Biocare

iM 12 Multi-Parameter
Patient Monitor

Features

- 12.1 inches high resolution color TFT display;
- Optional full touch-screen for easy operation;
- Attractive and durable silicon button with backlight;
- 20 types of arrhythmia and S-T segment analysis;
- Optional 12-lead ECG for easy diagnosis and analysis;
- Maximum 480-hour graphic and tabular trends, 1000 NIBP records, 700 alarm events and 2-hour ECG waveform storage and review;
- Large font display, OxyCRG, graphic & tabular trend, bed-bed observation and more display modes to satisfy different requirements in clinics care;
- Rechargeable Li-ion battery up to 5 hours continuous work;
- Drug concentration and titration table calculation;
- Anti high-frequency electrotome and defibrillation protection meet different working environments;
- USB port enables software upgrades and also supports future keyboard & mouse device connection;
- Support external USB storage;
- Selectable color configuration for all parameters (32 colors);
- VGA output for external display (optional);
- Flexible mounting and trollry solution (optional);
- Wire/wireless network connect to central monitoring system (optional);
- Nurse Call function and bi-directional communication with the central monitoring system (optional).

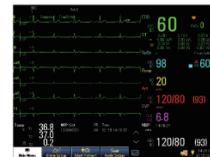**Standard:** 3/5-lead ECG, PR, RESP, NIBP, SpO2, TEMP

Optional: 12-lead ECG, 2-IBP, EtCO2 (mainstream, sidestream, microstream), anesthetic depth, Masimo or Nellcor SpO2, AG, touch screen, VGA, trolley, wall mounting, recorder, nurse call, central monitoring system.

Alarm limit display

Trend graph monitoring co-display

7-lead full screen display

7-lead half screen display

12-lead full screen display

OxyCRG monitoring display

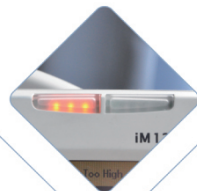Large font intensive care display

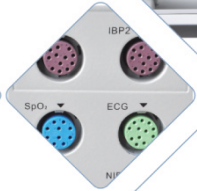Bed to bed view display

Drug dose calculation

Stable handle

Superior & intelligent coded socket

Dual Li-ion Battery, up to 5 hours continuous working

Abundant extension interface

Dual alarm lights

Wireless connection with CMS

Touch screen

Durable silicon button with backlight

IBP2
SpO₂
ECG
NIB

iM 12

SILENCE   PAUSE   FREEZE   SOUND
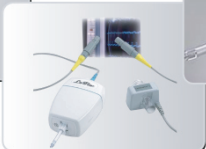
Mounting Solution
Trolley and wall mount bracket meet clinical requirements of different medical environment

CAPNOSTAT5 mainstream module

EtCO₂ （Respironics）"Plug and Play"

LoFlo sidestream module

WiFi

Wire / wireless network solution
Bi-directional communications with central monitor station by wire / wireless network Nurse Call

Specifications:

Device Dimension and Weight
Dimension: 310mm × 163mm × 285mm(L×W×H)
Weight: 4.5 kg

Operation Environment
Power requirement: AC: 100V—240V, 50 Hz / 60 Hz
Internal battery power supply: Rechargeable Li-ion battery
14.8 V 4400mAh
Battery working period: up to 5 hours
Temperature: 0℃— 40℃
Humidity: 10%—93%

Patient Range
Adult, pediatric and neonate

Standard Configuration:
ECG
Lead type: 3-lead and 5-lead selectable, 12-lead optional
Lead selection: 3-lead: I, II, III, 5-lead: I, II, III, aVR, aVF, aVL
12-lead: I, II, III, aVR, aVF, aVL, V1-V6
Gain selection: ×1/8, ×1/4, ×1/2, ×1, ×2, ×4, auto
Sweep speed: 6.25 mm/s; 12.5 mm/s; 25.0 mm/s; 50.0 mm/s
HR range: Adult: 15 bpm — 300 bpm
Pediatric / Neonate: 15 bpm — 350 bpm
Resolution: ±1 bpm
Accuracy: ±1% or ±1bpm, whichever is higher
Filter: diagnostic mode: 0.05 Hz-100 Hz
monitoring mode: 0.5 Hz-25 Hz
surgical mode: 1 Hz-15 Hz
Type of arrhythmia analysis: 20 types
ST segment range: (-2.0 mV) — (+2.0 mV)

RESP
Method: trans-thoracic impedance
RR measurement rage: adult: 0 rpm — 120 rpm
neonate / Pediatric: 0 rpm — 150 rpm
Resolution: 1 rpm
Apnea alarm threshold: 0s, 15s, 20s, 25s, 30s, 35s, 40s
Band width: 0.2 Hz—2 Hz（-3 dB）
Sweep speed: 6.25 mm/s, 12.5 mm/s, 25.0 mm/s
Sensitivity: ×1 /4, ×1/2, ×1, ×2, ×4, auto
Accuracy: ±2 rpm

