RICHARD WOLF

spirit of excellence

core nova

M&K
Management &
Krankenhaus
AWARD
2017
WINNER

core.system components

core.browser
Control Software
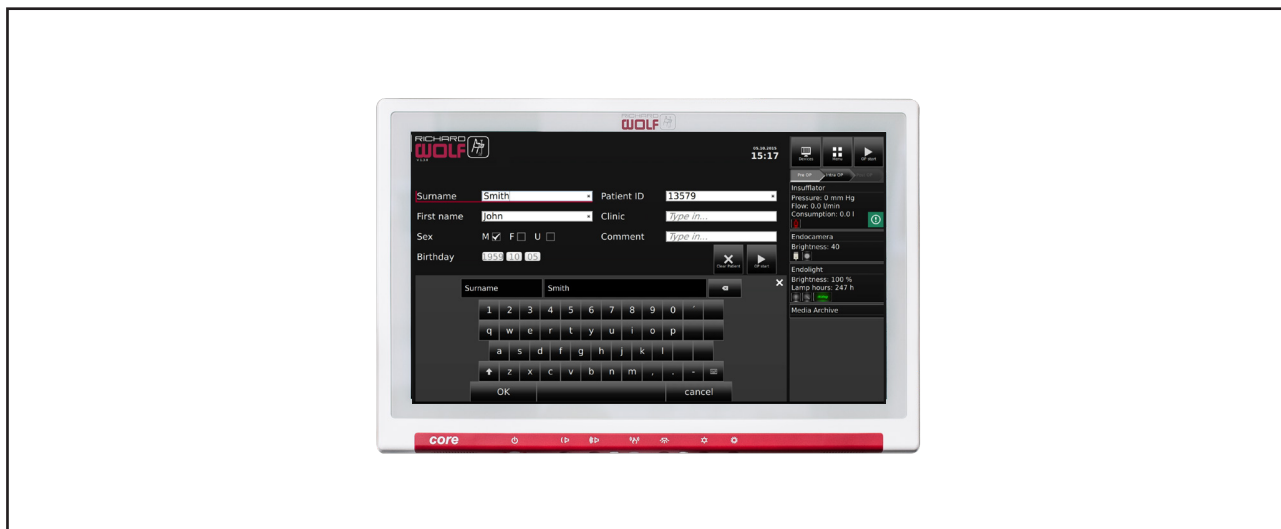
core.browser is the central operating software for the core nova system. It facilitates the display and operation of functions, device control, apps, etc.

A keyboard or a mouse is not necessary for control, since the system is operated entirely using a touchscreen.

- ❏ Clear presentation of device functions
- ❏ Display of device status
- ❏ Display of error and information messages
- ❏ Control of third-party devices like OR tables or OR lights
- ❏ Various languages available
- ❏ Presets for endoscopic devices

core.browser **5592201**

core.browser

core.browser
Control Terminal

core.control can be positioned at the nursing station or mounted directly on a cart or boom.

Together with the installed ***core***.browser it operates the ***core*** nova system.

❏   Workstation for controlling the ***core*** nova system
❏   User-friendly touch screen

Computer **POC-W2131710-T**

core.control
Technical Data

Type	POC-W2131710-T
Panel characteristics	
Monitor size	21.5 inch (54.5 cm)
Resolution / Aspect ratio	1920 x 1080 / 16:9
Max. brightness	250 cd/m^2
Contrast ratio	1000 : 1 (typ)
Angle of view	178° H / 178° V
Equipment	
Touchscreen	Analog resistive
IP protection	Front side IP65, rear side IPX1
Equipotential bonding	ZPA
Enclosure mount	VESA 75/100
Power supply	
Input voltage	90 - 260 Vac, 47-63 Hz, 1.35 - 0.5 A
Output voltage	AC/DC adapter / +18 VDC, max. 5.55 A
Power consumption	100 W
Regulatory compliance	
Certifications	UL60601-1/EN60601-1 Edition 3.1, CE & FCC Edition 4.0 Class B, and CCC
PC module	
CPU	Intel® Core™ i7-6600U Processor
RAM	8 GB (only for internal use)
HDD	128 GB SSD (only for internal use)
Inputs	2x RJ45 Gigabit Ethernet
Dimensions and weight	
Weight	6.9 kg
Dimensions (w x h x d)	550 x 360 x 65 mm

core.control

core.connect
Third-Party Device Control Interface

core.connect is a universal converter interface for controlling third party devices (e.g., OR tables, surgical lights or other devices).

