

## VETRONIC LIGHTNING MULTI-PARAMETER MONITOR - CLEARANCE

VSL-LIGHTNING-CL



### PRODUCT DESCRIPTION

## A fully featured, veterinary specific, multi-parameter monitor.

With options to include ECG, CO<sub>2</sub>, Pulse-Oximetry, IBP, NIBP and Temperature, the Lightning monitor delivers full monitoring performance in a robust, compact unit.

Includes sidestream CO<sub>2</sub> and IBP, VSL-LIGHT, VSL-VS0058, VSL-VS0057

The Lightning multi-parameter monitor from Vetronic Services is a fully featured, veterinary-specific monitor. Lightning is simple to use and can be turned on and connected to the patient in seconds. Using our own embedded software means the time from turn on to display of monitoring data is just four seconds. Lightning has been designed to fit the needs of small animal practitioners, large animal practitioners and research establishments alike.

With a monitoring range catering for exotic species, the Lightning monitor is capable of measuring heart rates up to 600bpm (ECG) and 450bpm (Pulse-Oximetry). A dual-channel invasive blood pressure module allows simultaneous monitoring of arterial and venous lines and the dual-channel temperature module provides two temperature values (as well as the difference or delta value).

Information is displayed on an intuitive, simple to use colour touchscreen, with a user-configurable layout with the functionality to easily add or remove traces. When connected to a PC using either the USB cable (included) or the optional wireless link, all monitoring data is shown on our VitalMonitor software program and can be recorded for future review. A second program, VitalStore, allows a full review of your data and can automatically produce anaesthetic record charts as well as ECG and other monitoring reports.

The ECG review feature allows full measurement of the ECG waveform, along with mean heart rate and VVTi calculations.

### Key Features:

- Combines the Vetronic Sentinel and VitalStore systems into one easy to carry unit
- Key features
- 6-inch colour touchscreen
- Portable, battery-powered unit
- Lightning weighs just 1.4kg when fully fitted
- Supports the following modules: ECG, Pulse-Oximetry, Capnography, Agent, NIBP, IBP, Temperature, Wireless, USB stick
- Single channel or six-lead ECG module option
- ECG noise suppression filter
- Fully diagnostic ECG with supporting software
- Single or dual-channel IBP available
- Dual-channel temperature as standard
- 50ml per minute microsampling sidestream rate
- PC connection via USB cable or wireless
- Full data recording
- Suitable for general practice and research
- Comes with a full PC software suite for monitoring and recording all your data
- Designed and manufactured in the UK

### The Lightning comes supplied with everything you need to use the unit out of the box, including (depending on modules requested):

- 1 x EN-AC-FG-A022 Transit Aluminium Equipment Flight Case
- 1 x Lightning "Quick Guide"
- 1 x CD with files
- 1 x VS0450 USB Stick
- 1 x ESA24-09-01 Vetronic Medical Devices Mains Charger 9v
- 1 x VS0130 USB 2.0 A Male to B Male Cable, 2m

### General Specifications:

Weight:	1.4kg (all options fitted)
Dimensions:	225mm x 205mm x 80mm
Power:	Internal lithium polymer battery pack, 7.4v 3.8Ah capacity. 9V 20W DC universal input mains charger
Connectivity:	USB: 2.0 compliant, B connector for direct PC connection; 2.0 compliant A connector for use with external USB stick. Wireless: Enhanced Bluetooth 2.4GHz link to remote PC
Mounting:	Optional pole mount, wall mount, or cage hanger

### ECG Module:

Type:	Fully isolated single-channel or six-lead. Diagnostic quality
Range:	+/- 5mV, 6 to 600bpm
Input impedance:	5MΩ

### Pulse-Oximetry module

Sensor Type:	Dual-beam (red/IR) transmission or reflectance
Range:	18-450bpm, 0 to 100% saturation

SpO2 accuracy:	10- 100% +/- 2%
Rate accuracy:	+/- 3%

### Gas Monitoring Module

Monitored gases:	CO2, Anaesthetic agents, Nitrous oxide and Oxygen (Oxygen by external module only)
Supported anaesthetic agents:	Isoflurane, Sevoflurane, Desflurane, Halothane, Enflurane
Respiration rate:	0-150 per minute
Detection:	Nine-channel, non-dispersive infra-red, Oxygen by paramagnetic sensor
Warm-up time:	10 secs first reading; 60 secs full accuracy
Agent detection threshold:	0.2%
Accuracy:	CO2, Agent and N2O better than +/- 0.2% Oxygen better than one percent

### Invasive Blood Pressure Module

Range:	0 to 300mmHg, 10-600bpm
Accuracy:	+/- 1mmHg
Modes:	Pulsatile (arterial line), Static (CVP, CSF pressure)
Sensor:	Industry-standard disposable, 5uV/V/mmHg

### Dual Temperature Module

Range:	10° to 45°C (50° to 113° F)
Sensors:	2 x industry-standard 400-series thermistor sensors
Accuracy:	+/- 0.1 degree

### NIBP Module

Measurement method:	Oscillometric
BP range:	Systolic: 40-265mmHg MAP: 27-222mmHg Diastolic: 20-200mmHg
Pulse rate range:	25-300bpm
Start-up initialisation:	7 seconds
Supported cuff sizes:	Neonate #1 (3-6cm) to Neonate #5 (8-15cm), plus human cuff sizes
Sampling modes:	Manual or Automatic

Automatic interval:

1-120 minutes in one-minute steps

**S/N: V-22-2-26-423**

## ADDITIONAL INFORMATION

<b>Animal</b>	Mixed
<b>SKU</b>	VSL-LIGHTNING-cl
<b>Monitor Parameters</b>	CO <sup>2</sup> , ECG, Heart Rate, IBP, Multi-Parameter, NIBP, Oxygen, Respiration , SpO <sup>2</sup> , Temperature
<b>Screen Type</b>	Full Colour, Touchscreen
<b>Power Source</b>	Battery, Mains, Rechargeable
<b>Optional Modules</b>	Yes

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