

**OLYMPUS**<sup>®</sup>

Your Vision, Our Future

Industrial Videoscope

**IPLEX UltraLite**

***IPLEX***

# Handheld Videoscope

with Advanced Image Quality and Functionality



Dramatically improve your field inspections with a palm-sized, ultralight videoscope.

With its durable design and improved performance that allows it to be used in diverse environments, the IPLEX UltraLite is the industry's choice in handheld remote visual inspections.

ACTUAL SIZE



# Outstanding Mobility

With its unique ergonomic design, the IPLEX UltraLite videoscope fits in the palm of your hand. Because it is extremely lightweight, it can be used to perform field inspections with the greatest of ease.

## Surprisingly compact and lightweight

The IPLEX UltraLite weighs only 700 g (1.5 lb) with its lithium-ion battery. This easy-to-use videoscope is so small and light that it is the perfect companion for the inspector who works in areas with limited access or in cramped spaces or has to navigate narrow stair cases or steep ladders.



## Palm-sized ergonomic design

The ergonomic IPLEX UltraLite fits snugly into the palm of your hand, and provides speedy, fatigue-free operation even during prolonged inspections.



# Outstanding Usability

The IPLEX UltraLite offers intuitive manipulations for efficient, accurate inspections.

## Icon-based menus for instant recognition and intuitive operations

IPLEX UltraLite menus feature simple, intuitive icons that let you quickly identify and activate the desired functions.

## Quick-access hot buttons

IPLEX UltraLite eliminates complicated menu settings. The IPLEX UltraLite functions can be easily operated with just one hand. By pressing dedicated, direct-access keys, you can quickly articulate scope tip, record images, adjust brightness, and input text.



## Quick, precise scope articulation

The IPLEX UltraLite features quick, precise articulation. The scope tip instantly and accurately responds to the articulation control and approaches targets precisely, enabling fast, efficient inspections.



# Outstanding Quality

With its innovative, compact design, the IPLEX UltraLite offers uncompromising, industry-leading durability and image quality.

## Durable chassis withstands drops and falls

The IPLEX UltraLite's durability has been thoroughly proven. It passes our 1.2 m (3.9 ft) drop test, and withstands inspection-site drops and falls. The LCD monitor is equipped with the very strong Gorilla Glass, passing a steel-ball drop test compliant with the international standard, IEC-61010.



## Rugged design for reliable operation in harsh environments

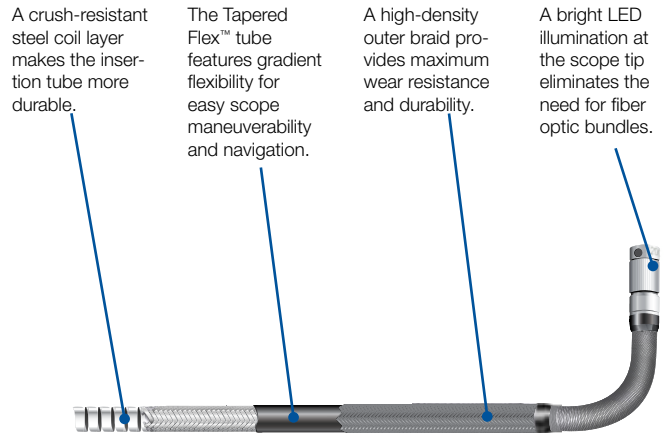
Operators are often called on to conduct inspections in difficult environments. The IPLEX UltraLite stands up to rain, sand and dust, and compliant with IP55.

Ideal for outdoor inspections, the IPLEX UltraLite faithfully produces brilliant images, under sunlight.



## Insertion tube resists crushing and abrasion

The IPLEX UltraLite's insertion tube is both crush- and abrasion-resistant. It is also designed with unique Olympus Tapered Flex™ technology for outstanding scope maneuverability. With its durability and graduated flexibility, the IPLEX UltraLite insertion tube enables you to inspect objects inside winding and rough paths.



