



E-CUBE 8 Diamond

V1.0 Rev00

V1.4 Rev04

ALPINION
MEDICAL SYSTEMS

Physical specification

- Width: 532 mm
- Depth: 787 mm
- Height: 1470–1560 mm (Monitor Folded: 1190 mm)
- Weight: 55 kg (System only)

System design

- 21.5" flat panel monitor and new articulated arm
- Front handle
- Up/Down Module
- 4 active probe connectors
- 1 pencil probe port
- 4 swivel wheels
- Integrated SSD with HDD
- ECG (Optional)
- Built-in stereo speaker
- Built-in cable management
- System boot-up: in 60 sec

Main monitor

- 21.5" high definition LED backlit LCD
- Resolution: 1,920 x 1,080 (16:9 wide)
- 16.2M color display
- Contrast: 1:1,000
- IPS (In Plane Switching) technology
- Bright and contrast adjustment
- Image Filter
- Articulated monitor arm
 - Swivel: +/- 135°
 - Tilt: +30° / -90°

Control panel

- Alphanumeric keyboard with backlit
- Ergonomic key layout
- 8 TGC control levers
- 3 user customizable keys
- 5 probe holders with 2 removable
- Optional built-in gel warmer (3 temperature levels)
 - Low: 31° C
 - Medium: 34° C
 - High: 37° C

Touch screen

- 10.4" high definition LED backlit LCD
- Resolution: 1,024 X 768
- 16.2M color display
- Bright and contrast adjustable (OSD)

Computing power

- Main processor: Intel core i3-6100E 2.7 GHz
- Main memory: 4 GB
- SSD[120GB] and HDD[1TB]

Electrical specification

- 100 - 120 V, 220-240 V, 50/60 Hz
- Power consumption: Max. 450 VA

System architecture

- Digital beamforming
- High density transducer connector
- Power View™ (C-Architecture) of transducer
- Triple multi-beam
- Flexcan™
- SensitiView™
- Crystal Signature™
- MicroFit™
- Optimal Imaging Suite™
- Raw data processing
- Needle enhancement
- Windows7 Embedded

Transducer type

- Convex
- Micro convex
- Endo cavity
- Linear
- Phased (Sector)
- Volume

Application

- Abdomen
- Appendix
- Breast
- Cardiac
- EM
- Gynecology
- Musculoskeletal
- Obstetrics
- Pediatric
- Small Parts
- Urology
- Vascular

Preset

- Abdomen
- Abdomen (Pen)
- Appendix (Bowel)
- Renal
- OB1, OB2, OB3
- Fetal Echo
- Thyroid
- Testicle
- MSK
- Superficial
- MSK deep
- Nerve
- Shoulder/Knee
- Wrist/Elbow
- Breast
- EM
- Vascular
- Cardiac
- Cardiac (Pen)
- TCD

Imaging mode

- 2D (B)
- Color Doppler (CF)
- Pulse Wave Doppler (PW)
- Power Doppler (PD)
- Directional Power Doppler (DPDI)
- Tissue Doppler Imaging (TDI)
- Continuous Wave Doppler (CW)
- Motion (M)
- Color M
- Anatomical M
- 3D/4D/3D Freehand
- Live HQ™
- Panoramic
- Elastography
- Needle Vision™ / Needle Vision™ Plus
- Dual Live

Complex mode

- Duplex: B+B, B+PW, B+CW, B+CF, B+PD, B+DPDI, B+M, B+3D, B+4D, B+Live HQ, A+B+C+3D, A+B+C+4D, B+Elastography
- Triplex: B+CF+PW, B+CF+CW, B+CF+M

