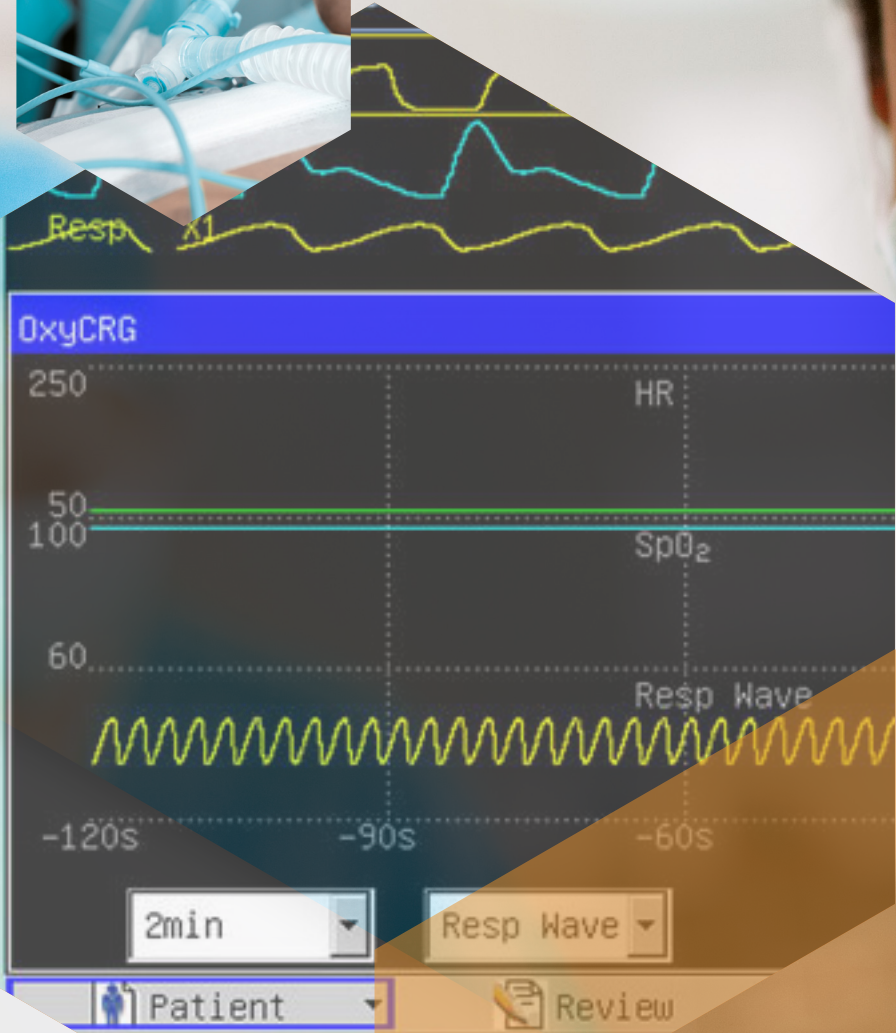


Scalis

PATIENT MONITORING SYSTEMS

HEYER

MEDICAL AG





PATIENT MONITORING SYSTEMS

The benefits of HEYER Scalis to meet the market situation

- HEYER Scalis' function & features make it fit to match the requirement of standard applications in the hospital setting.
- Low initial purchasing costs by concentrating the functions on a basic level to meet the situation of investment-sensitive markets.
- Different screen sizes available depending on customers demand and environmental situation of the hospital.
- Innovative features like Screen Configuration, Drug Dose Calculation and OxyCRG are part of the standard configuration.

The Patient Monitoring Series for all standard applications and investment-sensitive markets. Scalis' standard configuration includes the following range of features:

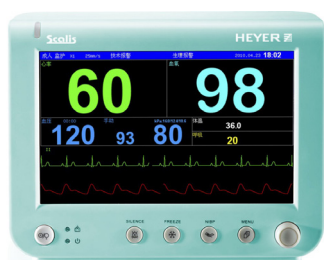
- ECG (3 or 5 lead)
- Analysis (ST, Arr, etc.)
- Temp. 2 channel
- NIBP
- SPO2
- Drug Dose Calculation
- OxyCRG

Optional available:

- IBP 2 channel
- SPO2 Masimo
- Gas analyzer (software and connectivity for Phaseln's IRMA or ISA measurement)
- Touch Screen
- Thermal printer (10" + 12" & 15")
- Central Station – Software | Up to 64 monitors
- Wi-Fi

