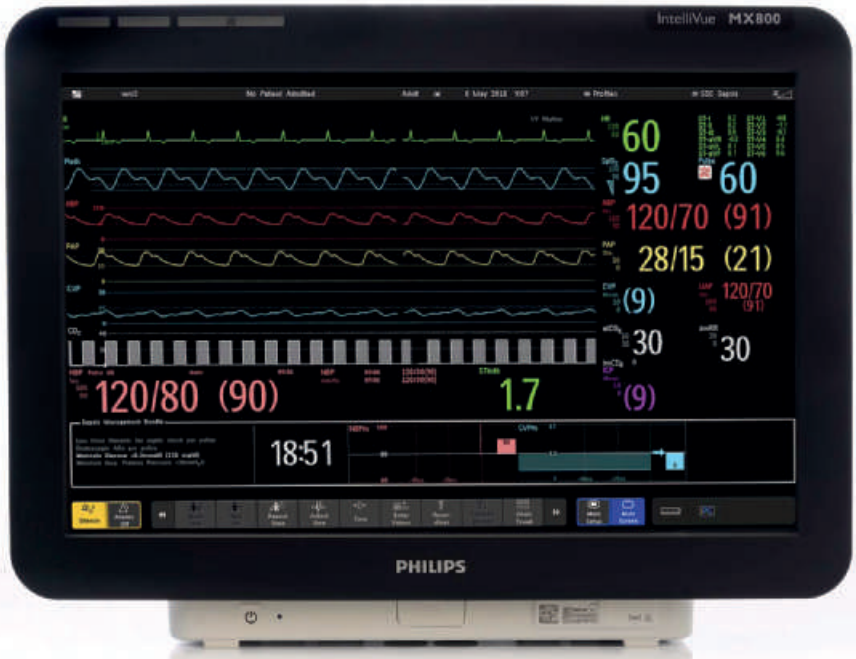

IntelliVue MX800 Patient Monitor

Philips 865240 Technical Data Sheet

The Philips IntelliVue MX800 Patient Monitor offers a flexible and modular monitoring solution, designed to suit a broad spectrum of needs. The monitor can be connected to the Philips Multi-Measurement Module (MMS) family with its extensions, plug-in measurement modules and the IntelliVue gas analyzers to extend its functionality with plug-and-play convenience. Dedicated configurations are available for the anesthesia, critical and cardiac, and neonatal care environments. The integrated PC (iPC) allows access to relevant patient information residing on the hospital's intranet.

Features

- Intuitive user interface.
- Simple menu hierarchy gives fast access to all basic monitoring tasks.
- Screen layouts are easily adjustable, allowing flexible display of measurement information.
- Previous/Next Screen function provides access to the ten most recently used screens including the last three modified screens.
- Temperature, height, and weight can be configured either in metric or imperial units. Pressure measurements can be displayed in kPa or mmHg. Gases can be displayed in kPa or mmHg.
- Patient data management with tabular and graphic trends, and high resolution trends to track changes with beat-to-beat resolution.
- Drug, ventilation, hemodynamic, and oxygenation calculations.

PHILIPS

sense and simplicity

- User or case-specific profiles enable rapid case turnover.
- Patented automatic alarm limits help clinicians provide care more efficiently.
- Event Surveillance including Neonatal Event Review for automatic detection of patient status deterioration.
- Bed-to-bed overview provides clinicians with an overview of all the patient beds in their care.
- Choice of input devices: Touchscreen, remote control, trackball, mouse, keyboard or barcode reader.
- Capable of functioning in a wireless infrastructure.
- Graphical measurement window shows which measurements are being measured by which device, making it easier to resolve measurement label conflicts.
- Timers application allows you to set timers to notify you when a specific time period has expired.
- Second independent display capability using Independent Display interface, the iPC or IntelliVue XDS.
- The iPC can host Windows applications and safely share the display with the MX800's realtime system or drive a second display, independent of size and resolution. The content displayed on the second display can be different from the content on the main display of the MX800 and can show either realtime vital signs information, PC applications or both at the same time. A separate isolated LAN interface allows access to the hospital's backbone independent of the MX800. Six USB interfaces provide connectivity to external computer devices, for example, printers or input devices such as the touch interface of the selected display
- Bedside information access using the iPC, Portal technology and/or IntelliVue XDS Clinical Workstation.

Intended Use

The IntelliVue MX800 is intended to be used for monitoring, recording, and alarming of multiple physiological parameters of adults, pediatrics, and neonates in hospital environments by trained health care professionals.

U.S. Federal Law restricts this device to sale by or on the order of a physician.

Modularity

The monitor's functionality can be extended by connecting Philips plug-in modules, the multi-measurement module (MMS) family with extensions, and gas analyzers with plug-and-play convenience.

The monitor is available as standalone or networked solutions.

The monitor's modular design allows new capabilities to be added in the future as monitoring requirements change. This upgradability gives the security of knowing that the monitor can be enhanced and updated as practices and technologies advance, protecting long-term investments.

Main Components

Display

The monitor has a color 19" LCD TFT display with a wide viewing angle, providing high resolution waveform and data presentation.

The MX800 integrates the display and the processing unit into one device. One external slave display can be connected to a built-in DVI-I port.

A second independent display can be connected via the optional Independent Display Interface, the iPC or the IntelliVue XDS. Multiple display resolutions including widescreen formats are supported on the Independent Display Interface and the iPC as well as on the XDS display.

Integrated PC (iPC)

The iPC is a fan-less, medical grade PC residing within the MX800 and as such designed for continuous operation in the patient vicinity.

The iPC uses MS Windows 7 (or XP) as operating system and can host respective applications. These applications can either be:

- Windows applications, such as Internet Explorer,
- Philips applications such as iSite clients or an application launch pad,
- Third party applications or
- Hospital owned and developed software.

The iPC is designed as an "open" PC and such can be serviced and maintained by the hospital's IT department as well as by Philips.

A separate isolated LAN interface allows access to the hospital's backbone independent of the MX800.

The iPC can safely share the main display with the MX800 (single display setup) and/or be used with a standard or a medical grade display (dual display setup), either provided by Philips or another manufacturer.

The iPC supports displays with or without touch operation.

The iPC has six USB 2.0 ports (five at the rear and one at the side of the monitor) supporting High-Speed mode for computer peripherals such as keyboard, mouse, barcode reader, touch display etc.

User Interface

The color graphical user interface is designed for fast and intuitive operation, and ensures that clinicians quickly feel at ease using the monitor.

SmartKeys with intuitive icons allow monitoring tasks to be performed quickly and easily, directly on the monitor screen.

Waves and numerics are color-coded.

The MX800 displays up to twelve waves simultaneously. For 12-lead ECG monitoring it can display 12 real-time ECG waves, with a rhythm strip and all ST values.

