



Advance Your Lab to the State of the Art in Vital Signs Acquisition The New Technology CFE

Features:

Built with leading edge technology: high speed, fully digital electronics

Miniaturized, state-of-the art patient front-end.

Most compact in today's market place.

Critical function controls readily accessible from device (zero IBP; Stat NIBP, etc.)

Utilizes leading OEM technology:

- Masimo SpO2
- CAS NIBP

Operates as independent monitor in case of main computer failure

Integrated Intra-cardiac ECG (option)

Integrated End-Tidal CO2 Monitoring (option)



- 12 Lead ECG
- 4 IBP
- 1 NIBP
- 1 Pulse Oximeter
- 1 Respiration
- 2 Temperature
- 1 Thermal Cardiac Output
- 1 End Tidal CO2 (opt)
- 6 Intra-cardiac ECG (opt)
- 4 Universal channels

Benefits/Advantages

Provides enhanced performance and extends system life expectancy

Compact design and Table Rail mounting kit reduces procedure room "technology clutter."

Allows device to be bed rail mounted.

Onboard controls allow operator convenience and speed for faster patient turnaround.

Improved accuracy and enhanced, long term performance of critical vital sign measurements

Improves overall patient physiological information.

Improves Patient Safety

Value added Monitoring capability

- Ideally suited for pacemaker implantation and basic EP studies
- More accurate physiological data contributes to improved patient diagnosis

Horizon SE Front-end (CFE) Datasheet

• CFE Dimensions:

(H x W x D) 24 x 10 x 22 cm (9.5" x 4" x 8.6")

• Input Circuit Parameters of PFE

Chassis Leakage Current

All patient signal inputs fully isolated

Meets or exceeds ANSI standard: "Safe Current Limits for Electromedical Apparatus," (SCLE) Dec, 1978 item 2.1.1.

• ECG

7 or 12 leads

Frequency Response Monitor Mode: 0.5 to 40 Hz

Diagnostic: 0.05 to 150 Hz; Exercise: 1 to 25 Hz -3 dB

Input Impedance: Typical 20 MO

Minimum greater than: 5 MO differential, DC to 10 Hz; 2.5 MO

Differential 10 to 100 Hz; 3 MO differential at 10 Hz.

Common Mode Rejection: At least 100 dB at 50/60 Hz

Without lead misbalance 86 db with lead misbalance

The common mode rejection ratio is in accordance with

ANSI/AAMI EC11 (9) Para. 3.2.11.

Input Dynamic Range: ± 5 mV at a rate up to 320mV/sec, as per ANSI/AAMI EC13 (8) Para. 3.2.9.1.

Input offset 300mV, as per ANSI/AAMI EC13 Para. 3.2.9.1.

Gain: Manual selection of 250, 500, 1000, 2000, 4000 and 8000 x

ECG Signal impressed across selected lead.

Noise: Less than 30 μ V p-p referenced to input.

Pacemaker Pulse Rejection: Reject pulses from:

2.0 mV to 700 msec pulses of 0.2 to 2.0 mS pulse widths and ± 3.0 mV for 0.1mS pulse width

Defibrillator Protection: Up to 5 KV. Amplifier

Recovery time: < 3 seconds.

Lead Fault Sense: On any ECG electrode.

QRS Detection: 0.25 to 5.0 mV, 70-120 msec width

Horizon SE with CFE

Synchronous Defibrillation Signal: Pulse Width: 100 ms.

Amplitude: 5 Vdc amplitude into 5000, short-circuit proof.

ECG Analog Output: 1 Volt / mVolt

• Heart Rate

Range: 20 to 350 bpm; Accuracy: Within 2 bpm

Response Time: Less than 7 sec for step change of 60 bpm from a base of 60 bpm

• Blood Pressure

Input Sensitivity: 5 μ volts/volt/mmHg.

Transducer Excitation: 5 Volt

Ranges: -50 to +300 mmHg.

Maximum variation during zero: ± 2 mmHg.

Zero Accuracy: ± 0.2 mmHg

Zero Drift: Less than +/- 0.2 mmHg in 24 hours.

Linearity: Better than 1% of full scale.

Common Mode Rejection: 80 dB minimum (reference to chassis 50/60Hz).

Frequency Response: DC to 12 Hz (DC to 40 Hz optional).

• Pulse Oximetry

Probe Type: Masimo® reusable or disposable

Range: 0% to 100%.

Pulse Rate Range: 20-250 bpm, below 20 displays zero.

Rate Accuracy: ± 3 bpm.

SpO2 Accuracy: Determined by specific sensor:

Adult: ± 2 digits between 70% and 100%

± 3 digits between 50% and 70%.

Neonatal: ± 3 digits between 70% and 95%.

• Cardiac Output

Range: 0.5 to 20 liter/minute.

Frequency Response: DC to 15 Hz.

Blood Temperature Range: 27 °C to 45°C.

Injectate Temperature Range: 0°C to 25°C. (32°F to 77°F)

Accuracy: Blood Temp ± 0.05 °C; Inj. Temp ± 0.2 °C.

Linearity: Better than 1% of full scale.

• Temperature

Range: 27 °C to 45°C;

Accuracy: ± 0.2 °C.

• Respiration

Frequency Response: 0.13 to 2.5 Hz., 3 dB bandwidth.

Range: 8 to 150 bpm; Excitation: 65 kHz

• Auxiliary Inputs

Input Voltage: + / - 5 Volt

Frequency Response: DC to 120 Hz

• Non-Invasive Blood Pressure

Method: Oscillometric

Initial Inflation: 150 mmHg (adult), 120 mmHg (pediatric)

Pressure Accuracy: Overall ± 3 mmHg, full scale

• End Tidal CO2 (EtCO2)

Digital and waveform presentation

Values: EtCO2, FiCO2 and RespCO2

• Intra-cardiac ECG (IECG)

Sampling Rate: 1000 Hz

High-pass filter: 0.05Hz

Low-pass: 500Hz

IECG Channels: 6

Defib. Pulse Protection: 5KV as per ANSI/AAMI EC13 (9), clause 3.2.2.2 and per IEC 601-2-27 (12), clause 17,101 and 102

Degree of protection against electrical shock

Type CF and BF

ECG, IBP and CO = CF;

NIBP and SpO2 = BF

Electrosurgical Interference Suppression: Yes

• Displayed Waveforms

ECG: Up to 12 lead;

IECG : 6 differential

BP: Up to 4, separate or superimposed

Respiration: 1

SpO2

• Displayed Numeric Parameters

Heart Rate: YES

Respiration Rate: YES

SpO2: YES

BP - Systolic, Diastolic, Mean: YES

Temperature: 2

Alarm Indications: No

• Display Functions

Change ECG Lead Selection: YES

Display of Arrhythmia Information: YES

Data Review: Trends: YES

Data Review: Tabular: YES

User defined Configuration Setup: YES

User defined Default Settings: YES

• Accessories

Envoy and Vitalogik compatible



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