PRODUCT DESCRIPTION

INTRODUCTION

The Monitor, interchangeable modules and storage batteries are described below. Refer to the table below for specifications.

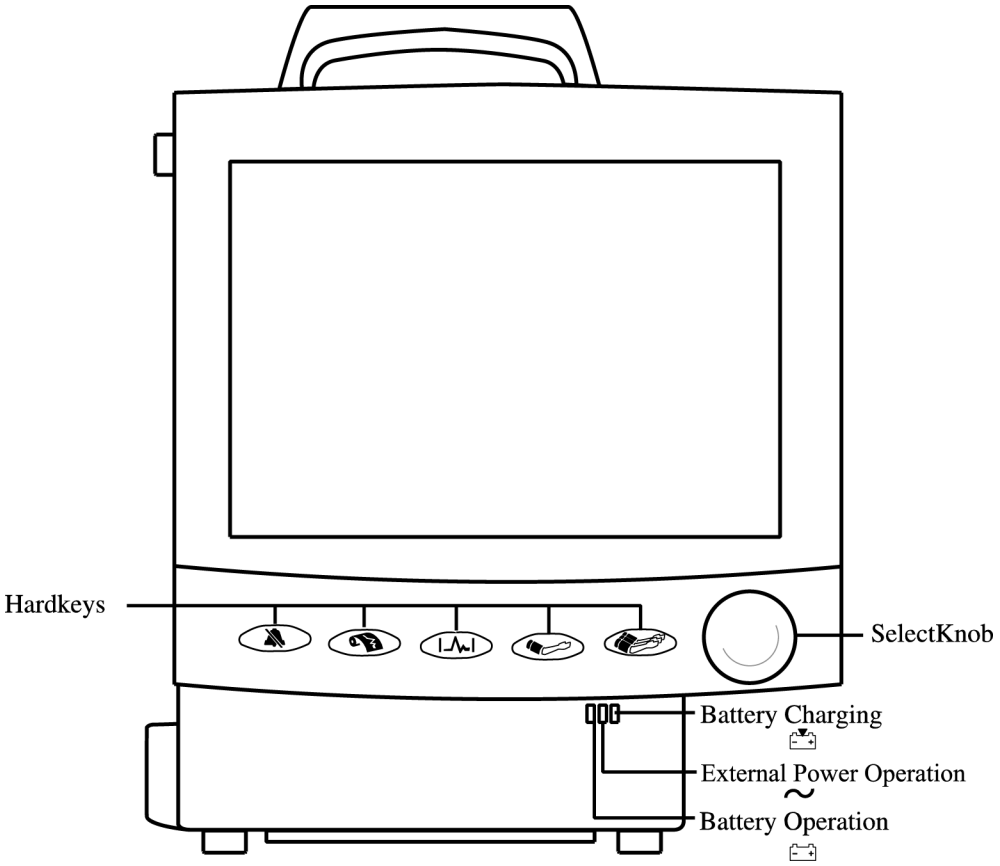
DINAMAP MPS™ *Select* ™ *Portable* Monitor

General Description

The DINAMAP Multi Parameter System (DINAMAP MPS™) is designed for patient monitoring in acute care settings such as critical care, emergency room, radiology, labor and delivery, and operating room. It allows the clinician to view, record, and recall clinical data derived from each parameter. This data includes heart rate, end tidal CO2, respiration rate, oxygen saturation, invasive pressure, noninvasive blood pressure, and temperature. Alarm limit conditions are also detected.

The optional recorder provides numeric and waveform printouts of monitored data. Up to 2 waveforms can be traced simultaneously. Each monitor can monitor one patient at the bedside.

