9 Troubleshooting

9.1 Localize faults

If a particular event occurs during operation or if the system registers an irregularity, the system shows you this disruption via a notification on the monitor.

Faults are saved in a service file. You can export this log file and transmit it to your ZEISS Service organization.

9.1.1 React to disruptions with notifications

Error notifications provide information on:

- Operational steps that are currently being carried out, in which the displayed error is occurring
- Suggested solution to remedy the displayed error
- If appropriate, a hint that the log files must be exported and sent to ZEISS Service

Action

1. If an error notification appears on the monitor, read the notification text carefully.
2. Tap the "Close" button or press the center of the joystick button on the left hand grip to close the error message.
3. Remedy the displayed error.
4. If this error message remains displayed on the monitor, export the log file and send it to ZEISS Service [▷ 251].

9.1.2 Export Log Files

Disruptions with notifications are saved in log files on the system. You can export these log files to a USB storage device and send them to ZEISS Service for error analysis.

Action

1. Connect a USB storage device to the USB mouth switch socket.
2. Tap on ⚙ Settings → ⁰⁰⁰ Extras → Export log files → Start.
   ⇨ The log files are then exported to the connected USB storage device.
3. Tap on the "Status Information" field in the status bar.
4. Tap on the [Eject] button in the "USB" field.
5. Remove the USB storage device.
6. Send these log files to your ZEISS Service organization.

9.1.3 Service information

You can find the ZEISS contact partner for your country on the following website: www.zeiss.com/med

9.2 Remote service

ZEISS Smart Services offers a direct data exchange between the device and ZEISS Service for remote maintenance or troubleshooting.

For informationen on the activation and use of ZEISS Smart Services, read Using ZEISS Smart Services [▷ 239].

9.3 Malfunctions without notifications

Fault	Cause	Remedy
No function at all	The device is not connected to the power supply.	▶ Connect the device to the power supply.
	The device is not switched on.	▶ Press the "Device Power On/Off" operating button once. The operating button is illuminated white.
	Automatic circuit breaker in power switch of stand responds.	▶ Press the "Device Power On/Off" operating button again.
No surgical field illumination on the microscope	Lamps 1 and 2 have failed.	▶ Replace both lamp containers [▷ 258].
	Failure of device electronics.	▶ Illuminate the OR field with an additional OR lamp. ▶ Inform ZEISS Service.
	Light source has not been switched on.	▶ Activate the "Light" function in the main menu on the monitor.
The surgical field illumination is too dark.	The set brightness is too low.	▶ Increase the brightness using the preconfigured buttons on the hand grip / foot control panel / rocker foot switch.
	The lamp is too old / weak.	▶ Replace the lamp container [▷ 258].
The surgical field is not evenly illuminated.	The light guide is defective.	▶ Have the light guide replaced by ZEISS Service.
The surgical field illumination is too bright.	The set brightness is too high.	▶ Reduce the brightness using the preconfigured buttons on the hand grip / foot control panel / rocker foot switch.
The focus cannot be set via the hand grip / foot control panel / rocker foot switch.	The system control is defective.	▶ Adjust the focus manually using the corresponding rotary knob on the microscope body [▷ 60].
The zoom cannot be set via the hand grip / foot control panel / rocker foot switch.	The system control is defective.	▶ Adjust the zoom manually using the corresponding rotary knob on the microscope body [▷ 60].

Fault	Cause	Remedy
Poor image quality	The drape cover glass on the objective lens is dirty or of poor optical quality.	▶ Clean the cover glass. ▶ Use the ZEISS SMARTDRAPE.
The monitor is black.	The system control is defective.	▶ Do not touch the monitor! This is necessary to ensure that you do not execute any unwanted actions. ▶ Switch the device off, wait briefly (for approx. 2 min) and then switch it back on. ▶ If the monitor is still black, contact ZEISS Service.
No video image appears on the external monitor	The external monitor is not connected to the device.	▶ Connect the external monitor to the corresponding video output of the device [▷ 144].
External video source is not displayed	The external video source is not connected to the device.	▶ Connect the external video source to the corresponding video input of the device.
The co-observer tube cannot be repositioned	The system control is defective.	▶ Adjust the pivoting mirror for the co-observer tube manually using the corresponding rotary knob on the microscope body [▷ 60].
The brakes of the axes are closed.	The line voltage has failed, the device is no longer being supplied with power.	▶ Pull and push [▷ 255] the microscope body and stand arms into the desired position manually.
Malfunction / failure of wireless foot control panel	Batteries are depleted.	▶ Replace the batteries in the foot control panel; read and follow the Instructions for Use supplied for the foot control panel, G-30-1706.
	The foot control panel is not completely paired with the device.	▶ Pair the foot control panel with the device again [▷ 125].

9.4 Basic Function Mode following system control failure

If the system control fails and the line voltage is still present, all filters in the light source and in the microscope will be swiveled out. The Focus Light Link and Auto Brightness functions are not available.

The button assignments of the hand grip, foot control panel and rocker foot switch last set remain stored.

⚠ WARNING!

Failure of digital image

If the 3D video system fails in the fully digital configuration and the image is no longer displayed on the 3D monitor, the system may no longer be used for the operation.

- ▶ Switch off the system and disconnect it from the power supply.
- ▶ Use a second device or magnifying glasses to finish your operation.
- ▶ Inform ZEISS Service and arrange for the defective system to be repaired.

⚠ CAUTION!

Limited illumination functions!

Following failure of the system control, the light intensity is decreased to approx. 50%. The "Focus Light Link" and "Auto Brightness" functions are not available.

- ▶ You can once again increase or further decrease the light intensity at any time in order to complete your surgical procedure.

You can set the following functions in the Basic Function Mode:

Function	Adjustments following failure of the system control
Release all axes	▶ Press the bottom button [AB] on the back of the hand grips.
Release the stand axes	▶ Press the top button [SB] on the back of the hand grips.
Focus +/-	▶ Adjust the focus using the buttons configured for this purpose on the hand grip / foot control panel / rocker foot switch.
Zoom +/-	▶ Adjust the zoom using the buttons configured for this purpose on the hand grip / foot control panel / rocker foot switch.
Light +/-	▶ Adjust the brightness using the buttons configured for this purpose on the hand grip / foot control panel / rocker foot switch.

9.5 Device in the de-energized state

If the line voltage fails and the device no longer is being supplied with power, the brakes of all axes close. You can move the individual axes of the stand manually by overcoming the braking effect.

Action

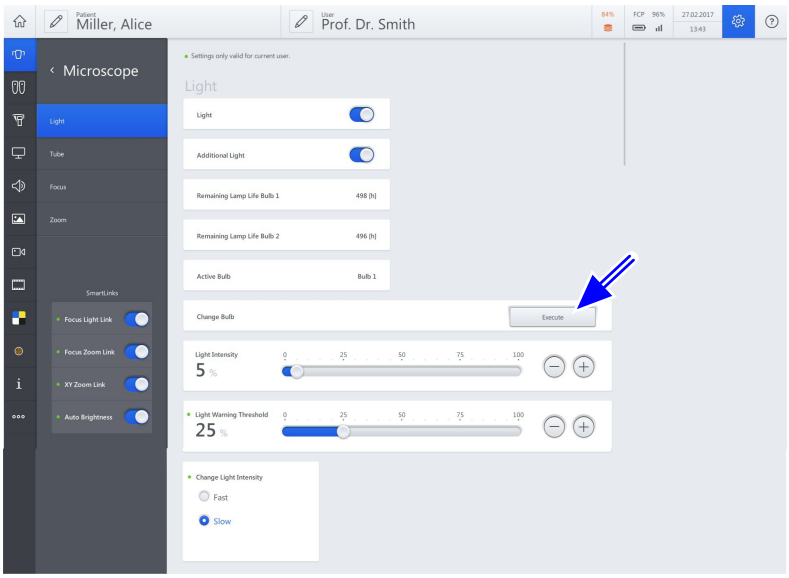
- ▶ To move the microscope, grasp the microscope body (and not the handgrips!) with both hands and pull or push the microscope body into the desired position.
- ▶ To execute movement in individual stand axes, push or press the vertical / horizontal arm and/or the microscope suspension into the desired position.

