

PHILIPS

Efficia

CM100, CM120, CM150
patient monitors

Measurements to guide your patient care

Technical data sheet

The Efficia CM Series patient monitors help you with monitoring, analyzing, recording, and alarming multiple physiological parameters, at the bedside, for adult, pediatric, and neonatal patients. The monitors can also help you in transport situations within your facility.

The Efficia CM100, CM120, and CM150 patient monitors provide you with information on ECG, basic arrhythmia, ST analysis, SpO₂ (Philips FAST SpO₂ or Masimo® SET®), non-invasive blood pressure, dual temperature, and impedance respiration. Depending on the options you order, the monitors can also help you measure:

- Dual invasive blood pressure
- Cardiac output (CM120 and CM150)
- Microstream® or mainstream CO₂
- 12-lead ECG (CM120 and CM150)
- Enhanced arrhythmia analysis
- Masimo rainbow®¹

Features and benefits

- Color touch wide screen with large numerics and waveforms
- Easy selection of different display layouts
- Retrospective clinical information review from up to 240-hours of tabular and graphical trends, and optional 48-hours full disclosure
- Lithium-ion battery, with practical access slots – making it simple to change the battery (using a standard, flat-head screwdriver)
- Audible and visual alarm indicators
- Compatible with a wide range of Philips supplies and accessories
- Connectivity to the Efficia CMS200 central station
- Interface to other systems using HL7 data over the serial connection, or LAN/optional WLAN
- Password-protected administrator and maintenance
- Easy software upgrades, over the USB port
- Automatic or prompted patient ID entry using the optional barcode scanner support
- Optional integrated recorder for easy printing of patient data
- Optional roll stand, or wall mounts



Efficia CM100

Efficia CM120

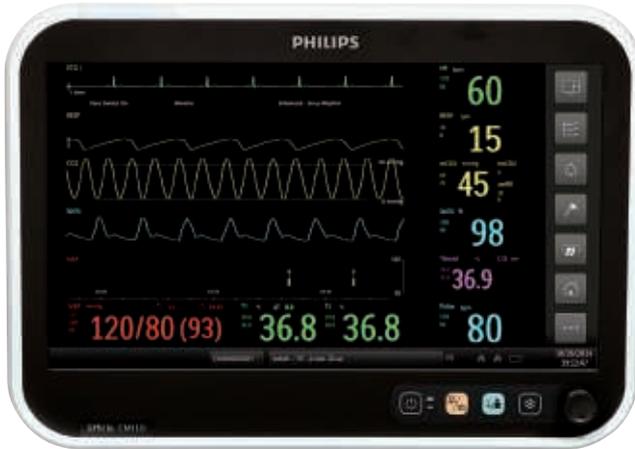
Efficia CM150

Main components

Display

The Efficia CM series of patient monitors give you a color, touch screen, LCD display, with a choice of 10, 12 or 15 inch.

User interface



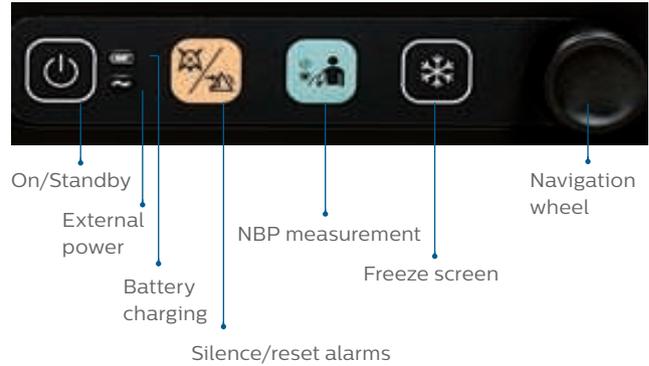
The main screen shows the numeric parameter values, real-time waveforms, alarm messages, and the system toolbars. To access the menus and settings associated with a measurement, use the navigation wheel or touch screen to select the corresponding waveform or numeric values.

You can use the touch screen or the navigation wheel to access the screens and menus.

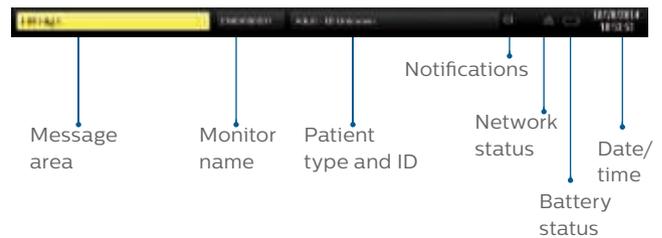
The buttons on the system toolbar on the display give you fast access to the following functionalities:

- **First group**
 - Screen layout  To select the layout of the main screen
 - Trends  To see the parameter data in a graphical or tabular trend.
 - Alarm settings  Change alarm limit settings for all parameters on the screen
 - Mark a manual event  Mark an event that can be later reviewed in the Alarm/Event tab of Trend Review
 - Record (optional)  Record patient data
- **Second group**
 - Manage patient 
 - System  To configure system settings and view information about the monitor
 - NBP venous puncture (optional)  To start NBP venous puncture cuff inflation
 - Night mode^{II}  To place monitor into night mode
- Home  To close all open windows and return to home screen
- More  To take you either from a first menu to a second, or back to a first menu from the second

The front panel also has the following



The status bar shows you the following information



Device connections

- USB port (complies with the USB 2.0 standard as a full-speed host), to
 - Upgrade software
 - Connect to a barcode scanner, or a serial interface adapter
- Ethernet port, to
 - Export HL7 data
 - Connect the monitor to the Efficia CMS200 central station
- Wireless connectivity^{III}