Scanning parameters

- System frequency range: 1 – 20 MHz
- Processing channel: 786,432
- ADC: 12 bits
- Displayed imaging depth: 0 – 40 cm
- Max. Frame rate (Probe dependent)
 - 2D: over 2,099 (Hz/FPS)
 - Color: 351 (Hz/FPS)
 - Volume: 45 (Hz/VPS)
- Dynamic range: Max. 250 dB
- Grayscale: 256 levels
- Max. Scan line: 1,638
- Focus
 - Focal number: Max. 8
 - Focal position: Max. 20
- Zoom
 - Write zoom: Max. 11.9x (probe dependent)
 - Read zoom: Max. 10x
- CF (Probe dependent)
 - 0.3 kHz - 13.2 kHz
 - 0.3 cm/s - 4.82 m/s
- PW (Probe dependent)
 - 0.3 kHz - 26.0 kHz
 - 0.7 cm/s - 114 m/s
- CW
 - 0.1 kHz - 69.4 kHz
 - 0.3 cm/s - 305 m/s

Image presentation

- Dual
- Quad
- Duplex image format
 - 1:1 / 1:2 / 2:1 / full screen
- Image reverse: Left/right
- Image rotation: 0°, 90°, 180°, 270°

Display annotation

- Patient ID: Up to 64 characters
- Patient name: First, last and middle
- Gender, age and birth date
- Gestational age from LMP, EDD and GA
- Transducer name
- Institution / hospital name: up to 25 characters
- Date format: 3 types
 - YYYY/MM/DD
 - MM/DD/YYYY
 - DD/MM/YYYY
- Time format: 2 types
 - 12 hours / 24 hours
- Acoustic power

- Mechanical index (MI)
- Thermal index (TI): TIS, TIB, TIC
- Transducer name
- Preset
- Transducer orientation
- Depth
- Focus
- TGC line
- Frequency
- Frame rate
- Power
- Mode name
- Gray scale bar
- Arrow
- Indicator
- Text
 - Size: 1 ~ 10
- Body pattern
 - 201 sets
 - Size: small, medium, large
- Biopsy guide line
- Thumbnail
- Stored image info
- Cine gauge
- Measurement result

Live mode display

- 2D
 - Anglesteer (Probe dependent): 7 steps (-20 ~ 20°)
 - Colorize: 0 ~ 25
 - Dynamic range: 30 ~ 250 dB
 - Edge enhance: 0 ~ 10
 - Frequency: 5 steps
 - Full SRI: 0 ~ 5
 - Gray map: 0 ~ 43 (Probe dependent)
 - Gain: 0 ~ 100
 - Harmonic
 - Pulse inversion harmonic
 - Invert
 - Line density: 0 ~ 5
 - Persistence: 0 ~ 4
 - Power: 1 ~ 100%
 - Reject: 1 ~ 10
 - Spatial compounding : 0 ~ 5
 - Frequency compounding
- M
 - Anatomical M: On, off
 - AMM angle
 - Colorize: 0 ~ 25
 - Dynamic range: 30 ~ 250dB
 - Gray map: 0 ~ 43 (Probe dependent)
 - Gain: 0 ~ 100
 - Reject: 0 ~ 10

