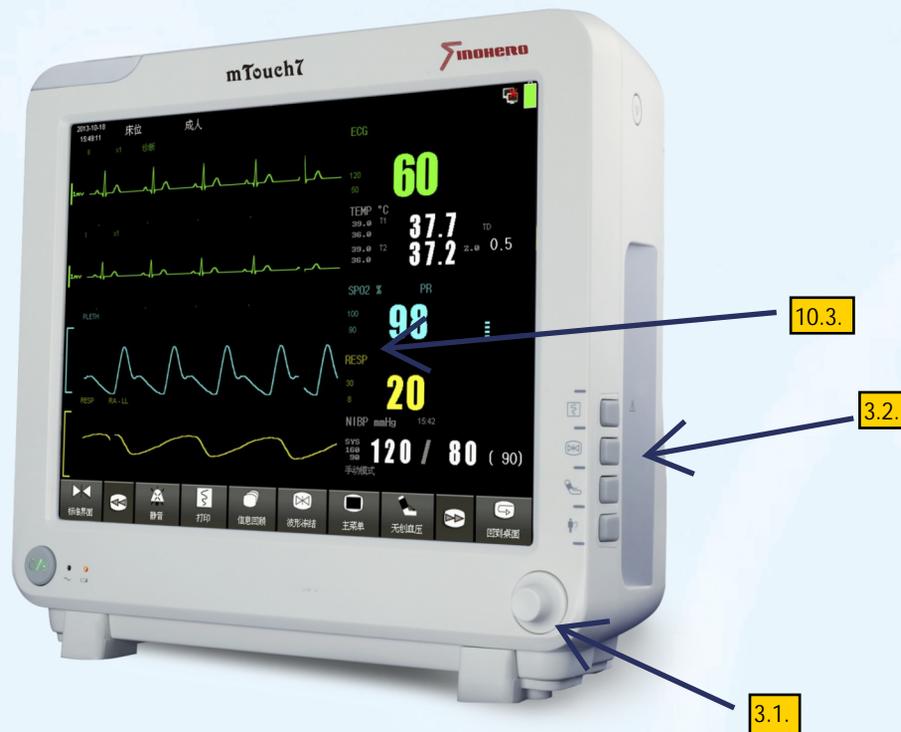


mTouch 7

Multi-parameter Patient Monitor



- ^{3.3.} 12" TFT full-touch screen with sharp view
- Ultimate slim design, compact with style
- Powerful software function include Large Font, Short trend, Arrhythmia and ST Analysis
- External 4-channel printer with plug-and-play feature
- Wire or wireless networking available

Size and Weight

- Size: 304(W)× 279(H)×137(D)mm
- Weight(Standard Configuration): 4.7kg

Display

- 12.1" color TFT Full Touch Screen **2.1.**
- Resolution: 800×600 **2.2.**

Multi displays

- Standard display
- Large-font display
- Short Trend display
- OxyCRG display

Indicator

- Power indicator light
- Battery indicator light

Interface

- Parameter cable interface
- AC Power input socket
- Ground wire interface
- Network interface
- Alternate Display
- USB interface
- SD memory card interface

Battery

- Li-ion battery /Rechargeable
- 5 hours for charging; 3.5 hours for continuous working **1.2.**

Trend Graph

- Reviewable Parameters: HR,ST,SpO2,PR,NIBP,RR,TEMP
- Resolution: 1s, 5s, 5min, 10min

Trend Table

- Reviewable Parameters: HR,ST,SpO2,PR,NIBP,RR,T1,T2,TD **4.2.**
- Resolution: 1,5,10,30,60min
- Trend Data: 256 Hours trend date for all parameters **4.1.**
- NIBP measurement: 400 Groups

Alarm

- Categories: Physical alarms and Technical alarms
- Priority: High, Medium, and Low
- Alarm sound levels: 0,1,2,3,4
- Notification: Visual and Audible **4.3.**

Networking

- Connected to central monitoring system

Recorder

- Type: Thermal dot array
- Number of waveform channels: 2 (standard), 1,3(optional)
- Paper width: 50mm
- Paper length: 13.5m
- Print speed: 25mm/s

Operation Environment

- Temperature: 0℃-40℃
- Relative humidity: ≤85% (noncondensing)
- Atmospheric pressure: 860hpa-1060hpa
- Patient Range: Adult, Pediatric, Neonate

ECG

- Lead Mode: 3-lead
- 5-lead **6.1.**
- Lead selection: I, II, III **6.1.**
- I, II, III, V, AVR, AVL, AVF
- Gain: ×0.25, ×0.5, ×1, ×2, Auto
- Sweep speed: 12.5mm/s, 25mm/s, 50mm/s
- Multi-lead display: 6 waveforms
- Alarms: User-selectable upper and lower heart rate limits **2.3.**

HR

- Heart Rate for Adult: 15-300bpm **6.2.**
- Heart Rate for Neonate/Pediatric: 15-350bpm
- Heart Rate Accuracy: ±1bpm or ±1%, whichever is greater
- Heart Rate Resolution: 1bpm
- Notch: 50Hz, 60Hz

ST Segment

- ST segment range: -2.0mv to 2.0mv
- ST alarm range: -2.0mv to 2.0mv
- ST segment accuracy: -0.8mv to 0.8mv
- ST segment error: ±0.02mv
- Arrhythmia type: 13 types

SpO2

- Measurement range: 1%~100% **10.1.**
- Resolution: 1%
- Accuracy: ±2%(70%-100%); unspecified(0-69%) **10.2.**
- Alarm range: 0~100%

Pulse Rate

- Measurement range: 20bpm~300bpm **10.4.**
- Resolution: 1bpm
- Accuracy: ±3bpm
- Alarm range: 0~254bpm