❑ Connection of third party devices via CAN bus, serial or infrared communication possible

❑ Power supply via Power over Ethernet (PoE) or alternatively via an external power supply unit

❑ A range of drivers is available (see page A 8)

core.connect Interface **5592501**

core.connect
Technical Data

Type	5592501
Equipment	
IP protection	IP 20
Operating mode	Continuous operation
Power supply	
Input voltage	100 - 240 Vac, ± 10 % (50/60 Hz)
Power supply	AC/DC Adapter (optional) 5 VDC, 2.0 A, 10 W
Power supply via LAN (Ethernet)	+ 48V DC Power via Ethernet (PoE)
Max. power consumption	max. 5W
Power rating	max. 1A
Regulatory compliance	
Certifications	IEC 60601-1, Class I Medical Device, UL 60601-1 / CSA c22.2 No. 601.1 - low voltage
Interfaces	
LAN (Ethernet) network connector	RJ45 (10/100/1000 Mbit/s)
CAN bus	Sub-D socket, 9-pin
Infrared	Sub-D socket, 9-pin
Serial	Sub-D plug, 9-pin
Dimensions and weight	
Weight	0.22 kg
Dimensions (w x h x d)	150 x 83 x 30 mm

core.connect
Third-Party Devices Control Interface
Sales Bundles (HW incl. SW)

core.connect **OR Table Berchtold BNDL** **55926011**
Supported models from Berchtold:
Operon D760 / D820 / D850 / D850SL
Content:
1x *core*.connect interface 5592501
1x Driver OR Table Berchtold 5592601
1x RS-232 connection cable (10 m) 72325.361

core.connect **OR Table Maquet BNDL** **55926021**
Supported models from Maquet:
Alphamaquet, Alphastar, Betastar and Alphamaxx
Content:
1x *core*.connect interface 5592501
1x Driver OR Table Maquet 5592602
1x Emergency Stop Module (see page OR 15) 5590.830
1x IR Transceiver (see page OR 15) 5592504
1x Emergency stop cable 643211483

core.connect **OR Light Berchtold BNDL** **55926091**
Supported models from Berchtold:
Chromophare F Series
Content:
1x *core*.connect interface 5592501
1x Driver OR Light Berchtold 5592609
1x Serial data cable, st/bu 9-pin sub-d (1m) 72325380

core.connect **OR Light Trumpf BNDL** **55926071**
Supported models from Trumpf:
iLED 3/5 and TruLight 5000/3000, TruLight 5000C, TruVidia SD/HD
Content:
1x *core*.connect interface 5592501
1x Driver OR Light Trumpf 5592607
1x Serial data cable, st/bu 9-pin sub-d (1m) 72325380

core.connect **HF unit KLS Martin BNDL** **55926061**
Supported models from KLS Martin:
Maxium ME402
Content:
1x *core*.connect interface 5592501
1x Driver HF unit KLS Martin 5592606
1x RS-232 connection cable 5052912

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core.connect
Accessories for OR Tables
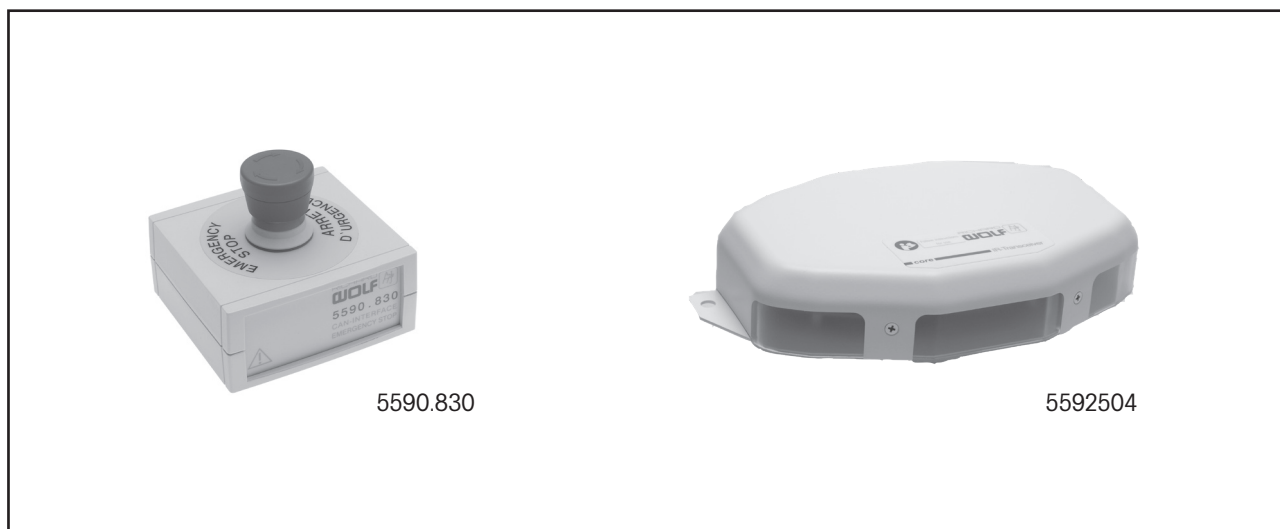
5590.830

5592504

Emergency Stop Module **5590.830**

Interface module for interrupting the communicaton connection between

core.connect and the third party device.