Flexible screen layout allows optimal use of the available display space, for example, waves can be overlapped or wave size can adjust dynamically depending on the number of waves configured for the space.

The Basic Help provides on-screen operating help, explaining INOP and alarm messages.

Touchscreen Operation

The touchscreen is the primary method of operation for the MX800 monitors. The touchscreen displays have resistive touch surfaces.

Remote Control

The IntelliVue Remote Control 865244 provides direct access to 5 hardkeys, a navigation knob and a numeric keypad which can also be used for alphanumeric entry. The hardkeys include "Silence", "Alarms Off / Pause Alarms", "MainScreen", and a "SmartKeys" key that displays a block of configurable smart keys. The Remote Control is connected to the MX800 monitors via USB interface or SRR interface (wireless) and used for remote operation of the monitor.

Input Devices

Supported input devices include USB-compatible off-the-shelf computer accessories such as mouse, keyboard, trackball or barcode reader. All input devices can be used individually or in combination.

Mouse

Any specified USB mouse or trackball may be used for data entry.

Computer Keyboard

A computer keyboard can be connected to the monitor via a USB connection and used for data entry.

Simulated Keyboard

If alpha or numeric data entry is required, for example to enter patient demographics, a pop-up keyboard will automatically appear on the screen.

Barcode Reader

A USB barcode reader in "keyboard emulation mode" can be used via a USB connection.

Multi-Measurement Module

The M3001A Multi-Measurement Module (MMS) can be connected without cables onto the side of the Flexible Module Rack (FMS). The MMS can also be connected to the monitor or FMS with cables in order to place it in patient vicinity. It sends measurement waves and numerics to the monitor screen and generates alarms and INOPs. Patient demographic details are stored in the MMS. Eight hours of patient trends can be transferred to the monitor.

The MMS provides measurement data for Electrocardiogram (ECG)/ Arrhythmia, Respiration, Oxygen Saturation of Arterial Blood (SpO_2), Non-Invasive Blood Pressure (NBP), and Invasive Pressure or Temperature. It features 12-lead ECG capability, multi-lead arrhythmia, and 12-lead ST analysis.

An MMS Extension can optionally be slotted onto the Multi-Measurement Module to add:

- an additional Invasive Pressure and Temperature Measurement, a third Invasive Pressure or Temperature Measurement (one at a time) and optionally a Cardiac Output/Continuous Cardiac Output measurement (M3012A), or
- an additional Invasive Pressure Measurement, a third Invasive Pressure or Temperature Measurement (one at a time), an integrated mainstream or sidestream CO_2 measurement and optionally a Cardiac Output/Continuous Cardiac Output measurement (M3014A), or
- an additional Invasive Pressure or Temperature measurement (one at a time) and a Microstream® CO_2[1] measurement (M3015A), or,
- a dual Invasive Pressure and Temperature measurement and a Microstream CO2 measurement (M3015B).

[1] Microstream is a registered trademark of Oridion Systems Ltd.

X2 Multi-Measurement Module

The M3002A X2 Multi-Measurement Module can be connected without cables onto the side of the Flexible Module Racks (FMS). The X2 can also be connected to the monitor or FMS with cables in order to place it in patient vicinity. It sends measurement waves and numerics to the monitor screen and generates alarms and INOPs. Up to 24 hours of patient trends are stored in the X2, as well as patient demographic details. Eight hours of patient trends can be transferred to the host monitor.

IntelliVue X2 Multi-Measurement Module

The X2 provides measurement data for Electrocardiogram (ECG)/ Arrhythmia, Respiration, Oxygen Saturation of Arterial Blood (SpO_2), CO_2, Non-Invasive Blood Pressure (NBP), and Invasive Pressure or Temperature. It features 12-lead ECG capability, multi-lead arrhythmia, and 12-lead ST analysis.

An MMS Extension can optionally be slotted onto the X2 to add:

- an additional Invasive Pressure and Temperature Measurement, a third Invasive Pressure or Temperature Measurement (one at a time) and optionally a Cardiac Output/Continuous Cardiac Output measurement (M3012A), or
- an additional Invasive Pressure Measurement, a third Invasive Pressure or Temperature Measurement (one at a time), an integrated mainstream or sidestream CO_2 measurement and optionally a Cardiac Output/Continuous Cardiac Output measurement (M3014A), or
- an additional Invasive Pressure or temperature measurement (one at a time) and a Microstream® CO_2[1] measurement (M3015A), or
- a dual Invasive Pressure and Temperature measurement and a Microstream CO_2 measurement (M3015B)

The X2 can also be used as a stand-alone monitor.

Flexible Module Racks with Plug-In Modules

Flexible Module Rack FMS-8 (M8048A)

Flexible Module Rack FMS-4 (865423)

The Flexible Module Rack FMS-8 has eight slots for plug-in measurement modules. The Flexible Module Rack FMS-4 has four slots for plug-in measurement modules.

Individual plug-in measurement modules are available to measure:

- M1006B Invasive Blood Pressure
- M1011A Intravascular Oxygen Saturation Module (SO_2)
- M1012A Cardiac Output/Continuous Cardiac Output
- M1014A Spirometry
- M1018A Transcutaneous Gas
- M1020B SpO_2
- M1021A Mixed Venous Oxygen Saturation (SvO_2)
- M1027A Electroencephalograph (EEG)
- M1029A Temperature
- M1034A Bispectral Index (BIS™)[2]
- 865383 NeuroMuscular Transmission (NMT)

Additional plug-in modules available are:

- M1116B Thermal Array Recorder
- M1032A VueLink Device Interface
- 865115 EC10 IntelliBridge

IntelliVue Gas Analyser

The versatile IntelliVue G5 gas analyser measures the five most commonly used anesthetic gases, as well as N_2O and CO_2. The G5 provides inspiration and expiration values for display on Philips

[1] Microstream is a registered trademark of Oridion Systems Ltd.

[2] Bispectral Index and BIS are registered trademarks of Covidien AG and/or its affiliates.

IntelliVue patient monitors and the values required for MAC calculation in the IntelliVue patient monitors. The IntelliVue G5 gas analyser features automatic agent identification and mixed-agent measurement capability. Advanced O_2 technology based on paramagnetic measurements is standard with the G5.

Mounting

The mounting options available enable flexible, space saving placement of the monitors for an ergonomic work space.

