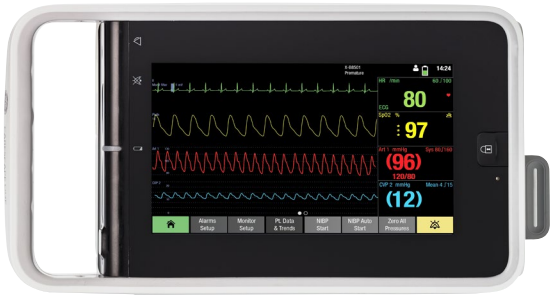
GE HealthCare

CARESCAPE ONE Monitoring System

All in ONE



The visionary CARESCAPE™ ONE monitoring system defies the conventional thinking of an intra-hospital transport solution. Durable, lightweight, and intelligently designed, the CARESCAPE ONE monitor and miniaturized CARESCAPE PARAMETER devices can dynamically flex across care areas and patient acuities without the need for additional hardware or software configurations. The CARESCAPE ONE monitor is a powerful FlexAcuity™ solution for enhanced care and optimized workflow.

The CARESCAPE ONE monitoring system consists of the CARESCAPE ONE monitor and miniaturized CARESCAPE PARAMETER devices.

The CARESCAPE ONE monitor

- Truly modular intra-hospital transport unit with large screen and interchangeable medical USB connectors.
- With ultra-light, portable and compact design and highly visible display, it can make any bed a transport bed.
- The CARESCAPE ONE monitor supports bedside and transport clinical workflows across different patient environments and acuity levels by functioning as an independent intra-hospital transport monitor and a multi-parameter acquisition module compatible with the CARESCAPE Canvas™ 1000 and CARESCAPE Canvas Smart Display, CARESCAPE B850, B650 and B450 V3 monitors.
- Intuitive user interface and auto-rotating screen further reduces typical workflow challenges.
- The CARESCAPE ONE monitor integrates with the CARESCAPE Gateway with data backfill and enables gapless communications to EMR systems when connected to the CARESCAPE Canvas 1000 and CARESCAPE Canvas Smart Display, CARESCAPE B850, B650 and B450 bedside monitors.

The CARESCAPE PARAMETER devices

- Provide a comprehensive set of flexible measurements and meet the various needs for low and high acuity patient intra-hospital transfer.
- Minimized in size, enable parameter plug-and-play experience for streamlined workflow.
- The CARESCAPE PARAMETERS, together with the CARESCAPE ONE monitoring system, utilize the latest GE clinical algorithms to aid in accurate diagnosis including 12SL™, GE EK-Pro four ECG lead simultaneous arrhythmia analysis with ST detection, GE DINAMAP™ SuperSTAT non-invasive blood pressure, GE TruSignal™ SpO_2 along with partner parameters like Masimo rainbow SET® SpO_2, SpHb® & Pi/PVi®; Nellcor™ Oximax™ SpO_2, INVOS™ Regional Oximetry and Microstream™ Capnography from Medtronic; and Respironics™ LoFlo CO_2.

One solution for protecting long-term investments

- The CARESCAPE ONE monitoring system provides a standardized yet fully flexible platform with one device and one software system to support cost effective fleet management.
- The visionary and extendable design of the CARESCAPE ONE monitoring system will enable easy integration of today's and tomorrow's technologies.
- The CARESCAPE ONE monitor's rugged engineering with protective frame, Dragontrail™ screen and over-mold manufactured CARESCAPE PARAMETERS are designed to withstand harsh treatment.
- A selection of regional warranty programs, maintenance contracts and repair options, two-year preventive maintenance schedule and a comprehensive set of field replaceable service parts can lower the cost of ownership of the CARESCAPE ONE monitoring system and simplify long-term capital equipment planning.

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Technical specifications

CARESCAPE ONE monitor

Display

Display characteristics

Size	7 inch diagonal
Type	Active matrix color TFT LCD
Resolution	800x480
Layout and colors	User-configurable
Technology	Projected capacitive touch screen

Touch screen with direct function keys and selections and adjustments in menus.

Rotation	Display image rotates when CARESCAPE ONE is rotated 180 degrees.
Analog out / Defibrillator synchronization connector	Invasive pressure and ECG analog outputs. Defibrillator synchronization input and output signals.