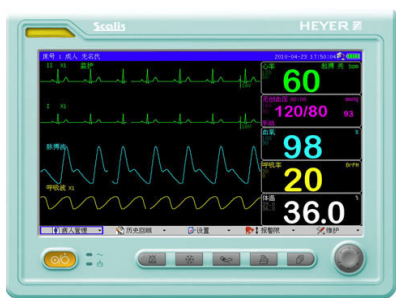
Patient Monitoring System for adult, pediatric and neonatal

- Innovative One-Level-Menu – simple & easy to use
- Various Parameters including ECG/RESP, SpO2, NIBP, TEMP, Pulse Rate
- Maximum 720 hours Graphic & Tabular Trends of all Parameters
- Built-in Battery
- Arrhythmia Analysis, ST Calculation, Pace Analysis
- Anti-ESU, Anti-Defibrillator
- Standard Network Interface
- Connection to Central Monitor System (CMS)



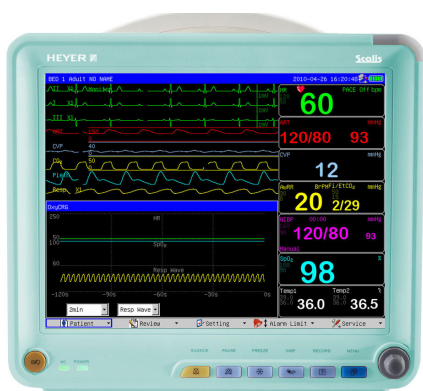
Scalis⁷

- 7" color TFT display
- Up to 4 waveforms



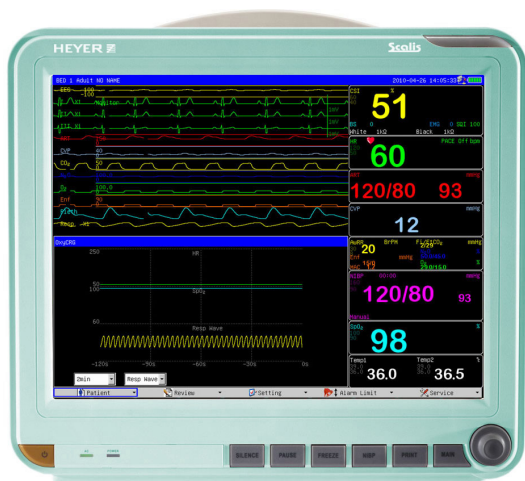
Scalis¹⁰

- 10.1" color TFT display
- Up to 9 waveforms



Scalis¹²

- 12" color TFT display
- Up to 12 waveforms



Scalis¹⁵

- 15" color TFT display
- Up to 14 waveforms

SPECIFICATIONS

ECG

Lead mode	I, II, III, AVR, AVL, AVF, V
Gain	X0.25, x0.5, x1, x2
Heart Rate	15 – 300 bpm (Adult) 15 – 350 bpm (Neonatal) Resolution :1 bpm Accuracy: 1%
ST measurement	Range: -2.0 – + 2.0 mV Accuracy: ±10%
Pacemaker	Yes
Sweep Speed	12.5 mm/s, 25 mm/s, 50 mm/s
Bandwidth	Diagnostic: 0.05 – 130 Hz Monitor: 0.5 – 40 Hz Surgery: 1 – 20 Hz

SPO2

Measure range	0 – 100%
Resolution	1%
Accuracy	2% (70-100%)
Pulse Rate	20 – 250 bpm
Resolution	1 bpm
Accuracy	±3 bpm

RESP

Measure range	0 – 150 bpm
Resolution	1 bpm
Accuracy	±2%

TEMP

Measure range	0 – 50°C
Resolution	0.1°C
Accuracy	±0.1°C

NIBP

Work Mode	Manual, automatic, continuous	
Unit	mmHg, kPa	
Measure range	Adult	SYS:40 – 280 mmHg DIA: 10 – 225 mmHg MEAN: 20 – 240 mmHg
	Pediatric	SYS: 40 – 220 mmHg DIA: 10 – 160 mmHg MEAN: 20 – 110 mmHg
	Neonatal	SYS: 40 – 135 mmHg DIA: 10 -100 mmHg MEAN: 20 – 110 mmHg
Resolution	1 mmHg	
Accuracy	±5 mmHg	