Applications for Specific Care Settings

Anesthesia Features

- The ***IntelliVue G5*** measures the five most commonly used anesthetic gases, as well as N_2O and CO_2.
- The ***BIS*** module assesses the level of consciousness in the OR, providing a measure of the effect of anesthetic agents.
- ***VueLink*** provides an external device interfacing capability to Anesthesia Machines and other external instruments which have a serial RS-232 and/or analog output. It generates alarms and provides up to two waves and six numerics, depending on the device.
- The ***IntelliBridge EC10 Module*** provides external device interface capability to external devices at the bedside which have a serial RS-232 and/or LAN output.
- The ***EEG*** module determines coma prognosis and extent of cerebral insult. *CSA* information can be either permanently displayed on specially designed screens or viewed in a separate window.
- ***Screens*** provide flexible viewing of patient information during different procedures or phases of an anesthesia case.
- ***Respiratory Loops***
  The IntelliVue Patient monitor can generate three types of respiratory loops and display one real-time loop and up to 6 stored loops simultaneously. This assists in early detection of patient airway problems (for example, atelectasis, bronchospasm) and ventilator problems (for example, leaks and kinked tubes).
- The ***Spirometry Module*** provides airway pressure, volume and flow measurements to monitor changes in respiratory status.

Critical and Cardiac Care Features

- The monitor performs multi-lead ***arrhythmia detection*** analysis on the patient's ECG waveform at the bedside. It analyzes for ventricular arrhythmias, calculates heart rate, and generates alarms, including asystole, bradycardia, and ventricular fibrillation.
- Up to 12 leads of *ST* ***segment analysis*** can be performed on adult patients at the bedside, measuring ST segment elevation and depression and generating alarms and events. The user can trend ST changes, set high and low alarm limits, and set both ST and isoelectric measurement points. ST points can be set either relative to the J-point or directly by selecting a numeric value.
- ***QT/QTc interval monitoring*** provides the measured QT interval, the calculated heart-rate corrected QTc value and a ΔQTc value, which tracks variation in the QT interval in relation to a baseline value.
- SvO_2 and $ScvO_2$ measurements provide guidance for the treatment of sepsis treatment protocols.
- The ***Parameter Histogram*** View of the Vital Signs Trend allows the clinician to see, at a glance, the stability of the patient's condition for a selected time period.
- ***ST Map*** application shows ST changes over time in two multi-axis spider diagrams.
- ***12-lead ECG*** data can be measured, using either the EASI placement method with five standard electrodes or conventional electrode placement with 10 electrodes.[1]
  12 real-time ECG waveforms can be displayed simultaneously on all IntelliVue models.
- High performance pulse oximetry technologies perform accurately even in cases with low perfusion.
- Choice of Microstream, sidestream and mainstream ***CO_2 monitoring*** for high quality measurements with intubated and non-intubated patients.
- ***Continuous cardiac output*** and advanced hemodynamic assessment are provided using the PiCCO™ method without a pulmonary catheter.[2]
- ***Clinical calculations*** enable stored and manually entered data to be used to perform hemodynamic, ventilation and oxygenation calculations. Calculated data is displayed in both indexed and non-indexed format.
- ***BIS*** monitoring provides sedation assessment in critical and cardiac care environments.
- ***Spirometry*** measurements help to manage ventilator settings and weaning.

Neonatal Monitoring Features

- Transcutaneous gas (***TcGas***) monitoring helps to optimize respiratory therapy in neonates.
- ***Dual-Pulse Oximetry*** capability allows the clinician to measure pre and post-ductal saturations.
- The Oxygen CardioRespiroGram (***oxyCRG***) screens provide a simultaneous presentation of up to three High-Resolution Trends:
  – beat-to-beat heart rate (btbHR)
  – an oxygenation measurement trend (SpO_2 or $tcpO_2$)

[1] EASI-derived 12-lead ECGs and their measurements are approximations to conventional 12-lead ECGs. As the 12-lead ECG derived with EASI is not exactly identical to the 12-lead conventional ECG obtained from an electrocardiograph, it should not be used for diagnostic purposes.

[2] PiCCO™ is a trademark of Pulsion Medical Systems AG.

– compressed respiration rate.
- This customized display gives clinicians a convenient overview of the neonatal patient's most important vital signs, helping them to identify significant events.
- Continuous oxyCRG recordings can be made at the bedside on the M1116B Recorder.
- Dual SpO_2 measurement provides clinical support through comparison and trending of the pulse oximetry values from two distinct patient sites.
- Trended values can also be viewed in the form of a histogram. The SpO_2 histograms can be trend histograms or real-time histograms with 1-second samples.
- In Event Surveillance, in the NER group, you can run a Car Seat Assessment Record (CAR). This is a special period of event surveillance for neonates during a car seat test. During the CAR period, a real-time SpO_2 histogram is also generated with 1-second samples.

IntelliVue Applications

Clinical Decision Support

Clinicians are continuously drawing mental images from their observations of patients' vital signs. The IntelliVue's clinical decision support applications offer this dynamic "minds eye view" directly on the monitoring screen display.

ProtocolWatch

ProtocolWatch allows clinicians to run clinical protocols that can monitor developments in the patient's condition. The SSC Sepsis Protocol runs on the ProtocolWatch application and is used in screening for severe sepsis and monitoring its treatment.

ST Map

ST Map provides a graphical display that can help clinicians to recognize ST changes and their location in the heart more easily. ST Map collects ST values created from the frontal (limb leads) and horizontal (chest leads) plane into an integrated display. The maps are multi-axis portraits of the patient's ST segments as measured with the ST/AR arrhythmia algorithm.

Advanced Event Surveillance

Events are electronic records of episodes in the patient's condition. They can be used to drive alert notification to assist compliance to any protocol that is being used by the clinician.

Horizon Display

Horizon trends provide clinicians with a graphical visualization tool that allows the end user to detect at a glance the patients' current clinical status. By combining parameters together on the display, the clinician is assisted in their cognitive process of pattern recognition.

Loops

Up to six loops of each type can be stored and compared to detect respiratory changes more easily.

Screen Display Flexibility

Up to 20 different screens can be created per monitor, which means that the clinician has the ability to have a screen created to match a specific clinical scenario on which the data that matters is displayed. This streamlines the information that needs to be processed and interpreted to make the right decision at the right time.

Trends

- A choice of several trend database configurations is provided, designed to suit specific application areas. Patient data from up to 50 (100) measurement numerics can be sampled every 12 seconds, one minute, or five minutes, and stored for a period ranging from four to 96 hours.
- ***Tabular Trends*** (Vital Signs) show data for up to 50 (100) measurement numerics in tabular form. Tabular Trends can either be viewed in a separate window or permanently displayed on specially designed screens.
  – Each NBP measurement generates a column in the Vital Signs trend table. The values for the other measurements are added to provide a complete vital signs set for the NBP measurement time.
- With ***Graphic Trends***, up to three rows of measurement trends can be displayed in graphic form, each combining up to three measurements. Graphical Trends can either be viewed in a separate window or permanently displayed on specially designed screens.
- ***Screen Trends*** permanently display trend data for periodic and aperiodic parameters in graphical format on special screens. The displayed time period can be set to 30 min, 1 h, 2 h or 4 h.
- ***High Resolution Trends*** allow the user to track fast-changing measurement trends with beat-to-beat resolution (four samples/second). The number of High Resolution Trends available for display depends on the wave option purchased. (for example, eight for wave option #A08).
- ***Horizon Trends*** show the deviation from a stored baseline.
- Trended values can be viewed in the form of a histogram. The SpO_2 histograms can be ***Trend Histograms*** with 1-second samples.
- Navigation arrows provide easy access to the stored trends. Trend data can be documented on a locally or remotely connected printer.
- With ***Event Surveillance***, changes in patients' condition are automatically detected and an electronic record of data called an Episode is stored. The Episode can store
  – 15 seconds of high-resolution wave trace,
  – four minutes of data sampled four times a second, or

– 20 minutes of data sampled every 12 seconds.