## Sharp live-image and clear movies for reliable observation and analysis

When it comes to remote visual inspections, image quality is one of the highest priorities. The IPLEX UltraLite is equipped with our unique Olympus image processor, and produces sharp and clear images. Along with its superb color-reproducing capability, the IPLEX UltraLite enables you to accurately detect even small defects.

Observed images can be stored in a connected SD or SDHC card as high-quality JPEG still images and MPEG-4 movies.



Welded pipe

# Outstanding Functionality

The IPLEX UltraLite now offers several new hardware and software features to enhance the efficiency and accuracy of your inspections and analysis.

## Extra-bright illumination with versatile optical adaptors **NEW**

For optimal direction and magnification covering various types of objects, the IPLEX UltraLite offers a comprehensive range of interchangeable optical tip adaptors. The bright LED mounted on the tip adaptors clearly illuminates targets. In addition, Hi-Beam mode is newly equipped on the IPLEX UltraLite, which boosts illumination up to 2X for expanded inspection capability.



## InHelp™ Inspection Assist Software **NEW**

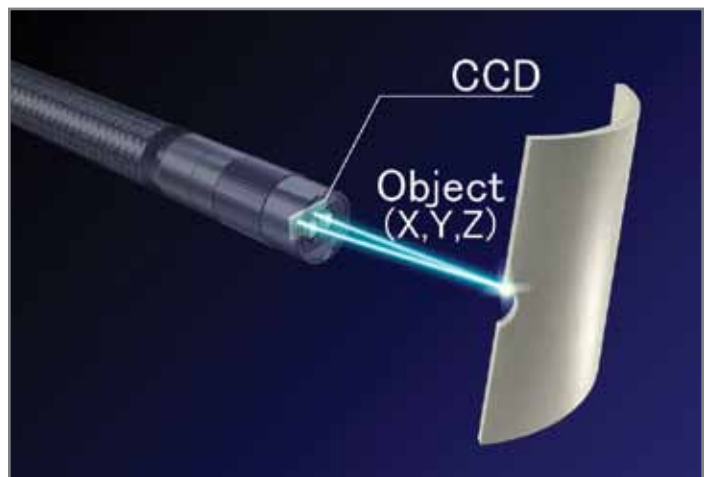
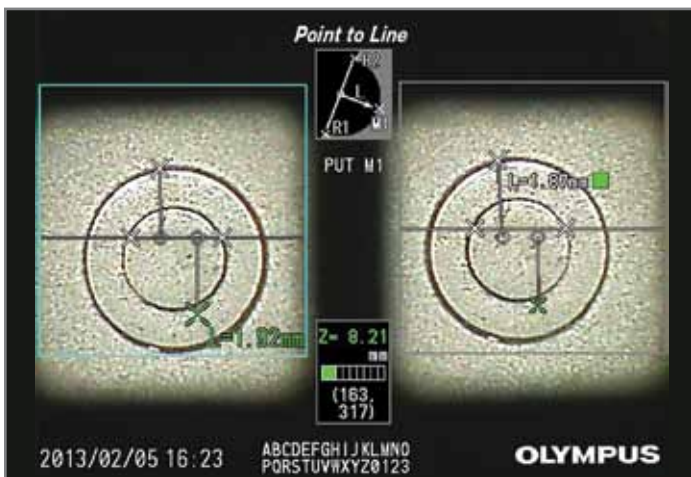
InHelp, the optional inspection data management and reporting software streamlines many aspects of remote visual inspections with the IPLEX UltraLite. The software greatly improves work efficiency and simplifies inspections by organizing stored images on the IPLEX UltraLite and generating detailed inspection reports on a PC with simple click-operation.



## Proven Stereo Measurement\* **NEW**

Our advanced Stereo Measurement technology offers outstanding reliability and accuracy for your inspections. By capturing image information through two parallax lenses, the IPLEX UltraLite permits accurate measurement of almost any object from any angle.

Additionally, our unique Spot-Ranging™ feature on the IPLEX UltraLite, the industry's only real-time tip-to-target distance measurement tool, navigates the scope tip to the optimum distance from a target for the most precise measurement on the first try.



