Digital Microscope **F40/F40s**
Latest Full HD 60fps Technology!

1080p
FULL HD

Configurable, High-Resolution Optical Inspection

Full HD Digital Microscope with Motorised 40:1 Zoom Powered by INSPECTIS©

INSPECTIS

Quality of Inspection

Full HD 60fps video

NEW GENERATION DIGITAL MICROSCOPE

New generation digital microscope in Full HD with upgraded image sensor and new zoom lens producing vibrant video with 60 fps and low latency.

Video's advance signal processing with high refresh rate maintains image coherence and stability, reduces motion blur, and provides smooth and dynamic images of especially fast-moving objects.

Breakthrough Technology

In addition to its high frame rate, F40s sensor provides higher sensitivity and higher dynamic range than previous FHD cameras.
Industry-leading signal processing with outstaning colour generation and flicker reduction for best image quality.

"The Last Full HD Microscope You'll Ever Need!"

FAST AND ACCURATE

First class F1.6 - 4.8 optics. Advanced high resolution motorised zoom lens with 7-blade aperture and fast auto-focus. 226 mm free working distance with 30:1 optical zoom and 1.3x digital zoom. Easy image capture and sharing options makes collaboration, reporting and training easy tasks.
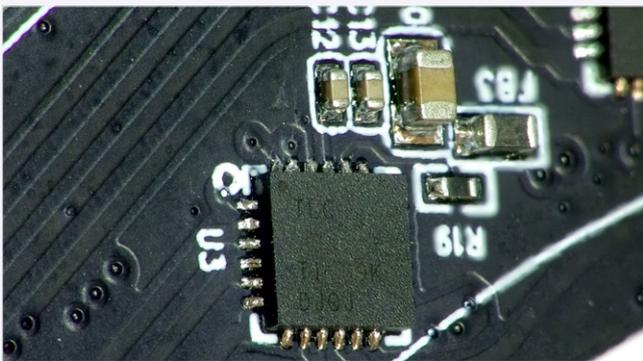
PCBA captured by 360º Viewer at 18x Zoom. Incident white ring-light
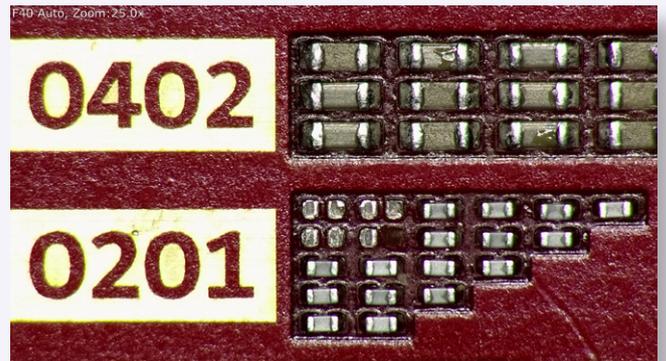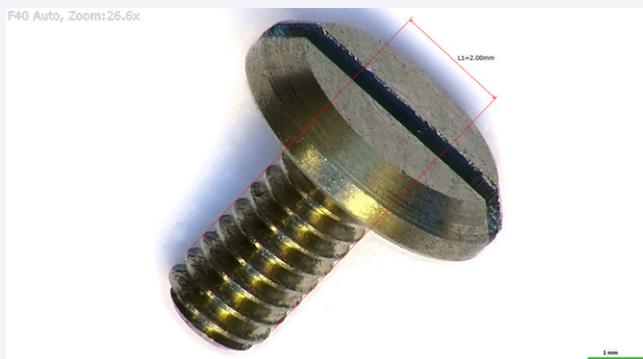

PCBA captured at 25x Zoom. Incident white ring-light.
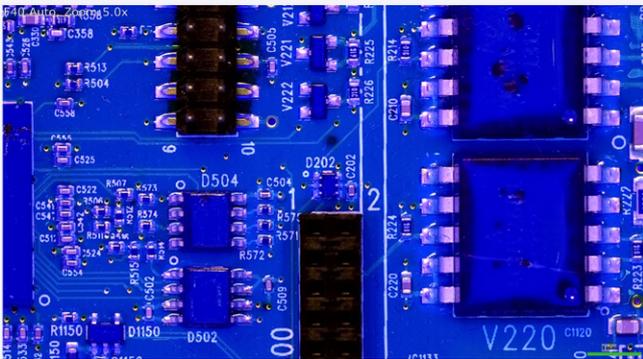
Conformal coating on PCBA captured at 5x Zoom. Incident UV ring-light

Coffe beans, x4 Zoom. Incident white LED ring light with diffuser.