- Power: 1 ~ 100%
- Sweep speed: 0 ~ 6
- PWD
 - Angle: -89° ~ 89°
 - Anglesteer (Probe dependent): 7 steps (-20 ~ 20°)
 - Auto angle
 - Baseline: -8 ~ 8
 - Colorize: 0 ~ 22
 - Dynamic range: 30 ~ 120dB
 - Frequency: 3 steps
 - Gray map: 0 ~ 18 (Probe dependent)
 - Gain: 0 ~ 98
 - Line density: 0 ~ 5
 - Power: 1 ~ 100%
 - Reject: 0 ~ 10
 - Scale (PRF): 0.3 ~ 20.1 kHz (Probe dependent)
 - SV size: 0.2 ~ 25mm
 - Sweep speed: 0 ~ 6
 - Sound: 0 ~ 100%
 - Wall filter: 0 ~ 9
- CWD
 - Angle: -89° ~ 89°
 - Base line: -8 ~ 8
 - Dynamic range: 30 ~ 120dB
 - Gray map: 0 ~ 22
 - Gain: 0 ~ 98
 - Scale (PRF): 0.3 ~ 69.4 kHz (Probe dependent)
 - Frequency: 2 steps
 - Power: 1 ~ 100%
 - Reject: 0 ~ 10
 - Sound: 0 ~ 100%
 - Sweep speed: 0 ~ 6
 - Wall filter: 0 ~ 9
- CF/PD
 - Anglesteer (probe dependent): 7 steps (-20 ~ 20°)
 - Base line: -100 ~ 100
 - Color map: 0 ~ 28 (CF), 0 ~ 8 (PD), 0 ~ 9 (DPDI)
 - Ensemble: 6 ~ 16
 - Frequency: 3 steps
 - Flow state: Low, mid, high
 - Gain: 0 ~ 100
 - Line density: 0 ~ 2
 - Power: 1 ~ 100%
 - Scale (PRF): 0.3 ~ 10.4 kHz (probe dependent)
 - Smooth: 0 ~ 10
 - Wall filter: 0 ~ 7
- 3D/4D (Volume Master™)
 - Quality: Low, Mid, H1, H2
 - Volume angle: 10 ~ 120° (probe dependent)
 - Curved ROI
 - View direction: Up, down, Lt, Rt, front, back
 - Brightness: 1 ~ 100
 - Contrast: 1 ~ 100

- Threshold: 0 ~ 255
- Opacity: 0 ~ 255
- Smooth: 0 ~ 20
- SRI (2D): 0 ~ 5
- Gray map: 0 ~ 30
- 2D Colorize: 0 ~ 25
- 3D Color Map: 1 ~ 18
- MPR
 - Display format
 - Ref. Plane
 - 3D Orientation
 - Edit ROI
 - Volume Sync (Vol. Sync)
 - Render Setup: Surface, MaxIP, MinIP, XRay, Light, LiveHQ
 - Cine Calc.
 - Initializing (init.)
 - Easy cut
- Sectional Planes
 - Multi Plane
 - Cubic View: Box / Niche / Plane
- Multi Slice
 - Display format: 1*1 / 1*2 / 2*2 / 3*3 / 4*4
 - Reference plane
 - Active view
 - Guide view
 - Pitch: 0 ~ 35 mm
 - Previous / Next
- Live HQ™
 - Live HQ setup
 - Light Direction
 - Move light
 - Live HQ color map: Skin 1 ~ 12
 - HQ Scatter: 0 ~ 10
 - Front scale: -20 ~ 20
 - Back scale: -20 ~ 20
- Volume Advance™
 - AnySlice
 - Display format
 - Reference line (Ref. Line)
 - New / Undo / Delete All
 - Thickness: 0 ~ 20 mm
 - Free Angle MSV
 - Display format: 1*1 / 1*2 / 2*2 / 3*3 / 4*4
 - Reference plane
 - Active view
 - Guide view
 - Pitch: 0 ~ 35 mm
 - Previous / Next
 - Volume Analysis
 - Disc thickness: 1 / 2 / 5 / 8 / 10 mm
 - Display format
 - Propagation Disc / Volume Display off

- Current plane disc
 - Disc Transparency: 0 ~ 1 (10 steps)
 - Delete / Delete All
- Panoramic
 - Colorize: 0 ~ 25
 - Dynamic range: 30 ~ 250 dB
 - Edge enhancement: 0 ~ 4
 - Frequency: 3 steps
 - Full SRI: 0 ~ 5
 - Gray map: 0 ~ 37
 - Gain: 0 ~ 100
 - Harmonic
 - Pulse inversion harmonics
 - Line density: 0 ~ 5
 - Persistence: 0 ~ 5
 - Power: 1 ~ 100%
 - Reject: 1 ~ 9
- Elastography
 - Live dual: On / off
 - Invert: On / off
 - E persistence: 1 ~ 4
 - Alpha blending: 0 ~ 100
 - Color map: 0 ~ 8
- Needle Vision plus
 - L/R Flip
 - Angle: Shallow, Medium, Steep