9.6 Automatic lamp change

If the device detects a defective lamp or a lamp fails during operation, an automatic lamp change takes place.
You also can change the lamp manually on the monitor.

Action

1. Tap on Settings → Microscope → Light → Change Bulb → Execute.



2. Close the "Settings" menu by tapping on the ⌂ button.
   ⇨ The live image of the video camera appears on the monitor.
3. The light intensity of new lamps is higher; readjust the light intensity if necessary.

9.7 Manual lamp change

In case of motor failure

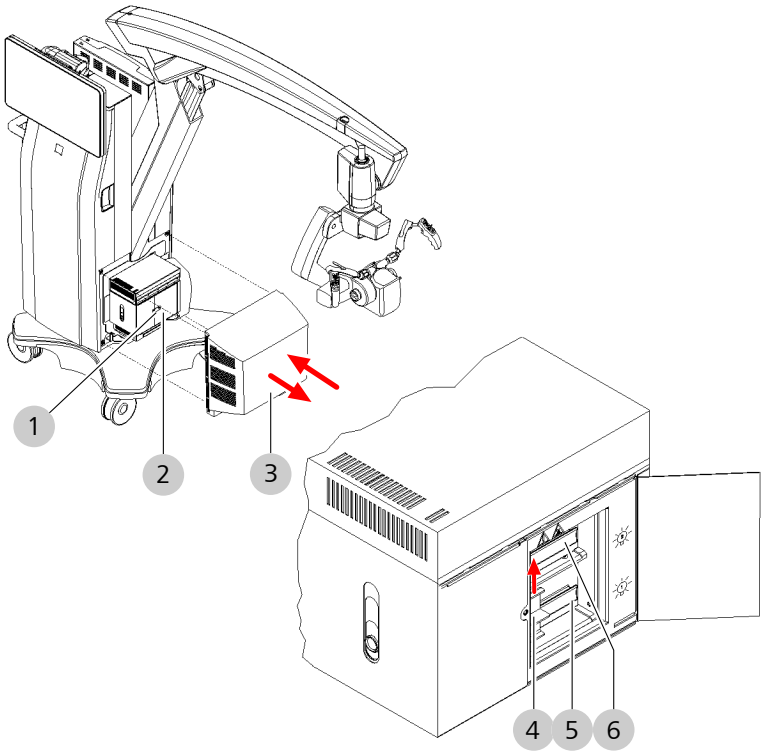


Figure 81: Manual lamp change

1	Latch	2	Housing doors
3	Cover	4	Push lever
5	Bulb 1	6	Bulb 2

Prerequisite

☑ Remove the power plug from the power outlet to safely disconnect the device from the power supply.

☑ Watch out for obstacles when changing lamps: Note the position of the microscope!

Action

1. Grasp the cover of the lamp housing by the recessed grips on the left and right side with both hands.
2. Pull the cover off of the device in a horizontal direction.
3. Open the latch of the housing doors.
4. Open the housing doors.
5. Slide or press the push lever towards the second lamp which is not in use as far as it will go.
6. Close the housing doors and latch them again.
7. Reattach the cover to the receptacles on the device.

⇨ The cover is properly attached if the receptacles engage fully.

8. Plug the power cord back into the power outlet.

9. Be sure to replace the defective lamp with a new one [▷ 258] following surgery.
10. Dispose of the old lamp according to your local directives and laws.

9.8 Replacing the lamp container

⚠ CAUTION!

Risk of injury and burns!

In case of malfunction, the high pressure inside the hot lamp may cause the lamp to burst. Also, the hot surface of the lamp container may also cause burns.

- ▶ Let the lamp container cool off for at least 10 minutes before replacing it.

⚠ CAUTION!

Improper handling of the lamp container may result in injuries!

Improper handling of the xenon lamp can lead to damage or injury.

- ▶ The lamp container may be changed only by properly trained persons.

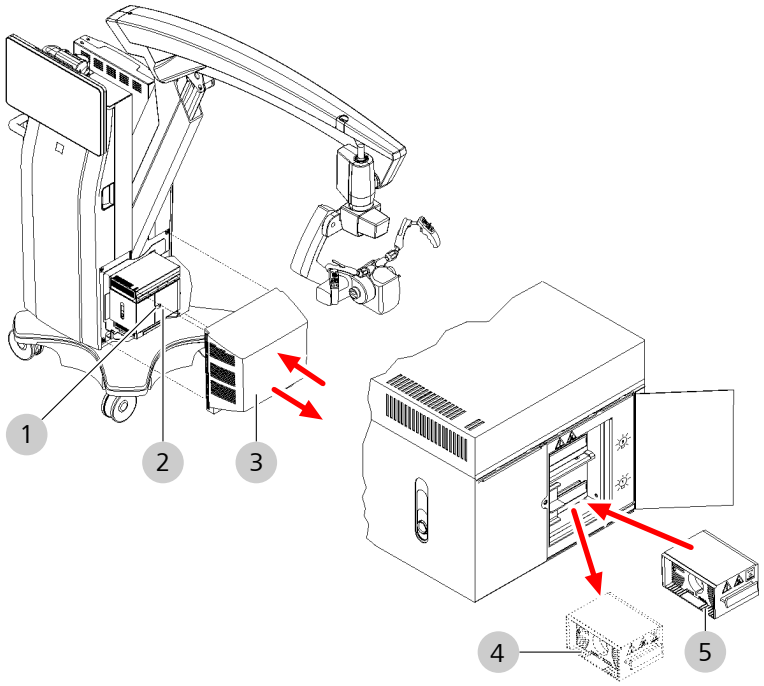


Figure 82: Lamp container, replacement of

1	Latch	2	Housing doors
3	Cover	4	Old lamp container
5	New lamp container		

Prerequisite

☑ Remove the power plug from the power outlet to safely disconnect the device from the power supply.

☑ Watch out for obstacles when changing lamps: Note the position of the microscope!

Action

1. Grasp the cover of the lamp housing by the recessed grips on the left and right side with both hands.
2. Pull the cover off of the device in a horizontal direction.
3. Open the latch of the housing doors.
4. Open the housing doors.
5. Pull out the defective lamp container.
6. Slide a new lamp container into the lamp housing as far as it will go.
7. Close the housing doors and latch them again.
8. Reattach the cover to the receptacles on the device.
   ⇨ The cover is properly attached if the receptacles engage fully.
9. Plug the power cord back into the power outlet.

Following a lamp failure, a message stating that you should keep an extra new lamp container on hand as a replacement appears on the monitor during every device start.

Empty page, for your notes

10 Technical specifications

10.1 Compliance

Directives and standards which KINEVO 900 is compliant with:

- KINEVO 900 fulfills the Medical Product Ordinance (EU) 2017/745: class I

It is marked with	CE

- KINEVO 900 is RoHS-compliant in accordance with directive 2011/65/EU.