Device dimensions (w x h x d): 80 x 90 x 73 mm
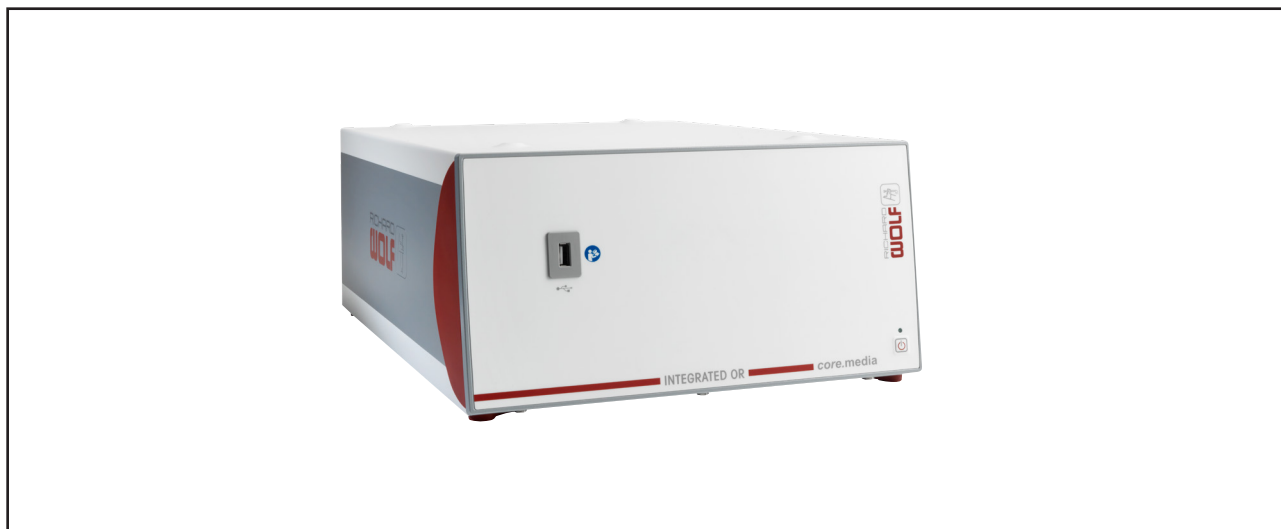
Weight: approx. 0.15 kg

IR Transceiver **5592504**

Interface module for controlling medical devices with infrared interface.

Power supply via connection cable from *core*.connect.

Device dimensions (w x h x d): 250 x 150 x 50 mm

Weight: approx. 0.5 kg

core.media
Media Management Platform

core.media is the central media management platform in the *core* nova network. By using 3G-SDI inputs and outputs or H.264 videostreams HD signals can be transmitted from source to destination. Video sources can be documented while routing video signals.

- Digital video inputs: 3x 3G-SDI, 1x HD-SDI
- Digital video outputs: 2x 3G-SDI, 2x HD-SDI
- Incoming digital H.264 videostream
- Documentation channel up to 1080p
- Image storing of all video inputs with resolution up to 1920x1080 (depending on the input signal)
- Simultaneous video preview
- Picture-in-picture and quad split
- Plug-and-play connection to *core* nova system

core.media platform BNDL **55930011**
Content:
1x *core*.media platform 5593001
3x coaxial cable Vektor Plus (1m) DZGR-0100-SW-GN
3x coaxial cable Vektor Plus (2m) DZGR-0200-SW-GN
2x coaxial cable Vektor Plus (3m) DZGR-0300-SW-GN
1x Breakout cable video I/O card 72325424
10x BNC terminating resistor 75Ω 723231176
1x Power cable.. N710171

Documentation channel B **5593101**
Activation of a second documentation channel in *core*.media