\*Available on the Stereo Measurement model.

# Accessories



## Carrying case

Even when packed with the IPLEX UltraLite and all of its accessories, the standard carrying case weighs a light 3.5 kg (7.7 lb), providing easy transport and storage.



## Durable carrying case\* MAJ-2019

This optional durable case fully protects the instrument from damage during shipment. It is small enough to fit in the overhead compartment of most aircraft, making it ideal for frequent transport.



## Tripod adaptor\* MAJ-2017

Makes it possible to mount the IPLEX UltraLite on a tripod for increased stability during prolonged inspections.



## Rigid sleeve sets\*

**MAJ-1253**  
(for 6.0 mm insertion tube)

**MAJ-1737**  
(for 4.0 mm insertion tube)

Sets are available for 6.0 mm and 4.0 mm scopes. Each set consists of three rigid sleeves of 250 mm (9.84 in.), 340 mm (13.39 in.) and 450 mm (17.72 in.) lengths.

Note: The carrying case can store 250 mm and 340 mm length types.



## Lithium-ion battery IB-1\*

## Battery charger IC-1\*

The battery provides approximately 90 minutes of operating time.

Note: Approximately 70 minutes of operating time in Hi-Beam mode setting.



## Optical tip adaptors\*

The wide range of UltraLite tip adaptors meets the optical requirements of any application.



## SDHC card

An SDHC card with a 4 GB capacity is supplied as standard.



## AC power adaptor

The IPLEX UltraLite can be operated with either the provided AC adaptor or the battery.

\*Option

# IPLEX UltraLite Specifications

## SCOPE VARIATION

Model No.		IV8420U	IV8435U	IV8620U	IV8635U
Insertion Tube	Scope Diameter*1	φ4.0 mm (0.157 in.)		φ6.0 mm (0.236 in.)	
	Scope Length	2.0 m (6.6 ft)	3.5 m (11.5 ft)	2.0 m (6.6 ft)	3.5 m (11.5 ft)
	Exterior	High-durability tungsten braid			
	Tube Flexibility	Uniform stiffness		Tapered Flex™ tube with flexibility gradually increasing toward the distal end.	
Approx. System Weight (with battery)		700 g (1.5 lb)	760 g (1.7 lb)	800 g (1.8 lb)	900 g (2.0 lb)
Articulation Section	Articulation Angle (UP/DOWN/RIGHT/LEFT)	130 °			120 °
	Articulation Mechanics	Joystick controlled scope tip articulation with articulation lock mechanics			

\*1 The insertion tube can be inserted into a φ4.0 mm or φ6.0 mm hole.

## BASIC FUNCTIONS

Dimensions (W x D x H)	120 x 190 x 190 mm (4.7 x 7.5 x 7.5 in.)
Temperature Sensor	2-stage indicator for high temperature warning
Locking Mechanism	Double-Threaded Attachment, with O-ring seal.
Illumination	Multiple ultra-high intensity LEDs. Hi-Beam mode available for extra-bright illumination.
Tip Adaptor Identification	Automatic recognition of tip adaptor attachment and detachment.
Quick Access Buttons	The following features have dedicated quick access buttons, levers, or joysticks on the palmheld system: Live mode, Brightness, Zoom, Freeze Image, Record Still/Video, Articulation Control, Menu Access, Saved Recording Index Access, Quick Last Image Recall.
LCD Monitor	3.7 in. LCD
Power Supply	Battery: 7.2 V, Approx. 90-minute operating time
	AC power: 100 V to 240 V, 50/60 Hz (with supplied AC adaptor)
USB Connector	Version 2.0 standards
Harsh Environment Resistance	Rain- and dust proof (compliant with IP55), Drop-proof

## SOFTWARE MANIPULATIONS

Image Manipulations	5x digital seamless zoom 10-step digital brightness control (including Gain, Exposure, and Monochrome boost controls)
Display Text Options	30-character title display

