

DM4 (91331) Quick Start Guide

Software Version 4.0.x

Spacelabs training acknowledgement

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It is recommended that you review the Operations and Service Manuals in conjunction with viewing these materials.

All data shown in this video is from Spacelabs' simulation program and is not actual patient data.

Specifications subject to change without notice.

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Introduction

The Spacelabs DM4 monitor has two workflow modes: Spot Check and Continuous.

- In Spot Check (SPOT) mode, the DM4 monitor supports the collection and documentation of vital signs data for multiple patients.
- In Continuous (CONT) mode, the DM4 monitor provides real-time patient monitoring and alarm notification.

Components

- DM4 monitor with external AC power supply
- NOTE: The monitor can also operate on battery power for up to 12-hours when fully charged.*
- SpO₂ adapter cable and sensor
 - Appropriately sized NIBP cuff and hose
 - Oral/axillary temperature probe with disposable probe covers or Exergen temporal scanner.



Basic Operations

Once power has been applied, a visual indicator on the display indicates the current patient and workflow modes. The monitor will operate in the mode selected until it is changed. NIBP and temperature functions are affected by changing between Adult, Pediatric, and Neonate patient modes.

To power ON the DM4 monitor

1. Press the On/Off button on the lower front panel.

The boot-up sequence follows (approximately 25 to 30 seconds):

- On/Off button illuminates green;
- Spacelabs Healthcare splash screen shows;
- Touchscreen turns blank for approximately five seconds; and
- Two audio tones sound to confirm that the main speaker functions, followed by two higher-pitch audio tones to confirm that the second speaker functions.

To power OFF the DM4 monitor

Press and hold the On/Off button for two seconds.

Selecting patient type and workflow mode

To set the patient type

1. Touch the **Patient Type** icon; or
Touch the **Setup** key, and then touch **Patient Information**.
2. Touch the **Patient Type** drop-down arrow and select **Adult**, **Pediatric**, or **Neonatal**.
3. Touch **OK**.



To set the workflow mode

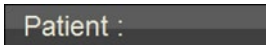
1. Touch the **Setup** key.
2. Touch the **Workflow** drop-down arrow and select **Continuous** or **Spot Check**.
3. Touch **Close** to apply the new setting.
The display momentarily goes blank, and then shows **CONT** (Continuous) or **SPOT** (Spot Check) in the upper right corner of the screen.



Admit and discharge patients

To enter patient demographic information (admit patient)

1. Touch the **Patient** button (on the top left corner of screen); or Touch the **Setup** key, and then touch **Patient Information**.
2. Select the field buttons and drop-down arrows and use the on-screen keyboard to complete the **Patient Information** fields.

A screenshot of a dark grey rectangular button with the text "Patient :" in white, positioned on the right side of the page next to the first step of the instructions.

NOTE: You can also enter the ID with the optional bar code reader. If the monitor is connected to the network, you can touch the Query button (after the ID is entered) and other patient information will be automatically entered.

3. Touch **OK** when done.

To discharge a patient (Continuous (CONT) mode only)

1. Touch the **Patient** button; or Touch the **Setup** key, and then touch **Patient Information**.
2. Touch **Discharge**.
3. Touch **OK** (discharge patient).

Alarms and messages

The DM4 provides audible and visual indications to alert users of physiological conditions or technical issues.

- In Spot Check (SPOT) mode, the monitor can provide error messages that alert the user of equipment issues that are preventing patient monitoring (for example, NIBP cuff leak).

NOTE: There are no limit alarms in Spot Check mode.

- In Continuous (CONT) mode, the monitor can provide equipment error messages, as well as limit alarms. You can access the alarm limit settings of a parameter by touching the parameter zone

To silence audio alerts

1. Touch the **Silence** key.

To pause audio and visual alarm indications

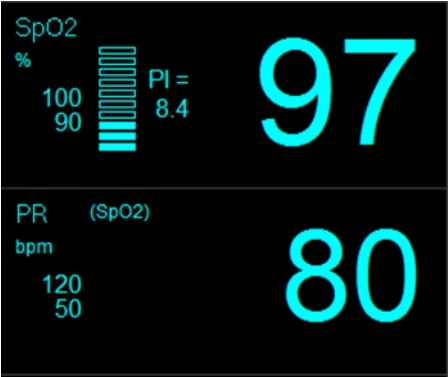
1. Touch the **Setup** key.
2. Touch **Alarm Pause**.

Measurements

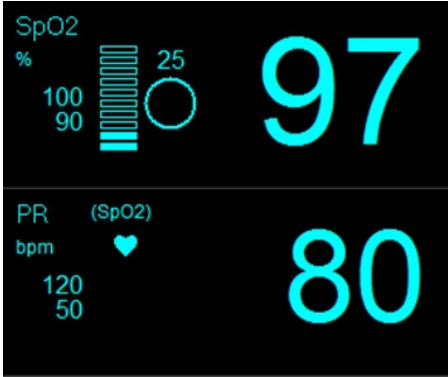
Designed for bedside and portable usage, the DM4 monitors pulse oximetry (SpO₂), pulse rate (PR), noninvasive blood pressure (NIBP), and temperature.