M2 Screw, captured at 26.6 Zoom. Incident white ring-light. Focus stacked
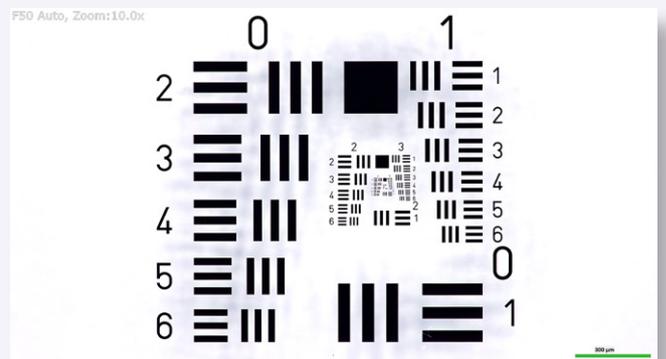
Resolution test target x10 Zoom. Bright-field transmitted illumination

Superior Lens Design

The F40s further developed lens design maintains image sharpness, resolving power and true colors across the entire field of view whether you zoom in for high magnification or zoom out for a wide view.

Advanced Controls

FOR EASE OF USE

Direct access to basic camera and lens attributes like zoom, aperture size, and colour balance via on board buttons. Full control of all camera and lens attributes by external consoles or by INSPECTIS© software.

A laser pointer helps the operator quickly locate the center of the object field.

On-board Controls

Software Contols
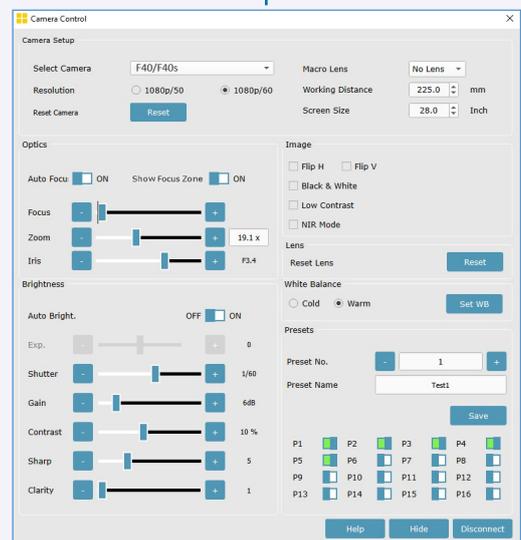
Control Consoles

Memory setup and quick recall

1 to 16 camera and lens configurations can be stored in memory for recall through P1 to P16 software hot-keys. 2 memories are also available on the advanced control console.

"Advanced Lens and Camera Controls Right at Your Fingertips"

DESIGNED FOR PRODUCTIVITY

Configurable with a wide range of industrial grade Stands and Mounts for your real needs.

Maximum Flexibility

Modular design of F40s allows setting up the inspection system with any of the Inspectis' industrial grade stands, mounts, lenses, software and illumination systems.

"Configurable, Endlessly Versatile!"

ROBUST DESIGN in TWO FORM FACTORS

Industry grade long lasting digital microscope in robust aluminium housing. Available in two industrial grade form factors, All-in-One F40 with integrated illumination and robust stand and modular F40s.

Clean installation of the F40s models on the workbench thanks to its single cable design.

Technology

Industrial build quality inside and out. Designed and manufactured according to ISO 9001 and ISO 13485 standards.

"Industrial Build Quality Inside and Out"

FOR ACCURACY & PRECISION

The system's standard optics produces ~ 2.5x - 100x magnification (on 28" monitor) maintaining high resolution power. If further magnification is needed, a wide range of diopter Macro Lenses can be added to magnify up to 1414x on screen equal to 0.43mm field of view.