Post processing

- 2D
 - Colorize
 - Dynamic range
 - Edge Enhance
 - Full SRI
 - Gain
 - Gray map
 - Reject
 - TGC
- M
 - Colorize
 - Dynamic range
 - Gain
 - Gray map
 - Reject
 - Sweep speed
- PWD
 - Angle correction
 - Auto Calc.
 - Baseline
 - Colorize
 - Dynamic range
 - Gain
 - Gray map

- Invert
- Reject
- Sweep speed
- CWD
 - Angle correction
 - Auto Calc.
 - Baseline
 - Colorize
 - Dynamic range
 - Gray map
 - Reject
 - Sweep speed
- CF/PD
 - Baseline
 - Blend / Adaptive blend
 - Colorize
 - Color map
 - Invert (CF / DPDI)
 - Threshold

- Elastography
- Tissue Doppler Imaging (TDI)
- Volume Master™
- Live HQ™
- Volume Advance™
- Cube View™
- Cube Strain™
- Stress Echo
- Needle Vision™
- Needle Vision™ Plus
- 4 probe port
- ECG (IHE / AHA)
- Foot switch (3 pedals)
- Wireless LAN
- Side basket
- Cube note

Imaging technology

- Filtered Tissue Harmonic Imaging (FTHI)
- Pulse Inversion Tissue Harmonic Imaging (PTHI)
- Speckle Reduction Imaging (SRI)
- Full Speckle Reduction Imaging (Full SRI)
- Frequency Compounding Imaging (FCI)
- Needle Vision™
- Needle Vision™ Plus
- Xspeed™
- Live HQ™
- Beam steer
- Virtual convex (Trapezoidal)
- Elastography
- Panoramic
- Automated intima media thickness measurement

Image archive

- Raw data image processing
- Post processing
- E-View™
- 1TB internal hard drive reserved for patient data
- Image store
 - Up to 170,000 images (without compression)
 - Up to 1,350,000 images (with JPG compression)
- Image format
 - BMP, JPEG, DICOM, AVI, WMV
- Export (Send To) / Backup / Restore
- Network storage
- Cube View™

Features

- Auto NT
- Auto IMT
- CV measure & report
- SRI
- Full SRI
- Xspeed™
- Spatial Compounding
- Frequency Compounding Imaging (FCI)
- Filtered Tissue Harmonic Imaging (FTHI)
- Continuous Wave (CW)
- DICOM
- DICOM SR: OB, Adult Echo, Vascular, Breast
- Anatomical M
- Panoramic

Cine

- Cine memory: 450 MB, 28,800 frames, 128 volumes, 300 sec
- Prospective and retrospective
- Cine review, save and edit
- Run, stop, frame move
- Play speed: 50% 100%, 200%, 300%, 400%

Transducers

SC1-4H

- Convex array
- Frequency: 1.0 - 4.0 MHz
- Field of view: 60°
- Elements: 192
- Radius of curvature: 60 mm
- Footprint: 72.4 X 16.8 mm
- Application: Abdomen, EM, Gynecology, Obstetrics
- Crystal Signature™ Technology
- Biopsy available

SC1-4HS

- Convex array
- Frequency: 1.0 - 4.0 MHz
- Field of view: 73°
- Elements: 166
- Radius of curvature: 46 mm
- Footprint: 68 X 15.9 mm
- Application: Abdomen, EM, Gynecology, Obstetrics
- Crystal signature™ technology
- Biopsy available

SC1-6H

- Convex array
- Frequency: 1.0 - 6.0 MHz
- Field of view: 60°
- Elements: 192
- Radius of curvature: 60 mm
- Footprint: 72.4 X 16.8 mm
- Application: Abdomen, EM, Gynecology, Obstetrics
- Crystal signature™ technology
- Biopsy available

C1-6CT

- Convex array
- Integrated with C-architecture Technology
- Frequency: 1.0 - 6.0 MHz
- Field of view: 60°
- Elements: 128
- Radius of curvature: 60 mm
- Footprint: 71.6x16.8 mm
- Application: Abdomen, EM, Gynecology, Obstetrics
- Crystal signature™ technology
- Biopsy available

