IntelliVue Patient Monitors

MP40 and MP50

The IntelliVue MP40 and MP50 portable patient monitors are compact in size, ergonomic, and modular in design. They share a common user interface and technological platform with the Philips IntelliVue MP20/MP30 and MP60 - MP90 patient monitors.

The monitors can be connected to Philips measurement servers and server extensions, plug-in measurement modules, the Essential Gas Module and the Anesthetic Gas Module to extend their functionality with plug-and-play convenience. Information portal capability provides access to the hospital network from the bedside.

The monitors are highly customizable. For each model, dedicated configurations are available for the anesthesia, critical and cardiac, and neonatal care environments.

The IntelliVue family offers a complete monitoring solution that is flexible and modular, designed to suit a broad spectrum of monitoring needs.

Measurement Features

- ECG monitoring using any combination of three to 10 electrodes.
- 12-lead ECG monitoring with five electrodes using the EASI method or with 10 electrodes using the conventional method.
- Multi-lead arrhythmia and ST segment analysis at the bedside on all available leads.
- The Capnography Extension extends your

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Monitor Specifications

See the individual Data Sheets for measurement server, measurement server extension, and measurement module specifications.

Safety Specifications

The monitors, together with the Multi-Measurement Server (M3001A), and all modules and measurement server 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 2601-1:1994; CAN/CSA C22.2#601.1-M90; IEC 60601-1-1:2000; EN 60601-1-1:2001; IEC 60601-1-2:2001; EN 60601-1-2:2002.

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/EN14971, EN/IEC60601-1-4.

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

Physical Specifications

14.37in W x 8.54in D x 13.00in H

Physical Specifications		
Product	**Max Weight**	**W x H x D**
Basic monitoring solution (M8003A/M8004A IntelliVue plus M3001A measurement server), and battery	< 8.6 kg < 14.8 lb	< 365 x 330 x 217 mm
Individual monitoring components		
M8003A/M8004A IntelliVue monitors	< 6.0 kg < 13.3 lb	< 365 x 330 x 217 mm
M3001A Multi-Measurement Server (MMS)	< 650g < 1.4 lb	188 x 96.5 x 51.5 mm (7.4 x 3.8 x 2 in)
M3014A Capnography Extension	< 450 g < 0.99 lb	190 x 98 x 40 mm (7.5 x 4 x 1.6 in)
M3015A Measurement Server Extension - Microstream CO_2	< 550 g < 1.21 lb	188.0 x 96.5 x 38.5 mm (7.4 x 3.8 x 1.5 in)
M3016A Measurement Server Extension - Mainstream CO_2	< 450 g < 0.99 lb	188.0 x 96.5 x 38.5mm (7.4 x 3.8 x 1.5 in)

Physical Specifications		
Product	**Max Weight**	**W x H x D**
M3012A Hemodynamic Measurement Server Extension	< 550 g	98 x 40 x 190 mm
M1013A Essential Gas Module (EGM)	3.6 kg 7.94 lb	300 x 90x 232 mm (11.81 x 3.54 x 9.13 in)
M1026A Anesthetic Gas Module (AGM)	< 8.2 kg < 18 lb	370 x 90 x 467 mm (14.6 x 3.5 x 18.4 in)
M8025A Remote Alarm Device	< 300 g < 0.7 lb	62 x 125 x 63 mm (2.4 x 5 x 2.5 in)
M8026A Remote SpeedPoint	< 400 g < 0.9 lb	103 x 139 x 63 mm (4 x 5.5 x 2.5 in)

Environmental Specifications

Environmental Specifications: Monitors		
Item	**Condition**	**Range**
Temperature Range	Operating	0 to 35 deg. C (32 to 95 deg. F)
	Non-operating	-20 to 60 °C (-4 to 140 °F)
Humidity Range	Operating	20% to 85% Relative Humidity (RH) (non condensing)
	Non-operating	5% to 85% Relative Humidity (RH)
Altitude Range	Operating	0 m to 3000 m (10000 ft)
	Non-operating	0 m to 12000 m (40000 ft)
Battery storage		-20 to 50 deg. C (-4 to 122 deg. F)