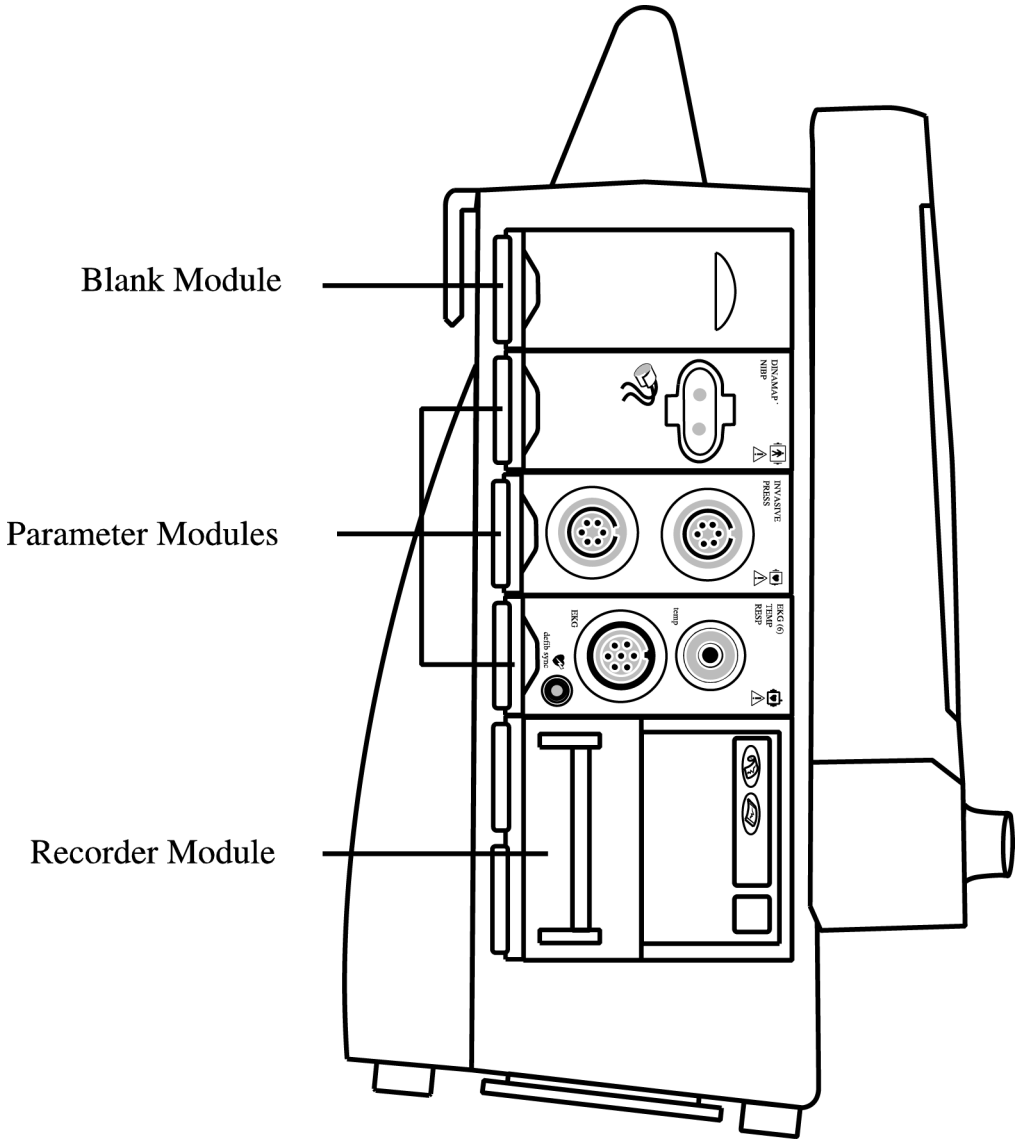
Indicators for external DC operation (from AC mains), battery operation, and battery charging are at the front of the unit.



DINAMAP MPS™ *Select* ™ *Portable* Monitor

The DINAMAP MPS™ *Select*™ *Portable* Monitor provides a rack with six slots for modules.

Patient sensor connections are made at the side of the unit, and network and device connectors are at the rear.



With Typical Modules, Side View

The recorder and patient monitoring parameter functions are provided by the optional modules. The modules can be inserted or removed, one at a time, while the Monitor is operating. As each module is inserted, it is detected by the Monitor and affects the configuration of the measurements displayed on the screen. The Monitor can also detect incompatible combinations of modules and disable modules as appropriate to prevent improper system operation.

