WELCOME TO
the Next-Generation TetraGraph Era:

Advancing Beyond the Twitch

Next-generation TetraGraph invigorates the field of perioperative monitoring with quantitative train-of-four (TOF) advancements. Its TetraGraph® Level-of-Block Gauge™ simplifies data interpretation across all phases of anesthesia and neuromuscular block.

Key Features:

- **Smart and Accurate Monitoring**
  Redefine anesthesia monitoring with TetraGraph's advanced quantitative train-of-four (TOF) capabilities, offering unparalleled accuracy in neuromuscular assessments.
- **Portable and Versatile Design**
  With its slim, portable design, TetraGraph augments any dynamic operating room environment. Multiple mounting options and seamless connectivity ensure flexibility and convenience.
- **Proprietary TetraGraph® Level-of-Block Gauge™**
  TetraGraph uses our proprietary Level-of-Block Gauge for easy-to-interpret, high-resolution, real-time display of individual EMG readings, waveforms (CMAPs) and trends.

Industry-Leading Technology:

- **TetraGraph® Adaptive Intelligence™**
  Combines Sensor Placement Optimization, TetraGraph® Adaptive PTC™, and Adaptive Time Interval, utilizing specialized algorithms to automate anesthesia workflows from induction to recovery.
- **Noise-Cancelling Technology**
  Patented design filters out operating room noise, ensuring clean and accurate data.
- **Three Unique Trend Data Views**
  Elevate clinical confidence including:
  1. Rapid trends on the Level-of-Block Gauge™,
  2. Real-Time Trend Graph, and
  3. Post-Procedure Data Review providing valuable neuromuscular insights.

SENZIME

Revitalizing the Modern OR with Clinician-Centric Connectivity

Next-generation TetraGraph was developed with modifiable portability to meld into a dynamic OR environment where every device is as vital as every member.

Industry-leading options combine seamless integration with external multiparameter monitors and electronic patient health records for an uninterrupted, linear workflow.

Data transfer from TetraGraph TOF monitor to Philips IntelliVue system

Clinical Validation and Study Results:

TetraGraph® EMG has been clinically validated as more accurate and consistent—at all levels of block including deep—than MMG, with strong correlations (r > 0.9) across TOF ratios, TOF counts, and PTC measurements. Its portable design, accuracy at all levels of block, and simplicity of use make it an ideal tool for neuromuscular monitoring in clinical settings.[1]

A recent clinical study published in Anesthesiology (2024) demonstrated that TetraGraph achieves accuracy and precision when measuring baseline TOF ratios. TetraGraph produced results similar to the clinical reference standard, mechanmyography (MMG), reinforcing its reliability for quantitative TOF monitoring.[2]

1. Ebert TJ, Vogt J, Kaur R, Iqbal Z, Peters D, Cummings CE, Stekiel TA. Train-of-four ratio, counts and post-tetanic counts with the TetraGraph electromyograph in comparison with mechanomyography. *Journal of Clinical Monitoring and Computing*. August 2024.
2. Wedemeyer Z, Michaelsen KE, Jelacic S, Silliman W, Lopez A, Togashi K, Bowdle A. *Anesthesiology*. 2024; https://doi.org/10.1097/ALN.0000000000005051

TECHNICAL SPECIFICATIONS

Modes of Operation

TOF Interval	15 seconds - 60 minutes
Automatic stimulus setup	Automatic detection of maximal current Supramaximal current 20% above maximal current
Train-of-Four (TOF Ratio & TOF Count)	4 pulses of 200 or 300 µs duration at 2 Hz repeated at user selected frequency of 15 seconds, 1 minute, 5 minutes, 15 minutes or 60 minutes
Post-tetanic Count (PTC)	PTC consists of Tetanic Stimulation, a set of 250 pulses (1 pulse at 50Hz over 5 seconds stimulated according to the current setting in the monitor; allowed by up to 20 ST pulses at 1 Hz)
Single Twitch (ST)	Pulse of 200 or 300 µs duration at 10 or 5 seconds

Stimulation

Current	10-60 mA @ 5k-ohm
Pulse Width	200 µs or 300 µs
Pulse Type	Monophasic square wave
Voltage	300V