VC1-6T

- Convex array (Volume)
- Frequency: 1.0 - 6.0 MHz
- Field of view: 79°
- Sweep angle: 75°
- Radius of curvature: 40 mm
- Elements: 128
- Footprint: 59.2 X 45.2 mm
- Application: Abdomen, OB, GYN, EM
- Biopsy is not available

C5-8NT

- Micro convex array
- Frequency: 5.0 - 8.0 MHz
- Field of view: 93.6°
- Elements: 128
- Radius of curvature: 15 mm
- Footprint: 25.5 X 9 mm
- Application: Abdomen, EM, Cardiac, Pediatric

L3-12H

- Linear array
- Frequency: 3.0 - 12.0 MHz
- Field of view: 38.4 mm
- Elements: 192
- Footprint: 44.8 X 7.8 mm
- Application: Breast, EM, MSK, Vascular, Small Parts, Appendix
- Biopsy available

L8-17H

- Linear array
- Frequency: 8.0 - 17.0 MHz
- Field of view: 38.4 mm
- Elements: 192
- Footprint: 44.8 X 7.8 mm
- Application: Breast, EM, MSK, Vascular, Small Parts
- Biopsy available

IO8-17T

- Linear array
- Frequency: 8.0 - 17.0 MHz
- Field of view: 25.6 mm
- Elements: 128
- Footprint: 36.7 X 4.2 mm
- Application: Small Parts, MSK
- Biopsy is not available

L3-12H^{WD}

- Linear array
- Frequency: 3.0 - 12.0 MHz
- Field of view: 57.0 mm
- Elements: 192
- Footprint: 64.0 x 8.4 mm
- Application: Breast, EM, MSK, Vascular, Small Parts, Appendix
- Biopsy not available

L3-12T

- Linear array
- Frequency: 3.0 - 12.0 MHz
- Field of view: 38.4 mm
- Elements: 128
- Footprint: 44.8 X 7.8 mm
- Application: Breast, EM, MSK, Vascular, Small Parts, Appendix
- Biopsy available

P1-5CT

- Phased array
- Frequency: 1.0 - 5.0 MHz
- Field of view: 90°
- Elements: 64
- Footprint: 23 X 13.4 mm
- Application: Abdomen, Cardiac, EM, TCD
- Crystal signature™ technology
- Biopsy is not available

SP3-8T

- Phase array
- Frequency: 3.0 - 8.0 MHz
- Field of view: 90°
- Elements: 64
- Footprint: 16 X 12.8 mm
- Application: Abdomen, Cardiac, EM, Pediatric
- Crystal signature™ technology
- Biopsy is not available

EV3-10T

- Endo Cavity
- Frequency: 3.0 - 10.0 MHz
- Field of view: 142°
- Elements: 128
- Footprint: 21.5 X 18.6 mm
- Application: GYN, OB, Fetal Echo, Urology, EM
- Biopsy available

EC3-10T

- Endo Cavity
- Frequency: 3.0 - 10.0 MHz
- Field of view: 142°
- Elements: 128
- Footprint: 21.5 X 18.6 mm
- Application: GYN, OB, Fetal Echo, Urology, EM
- Biopsy available

CW2

- Pencil
- Frequency: 2.0 MHz
- Footprint: 17.2 x 17.2 mm
- Application: Cardiac
- Biopsy is not available

CW5

- Pencil
- Frequency: 5.0 MHz
- Footprint: 10.3 x 10.3 mm
- Application: Cardiac
- Biopsy is not available

VE3-10H

- Endo cavity (Volume)
- Frequency: 3.0 - 10.0 MHz
- Field of view: 160°
- Sweep angle: 120°
- Radius of curvature: 10 mm
- Elements: 192
- Footprint: 24.4 X 24.4 mm
- Application: GYN, OB, Urology
- Biopsy available