Event triggers can use the preset alarm limits or they can be user-defined. With user-defined triggers, event episodes are stored even when alarms are paused. A Manual Event SmartKey enables manual episode storage.

Event Annotation allows immediate or retrospective annotation of events using a user-defined list of event markers such as "ventilated". Events can be stored in a database for retrospective review, and episode data including graphic event reviews can be documented on a local or central printer. In addition, episode data without graphic elements can be documented on the M1116B Recorder Module. Events are also marked on the Event Line of an Information Center.

The *Basic Event Surveillance* package includes one Event Group plus the OxyCRG Group. Up to 50 event episodes can be stored over a 24 hour-period.

The *Advanced Event Surveillance* package offers increased storage capability, enabling the monitor to store data from up to 100 events over a 48-hour period. Up to six user-defined Event Groups can be configured, each made up of up to four measurements. All six groups can be active at the same time. Advanced user-configurable trigger mechanisms allow the clinician to define event triggers combining information from up to four measurements. Either alarm limits or user-defined thresholds or deviations can be configured as event triggers. The user can set event notifications in order to be notified when an event is detected.

Patient Data Documentation

- An extensive range of ***Patient Reports*** can be printed:
  - Event Review and Episode Reports
  - 12-lead ECG Reports
  - Vital Signs
  - Graphic Trends
  - Cardiac Output Reports
  - Wedge Procedure Reports
  - Calculations Reports
  - EEG Report
  - Histogram Reports
  - Loops Report
  - ST Map Reports
  - QT Reports
  - Alarm Limit Reports
  - Drug Calculator Reports
  - Real-time Wave Reports
  - Oxy CRG Reports

Report templates can be defined in advance, enabling print-outs tailored to each hospital's specific requirements to be started quickly. Reports can be printed on locally or centrally-connected printers, and they can be initiated manually or automatically at user-defined intervals.

Recordings

The M1116B plug-in recorder records numerics for all active measurements and up to three wave forms. It can be used for local recording in the FMS.

Alarms

The alarm system can be configured to present either the traditional HP/Agilent/Philips alarm sounds or sounds compliant with the IEC 60601-1-8 Standard.

Alarm limits are permanently visible on the main screen. When an alarm limit is exceeded, it is signalled by the monitor in the following ways:

- an alarm tone sounds, graded according to severity
- an alarm message is shown on the screen, color-coded according to severity
- the numeric of the alarming measurement flashes on the screen
- alarm lamps flash for red and yellow alarms and are illuminated for technical INOPs

The alarm limit review page offers an overview of alarm limit settings and the possibility to modify these settings for all parameters.

A "SmartAlarm Delay" feature helps to reduce the number of pulse oximetry nuisance alarms.[1]

If the monitor is connected via a network to a central monitoring station, alarming is simultaneous at the monitor and at the Information Center.

The nurse call relay has active open and closed contacts and a user-definable delay time.

- Alarms are graded and prioritized according to severity:
- ***Red Alarms****** identify a potentially life threatening situation for a patient.
- ***Yellow Alarms***** indicate conditions violating preset vital signs limits.
- ***Yellow Alarms**** indicate arrhythmia alarms.
- ***Technical Alarms (INOPS)*** are triggered by signal quality problems, equipment malfunction or equipment disconnect.
- The Audio off/Pause Alarms function (equivalent to Silence/Suspend with previous monitor generations) allows the user to switch off alarm tones with one touch or click while retaining visual alarm messages.

All alarms can be paused indefinitely or for a period of one, two, three, five, or 10 minutes depending on their configuration.

Alarm strip recordings are available on the M1116B Recorder Module or on a centrally-connected recorder.

Patented automatic alarm limits automatically adapt the alarm limits to the patient's currently measured vital signs within a safe margin defined individually for each patient.

[1] Not available in the U.S.A. and territories relying on FDA Market clearance
The Smart Alarm Delay functionality is currently not available in China or in clinical environments under SFDA control.

Visual and/or audible latching and non-latching alarm handling is available.

Patient Transfers

- The Universal Admit, Discharge and Transfer (ADT) feature means that all ADT information is shared between the networked monitor and the Information Center. Information need only be entered once.
- Patients can be transferred by disconnecting the MMS or X2 from a monitor, and then reconnecting it at a new monitor. Patient demographics are stored in the MMS and the X2, so they do not have to be re-entered at the new monitor.

Profiles

Profiles are predefined configuration settings for Screens, measurement settings, and monitor properties. Each Profile can be designed for a specific application area and patient category, for example OR adult, or ICU neo-natal. Profiles enable a quick reaction to patient and care location changes: activating a Profile with a particular patient category (Adult, Pediatric or Neonatal) automatically applies suitable alarm and safety limits and saves time usually spent carrying out a complete set-up procedure.

Profiles can be created directly on the monitor or remotely on a personal computer and transferred to the monitor using the Support Tool. A selection of Profiles for common monitoring situations is provided with the monitor. These profiles can be changed, added to, renamed, or deleted.

Networking Capabilities

The monitor can operate as part of a networked system (wired & wireless) using the Philips IntelliVue Clinical Network interface.

This includes:

- DHCP protocol support (as an alternative to BootP in certain network designs)
- 802.1x basic support on wireless networks
- WMM on wireless networks
- QoS Tagging

Other Bed Overview Capability

The alarm status of beds in the same Care Group on the hospital network can be permanently displayed on the screen of each monitor in the Care Group. The user can also view measurement data from all other monitors connected to the hospital network. Other Bed information can either be viewed in a separate window or permanently displayed on specially designed screens.

Clinical Calculation Set

The clinical calculation set consists of: Hemodynamic, Oxygenation, and Ventilation calculations.

