPE MEDICAL B.V.  Zonnestraat 10 1511 RH GUILEWEG, THE HAGUE, THE NETHERLANDS, PHONE 31-70-3211400 FAX 31-70-3211499 general@topcon-europe.net
- TOPCON EUROPE ITALIA S.r.l.  Via F. L. Redenta 7 20097 VIAVAZZO, MILANO, ITALY, PHONE 39-02-49715000 FAX 39-02-49715001 info@topcon-europe.com
- TOPCON EUROPE UK LTD.  SITINGHAM ROAD, ABBEY HUNT, NORTHAMPTON, NN6 7SB, PHONE 44-1604-717200 FAX 44-1604-717201 info@topcon-europe.com
- TOPCON ASIA PTE LTD.  106, 237 TECH LINK, #03-08 657632, PHONE 65-6549-6000 FAX 65-6549-6002 info@topcon-asia.com
- TOPCON AUSTRALIA PTY LTD.  569 PRINCES HIGHWAY HURSTVILLE, SYDNEY, PHONE 61-29-397-7700 FAX 61-29-397-7701 info@topcon-australia.com
- TOPCON INSTRUMENTS MALAYSIA Sdn Bhd  B2-04, SKY AVENUE, SEK 26, 61200 SETAPAK, KUALA LUMPUR, PHONE 60-3-7677-3111 FAX 60-3-7677-3112 info@topcon-malaysia.com
- TOPCON INSTRUMENTS THAILAND CO., LTD.  137, MAE TAENG RD. SUKHUMVIT DISTRICT, BANGKOK, PHONE 66-2-969-3740 FAX 66-2-969-3749 info@topcon-thailand.com
- TOPCON CORPORATION SINGAPORE OFFICE  10, ORCHARD TERRACE, #08-05, TELECAST HOUSE, SINGAPORE 227649, PHONE 65-6771-5409 FAX 65-6771-5410 info@topcon-asia.com
- TOPCON CORPORATION SHANGHAI OFFICE  1008, HANGSHAN ROAD, PUDONG NEW DISTRICT, SHANGHAI, PHONE 86-21-5152-0616 FAX 86-21-5152-0600 info@topcon-shanghai.com
- TOPCON CORPORATION ENGG OFFICE  1406, TECH PARK LAKE BAY 1, KANDANGAWANG, KUALA LUMPUR, PHONE 60-3-7677-3111 FAX 60-3-7677-3112 info@topcon-malaysia.com
- TOPCON CORPORATION INDIA OFFICE  4, VIKAS CHS LTD, BANDRA EAST, MUMBAI, PHONE 91-22-2647-3333 FAX 91-22-2650-3630 info@topcon-india.com

© 2014 TOPCON CORPORATION OF AMERICA Printed in Japan 04/20-14 05/14-14
Retinal Camera

TRC-50DX / TRC-50DX Type IA

Leading the way in Retinal Cameras

In the rapidly developing technology of digital cameras, retinal imaging techniques advance quickly towards higher resolution and newer methods. New diagnostic modes and procedures require versatility, precision and reliability more than ever before. The Topcon TRC-50DX, as well as the TRC-50DX Type IA, improves on the unsurpassed quality of Topcon retinal cameras, incorporating new functions that enhance their versatility and operational ease. The camera can be used with a variety of photo devices, from 35mm camera backs to super-high resolution digital cameras. A newly developed control panel equipped with a touch-screen, allows for a quick and easy change of settings while the Small Aperture function facilitates focusing and enhances sharpness.

Further enhancing its adaptability, the TRC-50DX Type IA can perform Auto Fluorescence studies, expanding its diagnostics aptitudes and application availability.