*core.*media
Technical Data

Type	5593001
Equipment	
IP protection	IP 20
Operating mode	Continuous operation
Degree of protection when flammable mixtures are present	This device is not protected against explosions (Do not operate this device in areas where explosive substances are present)
Power supply	
Input voltage	100 - 240 Vac, ± 10 % (50/60 Hz)
Power supply	Integrated power supply
Max. power consumption	max. 180 VA
Regulatory compliance	
Certifications	IEC60601-1-2, Class I Medical Device
Interfaces	
Inputs Caution: All inputs must be in the same frequency category: 25/50 Hz or 29,97/59,94 or 30/60 Hz	3x 3G-SDI: Input A-C (1x Rear panel, 2x Breakout cable) Supported resolution up to: 1920x1080p 50/60 Hz 1x HD-SDI: Input D (1x Rear panel) Supported resolution: 1280x720p (25/50 Hz or 29,97/59,94Hz or 30/60 Hz) 1920x1080p (25Hz or 29.97Hz or 30 Hz)
Outputs Caution: All inputs must be in the same frequency category: 25/50 Hz or 29,97/59,94 or 30/60 Hz	2x 3G-SDI: Output A-B (Breakout cable) Supported resolution: 1280x720p (25/50 Hz or 29,97/59,94Hz or 30/60Hz) 1920x1080p (25/50Hz or 29,97/59,94Hz or 30/60Hz) 2x HD-SDI, Output C-D (Breakout cable) Supported resolution: 1280x720p (25/50 Hz or 29,97/59,94Hz or 30/60Hz) 1920x1080p (25Hz or 29,97Hz or 30Hz)
USB port front page	USB 2.0 (FAT 32 / NTFS file system) for recording
LAN (Ethernet) network connector	RJ45 (10/100/1000 Mbit/s)
External power supply	2x DC Out 5V (max. 2A) / 12V (max. 1A)
Connection Line Out (light green for speakers)	3.5 mm jack
Connection Line In (light blue)	3.5 mm jack
Dimensions and weight	
Weight	9.0 kg
Dimensions (w x h x d)	300 x 160 x 401 mm

core.media
Cable Bundles

Basic video cable BNDL **55931011**

For video and network signals in *core* nova installations

Content:

1x Coaxial cable Vektor Plus PUR (50m) 600-0211

4x Coaxial cable Vektor Plus (15m) DZGR-1500-SW-GN

2x Coaxial cable Vektor Plus (25m) DZGR-2500-SW-GN

20x BNC HDTV Rear Twist NBNC75BWU13

3x Patch cable, RJ45 S/FTP CAT.6 (10m) 72325434

1x Patch cable, RJ45 S/FTP CAT.6 (20m) 72325435

Basic connection panel BNDL **55931021**

For wiring during a *core* nova installation

Content:

10x Empty socket D68X47 74008100

1x Mounting shank for socket drill D68 74008102

1x Socket drill D68 74008101

6x E-DAT modul coupler 180° Cat.6 .... 1309A0-I

7x Concealed frame for connection panel 72326169

7x Frame simple 72326168

3x Connecting panel LAN 64127201

4x Connecting panel SDI 64127202

16x BNC HDTV patch panel mounting socket .... BNC-FP-HD
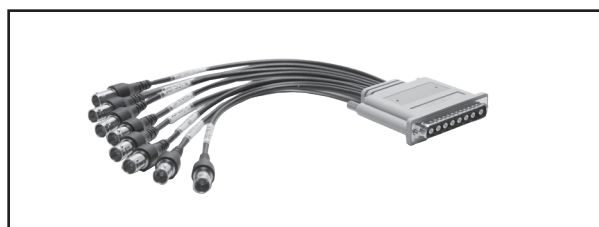
Breakout cable video

I/O Card **72325424**

Connecting cable *core*.media

Video Timings

Display mode	Resolution		Frequency		Input signal							
	H	V	H	V	VGA	DVI	DP	RGBS	YPbPr	CVBS	S-Video	SDI
VGA	640	480	31.65	59.94	●	●	●	●				
	640	480	37.50	75.00	●	●	●	●				
	640	480	43.27	85.01	●	●	●	●				
SVGA	800	600	35.16	56.25	●	●	●	●				
	800	600	37.88	60.32	●	●	●	●				
	800	600	46.88	75.00	●	●	●	●				
	800	600	53.67	85.06	●	●	●	●				
XGA	1024	768	48.36	60.00	●	●	●	●				
	1024	768	60.02	75.03	●	●	●	●				
	1024	768	68.68	84.99	●	●	●	●				
XGA+	1152	864	67.50	75.00	●	●	●	●				
SXGA	1280	1024	63.98	60.02	●	●	●	●				
	1280	1024	79.98	75.02	●	●	●	●				
	1280	1024	91.146	85.02	●	●	●	●				
UXGA	1600	1200	75.00	60.00	●	●	●	●				
Mac	640	480	35.00	66.67	●	●	●	●				
	832	624	49.72	74.55	●	●	●	●				
	1152	870	68.68	75.06	●	●	●	●				
480i60 (NTSC)	720	241	15.73	59.94	●	●	●	●	●	●	●	●
480p60	720	483	31.47	59.94	●	●	●	●	●			
720p60	1280	720	45.00	60.00	●	●	●	●	●	●		
1080i60	1920	540	33.75	60.00	●	●	●	●	●	●		
1080p60	1920	1080	60.50	60.00	●	●	●	●	●	●		
576i(PAL)	720	287	15.63	50.00	●	●	●	●	●	●	●	●
576p	720	576	31.25	50.00	●	●	●	●	●	●		
720p50	1280	720	37.50	50.00	●	●	●	●	●	●		
1080i50	1920	540	28.13	50.00	●	●	●	●	●	●		
1080p50	1920	1080	56.25	50.00	●	●	●	●	●	●		

core.media
Single Signal Converter

Scale OR

Single signal converter for integration of mobile devices in the *core* nova system