Hemodynamic Calculations:

- Cardiac Index (C.I.)
- Stroke Volume (SV)
- Stroke Index (SI)
- Systemic Vascular Resistance (SVR)
- Systemic Vascular Resistance Index (SVRI)
- Pulmonary Vascular Resistance (PVR)
- Pulmonary Vascular Resistance Index (PVRI)
- Left Cardiac Work (LCW)
- Left Cardiac Work Index (LCWI)
- Left Ventricular Stroke Work (LVSW)
- Left Ventricular Stroke Work Index (LVSWI)
- Right Cardiac Work (RCW)
- Right Cardiac Work Index (RCWI)
- Right Ventricular Stroke Work (RVSW)
- Right Ventricular Stroke Work Index (RVSWI)
- Extra Vascular Lung Water Index (EVLWI)
- Intrathoracic Blood Volume Index (ITBVI)
- Global End Diastolic Volume Index (GEDVI)

Oxygenation Calculations:

- Arterial Oxygen Content (CaO_2)
- Venous Oxygen Content (CvO_2)
- Arteriovenous Oxygen Content ($CavO_2$)
- Oxygen Availability (DO_2)
- Oxygen Availability Index (DO_2I)
- Oxygen Consumption (VO_2)
- Oxygen Consumption Index (VO_2I)
- Oxygen Extraction Ratio (O_2ER)
- Alveolar-Arterial Oxygen Difference ($AaDO_2$)
- Percent Arteriovenous Shunt (Qs/Qt)

Ventilation Calculations:

- Minute Volume (MINVOL)
- Compliance (COMP)
- Dead Space (Vd)
- Dead Space/Tidal Volume Ratio (Vd/TV)
- Alveolar Ventilation (ALVENT)

Drug Calculator

The drug calculator allows you to calculate the fourth value when three of the following values are entered: dose, amount, volume, rate of infusion.

A titration table and drip table can be displayed and printed.

Measurement units can be converted (for example, lbs to kgs).

The drug calculator can also be configured to include a list of commonly used drugs using the support tool.

Service Features

- The Support Tool helps technical personnel to:
  - carry out configuration, upgrades and troubleshooting via the network, or on an individual monitor

  - share configuration settings between monitors
  - back up the monitor settings
  - document configuration settings
- A password-protected Service Mode ensures that only trained staff can access service tests and tasks
- The Configuration Mode is password-protected and allows trained users to customize the monitor configuration

Device Connections

The monitor can be connected to:

- Multi-Measurement Module (MMS) family (M3001A, M3002A), and its extensions (M3012A, M3014A, M3015A/B)
- IntelliVue XDS Solution
- External devices via Vuelink and/or IntelliBridge EC10 Module
- Flexible Module Rack
- Gas Analyzers (for example G5)
- Information Center (for example, M3150B)
- Slave Display
- Independent Display

Network Interface

The network interface provides the system with networking capability via a wired network connection.

Wireless Network

Option J35 enables the monitor to function within a wireless infrastructure. The infrastructure is based on an IEEE 802.11 a/b/g network in the 2.4 GHz or 5 GHz bands (ISM). Additional components are required to complete the system. Please refer to the M3185A IntelliVue Clinical Network Technical Data Sheet for further information.

Flexible Nurse Call Interface

The Flexible Nurse Call Interface provides a means for alarms generated on the monitor to be signalled on an external device such as a nurse call system, a beeper or a light. It provides three general alarm relays and one power fail alarm. The external device is connected to the alarm relay and alarms are triggered by criteria defined by the user. It has active open and closed contacts and a user-definable delay time.

RS232 Interface (Standard)

The standard RS232 port can be used to connect:

- a gas analyser (G5)
- a touchscreen
- a barcode reader

MIB/RS-232 Interface (optional)

MIB, Medical Information Bus (IEEE P1073), is a standard for interfacing medical devices, allowing full integration of these devices. Additional MIB/RS232 I/O boards can be installed. The MIB ports can be independently configured to be used for:

- input for connection to a touchscreen.
- numeric, wave and alarm data export using a computer interface, to an automated anesthesia record keeper or a personal computer (not available in all countries)
- connection to a gas analyser
- Data Out can be configured up to two times for each monitor. Note that only the first MIB/RS232 port configured to Data Out (that is, the first one to receive a request) provides wave export. A second MIB/RS232 port configured to Data Out will only export numerics

Device Interface (USB Interfaces)

This interface allows connection of USB devices (Mouse, Keyboard, Barcode Scanner, PCL5-supported Printer) to the monitor.
Because the patient monitor software only supports two input devices, only two input devices can be connected to the USB interface on the connector board. For this purpose, the four USB ports are divided into two groups, and only one input device per group is allowed.

Independent Display Interface

The optional independent display interface allows the connection of a second display which can be configured and operated individually using standard input devices.

Specifications

Monitor Specifications

See the individual Data Sheets for measurement module, X2, MMS extension, and plug-in module specifications.

Safety Specifications

The monitors, together with the Multi-Measurement Module (M3001A), the X2 Multi-Measurement Module (M3002A) and the Flexible Module Racks (M8048A/865243), all modules and MMS extensions, comply with the Medical Device Directive 93/42/EEC (CE_{0366}) and with IEC 60601-1:1988 + A1:1991 + A2:1995; EN60601-1:1990 + A1:1993 + A2:1995; UL 60601-1:2003; CAN/CSA C22.2#601.1-M90 + Suppl. No 1-94 + Am.2; IEC 60601-1-1:2000; EN 60601-1-1:2001; IEC 60601-1-2:2001 +A1:2004; EN 60601-1-2:2001 +A1:2006.

All applied parts are Type CF unless otherwise specified. They are protected against damage from defibrillation and electrosurgery.

The possibility of hazards arising from software errors was minimized in compliance with
ISO/EN 14971 and IEC/EN60601-1-4.

This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme à la norme NMB-001 du Canada.