Waveforms and numeric fields

Waveform fields	Up to 4 simultaneously
Parameter windows	Up to 7 simultaneously
Numeric fields	Up to 4

Power specifications

Power requirements	Battery or DC input from CARESCAPE Dock F0 or Frame F2
Output	15 VDC nominal, 60 W (Max)
Cooling	Natural convection

Battery

Type	One removable Lithium-Ion battery
Voltage	10.8 Volt (nominal)
Capacity	3.8 Amp hour minimum (new)
Charge time	4 hours (typical)
Run time	5 hours[1] (new, fully charged)
Battery life	300 cycles to 60% capacity
Battery status	LED indicators on the battery

Environmental specifications

Operating conditions

Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5573 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP44

Physical specifications

Dimensions (H x W x D)	15.5 cm x 27.0 cm x 6.5 cm (6.1 in x 10.6 in x 2.6 in)
Weight	<1.85 kg (4.08 lbs) with battery

[1] Fully charged with 12 lead ECG, TruSignal SpO_2, 2 X Temp, 2 X InvP, Auto NIBP at 15 min interval, maximum volume and brightness.

CARESCAPE Dock F0

Environmental specifications

Operating conditions

Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	616 mbar to 1075 mbar (4000 m to -500 m)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	500 mbar to 1075 mbar (5573 m to -500 m)
Degree of enclosure protection against solid objects and water	IP42

Physical specifications

CARESCAPE Dock F0

Size (H x W x D)	9.0 cm x 21.0 cm x 7.5 cm (3.5 in x 8.3 in x 3.0 in)
Weight	< 0.5 kg (1.0 lb)

CARESCAPE FRAME F2

CARESCAPE ONE monitor can be connected to Frame F2 when used with CARESCAPE Canvas monitors.

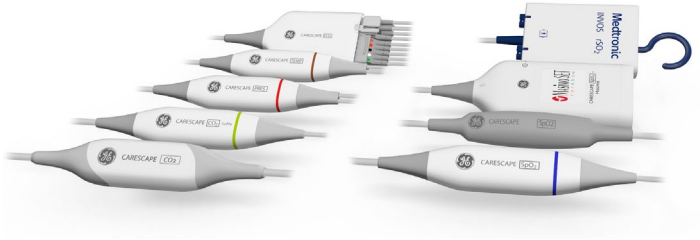
Physical specifications

CARESCAPE Frame F2 frame without modules and cables

Size (H x W x D)	16.0 cm x 28.4 cm x 16.5 cm (6.3 in × 10.7 in × 6.5 in)
Weight	< 2.4 kg (5.29 lb)

For more information on Frame F2, please refer to the CARESCAPE Canvas user manuals.

CARESCAPE PARAMETERS



The following CARESCAPE PARAMETER devices are currently available with the CARESCAPE ONE monitor:

- CARESCAPE ECG
- CARESCAPE SpO_2 - GE
- CARESCAPE SpO_2 - Nellcor
- CARESCAPE SpO_2 - Masimo
- CARESCAPE Invasive Pressure
- CARESCAPE Temperature
- CARESCAPE CO_2 - LoFlo
- CARESCAPE CO_2 - Microstream
- CARESCAPE rSO_2 - INVOS
  Built-in NIBP, no additional CARESCAPE PARAMETER device required

ECG

CARESCAPE ECG

Standard leads available	I, II, III, V1 to V6, aVR, aVL, and aVF
Leadsets supported	3-, 5-, 6-, and 10-leadwire
Lead fail	Identifies failed electrodes and switches to those intact
Lead fail sensing current	Active patient electrode: 12.8 nA typical (each) Reference electrode < 150 nA maximum
Gain selections	0.5x = 5 mm/mV 1x = 10 mm/mV 2x = 20 mm/mV 4x = 40 mm/mV

Display bandwidth

Diagnostic	0.05 to 150 Hz
Monitoring	50 Hz powerline frequency: 0.05 to 32 Hz 60 Hz powerline frequency: 0.05 to 40 Hz
Moderate	0.05 to 23 Hz
Maximum	4.5 to 27 Hz
Differential offset voltage	±0.4V

Input impedance

Differential	> 2.5 M Ω from 0.67 Hz to 40 Hz
Maximum tall T-wave rejection capability	< 4.5 mV with a 1 mV QRS test signal
Pacemaker marker	5 V, 2 ms pulse; summed with the ECG analog output
Defibrillator sync delay	< 35 ms
Defibrillation protection	5000 V, 360 J

Analog output

ECG signal gain	1 V/1 mV ±10%
ECG signal bandwidth	Diagnostic: 0.05 to 125 Hz Monitoring: 0.05 to 40 Hz Moderate: 0.05 to 25 Hz Maximum: 0.05 to 25 Hz
ECG analog output delay	< 35 ms

Input specification

QRS detection range	±0.5 mV to ±5 mV
QRS detection width	40 ms to 120 ms (Q to S)
Heart rate range	20 to 300 beats per minute
Common mode rejection	90 dB minimum at 50 / 60 Hz
Signal gain accuracy	±5%
Noise	< 30 µV (referred to input)
Sampling rate	500 samples/second

Heart rate

The ECG heart rate indicates a new heart rate for a simulated step increase of 80 to 120 bpm and a step decrease of 80 to 40 bpm in less than 10 s.

