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Chapter 1 | Introduction

Thank you for purchasing your new LightWave EasyCheck Optical End-face Inspection System. We are confident it will provide you with years of superb service, reliability, and accuracy.

The EasyCheck EC400KC features a continuous variable zoom ratio, manual focusing, X and Y-axis adjustable function and 400x zoom capability.

EasyCheck combines a compact design with enhanced functionality. Replacing the traditional combination of a microscope and monitor, users can simply connect power and begin operation. EasyCheck helps you save time and space, and improve productivity. Advanced coaxial illumination permits easy detection of fine defects on the end-face of the fiber connector. The conjunction with a dust-proof, high-resolution image sensor, an 8” black-and-white digital TFT display clearly shows all details of the fiber end-face.

EasyCheck is equipped with MTP/MPO precision tips for inspection of cables with or without housings. The high concentricity provides an ideally centered image when installing different tips. The ceramic casing tips have nearly infinite life and the image will not deviate from center due to extended use. The fiber End-face image can be captured at any time and stored on a standard SD flash memory card.

- **Durability & Value**
  Durability is one of the most important factors to consider when evaluating inspection equipment. Every EasyCheck unit and component comes from considerable design and selection processes. The outstanding performance makes inspection a pleasure and the low price and low failure rate give users real benefits.

- **Design Concept**
  Easycheck combines the compact appearance with enhanced functionality. Integrated design results in smaller size and more convenient operation. Users simply connect the power cable to the unit to start inspections. You no longer need to worry about the complicated cable between monitor and microscope. Easycheck helps you save time and space, and improve productivity.

- **Unrivaled Image Quality**
  The optical amplification system for coaxial illumination makes even the finest defects in the endface of fiber connector clearly visible. The high-resolution image sensor, along with 8” black-and-white digital TFT display clearly shows all details of the fiber endface, ensuring reliability of inspection results.

- **Convenience**
  Our engineers designed the focus ring on the EasyCheck for smooth focusing. External adapter tips make inspections of numerous connector types quick and simple.

- **Dust-proof**
  Dustproofing has been incorporated within the focusing system. Even working in dirty environments will not affect the focus performance.
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Dust-proof
Dustproofing has been incorporated within the focusing system. Even working in dirty environments will not affect the focus performance.

Centered Image
EasyCheck’s intelligent optoelectronic structure and adaptor tips always keep the image in the center during focusing, eliminating image jitter problems.

Precision Ceramic Adaptor Tips
EasyCheck comes with MTP/MPO precision tips for inspection of cables with or without housings. The high-level concentricity provides an ideally centered image when installing different tips. The ceramic casing tips have infinite lifespan and the image will not deviate from center due to extended use.

Safe & Ergonomic Design
Easycheck features a customized 8” digital TFT monitor to reveal the subtle defects of the fiber end-face. Compared with traditional CRT monitor, the digital TFT monitor has no screen flashing.

Image Storage
The fiber end-face image can be captured at any time and be stored on the included SD card, making it easier for volume production, standard settings, and failure analysis.

### EasyCheck Technical Specifications

<table>
<thead>
<tr>
<th>Model Number</th>
<th>EC-400K</th>
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<tbody>
<tr>
<td>Amplification Factor</td>
<td>400x</td>
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<tr>
<td>X / Y Axis Adjustment</td>
<td>Yes</td>
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<tr>
<td>Image Input/Output Format</td>
<td>Simulated PAL</td>
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<tr>
<td>CCD Areal Resolution</td>
<td>1/3&quot; 420cable</td>
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<tr>
<td>Image Output Tip</td>
<td>RCA</td>
</tr>
<tr>
<td>Image Input Tip</td>
<td>RCA</td>
</tr>
<tr>
<td>Focus Mode</td>
<td>Manual</td>
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<tr>
<td>Image Analysis</td>
<td>None</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>3W</td>
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<tr>
<td>Working Temperature</td>
<td>+50°F – +122°F</td>
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<tr>
<td>Storage Temperature</td>
<td>32°F – +131°F</td>
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<tr>
<td>Display</td>
<td>8” TFT 800x600 PIX</td>
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<tr>
<td>Power Supply</td>
<td>DC 12</td>
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<tr>
<td>Volume</td>
<td>270mm x 245mm x 155mm</td>
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<tr>
<td>Weight</td>
<td>3.5 lbs.</td>
</tr>
</tbody>
</table>

### Included Items:
- EasyCheck Fiber Optic End-face Inspector
- (2) MTP/MPO Precision Tips
- 2G SD Storage Card
- Main DC 12V Power Supply
- Instruction Book

NOTE: Choose appropriate power adapter according to location standards and appropriate tip according to connector requirements.
Chapter 2  |  Function Keys Instruction

The EasyCheck Fiber End-face Inspector features a continuous variable zoom ratio, manual focusing, X- and Y-axis adjustable function and 400x zoom capability. Utilizing different inspection tips, EasyCheck can fulfill various inspections of MPO/MTP fiber connectors including PC and APC. All the tips are external and easily interchangeable.

EasyCheck Function Description

1 - Focusing System
2 - Power Indicator Line
3 - High-resolution Screen
4 - MENU Button
5 - Page Up Button
6 - Page Down Button
7 - Image Capture Button
8 - Adapter Tip
9 - Dust Covers
10 - Focusing Ring
EasyCheck Function Description (cont'd)

The EasyCheck can be utilized for single-channel and multi-channel connector inspections. Combining aesthetics and practicability, EasyCheck subverted the traditional design concept and makes the process of inspection not only valuable but also enjoyable.