Physical Specifications

Product	Max Weight	W x H x D
MX800 Monitor	<12 kg <26.4 lb	<478 x 364 x 152 mm 18.82 x 14.33 x 5.98 in
M3001A Multi-Measurement Module (MMS)	<650 g <1.4 lb	188 x 96.5 x 51.5 mm 7.4 x 3.8 x 2 in
M3002A IntelliVue X2 (MMS)	<1.25 kg <2.8 lb	188 x 99 x 86 mm 7.4 x 3.9 x 3.4 in
M3012A Hemodynamic MMS Extension	<550 g 1.2 lb	<190 x 98 x 40 mm <7.5 x 4 x 1.6 in
M3014A Capnography MMS Extension	<500 g <0.99 lb	<190 x 98 x 40 mm <7.5 x 4 x 1.6 in
M3015A Microstream CO_2 MMS Extension-	<550 g <1.21 lb	<190 x 98 x 40 mm <7.5 x 4 x 1.6 in
M8048A Flexible Module Rack (FMS-8)	<3500 g <7.7 lb	<320 x 135 x 120 mm 12.6 x 5.3 x 4.7 in
865423 Flexible Module Rack (FMS-4)	< 1100 g (2.4 lbs)	With MMS-mount 232 x 139 x 188 mm 9 x 5.5 x 7.4 in without MMS-mount 194 x 139 x 110 mm 7.6 x 5.5 x 4.3 in
M1006B Invasive Press Module	190 g (6.7 oz) Option #C01: 225 g (7.9 oz)	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in
M1029A Temperature Module	215 g (7.6 oz)	36 x 99.6 x 97.5 mm, 1.4 x 3.9 x 3.8 in
M1012A Cardiac Output Module	225 g (7.9 oz.)	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in
M1014A Spirometry Module	250 g (8.8 oz.)	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in
M1018A Transcutaneous Gas Module	350 g (11.3 oz)	72.5 x 99.6 x 97.5 mm, 2.9 x 3.9 x 3.8 in
M1020B SpO_2 Module	<250 g 0.55 lb	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in
M1021A Mixed Venous Oxygen Saturation Module	460 g (13.04 oz)	72.5 x 99.6 x 97.5 mm 2.9 x 3.9 x 3.8 in)
M1011A SO_2 Module	<200g (7.1 oz)	36 x 99.6 x 102.5 mm 1.4 x 3.9 x 4.0 in
- Optical Module	<200g (7.1 oz)	50 x 30 x 120 mm 2.0 x 1.2 x 4.7 in
M1027A Electroencephalograph Module	210 g (7.4 oz)	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in
M1034A BIS Interface Module	215 g 7.6 oz	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in
BISx	499 g 1.1 lb	95.3 x 63.5 mm (diameter x height) 3.8 x 2.5 in
- DSC Digital Signal Converter	130 g (4.6 oz) (without cabling)	66 x 25 x 107 mm 2.6 x 1.0 x 4.25 in
M1032A Vuelink Module	240 g (8.4 oz)	36 x 99.6 x 97.5 mm 1.4 x 3.9 x 3.8 in

Product	Max Weight	W x H x D
865115 IntelliBridge EC10 Module	200 g (7.0 oz)	36 x 99.6 x 102.5 mm 1.4 x 3.9 x 4.0 in
865114 IntelliBridge EC5 Module	35 g (1.1 oz)	35 x 17 x 57 mm 1.4 x 0.7 x 2.1 in
865383 IntelliVue NMT Module	300 g (10.6 oz)	36 x 99.6 x 97.5 mm (1.4 x 3.9 x 3.8 in)
M1116B Thermal Array Recorder Module	507.5 g 17.9 oz.	73 x 99.6 x 97 mm 2.9 x 3.6 x 3.9 in.
865244 Remote Control	<250 g	53 x 165 x 23 mm 2.1 x 6.5 x 0.9 in

Environmental Specifications

MX800 Monitor		
Item	**Condition**	**Range**
Temperature Range	Operating	0 to 40°C (32 to 100°F) with iPC installed: 0 to 35°C (32 to 95°F)
	Storage	-20 to 60°C (-4 to 140°F)
Humidity Range	Operating	15 % to 95 % Relative Humidity (RH) (non condensing)
	Storage	5 % to 95 % Relative Humidity (RH)
Altitude Range	Operating	-500 m to 3000 m (10000 ft)
	Storage	-500 m to 4600 m (15000 ft)
Ingress Protection		IPX1

Remote Control 865244		
Item	**Condition**	**Range**
Temperature Range	Operating	0 to 40°C (32 to 100°F)
	Storage	-20 to 60°C (-4 to 140°F)
Humidity Range	Operating	15 % to 95 % Relative Humidity (RH) (non condensing)
	Storage	5 % to 95 % Relative Humidity (RH)

Remote Control 865244		
Item	**Condition**	**Range**
Altitude Range	Operating	-500 m to 3000 m (10000 ft)
	Storage	-500 m to 4600 m (15000 ft)

Performance Specifications

MX800 Performance Specifications		
Power Specifications	Power Consumption	<200 W average
	Line Voltage	100 to 240 V
	Current	1.9 to 0.9 A
	Frequency	50/60 Hz
WSXGA 19" Display	Type	482 mm active matrix color LCD (TFT)
	Resolution	1680 x 1050 (WSXGA+)
	Refresh frequency	60 Hz
	Useful screen	408.5 mm x 255.9 mm
	Pixel size	0.244 mm x 0.244 mm
Indicators	Alarms Off	red (crossed out alarms symbol) LED
	Alarms	red/yellow/light blue (cyan) LED
	On/Standby/ Error	green/red LED integrated in power switch
	External Power	green LED
Sounds	Audible feedback for user input Prompt tone QRS tone, or SpO_2 modulation tone 4 different alarm sounds Remote tone for alarms on other beds in network Tone for Timer expired	
Trends:		
50, 100 numerics @ 12 sec, 1 minute, 5 minute resolution. Multiple choices of number of numerics, resolution and duration. Standard database configuration options: **H10, H20, H30, H40:** 50 parameters for 12h@12s, 48h@1min, 96h@5min 50 parameters for 24h@12s, 24h@1min, 24h@5min 100 parameters for 4h@12s, 24h@1min, 96h@5min		

MX800 Performance Specifications		
High Res Trend Waves	Measurements available	HR, SpO_2, Resp, $tcpO_2$, Pulse, Perf, $tcpCO_2$, CO_2, ABP, PAP, CVP, ICP, CPP, BIS, CCO, AWP, Anesthetic Agents, Delta SpO_2, inO_2
	Resolution	Measurement samples are taken at a resolution of four samples per second
	Update speed	waves are drawn at a speed of 3 cm/minute
Events	Information	trigger condition and time, event classification and associated detailed view of episode data
	Episode data	configurable, either: 4 minutes of high resolution trend or 20 minutes of numerics trend @ 12 sec. resolution or 15 seconds of 4 waves @ 125 samples/ sec. (Snapshot) including all current numerics, alarms and inops
	Capacity (max)	25 or 50 events for either 8 or 24 hours
Alarm Signal	System delay	less than 3 seconds
	Pause duration	1,2,3 minutes or infinite, depending on configuration
	Extended alarm pause	5 or 10 minutes
Review Alarms	Information	all alarms / inops, main alarms on/off, alarm silence and time of occurrence
	Capacity	300 items

MX800 Performance Specifications		
Real Time Clock	Range	from: January 1, 1997, 00:00 to: December 31, 2080, 23:59
	Accuracy	better than 4 seconds per day
	Hold Time	infinite if powered by AC; otherwise at least 48 hours (typical: >72 hours)
Buffered Memory	Hold Time	if powered by AC: infinite without power: at least 48 hours
	Contents	Active settings, trends, patient data, realtime reports, events, review alarms

865244 Remote Control Performance Specifications	
Power (when not connected to the USB interface of the monitor)	Two AA primary cells

Interface Specifications

MX800 Interface Specifications		
Network	Standard	100-Base-TX (IEEE 802.3 Clause 25)
	Connector	RJ45 (8 pin)
	Isolation	basic insulation (reference voltage: 250 V; test voltage: 1500 V)
RS232 (Standard)	Connector	RJ45 (8-pin)
	Power	none
	Isolation	basic insulation (reference voltage: 250 V; test voltage: 1500 V)

