

# OMNI EXPRESS

## PORTABLE PATIENT MONITOR



### ECG, Respiration, SpO<sub>2</sub>, NIBP, Temperature, Recorder

- Touch Screen
- 3 waveforms displayed
- Simultaneous multi-lead ECG monitoring
- Battery backup
- Graphical and tabular trending
- Audible and visual alarms
- Advanced ST and arrhythmia detection
- Quick BP readings recall
- Optional EtCo<sub>2</sub>
- Optional printer



Advanced, Affordable Medical Technology For The World

# OMNI EXPRESS TECHNICAL SPECIFICATIONS

## Safety Approval & Quality System

Designed to meet IEC60601-1-1988, EN60601-1-1, EN60601-2  
Class II Equipment, double insulated  
Type BF applied parts  
ISO9001 & EN46001 Certified

## Power Requirements

Power Supply AC 90-264V/47-63Hz  
Input Power  $\leq 55\text{VA}$   
Fuses Two fuse sockets in the rear panel indicated by "FUSE",  
 $\Phi 5 \times 20, 2\text{A}/250\text{V}$   
Battery 12V/4.0AH sealed lead-acid  
Charge time  $\geq 4$  hours  
Operating time  $\geq 2$  hours (full recharge)  
Battery Charging Method Automatic charging after monitor is connected to AC power supply (with charge protection function)  
Discharge Protection When powered by battery, the monitor will be automatically turned off when battery power is almost used up.

## Performance Specifications

### ECG

Patient Safety Standard IEC60601-1-1988  
CMRR  $\geq 60\text{dB}$  (Common Mode Rejection Ratio)  
Heart Rate Range 20 ~ 254bpm  $\pm 1$ bpm  
Heart Rate Averaging 8 second average  
ST Segment Range -0.8 ~ + 0.8mV  
Interface AAMI 6-pin  
Lead Selection I, II, III (3 lead mode)  
I, II, III, aVR, aVL, aVF, V (5 lead mode) (ST and Arrhythmia analysis)  
Audible, Visual  
Lead Fault Alarm Audible, Visual  
Input 5-lead ECG patient cable  
QRS Indicator Audible and Visual Alert  
Waveform Storage 6 minutes  
Sweep Speed 12.5/25/50 mm/sec  
Gain Selection 4mV, 2mV, 1mV, 0.5mV, 0.25mV, Auto  
Trends 2 hours  $\rightarrow$  4 hours  $\rightarrow$  8 hours  $\rightarrow$  24 hours  $\rightarrow$  48 hours  
Patient Isolation Breakdown voltage: 4000VAC 50Hz 60 seconds  
Leakage current:  $< 10\mu\text{A}$   
Frequency width Monitoring mode: 0.5 ~ 40Hz (+0.4dB, -3.0dB)  
Surgery mode: 0.5 ~ 20Hz (+0.4dB, -3.0dB)  
(not calibration significant)  
Patient Drive Current  $< 10\mu\text{A}$   
Enclosure Leakage Current  $< 0.1\text{mA}$   
Maximum T Wave Rejection Capability 1.2mV  
Heart Rate Alarm Response Time  $< 7$  seconds  
Aspect Ratio 0.24 ~ 0.6 sec/mV  
Alarm Frequency Low alarm 2-2.4kHz  
High alarm 3-3.4kHz  
Defibrillator Protected & ESIS Protected Tested with 5kV  
Recovery Time Following Defibrillation  $< 5$  seconds

### Respiration

Measurement Method Thoracic Impedance  
Respiration Rate Range 0 ~ 100  $\pm$  1rpm  
Accuracy  $\pm 2$  rpm



OMNI Express with  
backside bracket option.

## Pulse Oximetry (SpO<sub>2</sub>)

SpO<sub>2</sub> Range 0-100% Adult/Pediatric/Neonate  
SpO<sub>2</sub> Averaging 8 second average  
SpO<sub>2</sub> Accuracy  $\pm 2\%$  (70 ~ 100%),  $\pm 3\%$  (40 ~ 70%)  
Pulse Rate Range 30 ~ 250bpm  
Pulse Rate Averaging 8 beat average  
Pulse Rate Accuracy  $\pm 1\%$  @ 30 ~ 100bpm  
Sensor Types Finger, Universal "Y", wrap probes  
Pulse Rate Display Digital

## Non-Invasive Blood Pressure (NIBP)

Method Automatic oscillometric  
Parameters Systolic, diastolic, mean arterial pressure, pulse  
Scale mmHg or kPa  
Operating Modes Manual, Automatic, Continuous  
Repeat Cycles 1 ~ 10, 15, 30, 60, 90, 120 minutes  
Determination - Systolic Adult/pediatric 40 ~ 250mmHg (5.3 ~ 33.3kPa)  
Neonate 20 ~ 160mmHg (2.7 ~ 21.3kPa)  
- Diastolic Adult/pediatric 10 ~ 180mmHg (1.3 ~ 24.0kPa)  
Neonate 10 ~ 140mmHg (1.3 ~ 18.7kPa)  
Cuff Pressure Range Adult/pediatric 0 ~ 300mmHg (0 ~ 40.0kPa)  
Neonate 0 ~ 140mmHg (0 ~ 18.7kPa)  
Initial Cuff Inflation Adult/pediatric 170  $\pm$  10mmHg (22.7  $\pm$  1.3kPa)  
Neonate 100  $\pm$  10mmHg (16.0  $\pm$  1.3kPa)  
Deflation Pressure 30mmHg (4.0kPa) higher than the last systolic pressure.  
Cuff Inflation Rate No greater than 50mmHg/sec  
Measurement Time Typical 25 seconds  
Maximum 40 seconds  
Typical Stat 20 seconds  
Pressure Display Accuracy  $\pm 3\text{mmHg}$   
BP Pulse Rate Accuracy  $\pm 2\%$  @ 40 ~ 240bpm.  
Cuff Neonate, infant, pediatric, standard adult.

## Temperature (Dual Channel)

Range 0 ~ 50°C  
Probe YSI @ 400 Skin surface or rectal /esophageal  
Scale Celsius  
Accuracy  $\pm 0.1^\circ\text{C}$   
Resolution 0.1°C

## CO<sub>2</sub>

Type Side stream, mom-dispersive IR  
CO<sub>2</sub> Range 0-99mmHg  
Scale mmHg/kPa  
Accuracy  $\pm 2\text{mmHg}$  (0-40mmHg)  
 $\pm 5\text{mmHg}$  (41-76mmHg)  
 $\pm 10\text{mmHg}$  (77-99mmHg)

## Calibration

Respiration Range 0-150rpm,  $\pm 2$ rpm


## TFT Color Display

Size 8 inches  
Matrix 640 (H) x 480 (V) pixels

## Recorder (Optional)

Type Built-in 2-channel thermal array recorder  
Print mode Text or waveform  
Waveforms Real time or alarm-triggered  
Resolution 400dpi vertical, 800dpi horizontal  
Annotations Time, date, vital sign readings

Specifications subject to change without notice.

ISO 13485 

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