NIBP
Method: automatic oscillometric
Operation modes: manual / automatic / continuous
Resolution: 1 mmHg
Auto measurement time interval: adjustable1min, 3min, 5min, 10min, 15
min, 30 min, 45 min, 1h, 2h, 3h, 5h, 8h
Measurement types: systolic, diastolic, mean
Pressure range for adults: systolic: 40-270 mmHg
diastolic: 10-210 mmHg
mean: 20-230 mmHg

Pressure range for pediatrics: systolic: 40-200 mmHg
diastolic: 10-150 mmHg
mean: 20-165 mmHg
Pressure range for neonates: systolic: 40-135 mmHg
diastolic: 10-100 mmHg
mean: 20-110 mmHg
Leak test and pressure auto calibration: yes
Over-pressure protection: dual safety protection

SpO2 (Masimo & Nellcor are optional)
Biocare accuracy: ±2% (70%—100%)
Masimo accuracy: ±2% (70%—100%, Adu / Ped)
±3% (70%—100%, Neo)
Nellcor accuracy: ±2% (70%—100%, Adu / Ped)
±3% (70%—100%, Neo)
Refreshing rate: 1s

PR
Range: Biocare SpO2: 25—250 bpm
Masimo SpO2: 25—240 bpm
Nellcor SpO2: 20—300 bpm
IBP module: 30—350 bpm
Accuracy: Biocare SpO2: ±3 bpm
Masimo SpO2: ±3 bpm
Nellcor SpO2: ±3 bpm (20—250 bpm, Adu / Neo)
IBP module: ±1 bpm (30—200 bpm)
Resolution: 1 bpm

Temperature (2 channels)
Measurement / Alarm range: 0℃—50℃ (32℉ —122℉)
Resolution: 0.1℃
Accuracy: ±0.1℃
Channel: 2-channel

Optional Configuration:
IBP
Measured parameters: systolic pressure, diastolic pressure, mean
pressure, pulse rate
Measurement pressure: ART, PA, P1, P2, LAP, RAP, ICP, CVP
Measurement range: -50—350mmHg
Accuracy: ±2% or 1mmHg whichever is greater
Resolution: 1mmHg
Refreshing rate: 1s

ETCO2 (mainstream, sidestream, microstream)
By RESPIRONICS, PHASEIN technology

Respironics Sidestream LoFlo Module (can support microstream):
Measurement range: 0%—20%（0 mmHg —150 mmHg）
Resolution: 1 mmHg
Measurement accuracy: 0 mmHg—40 mmHg, ±2 mmHg
41 mmHg—70 mmHg , ±5% of the reading
71 mmHg—100 mmHg , ±8% of the reading
101 mmHg—150 mmHg , ±10% of the reading

Respiration rate measurement range: 2 rpm—150 rpm
Respiration rate measurement accuracy: ±1 rpm
Apnea time: 20s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s
Sampling flow rate: 50ml/min ± 10ml/min

Respironics Mainstream CAPNOSTAT5 Module
Measurement range: 0%—20 %（0 mmHg —150 mmHg ）
Resolution: 1mmHg
Measurement accuracy: 0 mmHg—40 mmHg , ±2 mmHg
41 mmHg—70 mmHg , ±5% of the reading
71 mmHg—100 mmHg , ±8% of the reading
101 mmHg—150 mmHg, ±10% of the reading
Respiration rate measurement range: 0 rpm—150 rpm
Respiration rate measurement accuracy: ±1 rpm
Apnea time: 20s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s

Phasein Mainstream IRMA Module
Measurement range: 0%—15%
Resolution: 1mmHg
Accuracy: 0—15%: ±(0.2%+2% of the reading)
Respiration rate measurement range: 0 rpm—150 rpm
Respiration rate measurement accuracy: ±1 rpm
Apnea time: 20s, 25s, 30s, 35s, 40s, 45s, 50 s, 55s, 60s
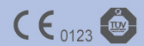
Phasein Anesthetic Gases / O2
Measurement method: infrared radiation absorption characteristics
Gas: CO2, O2, N2O, Des, Sev, Enf, Iso, Hal
Warm-up time: 30 s
Measuring range: CO2: 0%～25%, O2: 0%～100%
N2O: 0%～100%, Des: 0%～25%
Sev: 0%～25%, Enf: 0%～25%
Iso: 0%～25%, Hal: 0%～25%
AwRR range: 0 rpm～254 rpm
Resolution: CO2:1mmHg, awRR: 1 rmp
Measuring accuracy drift: meet the accuracy requirements within 6 hours
Apnea time: 20s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s

CSM Anesthetic Depth Index Monitoring
Anesthetic depth index: 0—100, 6Hz—42Hz filtering
Wireless transmission distance: ≥8 m between monitor and CSI module
EEG Sensitivity: ±400 μV
EMG: 0-100 (Logarithmic value), 75Hz—85Hz filtering
BS: 0-100%, 2Hz—42Hz filtering

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