MX800 Interface Specifications		
MIB/RS232 (optional I/O board)	Standard	IEEE 1073-3.2-2000
	Connectors	RJ45 (8 pin)
	Mode	Software-controllable BCC (RxD/TxD cross over) or DCC (RxD/TxD straight through)
	Power	5 V ±5 %, 100 mA (max.)
	Isolation	basic insulation (reference voltage: 250 V; test voltage: 1500 V)
USB Interface (4 ports)	Standard	USB 2.0 full-speed (embedded host)
	Connector	USB series "Standard A" receptacle
	Power	Low power port 4.4V min; max. load for all ports together 500 mA
	Isolation	none
Flexible Nurse Call Interface (With 3 general relays and one relay dedicated to power loss. The general relays are configurable).	Connector	20 pin MDR (Mini D-Ribbon), active open and closed contacts. 3.5 mm phone jack, active closed contact only
	Contact	<=100mA, <= 24 V DC
	Isolation	1.5 kV
	Delay	< (Configured Latency +0.5 sec)
Basic Nurse Call Relay (With one general relay. The relay is configurable).	Connector	Modular Jack 6P6C, active open and closed (default) contact
	Contact	<=100 mA, <=24 V DC
	Isolation	basic insulation (reference voltage: 250 V; test voltage: 1500 V)
	Delay	<(Configured Latency +0.5) sec

MX800 Interface Specifications		
IntelliVue Instrument Telemetry Wireless Network *(USA only)*	Type	Internal WMTS Adapter
	Technology	compatible with Philips Cellular Telemetry System (CTS), cellular infrastructure
	Frequency Band	WMTS, 1395-1400 MHz and 1427-1432 MHz
IntelliVue Instrument Telemetry Wireless Network *(except USA)*	Type	Internal ISM Adapter
	Technology	compatible with Philips Cellular Telemetry System (CTS), cellular infrastructure
	Frequency Band	2.4 GHz ISM
IntelliVue 802.11 Bedside Adapter (Wireless Network Adapter)	Type	Internal Wireless Adapter
	Technology	IEEE 802.11a/b/g
	Frequency Band	2.4 GHz and 5 GHz ISM Band
Short Range Radio Interface	Type	Internal SRR interface
	Technology	IEEE 802.15.4
	Frequency band	2.4 GHz ISM (2.400 - 2.483 GHz)
	Modulation technique	DSSS (O -QPSK)
	Effective radiated power	max. 0 dBm (1 mW)
Measurement Link (MSL) *(Two MSL interfaces are standard)*	Connectors	ODU out (Proprietary)
	Voltage	56 V ±10 %
	Power	45 W
	Power Sync.	RS-422 compliant input 78.125 kHz (typical)
	LAN signals	IEEE 802.3 10-Base-T compliant
	Serial signals	RS-422 compliant

MX800 Interface Specifications		
Video Interface (standard) *(only compatible with selected displays)*	Connector	DVI-I (digital and analog, single link)
	Digital video signals	single link TMDS
	Analog video signals	0.7 Vpp@75 Ohm
	HSYNC/VSYNC signals	TTL
	DDC signals	none
	DDC power	5V ±5% @0-55 mA
ECG Sync Output/Analog ECG Output (1/4" stereo phone jack with tip, ring, sleeve)		
General	Connector	1/4" phone each with tip, ring, sleeve
	Isolation	functional isolation
Analog ECG Output (ring, tip) *(Ring/Channel 2 is configurable to either Analog ECG Output or Digital Pulse Output)*	Gain error	<15 %
	Baseline offset	<100 mV
	Bandwidth	1 to 100 Hz
	Output voltage swing	±4 V (min)
	Signal delay	<20 ms
	Signal delay with older versions of the M3001A MMS [identifiable with the serial number prefix DE227 or DE441 and option string #A01]	<30 ms
Digital Pulse Output (ring) **(***Ring/Channel 2 is configurable to either Analog ECG Output or Digital Pulse Output)*	Output low voltage level	<0.4 V @ I=-1 mA
	Output high voltage level	>2.4 V @ I=1 mA
	Pulse Width	100 ms±10 ms (active high)
	Pulse Rise Time	<1 ms
	Signal delay	<25 ms
	Signal delay with older versions of the M3001A MMS [identifiable with the serial number prefix DE227 or DE441 and option string #A01]	<35 ms

Independent Display Interface Specifications[1]

MX800 Independent Display Interface Specifications		
Video Interface *(Independent Display Interface option)*	Connector	DVI-I (digital and analog, single link)
	Pixel clock frequency	108 MHz (max.)
	Digital video signals	single link TMDS
	Analog video signals	0.7 Vpp@75 Ohm
	HSYNC/VSYNC signals	TTL
	DDC signals	none
	DDC power	5V ±5% @0-55 mA

iPC Specifications[1,2]

PC Components	Specification
Processor	Intel Core 2 Duo SP9300/SP9400
Hard Drive	100 GB or bigger
RAM	4 GB

Interfaces	
Ethernet LAN	
Connector	RJ-45
LAN signals	IEE 802.3 1000-Base-T compliant
Reinforced insulation	IEC60601-1 A-k compliant
USB	
6 external ports (5 rear, 1 right side) Type A connectors	USB 2.0 supporting high speed mode
Audio	
Microphone input stereo	3.5 mm audio jack
headphone output stereo	3.5 mm audio jack
DVI Video with DVI-I connector	
DVI	supports resolutions up to 1920x1200
VGA	supports resolutions up to 2048x1536

[1] The Independent Display Interface and the iPC are mutually exclusive.
[2] The iPC and Wireless LAN are mutually exclusive

Ordering Information

Ordering information for the 865240 (MX800) is given here. See the individual Data Sheets for detailed ordering information for the multi-measurement module family, MMS extensions and plug-in modules.

Basic Functionality	MX800 (865240)
General/ICU Configuration[a]	H10
Neonatal Configuration	H20
OR/Anesthesia Configuration	H30
Cardiac Configuration	H40
6 Wave Capability	A06
8 Wave Capability	A08
12 Wave Capability	A12

a One Hxx option and one Axx must be chosen. If G5 is required, H30 must be ordered.

