GE Healthcare

CARESCAPE Patient Data Module

High-acuity mobile patient monitoring

The CARESCAPE™ Patient Data Module helps you transport patients to the right place at the right time efficiently and safely. It eliminates the traditional tangle of cables connected to multiple individual monitors by uniting common parameters in one convenient, compact, ergonomically designed unit. This smart, simple approach allows providers to better access the patient in emergent situations and quickly prepare for transport.

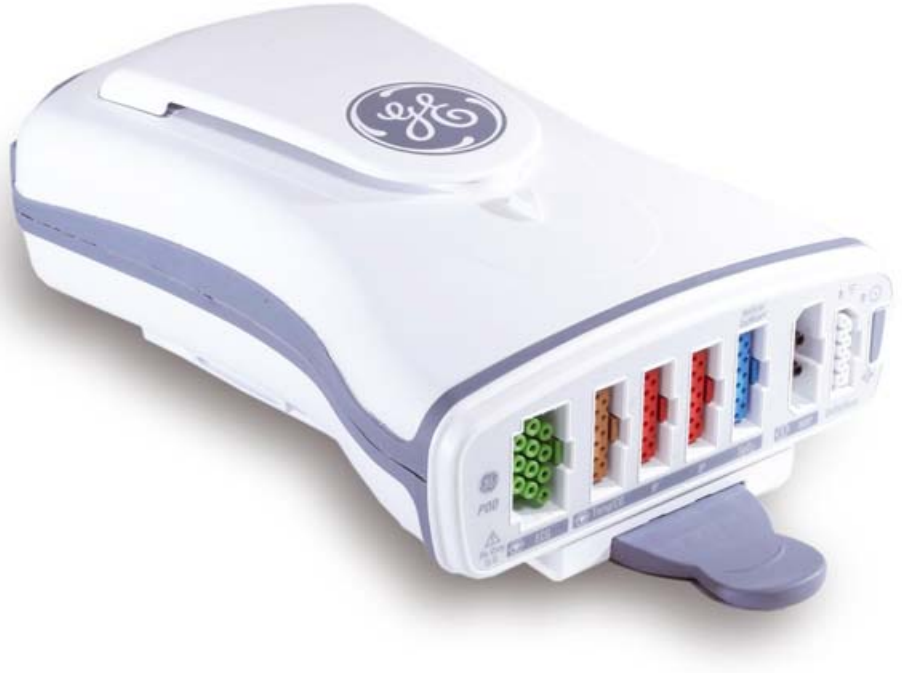
Enhanced mobility

The Patient Data Module enhances patient mobility by facilitating an uninterrupted flow of clinical intelligence before, during and after transport. It collects all patient data from the hardwired Solar® monitor at the bedside, then quickly snaps into the Transport Pro monitoring device – carrying the patient's complete vital signs record. To ensure monitoring continuity, the Patient Data Module can power the Transport Pro device in case of a dead or missing battery. When reconnected to the network in the new location, the Patient Data Module refreshes the patient's record with the data collected before and during transport, eliminating time-consuming ECG template resets and critical data gaps.

Clinical excellence

The Patient Data Module supports patient monitoring in – and between – the highest-acuity clinical environments. Inside is a state of the art parameter set including GE's industry-leading clinical algorithms. So you can deliver a consistent level of care quality virtually anywhere.

- Marquette® 12SL™ 12-Lead ECG
- 12RL™ derived 12-Lead ECG
- EK-Pro™ four-lead arrhythmia analysis
- DINAMAP® SuperStat™ Non-Invasive Blood Pressure
- Masimo SET® or Nellcor® OxiMax® SpO_2



Performance specifications

ECG

Standard Leads available	I, II, III, V1 to V6, aVR, aVL, and aVF
Leads analyzed simultaneous	Twelve (I, II, III, V1 to V6, aVR, aVL, and aVF)
Lead fail	Identifies failed electrodes and switches to those intact
Lead fail sensing current	Active electrodes: <30 nA each, referenced electrode <270 nA

Input specification

QRS detection range	+/- 0.5mV to +/-5 mV
Signal width	40ms to 120ms (Q to S)
Heart rate range	30 to 300 beats per minute
Common mode rejection	90 dB minimum at 60Hz
Gain accuracy	+/-5% (diagnostic mode)
Linearity deviation	+/-5%
Noise	<30 µV (referred to input)