❏ External devices without SDI output can be connected to *core*.media

❏ Connected input signals are converted into 3G-SDI

Scale OR DVI input without optical fiber **559109911**
Scale OR SDI input without optical fiber **559109922**

SCALE OR
Technical Data

Type	559109911 Scale OR DVI input 559109922 Scale OR SDI input
Power supply	
Power supply	Integrated power supply
Max. power consumption	12 VDC
Regulatory compliance	
Certifications	UL60601-1, EN60601-1-2, UL60601-1, CAN/CSA C22.2 No. 60601-1 FCC Part 15, Class I Medical Device
Interfaces	
Input Video	DVI SDI / HD-SDI / 3G-SDI VGA S-Video
Output Video	DVI (DVI-D) SDI / HD-SDI / 3G-SDI (BNC)
Dimensions and weight	
Weight	0.6 kg
Dimensions (w x h x d)	147.3 x 190.5 x 42.4 mm

core.portal
Virtual Server

core.portal is the server-based central unit of the *core* nova system. It establishes the connection between the OR network and the hospital-wide IT systems.

core.portal is a server application, which is installed as a preconfigured image in a virtual environment.

- ❏ Provides various services centrally in all operating rooms
- ❏ Receiving and forwarding of patient lists via DICOM WORKLIST
- ❏ Receiving and forwarding of images and videos via DICOM STORE
- ❏ HL7 compatible
- ❏ Management of recorded images and videos via Media Archive App

core.portal **5597101**

Basic software (license valid for max. 25 OR rooms)

Requirements:

- ❏ A server providing a virtual enviroment with the ESXi operating system is required for the installation
- ❏ The server hardware is not included in the Richard Wolf offer, it has to be provided by the customer
- ❏ Hardware requirements for the server are available on request

OR connector **5597151**

Establishes a connection between a specific OR and the *core*.portal.

One connector is required for each OR.

Basic intraoperative network BNDL **55921011**

For connection into hospital network, CATx network structure

Content:

1x Prosafe 8-Port Gigabit POE Smart Switch	GS110TP
1x Switching power supply	HPU63A-111
1x Medical isolator	MI 1005
8x Plastic caps for network socket	5592105
2x Ethernet cable	103.03
4x Patch cable RJ45 HRS TM11 (1m)	72325429
4x Patch cable RJ45 SFTP (0,5m)	72325378
4x Elastic buffer SJ 5023 self-adhesive	74014027
1x Power cable	N710171

Basic intraoperative network BNDL **55921012**

For connection into hospital network, glass fiber networks

Content:

1x Prosafe 8-Port Gigabit POE Smart Switch	GS110TP
1x Switching power supply	HPU63A-111
1x MiniGBIC module	TL-SM311LS
8x Plastic caps for network socket	5592105
2x Ethernet cable	103.03
4x Patch cable RJ45 HRS TM11 (1m)	72325429
4x Patch cable RJ45 SFTP (0.5m)	72325378
4x Elastic buffer SJ 5023 self-adhesive	74014027
1x Power cable	N710171

Extra intraoperative network BNDL **55921013**

Only use in combination with set 55921011 or 55921012

Content:

1x Prosafe 8-Port Gigabit POE Smart Switch	GS110TP
1x Switching power supply	HPU63A-111
8x Plastic caps for network socket	5592105
2x Ethernet cable	103.03
4x Patch cable RJ45 HRS TM11 (1m)	72325429
4x Patch cable RJ45 SFTP (0.5m)	72325378
4x Elastic buffer SJ 5023 self-adhesive	74014027
1x Power cable	N710171

Workflow

Checklist app **5597706**

The surgical safety checklist aims to decrease errors and adverse events as well as enhance teamwork and communication during an operation.

❏ WHO Checklist is assigned as standard
❏ Customer specific checklists can be generated by RW Service during app installation
❏ The app generates a PDF report, which is stored in the media archive

Requirements:

❏ *core.*portal is required

*core.*portal
Applications

Output modules

Fileshare module **5597203**

Allows the storage of intraoperative data to an enabled directory in the hospital's IT infrastructure.