At the time of publication, the available interchangeable modules included the following:

- NIBP
- Pulse oximetry (SpO2)
- EKG, with breath rate and temperature
- 2-channel invasive pressure
- End Tidal CO2, with sidestream/mainstream
- 2-channel modular recorder

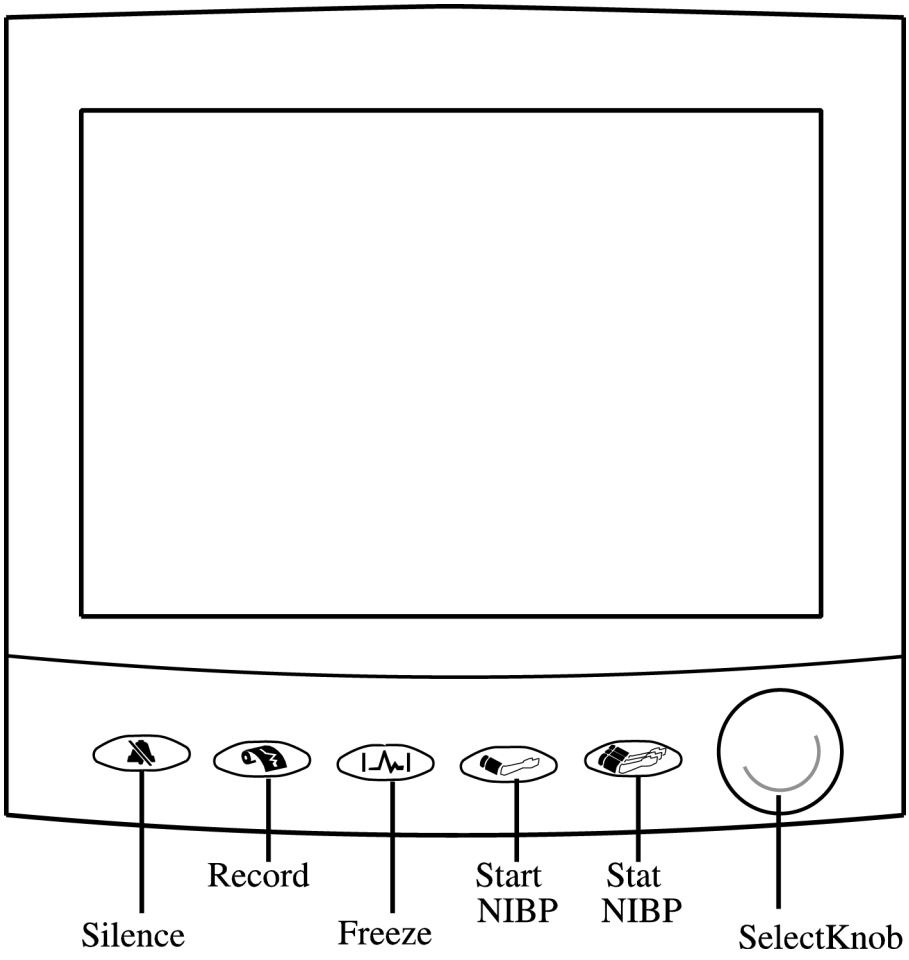
Monitor Model series 7220 uses a monochrome, amber-on-black electroluminescent, 10.4" (26 cm) flat panel screen. Monitor Model series 7222 is also available with a color active-matrix LCD 10.4" (26 cm) flat panel display. The Monitor offers several mounting options to fit a variety of clinical situations.