Output specifications

Frequency response	Monitoring mode: 0.05 to 100Hz 0.05 to 40Hz 0.05 to 25Hz
Diagnostic mode	0.05 to 150Hz
Analog output	Selectable at 1V/mV
Sampling rate	
Monitoring mode	240 samples/second
Diagnostic mode	500 samples/second
Heart rate	
Heart rate averaging	8 / 4 beats
Display update interval	2 seconds
Response time	<6 seconds
Limit alarm delay	<10 seconds after limit alarm condition exceeded
Heart rate alarm range	0 to 300 beats/minute, high limit > low limit
Arrhythmia analysis	1 to 100 PVCs/minute
Method	QRS morphology classification and timing based on single or multiple-lead analysis
Arrhythmia calls	Full, lethal only, or no arrhythmia
PVC alarm range limit	1 to 100 PVCs/minute

ST segment analysis

Measurement description	ST segment deviation is measured and displayed for all acquired leads
ST display	Lead label, ST deviation, current complex superimposed over a reference complex, J-point indicator and 15-minute mini-trends are shown for all acquired leads
Measurement point	Measured at user-selectable measurement points (0, 30, 40, 50, 60, and 80 ms) following the J-point
Measurement range	-12.0mm to +12.0mm
Display resolution	0.1mm
ST measurement averaging	16 beats
ST alarm limits	+/- 12mm, high limit > low limit, for any event within a lead group (inferior, lateral, or anterior) that exceeds the alarm limit for that group

Pace detection/rejection

Input voltage range	+/-2mV to +/-700mV
Input pulse width:	0.1ms to 2ms
Rise time	0 µs to 100µs
Over/under shoot	2 mV (maximum)
Detection/rejection mode	Pacemaker artifact rejection "On" or 'Off'
Standard leads available	I, II, RL, LL

Respiration

Respiration range limit	1 to 200 breaths/minute
Impedance range	100 to 1500 Ohms at 52.6 kHz
Detection sensitivity range	0.4 to 10 Ohms impedance variation
Respiration rate alarm range	1 to 200 breaths/minute
No Breath alarm range	3 to 30 seconds

Temperature

Number of channels	up to 2 (with Y-adapter cable)
Input specifications	
Probe type	YSI Series 400 or 700 (determined by input cable)
Temperature range	0°C to 45°C (32°F to 113°F)
Resolution	+/-0.01°C (internal)

Temperature *(cont.)*

Output specifications

Parameters displayed	T1, T2
Error (independent of source)	+/-0.1 C for YSI series 400 probes +/-0.3 C for YSI series 700 probes
Alarms	User-selectable upper and lower limits

Invasive pressures

Number of channels	up to 4 (with appropriate cables)

Transducer sites, site name, and displayed values

Arterial (ART)	systolic, diastolic, mean and rate
Femoral (FEM)	systolic, diastolic, mean and rate
Pulmonary Artery (PA)	systolic, diastolic, mean
Central Venous Pressure (CVP)	mean
Left Atrial (LA)	mean
Right Atrial (RA)	mean
Intracranial Pressure (ICP)	mean
Umbilical Artery (UAC)	systolic, diastolic, mean, and rate
Umbilical Vein (UVC)	mean
Special Pressure (SP)	mean

Transducer requirements

Excitation voltage	+2.5V DC +/-0.1%
Transducer output	50µV/V/cm Hg

Input specifications

Range	-25 mmHg to 349 mmHg
Offset	+/-150 mmHg

Output specifications

Frequency response	DC to 40Hz (+0/-3dB)
Zero balance range	+/-150 mmHg
Zero balance accuracy	+/-1 mmHg
Accuracy	+/-2% or +/-1 mmHg, whichever is greater (exclusive of transducer)
Displayed frequency response	0 to 12 Hz or 0 to 40 Hz (-3dB) user-selectable
Display scale selections	0-30, 0-40, 0-60, 0-100, 0-160, 0-200, 0-300 mmHg
Analog output	1V/100 mmHg
Alarms	User selectable upper and lower limits for systolic, diastolic, and mean pressures
Alarm range	-99 to 350 mmHg

Non-invasive blood pressure

Measurement technique	Oscillometric
Displayed parameters	Systolic, diastolic, and mean pressures, pulse rate, time of last measurement
Modes	Manual, Auto and Stat

Heart rate detection

Adult & Pediatric	30 to 240 beats / min
Neonate	30 to 240 beats/min
Total cycle time (Dependent on heart rate and motion artifact)	20 to 40 seconds typical

Systolic pressure range

Adult	30 to 290 mmHg
Pediatric	30 to 240 mmHg
Neonatal	30 to 140 mmHg

Diastolic pressure range

Adult	10 to 220 mmHg
Pediatric	10 to 200 mmHg
Neonatal	10 to 110 mmHg

Mean pressure range

Adult	20 to 260 mmHg
Pediatric	20 to 215 mmHg
Neonatal	20 to 125 mmHg

Cuff pressure range

Adult	0 to 290 mmHg
Pediatric	0 to 250 mmHg
Neonatal	0 to 145 mmHg

Pressure accuracy

Static	+/-2% or +/-3 mmHg, whichever is greater
Clinical	+/-5 mmHg average error, 8 mmHg standard deviation
Automatic cycle times	0 to 24 hours
Auto zero	Zero pressure reference prior to each cuff inflation
Tubing length	Variable
Automatic cuff deflation	Cycle time exceeding 2 minutes (85 seconds neonatal), power off, or cuff pressure exceeds 290 mmHg (+/-6 mmHg) for adult, 250 mmHg (+/-5 mmHg) for pediatric, or 145 mmHg (+/-5 mmHg) for neonatal