The module is required for each fileshare folder.

Requirements:

❏   *core.*portal is required

ELO module 5597206

Connects to the ELO (electronic Leitz folder) office software for the transmission of recorded images.

The module must be licensed for each operating room, from which data is to be transmitted to ELO.

Requirements:

❏   *core.*portal is required

Input module

Scheduling HL7 module **5597303**

Used for transmitting demographic patient data or surgery scheduling data from a hospital

information system via HL7 messages to *core.*portal. One module is required for each message type.

Requirements:

❏   *core.*portal is required

*core.*portal
Audio Integration

Standard Audio Integration
Supports audio communication and playing music

Audio Loudspeaker BNDL **55932011**

Content:

1x Mini Digital Amplifier PA2B

1x 2-way ceiling-mounted speaker .... EXCITE IC5

1x External power supply AFM60US24

1x Power cable N710171

Cable Audio Small BNDL **55931031**

Content:

1x USB adapter A/DC hollow connector 70265

1x Adapter cable CEHS-MB 01

(for DW10 Headset, 3.5 mm jack plug) 506033

1x Adapter for PC headset 35508

1x Y-Adapter audio cable PC1Z-0010-SW

2x Cable minijack/minijack (0.5m) GOCU-0050-SW

1x Mini jack to RCA cinch cable (10m) ON2A-1000-SW

1x Cable minijack/minijack (10m) GOCU-1000-SW

*core.*portal
Audio Integration

Ceiling-mounted loudspeakers EXCITE IC 5 with and without cover
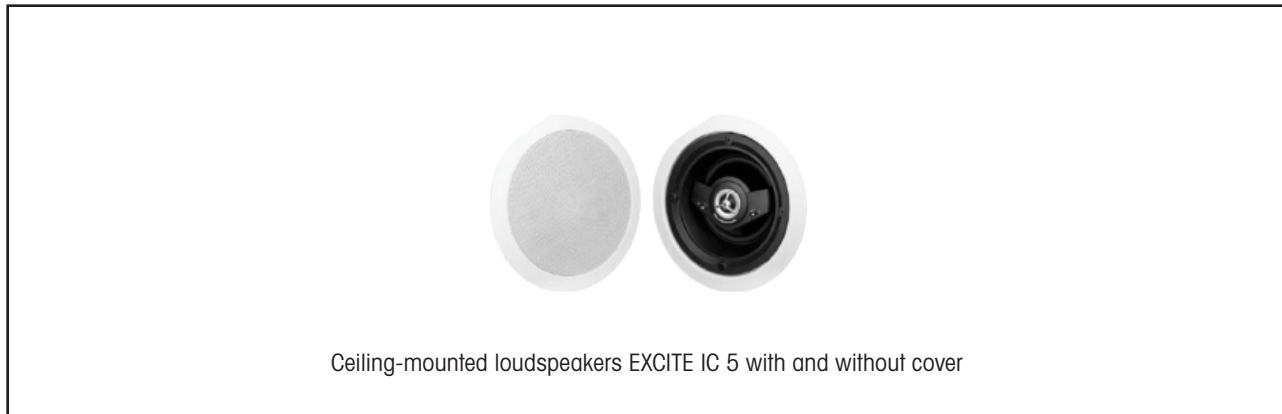
2-way ceiling-mounted speaker **EXCITE-IC5**

The 2-way ceiling-mounted loudspeakers are supplied in a dual set, white finish.

❏ Music power rating: 60 watts
❏ Impedance: 8 ohms

*core.*portal
Room Camera
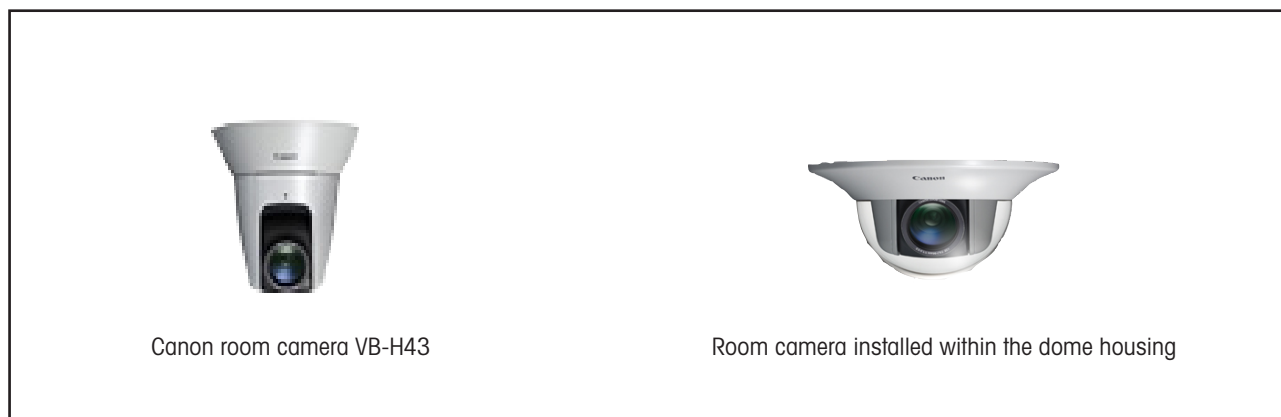
Canon room camera VB-H43

Room camera installed within the dome housing

Network camera **VB-H43**

IP network camera for installation in ORs.

