GE Healthcare

B105 Patient Monitor

Care with confidence.

The B105 patient monitor from GE Healthcare is a **simple, flexible, reliable** patient monitor, with clinical performance you can **trust** to help make more informed clinical decisions.

Parameter excellence

The B105 Monitor is designed with advanced parameter technologies for accurate and reliable patient monitoring:

- EK-Pro arrhythmia analysis
- DINAMAP™ SuperSTAT non-invasive blood pressure
- Choice of SpO_2 technologies: GE TruSignal™, Masimo SET® or Nellcor™
- GE $EtCO_2$ sidestream measurement, anesthetic agents and cardiac output
- Entropy™ monitoring for patients older than 2 years for monitoring the state of the brain

Simple & intuitive for busy care givers

The B105 Monitor makes it easy to acquire, monitor and interpret patient data to support timely decision-making:

- Pre-configured workflow settings for different care areas
- Large numerical or continuous waveforms view
- Capacitive touch screen. Supports night mode, standby and screen lock
- National Early Warning Score (NEWS) for typical clinical scoring

Flexible for diverse care areas & acuities

Designed with advanced technologies to support connectivity & operations across the hospital enterprise.

- Connectivity to GE CARESCAPE™ networks and Mobile Care Web Viewer
- Flexibility to share parameter modules and accessories with CARESCAPE monitors
- Support for up to 3 additional modules

Reliable for challenging work environments

Its rugged & robust design stands up to harsh environments and the everyday wear-and-tear of busy care areas.

- Upgraded cyber security by tracking the data flow real time, switching mode automatically to end unexpected events such as network attack
- Stable performance in tough environmental conditions
- 75 cm/2.5 ft height drop test for main unit
- More than 3 hour battery[1]
- Compatible with the latest EMC 4th Edition standard

[1] Depending on the configuration.

Software version VSP 2.0

Technical specifications

Display

Size	10.1 in (diagonal)
Resolution:	1280 x 800 pixels (WVGA)
Number of waveforms	Up to 6
Display layout and colors	User-configurable
Controls	Capacitive touch screen, Trim Knob™ and hard keys control (standard)

Parameters and modules

Parameters	Modules[2]
ECG	
Resp	
SpO_2	
NIBP	Pre-configured hemodynamic module
Temp	
3 channel InvBP	
Sidestream CO_2	E-miniC[3]
Entropy	E-Entropy[4]
Sidestream CO_2, O_2 and N_2O	E-sCO
Sidestream CO_2, O_2, agents and N_2O	E-sCAiO, N-CAiO
Cardiac Output	E-COP[5]

ECG

Leads available	3-lead configuration: I, II, III 5-lead configuration: I, II, III, aVR, aVL, aVF and V
Sweep speed	12.5, 25 or 50 mm/s
Gain range	0.5x, 1x, 2x and 4x
Heart rate accuracy	30 to 300 bpm, ±5% or ±5 bpm, whichever is greater

Bandwidth

ECG filter	Monitor: 0.5 to 40 Hz ST: 0.05 to 40 Hz Diagnostic: 0.05 to 145 Hz Moderate: 0.5-20 Hz
Pacemaker detection	Range: 2 to 700 mV Pulse width: 0.5 to 2 ms
Arrhythmia analysis	Asystole, V Fib / V Tach, V Tach, VT>2 R on T, V Brady, Couplet, Bigeminy, Accelerated Ventricular arrhythmia, Multifocal PVCs, A Fib, Missing beat, Pause, Tachy, Brady, Trigeminy, Irregular, SV Tachy

ST segment analysis	Numeric range: -9 to +9 mm (-0.9 to +0.9 mV)
	Accuracy: ±0.2 mm or ±10%, whichever is greater, within the measurement range of -8 to 8 mm
	Numeric resolution: 0.1 mm (0.01 mV)
	ST Trends: Up to 168 h

Impedance respiration

Range	Adult/pediatric: 4 to 120 resp/min Neonate: 4 to 180 resp/min
Accuracy	±5% or ±5 resp/min, whichever is greater
Gain range	0.1 to 5 cm/Ohm