An adaptable filter mechanism lets the user add or exchange filters of his or her choice for different procedures or research projects.
Retinal Camera

TRC-50DX / TRC-50DX Type IA

Leading the way in Retinal Cameras

In the rapidly developing technology of digital cameras, retinal imaging techniques advance quickly towards higher resolution and newer methods. New diagnostic modes and procedures require versatility, precision and reliability more than ever before. The Topcon TRC-50DX, as well as the TRC-50DX Type IA, improves on the unsurpassed quality of Topcon retinal cameras, incorporating new functions that enhance their versatility and operational ease. The camera can be used with a variety of photo devices, from 35mm camera backs to super-high resolution digital cameras. A newly developed control panel, equipped with a touch-screen, allows for a quick and easy change of settings while the Small Aperture function facilitates focusing and enhances sharpness.

Further enhancing its adaptability, the TRC-50DX (Type IA) can perform Auto Fluorescence studies, expanding its diagnostics aptitudes and application availability.

An adaptable filter mechanism lets the user add or exchange filters of his or her choice for different procedures or research projects.
Auto Fluorescence

Fundus Auto Fluorescence (FAF) is a non-invasive technique to acquire images of the retina without injection, that visualizes the auto-fluorescence of Lipofuscin distribution contained in the Retinal Pigment Epithelium (RPE). Lipofuscin is a byproduct of cell metabolism. With age, Lipofuscin accumulates in many types of cells throughout the body and it has been associated with several eye diseases. FAF is becoming increasingly important in the diagnosis of retinal pathology and is nowadays one of essential tools for observing and diagnosing exudative Age-related Macular Degeneration (AMD), Geographic Atrophy (GA) and addressing Retinal pigment Epithelium (RPE) functionality. TOPCON is the only company licensed by Dr. Richard Spaide for the use of his co-developed FAF filters, Dr. Spaide’s filters are optimized for the observation of Lipofuscin deposits in the retina and require 40% less illumination than conventional FAF filters. Additionally the optimized wavelength of those filters do not stimulate fluorescence or EOG so images can be taken during or post angiography.

Split Image Focusing

This convenient feature minimizes out-of-focus images and allows even less experienced operators to obtain clear, sharp images with minimal effort.

Flash Intensity Control

Conveniently illuminated for use in subdued light, the flash intensity control has 21 levels and can be used in full or half steps. Sensitive membrane buttons permit total control on the image brightness.

Touch Panel Control

Designed with user convenience in mind, the TRC-50DX features a Touch Panel control that allows the operator to change the camera settings with a single touch. All adjustments are at the photographer’s fingertips.

1. Small Pupil Mode

The Small pupil mode permits imaging through pupils as small as 4.5mm diameter.

2. Aperture Adjustment

The “Small” setting of the aperture produces a sharper, easier to focus image with enhanced depth of field. It offers remarkable effect in peripheral photography. Furthermore, its enhanced range of focus helps when using high resolution camera which requires severe focus aligning.

External Fixation Target

The newly designed fixation target guides the patient’s eye to any desired position with a brilliant LED that shines in red or green light, changing automatically according to the study mode.
Auto Fluorescence

Fundus Auto Fluorescence (FAF) is a non-invasive technique to acquire images of the retina without injection, that visualizes the auto-fluorescence of lipid peroxidation contained in the Retinal Pigment Epithelium (RPE). Lipofuscin, is a byproduct of cell metabolism. With age, lipofuscin accumulates in many types of cells throughout the body and it has been associated with several eye diseases.

FAF is becoming increasingly important in the diagnosis of retinal pathology and is nowadays one of essential tools for observing and diagnosing exudative Age-related Macular Degeneration (AMD), Geographic Atrophy (GA) and addressing Retinal pigment Epithelium (RPE) functionality. TOPCON is the only company licensed by Dr. Richard Spaide for the use of his co-developed FAF filters. Dr. Spaide's filters are optimized for the observation of Lipofuscin deposits in the retina and require 40% less illumination than conventional FAF filters. Additionally, the optimized wavelength of those filters do not stimulate fluorescence or EOG so images can be taken during or post angiography.