Option E20 enables the monitor to access the EMR using the customer's existing wireless infrastructure. The monitor supports the following wireless standards: IEEE802.11a, 802.11b, 802.11g, and 802.11n, operating in the 2.4 GHz or 5 GHz bands.
- EMR connectivity
 - Via LAN
 - Via WLAN

Safety standards

EN/IEC 60601-1
EN/IEC 60601-1-2
EN/IEC 60601-1-8
EN/IEC 60601-2-27
EN/ IEC 80601-2-30
IEC 60601-2-34
IEC 60601-2-49
EN/ISO 80601-2-55
EN/ISO 80601-2-61
EN/IEC 62366
EN/IEC 62304
EN/IEC 60601-1-6
EN/ISO 80601-2-56

- Protection class: Class I, internally powered equipment, per EN/IEC 60601-1
- Degree of protection: Type CF defibrillator-proof, per EN/IEC 60601-1
- IPX1 Ingress protection against vertically falling water drops
- Protection against hazards of ignition of flammable anesthetic mixtures: Equipment is not suitable for use in the presence of a flammable anesthetic mixtures with air or oxygen or nitrous oxide, per IEC 60601-1

Physical specifications

CM100

- Width: 27 cm (10.6 in)
- Height: 22 cm (6.6 in)
- Depth: 17 cm (6.7 in)
- Weight (with no battery): < 3.3 kg (7.0 lb)
- Display
 - Type: 25.6 cm (10.1 in) LCD, with 5-wire resistive touch screen
 - Resolution: 1280 active pixels/line, 800 active lines/frame
 - Frequency: 50/60 Hz
 - Viewing Angle: $\pm 15^\circ$

CM120

- Width: 33 cm (12.9 in)
- Height: 25 cm (9.8 in)
- Depth: 18 cm (7.1 in)
- Weight (with no battery): < 5.0 kg (11.0 lb)
- Display
 - Type: 30.7 cm (12.1 in) LCD, with 5-wire resistive touch screen
 - Resolution: 1280 active pixels/line, 800 active lines/frame
 - Frequency: 50/60 Hz
 - Viewing Angle: $\pm 15^\circ$

CM150

- Width: 41 cm (16.1 in)
- Height: 30 cm (11.8 in)
- Depth: 18 cm (7.1 in)
- Weight (with no battery): < 6.7 kg (14.5 lb)
- Display
 - Type: 39.6 cm (15.6 in) LCD, with 5-wire resistive touchscreen
 - Resolution: 1366 active pixels/line, 768 active lines/frame
 - Frequency: 50/60 Hz
 - Viewing Angle: $\pm 15^\circ$

Battery

- Weight, 9-cell, lithium ion: 0.5 kg (1.1 lb)

Environmental specifications

Mechanical shock

Complies with mechanical shock requirement according to ISO 9919/IEC 80601-2-61 standards, for use within the healthcare facility. Test conditions include:

- Peak acceleration: 150 m/s² (15.3 g)
- Duration: 11 ms
- Pulse shape: Half sine
- Number of shocks: 3 shocks per direction per axis (18 total)

Mechanical vibration

Complies with mechanical vibration requirement according to ISO 9919/IEC 80601-2-61 standards, for use within the healthcare facility. Test conditions include:

- Frequency range: 10 Hz to 2000 Hz
- Resolution: 10 Hz
- Acceleration amplitude:
 - 10 Hz to 100 Hz: 1.0 (m/s²)²/Hz
 - 100 Hz to 200 Hz: -3.0 dB/octave
 - 200 Hz to 2000 Hz: 0.5 (m/s²)²/Hz
- Duration: 10 minutes per each perpendicular axis (3 total)

Humidity

- Operating: 15% to 90% RH, non-condensing
- Storage: 15% to 90% RH, non-condensing

Electrical specifications

- Internal battery: 9-cell lithium-ion battery, 10.8 V to 11.1 V
- CM120 and CM150 support dual battery, as an option
- Battery operating time (new, fully-charged battery, monitoring ECG, SpO₂, and NBP measured at 15-minute intervals; screen brightness set to 8):
 - CM100: up to 9 hours (with single 9-cell battery)
 - CM120: up to 13 hours (with dual 9-cell battery)
 - CM150: up to 8 hours (with dual 9-cell battery)
- Battery charge time: < 5 hours (to charge to 90%, while the unit is monitoring with ECG, SpO₂, and making a NBP measurement every 15 minutes)
- Internal power supply: 100 VAC to 240 VAC
- Power consumption: < 75 Watts
- Frequency: 50/60 Hz

Mounting options

The Efficia CM Series monitor has the following mounting options:

- Roll stand: 989803176601
- Wall mount, 10-inch: 989803195571
- Wall channel: 989803152951
- Bedrail hook: option E16 (not available for the CM150)

Recorder

- Channels: 4
- Recorder type: Thermal
- Paper width: 58 mm
- User selectable speeds: 6.25, 12.5, 25, and 50 mm/sec

Application features

- Mode of operation: Continuous

Alarms

- Three alarm severity levels (high, medium, low) with corresponding visual and audio indicators
- Configurable alarm limits
- User can activate “auto alarm limits”, to set alarm limits based on the patient’s current vital sign values
- Visual alarm indicators, including an alarm LED, flashing numeric panes, alarm messages, and alarm icons
- Audible alarms, configurable for volume, tone, and silence
- Alarm Audio Range: 45 dB to 85 dB, ± 3 dB tolerance
- Ability to latch all physiological alarms

Trends

- Collect and store of graphical and tabular trend data (up to 240 hours)
- Mark an event – to easily find corresponding trends
- Export trend data using HL7 over LAN or WLAN
- User-configurable display interval
- User-configurable printout intervals and content

Full Disclosure (Option)

- Displays the latest 48 hours of waveforms and parameters
- User-configurable waveform selection
- User-configurable waveform review sweep speed

ST Map[™]

ST Map collects ST values created from the frontal (limb leads) and horizontal (chest leads) planes into an integrated, graphical display. This shows changes in the patient’s ST segments over time, as measured with the Philips ST/AR arrhythmia algorithm, in two multi-axis spider diagrams. This can simplify your recognition of ST changes, and their location in the heart.