The KINEVO 900 fulfills the requirements of the following standards:

- IEC 60601-1
- IEC 60601-1-2
- IEC 60825
- IEC 62304
- CAN/CSA-C22.2 NO. 60601-1

Classification of the product according to IEC 60601

The KINEVO 900 is classified as follows:

- Degree of protection against electric shock: Class 1
- Operating mode: continuous operation

Classification of the product according to IEC 60601-1-2

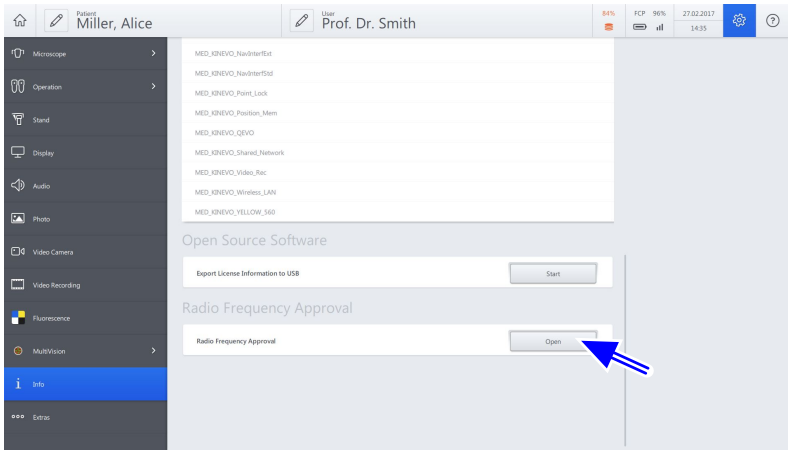
- Electromagnetic compatibility (EMC): Fulfills IEC 60601-1-2, Class A (as per CISPR 11)

10.2 Radio frequency approval

10.2.1 Displaying radio frequency approvals on the monitor

Action

1. Tap on ⚙ Settings ⟶ **i** Info.



2. Scroll down in the "Info menu": Open ⟶ Radio Frequency Approval.
   ⇨ The markings of the existing radio frequency approval are displayed.
3. Scroll down in the "Radio Frequency Approval" display.
4. Close the "Radio Frequency Approval" display by tapping on the black surface next to the display.

10.2.2 Radio frequency approval labeling

This device contains radio modules and fulfills the requirements of 2014/53/EC.

The device is marked with: CE

10.3 Radio modules

10.3.1 Bluetooth module

FCP WL, FCP Gateway WL

Name	Value
Transmit and receive frequencies	2402 MHz to 2480 MHz
Receiving power	-82 dBm to 0 dBm
Transmission power	1 mW to max. 2.5 mW (Class 2)
Modulation	FHSS

10.3.2 WLAN module (option)

The WLAN module cannot be installed and used in all countries.

Intel® 7260HMW

Name	Value
Transmit and receive frequencies	2412 MHz to 2472 MHz
Transmission power	The maximum output power may vary according to country depending on local regulations.*
Modulation	CCK, DQPSK, DBPSK, BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM
Safety standard	WPA2/PSK

* Output power

- 802.11b: +16 dBm minimum
- 802.11g: +14 dBm minimum
- 802.11a: +14 dBm minimum
- 802.11n HT40 (2.4 GHz): +13 dBm minimum
- 802.11n HT40 (2.4 GHz): +13 dBm minimum

10.3.3 RFID module

TWN4 Mifare NFC

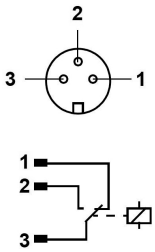
Name	Value
Transmit and receive frequencies	13.56 MHz
Transmission power	-54 dBm
Modulation	ASK

10.4 Essential performance features

The device has no essential performance features.

10.5 Electrical data

Name	Value
Rated voltage	100 - 240 V AC
Current consumption	max. 1350 VA
Rated Frequency	50 - 60 Hz

Name	Value
Degree of protection (as per EN 60601-1)	I
Fuse	Automatic circuit breaker
USB 3.0 connector	Rated value: 5 V Permissible: 4.45 - 5.5 V / max. 0.9 A*
Remote connector (AUX)  	Max. 24 V / 0.5 A, galvanically decoupled as per IEC 60601-1 Pin assignment: Pin 1: NC Pin 2: NO PIN 3: C

* A device may be supplied with this current intensity only following release by the host controller. Until then, a maximum current intensity of 0.1 A applies.

10.6 Light source

Name	Value
Color temperature	5000 K (±500 K)
Rated power	Approx. 300 W

Additional information

- Illumination technique: Fiber optics
- Main bulb: Xenon short-arc reflector lamp,
- Spare bulb: Xenon short-arc reflector lamp
- Bulb change: Automatic / manual to spare bulb
- Replacement of lamp container: Manual
- Filter: UV/IR heat protection filter, sieve aperture, controls light intensity

10.7 Aiming beam laser

Name	Value
Max. power (IEC 60825-1)	< 1 mW
Wavelength	λ 635 - 645 nm
Laser class	II

Function of laser beam

The focal point is determined by two visible laser beams which intersect in the focal plane.

10.8 Integrated HD camera

Designation	Value
Resolution	1920 x 1080 p
Signal-to-noise ratio	54 dB
Sampling frequency	50 Hz, 59.94 frames/second

10.9 4K camera

Designation	Value
Resolution	3840 × 2160 p
Signal-to-noise ratio	54 dB
Sampling frequency	50 Hz, 59.94 frames/second

10.10 Digital video outputs

Designation	Value
Output: 6 HDMI / DVI	1920x1080p50/60
Output: 7, 8 Display port	1920x1080p50/60
Output: 9, 10 HD-SDI (-0.8 Vp-p/75 ΩPAL)	1920x1080p50/60

10.11 Digital video inputs

Designation	Value
Input 3, 4: Display port	1920x1080p50/60
Input: 5 HDM / DVI	1920x1080p50/60
	1280×720p50/60

10.12 4K video outputs

Name	Value
Outputs 1 and 2 HDMI UHD 4K	HDMI 2.0 3840x2160 50/60p (2xODU)
Color sampling	4:2:0
Outputs 11 to 16 3G-SDI	QuadSDI 3840x2160 50/60p (4xBNC)

10.13 Mechanical data

10.13.1 System data

Name	Value
Max. additional load on microscope body	Max. 6 kg
Max. dimensions in transport position (WxHxD)	850 x 1900 x1700 mm
Total weight of device with max. add. load	Max. 395 kg
Total weight of device incl. single-use transport box	Approx. 525 kg

10.13.2 Dimensions of rollers

Name	Value
Diameter	150 mm
Tire width	15 mm
Roller width	70 mm

10.13.3 Component weights

The information in this paragraph only applies to the optional configuration of the microscope as a system for hybrid (optical-digital) visualization.

Name	Weight
Stereo co-observation module (000000-1063- 869)	1084 g
Tiltable tube, 180° (303791-0000-000)	860 g
Straight tube, f = 170 mm (303765-0000-000)	528 g
Foldable tube, f = 170/260 mm (303771-9021-000)	940 g
Folding tube, f = 170 / 260 mm for mouth switch (303771-9110-000)	940 g
Angle optics with dovetail (spine adapter) (302581-9200-000)	440 g
Photo adapter f= 340 mm (000000-1022-973)	420 g

Name	Weight
Photo adapter, T2 Canon EOS (000000-0448-028)	60 g
Mouth switch for 180° tiltable tube (000000-1177-805)	470 g
Push-in widefield eyepieces, 10x (2 pcs) (305542-0000-000)	216 g
Push-in widefield eyepieces, 12.5x (2 pcs) (305543-9901-000)	216 g
Magnification changer, 3-position (303429-9903-000)	448 g
Rotating adapter (301007-0000-000)	192 g
Dovetail guide (303360-9903-000)	40 g
Micromanipulator	See manufacturer documentation, max. 1 kg.