Measurement and Calculation

Basic (Caliper)

- Distance
- Area Circumference
- %Stenosis
- Volume
- Angle
- A/B ratio
- Volume Flow Area
- Time
- Slope
- HR
- Velocity
- Acceleration
- S/D Ratio
- PI
- RI
- Trace
- Auto Trace
- VTI

Abdomen measurement

- Aorta
- Renal
- Renal A
- Renal V
- Hepatic A
- IVC
- Hepatic V
- Mid HV
- MPV
- Portal V
- Splenic A
- Splenic V
- SMA
- SMV
- IMA
- Iliac A
- Iliac V
- Vessel
- HR

Breast measurement

- Mass 1 ~ 10
- Duct dilatation
- Breast Flow
- HR

Cardiology measurement

- Ao/LA
- LA Vol (Diam)
- Aorta Diam
- Pul. Diam
- Vena Cava
- RV
- Simpson BP
- Simpson SP
- Modified Simpson
- Area Length
- Teichholz
- LVMass T-E
- LVMass A-L
- LA Vol (A-L)
- LA Vol (Simpson)
- RA Vol (A-L)
- RA Vol (Simpson)
- TV
- PISA
- MV
- AV
- PV
- Qp/Qs
- Pul. Vein
- TDI
- HR

Gynecology measurement

- Uterus
- Ovary
- Follicle
- Fibroid
- Pelvic Floor
- Early Gestation
- Ovarian
- Uterine
- FHR
- Ovarian A
- Uterine A
- Vessel
- Aorta
- Umbilical A
- Placenta
- Des. Aorta
- HR

Obstetrics measurement

- Early Gestation
- Fetal Biometry
- Fetal Long Bones
- Fetal Cranium
- Fetal Others
- Maternal Others
- Generic
- AFI
- CRAR
- 4 Chamber view
- Aortic Arch
- LVOT
- Outflow tract
- RVOT
- Thorax
- Venous
- FHR
- Tricuspid Valve
- Mitral Valve
- Main Pulmonary A
- Aorta
- Ductus Art
- Umbilical A
- Umbilical V
- Ductus Ven
- Pulmonary Valve
- Aortic Valve
- Pulmonary Vein
- Carotid
- MCA
- SMA
- Celiac A
- Uterine A
- IVC

Emergency Medicine measurement

- Aorta
- Renal
- Bladder
- %Stenosis
- A/B ratio
- SMA
- IMA
- IVC
- Uterine A
- Ovarian A
- Vessel
- HR

MSK measurement

- Volume
- HIP (BA) / Hip (AB)
- Vessel
- HR

Pediatric measurement

- Aorta
- Renal
- Renal A
- CHA
- IVC
- Hepatic V
- Mid HV
- MPV
- Portal V
- Splenic A
- Splenic V
- SMA
- SMV
- IMA
- Iliac A
- Iliac V
- Vessel
- Hip
- HR

Renal measurement

- Renal L
- Renal
- Aorta
- Renal A
- Portal V
- Vessel
- HR

Small Parts measurement

- Thyroid
- Isthmus
- Nodule
- Lymph Node
- Parathyroid
- Thyroid Flow
- Testicle
- Testicle Flow
- HR

Urology measurement

- Renal
- Bladder
- Testicle
- Prostate
- Residual
- Vessel
- Bladder
- HR

Vascular measurement

- CCA
- ICA
- ECA
- Bulb
- Vert. A
- Subclav. A
- Axill. A
- Basilar A
- Brach. A
- DBA
- Basilic A
- Radial A
- Ulnar A
- SPA
- Innom. A
- IJA
- Subclav. V
- Ceph. V
- Brach. V
- DBV
- Basilic V
- Radial V
- Ulnar V
- Innom. V
- CIA
- EIA
- IIA
- CFA
- DFA
- SFA
- Pop. A
- PTA
- ATA
- Peron. A
- DPA
- Prof. A
- CIV
- EIV
- ILV
- CFV