Measurement specifications

ECG

- Heart rate range
 - Adult: 15 bpm to 300 bpm
 - Pediatric and neonatal: 15 bpm to 350 bpm
- Heart rate accuracy: $\pm 1\%$ or ± 1 bpm, whichever is greater
- Bandwidth^y
 - Normal monitoring: 0.67 Hz to 40 Hz
 - Filtered monitoring: 0.67 Hz to 20 Hz
 - Extended monitoring: 0.05 Hz – 100 Hz

- Leads
 - Efficia CM100: 3-lead, and 5-lead
 - Efficia CM120 and CM150: 3-lead, 5-lead, and 12-lead (option)
- Display sweep speeds: 12.5, 25, and 50 mm/s
- Pacemaker detection: Indicator of pace pulse on waveform display (user-selectable)
- ECG size (sensitivity): 4.0, 2.0, 1.0, 0.5, 0.25 cm/mV, or Auto
- Lead off condition detected and displayed
- Single-ended input impedance: >2.5 M Ω
- Common mode rejection ratio (CMRR):
 - > 86 dB (with 51 k Ω /47 nF imbalance)
- Input signal range: ± 5 mV

ECG arrhythmia

- Respiration excitation waveform:
 - < 250 μ A, 37 kHz nominal
- Time to alarm for tachycardia: < 5.0 seconds
- Tall T-wave rejection capability:
 - Tested to a T-wave amplitude of 1.8 mV
- Three different heart rate averaging methods are used:
 - Normally, by averaging the 12 most recent R to R intervals.
 - For runs of PVCs, up to 8 R to R intervals are averaged.
 - If each of 3 consecutive R to R intervals is greater than 1200 ms (that is, rate less than 50 bpm, 80 bpm for neonates), then the 4 most recent R to R intervals are averaged.
- Response time of heart rate meter to change in heart rate (HR change from 80 bpm to 120 bpm, or change from 80 bpm to 40 bpm): 10 seconds maximum
- Heart rate meter accuracy and response to irregular rhythm:
 - Ventricular bigeminy: 80 bpm
 - Slow alternating ventricular bigeminy: 60 bpm
 - Rapid alternating ventricular bigeminy: 120 bpm
 - Bidirectional systoles: 90 bpm
- Accuracy of input signal reproduction: Methods A and B were used to establish overall system error and frequency response
- Time to alarm for cardiac standstill: < 10 seconds
- Time to alarm for low heart rate: < 10 seconds
- Time to alarm for high heart rate: < 10 seconds
- Pacemaker pulse rejection: Rejects ± 2 mV to ± 700 mV; Pulse widths 0.1 to 2.0 ms; with no overshoot (Meets AAMI EC13 using test method A)
- Pacer Pulse Detector Rejection of Fast ECG Signals:
 - With a 5mV input, a minimum slew rate of 1V/s. RTI will trigger the pace pulse detector

Impedance respiration

- Technique: Trans-thoracic impedance
- Measurement range: 3 rpm to 150 rpm
- Resolution: 1 rpm
- Accuracy:
 - ± 1 rpm in the range 3 rpm to 120 rpm
 - ± 2 rpm in the range 121 rpm to 150 rpm
- Respiration excitation waveform: < 250 μ A, 37 kHz nominal
- ECG leads used: RA to LL
- Display sweep speeds: 6.25, 12.5, 25, 50 mm/s
- Lead off condition detected and displayed

Philips SpO₂

- Measurement range
 - SpO₂: 0% to 100%
 - SpO₂ resolution: 1%
 - Pulse rate: 30 bpm to 300 bpm
 - Pulse rate resolution: 1 bpm
- Pulse rate accuracy: 2% or 1 bpm, whichever is greater

- SpO₂ accuracy^{vi} (within the range 70% to 100%), Philips reusable sensors
 - ± 2% — M1191B, M1191BL, M1192A,
 - ± 3% — M1193A, M1194A, M1195A, M1196A, M1191T, M1192T, M1196T, M1196S
 - ± 4% — M1193T (neonatal)
- SpO₂ accuracy^{vi} (within the range 70% to 100%), Philips disposable sensors
 - ± 3% — M1131A, M1133A, M1134A (neonatal)
 - ± 2% — M1132A, M1133A, M1134A (adult/infant)
- SpO₂ accuracy^{vi} (within the range 70% to 100%), Efficia sensors
 - ± 3% — 989803160631, 989803160621, 989803160611
- Wavelength range^{vii}: 500 nm to 1000 nm for all specified sensors
- Maximum optical output power: ≤ 15 mW for all specified sensors