Split Image Focusing

This convenient feature minimizes out-of-focus images and allows even less experienced operators to obtain clear, sharp images with minimal effort.

Flash Intensity Control

Conveniently illuminated for use in subdued light, the flash intensity control has 21 levels and can be used in full or half steps. Sensitive membrane buttons permit total control on the image brightness.

Touch Panel Control

Designed with user convenience in mind, the TRC-50DX features a Touch Panel control that allows the operator to change the camera settings with a single touch. All adjustments are at the photographer's fingertips.

Small Pupil Mode

The Small pupil mode permits imaging through pupils as small as 4.5mm diameter.

Aperture Adjustment

The "Small" setting of the aperture produces a sharper, easier to focus image with enhanced depth of field. It offers remarkable effect in peripheral photography. Furthermore, its enhanced range of focus helps when using high resolution camera which requires severe focus aligning.

External Fixation Target

The newly designed fixation target guides the patient's eye to any desired position with a brilliant LED that shines in red or green light, changing automatically according to the study mode.
**IMAGEnet™ System**

IMAGEnet is a comprehensive digital imaging system capable of acquiring, processing, displaying, analyzing, and saving digital images obtained by a variety of Topcon capture devices. It enhances the clinical applications of the TRC-50DX Retinal Camera and integrates slit lamp images, Non-mydriatic Retinal Camera images, OCT images, etc., to maximize the diagnostic capability. IMAGEnet allows selecting capture modules depending on the configuration. For the TRC-50DX, DX Capture module will help for comfortable image acquisition. DX Capture detects the fiber settings and CCD camera in use from the TRC-50DX and automatically sets the capture screen to the corresponding procedure.

IMAGEnet II (not available in all regions and countries) further enhances the measurement data from refraction instruments and facilitates comprehensive ophthalmology data management.

DICOM connectivity is included in IMAGEnet, which allows communicating with EMR, PACS and hospital servers. IMAGEnet fits the needs of small practices to the large hospitals.

---

**Optional Accessories**

**Relay Lens**

OR-2 (IX Relay Lens)

The OR-2 enables conventional color photography and fluorescein angiography on film.

---

**Double Mount TV Relay Lens**

Various double relay lenses meet the requirement of attaching CCD cameras to the top part.

---

**Triple Mount TV Relay Lens**

Triple mount TV relay lenses enable integration of 3 CCD cameras to the top part.

---

**Single Mount TV Relay Lens**

Single mount TV relay lenses make up simple and economical systems for color photography and fluorescein angiography.

---

**System Chart**

- TRC-50DX Retinal Camera
- Digital CCD
- Digital IR Camera
- OR-2 IX Relay Lens
- Triple Mount TV Relay Lens
- Single Mount TV Relay Lens
- 1/2 inch 3 CCD
- Adjustable Instrument Table
- Fiber Attachment/Auto Iris/Green Filter
- Double Mount TV Relay Lens
- 35mm Film Camera
- IMAGEnet

* In compliance with the terms of the Export Administration Regulations of the United States of America, some optional software modules may not be available in all regions or countries.
**IMAGEnet™ System**

IMAGEnet is a comprehensive digital imaging system capable of acquiring, processing, displaying, analyzing, and saving digital images obtained by a variety of Topcon capture devices. It enhances the clinical applications of the TRC-50DX Retinal Camera and integrates digital images, NA Scleral Retinal Camera images, OCT images, etc., to maximize the diagnostic capability. IMAGEnet allows selecting capture modules depending on the configuration. For the TRC-50DX, DX Capture module will help for comfortable image acquisition. DX Capture detects the filter settings and CCD camera in use from the TRC-50DX and automatically sets the capture screen to the corresponding procedure. IMAGEnet R4 (not available in all region and countries) furthers acquires the measurement data from refraction instruments and facilitates comprehensive ophthalmology data management.