Other DINAMAP MPS™ Monitor features include:

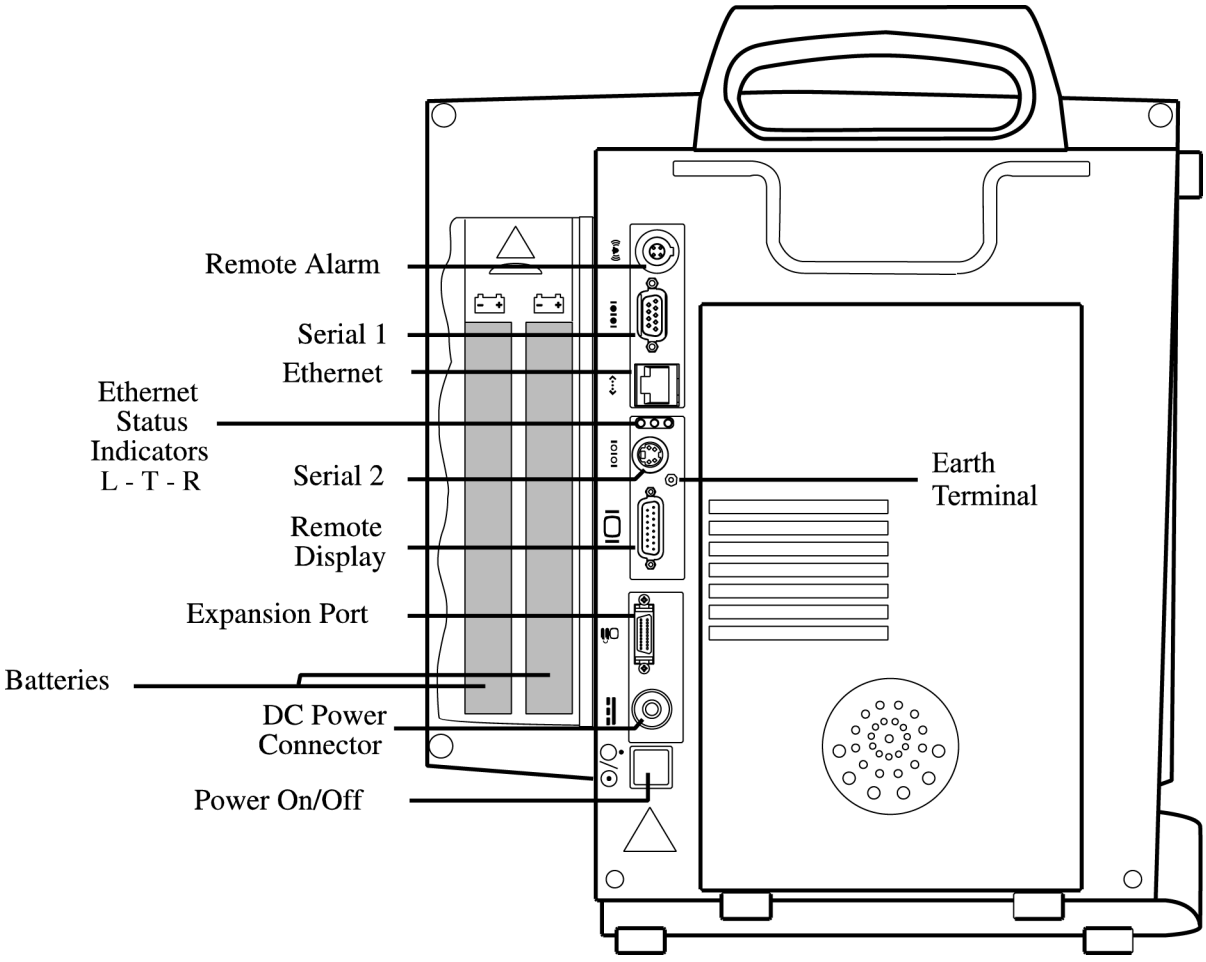
- Uses Industry standard accessories
- Remote alarm capability
- Connections to VGA monitor
- Intuitive user interface, with a simple Select Knob that moves the user through menus in a logical, easily-understood format
- Five single-function keys for quick access to Alarm Silence, Record, Freeze, NIBP Start/Stop, and STAT NIBP
- Upgradeable software

INDICATORS AND CONNECTORS

Monitor indicators and connectors are shown in more detail in the User Interface diagram (below) and the Rear View diagram.



User Interface



Rear View

The items shown in the Rear View diagram provide the following functions:

Remote Alarm - 4-pin connector. For remote single pole, double throw relay circuit. Cable 316-586 (25 ft) or cable 316-587 (6 ft) available.