Heart rate calculation operates with irregular rhythms IEC 60601-2-27 Clause 201.7.9.2.9.101 b) 4), according to Figure 201.101, as follows

Ventricular bigeminy	80 bpm
Slow alternating ventricular bigeminy	59 bpm
Rapid alternating ventricular bigeminy	126 bpm
Bidirectional systoles	110 bpm
Heart rate averaging computation	12-second median HR values 12-second HR median calculation extended to a maximum of 32 seconds based on signal noise when software package is ICU, ED, OR, or PACU.
Display update interval	< 2 seconds
Response time	Display a new heart rate for a step increase of 80 to 120 bpm and a step decrease of 80 to 40 bpm in less than 10 s.
PVC rate range	0 to 300 PVCs/minute
PVC rate resolution	1 PVC/minute
Arrhythmia calls	Full, lethal only, or no arrhythmia

ST segment analysis

Measurement description	ST segment deviation is measured for all acquired leads
ST display	Lead with the most deviation
ST numeric range	-20.0 mm to 20.0 mm
ST numeric resolution	0.1 mm
ST measurement	16 beats averaging
ST numeric accuracy	±0.4 mm or 20%, whichever is greater

Pace detection/rejection

Input voltage range for pace detection and rejection	±2.4 mV to ±700 mV
Input pulse width	0.1 ms to 2 ms
Over/under shoot	Overshoot measured using Method A IEC 60601-2-27 Clause 201.12.1.101.13 with amplitude maximum 2 mV
Heart rate accuracy	±1% or ±1 bpm, whichever is greater
Heart rate resolution	1 bpm
Heart rate sensitivity	≥ 0.5 mV peak

Alarms

Heart rate limit alarms	User selectable upper and lower limits for heart rate
Heart rate limit alarm range	20 to 300 beats/minute
ST limit alarms	User selectable upper and lower limits for individual leads
PVC limit alarms	User selectable upper limit
SVC limit alarms	User selectable upper limit
Arrhythmia alarms	Lethal, full

Power specifications

Consumption	625 mW maximum
Input voltage	5 VDC ±0.25 VDC
Input current	125 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 35°C (32°F to 95°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5573 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP47

Physical specifications

Length	3.7 m or 1.9 m (12.1 or 6.2 ft)
Weight	<0.57 kg (1.26 lb), includes long 10 leadwire set

Impedance respiration

Rate range	0 to 200 breaths/minute
Rate resolution	1 breath/minute
Leads available	I, II, and RL-LL
Waveform sweep speed options	0.625 mm/s, 6.25 mm/s, 12.5 mm/s, 25 mm/s, and 50 mm/s
Respiration sensing current	< 100 uA RMS

Input impedance range

Dynamic	0.4 to 10 Ω
Static	100 to 1500 Ω @52.3 kHz
Accuracy	±1 breath/minute over the range of 0 to 120 breaths per minute ±3 breaths/minute over the range of 121 to 200 breaths per minute
Carrier frequency	52.3 kHz ±5 Hz

Alarms

Alarm limit	User-selectable upper and lower limits
Alarm range	4 to 120 breaths/minute
No Breath alarm range	3 to 30 seconds

Pulse Oximetry

CARESCAPE SpO_2 - GE TruSignal

SpO_2 displayed saturation values

GE TruSignal pulse oximetry is calibrated to display functional saturation.

