

# MULTIPARAMETER PATIENT MONITOR

# EMCO MPM 4870C

**MASIMO**<sup>®</sup>  
SpO<sub>2</sub>

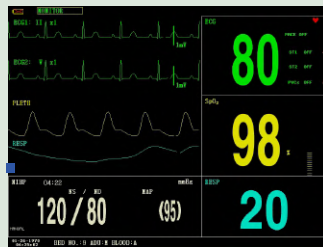
12.1"



**Standard Parameters:**  
3/5-lead ECG, RESP, SpO<sub>2</sub>, NIBP  
TEMP

**Optional Parameters:**  
Dual IBP, etCO<sub>2</sub>

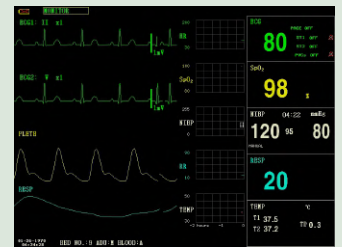
Flexible display solutions to meet different needs in clinical application scenarios



Big font interface



OxyCRG interface



Mini-trend interface



7-lead full screen interface



Bed to bed view interface

Offline Memory - single piece of patient data contains

**4800**  
NIBP

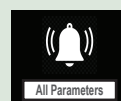
**480 h**  
Trend Review

**500**  
Alarm Review

Optional Parameters



Features



Optional Features



Emco Meditek, an ISO9001 & ISO13485 certified company, was formed in the year 1989 with the main objective of manufacturing and marketing of Electronic Medical Equipment.

The equipment are designed and manufactured indigenously with the assistance of technology obtained from leading Medical Equipment manufacturing companies around the world especially USA, UK and Germany.



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## Technical Specifications

### Classification

Anti-Electroshock type : Class I / Internal Powered Equip  
EMC Type : Class A  
Anti-Electroshock degree : SpO<sub>2</sub>/NIBP/CO<sub>2</sub> - Type BF  
ECG/TEMP/IBP - Type CF (Defibrillator proof)  
Ingress Protection : IPX2  
Safety : IEC 60601-1, IEC 60601-1-8, IEC 60601-2-27  
EN 1060-3, IEC 80601-2-30, IEC60601-2-34,  
IEC60601-2-49 ISO 80601-2-56 ISO 80601-2-61

### Physical Specification

Device dimension : 319(W) x 298(H) x 145(D) mm  
Weight : Standard Configuration - 4kg (with Battery)

### Display

Type : Color TFT LCD 12.1"  
Resolution : 800 x 600 pixels  
Traces Displayed : up to 8  
Indicators : Alarm LED, Battery LED, AC Power LED

### Working Environment

Ambient Temperature : +5 ~ +40 °C  
Humidity : 15% ~ 85% Non-Condensing

### Storage Environment

Ambient Temperature : -20 to +55°C  
Humidity : < 95% Non-Condensing

### Power Supply

Input : 100 ~ 240V AC, 50/60HZ, Pmax=150VA  
Battery Backup : 3 hours  
Battery Type : Rechargeable Li-ion 7.4VDC, 5000mAh  
Recharging time : 4 hours (90% capacity)

### Data Output Ports

USB Port (2), RJ-45 Ethernet Port (HL7/HIS Connection)  
Optional - Nurse Call, VGA Output, Defib Sync

### SpO<sub>2</sub>

Measurement & Alarm Range : 0 ~ 100%  
Resolution : 1%  
Accuracy : ± 2% (70 ~ 100%)

### Pulse Rate (from SpO<sub>2</sub>)

PR Measurement & Alarm Range : 25 ~ 250 bpm  
Resolution : 1 bpm  
Accuracy : ± 2 bpm ± 2% (greater)

### Respiration

Method : RA-LL impedance  
RR Measurement range : 0 ~ 150 rpm  
Resolution : 1 rpm  
Accuracy : ± 2 rpm  
Apnea Alarm Threshold : 10 - 40s  
Sweep Speed : 6.25, 12.5, 25 mm/s

### ECG

Lead Type : 5-lead /3-lead selectable  
3 leadwire cable : RA; LA; LL or R; L; F  
5 leadwire Cable : RA; LA; RL; LL; V or R; L; N; F; C  
Lead Selection : 3-lead: I; II; III;  
5-lead: I; II; III; aVR; aVL; aVF; V

Gains Selection : 2.5/5/10/20/40mm/mV; auto  
Sweep Speed : 12.5, 25, 50mm/s  
ECG HR Range : Adult: 15 ~ 300 bpm  
Pediatric/Neonate : 15 ~ 350 bpm

Resolution & Accuracy : ±1bpm or 1% (greater)  
Bandwidth : Diagnostic mode : 0.05 ~ 75 Hz  
Monitor mode : 0.67 ~ 40 Hz  
Surgery mode : 1.0 - 20 Hz