## RECORDING MANAGEMENT FUNCTIONS

Recording Media	SD/SDHC Card (4 GB standard, compatible with recommended SD/SDHC cards)	
Overlay	Selectable 30 character title with date, time and system setting.	
Still image Recording	Resolution	H640 x V480 (Pixel)
	Format	Compressed JPEG format (Exif 2.1 compliant)
	File Size	Approx. 300 KB (Approx. 13,400 images per 4 GB memory)
Movie Recording	Resolution	H640 x V480 (Pixel)
	Format	AVI format Xvid MPEG-4 Compression
	File Size	Approx. 600 KB per second (Approx. 120 min per 4 GB memory)

## STEREO MEASUREMENT FUNCTIONS— Exclusive for Stereo Measurement models

Distance	Distance between two points
Point-to-Line	Perpendicular distance between a point and a user-defined line
Depth	Orthogonal depth/height distance between a point and a user-defined plane
Area/Lines	Multiple point circumference and area measurement

## OPERATING ENVIRONMENT

Operating Temperature	Insertion Tube	In air: -25 to 100 °C (-13 to 212 °F) In water: 10 to 30 °C (50 to 86 °F)
	Other parts than above	In air: -10 to 40 °C (14 to 104 °F)
Relative Humidity	All parts	15 to 90 %
Liquid Resistance	All parts	Operable when exposed to machine oil, light oil, or 5% saline solution.
Waterproofing	Insertion Tube	Operable underwater up to a water pressure equivalent to a depth of 3.5 m. Not operable underwater with stereo measurement tip adaptors.
	Other parts than above	Operable in rain (battery compartment must be closed). Not operable underwater.

# Tip Adaptor Optical Specifications

## OPTICAL TIP ADAPTOR VARIATION

### 6.0 mm Viewing Tip Adaptors

		AT40D-IV86	AT80D/NF-IV86	AT80D/FF-IV86	AT120D/NF-IV86	AT120D/FF-IV86	AT80S-IV86	AT120S/NF-IV86	AT120S/FF-IV86	
Optical System	Field of view	40°	80°		120°		80°	120°		
	Direction of view	Forward					Side			
	Depth of field*1	200 to ∞ mm	8 to ∞ mm	35 to ∞ mm	4 to 190 mm	25 to ∞ mm	18 to ∞ mm	1 to 25 mm	5 to ∞ mm	
Distal End	Outer diameter*2	ø6.0 mm								
	Distal end*3	19.8 mm					25.2 mm			

### 4.0 mm Viewing Tip Adaptors

		AT120D/NF-IV84	AT120D/FF-IV84	AT120S/NF-IV84	AT120S/FF-IV84
Optical System	Field of view	120°			
	Direction of view	Forward		Side	
	Depth of field*1	4 to 190 mm	25 to ∞ mm	1 to 20 mm	6 to ∞ mm
Distal End	Outer diameter*2	ø4.0 mm			
	Distal end*3	19.7 mm	19.6 mm	22.2 mm	

### Stereo Tip Adaptors (4.0 mm and 6.0 mm)—Exclusive for Stereo Measurement models

		AT50D/50D-IV84	AT50S/50S-IV84	AT60D/60D-IV86	AT60S/60S-IV86
Optical System	Field of view	50°/50°		60°/60°	
	Direction of view	Forward/Forward	Side/Side	Forward/Forward	Side/Side
	Depth of field*1	5 to ∞ mm	4 to ∞ mm	5 to ∞ mm	4 to ∞ mm
Distal End	Outer diameter*2	ø4.0 mm		ø6.0 mm	
	Distal end*3	25.0 mm	28.8 mm	25.9 mm	32.2 mm

\*1. Indicates the viewing distance with optimal focus.

\*2. The adaptor can be inserted into a ø4.0 mm or ø6.0 mm hole when mounted on the scope.

\*3. Indicates the length of the rigid portion at the scope's distal end when mounted.

[www.olympus-ims.com](http://www.olympus-ims.com)

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**OLYMPUS NDT INC. is ISO 9001 and 14001 certified.**

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