10.14 Optical data

10.14.1 Surgical microscope

Name	Value
Varioskop	approx. 200 ... 625 mm
Zoom system magnification factor	0.4x - 2.4x
Aiming beam laser (Autofocus option):	
Max. power (IEC 60825-1)	< 1 mW
Shaft length	λ 635 - 645 nm

Additional information

- Magnification adjustment: motorized/manual
- Focusing: motorized/manual
- Sensor for working distance and magnification for neuronavigation
- Motor-driven, travel speed adjustable, automatic adaptation to magnification

10.14.2 Widefield eyepiece (magnification factor 10x)

Designation	Value
Focal Length	25 mm
Field of view	21 mm
Distance of the exit pupil from the last lens	24 - 25.5 mm
Diopter adjustment range	+5/-8
Weight	120 g

10.14.3 Widefield eyepiece (magnification factor 12.5x)

Designation	Value
Focal length	20 mm
Field of view	18 mm
Distance of the exit pupil from the last lens	22 - 23.5 mm
Diopter adjustment range	+5/-8
Weight	115 g

10.15 Ambient requirements for operation

Name	Permissible range
Temperature	+10 ... +40°C
Relative humidity	30 ... 75%
Air pressure	700 ... 1060 hPa
Slope of ground/floor (normal firm ground, solid floor)	Max. 1.5°

10.16 Ambient requirements for transport and storage

Designation	Permissible range
Temperature	-20 ... +60°C
Relative humidity (without condensation)	10 ... 92%
Atmospheric pressure	500 ... 1060 hPa

10.17 Operation with intraoperative MRT systems

For operation in the vicinity of an MRT/MRI scanner, the device must be positioned so that all system components (stand, microscope) are located outside of the 5-Gauss line. The operator must take suitable measures to ensure that the device cannot be moved toward the MRT/MRI system across the 5-Gauss line. The device must be switched off during an MR image acquisition. You may use the device only when no MR image acquisition is in progress.

10.18 Dimensional drawing

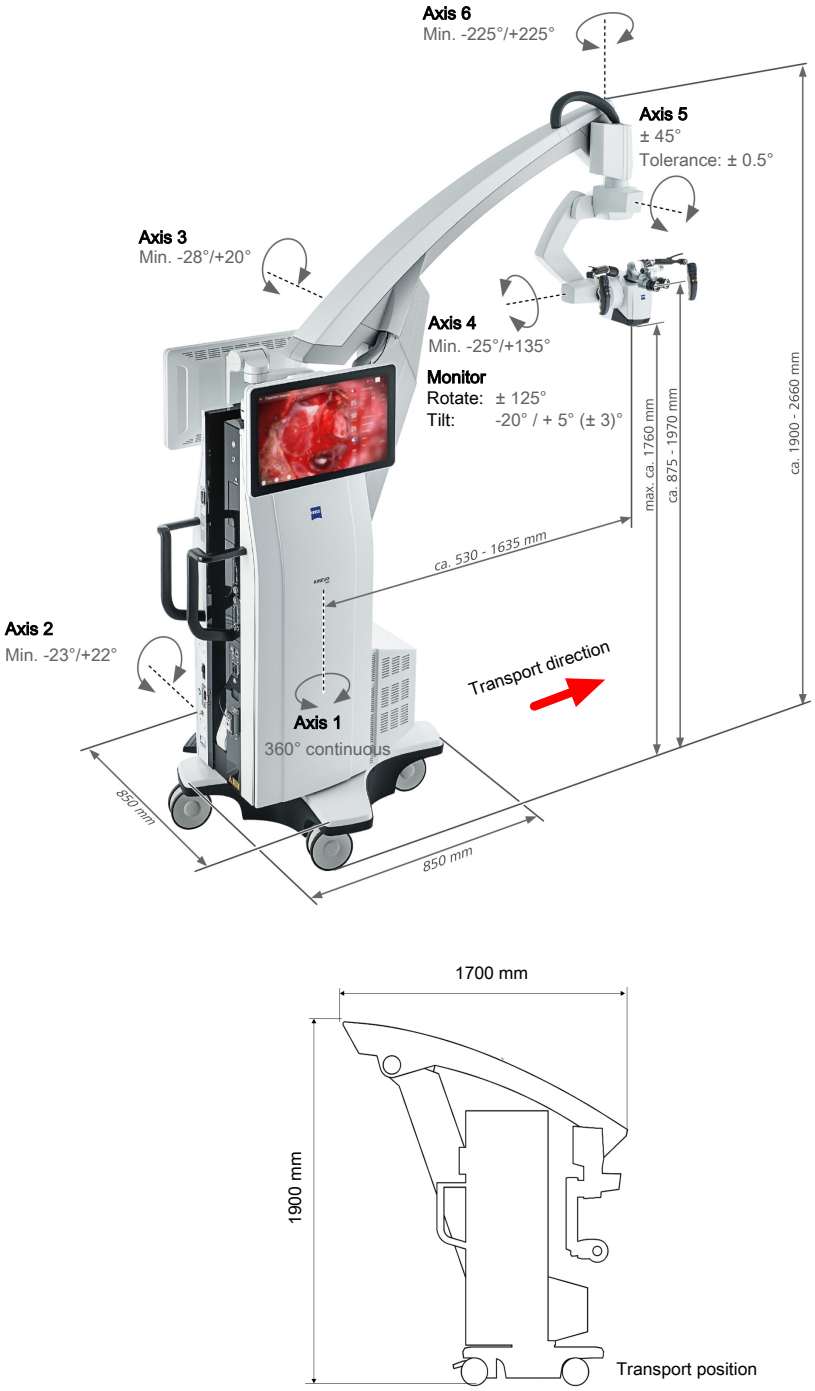


Figure 83: Dimensional drawing (dimensions in mm)

10.19 Guidelines and manufacturer's declaration for electromagnetic compatibility

10.19.1 EMC - Electromagnetic compatibility as per IEC 60601-1-2: 2007 (3rd Edition)

The device is subject to specific precautions with regard to electromagnetic compatibility (EMC). In order to avoid the occurrence of EMC interference, the device may only be installed, operated and maintained in the manner indicated in these Instructions for Use and only with components supplied by ZEISS.

NOTE

Danger from electromagnetic radiation!

The KINEVO 900 may be disturbed by other devices even when these other devices comply with the emission requirements applicable to them according to CISPR.

- ▶ Do not use the KINEVO 900 when it is located next to or stacked on top of other devices.
- ▶ If operation of the device located next to or stacked on top of other devices is required, observe the KINEVO 900 to ensure its normal operation in the arrangement in which it is used.

NOTE

Danger from electromagnetic radiation!

Electrical devices can influence each other as a result of their electromagnetic radiation. The use of non-approved components (accessories, transformers of all types, cables) can cause increased emissions or reduce the device's immunity.

- ▶ Only use accessories, transformers, cables and spare parts which are specified in these Instructions for Use or which are approved by ZEISS for this device.
- ▶ Do not use any portable or mobile RF communication equipment near the device as it is not possible to exclude the possibility that the function of the device will be affected.
- ▶ Please follow the EMC guidelines in the following pages.

10.19.1.1 Electromagnetic interference

KINEVO 900The is intended for operation in an electromagnetic environment as specified below. The customer or the user of the KINEVO 900 is responsible for ensuring that the device is operated in such an environment.

Interference measurements	**Compliance**	**Electromagnetic environment - guidelines**
RF emissions as per CISPR 11	Group 1	The KINEVO 900 uses RF energy only for its internal functions. As a result, RF emissions are very low and unlikely to cause any interference in nearby electronic devices.
RF emissions as per CISPR 11	Class A	KINEVO 900 is suitable for use in facilities other than residential environments that are directly connected to a PUBLIC POWER GRID which also supplies buildings used for residential purposes.
Harmonic emissions as per IEC 61000-3-2	Not applicable	
Emission of voltage fluctuations/ flicker as per IEC 61000-3-3	Not applicable	

NOTE
The properties of the KINEVO 900 determined by EMISSIONS permit its use in industrial areas and in hospitals (CISPR 11, Class A). If used in a residential area (for which Class B usually is required as per CISPR 11), the KINEVO 900 may not provide the necessary protection with regard to radio frequency communication services. The user may have to take corrective measures such as moving or realigning the device.