Invasive blood pressure

- Measurement range: -40 mmHg to 360 mmHg
- Input Sensitivity: 5 µV/V/mmHg
- Zero static offsets: Up to ± 200 mmHg with ± 1 mmHg accuracy
- Gain accuracy
 - Accuracy: ± 1%
 - Drift: less than 0.05%/°C
- Overall accuracy (including transducer): ± 4 mmHg or ± 4%, whichever is greater
- Volume displacement of CPJ840J6: 0.2 mm³/100 mmHg
- Warm up time of equipment and transducer: < 15 seconds

• Non-invasive blood pressure (NBP)

- Technique: Oscillometric, using stepwise deflation pressure
- Adult measurement range
 - Systolic: 30 mmHg to 270 mmHg (4.0 kPa to 36.0 kPa)
 - Diastolic: 10 mmHg to 245 mmHg (1.3 kPa to 32.7 kPa)
 - MAP: 20 mmHg to 255 mmHg (2.7 kPa to 34.0 kPa)
- Pediatric measurement range
 - Systolic: 30 mmHg to 180 mmHg (4.0 kPa to 24.0 kPa)
 - Diastolic: 10 mmHg to 150 mmHg (1.3 kPa to 20.0 kPa)
 - MAP: 20 mmHg to 160 mmHg (2.7 kPa to 21.3 kPa)
- Neonatal measurement range
 - Systolic: 30 mmHg to 130 mmHg (4.0 kPa to 17.3 kPa)
 - Diastolic: 10 mmHg to 100 mmHg (1.3 kPa to 13.3 kPa)
 - MAP: 20 mmHg to 120 mmHg (2.7 kPa to 16.0 kPa)
- Blood pressure accuracy
 - Maximum standard deviation: ≤ 8 mmHg
 - Maximum mean error: ± 5 mmHg
- Pulse rate range: 40 bpm to 300 bpm
- Pulse rate accuracy (average over the NBP cycle)
 - 40 bpm to 100 bpm: ± 5 bpm
 - 101 bpm to 200 bpm: ± 5% of reading
 - 201 bpm to 300 bpm: ± 10% of reading
- Initial cuff inflation
 - Adult: 160 mmHg (21.3 kPa)
 - Pediatric: 140 mmHg (18.7 kPa)
 - Neonatal: 100 mmHg (13.3 kPa)
- NBP intervals: Automatic measurements at intervals of 1, 2, 3, 5, 10, 15, 30, 60, 90, 120 minutes, and STAT

Temperature measurements

- Measurement range for all measurement sites: 25°C to 45°C (77°F to 113°F)
- Probe accuracy
 - ± 0.2°C — 21075A, 20176A, 21078A, 21091A, M1837A, 21096A, 21097A, M2255A
 - ± 0.1°C — 21090A, 21093A, 21094A, 21095A
- Mode of operation: Direct mode
- Heating and cooling Transient response time: ≤ 150 sec

Microstream CO₂

- Measurement range: 0 mmHg to 150 mmHg
- Data sample rate: Waveform sampling, 20 samples per second
- Flow rate: 50 ml/min, + 15 ml/min, - 7.5 ml/min
- CO₂ waveform resolution: 0.1 mmHg
- etCO₂, imCO₂ resolution: 1.0 mmHg
- Initialization and power-up time: 40 seconds (typical), 3 minutes maximum
- Total response time for adults/pediatrics is approximately 3.9 seconds, for 10% to 90% changes in CO₂ concentration
- The maximum CO₂ response time (with a standard-length FilterLine) is 5.3 seconds (typical).
- Calibration interval: Initial calibration after one year or 1,200 hours, whichever comes first; then once per year, or every 4000 hours, whichever comes first
- Auto zero interval: Once per hour (typical)
- Leak tightness: < 250 mBar/min when a 30% vacuum is invoked on the flow system
- Accuracy (for respiratory rates up to 80 rpm):
 - ± 2 mmHg in the range 0 mmHg to 38 mmHg
 - ± 5% of reading + 0.08% for every 1 mmHg above 38 mmHg in the range 39 mmHg to 150 mmHg
- Respiration rate range: 0 to 150 rpm
- Respiration accuracy
 - ± 1 rpm in the range 0 rpm to 70 rpm
 - ± 2 rpm in the range 71 rpm to 120 rpm
 - ± 3 rpm in the range 121 rpm to 150 rpm
- Automatic barometric pressure: Automatic pressure compensation
- Effects of cyclical pressure
 - Overpressure: + 100 cmH₂O
 - Underpressure: - 20 cmH₂O

Mainstream CO₂

- Measurement range:
 - 0 mmHg to 150 mmHg^{ix}
- imCO₂ measurement range (based on lowest reading over last 20 seconds): 3 mmHg to 50 mmHg
- Data sample rate: Waveform sampling, 20 samples per second
- CO₂ waveform resolution: 0.1 mmHg
- etCO₂, imCO₂ resolution: 1.0 mmHg
- Initialization time: Full specification etCO₂ measurement displays after warm up, in less than 2 minutes
- Total response time: < 2 seconds
- Calibration interval: No calibration required
- Auto zero interval: Only required when changing the airway adapter style.
- Accuracy (gas temperature at 35°C):
 - ± 2 mmHg in the range 0 to 40 mmHg
 - ± 5% of reading in the range 41 to 70 mmHg
 - ± 8% of reading in the range of 71 to 100 mmHg
 - ± 10% of reading in the range of 101 to 150 mmHg
- Respiration rate range: 0 to 150 rpm
- Respiration rate accuracy: ± 1 rpm
- Drift of measurement accuracy:
 - Short term drift (4 hours of use): Does not exceed 0.8 mmHg
 - Long term drift (120 hour period): Retains accuracy specification
- Barometric pressure: Configured by system administrator