Lens	Zoom Factor	Magnification On-screen	Magnification Optical	Field of View [mm]	Working Distance [mm]	Resolving Power [LP/mm]
Standard	x1	2,5 x	0,9 x	241	> 225-185	3,5
Standard	x2	4,7 x	1,6 x	129	> 225-185	7
Standard	x5	11,3 x	3,9 x	54	> 225-185	16
Standard	x10	22,3 x	7,7 x	27,3	> 225-185	29
Standard	x15	33,2 x	11,5 x	18,3	> 225-185	40
Standard	x20	44,0 x	15,2 x	13,8	> 225-185	51
Standard	x25	54,8 x	18,9 x	11,1	> 225-185	72
Standard	x30	65,9 x	22,8 x	9,22	225-185	80
Standard	x35	80,0 x	27,6 x	7,6	225-185	85
Standard	x40	99,6 x	34,4 x	6,1	225-185	90
+1	x1	3,2 x	1,1 x	191	> 181-151	3,3
+1	x40	124 x	42,9 x	4,9	181-151	72
+2	x1	3,8 x	1,3 x	158	> 147-126	5
+2	x40	144,7 x	50 x	4,2	147-126	114
+5	x2	10,5 x	3,6 x	57,7	> 96-85	14
+5	x40	194,2 x	67,1 x	3,13	96-85	161
+10	x2	15,4 x	5,3 x	39,5	> 57-52	20
+10	x40	316,6 x	109,4 x	1,92	57-52	228
+28	x10	17 x	6 x	35	18-16.5	161
+28	x40	683 x	236 x	0,9	18-16.5	450
+56	x10	30,4 x	10,5 x	20	18-17.5	228
+56	x40	1414 x	488 x	0,43	18-17.5	620

Pre-calibrated
A wide range of extra lenses, pre-calibrated in INSPECTIS© software, ensure optimum results for your application considering field of view (magnification), resolution power and working distance.

"Reduce the Time Spent on Inspection"

Software

POWERED BY INSPECTIS©

Powerful yet easy-to-use software with **streamlined workflow and** **pre-calibrated optics** for live video streaming, camera control, capture, analysis, measurement and reporting.

Memory Save and Recall

Image/Video/Audio Capture

Overlays and Drawings

Focus Stacking

File System & Measurement Table

Overlay and Comparison

Report Generator

Camera & Lens Controls

Time lapse Video Record

Measurements

Software Status Bar

Magnifications

Calibration

Software Preferences

Camera Control

Lens Distortion Control

Device Control

QR & Barcode Reader

Image & File Thumbnails

Image Control

Automatic Counting

Intuitive & Efficient

Icon based graphical user interface and powerful video processing engine. Advanced tools for zoom tracking, geometrical measurements, image overlays, comparisons, time laps video recording, depth of focus extender, automatic object detection and counting, DXF editor, drawings, annotations and reporting.

INSPECTIS© software is supplied in 4 functionality levels, Basics, Pro, OAI and ProX.

Feature	Basics	Pro	OAI	ProX
Live image view, freeze and capture	•	•	•	•
Full screen live image view	•	•	•	•
Record video and audio		•		•
Digital zoom of still images and live video	•	•	•	•
Flip image vertically/horizontally, b/w conversion and enhanced contrast	•	•	•	•
Save multiple frames to one picture	•	•	•	•
Add comments linked to images	•	•	•	•
Print images or send files by email	•	•	•	•
File folder system management	•	•	•	•
Multilanguage interface	•	•	•	•
Direct camera and lens parameters controls	•	•	•	•
16 Memory pre-sets and recall for camera and lens configurations	•	•	•	•
Define and calibrate custom magnifications	•	•	•	•
Automatic calibration and tracking of the entire zoom range of the camera	•	•	•	•
Import and calibrate external images	•	•	•	•
Automatic lens distortion correction in live image	•	•	•	•
Distance measurement	•	•	•	•
Area, length, perimeter circle, angle, curve length and polygon measurements		•		•
Select, move, adjust, erase, undo/redo measurements and annotations	•	•	•	•
Overlay grids, rectangle and crosshair on live image	•	•	•	•
Annotation and objects counts on Image	•	•	•	•
Drawing tools like rectangle, ellipse, curve, line and arrow		•	•	•
Password for supervisor lock software preferences and camera settings	•	•	•	•
Calibration tracking error compensation	•	•	•	•
Generate reports and certificates with images and measurements	•	•		•
Automatic Barecode, QR and Datamatrix scanner and Excel report			•	•
Auto snap to measurement lines, ends, corners and centres		•		•
Export performed measurements (TXT and EXCEL)		•		•
Overlay 2-dimensional scales or PNG pictures on live image (digital graticule)		•	•	•
Compare live to still or still to still images		•	•	•
Automatic object counting				•
Automatic and manual focus stacking (dept of field extender)				•
Time lapse video capture and recording			•	•
Time interval Overlay Assisted Inspection (OAI)			•	•
Automatic alignment of overlaid image to live image			•	•
Automatic rescaling of overlaid image through lens zoom			•	•
DXF editor with optical edge detection. Create, import, edit, export or overlay			•	•