Alarms

Alarm limits	User selectable upper and lower limits for SpO_2
Alarm limit range	Upper limit 32 - 100% Lower limit 30 - 100%
Alarm limit increment	1 %
Pulse rate alarm limits	User selectable upper and lower limits for SpO_2 pulse rate
Pulse rate alarm limit increment	1 beat/minute

Performance specifications

Display resolution	1 digit (% of SpO_2)
Peripheral pulse rate resolution	1 bpm
Display update period	< 30s
Sweep speed options	6.25, 12.5, 25, and 50 mm/s
Waveform scale options	AUTO, 50, 20, 10, 5, 2
Parameters monitored	Arterial oxygen saturation (SpO_2) and pulse rate
Number of SpO_2 measurements	1
Range	SpO_2: 0 to 100% Pulse rate: 30 to 300 bpm
Accuracy	
Without motion	SpO_2 (70% to 100%): ±2 Adult/ Pediatric, ±3 Neonatal SpO_2 (<70%): Unspecified
With motion	SpO_2 (70% to 100%): ±3 Adult/ Pediatric/Neonatal SpO_2 (<70%): Unspecified
Low perfusion	SpO_2 (70% to 100%): ±2 Adult/ Pediatric, ±3 Neonatal SpO_2 (< 70%): Unspecified

Peripheral pulse rate

Low perfusion range	0.03 - 20%
Accuracy	
Without motion	30 to 250 bpm: ±2 Adult/Pediatric/ Neonatal
With motion	30 to 250 bpm: ±5 Adult/Pediatric/ Neonatal
Low perfusion	30 to 250 bpm: ±3 Adult/Pediatric/ Neonatal

Power specification

Consumption	375 mW maximum
Input voltage	5 VDC ±0.25 VDC
Input current	75 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5573 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP47

Physical specifications

Length	3.0 m or 1.8 m (9.8 or 5.9 ft)
Weight	<0.17 kg (0.38 lb)

CARESCAPE SpO_2 - Nellcor

SpO_2 displayed saturation values

Nellcor OxiMax pulse oximetry is calibrated to display functional saturation.

Alarms

Alarm limits	User selectable upper and lower limits for SpO_2
Alarm limit range	Upper limit 32 - 100% Lower limit 30 - 100%
Alarm limit increment	1 %
Pulse rate alarm limits	User selectable upper and lower limits for SpO_2 pulse rate
Pulse rate alarm limit increment	1 beat/minute

Performance specifications

Display resolution	1 digit (% of SpO_2)
Peripheral pulse rate resolution	1 bpm
Display update period	< 30s
Sweep speed options	6.25, 12.5, 25, and 50 mm/s
Waveform scale options	1x, 2x, 4x, and 8x
Parameters monitored	Arterial oxygen saturation (SpO_2) and pulse rate
Range	SpO_2: 1 to 100% Pulse rate: 20 to 250 bpm
Accuracy[1]	
Without motion	SpO_2 (70 to 100%): ±2 Adult/Neonatal SpO_2 (60 to 80%): ± 3 Adult/Neonatal SpO_2 (< 60%): Unspecified
With motion	SpO_2 (70 to100%): ±3 Adult/Neonatal SpO_2 (< 70%): Unspecified
Low perfusion	SpO_2 (70 to 100%): ±2 SpO_2 (< 70%): Unspecified

Peripheral pulse rate

Low perfusion range	0.03 - 20%
Accuracy	
Without motion	20 to 250 bpm: ±3 Adult/Neonatal
With motion	20 to 250 bpm: ±5 Adult/Neonatal
Low perfusion	20 to 250 bpm: ±3 Adult/Neonatal

Power specification

Consumption	350 mW maximum
Input voltage	5 VDC ±0.25 VDC
Input current	70 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 35°C (32°F to 95°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5572 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP47

Physical specifications

Length	3.6 m or 1.2 m (11.8 or 3.9 ft)
Weight	<0.20 kg (0.44 lb)

[1] Saturation accuracy varies by sensor type . Contact Medtronic for sensor accuracy information.

CARESCAPE SpO2 - Masimo

SpO_2 displayed saturation values

Masimo rainbow SET pulse oximetry is calibrated to display functional saturation.

Alarms

Alarm limits	User selectable upper and lower limits for SpO_2
Alarm limit range	Upper limit 32 - 100% Lower limit 30 - 100%
Alarm limit increment	1 %
Pulse rate alarm limits	User selectable upper and lower limits for SpO_2 pulse rate
Pulse rate alarm limit increment	1 beat/minute

Performance specifications

Display resolution	1 digit (% of SpO_2)
Peripheral pulse rate resolution	1 bpm
Display update period	Less than 30s
Sweep speed options	6.25, 12.5, 25, and 50 mm/s
Waveform scale options	1x, 2x, 4x, and 8x
Parameters monitored	Arterial oxygen saturation (SpO_2) and pulse rate
Range	SpO_2: 0 to 100% Pulse Rate: 25 to 240 bpm
Accuracy	
Without motion	SpO_2 (70 to 100%): ±2% Adult, ±3% Neonate SpO_2 (< 70%): Unspecified
With motion	SpO_2 (70 to 100%): ±3% Adult/ Neonate SpO_2 (< 70%): Unspecified
Low perfusion	SpO_2 (70 to 100%): ±2% Adult, ±3% Neonate SpO_2 (< 70%): Unspecified