Notes

- No degradation due to respiration rate or I:E ratio
- Accuracy is affected by temperature and barometric pressure
- Accuracy specification will be maintained for halogenated anesthetic agents present at clinically accepted MAC (Minimum Alveolar Concentration) levels
- Xenon: The presence of xenon in the exhaled breath will negatively bias CO₂ values by an additional 5 mmHg at 38 mmHg
- Desflurane: The presence of Desflurane in the exhaled breath at concentrations greater than 5% will positively bias CO₂ values by up to an additional 3 mmHg at 38 mmHg
- Ethanol, Isopropanol, Acetone, Methane: CO₂ accuracy will not be affected by the presence of 0.1% ethanol, 0.1% isopropanol, 0.1% acetone, or 1% methane
- Full accuracy specifications will be maintained for all non-condensing humidity levels
- In the presence of interfering gases, the CO₂ measurement meets the ISO 80601-2-55 accuracy requirements. It represents an additional error of ± 4 mmHg in the range of 0 to 40 mmHg (at sea level)
- Additional error based on the consideration that interfering gas compensation is properly set

Cardiac output

- Measurement range
 - Cardiac output: 0.00 L/min to 20.00 L/min
 - Tblood: 27.0°C to 43.0°C
 - Tinj: 0.00°C to 27°C
- Resolution
 - Cardiac output: 0.01 L/min
 - Tblood: 0.1°C
 - Tinj: 0.1°C
 - Tbc: 0.1°C
- Measurement accuracy
 - Cardiac output: $\pm 5\%$ or 0.2 L/min, whichever is greater, for cardiac output ≤ 10 L/min; $\pm 8\%$ for cardiac output > 10 L/min
 - Tblood: $\pm 0.1^\circ\text{C}$
 - Tinj: $\pm 0.1^\circ\text{C}$
- Response time
 - Cardiac output: < 25 seconds after starting measurement
 - Tblood: < 1 second
 - Tinj: < 1 second
 - Tblood curve: < 1 second

Ordering information

863300: Efficia CM100

Basic: Touch screen, 3- and 5-lead ECG, basic arrhythmia analysis, impedance respiration, ST analysis, Philips NBP, dual continuous temperature, LAN connectivity, ECG analog output, HL7 output, dual speaker, 9-cell Li-ion battery, night mode, external display connection. The user must select one of the A0x options listed below.

Monitor options: Philips FAST SpO₂ or Masimo SET SpO₂ (user must select one SpO₂ option), Masimo rainbow, enhanced arrhythmia analysis, internal recorder, dual IBP, mainstream or Microstream CO₂, full disclosure, wireless LAN connectivity for EMR, assisting venous puncture, barcode support (barcode scanner hardware must be ordered separately), bed rail hook.

Option	Accessories
A01	<ul style="list-style-type: none"> • Efficia adult finger SpO₂ sensor, reusable, 3 m long cable • Value Care adult NBP cuff • Efficia NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC)
A02	Accessories not included
A03	<ul style="list-style-type: none"> • Efficia pediatric finger SpO₂ sensor, reusable, 1.5 m long cable • Value Care pediatric NBP cuff • Efficia NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC)
A04	<ul style="list-style-type: none"> • Neonatal hand/foot SpO₂ sensor • SpO₂ extension cable, 2 m • Neonatal NBP cuffs • Neonatal NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC) • Pre-attached leadwire electrodes, (AAMI or IEC)

863302: Efficia CM120

Basic: Touch screen, 3- and 5-lead ECG, basic arrhythmia analysis, impedance respiration, ST analysis, ST Map, Philips NBP, dual continuous temperature, mini trend 8 hours, LAN connectivity, ECG analog output, HL7 output, dual speaker, night mode, external display connection.

Monitor options: 12-lead ECG, Philips FAST SpO₂ or Masimo SET SpO₂ (user must select one SpO₂ option), Masimo rainbow, enhanced arrhythmia analysis, internal recorder, dual IBP, mainstream or Microstream CO₂, cardiac output, full disclosure, wireless LAN connectivity for EMR, assisting venous puncture, barcode support (barcode scanner hardware must be ordered separately), bed rail hook, single or dual 9-cell battery Li-ion battery.

Option	Accessories
A01	<ul style="list-style-type: none"> • Efficia adult finger SpO₂ sensor, reusable, 3 m long cable • Value Care adult NBP cuff • Efficia NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC)
A02	Accessories not included
A03	<ul style="list-style-type: none"> • Efficia pediatric finger SpO₂ sensor, reusable, 1.5 m long cable • Value Care pediatric NBP cuff • Efficia NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC)
A04	<ul style="list-style-type: none"> • Neonatal hand/foot SpO₂ sensor • SpO₂ extension cable, 2 m • Neonatal NBP cuffs • Neonatal NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC) • Pre-attached leadwire electrodes, (AAMI or IEC)

863304: Efficia CM150

Basic: Touch screen, 3- and 5-lead ECG, basic arrhythmia analysis, impedance respiration, ST analysis, ST Map, Philips NBP, dual continuous temperature, mini trend 8 hours, LAN connectivity, ECG analog output, HL7 output, dual speaker, night mode, external display connection. The user must select one of the A0x options listed below.

Monitor options: 12-lead ECG, Philips FAST SpO₂ or Masimo SET SpO₂ (user must select one SpO₂ option), Masimo rainbow, enhanced arrhythmia analysis, internal recorder, dual IBP, mainstream or Microstream CO₂, cardiac output, full disclosure, wireless LAN connectivity for EMR, barcode support (barcode scanner hardware must be ordered separately), single or dual 9-cell battery Li-ion battery.