Configurations & Accessories

HD-115, Inspectis F40s Modular FHD Digital Inspection Microscope

Compact, modular digital microscope with single-cable design, motorised x40 zoom, fast auto-focus, built-in controls and wide range of accessories, configurable for various in-line and off-line applications including system integration with SDK/API.

Included items:
- Inspectis F40s, Full HD 1090p 60fps Modular Digital Microscope, 40x Zoom
- Power Supply
- Power cord
- 2 years new product warrany

HD-115-KIT-ADV, Inspectis F40s Advanced FHD Inspection System with Software

Complete system package including F40s digital microscope, track stand, precisionXY floating board, ringlight and INSPECTIS© Pro software for user-friendly optical inspection, analysis, measurement, documentation and reporting of various objects, including electronic circuit boards.

Included items:
- Inspectis F40s, Full HD 1080p Digital Inspection Microscope, 40x zoom
- Inspectis Track stand, Large Base with focusing WD 35-410mm, ESD-Protected
- Inspectis XY Floating Board, ESD-protected
- Inspectis Magnetic pegs (4x kit)
- Inspectis RingLight White LED with detachable diffuser
- Inspectis Full HD HDMI USB3.0 Capture with INSPECTIS© Pro software

Monitor and keyboard are illustrative and not included
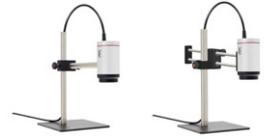
"Fully Configurable for Your Inspection Task"

Stands

HD-060, Single-arm Boom Stand
HD-060-E, Single-arm Boom Stand, Antistatic
HD-071, Double-arm Boom Stand, Light
HD-071-E, Double-arm Boom Stand, Light, Antistatic

HD-060, Single-arm Boom Stand
HD-060-E, Single-arm Boom Stand, Antistatic
HD-071, Double-arm Boom Stand, Light
HD-071-E, Double-arm Boom Stand, Light, Antistatic

HD-070, Double-arm Boom Stand with Heavy-Duty Base
HD-212-90, Slider-plate stand, 90 degrees view
HD-210-LB-E, Track stand, Large Base with focusing WD 35-410mm,

HD-080, Articulated-arm Boom Stand with Bench Clamp
HD-081, 3-axis Articulated-arm Light Stand with Bench Clamp
HD-081-H, 3-axis Articulated-arm Heavy-duty Stand with Bench-top Clamp

HD-170, XY-travel Stand, In-line
HD-170-LR, XY-travel Stand, In-Line, Long Y-range

HD-180, XY-travel Stand, Table-top
HD-180-LR, XY-travel Stand, Table-top, Long Y-range

HD-370, Compact XY-travel Stage, In-line
HD-380, Compact XY-travel Stage, Table-top

Configurations & Accessories

HD-115-KIT-LWD, Inspectis F40s 500mmWD, Stand, ACU and RingLight

Complete system package including F40s -LWD digital microscope for optical inspection of large objects or when a large working distance is required.

Included items:

• Inspectis F40s LWD, 1080p Digital Macroscope, 40x zoom, WD ~ 350mm-495 mm
• Inspectis Single-arm Boom Stand, LWD, ESD-Protected
• Inspectis Remote Camera Control with Advanced Adjustments and LP control
• Inspectis RingLight White LED with detachable diffuser

Monitor and keyboard are illustrative and not included

HD-114-KIT-SOFT, Inspectis F40, All-in-One with INSPECTIS© Basics

Complete system package including all-in-one F40 FHD Digital Microscope with built-in illumination, robust aluminium stand stand, and INSPECTIS© Basics software.