Peripheral pulse rate

Low perfusion range	0.02 - 20%
Accuracy	
Without motion	26 to 239 bpm: ±3 Adult/Pediatric/ Infant/Neonate
With motion	26 to 239 bpm: ±5 Adult/Pediatric/ Infant/Neonate
Low perfusion	26 to 239 bpm: ±3 Adult/Pediatric/ Infant/Neonate

Pi, PVi and SpHb values

Ranges

Perfusion Index (Pi)	0.02 to 20%
Pleth Variability Index (PVi)	0 to 100%
SpHb	0 g/l to 250 g/l 0.0 g/dl to 25.0 g/dl 0.0 mmol/l to 16.0 mmol/l

SpHb accuracy

Measurement range	0 - 25 g/dl
Accuracy range	8 - 17 g/dl
Accuracy (ARMS®) Adults/ Infants/Pediatrics	1 g/dl
Accuracy (ARMS) Neonates	2g/dl (For CE marked regions) Unspecified (For US and other 510k markets)

Power specification

Consumption	2.15 W maximum
Input voltage	5 VDC ±0.25 VDC
Input current	430 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 35°C (32°F to 95°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5572 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP47

Physical specifications

Length	1.9 m or 1.0 m (6.2 or 3.3 ft)
Weight	<0.33 kg (0.82 lb)

Note that perfusion index (Pi), pleth variability index (PVi), and hemoglobin (SpHb) measurements are available only when the CARESCAPE ONE is used in acquisition mode with CARESCAPE Canvas 1000, CARESCAPE Canvas Smart Display, CARESCAPE B850, B650 or B450 bedside monitors equipped with corresponding license. Monitoring of Pi, PVi and SpHb is disabled on the CARESCAPE ONE monitor in standalone mode.

NIBP*

CARESCAPE NIBP - DINAMAP™ SuperSTAT

Performance specifications

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

Heart rate detection

Adult, child, infant	30 to 265 beats/min
Total cycle time	20 to 40 seconds typical (Dependent on heart rate, pressure, and motion artifact)

Measurement range

Adult	15 to 300 mmHg (2.0 to 40.0 kPa)
Child	15 to 260 mmHg (2.0 to 34.7 kPa)
Infant	15 to 155 mmHg (2.0 to 20.7 kPa)

NIBP pressure display range

Adult	15 to 300 mmHg (2.0 to 40.0 kPa)
Child	15 to 260 mmHg (2.0 to 34.7 kPa)
Infant	15 to 155 mmHg (2.0 to 20.7 kPa)
Cuff pressure range	0 to 315 mmHg (0.0 to 42.0 kPa)

Pressure accuracy

Static	±2% or ±3 mmHg (0.4 kPa), whichever is greater
Clinical	±5 mmHg (0.7 kPa) average error, 8 mmHg (1.1 kPa) standard deviation
Auto zero	Auto zero pressure reference
Automatic cuff deflation conditions	Power off Adult and child cuff cycle time exceeding 125 seconds Infant cuff cycle time exceeding 90 seconds Adult and child cuff pressure exceeds 300 mmHg (40.0 kPa) Infant cuff pressure exceeds 150 mmHg (20.0 kPa)
Tubing length	Variable

Maximum inflation pressures

Adult	290 ±6 mmHg (38.7 ±0.8 kPa)
Child	250 ±5 mmHg (33.3 ±0.7 kPa)
Infant	145 ±5 mmHg (19.3 ±0.7 kPa)

Automatic cycle times

1 min, 2 min, 2.5 min, 3 min, 4 min, 5 min, 10 min, 15 min, 20 min, 30 min, 1 h, 2 h and 4 h

Default NIBP measurement initial inflation pressures

Adult	135 mmHg (18.0 kPa)
Child	125 mmHg (16.7 kPa)
Infant	100 mmHg (13.3 kPa)

Alarms

NIBP limit alarms	User selectable upper and lower limits for systolic, diastolic, and mean pressures