- DFV
- SFV
- GSV
- LSV
- Pop. V
- PTV
- ATV
- Peron. V
- DPA
- Prof. A
- MCA
- ACA
- PCA P1
- PCA P2
- Vert. A
- Basilar A
- PComA
- AComA
- Renal A
- Renal V
- Segm. A
- Interlob. A
- Arcuate A
- ABD. Aorta
- SMA
- IMA
- Hepatic A
- Portal V
- Splenic A
- Straight Gft
- Loop Gft
- Cimino Gft
- Comp Gft
- HR

Connectivity

Peripheral

- USB 2.0 (4 ports)
- USB 3.0 (2 ports)
- Ethernet 10/100Base-T
- Remote control
- HDMI out
- VGA (D-Sub) out
- S-VHS out
- Composite video out
- BNC out
- Audio in L/R
- Audio out L/R

DICOM

- DICOM 3.0
- Image storage
- Multi-frame image storage
- Secondary image capture storage
- Structured report (OB, Cardiology, Vascular)
- Grayscale print management
- Color print management
- Storage commitment push model
- Modality performed procedure step
- Worklist
- Verification
- Media storage: USB media, DVD, CD-R

Thermal printers

- BW
 - Sony UP-D898MD
 - Sony UP-X898MD
 - Mitsubishi P95DE
- Color
 - Sony UP-D25MD
 - Sony UP-25MD

- EN 55011:2009 + A1:2010, Group 1, Class B
- EN 61000-4-2:2009 (IEC 61000-4-2:2008)
- EN 61000-4-3:2006 + A1:2008 + A2:2010 (IEC 61000-4-3: 2006 + A1:2007 + A2:2010)
- EN 61000-4-4:2012 (IEC 61000-4-4:2012)
- EN 61000-4-5:2014 (IEC 61000-4-5:2005)
- EN 61000-4-6:2014 (IEC 61000-4-6:2008)
- EN 61000-4-8:2010 (IEC 61000-4-8:2009)
- EN 61000-4-11:2004 (IEC 61000-4-11:2004)
- EN 61000-3-2:2014 (IEC 61000-3-2: 2014)
- EN 61000-3-3:2013 (IEC 61000-3-3:2013)
- EN 62304:2006 / AC:2008 (IEC 62304:2006)
- EN 62366:2008 / A1:2015 (IEC 62366:2014)
- EN ISO 14971:2012 (ISO 14971:2007)
- ETSI EN 301 489-1 V1.9.2:2011
- ETSI EN 301 489-17 V2.2.1:2012
- EN ISO 10993-1:2009 (ISO 10993-1:2009)
- EN ISO 10993-5:2009 (ISO 10993-5:2009)
- EN ISO 10993-10:2013 (ISO 10993-10:2010)
- AIUM/NEMA UD2:2004 (R2009)
- AIUM/NEMA UD3:2004 (R2009)
- MDD 93/42/EEC
- CANADA [Regulation] SOR-98-282
- CE
- WEEE
- Rohs

Safety and Compliance

- IEC/EN 60601-1:6.8.1:
 - Type of protection against electrical shock: Class I
 - Degree of protection against electrical shock (Patient connection): Type BF equipment
 - Degree of protection against harmful ingress of water: Ordinary equipment and all of applied parts (IPX7, IPX8) except ECG meet ingress protection level according to IEC 60529.
 - Degree of safety of application in the presence of a flammable anesthetic material with air or with oxygen or nitrous oxide: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
 - Mode of operation: Continuous operation
- EN 60601-1:2006 + A11:2011 + A1:2013 (IEC 60601-1:2005 + A1:2012)
- EN 60601-1-2:2007 + AC:2010 (IEC 60601-1-2:2007)
- EN 60601-1-6:2010 / A1:2015 (IEC 60601-1-6:2010 + A1:2013)
- EN 60601-2-37: 2008 + A11:2011 (IEC 60601-2-37:2007)
- EN 55022:2010 / AC:2011, Class B (CISPR 22:2008, modified)

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