



Leading-edge technologies for micro-miniature, single-use videoscopes

- Micro-miniature construction: 1.48mm diagonal CMOS camera
- Integrated white LED illumination and video processing
- Wide 120° field of view

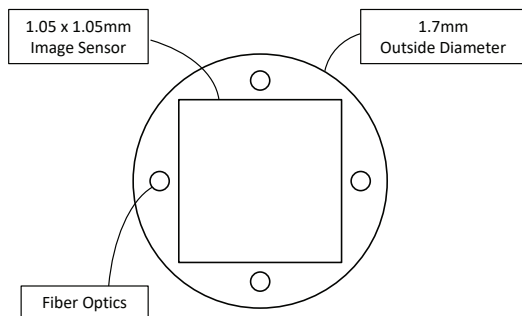
Theia™ 160

160,000 Pixel Micro-Miniature Flexible Endoscopy System

Overview

The Theia™ 160 system is a combined illuminator and video processor that makes a giant leap forward in the field of microendoscopy. By decreasing the flexible endoscope size and increasing resolution, the Theia 160 offers superior visualization of hard-to-reach locations. This model delivers a crisp image with a resolution of 160,000 pixels in vibrant color from a 1.7mm diameter flexible video endoscope, which is a dramatic improvement over traditional 8,000 pixel fiber scopes. The Theia 160 is ideal for Original Equipment Manufacturers (OEMs) developing the following applications:

- minimally invasive surgical platforms
- robotic surgical systems
- rigid and flexible endoscopes
- ureteroscopes, ophthalmoscopes, cystoscopes, and laryngoscopes
- industrial inspection



Example of Videoscope Enabled by 160K Resolution

Powered by:



The Theia 160 system is centered around a high resolution CMOS camera. The camera's optics are engineered to provide a wide viewing angle with an aggressively small minimum depth of focus. The 120° field of view, coupled with a 5 to 50mm depth of focus maximizes the range of applications the camera can be used in.

The camera's field of view is illuminated with up to four fiber optics depending on the application. These fibers deliver efficient high-intensity LED light from the base module, providing uniform illumination at the viewing site.

Custom branding and trade dress are available upon request. Additional product customizations are available including a wide array of endoscope diameters, rigid or flexible scopes, and a range of endoscope lengths.¹

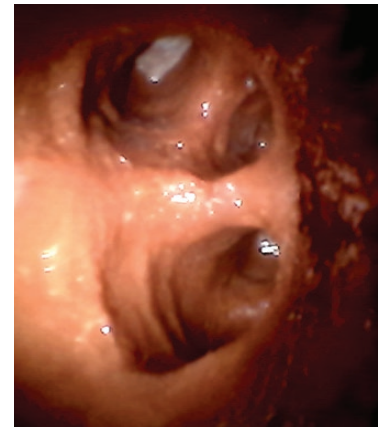
Ushio's world class quality and miniaturization technology allows us to offer medical devices for the latest minimally invasive diagnostic and therapeutic applications.

1.7mm single-use flexible endoscopes are now possible.

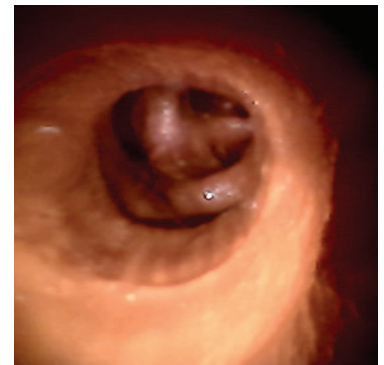
SPECIFICATIONS

Theia 160 Technical Specifications	
Light Output	White LED ³
Color Temperature	6500K
Fiber Type	Fiber-size, material and quantity depend on application
Fiber Numerical Aperture	Glass - 0.67 NA, Plastic - 0.63 NA
Optical Connector	SMA
Resolution	400 x 400 pixels native
Video Output	DVI at 30FPS
Field of View	120°
Depth of Focus	5 to 50mm

Electrical and Mechanical Specifications	
Power Input	100 - 240 VAC, 50/60Hz, 1.4 - 0.7A
Enclosure	Customized trade housings optional ¹
Operating Conditions	10 - 35C, 0% - 95% RH Non-condensing
Weight	7.7 lbs / 3.5 kg
Dimensions (WHD)	10.2 x 21.6 x 28.0 cm; 4 x 8.5 x 11 in



Images taken with the Theia 160 system



Features:

- The Theia 160 is a complete system with LED light source and video processing unit
- Video endoscope options available
- Intended for OEMs with 1.7mm flexible endoscopes and 3-6mm steerable endoscope applications
- Custom packaging and technology subassemblies are available¹
- Other illumination wavelengths are available¹

1. Engineering charges may apply and product certification will be required.
2. All specifications subject to change without notice.
3. Light output level variations due to fiber optics.

All specifications subject to change without notice.

Will be designed in accordance with IEC60601-1, 3rd ed., 60601-2-18 Particular requirements for basic safety and essential performance of endoscopic equipment, IEC 62471 Photobiological Safety of Lamp Systems.



Quality Mgmt
System Registered
ISO13485:2016
SAI Global

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