* Built-in NIBP, no additional CARESCAPE PARAMETER device required

Invasive Pressure

CARESCAPE Invasive Pressure

Performance Specifications

Number of channels	4
Transducer sites, site name, and displayed values	Arterial (ART) Systolic, diastolic, mean and rate Femoral (FEM) Systolic, diastolic, mean and rate Femoral Vein (FEMV) Mean Pulmonary artery (PA) Systolic, diastolic, mean Central venous pressure (CVP) Mean Intra-cranial pressure (ICP) Mean Left atrial (LAP) Mean Right atrial (RAP) Mean Right vein (RVP) Mean Umbilical artery (UAC) Systolic, diastolic, mean, and rate Umbilical vein (UVC) Mean
Range	-98 mmHg to 349 mmHg (-13.1 to 46.5 kPa)
Resolution	1 mmHg
Displayed frequency response	0 to 12 Hz or 0 to 40 Hz (-3dB) user-selectable
Zero balance accuracy	±1 mmHg (±0.1 kPa)
Measurement accuracy	±0.5% ±1.50 mmHg (excluding transducer) ±4% or ±4 mmHg, whichever is greater (including transducer)
Pulse rate accuracy	±2% or ±2 bpm, whichever is greater
Units	mmHg or kPa
Sweep speed options	6.25, 12.5, 25, and 50 mm/s
Pulse rate range	0 to 360 bpm
Pulse rate resolution	1 bpm
Waveform display scale	User and automatic
Display scale selections	0-10, to 0-300 mmHg, with a step size of 10 mmHg (0.0-2.0, to 0.0-40.0 kPa, with a step size of 2.0 kPa); or automatic scale based on valid waveform values from last 4 seconds with a lower limit of -100 mmHg (-14 kPa) and an upper limit of 350 mmHg (48 kPa) and a step size of 10 mmHg (2.0 kPa)
Connector options	Argon Medical, ICU Medical, Edwards Lifesciences, Utah Medical and GE CARESCAPE*
Transducer measurement accuracy	Compatible Invasive pressure transducers used in the system shall have an accuracy specification of ±2% or ±2 mmHg, whichever is greater

Alarms

Alarm limits	User selectable upper and lower limits for systolic, diastolic, and mean pressures
Alarm limit range	-25 to 320 mmHg
Pulse rate alarm limits	User selectable upper and lower limits for invasive pressure pulse rate

Power specification

Consumption	425 mW maximum
Input voltage	5 VDC ±0.25 VDC
Input current	85 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5573 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP47

Physical specifications

Length	3.6 m or 1.8 m (11.8 or 5.9 ft)
Weight	<0.26 kg (0.57 lb)

*Note: GE CARESCAPE connector type must be used with your choice of a GE Invasive pressure transducer adapter cable

Temperature

CARESCAPE Temperature

Number of channels	2
Parameters displayed	T1, T2
Measurement units	°C or °F
Measurement range	0°C to 45°C (32°F to 113°F)
Display resolution	0.1°C (0.1°F)
Test measurement cycle	Every minute

Temperature system measurement accuracy

CARESCAPE ONE system excluding temperature probes	18°C to 45°C (64°F to 113°F): ±0.1°C (±0.2°F), rated output range 0°C to less than 18°C (32°F to 64°F): ±0.2°C (±0.4°F), extended output range

Temperature probe instructions for use specify the probe accuracy

Alarms

Alarm limit	User selectable upper and lower limits for T1, T2
Alarm limit range	10°C to 45°C (50°F to 113°F)
Alarm limit increment	0.1°C (0.18°F)
Delta temperature alarm limit	User selectable upper limit

Power specification

Consumption	325 mW maximum
Input voltage	5 VDC ±0.25 VDC
Input current	65 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 40°C (32°F to 104°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 95% RH (non-condensing)
Altitude	-500 m (1075 hPa) to 5573 m (500 hPa)
Degree of enclosure protection against solid objects and water	IP47

Physical specifications

Length	1.5 m (4.9 ft) with reusable sensor interface cable 3.0 m or 1.5 m (9.8 ft or 4.9 ft) with disposable sensor interface cable
Weight	<0.22 kg (0.49 lb)

Capnography

CARESCAPE CO_2 - Microstream

CO_2 Measurement Range	0 to 150 mmHg
CO_2 waveform sampling	20 samples/second
Sampled Gas Flow Rate	50 ml ±5 ml/min
CO_2 Accuracy	±2 mmHg at 0-38 mmHg ±{5% x CO_2 reading + 8% x (CO_2 reading - 39 mmHg)} at 39-99 mmHg ±{0.43% x Ambient Pressure + 8% x CO_2 reading} at 100-150 mmHg
CO_2 Accuracy in the Presence of Interfering Gases	Nominal accuracy is not reduced by more than 4% of the reading in the presence of interfering gases, as detailed in ISO 80601-2.55 clauses 201.12.1.101.3, 201.101, including also Ethanol, Isopropanol, and Acetone at up to 0.1%, Methane at up to 1%, and Oxygen, Heliox up with up to 50% Helium and with up to 15% Oxygen.
Respiration Rate Range	0 to 150 breaths/minute
Respiration Rate Accuracy	± 1 breaths/minute for 0-70 breaths/minute ± 2 breaths/minute for 71-120 breaths/minute ± 3 breaths/minute for 121-150 breaths/minute
Startup Time	Maximum 30 seconds, not including monitor startup time.