Serial 1 - Isolated host interface port. 9-pin RS232 connector. Full-duplex synchronous or asynchronous.

Ethernet - Network interface for networking with hospital information system, inter-bed communications, and remote user interfaces. For twisted pair, Ethernet 10BASE-T cable with RJ-45 connector. IEEE 802.3 compatible.

The configuration of the J-45 connector pins is standard, as listed below:

Pin	Twisted Wire Set
1	Part of Pair 1
2	Part of Pair 1
3	Part of Pair 2
6	Part of Pair 2

L (Link) Indicator - Remains lighted as long as connection to network is valid.

T (TX) Activity Indicator - Flashes when Monitor is transmitting data to Ethernet network.

R (RX) Activity Indicator - Flashes when Monitor is receiving data from Ethernet network.

Serial 2 - Non-isolated auxiliary serial port. 4-pin connector. Full-duplex, for remote control units or other external devices.

Earth Terminal - Functional earth terminal. Test point for ground resistance check.

Remote Display - 15-pin connector for VGA-compatible CRT. Requires standard VGA cable.

Expansion Port - (For future use)

DC Power Connector - Connection for external DC power (from AC mains) when the provided in-line power supply is used.

Power On/Off Switch - Push on/push twice off switch for powering unit on and off.

Storage Batteries

The Portable Monitor operates either from AC mains power via an external DC power supply, or from one to three storage batteries. When external DC power becomes available, the system switches from battery power to external power.

The storage battery system allows two of the batteries to be removed and replaced by the user during monitor operation. This allows a discharged battery to be replaced by a fresh battery without an interruption in patient monitoring. The third battery is internally mounted, is not user accessible, and functions as a backup battery during external power failure (if no other batteries are available) as well as an additional source of power for extended operation.

The batteries contain an internal microprocessor that communicates battery information (voltage, current, charge status, temperature, battery type, remaining battery life, etc.) via the SMBus to the microprocessor on the system support PWA. This microprocessor receives asynchronous data from each active battery, periodically queries each battery for status, and makes appropriate decisions regarding battery switching and use, battery charging, and system alarms.

Specifications

Item	Description
Monitor	14 in (H) x 8 in (D) x 11.75 in (W) 35.56 cm (H) x 20.32 cm (D) x 29.85 cm (W)
Single-Wide Parameter Modules	3.75 in (H) x 6.15 in (D) x 1.50 in (W) 9.5 cm (H) x 15.6 cm (D) x 3.8 cm (W)
Weight (with six modules and two optional batteries)	Less than 21 lb (9.5 kg)
Operating Temperature	+41º F to +104º F (+5° C to +40° C)
Storage Temperature	-40º F to +158º F (-40º C to +70º C)
Operating Humidity	5% to 95%, noncondensing
Storage Humidity	5% to 95%, noncondensing
Operating Atmospheric Pressure	700 hPa to 1060 hPa
Storage Atmospheric Pressure	500 hPa to 1060 hPa
Power Sources	Internal storage batteries, or AC power via a provided inline DC power supply*
AC Input Voltage	100, 120, 230, 240
AC Input Frequency	50 or 60 Hz
AC Input Power	125 Watts max
AC Power Cable	Detachable, 16-gauge, 10 ft (3 meters) long
Internal Storage Battery	12 Volts, nickel-metal-hydride (NiMH)
Battery Capacity (manufacturer's rating)	3.5 Amp-hr
Battery Life	180 minutes (± 30 min), using fully charged internal battery plus two optional batteries, under specified load **
Charge time, internal charger	6 hours maximum to 90% for all three batteries, at 77° F (25° C) (higher ambient temperatures may require more time)

* Use only approved power supply (part number: US 117277 / UK 157277 / Australia 187277).

** Parameter modules installed and active: EKG/RESP, TEMP, SpO2, and CO2, NIBP on a 5-minute auto cycle, and Recorder on a 5% operating cycle (3 minutes per hour). Displayed waveforms: 1-lead EKG, RESP, SpO2 plethysmograph, CO2. No external communication interfaces active.