10.19.1.2 Electromagnetic immunity for all ME equipment and ME systems

KINEVO 900The is intended for operation in an electromagnetic environment as specified below. The customer or the user of the KINEVO 900 is responsible for ensuring that the device is operated in such an environment.

Electromagnetic immunity tests	IEC 60601 test level	Compliance level	Electromagnetic environment - guidelines
Electrostatic dis- charge (ESD) as per IEC 61000-4-2	±6 kV contact discharge ±8 kV air discharge	±6 kV contact discharge ±8 kV air discharge	Floors should be made of wood or concrete or be covered with ceramic tiles. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Fast transient/ burst immunity as per IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	The quality of the supply voltage should be that of a typical business or hospital environment.
Surges as per IEC 61000-4-5	±1 kV line-to-line voltage ±2 kV line-to-ground voltage	±1 kV line-to-line voltage ±2 kV line-to-ground voltage	The quality of the supply voltage should be that of a typical business or hospital environment.

Voltage dips, short interruptions and voltage variations as per IEC 61000-4-11	< 5% U_T (> 95% dip in U_T) for 1/2 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (95% dip in U_T) for 5 s	< 5% U_T (> 95%dip in U_T) for 1/2 cycle 40% U_T (60 % dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles < 5% U_T (95% dip in U_T) for 5 s	The quality of the supply voltage should be that of a typical business or hospital environment. If the user of the KINEVO 900 requires continued operation even in the event of interruptions in the power supply, we recommend powering the KINEVO 900 from an uninterruptible power supply or a battery.
Power frequency (50/60Hz) mag- netic field as per IEC 61000-4-8	3 A/m	3 A/m	Magnetic fields in the supply frequency should correspond to the typical values that are found in business and hospital environments.
Note: U_T is the AC voltage supply before application of the test levels.			

10.19.1.3 Electromagnetic immunity for non-life-supporting devices

The KINEVO 900 is intended for operation in the electromagnetic environment specified below. The customer or the user of KINEVO 900 is responsible for ensuring that the device is operated in such an environment.			
Electromagnetic immunity tests	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidelines**

Conducted RF disturbances as per IEC 61000-4-6 Emission of RF disturbances according to IEC 61000-4-3	3 $V_{effective\ value}$ 150 kHz to 80 MHz 3 V/m 80 MHz to 2.5 GHz	3 V/m 3 V	Portable and mobile radio communication equipment should not be used closer to KINEVO 900, including its cables, than the recommended safety distance that is calculated using the equation applicable to the transmission frequency involved. **Recommended safety distance** $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ for 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ for 800 MHz to 2.5 GHz where P is the rated output of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). The field strength of stationary transmitters as determined by a site survey[a] should be less than the compliance level in all frequency ranges.[b] Interference may occur in the vicinity of equipment marked with the following symbol. 

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is influenced by absorption and reflection by structures, objects and persons.

[a] Theoretically, field strengths of stationary transmitters such as base stations for mobile telephones and mobile land radio equipment, amateur radio stations, AM and FM radio broadcast and TV broadcast transmitters cannot be predicted accurately. To assess the electromagnetic environment with respect to stationary RF transmitters, a site study of the electromagnetic phenomena should be considered. If the measured field strength in the location where the KINEVO 900 is used exceeds the COMPLIANCE LEVELS indicated above, the KINEVO 900 should be monitored to verify normal OPERATION. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the KINEVO 900.

[b] Field strengths should be less than 3 V/m over the frequency range from 150 kHz to 80 MHz.

10.19.1.4 Recommended protective distances between bearable and mobile RF telecommunications systems and the ME equipment

KINEVO 900 is intended for use in an ELECTROMAGNETIC ENVIRONMENT in which RF disturbances are controlled. The customer or the user of the KINEVO 900 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication equipment (transmitters) and the KINEVO 900 — depending on the output power of the communication equipment as specified below.

Rated output power of the transmitter W	**Safety distance, dependent on transmission frequency** m		
	150 kHz to 80 MHz	**80 MHz to 800 MHz**	**800 MHz to 2.5 GHz**
	$d = 1.2 \sqrt{P}$	$d = 1.2 \sqrt{P}$	$d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be determined using the equation indicated for each column, with P being the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer's specifications.

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is influenced by absorption and reflection by structures, objects and persons.

10.19.2 EMC - Electromagnetic compatibility as per IEC 60601-1-2: 2014 (4th Edition)

The device is subject to specific precautions with regard to electromagnetic compatibility (EMC) in Professional Healthcare Facility Environments.
In order to avoid the occurrence of EMC interference, the device may only be installed, operated and maintained in the manner indicated in these Instructions for Use and only with components supplied by ZEISS.

⚠ WARNING!

Function deterioration!

Do not install or operate the device in direct proximity to other devices with the exception of the combination of the devices described in these Instructions for Use.

- ▶ If it cannot be avoided that the KINEVO 900 is operated in proximity to other devices, the proper function of the KINEVO 900 must be monitored.

⚠ WARNING!

Function deterioration!

- ▶ Only use accessories, transformers, cables and spare parts which are specified in these Instructions for Use or which are approved by ZEISS for this device.

⚠ WARNING!

Deterioration of performance!

- ▶ Do not use any portable or mobile HF communication equipment or transmitters (including peripheral devices such as antenna cables or external antennas) in the proximity of the device (minimum distance 30 cm), as it cannot be ruled out that the function of the device will be impaired or that the performance of the device deteriorates.
- ▶ Please follow the EMC guidelines in the following pages.

NOTE

Danger from electromagnetic radiation!

The KINEVO 900 may be disturbed by other devices even when these other devices comply with the emission requirements applicable to them according to CISPR.

- ▶ Do not use the KINEVO 900 when it is located next to or stacked on top of other devices.
- ▶ If operation of the device located next to or stacked on top of other devices is required, observe the KINEVO 900 to ensure its normal operation in the arrangement in which it is used.

10.19.2.1 Electromagnetic interference

KINEVO 900The is intended for operation in an electromagnetic environment as specified below. The customer or the user of the KINEVO 900 is responsible for ensuring that the device is operated in such an environment.	
Interference measurements	**Compliance**
RF emissions as per CISPR 11	Group 1
RF emissions as per CISPR 11	Class A
Emission of voltage fluctuations/flicker as per IEC 61000-3-3	Not applicable
NOTE The properties of the KINEVO 900 determined by EMISSIONS permit its use in industrial areas and in hospitals (CISPR 11, Class A). If used in a residential area (for which Class B usually is required as per CISPR 11), the KINEVO 900 may not provide the necessary protection with regard to radio frequency communication services. The user may have to take corrective measures such as moving or realigning the device.	

NOTE

The emission properties of the KINEVO 900 are suitable for use in industrial areas and hospitals (CISPR 11 Class A). If the KINEVO 900 is used in a residential area (for which CISPR 11 Class B is normally required) this equipment may not provide the necessary protection with regard to radio frequency communication services.