Power Specifications

Consumption	2.5 W
Input voltage	5 V DC ±0.25 VDC
Input current	482 mA maximum

Environmental Specifications

Operating Conditions

Temperature	0°C to 40°C (32°F to 104°F)
Humidity	10% to 95%, ambient non-condensing relative humidity
Altitude	-487 to 4572 m (-1600 to 15000 ft)

Storage and Transport Conditions

Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	10% to 90%, ambient non-condensing relative humidity
Altitude	-487 to 15240 m (-1600 to 50000 ft)
Atmospheric pressure	11 kPa (88 mmHg) to 108 kPa (805 mmHg)
Degree of protection against matter and water ingress	IP33

Physical Specifications

Product dimensions	94 mm x 60 mm x 58 mm (3.7 in x 2.4 in x 2.3 in)
Product weight	340 g (0.75 lb)

CARESCAPE CO_2 - LoFlo Respironics

Range	0-148 mmHg (0-19.7 kPa)
Flow Rate	50 mL/min ±10 mL/min

Accuracy

After 2 minutes warm-up	0 and 40 mmHg (0 and 5.3 kPa): ±2.0 mmHg (±0.29 kPa). 41–70 mmHg (5.4–9.3 kPa): ±5% 71–100 mmHg (9.4–13.3 kPa) ±8% 101–150 mmHg (13.4–20 kPa): ±10%

At respiration rates above 80 rpm, all ranges are ±12% of reading. The specifications are valid for gas mixtures of CO_2, balance N_2, dry gas at 760 mmHg (101.3 kPa) within specified operating temperature range.

Resolution

Numeric	1.0 mmHg (0.1 kPa)
Wave	0.1 mmHg (0.01 kPa)

awRR (airway respiratory rate)

Range	2-148 breaths/minute
Accuracy	±1 breaths/minute

Warm-up Time 2 minutes with CO_2 sensor attached for full accuracy specification

Total System Response Time	3 seconds for on-airway adapter kits (Additional 30ms for sidestream sampling cannulas) (Additional 2 seconds for extension line and dehumidification tubing)
Total System Rise Time	200ms for on-airway adapter kits (Additional 30ms for sidestream sampling cannulas) (Additional 80 ms for extension line and dehumidification tubing)
CO_2 sweep speed options	0.625, 6.25, 12.5, 25, and 50 mm/s

Power specifications

Consumption	3.75 W maximum
Input voltage	5 VDC ±0.25 VDC
Input current	750 mA maximum

Environmental specifications

Operating conditions

Temperature	0°C to 35°C (32°F to 95°F)
Humidity	5% to 90% RH (non-condensing)
Altitude	-350 m (1056 hPa) to 4000 m (616 hPa)

Storage conditions

Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	5% to 90% RH (non-condensing)
Altitude	-350 m (1056 hPa) to 5572 m (500 hPa)

Degree of enclosure protection against solid objects and water	
CARESCAPE CO_2 - LoFlo enclosure	IP47
CARESCAPE CO_2 LoFlo Sidestream Module assembly enclosure	IP24

Physical specifications

Length	3.0 m (9.8 ft)
Weight	<0.37 kg (0.81 lb)

Regional Oxygen Saturation

CARESCAPE rSO_2 - INVOS

Note that rSO_2 is monitored only when a CARESCAPE rSO_2 INVOS cable is connected to the CARESCAPE ONE, and the CARESCAPE ONE is used in acquisition mode with CARESCAPE Canvas 1000, CARESCAPE Canvas Smart Display, CARESCAPE B850, B650 or B450 bedside monitors equipped with corresponding license. Monitoring of rSO_2 is disabled on the CARESCAPE ONE monitor in standalone mode.

Number of channels	4
Measurement units	Unitless
rSO_2 Measurement Range	15 to 95
rSO_2 Measurement Resolution	1
rSO_2 Accuracy	Clinical study results specified in the CARESCAPE rSO_2 INVOS instructions for use.