Application Options

Clinical Applications	865240
Advanced Event Surveillance	C07

iPC Options

iPC Performance Options	865240
Integrated PC (iPC)	PC0

XDS Connectivity Options[1]

XDS Connectivity Options	865240
XDS Connectivity	X00
XDS Clinical Workstation	X30

Protocol Watch

Application Options	865240
Severe Sepsis Screening	P01
SSC Sepsis Protocol	P02

1 required to connect to an external PC

Measurement Options

Measurements		Option
Measurement Modules		
Multi-Measurement Module, for Resp, ECG (inc. EASI), NBP, SpO_2 (FAST SpO_2 (#A01), Masimo SET (#A03), Nellcor OxiMax Technology (#A04)), and Pressure/ Temperature. See the MMS Data Sheet for details.	M3001A	A01, A03[a] or A04
Add Press/Temp		C06
Add Press/Temp and Conventional 12 lead ECG		C18
X2 Multi-Measurement Module, for Resp, ECG (inc. EASI), NBP, SpO_2 (FAST SpO_2 (#A01), Masimo SET (#A03), Nellcor OxiMax Technology (#A04)), and Pressure/ Temperature. See the X2 Data Sheet for details.	M3002A	A01, A03[a] or A04
MMS Extensions		
Microstream CO_2 Extension	M3015A	
Add Press/Temp		C06
Microstream CO_2 Extension (with dual Invasive Pressure and Temperature measurements)	M3015B	C08
Hemodynamic Extension (with Press, Temp, Press/Temp)	M3012A	
Add C.O.		C05
Add C.O./CCO		C10[b]
Capnography Extension	M3014A	
Add Press, Press/Temp and C.O.		C05
Add Press and Press/Temp		C07
Add Press, Press/Temp and C.O./ CCO		C10[b]
Flexible Module Rack		
Flexible Module Rack (M8048A), for up to eight plug-in modules		
MMS mount (left)		E20
Flexible Module Rack (865243), for up to four plug-in modules		
Measurement Modules See the individual module Data Sheets for details.		
Invasive Blood Pressure	M1006A/B[c]	
SO_2	M1011A	
Cardiac Output with CCO	M1012A	
Spirometry	M1014A	
Transcutaneous Gases	M1018A	
SpO_2 (FAST SpO_2)	M1020B	A01
SpO_2 (Nellcor Compatible)	M1020B	A02
SpO_2 (Masimo SET)	M1020B	A03
SvO_2	M1021A	
EEG	M1027A	
Temperature	M1029A	
VueLink	M1032A	
BIS Module	M1034A	
Thermal Array Recorder	M1116B	
IntelliBridge EC10	865115	
NMT	865383[b]	
Gas Analyzers		
IntelliVue G5	M1019A	

a Not available in all geographies
b Not available in the U.S.A., Canada or territories relying on FDA Market clearance.
c Option #C01 provides an analog output signal

Hardware Options

Hardware Add-Ons	865240
Remote Control	incl.
8-slot Rack with MMS Mount	E08
4-slot Rack with MMS Mount	E04
Independent Display Interface	E42

Interface Options

Interfaces	865240
RS232/MIB Interface[a] (1 port)	J13
Flexible Nurse Call Interface	J30
IntelliVue 802.11 Bedside Adapter[b]	J35
IntelliVue Instrument Telemetry 1.4 GHz [b]	J45
IntelliVue Instrument Telemetry 2.4 GHz [b]	J47

a Hardware supports multiple boards of this type.
b May not be commercially available in all geographies.

Related Products

Related Products	Model Number
Input Devices	M8024A
Slimline keyboard with protective cover	M8024A #A01
Mouse; wired	M8024A #B01
Trackball; wired	M8024A #C01
Trackball; wireless	M8024A #C02
Tabletop wired Trackball	M8024A #C03
Remote Control (865244)	incl.
Support Tool	M3086A
Orderable via InCenter: http://www3.medical.philips.com/resources/hsg/docs/en-us/custom/intellivue_order.asp	DVD

Cables

Length	Description	Product/Option
MSL Cable		
0.75 m	Monitor to FMS	M8022A #SC1
2 m	Monitor to FMS	M8022A #SC2
4 m	Monitor to FMS	M8022A #SC4
10 m	Monitor to FMS	M8022A #SC6
15 m	Monitor to FMS	M8022A #SC7
25 m	Monitor to FMS	M8022A #SC9
MIB RS/232 Cables		
1.5 m	Serial cable	M8022A #SR2
3.0 m	Serial cable	M8022A #SR3
10.0 m	Serial cable	M8022A #SR6
15.0 m	Serial cable	M8022A #SR7
25.0 m	Serial cable	M8022A #SR9
Touch Cables		
1.5 m	Touch cable	M8022A #TC2
3.0 m	Touch cable	M8022A #TC3
10.0 m	Touch cable	M8022A #TC6
15.0 m	Touch cable	M8022A #TC7
25.0 m	Touch cable	M8022A # TC9
Nurse Call Relay Cable		
3.0 m	cable [a]	M8022A #NS3
10.0 m	cable	M8022A #NS6
ECG Out Cable		
3.0 m	standard ECG out cable[b]	M8022A #SY3
25 m	ECG Sync Extension cable	M8022A #SY9

a Standard (backward compatible) cable. One end terminated with 6P6C connector; other end w/o connector.
b Both ends terminated with 1/4" phone plug.

Mounting Information

For mounting hardware, contact your local Philips sales representative.

For more information, see http://www.medical.philips.com/main/products/patient_monitoring/products/mounting_solutions/mounting_solutions_homepage.wpd.

Documentation

All documentation is available in .pdf format on documentation DVD and is shipped with the product. Additionally, a printed copy of the Instructions for Use ships with each monitor.

- Instructions for Use (printed)
- Documentation DVD including:
  - Installation and Service Guide
  - Configuration Guide
  - Quick Guides
  - Application Notes
  - Training Guide
  - Compatibility Matrix

Upgrade Options 865303

Description	Option #
Waves	
Upgrade from 6 to 8 waves	A08
Upgrade from 6 to 12 waves	A11
Upgrade from 8 to 12 waves	A12
Interfaces	
RS232/MIB Interface (1port)	J13
Flexible Nurse call Interface	J30
IntelliVue 802.11 Bedside Adapter[a]	J35
IntelliVue Instrument Telemetry 1.4 GHz [a]	J45
IntelliVue Instrument Telemetry 2.4 GHz [a]	J47
Clinical Applications	
Advanced Event Surveillance	C07
Hardware Add-On	
Independent Display Interface	E42
Prtocol Watch	
Severe Sepsis Screening	P01
SSC Sepsis Protocol	P02
iPC Performance options	
integrated PC (iPC)	PC0
XDS External Display Solution	
XDS Connectivity	X00
XDS Clinical Workstation	X30
Software	
Upgrade to current SW Revision	SUJ

a May not be commercially available in all geographies.

Philips Healthcare is part of Royal Philips Electronics

How to reach us

www.philips.com/healthcare
healthcare@philips.com
fax: +31 40 27 64 887

Asia
+852 2821 5888

Europe, Middle East, Africa
+49 7031 463 2254

Latin America
+55 11 2125 0744

North America
+1 425 487 7000
800 285 5585 (toll free, US only)

CE 0366

865240 complies with the requirements of the Council Directive 93/42/EEC of 14 June 1993 (Medical Device Directive).

Please visit www.philips.com/

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