

OLYMPUS[®]

Your Vision, Our Future

Industrial Videoscope

IPLEXFX

Features and Specifications





Scope Unit

Each interchangeable scope unit consists of the handheld control unit and insertion tube. Scope unit attaches to the base with two secure latches. Available in NTSC or PAL format models (region specific). Scope weight 4.2 lb (1.9 kg)

Model No.	Scope Diameter	Total Length	Articulation Angle
IV8420	4.0 mm (0.157 in)	2.0 m (6.6 ft)	UP/DOWN/RIGHT/LEFT/130°
IV8435	4.0 mm (0.157 in)	3.5 m (11.5 ft)	UP/DOWN/RIGHT/LEFT/130°
IV8620	6.0 mm (0.236 in)	2.0 m (6.6 ft)	UP/DOWN/RIGHT/LEFT/150°
IV8635	6.0 mm (0.236 in)	3.5 m (11.5 ft)	UP/DOWN/RIGHT/LEFT/130°

Insertion Tube

Outer Braid: Tube Flexibility:	Tungsten with special processing Tough Taper Flex (TTF) design with gradual increasing flexibility towards the distal end
Articulation Mechanics:	TrueFeel™ scope tip articulation with electronic power-assisted, manual articulation
Articulation Angle:	4-way angle (see model no. table)
Temperature Sensor:	2-stage indicator for high temperature warning

Handheld Control Unit

Dimensions:	12.2 in x 3.6 in x 7.6 in (311 mm x 93 mm x 192 mm)
Weight:	1.7 lb (750 g)
Quick access buttons:	The following features have dedicated quick access buttons, levers or joysticks on the hand control unit: Live mode, WiDER™ Gain Control, Brightness, Zoom, Freeze Image, Record Still/Video, Articulation Control, Articulation Lock, Menu Access, Saved Recording Index Access, Quick Last Image Recall

Base Unit

Model Number:	IV8000
Dimensions:	9.8 in x 6.3 in x 11.2 in (250 mm x 160 mm x 285 mm)
Weight:	10.8 lb, including battery (4.9 kg)
Construction:	Cast magnesium alloy chassis

Hardware Connectors

Video Output:	S-Video, Composite BNC (NTSC/PAL-model specific)
Audio Input:	External microphone, 3.5mm mono jack
Auxiliary Connector:	Two-way communication connector for future interface development
USB:	One USB connector for direct flash drive recording and PC communication

LCD Specifications

LCD Size:	6.3" diagonal
LCD Resolution:	XGA High Resolution 1024 x 768
LCD Controls:	Dedicated LCD power, brightness control and 180° image rotate buttons located on LCD panel
LCD Mounts:	2x standard 1/4"-20 mounts on left side and base

Power Supply

Internal Battery:	Voltage: 14.8V nominal, 11.5V to 16.8V Operating Time: 150 minutes (min)
AC Power:	Input Voltage: 100V to 240V Supply Frequency: 50/60 Hz (with supplied AC adapter)

Carrying Case

Construction:	Pelican™ brand case made of Polypropylene Copolymer material
Dimensions:	24.6 in x 11.9 in x 19.3 in (624 mm x 303 mm x 491 mm)
Weight:	22.0 lb (10 kg)

Software Controls

Image Controls:	3x digital zoom 7 step digital brightness control +/- 3 contrast adjustment
Adjustable Gain Control:	5 step adjustable gain control with exclusive WiDER™ brightness level balancing technology
Color Enhancement:	Monochrome mode or Color Emphasis of red, blue or all primary colors
Exposure Control:	Adjustable CCD exposure time NTSC: 17ms to 500ms PAL: 20ms to 500ms * fixed minimum exposure time for stereo measurement mode
Display Text Options:	Selectable date, time, 30-character title display and image setting display

Recording Management Functions

Recording Media:	Compact Flash Card (1GB standard, up to 2 GB compatible) USB Flash Drive
Internal Memory:	1 GB standard
Image Management Functions:	Search by date, Live/Saved image comparison

Still Image Recording

Resolution:	NTSC: 640x480; PAL: 768x576
Format:	Standard Viewing Tip Adapters: JPEG - super high quality (SHQ); approx 300kb high quality (HIGH); approx 200kb standard quality (STD); approx 100kb Stereo Tip Adapters: JPEG (SHQ); approx 300kb Uncompressed TIFF; approx 640kb
Overlay:	Selectable 30 character title with date and time (optional) WAV format, 60 sec max.; 16 kb/sec
Audio Overlay:	

Video Recording

Resolution:	NTSC: 320x240; PAL: 348x288
Format:	AVI format, Motion JPEG compression, Windows Media Player compatible
Recording Time:	Approx 30 minute per 1 GB
Audio:	Optional, selectable before recording

Measurement Functions

IPLEX FX features seven different measurement modes. Scalar measurement is available with all standard viewing tip adapters. Stereo measurements require a stereo tip adapter.