Performance Specifications

Monitor Performance Specifications		
Power Specifications	Power consumption	< 100 W
	Line Voltage	100 to 240 V ~
	Current	1.6 to 0.7 A
	Frequency	50/60 Hz
SVGA Display 12.1 inch	Resolution	800 x 600
	Refresh rate	60 Hz
	Useful screen	246 x 184.4 mm
	Pixel size	0.3075 x 0.3075 mm
Sweep Speeds	6.25, 12.5, 25 and 50 mm/s with ±5% accuracy (guaranteed only for integrated displays)	

Monitor Performance Specifications		
Indicators	Alarms Off	red LED
	Alarms	red/yellow/cyan LED
	On/Standby	green LED
	AC Power	green LED
	Error	red LED
Sounds	Audible feedback for user input. Prompt tone. Two different QRS tones, SpO_2 modulation tone. Four different alarm sounds	
Trends: 12 or 16 numerics @ 12 sec, 1 minute, 5 minute resolution. Multiple choices of number of numerics, resolution and duration depending on application area.		
Event Surveillance	information: trigger condition and time, event classification and associated detailed view of episode data	
	episode data: configurable, includes all current numerics, alarms and inops, and 20 minutes of graphic trend @ 12 sec. resolution	
	capacity (max): 25 events for 8 hours	
Neonatal Event Review	information: trigger condition and time, event classification and associated detailed view of episode data	
	episode data: configurable, includes all current numerics, alarms and inops, and 4 minutes of high resolution trend	
	capacity (max): 25 events for 8 hours	
Review Alarms Window	Information: all alarms / inops, main alarms on/off, alarms acknowledged and time of occurrence	
	capacity	100 items
Real Time Clock	Range: from: January 1, 1997, 00:00 to: December 31, 2080, 23:59	
	Accuracy: < 2 seconds per day (typically)	
	Hold Time: infinite if powered by AC; otherwise at least 48 hours (typical: > 72 hours)	
Buffered Memory	Contents: Active settings, trends, snapshots, events, review alarms	
	Hold Time: infinite if powered by AC; otherwise at least 48 hours (typical: > 72 hours)	
Restart time: After power interruption, an ECG wave will be shown on the display after 30 seconds maximum.		

Battery Specifications

Two batteries are required to operate the monitor.

Philips high-power battery M4605A, 10.8 V 6000mAh Lithium Ion.

- Weight: 490g per battery
- Status LEDs indicate charge status of batteries
- Safety: complies with UL1642 (UL recognised)
- Electromagnetic compatibility: complies with the requirements for FCC Type B computing Device, and EN 61000-4-2 and EN 61000-3
- Communication Standard: complies with the SMBus specification v1.1

Battery Operating Time (New and fully loaded battery):

- With basic monitoring configuration: 5 hours (brightness set to optimum, MMS connected, NBP measurement every 15 minutes)
- With extended monitoring configuration: 4 hours (brightness set to optimum, MMS and measurement server extension connected, NBP every 15 minutes, Recorder, Pressure, Temperature modules connected)

Battery Charge Time:

- When monitor is switched off: 4 hours
  When monitor is in use: 5 to 12 hours, depending on monitor configuration

Interface Specifications

Monitor Interface Specifications		
Network	Standard	IEEE 802.3 10-Base-T
	Connector	RJ45 (8 pin)
	Isolation	1.5 kV
Parallel Printer Port	Standard	IEEE 1284-I
	Connector	DB-25
	Isolation	1.5 kV
Dual PS/2 Inputs	Output Voltage	5V ± 10 %
	Output Current	250mA (comb. max) to connected PS/2 devices
Dual MIB/ RS232	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	5V +/- 5%, 100mA (max.)
	Isolation	1.5kV
ECG Output/Marker Input (1/4" stereo phone jack with tip, ring, sleeve)		
General	Connector	1/4" phone each with tip, ring, sleeve
	Isolation	500 V