Option	Accessories
A01	<ul style="list-style-type: none"> • Efficia adult finger SpO₂ sensor, reusable, 3 m long cable • Value Care adult NBP cuff • Efficia NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC)
A02	Accessories not included
A03	<ul style="list-style-type: none"> • Efficia pediatric finger SpO₂ sensor, reusable, 1.5 m long cable • Value Care pediatric NBP cuff • Efficia NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC)
A04	<ul style="list-style-type: none"> • Neonatal hand/foot SpO₂ sensor • SpO₂ extension cable, 2 m • Neonatal NBP cuffs • Neonatal NBP air hose, 3 m long • Efficia ECG 3-lead trunk cable (AAMI or IEC) • Pre-attached leadwire electrodes, (AAMI or IEC)

ECG accessories

One-piece sets

Part number	Description
989803160731	Efficia 3-lead, grabber, AAMI
989803160741	Efficia 3-lead, grabber, IEC
989803160751	Efficia 3-lead, snap, AAMI
989803160761	Efficia 3-lead, snap, IEC
989803160771	Efficia 5-lead, grabber, AAMI
989803160781	Efficia 5-lead, grabber, IEC
989803160791	Efficia 5-lead, snap, AAMI
989803160801	Efficia 5-lead, snap, IEC

3-lead sets

Part number	Description
989803160651	Efficia 3-lead, grabber, AAMI
989803160661	Efficia 3-lead, grabber, IEC
989803160671	Efficia 3-lead, snap, AAMI
989803160681	Efficia 3-lead, snap, IEC
M1671A	3-lead general use/ICU, grabber, AAMI
M1672A	3-lead general use/ICU, grabber, IEC
M1673A	3-lead general use/ICU, snap, AAMI
M1674A	3-lead general use/ICU, snap, IEC
M1622A	3-lead general use/ICU miniclip, 0.45 m lead, AAMI
M1624A	3-lead general use/ICU miniclip, 0.7 m lead, AAMI
M1626A	3-lead general use/ICU miniclip, 0.7 m lead, IEC
M1675A	3-lead OR, grabber, AAMI
M1678A	3-lead OR, grabber, IEC

Disposable 3-lead sets

Part number	Description
989803173121	3-lead, bedside, single patient use, grabber, AAMI
989803174201	3-lead, bedside, single patient use, grabber, IEC

5-lead sets

Part number	Description
989803160691	Efficia 5-lead, grabber, AAMI
989803160701	Efficia 5-lead, grabber, IEC
989803160711	Efficia 5-lead, snap, AAMI
989803160721	Efficia 5-lead, snap, IEC
M1968A	5-lead general use/ICU, grabber, AAMI
M1971A	5-lead general use/ICU, grabber, IEC
M1644A	5-lead general use/ICU, snap, AAMI
M1645A	5-lead general use/ICU, snap, IEC
M1647A	5-lead general use/ICU miniclip, AAMI
M1648A	5-lead general use/ICU miniclip, AAMI
M1973A	5-lead OR, grabber, AAMI
M1974A	5-lead OR, grabber, IEC

Disposable 5-lead sets

Part number	Description
989803173131	5-lead, bedside, single patient use, grabber, AAMI
989803174211	5-lead, bedside, single patient use, grabber, IEC

10-lead sets^v

Part number	Description
M1663A	10-lead, general use/ICU, 2.0 m lead
M1949A	10-lead, general use/ICU, 2.7 m lead

5-lead sets for 10-lead monitoring

Part number	Description
M1976A	AAMI, ICU, grabber, chest
M1978A	IEC, ICU, grabber, chest
M1602A	AAMI, ICU, snap, chest
M1604A	IEC, ICU, snap, chest
M1979A	AAMI, OR, grabber, chest
M1984A	IEC, OR, grabber, chest

ECG electrodes	
Part number	Description
40493D	Silver/silver chloride sensor, foam, pre-gelled (5/pack, 300/case)
40493E	Silver/silver chloride sensor, foam, pre-gelled (30/pack, 300/case)
989803148801	Adult, solid gel, snap, foam
989803148821	Adult, radiolucent, foam
989803192541	Soft cloth, solid gel, small

ECG trunk cables	
Option	Accessories
989803160641	Efficia 3/5-lead trunk cable, AAMI/IEC
989803170171	3-lead trunk cable, OR, AAMI/IEC, 2.7 m (9 ft.)
M1669A	3-lead trunk cable, AAMI/IEC, 2.7 m (9 ft.)
989803170181	5-lead trunk cable, OR, AAMI/IEC, 2.7 m (9 ft.)
M1668A	5-lead trunk cable, AAMI/IEC, 2.7 m (9 ft.)

SpO₂ accessories

Philips sensors		
Part number	Description	Extension cable
989803160631	Efficia adult finger sensor, for patients > 50 kg (110 lb), 3 m cable	No extension cable
989803160621	Efficia adult finger sensor, for patients 15 kg to 50 kg (33 lb to 110 lb), 2 m cable	M1941A (2 m)
989803160611	Efficia pediatric finger glove, 1.5 m cable	M1941A (2 m)
M1191B	Adult finger sensor, for patients > 50 kg (110 lb), 2 m cable	M1941A (2 m)
M1192A	Pediatric/small adult finger sensor, for patients 15 kg to 50 kg (33 lb to 110 lb) – 1.5 m	M1941A (2 m)
M1193A	Neonatal foot/hand sensor, for patients 1 kg to 4 kg (2.2 lb to 8.8 lb), 1.5 m cable	M1941A (2 m)
M1194A	Adult ear clip sensor, for patients > 40 kg (88 lb), 1.5 m cable	M1941A (2 m)
M1195A	Infant finger sensor, for patients 4 kg to 15 kg (8.8 lb to 33 lb), 1.5 m cable	M1941A (2 m)
M1196A	Adult finger clip, for patients > 40 kg (88 lb), 3 m cable	No extension cable