DICOM connectivity is included in IMAGEnet, which allows communicating with EMR, PACS and hospital servers. IMAGEnet fits the needs of small practices to the large hospitals.

---

**Optional Accessories**

**Relay Lens**

**OR-2 (IX Relay Lens)**

The OR-2 enables conventional color photography and fluorescein angiography on film.

**Double Mount TV Relay Lens**

Various double relay lenses meet the requirement of attaching CCD cameras to the top part.

**Triple Mount TV Relay Lens**

Triple mount TV relay lenses enable integration of 3 CCD cameras to the top part.

**Single Mount TV Relay Lens**

Single mount TV relay lenses make up simple and economical systems for color photography and fluorescein angiography.

---

**System Chart**

![System Chart](image)

---

*In compliance with the terms of the Export Administration Regulations of the United States of America, some optional software modules may not be available in all regions or countries.*
Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>TRC-50DX</th>
<th>50DX (Type IA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture Mode</td>
<td>Color/Red-Free/FA</td>
<td>Color/Red-Free/FA/RGG/Acto Fluo</td>
</tr>
<tr>
<td>Auto Fluorescence</td>
<td>OPTION*</td>
<td>OPTION*</td>
</tr>
<tr>
<td>Angle of Coverage</td>
<td>50°/35°/20°</td>
<td>50°/35°/20°</td>
</tr>
<tr>
<td>Photographic Magnifications</td>
<td>With 55mm camera at zero diopter 184x at 50°, 245x at 35°, 428x at 20°</td>
<td>With 55mm camera at zero diopter 184x at 50°, 245x at 35°, 428x at 20°</td>
</tr>
<tr>
<td>Working Distance</td>
<td>39 mm</td>
<td>39 mm</td>
</tr>
<tr>
<td>Diopter Compensation Range for patient's eye</td>
<td>0 ~ -25D ~ +4D</td>
<td>0 ~ -25D ~ +4D</td>
</tr>
<tr>
<td></td>
<td>+ 25D ~ +40D</td>
<td>+ 25D ~ +40D</td>
</tr>
<tr>
<td></td>
<td>+ 50D ~ +27D</td>
<td>+ 50D ~ +27D</td>
</tr>
<tr>
<td></td>
<td>A ~ +22D ~ +14D</td>
<td>A ~ +22D ~ +14D</td>
</tr>
<tr>
<td>Diopter Compensation at finder</td>
<td>-60 ~ +30</td>
<td>-60 ~ +30</td>
</tr>
<tr>
<td>Split Focus</td>
<td>OPTION*</td>
<td>OPTION*</td>
</tr>
<tr>
<td>Internal Fixation</td>
<td>OPTION*</td>
<td>OPTION*</td>
</tr>
<tr>
<td>Counter</td>
<td>OPTION*</td>
<td>OPTION*</td>
</tr>
<tr>
<td>Optical Head tilt</td>
<td>UP 15° / DOWN 10°</td>
<td>UP 15° / DOWN 10°</td>
</tr>
<tr>
<td>Light Source</td>
<td>For photography: Max 300W S Xenon</td>
<td>For photography: Max 300W S Xenon</td>
</tr>
<tr>
<td>Power supply</td>
<td>100<del>120 V, 200</del>240V / 50~60 Hz</td>
<td>100<del>120 V, 200</del>240V / 50~60 Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>150W</td>
<td>150W</td>
</tr>
<tr>
<td>Dimensions / Weight</td>
<td>340 mm (W) x 505 mm (D) x 908~75mm (H) / Aprox. 35 Kg</td>
<td>340 mm (W) x 505 mm (D) x 908~75mm (H) / Aprox. 35 Kg</td>
</tr>
</tbody>
</table>

* Subject to change in design and/or specifications without advance notice.

IMPORTANT

CE 0123

* Product is in conformance with the essential requirements of the European CE directive 93/42/EEC.