Indoor dome housing **DR41-C-VB**

For indoor ceiling mounting. To be used exclusively in conjunction with network camera VB-H43

Room camera app **5597702**

Allows intraoperative control of up to 4 compatible IP room cameras

installed in the same operating room. Previews are supported.

- ❏ *core.*portal is required
- ❏ *core.*media is required for display, transfer and recording of a videostream
- ❏ This app is required in each operating room where an IP room camera needs to be controlled
- ❏ Only network camera VB-H43 is supported
- ❏ Network camera must be installed and configured by an authorized system integrator
- ❏ Power supply via power over ethernet

Network Camera
Technical Data

Type	VB-H43
Image sensor	
Type	1/3 inch type CMOS (primary color filter)
Resolution	approx. 2.1 million pixels
Scan system	Full-image method (progressive)
Telescope	
Zoom range and adjustment	Objective lens with 20-fold optical zoom (12-fold digital) and autofocus
Focal length	4.7 (wide angle) - 94 mm (Tele)
Horizontal image angle	60.4° (wide angle) - 3.2° (Tele)
Vertical image angle	35.1° (wide angle) - 1.8° (Tele)
Power supply	
Power supply	Power over Ethernet
Max. power consumption	9.2 W
Dimensions and weight	
Weight	1.2 kg
Dimensions (w x h)	132 x 155 mm

core·portal

Accessories

Serial connection cables

RS 232 connection cable **5052.912**
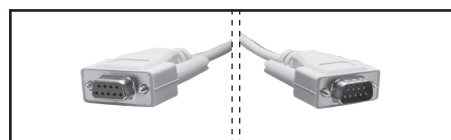
Network connection cables and connectors

Ethernet cable
(2 m) **103.03**
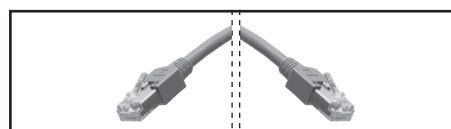
Patch cable, RJ45 SFTP
(0.5 m) **72325378**
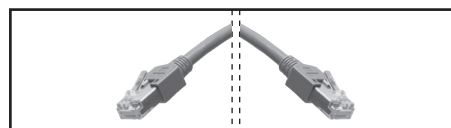
Patch cable, RJ45 HRS TM11
(1 m) **72325429**
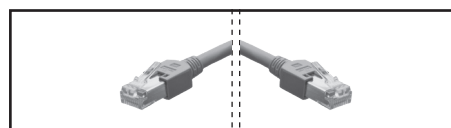
Patch cable, RJ45 S/FTP CAT.6
(10 m) **72325434**
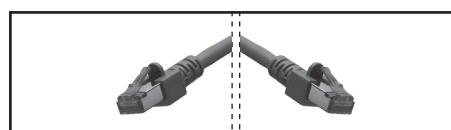
Patch cable, RJ45 S/FTP CAT.6
(20 m) **72325435**
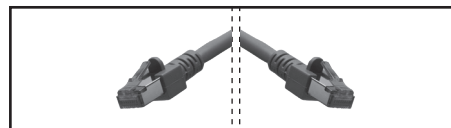
E-DAT Module Coupler 180° CAT.6 .... **1309A0-I**
Fully shielded 180° coupler made of refined zinc die-casting.
2 mounting versions in a coupler, fits in module or keystone applications.
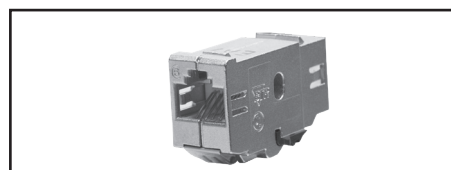
Medical isolator .... **MI 1005**
Network isolator for medical devices
Data speed: 10/100/1000 Mbit/s
Electrical strength, signal and shielding: 5000V

core nova
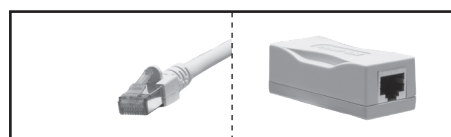
Accessories

Video connection cables and connectors

Coaxial cable Vektor Plus PUR
(50 m) **600-0211**
Flexible, non-terminated video patch cable