10.19.2.2 Electromagnetic immunity for all ME equipment and ME systems

KINEVO 900The is intended for operation in an electromagnetic environment as specified below. The customer or the user of the KINEVO 900 is responsible for ensuring that the device is operated in such an environment.		
Electromagnetic immunity tests	IEC 60601 test level	Compliance level
Electrostatic dis- charge (ESD) as per IEC 61000-4-2	±8 kV contact discharge ±15 kV air discharge	±8 kV contact discharge ±15 kV air discharge
Fast transient/ burst immunity as per IEC 61000-4-4	±2 kV for power lines ±1 kV for input/output lines	±2 kV for power lines ±1 kV for input/output lines
Surges as per IEC 61000-4-5	±1 kV voltage Phase neutral conductor ±2 kV voltage Phase neutral conductor-earth	±1 kV voltage Phase neutral conductor ±2 kV voltage Phase neutral conductor-earth

Power frequency (50/60Hz) mag- netic field as per IEC 61000-4-8	30 A/m	30 A/m
Voltage dips, short interruptions and voltage variations as per IEC 61000-4-11	0 % U_T for 1/2 cycle	0 % U_T for 1/2 cycle
	0 % U_T for 1 cycle	0 % U_T for 1 cycle
	70 % U_T for 25/30 cycles	70 % U_T for 25/30 cycles
	0 % U_T for 250/300 cycles	0 % U_T for 250/300 cycles

10.19.2.3 Electromagnetic immunity for non-life-supporting devices

The KINEVO 900 is intended for operation in the electromagnetic environment specified below. The customer or the user of the KINEVO 900 is responsible for ensuring that the device is operated in such an environment.		
Electromagnetic immunity tests	**IEC 60601 test level**	**Compliance level**
Conducted RF disturbances as per IEC 61000-4-6	3 V 150 kHz to 80 MHz	3 V
	6 V ISM bands between 150 kHz and 80 MHz	6 V
Emission of RF disturbances according to IEC 61000-4-3	3 V/m 80 MHz – 2.7 GHz	3 V/m
Radiated RF disturbances from near fields of wireless communication devices as per EN 61000-4-3	27 V/m 385 MHz	27 V/m
	28 V/m 450 MHz, 810 MHz – 2.45 GHz	28 V/m
	9 V/m 710 MHz – 780 MHz, 5.24 GHz – 5.785 GHz	9 V/m

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11 Accessories and components

These instructions for use describe accessories that are not essential components of the individual deliveries. A current accessories and components list can be obtained from your ZEISS contact person.

You can find the ZEISS contact partner for your country on the following website: www.zeiss.com/med

Only use accessories and components authorized by ZEISS for this device. Device safety during operation cannot be guaranteed if accessories and components that are not authorized by ZEISS are used.

11.1 Video components

Video components can be found in the separate product overview G-30-1888.

11.2 QEVO

Designation	Specification	Order no.
QEVO	Digital Exploration Tool	303155-9020-000

11.3 Components for hybrid visualization

The components specified in this paragraph are only applicable if the microscope is configured as a system for hybrid (optical-digital) visualization.

11.3.1 Main tube

Designation	Specification	Order no.
Tiltable tube 180°	Swivel range 180°, f=170mm	303791-0000-000
Foldable tube, white	f=170/260 mm not suitable for mouth switch adaptation	303771-9021-000
Foldable tube for mouth switch, white	f=170/260 mm without integrated rotation function (only in conjunction with mouth switch 000000-1177-805)	303771-9111-000
Angle optics with dovetail (spine adapter), white		302584-9200-000

11.3.2 Eyepieces for main tube

Designation	Specification	Order no.
Push-in widefield eyepieces, 2 pcs	10x	305542-0000-000
Push-in widefield eyepieces, 2 pcs	12.5x aspherical	305543-9901-000

11.3.3 Co-observer tube

Designation	Specification	Order no.
Stereo co-observation module	with 2 pivot joints and locking levers	000000-1063-869

11.3.4 Tube for left/right co-observation

Designation	Specification	Order no.
Straight tube	f=170 mm	303765-0000-000
Sleeves for tubes with screw thread	2x	305542-0107-000
180° tiltable tube	Swivel range 180°, f=170mm	303791-0000-000
Foldable tube, white	f=170/260 mm not suitable for mouth switch adaptation	303771-9021-000

11.3.5 Eyepieces for left/right co-observation

Designation	Specification	Order no.
Push-in widefield eyepieces, 2 pcs	10x	305542-0000-000
Push-in widefield eyepieces, 2 pcs	12.5x aspherical	305543-9901-000

11.3.6 Tube for face-to-face

Designation	Specification	Order no.
180° tiltable tube	Swivel range 180°, f=170mm	303791-0000-000
Foldable tube, white	f=170/260 mm not suitable for mouth switch adaptation	303771-9021-000
Rotary adapter	-	301007-0000-000

11.3.7 Eyepieces for face-to-face

Designation	Specification	Order no.
Push-in widefield eyepieces, 2 pcs	10x	305542-0000-000
Push-in widefield eyepieces, 2 pcs	12.5x aspherical	305543-9901-000

11.3.8 Tube for posterior fossa

Designation	Specification	Order no.
Straight tube	f=170 mm	303765-0000-000
Sleeves for tubes with screw thread	2x	305542-0107-000

11.3.9 Eyepieces for posterior fossa

Designation	Specification	Order no.
Push-in widefield eyepieces, 2 pcs	10x	305542-0000-000
Push-in widefield eyepieces, 2 pcs	12.5x aspherical	305543-9901-000

11.3.10 Canon EOS DSLR Adapter Kit

Designation	Specification	Order no.
Photo adaptor	f=340	000000-1022-973
T2 adapter	Canon EOS 30743	000000-0448-028
Control cable	Canon EOS D60	000000-1229-877

11.3.11 Mouth switch

Designation	Specification	Order no.
Mouth switch	for 180° tiltable tube and foldable tube (303771-9110-000)	000000-1177-805
Angle adapter for mouth switch		302700-8602-000

11.3.12 Magnification Changer

Designation	Specification	Order no.
Magnification Changer	3-position	303429-9903-000

11.3.13 Adaptation of laser micromanipulators

Designation	Specification	Order no.
Dovetail mount / adapter plate for ext. components	(e.g. laser micromanipulator)	303360-9903-000

11.4 Tube covers

Designation	Specification	Order no.
Cover, main observer tube	NCS 1002-B	302584-1040-000
Cover, co-observer tube	NCS 1002-B, lak	302584-1041-000

11.5 Fluorescence targets

Designation	Specification	Order no.
Fluorescence target	BL 400	302581-9052-000
Fluorescence target	YE 560	302582-9208-000

11.6 Foot control panel

Designation	Specification	Order no.
FCP WL	Foot control panel with 14 functions, wireless	304970-9200-000
FCP	Foot control panel with 14 functions, cable-connected	304970-9100-000
Foot switch components		
Battery set	3 pieces, packaged	304970-8821-000
FCP indicator label	FCP indicator label	304970-1010-000
Instructions for Use for FCP and FCP WL	G-30-1706 FCP and FCP WL	000000-1520-536

11.7 FCP cable/FCP backup cable

Designation	Specification	Order no.
FCP CAN bus cable	6m	304970-8760-000

11.8 Rocker foot switch

Designation	Specification	Order no.
Rocker switch	2 functions, 3 m cable	305989-8609-000

11.9 Sterile covers/drapes

Designation	Specification	Order no.
SMARTDRAPE	No. 28 (5 pcs), sterile	306028-0000-000
VisionGuard replacement lenses	(20/box), sterile	306001-0000-000

11.10 Country-specific cables

Designation	Specification	Order no.
Europe	Power cord, length: 6 m	000000-0594-821
Netherlands	Power cord, length: 6 m	000000-0603-410
USA	Power cord, length: 6 m	000000-0594-822
UK	Power cord, length: 6 m	000000-0594-823
Switzerland	Power cord, length: 6 m	000000-0584-947
Argentina	Power cord, length: 6 m	000000-0594-906
China	Power cord, length: 6 m	000000-0594-824
Brazil	Power cord, length: 6 m	000000-0594-905
Australia / New Zealand	Power cord, length: 6 m	000000-0616-997

11.11 Stereo glasses

Designation	Specification	Order no.
Set of stereo polarization glasses	5 pairs	000000-1992-943

11.12 Medical loupes

Designation	Specification	Order no.
EyeMag Pro S	System carrier S (support) with components	304160-9100-000
	2x touch guard (EyeMag Pro F/S)	304156-9900-000
	Large softcase for Pro S	000000-1460-441
	Outer packaging for Pro S	000000-0488-101
	Optical system K 4.3x/500 silver	304156-9404-000

11.13 Lamp container of the xenon light source

Designation	Specification	Order no.
Lamp container	HLQ300W+	304949-9002-000

11.14 USB stick

Designation	Specification	Order no.
USB stick	USB 3.0 Memory Stick 64 GB	000000-0576-392

11.15 USB memory medium

Designation	Specification	Order no.
USB memory medium	External Mini HDD USB 3.0 1 TB	000000-0574-996

12 Disposal

NOTE

Incorrect disposal contaminates the environment.