Included items:

• Inspectis F40, All-in-One, Full HD 1080p Digital Inspection Microscope, 40x zoom
• Inspectis Full HD HDMI USB3.0 Capture with INSPECTIS© Basics software
• Inspectis USB communication Cable
• Annual Service and Support for INSPECTIS© Pro (one year)

Monitor and keyboard are illustrative and not included

Stages, Camera Controls, Monitors

HD-028, XY Floating Board
HD-028-L, XY Floating Board with Position Lock

HD-184, Precision XY-stage 50x50mm travel with micrometer drives and magnetic pegs

HD-029, Tilt Board
HD-150, Tilt Board with Telescopic Height Adjustable
HD-050, Telescopic Height Adjustment Table

HD-128, Magnetic pegs (4x kit)

HD-020, Remote Control with Advanced Adjustments
HD-020-L, Remote Control with Advanced Adjustments and LP control
HD-200, Remote Camera Control with Knob Drive
HD-200-MEM, Remote Camera Control, Knob Drive, programable with 7 memories

HD-201, Remote Camera Control PC software including Com. Cable

HD-027, Foot switch for camera control (2 pedals)

HD-020-C, Extension Cable (1.0m) for Remote Camera Controls

HD-090, Rack & Pinion Fine Focusing, Standard
HD-090-CF, Rack-&-Pinion Focusing, Coarse/Fine
HD-091, Rack-&-Pinion Focusing, Coarse/Fine motion for XY- and double-rod boom stands

HD-106, 14" 4K LED Monitor with VESA mount
HD-107, 15.6" 4K LED Monitor with VESA mount
HD-102, 12" Full HD monitor with post bracket

"Designed According to Industry Standards"

Configurations & Accessories

HD-115-KIT-SOFT, IInspectis F40s Software, FHD Inspection System with INSPECTIS© Basics software

Complete system package for optical inspection, analysis, quality control, geometrical measurement and documentation using a computer and software.

Included items:
- Inspectis F40s, Full HD 1080p Digital Inspection Microscope, 40x zoom
- Inspectis Single-arm Boom Stand
- Inspectis RingLight White LED with detachable diffuser
- Inspectis Full HD HDMI USB3.0 Capture with INSPECTIS© Basics software

Monitor and keyboard are illustrative and not included

HD-115-KIT-CAP, F40s Capture, FHD Inspection System, Digital Image/Video Capture and monitor

Complete system package for optical inspection, quality control and image/video recording on USB memory without a computer.

Included items:
- Inspectis F40s, Full HD 1080p Digital Inspection Microscope, 40x zoom
- Inspectis Single-arm Boom Stand
- Inspectis Single-Spot LED matrix light with gooseneck
- Full HD External HDMI Image Capture and Video Recorder for F microscopes
- 27"-28" Full HD monitor (for F)

Lenses. Software and Illumination

HD-037-A, Macro lens +2 diopter, 67mm
HD-038, Macro lens +3 diopter, 67mm
HD-039, Macro lens +5 diopter, 67mm
HD-123, Macro lens +10 diopter, 67mm
HD-142, High Magnification lens +28 diopter
HD-143, High Magnification lens +56 diopter

HD-041, Inspectis 360 degrees Rotating Viewer

INSPECTIS © ProX
HD-044-60-PX, NSPECTIS© ProX software with 4K USB3.2 Gen 2x2 Capture Pro

HD-051, USB Foot switch 1-pedal
HD-052, USB Foot switch 3-pedals

HD-140-F, Full HD External HDMI Image Capture and Video Recorder for F microscopes

HD-124-LA, RingLight White LED, Large Aperture with Diffuser and Dimmer

HD-124, RingLight White LED Segment Control
HD-124-WUV, Dual White & UV RingLight with Dimmer and Segment Control
HD-025-B, RingLight UV LED with Dimmer including protection glass

HD-24-P-U, Polarisation filter set for Ring Light
HD-124-D, Diffuser filter for RingLight

