OLYMPUS

Your Vision, Our Future

EVIS LUCERA ELITE

CV-290

Video Processing Powering Advanced Endoscopy.

CV-290

Main Features

- NBI (Narrow Band Imaging) in EVIS LUCERA ELITE provides twice the viewable distance of EVIS LUCERA SPECTRUM, while the advanced noise reduction works more effectively and the image response speed from dark to bright is much faster.
- When connecting HQ scopes, CV-290 contains the necessary electronics to operate the dual-focus function, which delivers optimal views – whether close up or distant.
- The newly designed waterproof one-touch connector enables a one-step connection to the light source and does not require a separate scope cable for the video processor.
- New and improved image processing delivers sophisticated image quality via enhanced color reproduction. The combination of scopes and the system provides superior imaging.
- Compatible with EVIS 200/230/240 series, EVIS LUCERA 260 series, and EVIS LUCERA ELITE 290 series.
- Output formats of 16:9 and 16:10 for an HDTV monitor are available. Compatible with analog, HD-SDI, and DVI outputs.
- Link connection to peripheral devices avoids complicated cable connections and accelerates transmission speed.
- OLYMPUS documentation system enhances networking expandability.
- Picture-in-picture and index functions effectively enhance your observation.
- Portable memory is compatible, which is standard for data management. Simply connect and upload.
- Supports DV output to compatible documentation devices.