A high proportion of electronic scrap at the unsorted municipal waste facility poses a risk to the environment.

- ▶ Do not dispose of the waste as normal municipal waste.
- ▶ Observe the local laws/regulations governing the disposal of electrical and electronic equipment.

- ▶ Keep packing material in the event of a relocation or repair.
- ▶ If you would like to dispose of the original packing material, send it in for recycling via a recognized collection system.

The device contains electronic components with integrated batteries.

- ▶ Dispose of the device and integrated batteries correctly, in accordance with national legislation.

In accordance with applicable EU guidelines and national regulations at the time at which the product was brought onto the market, the product specified on the consignment note is not to be disposed of via the domestic waste disposal system or communal waste disposal facilities.

- ▶ For more information on disposing of the device, contact the ZEISS contact person in your country.

You can find the ZEISS contact partner for your country on the following website: www.zeiss.com/med

- ▶ If you resell the device or its components: Inform the buyer that the device is to be disposed of in accordance with the currently applicable regulations.

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Glossary

AET

AE (Application Entity) titles must be locally unique and are normally managed by a system administrator. They must be configured before a DICOM connection is initialized.

Diopter scale

Element of an eyepiece for reading off the set refraction value.

Electromagnetic compatibility (EMC)

EMC (electromagnetic compatibility) designates the usually desired state in which technical devices do not impede each other by undesired electric or electromagnetic effects (non-interference).

Eyecup

An eyepiece control element used to shield the eyepiece against scattered light during eye-controlled focusing.

FL button

Release button for fluorescence application on the handgrip or FCP

LAN

LAN (local area network)

Ref. Phys. Name

Referring Physician's Name, name of the referring physician who requested the procedure.

Req. Proc. Code

Requested Procedure Code, code value that describes the requested procedure according to a specific coding scheme.

Req. Proc. Desc.

Requested Procedure Description, administrative description specified by the hospital or classification of the requested procedure.

Req. Proc. ID

Requested Procedure ID, identification number that identifies the requested procedure in the "Imaging Service Request".

Sch. Proc. Step Desc.

Scheduled Procedure Step Description, description specified by the hospital or classification of the scheduled procedure step.

Sch. Proc. Step Start

Scheduled Procedure Step Start, planned start time for the procedure step.

Sch. Protocol Code

Scheduled Protocol Code, code value that describes the scheduled protocol according to a specific coding scheme.

Technical safety test

Technical safety test to determine and assess the system safety.

UDI

Unique Device Identification (UDI) Standardized identification system for medical devices.

UDI Production Identifier (UDI-PI)

Unique Device Identification - Production Identifier

UDI-DI

Unique Device Identification - Device Identifier

USB

USB (universal serial bus) is a standard connector to connect peripheral devices.

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Keyword index

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MICROSOFT SOFTWARE LICENSE TERMS

WINDOWS EMBEDDED STANDARD 7

These license terms are an agreement between you and *[OEM]*. Please read them. They apply to the software included on this device. The software also includes any separate media on which you received the software.

The software on this device includes software licensed from Microsoft Corporation or its affiliate.

The terms also apply to any Microsoft

- updates,
- supplements,
- Internet-based services, and
- support services

for this software, unless other terms accompany those items. If so, those terms apply.

If you obtain updates or supplements directly from Microsoft, then Microsoft, and not *[OEM]*, licenses those to you.

As described below, using the software also operates as your consent to the transmission of certain computer information for Internet-based services.

By using the software, you accept these terms. If you do not accept them, do not use the software. Instead, contact *[OEM]* to determine its return policy for a refund or credit.

If you comply with these license terms, you have the rights below.

1. USE RIGHTS

Use. The software license is permanently assigned to the device with which you acquired the software. You may use the software on the device.

2. ADDITIONAL LICENSING REQUIREMENTS AND/OR USE RIGHTS

a. Specific Use. *[OEM]* designed the device for a specific use. You may only use the software for that use.

b. Other Software. You may use other programs with the software as long as the other programs

- directly supports the manufacturer's specific use for the device, or
- provide system utilities, resource management, or anti-virus or similar protection.
- Software that provides consumer or business tasks or processes may not be run on the device. This includes email, word processing, spreadsheet, database, scheduling and personal finance software. The device may use terminal services protocols to access such software running on a server.

c. Device Connections. You may not use the software as server software. In other words, more than one device may not access, display, run, share or use the software at the same time.

You may use terminal services protocols to connect the device to a server running business task or processes software such as email, word processing, scheduling or spreadsheets.

You may allow up to ten other devices to access the software to use

- File Services,
- Print Services,

- Internet Information Services, and
- Internet Connection Sharing and Telephony Services.

The ten connection limit applies to devices that access the software indirectly through "multiplexing" or other software or hardware that pools connections. You may use unlimited inbound connections at any time via TCP/IP.

d. Remote Access Technologies. You may access and use the software remotely from another device using remote access technologies as follows.

Remote Desktop. The single primary user of the device may access a session from any other device using Remote Desktop or similar technologies. A "session" means the experience of interacting with the software, directly or indirectly, through any combination of input, output and display peripherals. Other users may access a session from any device using these technologies, if the remote device is separately licensed to run the software.

Other Access Technologies. You may use Remote Assistance or similar technologies to share an active session.

Other Remote Uses. You may allow any number of devices to access the software for purposes other than those described in the Device Connections and Remote Access Technologies sections above, such as to synchronize data between devices.

e. Font Components. While the software is running, you may use its fonts to display and print content. You may only

- embed fonts in content as permitted by the embedding restrictions in the fonts; and
- temporarily download them to a printer or other output device to print content.

f. Icons, images and sounds. While the software is running, you may use but not share its icons, images, sounds, and media.

3. **VHD BOOT**. Additional copies of the software created using the software's Virtual Hard Disk functionality ("VHD Image") may be pre-installed on the physical hard disk of the device. These VHD Images may only be used for maintaining or updating the software installed on the physical hard disk or drive. If the VHD Image is the only software on your device, it may be used as the primary operating system but all other copies of the VHD Image may only be used for maintenance and updating.

4. POTENTIALLY UNWANTED SOFTWARE. The software may include Windows Defender. If Windows Defender is turned on, it will search this device for "spyware," "adware" and other potentially unwanted software. If it finds potentially unwanted software, the software will ask you if you want to ignore, disable (quarantine) or remove it. Any potentially unwanted software rated "high" or "severe," will be automatically removed after scanning unless you change the default setting. Removing or disabling potentially unwanted software may result in

- Other software on your device ceasing to work, or
- Your breaching a license to use other software on this device

By using this software , it is possible that you will also remove or disable software that is not potentially unwanted software.

5. SCOPE OF LICENSE. The software is licensed, not sold. This agreement only gives you some rights to use the software. *[OEM]* and Microsoft reserve all other rights. Unless applicable law gives you more rights despite this limitation, you may use the software only as expressly permitted in this agreement. In doing so, you must comply with any technical limitations in the software that allow

you to use it only in certain ways. For more information, see the software documentation or contact *[OEM]*. You may not:

- work around any technical limitations in the software;
- reverse engineer, decompile or disassemble the software;
- make more copies of the software than specified in this agreement;
- publish the software for others to copy;
- rent, lease or lend the software; or
- use the software for commercial software hosting services.