Scalar Measurement:	Distance between two points based on a known measurement in the same image plane
Stereo Measurement	
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
Profile:	Plot of cross section between two points
Multi:	Multiple measurements (distance, point-to-line and area) for two points

MIL-STD Compliance

The operating environment performance is confirmed by the following MIL-STD-810F and MIL-STD-461E tests under battery operation. Refer to instructions manual for more details and testing conditions.

Vibration:	MIL-STD-810F, Method 514.5, Procedure I (General vibration test)
Shock:	MIL-STD-810F, Method 516.5, Procedure IV (Transit drop test)
Water Resistance:	MIL-STD-810F, Method 506.4, Procedure I (Rain and Blowing rain test)
Humidity:	MIL-STD-810F, Method 507.4
Salt Fog:	MIL-STD-810F, Method 509.4
Sand and Dust:	MIL-STD-810F, Method 510.4, Procedure I (Blowing dust test)
Electromagnetic Interference (EMI):	MIL-STD-461E, RS-103, (Radiated susceptibility test for non-metallic below deck shipboard conditions)
Explosive Atmosphere:	MIL-STD-810F, Method 511.4, Procedure I (Operation in an explosive atmosphere test)



Tip Adapter Optical Specifications

6mm Viewing Tip Adapters									
		AT40D/IV86	AT80D/NF-IV86	AT80D/FF-IV86	AT120D/NF-IV86	AT120D/FF-IV86	AT80S-IV86	AT120S/NF-IV86	AT120S/FF-IV86
Product abbreviation		40D V86	80DN V86	80DF V86	120DN V86	120DF V86	80S V86	120SN V86	120SF V86
Character color		Black	Red	Green	Red	Green	Black	Red	Green
Optical system	Field of View	40°	80°	80°	120°	120°	80°	120°	120°
	Direction of view	Forward	Forward	Forward	Forward	Forward	Side	Side	Side
	Depth of field *1	200 to ∞ mm	8 to ∞ mm	35 to ∞ mm	4 to 190mm	25 to ∞ mm	18 to ∞ mm	1 to 25mm	5 to ∞ mm
	Fno.	2.4	9.5	3.1	9.2	3.3	4.0	9.6	5.9
Distal end	Outer diameter *2	ø6.0mm	ø6.0mm	ø6.0mm	ø6.0mm	ø6.0mm	ø6.0mm	ø6.0mm	ø6.0mm
	Distal end *3	19.8 mm	19.8 mm	19.8 mm	19.8 mm	19.8 mm	25.2 mm	25.2 mm	25.2 mm

4mm Viewing Tip Adapters					
		AT120D/NF-IV84	AT120D/FF-IV84	AT120S/NF-IV84	AT120S/FF-IV84
Product abbreviation		120DN V84	120DF V84	120SN V84	120SF V84
Character color		Red	Green	Red	Green
Optical system	Field of View	120°	120°	120°	120°
	Direction of view	Forward	Forward	Side	Side
	Depth of field *1	4 to 190mm	25 to ∞ mm	1 to 20mm	6 to ∞ mm
	Fno.	9.2	3.3	9.6	6.0
Distal end	Outer diameter *2	ø4.0mm	ø4.0mm	ø4.0mm	ø4.0mm
	Distal end *3	19.7 mm	19.6 mm	22.2 mm	22.2 mm

Stereo Tip Adapters (6mm and 4mm)					
		AT50D/50D-IV84	AT50S/50S-IV84	AT60D/60D-IV86	AT60S/60S-IV86
Product abbreviation		50/50D V84	50/50S V84	60/60D V86	60/60S V86
Character color		Blue	Blue	Blue	Blue
Optical system	Field of View	50°/50°	50°/50°	60°/60°	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
	Fno.	7.5	7.5	7.5	7.5
Distal end	Outer diameter *2	ø4.0mm	ø4.0mm	ø6.0mm	ø6.0mm
	Distal end *3	25.0 mm	28.8 mm	25.9 mm	32.2 mm

NOTE: 1. Indicates the range where the image can be viewed clearly. 2. The adapter can be inserted into a ø4.0mm or a ø6.0mm hole when it is mounted on the scope. 3. Indicates the length of the rigid portion at the scope's distal end when mounted.

Tip Adapter General Specifications

Locking Mechanism:	Double Threaded Attachment, with O-ring seal
Illumination:	Multiple high intensity LEDs
Tip Adapter Identification:	Automatic SmartTip™ Recognition Technology

Operating Environment

Insertion Tube

Operating Temperature:	In air: -13° to 212° F (-25° to 100° C) Note: Large angle angulation may become difficult at low temperatures In water: 50° to 86° F (10° to 30° C)
Operating Atmospheric Pressure:	In air: 1 atm (1013 hPa) In water: 1 to 1.35 atm (1013 to 1368 hPa)
Relative Humidity:	15 to 90%
Liquid Resistance:	Operable when exposed to machine oil, light oil or 5% saline solution
Waterproofing:	Operable under water with secured viewing tip adapter and o-ring. Not waterproof under water with stereo measurement tip adapters

All Other System Parts (Base Unit, Hand Control Unit)

Operating Temperature:	In air: -5.8° to 120° F (-21° to 49° C)
Operating Atmospheric Pressure:	In air: 1 atm (1013 hPa)
Relative Humidity:	15 to 90%
Liquid Resistance:	Operable when exposed to machine oil, light oil or 5% saline solution
Waterproofing:	Operable in blowing rain conditions (Battery compartment and interface doors must be closed). Not waterproof under water.