SpO_2

TruSignal SpO_2

Measurement range

Pulse oximetry	1 to 100%
Pulse rate	30 to 250 bpm

Measurement accuracy

Saturation	Without motion-adult/pediatric Finger sensor: 70 to 100% ±2%
	Without motion-neonate: 70 to 100% ±3%
	With motion-adult/pediatric/neonate: 70 to 100% ±3%
	Low perfusion-adult/pediatric: 70 to 100% ±3% (1~69% unspecified)
Pulse Rate	Without motion: ±2 bpm (Adult/Pediatric/Neonatal)

Nellcor OxiMax

Measurement range

Pulse oximetry	1 to 100%
Pulse rate	20 to 250 bpm

Measurement accuracy

Saturation	Adult: 70 to 100% ±2% Neo: 70 to 100% ±3% Low perfusion: 70 to 100% ±2% 0~69% unspecified
Pulse Rate	±3 bpm

[2] Refer to B105 User's Manual for more information.

[3] CO_2 measurement through E-miniC Module is intended for use with patients weighing over 5kg (11 lb) only.

[4] Entropy module shall only be used in the patient older than 2 years old.

[5] E-COP is not intended for use on neonatal patients.

Masimo SET

Measurement range

Pulse oximetry	1 to 100%
Pulse rate	25 to 240 bpm

Measurement accuracy

Saturation	Without motion-adult/pediatric: 70 to 100% ±2%
	Without motion-neonate: 70 to 100% ±3%
	With motion-adult/pediatric/neonate6: 70 to 100% ±3%
	Low perfusion: 70 to 100% ±2% (0~69% unspecified)
Pulse rate	Without motion: ±3 bpm
	With motion: ±5 bpm
PI (Perfusion Index)	0.2 to 20%
APOD (Adaptive Probe Off Detection)	Yes

NIBP

Measurement technique	Oscillometric with step deflation
Modes	Manual, automatic, STAT and custom series

NIBP Measurement ranges

Systolic	Adult/Pediatric: 30 to 290 mmHg
	Neonate: 30 to 140 mmHg
MAP	Adult/Pediatric: 20 to 260 mmHg
	Neonate: 20 to 125 mmHg
Diastolic	Adult/Pediatric: 10 to 220 mmHg
	Neonate: 10 to 110 mmHg
Accuracy	Meets AAMI ISO81060-2 and IEC 80601-2-30
Default initial inflation pressure	Configurable
	Adult/Pediatric: 135 ±15 mmHg
	Neonate: 100 ±15 mmHg
Maximum determination time	Adult/Pediatric: 2 min
	Neonate: 85 s
Over pressure monitor	Adult/Pediatric: 294 ±6 to 330 mmHg
	Neonate: 147 ±3 to 165 mmHg

Invasive blood pressure

From integrated hemodynamic measurement

Measurement range	-40 to 320 mmHg (-5.3 to 42.7 kPa)
Measurement accuracy	±5% or ±2 mmHg, whichever is greater
Frequency response	4 to 22 Hz
Transducer sensitivity	5µV/V/mmHg

From E-COP module

Measurement range	-30 to 320 mmHg (-4.0 to 42.7 kPa)
Measurement accuracy	±4% or ±4 mmHg, whichever is greater
Frequency response	4 to 22 Hz
Transducer sensitivity	5µV/V/mmHg

Temperature

Numerical display	T1, T2, Tblood

From integrated hemodynamic measurement (T1, T2)

Measurement range	10 to 45°C (50 to 113°F)
Measurement accuracy	±0.1°C without probe
Display resolution	0.1°C

From E-COP module (Tblood)

Measurement range	17.5 to 43°C (63.5 to 109.4°F)
Measurement accuracy	±0.5°C (17.5°C to 30.9°C) ±0.3°C (31°C to 43.0°C)
Display resolution	0.1°C

Full disclosure

Tab/page: all ECG, Hemo

All ECG view includes ECG I, II, III, aVL, aVR, aVF, V waveforms

Hemo view includes ECG II, IBP1, IBP2, IBP4, SpO_2 and Resp waveforms

Parameters supported: ECG, SpO_2, IBP and RESP

Configurable waveform review sweep speed

Storage: 36 hours with all waveform data

Integrated link with alarm history

EWS (Early Warning Score)

Protocol	National EWS
Parameters	HR, Systolic Blood Pressure, LOC (level of consciousness), TEMP, SpO$_2$, Resp Rate and Air or Oxygen.