Sensor Type

Integrated strip sensor	TetraSens disposable stimulator recorder
Sensor stimulus placement	Ulnar nerve or Posterior Tibial nerve
Sensor recording placement	Adductor Pollicis muscle (AP), Abductor Digiti Minimi muscle (ADM), Flexor Hallucis Brevis muscle (FHB)
Duration of use	Single use, cumulative use less than 24 hours on the same patient

Recording

Range	0.1–50 mV
50/60 Hz filter	Yes
Measurement	Peak-to-Peak MAP

Graphics

Display	Color LCD, Brightness control, Touch Screen interface
MAP (Muscle Action Potentials)	Display of waveforms
TOF	Bar of four pulse amplitudes and %, trend of successive TOFR values
TOFC	TOF Count, integer and trend
ST	Amplitude of response, mV, series of response amplitudes as bars
PTC	Number of post-tetanic count

Power Supply

Charger	EN 60601-1 certified power supply 5V DC
Connection to mains electricity during use	TetraGraph must only be used with the provided power supply adapter
Battery	8 hours continuous operation with new battery in good condition
Battery Specifications	Rechargeable Lithium battery, Fey Elektronik
Cord length	3 meters

Additional Features

Case Reference Number	8-digit number
Audible stimulus	On/Off
Data review	On-screen review of trend data
Data Interface	TetraGraph Philips Interface and TetraHub
Connectivity	Philips Capsule, Masimo DCX™, Philips IVOI
Data Management	TetraConnect cloud-based connectivity portal to upload, view, share and export data
Communication Interface	USB C connector Connected equipment USB C 2.0 or higher
Patient Cable Cord length	3.65 meters

Dimensions

Length	215 millimeters
Width	116 millimeters
Thickness	38 millimeters, 85 millimeters including pole clamp
Weight	573 grams, 748 grams including pole clamp

Environment during storage

Temperature	5-50°C (41-122°F)
Relative humidity	10-85% non condensing.
Atmospheric pressure	50 kPa to 106 kPa

Environment during use

Temperature	5°C to 40°C (41°F to 86°F)
Relative humidity	10% to 85% non-condensing
Atmospheric pressure	70k Pa to 106 kPa

Standards Applied

IEC 60601-1:2005/AMD1:2012/AMD2:2020

EN 60601-1-2:2015/AMD1:2020

IEC 60601-2-40:2016

Senzime's Portfolio of Patient-Friendly Disposable Sensors

Connects with Senzime's family of flexible EMG sensors, offering 12' or 18' cables to adapt to various surgical procedures, such as those with space and movement limitations, like tucked-arm and robotic cases.

TetraSens:
Adaptable for adult patients, ensuring precise neuromuscular monitoring for a wide range of surgical procedures.

TetraSensitive:
Customized for geriatrics and patients with sensitive skin. Hypoallergenic and latex-free with soft edges, including low-profile design.

TetraSens Pediatric:
Ultrasoft, flexible material and the only FDA-cleared EMG sensor with a separate and specific pediatric indication, enabling one sensor for infants to adolescents.

Product Ordering Details

Product Name	SKU	Description	Contents and Quantity
Next-Generation TetraGraph®	SEN2015	Next-generation TetraGraph® monitor with fixed power supply and pre-attached GCX® pole clamp	1 monitor, 1 power supply cable, and 1 pole clamp
TetraCord	SEN 2112	Trunk cable between TetraGraph and Sensor, Standard 12ft Long	1 cable
TetraCord Extended Length	SEN 2230	Trunk cable between TetraGraph and Sensor, Extended Length 18 ft.	1 cable
TetraSens	SEN 2012	TetraGraph Sensor for Adult with EZClick™	20 sets of electrodes / box
TetraSens Pediatric	SEN 2013	TetraGraph Sensor for Pediatric with EZClick™	15 sets of electrodes / box
TetraSensitive	SEN 2016	TetraGraph Sensor for Sensitive Skin with EZClick™	15 sets of electrodes / box
TetraHub	SEN2017	One TetraHub dongle with extension cable for connectivity with multi-parameter monitors and electronic health records (EHR)	1 dongle with 1 extension cable

COMMITMENT TO **Patient Safety :**

Our commitment propels healthcare providers to reach a new level of patient care, where every clinician is empowered, every patient assured, and the highest standards of care are not just met — they're invented.

Learn more?
Senzime.com/NextGen

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Senzime AB, Verkstadsgatan 8, 753 23 Uppsala
info@senzime.com | **senzime.com**

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