HD-127, Backlight, brightfield transmitted with dimmer
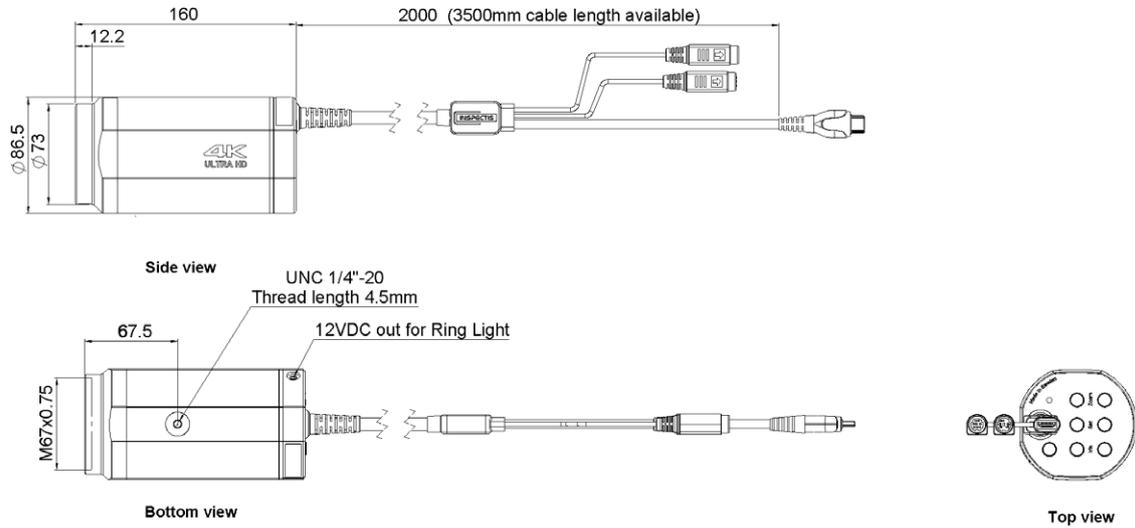HD-127-P, Inspectis Polarisation filter set for Backlight
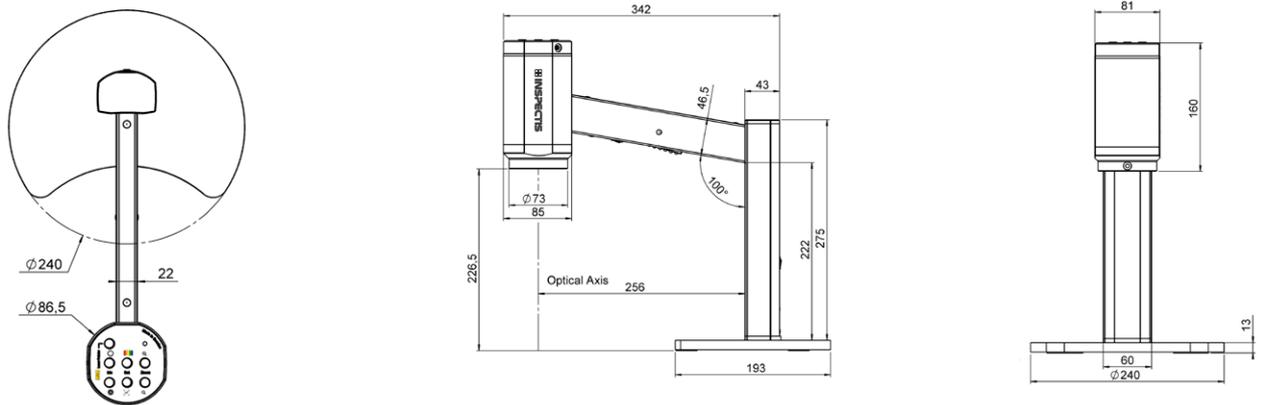
HD-126, Double-Spot LED matrix light with gooseneck

"Advanced Lighting for True Colour, Texture, and 3D Structure of the Objects"