OPTIONS

IPB (option for Scalis 10, Scalis 12, Scalis 15)

Channels	2
Measure range	-50 – 360 mmHg
Accuracy	±2%

CO2 (option for Scalis 10, Scalis 12, Scalis 15)

Measure range	0% - 13%
Resolution	1 mmHg
Accuracy	2 mmHg @ < 5.0% CO2 (at ATPS)
AwRR	3 – 150 bpm

IOC (option for Scalis 15)

IOC	0 – 100
EMG	0 – 100
ESR	0 – 100

IRMA MULTI-GAS (option for Scalis 10, 12, 15)

Measurement range	CO2	0 – 10%
	N2O	0 – 100%
	Des	0 – 18%
	Sev	0 – 8%
	Enf, Iso, Hal	0 – 5%
	AwRR	3 – 100 bpm

OTHER OPTIONS

Touch-Screen Display
3 Channel Recorder (Scalis10, Scalis 12, Scalis 15)

Scalis Central Station

Multifunctional patient monitor

- Scalis CS Central Station
- Connectable with LAN, WLAN or mixed LAN / WLAN networks
- Connection of up to 64 patient monitors
- Acoustic and optic alarm three alarm levels, adjustable volume
- Two-screen-display, patient data and monitoring information can be displayed separately
- Several display modes Waveforms and parameters displayed can be adjusted for different patients
- Search function for patient data

HEYER Scalis Monitoring Station Software offers:

- Connectable with LAN, WLAN or mixed LAN / WLAN networks
- Limited wireless, unlimited wireless networking or mixed networked connection
- Connection to 64 bedside monitors
- Sound and light 3 alarm, adjustable volume
- Double screen, split-screen display patient medical records and bedside care information
- A variety of display format settings, optional waveforms, different bed types and vital signs monitoring data
- Inquiries about patient care information

SPECIFICATIONS

CENTRAL MONITORING SPECIFICATIONS

Safety	Based on MDD 93/42/EEC
Indicator	For general monitoring Up to 16 display zones on screen with each displaying 2 waveforms and 1 parameter group
	For full disclosure monitoring 1 display zone on screen with 12 waveforms and all parameter display in it
	For multi-lead ECG monitoring 1 display zone on screen with 7 ECG waveforms and 3 parameters incl. HR, ST, PVC in it
Waveforms	ECG, RESP, PLETH, IBP, CO2, GAS
Parameter	HR, ST, PR, SPO2, RR, T1, T2, Td, ART, CVP, NS, NM, ND, CO2, AwRR, INS, T.B., CO2Et, CO2Fi, O2Et, O2Fi, N2OEt, N2OFi, ISOEt, ISOFi, AgAwRR, MAC
Alarm	Parameter alarm, ST alarm, Arrhythmia alarm, Technical alarm, Audible and Visual Alarm indicator for all alarms

Review	240 hours trend per bedside monitor, 1 minute resolution 6-minute short trend review of 4 parameters for each bedside monitor 360 items parameters alarm per bedside monitor, 2 * 12 seconds waveform 360 items arrhythmia alarm per bedside monitor, 2 * 12 seconds waveform 72 hours full-disclosure waveform review 10,000 patients history data review, including 48 hours trend and 100 items alarm data
Network Protocol	TCP/IP for layer 3, layer 4 of OSI CMS protocol for layer 7 of OSI
Network capability	64 bedside patient monitors connectivity
Patient Management	Admit, Dismiss, Transfer, History monitoring information query

HARDWARE REQUIREMENTS

Safety	Council Directive 79/23/EEC Council Directive 89/336/EEC
Environment	Temperature Working 0 to 40°C Transport/storage -20 to 60°C Humidity Working <= 80% Transport/storage <= 90% Altitude Working -500 to 4,600m (-1,600 to 15,000 ft)
Power Supply	Electrical Spec. 240 V AC
Applicable range	Area other than point of care
Display monitor	17" (inch) color LCD or above 1024 * 768 Resolution, 65535 color
Interface	Intel Pentium or above Power supply input socket Min. 2 USB ports 1 RJ-45 Network interface 1 Keyboard interface 1 Mouse interface 1 Sound output interface
Printer	Resolution 600 dpi or above Speed 6 page / min. or above Paper size A4





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