M1196S	Adult finger clip, for patients > 40 kg (88 lb), 2 m cable	M1941A (2 m)
M1191BL ^x	Adult finger sensor, for patients > 50 kg (110 lb), 3 m cable	No extension cable
M1191T	Adult finger sensor, for patients > 50 kg (110 lb), 45 cm cable	M1943A (1.1 m) or M1943AL (3 m)
M1192T	Pediatric finger sensor, for patients 15 kg to 50 kg (33 lb to 110 lb), 45 cm cable	M1943A (1.1 m) or M1943AL (3 m)
M1193T	Neonatal foot/hand sensor, for patients 1 kg to 4 kg (2.2 lb to 8.8 lb), 90 cm cable	M1943A (1.1 m) or M1943AL (3 m)
M1196T	Pediatric/adult finger sensor, for patients > 40 kg (88 lb), 90 cm cable	M1943A (1.1 m) or M1943AL (3 m)

Philips disposable sensors

Part number	Description	Extension cable
M1131A	Adult/pediatric finger sensor, for patients > 20 kg (44 lb)	M1941A (2 m) or M1943AL (3 m)
M1132A	Infant digit sensor, for patients 3 kg to 10 kg (7 lb to 22 lb)	M1941A (2 m) or M1943AL (3 m)
M1133A	Neonatal foot/hand sensor, for patients < 3 kg (7 lb) Infant big toe/thumb sensor, for patients 10 kg to 20 kg (22 lb to 44 lb) Adult finger sensor, for patients > 40 kg (88 lb)	M1941A (2 m) or M1943AL (3 m)
M1134A	Neonatal adhesive-free foot/hand sensor, for patients < 3 kg (7 lb) Infant adhesive-free big toe/thumb sensor, for patients 10 kg to 20 kg (22 lb to 44 lb) Adult adhesive-free finger sensor, for patients > 40 kg (88 lb)	M1941A (2 m) or M1943AL (3 m)

NBP accessories

Reusable Value Care cuffs

Part number	Description
989803160861	Large adult
989803160851	Adult, extra-long
989803160841	Adult
989803160831	Small adult
989803160821	Pediatric
989803160811	Infant

Reusable Comfort Care cuffs

Part number	Description
M1576A	Thigh
M1575XL	Large adult, extra-long
M1575A	Large adult
M1574XL	Adult, extra-long
M1574A	Adult
M1573XL	Small adult, extra-long
M1573A	Small adult
M1572A	Pediatric
M1571A	Infant

Reusable Easy Care cuffs

Part number	Description
M4559B	Thigh
M4558B	Large adult, extra-long
M4557B	Large adult
M4556B	Adult, extra-long
M4555B	Adult
M4554B	Small adult
M4553B	Pediatric
M4552B	Infant

Disposable Gentle Care cuffs

Part number	Description
M4579B	Thigh
M4578B	Large adult, extra-long
M4577B	Large adult
M4576B	Adult, extra-long
M4575B	Adult
M4574B	Small adult
M4573B	Pediatric
M4572B	Infant

Disposable adult/pediatric cuffs

Part number	Description
M1879A	Thigh
M1878A	Large adult
M1877A	Adult
M1876A	Small adult
M1875A	Pediatric
M1874A	Infant

Multi Care cuffs

Part number	Description
989803183371	Thigh
989803183361	Large adult
989803183351	Adult, extra-long
989803183341	Adult
989803183331	Small adult
989803183321	Pediatric
989803183311	Infant

Disposable neonatal cuffs (safety connector)^{xi}

Part number	Description
M1866B	Size 1
M1868B	Size 2
M1870B	Size 3
M1872B	Size 4
M1873B	Size 5 infant

Disposable soft neonatal cuffs (safety connector)^{xi}

Part number	Description
M1866S	Size 1
M1868S	Size 2
M1870S	Size 3
M1872S	Size 4
M1873S	Size 5 infant

Disposable single cuffs

Part number	Description
989803182321	Large adult
989803182311	Adult, extra-long
989803182301	Adult
989803182291	Small adult
989803182281	Pediatric

NBP air hoses

Part number	Description
989803160881	Reusable Value care NBP hose, 1.5 m
989803160891	Reusable Value care NBP hose, 3.0 m
M1598B	NBP hose, 1.5 m
M1599B	NBP hose, 3.0 m
M1596C	Disposable neonatal (regular and soft) NBP hose, 1.5 m
M1597C	Disposable neonatal (regular and soft) NBP hose, 3.0 m

IBP accessories

Reusable transducers

Part number	Description
CPJ840J6	Reusable pressure transducer, 5 μ V/V/mmHg sensitivity
CPJ84022	Single use sterile domes (50/case)

Disposable Safeset® system kit

Part number	Description
989803180851	152.0 cm tubing, one in-line sampling port, 10ml in-line reservoir
989803179891	213.0 cm tubing, two in-line sampling ports, 10ml in-line reservoir