HD-115

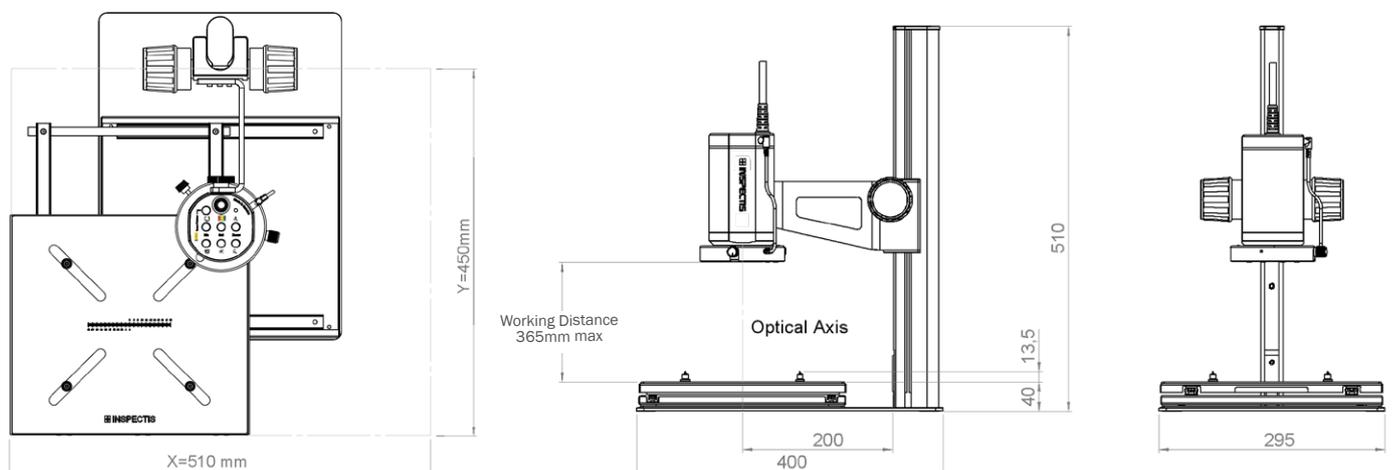160   2000 (3500mm cable length available)

12.2

Ø86.5
Ø73

4K ULTRA HD

Side view

UNC 1/4"-20
Thread length 4.5mm

12VDC out for Ring Light

67.5

M67x0.75

Bottom view

Top view

HD-114

Ø240
22
Ø86,5

342
46,5
43
100°
Ø73
85
226,5
222
275
Optical Axis 256
193

81
160
60
Ø240
13

HD-115-KIT-ADV

Y=450mm

X=510 mm

Working Distance
365mm max

Optical Axis

510

13.5

40

200
400

295

Dimensions in mm

SPECIFICATIONS

Digital Camera System:

Parameter	Value
Video Output	Full HD, 1080p, 60 frames per second
Optical System	30:1 motorised zoom with auto-focus and auto-brightness intensity control, F1.6 - 4.8
Digital Zoom	1.3x digital zoom with 3D noise reduction
Magnification (on 28" monitor)	~ 2.5x to 100x with standard lens. Up to 1414x with +56 diopter lens
Field of View	~ 240mm at 1x zoom, 6.1mm at 40x zoom, 0.43mm at 40x with +56 diopter lens
Working Distance	226mm with standard lens. 18mm with +56 diopter lens
I/O Ports	HDMI2.0 video output, 5P MiniDin power input, 8P MiniDin for communication
On-board Controls	Zoom, Auto-brightness level, Manual/Auto Focus, White Balance
External Remote Controls	Zoom, Iris, Manual/Auto Brightness, Manual/Auto Focus, White Balance, Clarity filter, Contrast, Picture Quality Mode, Display Text, Crosshairs overlay, Image Rotate, Image Freeze, Memory Save/Recall (2 pcs), Laser-pointer, Foot-switch.
Illumination	White LED Ringlight, Single-spot and Double-spot LED with gooseneck, Bright-filed white back light
Storage / Operating Environment	-20° – +60°C, 20 - 95% RH, non-condensing / -5 ° – +40°C, 20 - 95% RH, non-condensing
Size, Weight	φ 86.5 x 160mm exclusive cable. 0,88 kg. excluding cable and stand

Ordering numbers Inspection systems packages:

Item name	Order No.
Inspectis F40s, Full HD 60fps Modular Digital Microscope, x40 Zoom	HD-115
Inspectis F40s Advanced 2K60 Inspection System with INSPECTIS© Pro Utility and Metrology Software	HD-115-KIT ADV
Inspectis F40s 2K60 Long Working Distance System, with LWD Stand, Advanced Controller and Ring light	HD-115-KIT-LWD
Inspectis F40s Software, 2K60 Inspection System with Stand, Ringlight and INSPECTIS© Basics software	HD-115-KIT-SOFT
Inspectis F40s Capture, 2K60 Inspection System with Stand, Light, Image/Video Capture and monitor	HD-115-KIT-CAP
Upgrade with 3m Extended Cable	* -EC
Upgrade with ESD-protected Housing	* -E
Upgrade with LP	* -L
Upgrade with Hermetic Sealed Housing	* -S
Upgrade with Advanced Iris Controlled Auto Brightness	* -A