History with detailed parameters values and sub-scores

Total EWS score on the main screen with color coding and time stamps

Clinical response and individual parameter scores with colors on a dedicated window

Networking (optional Wi-Fi connectivity)

Wi-Fi connectivity[6]	IEEE 802.11a/b/g/n
Wi-Fi security[6]	WPA-Personal; WPA2-Personal; WPA-Enterprise; WPA2-Enterprise
Connectivity to EMR	Through CARESCAPE Gateway or HL7® outbound protocol direct from monitor
Wi-Fi certificate	CE, FCC

I/O connectors

RS-232 computer serial output, Defibrillation synch, Nurse call, USB port, additional display connector and network port

Mounting

GCX compatible

Integrated carrying handle

Bed rail (optional)

Local thermal printer

Method	Thermal dot array
Horizontal resolutions	24 dots/mm (600 dpi)
Vertical resolution	8 dots/mm (200 dpi)
Waveforms	Selectable 1, 2, or 3 waveforms
Numerics trend printout	HR, Pleth, NIBP, IBP1, IBP2, T1, T2, Et/FiCO$_2$, RR, Pleth, C.O., C.I., REF, IBP4, Tblood, RE, SE, BSR, O$_2$, N$_2$O, AA, BAL, MAC
Paper width	50 mm, printing width 48 mm
Paper speed	5, 10, 12.5 and 25mm/s, user configurable

Support remote laser printer

(with CARESCAPE Central Station)

Module rack (optional)

Additional slot for a single module

Second frame (optional)

Additional second frame for up to two modules

Performance specifications

Alarms

Priority	Adjustable priority: High, Medium, Low and Information
	Local and remote control from central station
Alarm breakthrough	Asystole, V Fib/V Tach, V Tach, Brady, FiO$_2$ Low, EtO$_2$ Low and FiN$_2$O high
Alarm configurability	Define VTach rate range and duration criteria for a sustainable VTach alarm
Notification	Audible and visual
Alarm tone	IEC, General, ISO, ISO2
Setting	Default and individual
Visual alarm notification	Red, yellow, cyan
	Audio silence message
	General alarm message
Alarm limit adjustment	Local and remote control from central station
Audio pause	2 min
Alarm auto printing	Up to 23 alarms

Trends

Graphical	All parameters, selectable time scales from 20 min to 168h
Numerical	All parameters, sampling according to time setting or after NIBP, CO and PCWP determination
Snapshot	Up to 200 snapshots Manual or alarm triggered
	Event snapshots with waveform (on CARESCAPE Central Station)
OCRG trend	Real time or snapshot Neonate mode only
Trend cursor	In graphical trend

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[6] Available in registered regions only.

Environmental specifications

Operating conditions

Temperature	5 to 40°C (41 to 104°F)
Relative humidity	20 to 90% non-condensing
Atmospheric pressure	700 to 1060 hPa (525 to 795 mmHg)

Storage and transport conditions

Temperature	-20 to 60°C (-4 to 140°F)
Relative humidity	10 to 90% non-condensing
Atmospheric pressure	700 to 1060 hPa (525 to 795 mmHg)

Power specifications

AC input	100 to 240V ±10%, 50/60 Hz
Power consumption	Monitor <150 VA Second frame <50VA
Protection	Class I
Battery	One exchangeable Lithium-ion
	Charging time < 4 h to 90% capacity
	Run time > 3 h with typical configuration: ECG, NIBP cycle time 15 min, SpO_2, 2 x IBP, 2 x Temp, continuous CO_2, display brightness 70%

Physical specifications

Monitor

Dimensions (H x W x D)	Without extension rack: 265 x 290 x 165 mm (10.4 x 11.4 x 6.5 in)
Weight	≤3.5 kg (7.7 lb) without battery, rack and modules
Ingress protection	IP21

Second frame

Dimensions (H x W x D)	160 x 132 X 266 mm with mounting plate (6.3 x 5.2 x 10.5 in)
Weight	1.4 kg (30.9 lb) with mounting plate

Certifications

IEC 60601-1 passed

CE marking according to Council Directive 93/42/EEC concerning medical devices amended by 2007/47/EC

UL mark

CB certificate

Imagination at work

B105 patient monitor software version VSP 2.0 is not available in all markets and is not 510k cleared.