Except as expressly provided in this agreement, rights to access the software on this device do not give you any right to implement Microsoft patents or other Microsoft intellectual property in software or devices that access this device.

6. **INTERNET-BASED SERVICES.** Microsoft provides Internet-based services with the software. Microsoft may change or cancel them at any time.

   a. **Consent for Internet-Based Services.** The device may contain one or more of the software features described below. These features connect to Microsoft or service provider computer systems over the Internet. In some cases, you will not receive a separate notice when they connect. For more information about these features, visit go.microsoft.com/fwlink/?linkid=104604.

      By using these features, you consent to the transmission of this information. Microsoft does not use the information to identify or contact you.

      Computer Information. The following features use Internet protocols, which send to the appropriate systems computer information, such as your Internet protocol address, the type of operating system and browser, the name and version of the software you are using, and the language code of the device where you installed the software. Microsoft uses this information to make the Internet-based services available to you. *[OEM]* has elected to turn on the following features on the device.

      - Plug and Play and Plug and Play Extensions. You may connect new hardware to your device. Your device may not have the drivers needed to communicate with that hardware. If so, the update feature of the software can obtain the correct driver from Microsoft and install it on your device.

      - Web Content Features. Features in the software can retrieve related content from Microsoft and provide it to you. Examples of these features are clip art, templates, online training, online assistance and Appshelp. You may choose to switch them off or not use them.

      - Digital Certificates. The software uses x.509 version 3 digital certificates. These digital certificates confirm the identity of user sending information to each other and allow you to encrypt the information. The software retrieves certificates and updates certificate revocation lists over the Internet.

      - Auto Root Update. The Auto Root Update feature updates the list of trusted certificate authorities. You can switch off this feature.

      - Windows Media Digital Rights Management. Content owners use Windows Media digital rights management technology (WMDRM) to protect their intellectual property, including copyrights. This software and third party software use WMDRM to play and copy WMDRM-protected content. If the software fails to protect the content, content owners may ask

Microsoft to revoke the software's ability to use WMDRM to play or copy protected content. Revocation does not affect other content. When you download licenses for protected content, you agree that Microsoft may include a revocation list with the licenses. Content owners may require you to upgrade WMDRM to access their content. Microsoft software that includes WMDRM will ask for your consent prior to the upgrade. If you decline an upgrade, you will not be able to access content that requires the upgrade. You may switch off WMDRM features that access the Internet. When these features are off, you can still play content for which you have a valid license.

- Windows Media Player. When you use Windows Media Player, it checks with Microsoft for
  - compatible online music services in your region;
  - new versions of the player; and
  - codecs if your device does not have the correct ones for playing content.

  You can switch off this feature. For more information, go to: go.microsoft.com/fwlink/?LinkId=51331.
- Malicious Software Removal/Clean On Upgrade. Before installation of the software, the software will check and remove certain malicious software listed at www.support.microsoft.com/?kbid=890830 ("Malware") from your device. When the software checks your device for Malware, a report will be sent to Microsoft about any Malware detected or errors that occurred while the software was checking for Malware. No information that can be used to identify you is included in the report. You may disable the software's Malware reporting functionality by following the instructions found at www.support.microsoft.com/?kbid=890830.
- Network Awareness. This feature determines whether a system is connected to a network by either passive monitoring of network traffic or active DNS or HTTP queries. The query only transfers standard TCP/IP or DNS information for routing purposes. You can switch off the active query feature through a registry setting.
- Windows Time Service. This service synchronizes with www.time.windows.com once a week to provide your l device with the correct time. The connection uses standard NTP protocol.
- Search Suggestions Service. In Internet Explorer, when you type a search query in the Instant Search box or type a question mark (?) before your search term in the Address bar, you will see search suggestions as you type (if supported by your search provider). Everything you type in the Instant Search box or in the Address bar when preceded by a question mark (?) is sent to your search provider as you type. Also, when you press Enter or click the Search button, the text in the Instant Search box or Address bar is sent to the search provider. If you use a Microsoft search provider, use of the information sent is subject to the Microsoft Online Privacy Statement. This statement is available at go.microsoft.com/fwlink/?linkid=31493. If you use a third-party search provider, use of the information sent will be subject to the third party's privacy practices. You can turn search suggestions off at any time. To do so, use Manage Add-ons under the Tools button in Internet Explorer. For more information about the search suggestions service, see go.microsoft.com/fwlink/?linkid=128106.
- Consent to Update Infrared Emitter/Receiver. The software may contain technology to ensure the proper functioning of the infrared emitter/receiver device shipped with certain Media Center-based products. You agree that the software may update the firmware of this device.

- Media Center Online Promotions. If you use Media Center features of the software to access Internet-based content or other Internet-based services, such services may obtain the following information from the software to enable you to receive, accept and use certain promotional offers:

  - certain device information, such as your Internet protocol address, the type of operating system and browser you are using, and the name and version of the software you are using,

  - the requested content, and

  - the language code of the device where you installed the software.

  - Your use of the Media Center features to connect to those services serves as your consent to the collection and use of such information.

- Media Playback Updates. The software on the device may include media playback features which receives updates directly from the MSCORP Media Playback Update servers. If activated by your manufacturer, these updates will be downloaded and installed without further notice to you. The manufacturer is responsible for ensuring these updates work on your device.

- Windows Update Agent. The software on the device includes Windows Update Agent ("WUA"). This feature enables your device to access Windows Updates either directly from MSCORP Windows Update server or from a server installed with the required server component and from the Microsoft Windows Update server. To enable the proper functioning of the Windows Update service in the software (if you use it) updates or downloads to the Windows Update service will be required from time to time and downloaded and installed without further notice to you. Without limiting any other disclaimer in these license terms or any license terms accompanying a Windows Update, you acknowledge and agree that no warranty is provided by Microsoft Corporation or their affiliates with respect to any Windows Update that you install or attempt to install on your device.

b. Use of Information. Microsoft may use the device information, error reports, and Malware reports to improve our software and services. We may also share it with others, such as hardware and software vendors. They may use the information to improve how their products run with Microsoft software.

c. Misuse of Internet-based Services. You may not use these services in any way that could harm them or impair anyone else's use of them. You may not use the services to try to gain unauthorized access to any service, data, account or network by any means.

7. PRODUCT SUPPORT. Contact *[OEM]* for support options. Refer to the support number provided with the device.

8. MICROSOFT .NET BENCHMARK TESTING. The software includes one or more components of the .NET Framework (".NET Components"). You may conduct internal benchmark testing of those components. You may disclose the results of any benchmark test of those components, provided that you comply with the conditions set forth at go.microsoft.com/fwlink/?LinkID=66406.

Notwithstanding any other agreement you may have with Microsoft, if you disclose such benchmark test results, Microsoft shall have the right to disclose the results of benchmark tests it conducts of your products that compete with the applicable .NET Component, provided it complies with the same conditions set forth at go.microsoft.com/fwlink/?LinkID=66406**.**

9. **BACKUP COPY.** You may make one backup copy of the software. You may use it only to reinstall the software on the device.

10. **DOCUMENTATION.** Any person that has valid access to your device or internal network may copy and use the documentation for your internal, reference purposes**.**

11. **PROOF OF LICENSE.** If you acquired the software on the device, or on a disc or other media, a genuine Certificate of Authenticity label with a genuine copy of the software identifies licensed software. To be valid, this label must be affixed to the device, or included on or in *[OEM]*'s software packaging. If you receive the label separately, it is not valid. You should keep the label on the device or packaging to prove that you are licensed to use the software. To identify genuine Microsoft software, see www.howtotell.com.

12. **TRANSFER TO A THIRD PARTY.** You may transfer the software only with the device, the Certificate of Authenticity label, and these license terms directly to a third party. Before the transfer, that party must agree that these license terms apply to the transfer and use of the software. You may not retain any copies of the software including the backup copy.

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