



The **Medtronic NIM-Response 2.0** is an Electromyography (EMG) Monitor. The NIM-Response 2.0 is a four-channel EMG Monitor that can be used for nerve monitoring during surgeries such as ENT and general surgery. The NIM-Response 2.0 can records Electromyographic (EMG) activity and can help the surgeon locate nerves that may be in the area where surgery is needed. The NIM system can provide audible and visual warnings if there are changes to the patient's nervous system. The monitoring system offers various ports to connect a USB or mass storage device to collect the recordings. The Medtronic Electromyographic Monitor has a touchscreen that can display up to four different waveforms and peak-to-peak amplitude. Medtronic offers a variety of different Electromyographic (EMG) devices, another device would be the Medtronic NIM-Response 3.0.

Features

• Four channel EMG monitor that are individually and simultaneously selectable.

- High contrast digital color touch display.
- Increased sensitivity with reduced interference.
- Printable log of patient's EMG activity.
- More sensitive to lower-level EMG activity with improved signal-to-noise ratio.
- Quick setup.



Specifications

Dimensions

Height: 10.6" (27 cm)

Width: 12.2" (31 cm)

Depth: 14.5" (37 cm)

Weight: 18.7 lbs (8.5 kg)

Display

Type: High contrast, digital, graphic Color, visible in complete darkness.

Resolution: Display 600H x 800W pixels, Touch Panel 256H x 256W
Dedicated Function Event Touch Screen Controls: For Amplitude, Time Display and Capture.

Vertical Display: 50, 200, 500 and 2,000 μ V display modes.

Event Capture: Enable/disable capture mode indicator on touch screen.

Time Scale: 50ms or 10s display modes.

Amplifier

Channels – 1 to 4: Individually and simultaneously selectable.

Input Sensitivities: 5 – 10,000 μ V peak-to-peak AC-coupled,

Sensitivity Selection: Automatically zeroed

Bandpass: 100 Hz - 2 kHz EMG Display; 200 Hz - 3.2 kHz Audio EMG Speaker

Input Noise: 5-11 μ V p-p < 3 μ V RMS @ DC - 4 Hz, inputs shorted

Input Impedance: > 200 K Ohm \pm 10%

DC Offset Rejection: \pm 0.540 V DC Rejection

Common Mode Rejection: >90 dB @ 60 Hz, balanced inputs, >70 dB @ 60 Hz, 1 K

Channel Enable/Disable Controls: Dedicated function touchpads for independent channel enable/disable.

Event Threshold Control and Display: Adjustable Graduated Touch Bar with Voltage threshold displayed.

Patient Isolation: 1,000 Vrms 60 Hz < 100 μ A

Impedance Measurement

Control: Automatic CHECK ELECTRODE feature.

Measuring Signal: 20 μ A peak-to-peak, 60 Hz Square wave.

Measurement Range: 0-200 K Ohm \pm 10%

Artifact Detection and Rejection

Stimulus Artifact: Synchronized and adjustable muting.

Electrocautery Interference: Automatic detection, muting and warning.

Electrode Lead Off: Automatic detection, muting and warning.



Specifications Continued

Stimulator

Stimulus Type Constant: Constant Current

Stimulus Range: 0-30 mA, maximum 120 V compliance

Stimulus Control: Digitally controlled, range – dependent adjustment increments of .01, .05, 1.0 and 5.0 mA.

Stimulus Output Accuracy: $\pm .02$ mA (or $\pm 5\%$ of reading at 1K load) over Stimulus Range.

Stimulus Adjustment: Graduated Touch Screen Control with display of command current and delivered current.

Stimulus Measurement Accuracy: $\pm .02$ mA (or $\pm 5\%$ of reading at 1K load) over Stimulus Range.

Internal Fuse: 32 mA Type F, 250V 5 x 20mm (It must be Xomed # 8250615, other similar fuses may not give the same degree of protection.

Stimulus Characteristics

Waveform: Monophasic, square pulse

Duration: Software selectable, 50, 100, 150, 200 or 250 μ s

Rise Time: Less than 20 μ s

Rate: Software selectable, 1, 4, 7, or 10 Hz

Stimulus Probe: Monopolar (standard) or bipolar

I / O - Printer Output / Disk Drive Output

Printer Interface: Hewlett-Packard: Model: DeskJet 5650 printer.

Connection: Centronics Parallel 36-pin female or USB (2)

Video Output

Interface: VGA Compatible, 800 x 600 resolution

Connection: 15-pin HD

Electrical

Input Voltage: 100V, 120V, 220V, and 230-240V $\pm 10\%$

Frequency: 50/60 Hz

Power Consumption: 47 W Nominal, <70 W Peak

Auxiliary AC output: 250 VA Max.

Line Isolation: 4000 V Peak-to-Peak 60 Hz dielectric withstand from Line

Internal Fuse: 5 x 20mm, 4Amp, 250V, Quick-acting, Low breaking capacity, Xomed Part # 11270037. Order 8250614 Fuse Kit for replacements.