SpO₂

Masimo



Nellcor



SpO₂

To measure SpO₂ and Pulse Rate (PR) in Spot Check mode

1. Apply the sensor to the patient.
 - The message **SpO2 searching** shows until a signal is acquired and SpO₂ data shows.
 - SpO₂ and PR measurements with a timestamp show in the SpO₂ and PR zones.
2. Remove the sensor from the patient.

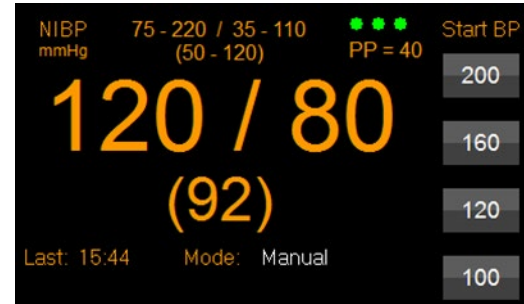
To measure SpO₂ and PR in Continuous mode

1. If necessary, touch the SpO₂ zone to change the alarm limits or other settings.
2. Apply the sensor to the patient.
 - The message **SpO2 searching** shows until a signal is acquired and SpO₂ data shows.
 - SpO₂ and PR measurements with a timestamp show in the SpO₂ and PR zones.
 - SpO₂ and PR measurement records are saved to trends.
3. When SpO₂ monitoring is complete, remove the sensor from the patient.
The **SpO₂ check sensor placement** alarm shows.
4. To silence the alarm, touch the **Silence** key; or
Touch the SpO₂ zone, and then touch **SpO2 Alarm Acknowledge**.

NIBP

The DM4 monitor uses a motion tolerant oscillometric measurement technique to determine systolic, diastolic, and mean arterial pressure and pulse rate. When the monitor is in Continuous (CONT) mode, you can take automatic NIBP measurements at preset intervals. If there is no SpO₂ data, the data shown in the Pulse Rate (PR) zone is derived from NIBP.

*NOTE: Touch **Stop** to stop a measurement in process and deflate the cuff. Quickly touch the **Start/Stop** button twice to clear NIBP data.*



NIBP...continued

To measure NIBP in Spot Check mode

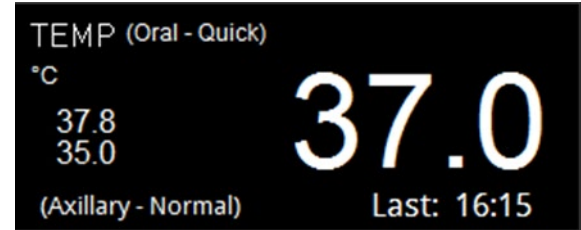
1. Apply the appropriately sized cuff to the patient.
2. Touch **Start** or (if enabled) one of the four initial inflation pressures under **Start BP**.
 - The above buttons change to **Stop** during measurement.
 - NIBP measurements show in the NIBP and (if no SpO2 is available) PR zones.

To measure NIBP in Continuous mode

1. If necessary, touch the NIBP zone to change the alarm limits, **Mode**, or other settings.
2. Apply the appropriately sized cuff to the patient.
3. Touch **Start** or (if enabled) one of the four initial inflation pressures under **Start BP**.
 - The above buttons change to **Stop** during measurement.
 - NIBP measurements show in the NIBP and (if no SpO2 is available) PR zones.
 - NIBP measurement records are saved to trends.
4. When NIBP monitoring is complete, remove the cuff from the patient.

FILAC Temperature

If the FILAC 3000 option is installed, you can measure temperature from an oral or axillary site. In the Oral Quick mode, the FILAC thermometer measures body temperature in about 3 to 5 seconds. The measurement time for axillary temperatures is about 8 to 12 seconds.



Caution: Never use the FILAC temperature probe without a probe cover. Failure to correctly place temperature probe back into the isolation chamber well may result in the failure of the next predictive temperature measurement.

FILAC Temperature...continues

To measure temperature with the FILAC probe in Spot Check mode

1. If necessary, touch the TEMP zone to change the **TEMP Site** or **TEMP Mode**.
2. Apply a new temperature probe cover and place the probe in the appropriate patient site.
 - The monitor generates an audible tone when the measurement is complete.
 - The temperature measurement with a time stamp shows in the **TEMP** zone.
3. Properly dispose of the probe cover and reinsert the probe in the holder.

To measure temperature with the FILAC probe in Continuous mode

1. If necessary, touch the **TEMP** zone to change the alarm limits, **TEMP Site**, or **TEMP Mode**.
2. Apply a new temperature probe cover and place the probe in the appropriate patient site.
 - The monitor generates an audible tone when the measurement is complete.
 - The temperature measurement with a time stamp shows in the **TEMP** zone.
 - Temperature measurement records are saved to trends.
3. Properly dispose of the probe cover and reinsert the probe in the holder.
 - The monitor generates a two-tone audio alert to indicate that the probe is fully seated.