External Application Standards

Low Voltage Directive and EMC Directive:



This device complies with the requirements of Directive 73/23/EEC and 93/68/EEC concerning electrical equipment designed for use within certain voltage limits.

FCC Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference received, including interference that may cause undesired operation. This class A digital apparatus complies with Canadian ICES-003.

WEEE Directive:



In accordance with European Directive 2002/96/EC on Waste Electrical and Electronic Equipment, this symbol indicates that the product must be disposed of as unsorted municipal waste, but should be collected separately. Refer to your local Olympus distributor for return and/or collected systems available in your country.

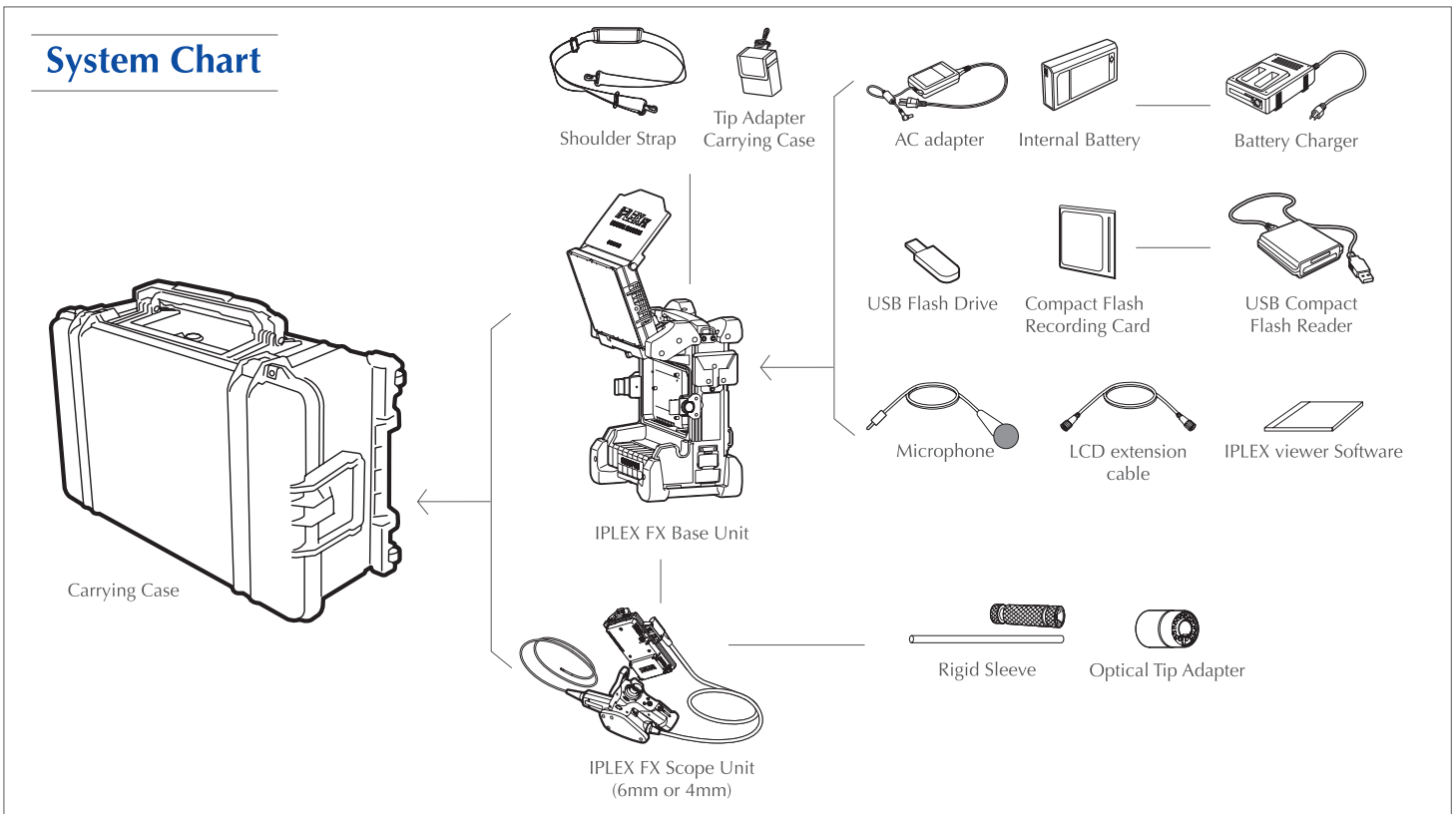
RoHS Directive:

RoHS compliant

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System Chart



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