CMRR : Diagnostic > 90dB, Surgery/Monitor > 100dB  
Protection : Withstand 4000VAC/50Hz voltage in isolation  
against Defibrillation and Electrosurgical interference  
ST Segment Detection : Measurement range : -2.0 ~ +2.0mV  
ST Alarm range : -2.0 ~ +2.0mV  
ST Segment Arrhythmia analysis and categorization  
ARR Alarm : Audible and Visual Alarm, Alarm events Recallable  
Pacemaker detection and 13 types abnormal status detectable

### NIBP

Method : Automatic Oscillometric  
Operation modes : Manual/Auto/Stat  
Auto measurement time interval : Adjustable  
1-5/10/15/30/60/90/120/240/480/960 Minutes  
Measurement types : Systolic, Diastolic, Mean

### Measurement Pressure range

Adult	Systolic : 30 ~ 270 mmHg
	Diastolic : 10 ~ 220 mmHg
	Mean : 20 ~ 235 mmHg
Pediatric	Systolic : 30 ~ 235 mmHg
	Diastolic : 10 ~ 195 mmHg
	Mean : 20 ~ 210 mmHg
Neonate	Systolic : 30 ~ 135 mmHg
	Diastolic : 10 ~ 100 mmHg
	Mean : 20 ~ 110 mmHg

Over-Pressure Protection : Adult - 297 ± 3mmHg  
Paed - 240 ± 3mmHg  
Neonate - 147 ± 3mmHg

Resolution : 1mmHg  
Accuracy : ± 3mmHg (Mean Error)  
Alarm : Systolic, Diastolic, Mean  
Typical Measuring Period : 25-40 sec

### Temperature (Dual Channels, 1 Probe by Default)

Measurement & Alarm Range : 0 ~ 50 °C  
Resolution : 0.1 °C  
Accuracy : ± 0.1 °C  
Refresh Time : Approx 1 sec

### IBP (Dual Channels) (Optional)

Labels : ART, PA, CVP, RAP, LAP, ICP  
Measurement Range : -10 ~ 300 mmHg  
Resolution : 1 mmHg  
Accuracy : ± 2% or ± 1 mmHg (greater)  
Sensitivity : 5 µV/V/mmHg  
Impedance range : 300-3000 Ω  
Meas. range : ART 0 ~ 300 mmHg  
PA -6 ~ 120 mmHg  
CVP/RAP/LAP/ICP -10 ~ 40 mmHg

### etCO<sub>2</sub> (Sidestream) (Optional)

Principle of Operation : Non-dispersive Infrared (NDIR),  
Single Beam, Dual wavelength, no moving parts  
Sampling Rate : 50 ± 10 ml/min  
Range : 0 to 150 mmHg (0 to 19.7 %Vol, 0 to 20 KPa)  
Accuracy : ±2 mmHg 0 to 40mmHg  
±5% of reading 41 to 70 mmHg  
±8% of reading 71 to 100 mmHg  
±10% of reading 101 to 150 mmHg  
Respiration Range : 2 ~ 150 breaths per minute (bpm)  
Resp. Accuracy : ±1 breath  
Resp. Resolution : 1 bpm  
Calibration : No routine user calibration required

### etCO<sub>2</sub> (Mainstream) (Optional)

Principle of Operation : Non-dispersive Infrared (NDIR),  
Single Beam, Dual wavelength, no moving parts  
Range : 0 to 150 mmHg (0 to 19.7 %Vol, 0 to 20 KPa)  
Accuracy : ±2 mmHg 0 to 40mmHg  
±5% of reading 41 to 70 mmHg  
±8% of reading 71 to 100 mmHg  
±10% of reading 101 to 150 mmHg  
Respiration Range : 2 ~ 150 breaths per minute (bpm)  
Resp. Accuracy : ±1 breath  
Resp. Resolution : 1 bpm  
Calibration : No routine user calibration required. An airway  
adapter zero is required when changing to a different style  
of airway adapter.

### Recorder (Optional)

Built-in, direct thermal dot matrix  
Up to 2 channels printing  
Print Speed : 25, 50 mm/s  
Paper width : 48 mm

Specifications subject to change without prior notice.



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healthcare

## EMCO MEDITEK® PVT. LTD.

### Factory :

Luna Road, Post Dabhasa,  
Taluka Padra, District Baroda - 391440, India  
Phone : +91-2662-223397  
Fax : +91-2662-223397  
E-mail : emcomeditek@gmail.com

### Head Office :

Unit No. 109, Vasan Udyog Bhavan,  
Off. Senapati Bapat Road, Lower Parel, Mumbai 400 013  
Phone : +91-9819901861  
E-mail : emmeditek@emcomeditek.com  
Website : http://www.emcomeditek.com • CIN : U32109MH1989PTC053525