Microstream CO₂ accessories

Intubated sampling lines

Part number	Description
M1920A	FilterLine set, adult/pediatric
M1921A	FilterLine H set, adult/pediatric
M1923A	FilterLine H set, infant/neonatal
989803159571	VitaLine H set, adult/pediatric
989803159581	VitaLine H set, infant/neonatal
989803160241	FilterLine set, long, adult/pediatric
989803160251	FilterLine H set, long, adult/pediatric
989803160261	FilterLine H set, long, infant/neonatal

Non-intubated oral/nasal sampling lines

Part number	Description
M2526A	Smart CapnoLine, adult/intermediate
M2524A	Smart CapnoLine, pediatric
M2522A	Smart CapnoLine O ₂ , oral-nasal cannula, adult/intermediate
M2520A	Smart CapnoLine O ₂ , oral-nasal cannula, pediatric
989803160281	Smart CapnoLine O ₂ , oral-nasal cannula, long, adult
989803160271	Smart CapnoLine O ₂ , oral-nasal cannula, long, pediatric
989803160301	Smart CapnoLine plus, long, adult
989803177951	Smart CapnoLine H O ₂ , oral-nasal, adult
989803177961	Smart CapnoLine H O ₂ , oral-nasal, long, adult
989803177971	Smart CapnoLine H O ₂ , oral-nasal, pediatric
989803177981	Smart CapnoLine H O ₂ , oral-nasal, long, pediatric
989803178031	Smart CapnoLine Guard, adult ^{xii}
989803178041	Smart CapnoLine Guard O ₂ , adult ^{xii}
989803178051	Smart CapnoLine Guard O ₂ , long, adult ^{xii}

Non-intubated nasal sampling lines

Part number	Description
M4680A	CapnoLine H O ₂ , nasal, adult
M4681A	CapnoLine H O ₂ , nasal, pediatric
989803178001	CapnoLine H O ₂ , nasal, pediatric infant/neonatal
M4686A	NIV line, adult
M4687A	NIV line, pediatric
989803178021	CapnoLine, nasal, infant/neonatal
M4689A	CapnoLine H, nasal, adult
M4691A	CapnoLine H, nasal, infant/neonatal
989803178011	CapnoLine H, nasal, long, infant/neonatal
989803179101	CapnoLine O ₂ , adult
989803179121	CapnoLine O ₂ , pediatric
989803179111	CapnoLine O ₂ , long adult
989803178071	Hook and loop strap

Mainstream CO₂ accessories

Part number	Description
M2501A	CO ₂ sensor
M2513A	Airway adapter, reusable, adult/pediatric
M2516A	Airway adapter, reusable, infant/neonatal
M2533A	Airway adapter, disposable, adult/pediatric
M2536A	Airway adapter, disposable, infant/neonatal

Cardiac output accessories

Part number	Description
M1642A	Cardiac output interface cable
23001A	CO-Set™ injectate temperature probe, reusable, 2.4 m
23001B	CO-Set injectate temperature probe, reusable, 0.5 m
23002A	Temperature probe, ice bath

Temperature accessories

Reusable probes

Part number	Description
21075A	Esophageal/rectal probe (12 Fr)
21076A	Esophageal/rectal probe (10 Fr)
21078A	Attachable skin surface probe

Disposable probes

Part number	Description
21091A	Skin surface probe
M1837A	Esophageal/rectal probe 9 Fr
21090A	Esophageal/rectal probe 12 Fr
21093A	Esophageal stethoscope probe 12 Fr
21094A	Esophageal stethoscope probe 18 Fr
21095A	Esophageal stethoscope probe 24 Fr
M2255A	Foley with temperature probe 14 Fr
21096A	Foley with temperature probe 16 Fr
21097A	Foley with temperature probe 18 Fr
21082B	Adapter 1.5 m
21082A	Adapter 3.0 m

Miscellaneous accessories

Part number	Description
989803147821	2D barcode reader (includes mounting arm for use with roll stand)
989803176611	2D HS-1 barcode reader (includes mounting arm for use with roll stand)
989803148841	Cable management kit
989803195551	Cable hook kit
989803189981	Lithium-ion battery, 3-cell battery pack
989803194541	Lithium-ion battery, 9-cell battery pack
989803176601	Roll stand
989803136891	Recorder paper (5 rolls)
989803159601	Serial interface adapter
989803195571	Wall mount, 10 inch
989803152951	Wall channel

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- ⁱ Masimo products may not be available in all countries. Check with your local sales organization
- ⁱⁱ If you have activated night mode
- ⁱⁱⁱ Wireless radio may not be available in all countries. Check with your local sales organization
- ^{iv} Efficia CM120 and CM150 only
- ^v Efficia CM Series monitors comply with AAMI EC-13/IEC 60601-2-27 in normal monitoring mode only
- ^{vi} Sensor accuracy was obtained by performing controlled hypoxia studies on healthy, non-smoking adult volunteers (according to EN ISO 9919). The SpO₂ readings have been compared to CO-oximeter measurements on arterial blood samples. To represent the general population, data from at least 10 subjects (male and female) with a wide range of skin color was taken to validate SpO₂ accuracy.
- ^{vii} Information about wavelength ranges can be useful for clinicians performing photodynamic therapy
- ^{viii} Adult/pediatric long FilterLines and long Smart CapnoLines have a maximum CO₂ response time of 6.9 seconds (typical)
- ^{ix} Other measurement units (such as kPa and cmH₂O) are also supported
- ^x Caution: Do not connect extension cables to SpO₂ sensors with a part number that ends in L (for example, M1191BL)
- ^{xi} The safety connector cuffs and air hoses may not be available in all countries. Check with your local sales organization
- ^{xii} For any patient that requires and can tolerate a 60 Fr Bite Block, as recommended by the attending physician



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