Cuff sizes

Disposable	Large adult, adult, small adult, pediatric, child, and neonatal
Reusable	Adult thigh, large adult, adult, small adult, small adult/child, child, and infant
Alarms	User selectable upper and lower limits for systolic, diastolic, and mean pressures

Pulse oximetry

Parameters monitored	Arterial oxygen saturation (SpO_2) and pulse rate
Probe types	Masimo (reusable/single use) Nellcor (reusable/single use)
Masimo range	SpO_2: 1 to 100% Pulse Rate: 25 to 240 beats per minute
Nellcor range	SpO_2: 1 to 100% PPR: 20 to 300 beats per minute

Masimo accuracy*

70 to 100% SpO_2	+/-2
<69% SpO_2	unspecified
Pulse Rate	+/-3 beats per minute without motion +/-5 beats per minute with motion

Nellcor accuracy*

70 to 100% SpO_2	Adult +/-2, Neonatal +/-3
<69% SpO_2	unspecified
Pulse Rate	+/-3 beats per minute
Analog output	Selectable saturation 0 to 100% equivalent 0 to 1V
Alarm limit range	SpO_2: 0 to 100%;
PPR	0 to 350 beats per minute

** Refer to Probe Manufacturer's specifications for probe accuracy statement.*

Messages	No Sensor, Defective Sensor, Sensor Off, Unrecognized Sensor, Low Perfusion, Pulse Search, Interference Detected, Ambient Light, Low Signal IQ
Nellcor	Probe off patient, low quality, pulse search

Cardiac output

Method	thermodilution
Cardiac output range	0.2 to 15 liters per minute
Blood temperature range	17°C to 44°C (62°F to 111°F)
Blood temperature accuracy	+/- 0.5°C 17°C - 30°C
Injectate temperature range	0°C to 30°C (32°F to 86°F)
Injectate temperature accuracy	+/- 0.3°C
Output parameters	Cardiac output, blood temperature, injectate temperature, real-time cardiac output washout curve, last average CO
Cardiac output review	accept / reject individual measurements and store average
Catheter sizes	5, 6, 7, 7.5, or 8 French
Injectate volume selections	3, 5, or 10

Operating conditions

Heat dissipation	10.2 BTU / hour
Temperature	10°C to 35°C (50°F to 95°F)
Relative humidity	15% to 95% (non-condensing)

Storage conditions

Temperature	-40°C to 60°C (-40°F to 140°F)
Relative Humidity	15% to 95% (non-condensing)

Power characteristics

Power consumption	4.5 Watts (nominal PDM alone)
Cooling	Natural convection

Batteries

Type	Removable lithium ion
Quantity	One
Voltage	11.1 Volt (nominal)
Capacity	1.8 Amp hour (nominal)
Charge Time	Approximately 2 hours
Run Time	Approximately 3.5 hours (new, fully charged)
Battery Life	500 cycles to 50% capacity

Physical specifications

Height	7.0 cm (2.75 in)
Width	14.6 cm (5.75 in)
Depth	21.6 cm (8.5 in)
Weight	1.1 kg (2.5 lb) without battery 1.3 kg (2.8 lb) with battery

Compliance and approvals

IEC/EN/60601-1, CAN/CSA C22.2 No 601.1, IEC/EN 60601-1-2, IEC/EN 60601-1-4, IEC/EN 60601-2-27, IEC/EN 60601-2-30, IEC/EN 60601-2-34, IEC/EN 60601-2-49, IEC/EN 60601-2-51, EN 12470-4, EN ISO 9919, ANSI/AAMI SP10, ANSI/AMMI EC11, ANSI/AAMI EC13, JJG 760-2003, YY 91079 - 1999

CE Marking: Medical Devices Directive - 93/42/EEC

Warranty

One Year Parts & Labor

Healthcare Re-imagined

GE is dedicated to helping you transform healthcare delivery by driving critical breakthroughs in biology and technology. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies is enabling healthcare professionals around the world discover new ways to predict, diagnose and treat disease earlier. We call this model of care "Early Health." The goal: to help clinicians detect disease earlier, access more information and intervene earlier with more targeted treatments, so they can help their patients live their lives to the fullest. Re-think, Re-discover, Re-invent, Re-imagine.

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GE imagination at work

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