Specifications

Power supply	Rated voltage	100–240 V AC, 220–240 V AC (within ±10%)
	Rated frequency	50/60 Hz; within ±1 Hz
	Rated input	150 VA
Size	Dimensions (W × H × D)	370 × 85 × 455 mm; 382 × 91 × 489 mm (maximum)
	Weight	10.7 kg
Classification (medical electrical equipment)	Type of protection against electric shock	Class I
	Degree of protection against electric shock of applied part	TYPE BF applied part. Where no classification mark appears, the device is a TYPE BF applied part.
	Degree or protection against explosion	The video-system center should be kept away from flammable gases.
Observation	Analog HDTV signal output	Either RGB (1080/60I) or YPbPr (1080/60I) output can be selected. (For 100–240 V models.) Either RGB (1080/50I) or YPbPr (1080/50I) output can be selected. (For 220–240 V models.)
	Analog SDTV signal output	VBS composite (480/60I: NTSC), Y/C (480/60I: NTSC), and RGB (480/60I: NTSC); simultaneous outputs possible. (For 100–240 V models.) VBS composite (576/50I: PAL), Y/C (576/50I: PAL), and RGB (576/50I: PAL); simultaneous outputs possible. (For 220–240 V models.)
	Digital signal output	SDI (HD-SDI or SD-SDI), DV (IEEE1394), DVI (WUXGA, 1080P, or SXGA) can be selected.
	White balance adjustment	White-balance adjustment is possible using the white-balance button on the front panel.
	AFI color balance adjustment	AFI color balance adjustment is possible using the AFI color balance cap in the AFI observation.
	Standard color chart output	The “color bar” or the “50% white” screen can be displayed.
	Color tone adjustment	The following color tone adjustments are possible: · Red adjustment: ±8 steps · Blue adjustment: ±8 steps · Chroma adjustment: ±8 steps
	Automatic gain control (AGC)	The image can be electronically amplified when the light is inadequate due to the distal end of the endoscope being too far from the object.
	Contrast	The image contrast can be set to one of the following three modes (N, H, L). · N (normal): Normal image · H (high): The dark areas are darker and the bright areas are brighter than in the normal image · L (low): The dark areas are brighter and bright areas are darker than in the normal image
	Noise reduction	Noise is corrected by image processing.
	Iris	The auto iris modes can be selected using the “iris mode” switch on the front panel. · Auto: The brightness is adjusted based on the brightest part of the central part and the average brightness of the periphery part · Peak: The brightness is adjusted based on the brightest part of the endoscopic image · Average: The brightness is adjusted based on the average brightness of the endoscopic image
	Image enhancement setting	Fine patterns or edges in the endoscopic images can be enhanced electrically to increase the image sharpness. Either the structural enhancement or edge enhancement can be selected according to the user setup. · Structural enhancement: Enhancement of contrast of the fine patterns in the image · Edge enhancement: Enhancement of edges of the endoscopic image
	Switching the enhancement modes	The enhancement level can be selected from three levels (1, 2, and 3) using the image enhancement mode button on the front panel.
	Adaptive IHb color enhancement	Enhances small differences in colors based on the IHb values in endoscopic images.
	Switching the adaptive IHb color enhancement modes	The adaptive IHb color enhancement level can be selected from three levels (1, 2, and 3) using the color enhancement mode button on the front panel.
	Displaying the IHb chart screen	The IHb chart screen is displayed using the “IHb CHART” key on the keyboard. The IHb chart screen calculates the IHb value of each pixel in the endoscopic image and displays the IHb values in the corresponding positions in an image by representing the values using simulated colors.
	Rainbow color correction	Avoid the color deviation caused by the time lag between RGB signals and ensure a stable, flicker-free image.
	Image size selection	The size of the endoscopic image can be changed using the “IMAGE SIZE” key on the keyboard.
	Freeze	An endoscopic image is frozen using the endoscope or the “FREEZE” key on the keyboard.
	Pre-freeze	The image with the least rainbow color is selected from the images captured in the set time period before freeze operation and displayed.
	Optical-digital observation	The optical-digital observation can be performed when using the endoscope and light source compatible with each optical-digital observation mode. · NBI observation: This observation mode uses narrow-band-observation light. · AFI observation: This observation mode uses blue light. · IRI observation: This observation mode uses infrared light.
	Endoscope’s remote switches function	The functions of the remote switches on the endoscope can be set in the user settings.
	Reset to defaults	The following settings can be reset to their defaults using the reset button on the front panel. · Color tone · Iris mode · Image enhancement mode · Color enhancement mode · Optical-digital observation · Image size · Contrast · Freeze · Release index · Electronic zoom · Optical-digital observation · Arrow pointer · Stopwatch · Characters on screen · PIP/POP
Documentation	Remote control	The following ancillary equipment can be controlled (specified models only). · Monitor · DVR · Video printer · Image filing system
	Patient data	The following data can be displayed in the endoscopic image screen. · Patient ID · Patient name · Sex · Age · Date of birth · Date of recording (time, stopwatch) · Comments
	Displaying the record state	The recording state of the following ancillary equipment can be displayed on the monitor. · Portable memory and internal buffer · DVR · Video printer · Image filing system
	Displaying the image information	The following data can be displayed on the monitor. · Structure enhancement level · Edge enhancement level · Zoom ratio · Color mode · Focus
	Advanced registration of patient data	Up to 50 patients’ data can be registered. · Patient ID · Patient name · Sex and age · Date of birth
Portable memory	Media	MAJ-1925 (OLYMPUS)
	Recording format	· TIFF: No compression · JPEG (1/5): Approx. 1/5 compression · JPEG (1/10): Approx. 1/10 compression
	Number of recording images	· TIFF: Approx. 227 images · JPEG (1/5): Approx. 1,024 images · JPEG (1/10): Approx. 2,048 images
Memory backup	User settings	Up to 20 user settings can be registered.
	Memorization of selected setting	The following settings are held in memory even after the video system center is turned off. · Color tone · Iris mode · Enhancement · Color enhancement mode · Contrast · AGC · Color mode · White balance
	Lithium battery	Life: five years

E0429303 · 500 · 05/14 · PR

OLYMPUS

OLYMPUS EUROPA SE & CO. KG
Postbox 10 49 08, 20034 Hamburg, Germany
Wendenstrasse 14–18, 20097 Hamburg, Germany
Phone: +49 40 23773-0, Fax: +49 40 237765
www.olympus-europa.com