Power Specifications

Consumption	2.5 W
Input voltage	5V DC
Input current	482 mA maximum

Environmental Specifications

Operating Conditions

Temperature	10°C to 35°C (50°F to 95°F)
Humidity	10% to 95%, non-condensing
Altitude	-500 to 4000 meters (1640 to 13123 feet)
Atmospheric Pressure	616 hPa to 1075 hPa (18 inHg to 32 inHg)

Storage and Transport Conditions

Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	10% to 95%, non-condensing
Altitude	-500 to 5572 m (-1640 to 18281 ft)
Atmospheric Pressure	500 hPa to 1075 hPa (15 inHg to 32 inHg)
Ingress protection	IPX2

Physical Specifications

Product dimensions	12.8 x 8.7 x 3.4 cm (5.04 x 3.43 x 1.3 in) with hook folded down
Product weight	313g (0.69 lb)
Host cable length	428.4 cm (14 ft) (approximate)
Sensor cable length	162 cm (5.3 ft) (approximate)

GE HealthCare

CARESCAPE PARAMETERS standards compliance

ECG Standards Compliance

The system with CARESCAPE ECG complies with IEC 60601-2-27:2011-03.

NOTE: Moderate and maximum reduced bandwidths do not comply with all requirements of the IEC 60601-2-27 standard.

The CARESCAPE ECG enclosure and interface cable are treated as TYPE CF DEFIBRILLATION-PROOF APPLIED PARTs per IEC 60601-2-27 Clause 201.8.3 and Clause 201.8.5.5. Compatible leadwires are TYPE CF DEFIBRILLATION-PROOF APPLIED PARTs.

Pulse Oximetry Standards Compliance

The system with CARESCAPE SpO_2 complies with ISO 80601-2-61:2017-12 + Corrected version:2018-02.

The CARESCAPE SpO_2 sensor interface cable, excluding the module strain relief, and compatible sensors are type BF DEFIBRILLATION-PROOF APPLIED PARTs per IEC 60601-1 Clause 8.3 and ISO 80601-2-61 Clause 201.8.3.101.

NIBP Standards Compliance

The system complies with IEC 80601-2-30:2018-03.

The system was clinically tested according to ISO 81060-2:2013.

WARNING: PREGNANT PATIENTS. Effectiveness of the NIBP measurement has not been established in pregnant (including pre-eclamptic) patients.

The NiBP Hose and Cuff accessory applied parts are classified as DEFIBRILLATION PROOF APPLIED PARTS per IEC 80601-2-30:2018 Clause 201.8.5.5 and TYPE BF APPLIED PARTS per IEC 60601-1:2005 + A1:2012 Clause 8.3.

Invasive Pressure Standards Compliance

The system with CARESCAPE Pressure complies with IEC 60601-2-34:2011-05.

The CARESCAPE Pressure device, including the enclosure and USB interface cable are not applied parts or treated as applied parts. The CARESCAPE Pressure sensor interface cable and compatible sensors, excluding the CARESCAPE Pressure connector, excluding the strain relief, and if present, excluding the CARESCAPE Pressure dual adapter cable, are type CF DEFIBRILLATION-PROOF APPLIED PARTs per IEC 60601-2-34 Clause 201.8.3 and Clause 201.8.5.5.1.

CO_2 Standards Compliance

The system with CARESCAPE CO_2 complies with ISO 80601-2-55:2018-02.

The CARESCAPE CO_2 accessories that are intended to be connected with the breathing system are TYPE BF DEFIBRILLATION-PROOF APPLIED PARTs per ISO 80601-2-55 Clause 201.4.6.

Temperature Standards Compliance

The system with CARESCAPE Temperature complies with ISO 80601-2-56:2017-03 + Amendment 1:2018-11.

The CARESCAPE Temperature sensor interface cable, and compatible probes are type CF DEFIBRILLATION-PROOF APPLIED PARTs per IEC 60601-1:2005 + A1:2012 Clause 8.3.

CARESCAPE ONE: MBZ323
CARESCAPE DOCK F0: MFA101
CARESCAPE Frame F2: F2-01
CARESCAPE ECG: MKE101
CARESCAPE Temperature: MKT101
CARESCAPE Invasive Pressure: MKP101
CARESCAPE SpO_2: GE MKS101, MKS102
CARESCAPE SpO_2 - Nellcor: MKN101
CARESCAPE SpO_2 - Masimo: MKM101
CARESCAPE CO_2 - LoFlo: MKC101
CARESCAPE CO_2 - Microstream: PMC40M - GE
CARESCAPE rSO_2 - INVOS: PMC71V - GE

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