Coaxial cable Vektor Plus
(1 m) **DZGR-0100-SW-GN**
(2 m) **DZGR-0200-SW-GN**
(3 m) **DZGR-0300-SW-GN**
(15 m) **DZGR-1500-SW-GN**
(25 m) **DZGR-2500-SW-GN**
Flexible, prefabricated video patch cable with BNC video plug connectors
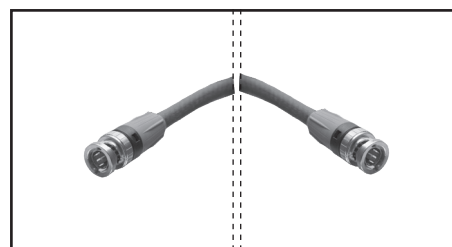
BNC HDTV
Rear twist **NBNC75BWU13**

Adapter for PC Headset
(0.6 m) **35508**
3.5 mm jack socket (4-pin) to 2x 3.5 mm jack plug
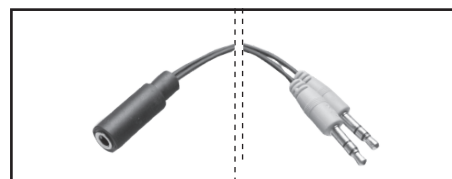
USB adapter
A/DC hollow connector
(1.5 m) **70265**
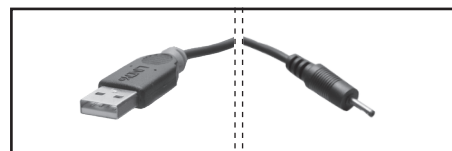
Adapter cable CEHS-MB01
(0.7 m) **506033**
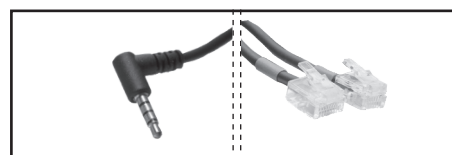
Y-Adapter audio cable
(0.1 m) **PC1Z-0010-SW**

core nova

spirit of excellence
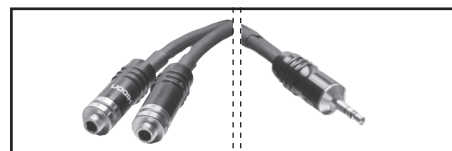
Accessories

Video connection cables and connectors

Digital/analog audio converter **70408**
Compact audio converter, converts digital
audio signals to analog audio signals.
Input: 1x TOSLink (glass fiber) & 1x coaxial
Output: 2x phono (left & right)
Power supply: 5VDC 0.5A
Device dimensions: (w x h x d): 46 x 46 x 24 mm
Weight: 30 g

Analog/digital audio converter **70409**
Compact audio converter, converts analog audio signals to uncompressed
digital optical audio signals.
Input: 2x phono (left & right)
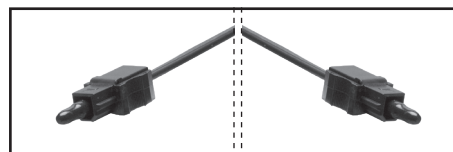Output: 1x Toslink (glass fiber) & 1x coaxial
Power supply: 5VDC 0.5A
Device dimensions: (w x h x d): 46 x 46 x 24 mm
Weight: 30 g

Optical cable Toslink/Toslink **OKTT-0050**
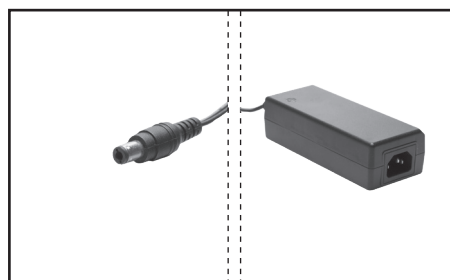(0.5 m)

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Accessories

Other

**Prosafe 8 port gigabit
smart switch** **GS110TP**

Switching power supply **HPU63A-111**
Medical power supply
Mains supply voltage: 90 - 264Vac, 47 - 63Hz
Output: 48VDC, 1.31A, 63W
Without power cable
Device dimensions (w x h x d): 132 x 56 x 37 mm
Weight: 0.4 kg

MiniGBIC module **TL-SM311LS**
Optical transceiver for network switch SFP (MiniGBIC)
transceiver module IEEE802.3z, CSMA/CD, TCP/IP
Wavelength: 1310 nm
Cable: Single mode fiber
Maximum length of cable: 10 km
Data rate: 1.25 Gbps
Port type: LC

Power cable **N710171**
(8 ft.)

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