1 - Focus Ring
2 - Dust Cover
3 - Fiber Cavity
4 - Connector Adaptor Tip
5 - Locking Screw (For multi-channel connector inspections only)
6 - Y-Axis Image Adjustment Screw (+2mm ~ -2mm Adjustment Range)
7 - X-Axis Image Adjustment Screw (+2mm ~ -2mm Adjustment Range)

11 - Power Switch
12 - 12V Power Supply Port
13 - A/V Image Output Port
14 - Image Display Switch
15 - USB Image Input Port
16 - A/V Image Input Port
17 - SD Card Slot

Notes: (14) External display devices can be connected to present internal video signal.
(15) Used for switching between internal and external signal source.
(16 & 17) Dedicated image input tip for external endface inspectors.
Chapter 3  |  Operation Instructions

Installation
Open box and take out the machine, choose and install the corresponding adapter tip into Easycheck (the tip should be fastened securely). Assemble the power adapter and power line and make sure the power supply is well connected.

Adapter Tip Installation
EasyCheck provides different adaptor tips to fulfill various connector inspection needs. Screw counter-clockwise to remove the adaptor tip. Select the needed tip, match the threads of tips and screw in clockwise tightly.

Machine Adjustment
Power on and insert the optical fiber connector into the EasyCheck adaptor tip. Adjusting the focus ring clockwise, the connector moves away from inspector body; adjusting the focus ring counter-clockwise, the connector moves towards the inspector body. To observe the fiber end-face, adjust the focus ring until image gets clear and bright. Make sure the image display switch is turned to the right in this mode.

Sometimes adjustment is required to optimize the inspection result depending on different situations.

Brightness & Contrast Adjustment
Press MENU to enter the brightness and contrast adjustment interface, as shown below:

In this adjustment interface:
- **MENU**: Page Down key, can choose downward from BRIGHTNESS, CONTRAST to EXIT, selected one is shown in black;
- **CAP**: Page Up key, can choose upward from EXIT, CONTRAST TO BRIGHTNESS, selected one is shown in black;
- **▲**: Up key, can raise the value of BRIGHTNESS and CONTRAST; selecting EXIT means save and exit the interface.
- **▼**: Down key, can reduce the value of BRIGHTNESS and CONTRAST; selecting EXIT saves and exits the interface.

Adjust the BRIGHTNESS and CONTRAST according to specific requirements. When the BRIGHTNESS and CONTRAST is set at the optimum value, press MENU to select the EXIT column, then press ▲ or ▼ to save settings and start inspection.
Image Capture
CAP is the image capture key. Pressing CAP can capture and save the current image to the SD card. The screenshot can only be accessed with the SD card inserted. Power must be switched off before insertion and removal of the SD card.

Inspections
After adjustment, connect the product to be tested onto the adaptor tip and adjust the focus ring to get the clear image. Spin the X-axis screw clockwise, connector moves towards the left; spin the X-axis screw counterclockwise, connector moves towards the right; spin the Y-axis screw clockwise, connector moves upwards; spin the Y-axis screw counterclockwise, connector moves downwards; users can view the entire surface condition with the help of XY axis screws. If polishing is required, press CAP during inspection and the image captured will be kept on file in SD card. Power off the inspector, pull out SD card and reinsert into computer.

Picture View
Press ▲ to enter the picture view mode. Images stored in SD card can be viewed in this mode. Press MENU to exit.
CAP: Delete: pressed the first time, DEL? prompt is displayed; Press again to delete the current image.
▲: Up key, View the previous image.
▼: Down key, View the next image.

External Monitor Instructions
In this mode, images can be viewed simultaneously from the external monitor and the EasyCheck’s 8” display. Connect the external monitor to EasyCheck’s AV OUT port tip with AV video cable. Turn on the EasyCheck and the external monitor. Connect the simplex or multi-channel optical fiber connector with the EasyCheck and adjust the focusing ring to get a clear image. The end-face status can then be viewed from both displays. Make sure the image display switch is turned to the right in this mode.

External Optical Fiber End-face Inspector Instructions
EasyCheck’s has two AV IN port types: USB and AV. The USB type is customized for external end-face inspectors. Connect external end-face inspector and EasyCheck and make sure the EasyCheck’s image display switch is turned to the left. Power on the Easycheck and connect the fiber connector to the external end-face inspector. Adjust the Easyget’s focus ring to get the clear image so as to observe the end-face condition.

RCA version has general image input tip for all types of end-face inspectors. Connect inspector with EasyCheck and make sure the image display switch is turned to the left. Power on the Easycheck and connect the fiber connector to the general inspector. Adjust the focus ring to get the clear image so as to observe the end-face condition.

Chapter 4  |  Maintenance

Notice
1. Instruments must be moved gently.
2. No extrusion.
3. Power must be switched off when taking out SD card.
4. Use the Dimension Technology customized 12V DC power adapter. Other power adapters are not allowed.
5. Do NOT disassemble instrument so as to avoid unnecessary loss.
6. Keep instrument away from sharps so as to avoid scratches on the screen.

Maintenance
1. Keep Easy check clean, away from grease and dust.
2. It would be better kept in the instrument container if the inspector will not be used for a long time.