

# TETRAGRAPH

## Technical Specifications



### Modes of Operation

TOF Interval	20 sec - 60 mins
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 $\mu$ s duration at 2 Hz repeated at user selected frequency of 20 s, 1 min, 5 min, 15, min or 60 min
Post-tetanic Count (PTC)	PTC consists of Tetanic Stimulation, a set of 250 pulses (1 pulse at 50Hz over 5s) fixed at 50mA, 200 $\mu$ s; followed by up to 20 ST pulses at 1 Hz
Single Twitch (ST)	Pulse of 200 or 300 $\mu$ s duration at 0.1 Hz

### Stimulation

Current	0-60 mA @ 5k-ohm
Pulse Width	200 $\mu$ s or 300 $\mu$ s
Pulse Type	Monophasic square wave
Voltage	300V, 2800 watt-hours

### Sensor Type

Integrated strip sensor	TetraSense disposable stimulator recorder
Sensor stimulus placement	Ulnar nerve or Posterior Tibial nerve
Sensor recording placement	Adductor Pollicis muscle (AP), Abductor Digiti Minimi muscle (ADM), First Dorsal Interosseus muscle (FDI)
Duration of use	Single use, 24 hours on the same patient

### Recording

Range	.1–50 mV
Noise	<1 $\mu$ V
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 power supply 5V DC USB connection
Connection to mains electricity during use	TetraGraph must only be used with the supplied power supply adapter and USB cable.
Battery	8 hours continuous operation with new battery in good condition
Battery specifications	Rechargeable Lithium battery, Varta Easy-Pack standard battery
Cord length	3 m

## Dimensions

Length	180 mm
Width	100 mm
Thickness	35 mm
Weight	380g +/-40 g (including battery)

## Additional Features

Day-Date	Three user-selectable formats
Patient ID	Yes, 12 numeric plus hyphen
Audible stimulus	On/Off
Data review	On-screen review of device data
Data Interface	TetraGraph Philips Interface
Data Management	TetraConnect cloudbased connectivity portal to upload, view, share and export data
Communication Interface	USB connector
Patient Cable Cord length	Connected equipment USB 2.0 or higher 2,5 m

## Environment during storage and movement between hospital location

Temperature	5°C to 40°C
Relative humidity	20% to 100% non-condensing
Atmospheric pressure	50 kPa to 106 kPa

## Environment during use

Temperature	15°C to 35°C
Relative humidity	20% to 80% non-condensing
Atmospheric pressure	70k Pa to 106 kPa

## Standards Applied

BS EN ISO 60601-1:2006+A12:2014	Excluding clause 3.6 limited to 8kV air discharge and 6kV contact, recommended for use in areas with anti-static flooring such as operating rooms
BS EN ISO 60601-1-2:2015	
BS EN ISO 60601-2-40:2016	Excluding clause 201.12.4.102. The device does not have a yellow indicator to inform the user the capacitor is primed for stimulation as the device is always primed