Exergen Temperature

If the monitor is not configured for FILAC thermometry, you can measure temperature with the Exergen Temporal Artery Thermometer (scanner).

To measure temperature with the Exergen scanner in Spot Check mode

1. Make sure the Exergen scanner is connected to the USB port on the back of the monitor.
2. Take a measurement with the Exergen scanner.
 - The temperature measurement with a timestamp shows in the TEMP zone.

To measure temperature with the Exergen scanner in Continuous mode

1. Make sure the Exergen scanner is connected to the USB port on the back of the monitor.
2. If necessary, touch the **TEMP** zone to change the alarm limits.
3. Take a measurement with the Exergen scanner.
 - The temperature measurement with a timestamp shows in the TEMP zone.
 - Temperature measurement records are saved to trends.



Trends

The DM4 can store up to 1,000 vital signs records and up to 72 hours of continuous trend data (FIFO). When the monitor is in Continuous (CONT) mode, measurements are automatically saved to trends and (if enabled) sent to the electronic medical record (EMR) system. When the monitor is in Spot Check (SPOT) mode, measurements can be manually saved to trends and selected records sent to the EMR system.

Continuous Trends

Trends							
Date	Time	Patient ID	NIBP	SpO2	PR	TEMP	PI
12/17	10:56	...08807164	--- / --- (---)	97	80	98.6	10.0
	10:55	...08807164	--- / --- (---)	97	80	---	10.0
	10:54	...08807164	120 / 80 (92)	97	80 (NIBP)	---	10.0
	10:50	...08807164	--- / --- (---)	97	80	---	10.0
	10:45	...08807164	--- / --- (---)	97	80	---	10.0
	10:42	...08807164	120 / 80 (92)	97	80 (NIBP)	---	10.0
	10:40	...08807164	--- / --- (---)	97	80	---	10.0
	10:35	...08807164	--- / --- (---)	97	80	---	---

▲ ▼ Show 5 min intervals ◀ ▶

Spot Check Trends

Trends - Spot Check							
Sent	Date	Time	Patient ID	SpO2	PR	NIBP	TEMP
✓	12/17	11:13	DM_17_106729469	97	80	120 / 80 (92)	98.6
✓		11:12	DM_17_040455842	97	80	120 / 80 (92)	
✓		11:08	DM_17_160661363	97	80	120 / 80 (92)	

▲ ▼ Send Delete Filter Close

Trends...continued

To show trends

1. Touch the **Trends** key.

To save a snapshot of measurements to trends

1. Touch the **Save** key.

To send Spot Check trends to the EMR system (if enabled)

1. Touch the **Trends** key.
2. Touch **Send**.

To print trends

1. Touch the **Trends** key.
2. Touch the **Print** key.

To delete all trends

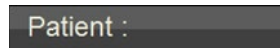
1. Touch the **Setup** key.
2. Touch **Administrator**.
3. Touch **Clear Trends**.
4. Touch **OK**.

DM4/EMR procedures

The Workflow mode of the monitor and the type of medical record system determine which DM4/EMR procedure to use to send vital signs measurements (trends) to the EMR.

To transfer vital signs (trends) to the EMR using networked Spot Check mode

1. Touch the **Patient** button (on the top left corner of screen);
or
Touch the **Setup** key, and then touch **Patient Information**.
2. Enter the patient **ID** or scan the patient's name band.
3. Touch **Query** to complete the patient information.
4. Touch **OK**.
The patient ID or name shows on the **Patient** button.
5. Take the vital signs of the patient.
6. Touch **Save**.
7. Touch **Trends**.
8. Touch **Send**.
A check mark shows under Sent for each sent measurement record.
9. Repeat the previous steps for the next patient.



Patient :

DM4/EMR procedures...continued

To transfer vital signs to EMR using offline/batched Continuous mode

1. Touch the **Patient** button (on the top left corner of screen); or
Touch the **Setup** key, and then touch **Patient Information**.
2. Enter the patient **ID** or scan the patient's name band.
3. Touch **Query** to complete the patient information.
4. Touch **OK**.
The patient ID or name shows on the **Patient** button.
5. Connect the patient to the DM4 and begin monitoring.
Vital signs are automatically stored in the monitor's **Trends** for 72 hours (FIFO) and sent over the network to the EMR.
6. When done monitoring the patient, touch the **Patient** button; or touch the **Setup** key, and then touch **Patient Information**.
7. Touch **Discharge**.
8. Touch **OK** (discharge patient).

Patient :

Note: This document is intended as a quick start guide. For more detailed information, refer to the DM4 Operations Manual (P/N 070-2916-xx).

Contact Information

Technical Support: 1-800-522-7025 Available 24 hours a day and 7 days a week.

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