NIBP

- Measurement technique: Oscillometric
- Measurement types: Systolic, Diastolic, Mean **9.2.**
- Work mode: Manual, Auto, STAT
- Auto measurement time: 0-4 hours
- Measurement unit: mmHg / Kpa selectable
- Measurement range:

Adult Mode:	Systolic pressure	40~270mmHg	9.1.
	Diastolic pressure	10-215mmHg	
	Mean pressure	20-235mmHg	
Pediatric Mode:	Systolic pressure	40~200mmHg	
	Diastolic pressure	10-150mmHg	
	Mean pressure	20-165mmHg	
Neonatal Mode:	Systolic pressure	40-135mmHg	
	Diastolic pressure	10-100mmHg	
	Mean pressure	20-110mmHg	
- Accuracy: 5% **9.1.**
- Resolution: 1mmHg
- Alarms : Selectable upper and lower limits for systolic, diastolic and mean pressure
- Over-pressure protection: Double safety protection **9.3.**

IBP

- Channels: 1 or 2 selectable
- Measurement Mode: Pressure Transducer
- Measurement Range: -10mmHg~300mmHg **11.1.**
- Accuracy: ±1mmHg or ±2%, whichever is greater(without sensor) **11.2.**
- Pressure name: ART, PA, CVP, RAP, LAP, ICP, P1, P2
- Alarm range: -10~300mmHg

TEMP

- Measurement unit: °Celsius(℃) or °Fahrenheit(F) **8.1.**
- Measurement range: 0-50℃
- Channel: T1, T2, TD (Temperature Difference) **8.2.**
- Resolution: 0.1℃
- Accuracy: ±0.1℃ **8.1.**
- Probe type: YSI type

RESP

- Measurement technique: RA-LL Impedance variation detection
- Range: Adult: 7~120rpm
- Pediatric/Neonate: 7~150rpm **7.1.**
- Apnea alarm: 10s,15s,20s,25s,30s,35s,40s selectable
- Sweep speed: 6.25mm/s, 12.5mm/s, 25mm/s
- Gain: 0.25, 0.5, 1, 2, 4

EtCO2

Mainstream CO2

- Measurement Range: 0 -150 mm Hg
- Accuracy: ± 2 mm Hg (0 - 40 mm Hg)
 - ± 5% of reading (41 - 70 mm Hg)
 - ± 8% of reading (71 -100 mm Hg)
 - ± 10% of reading (101 -150 mm Hg)
- RR range: 0 to 150rpm
- Accuracy: 1rpm
- Response time: <60ms

Sidestream CO2

- Measurement range: 0 -150 mm Hg
- Accuracy: ± 2 mm Hg (0 - 40 mm Hg)
 - ± 5% of reading (41 - 70 mm Hg)
 - ± 8% of reading (71 -100 mm Hg)
 - ± 10% of reading (101 -150 mm Hg)
- Sample flow rate: 50ml/min
- Accuracy: ±15% or 15ml/min, whichever is greater
- Warm-up time: <1min, enter the iso accuracy mode
 - After 1 min, enter the full accuracy mode
- RR range: 0-120rpm
- RR accuracy: ±2 rpm

Standard Configuration of mTouch 7

- 12.1" TFT-LCD Full Touch Screen, 3/5 Lead ECG, PR/HR, RESP, SpO2, NIBP, 2-TEMP, Li-ion Battery **5.1.**

Optional Configuration of mTouch 7

- Masimo SpO2, 2-IBP, EtCO2 (Sidestream, Mainstream), Printer, VGA

Specification subject to be changed without prior notice.

mTouch7

Multi-Parameter Patient Monitor

User's Manual

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<http://www.sinoheromed.com>

5. Click icon **X** to confirm and back to previous menu.
6. Exit the menu.

Method 2:

1. Enter Date and Time area.
2. Change date and time information.
3. Click icon **X** to confirm and back to previous menu.
4. Exit the menu.

2.7 Changing the Brightness

When the monitor is under patient transport or using battery power, you can lower the brightness to save battery power.

To configure the monitor brightness:

1. Enter Brightness menu.
2. Select brightness level option.
3. Click icon **X** to confirm and back to monitoring screen.

2.8 Managing Patients

Patient information must be properly administered and documented. The monitor displays physiological data and stores it in the trend database as soon as a patient is connected. This lets you monitor a patient not yet admitted. However it is important to properly identify a patient on recordings, reports, and networked devices.

To admit a patient:

- 3.4. 1. Enter **Patient** menu. A **Patient Information** window appears.
2. Enter information and click icon **X** to confirm.
 - **Bed**: enters the patient's bed number. The maximum length is 4 letters.
 - **Sex**: selects **Male** or **Female**.
 - **Type**: select **Adult**, **Pedi**. or **Neo**.
 - **Pace**: Pacemaker Detect, select **ON** or **OFF**.
 - **New Patient**: selecting **Yes** clears patient data. Ensure that all necessary reports are printed before selecting **Yes**. Selecting **No** keeps the current measurement data.

When patient information is configured, the relevant information displays at the top left of the monitoring screen.

Note —Patient information is saved when there is a power loss.

Changing the **Type** in the **Patient Information** window also changes the **Patient Type** in the NIBP menu. Changing the **Type** in the **Patient Information** window might also change the HR and NIBP alarm limits. Changing the **Type** in the **Patient Information** will change all the relative parameters' alarm limits. Always check the alarm limits to ensure that they are appropriate for your patient.

- 4.4. 2. ECG, SpO₂, TEMP, NIBP, RESP Alarm Setup are options. Choose one parameter and press to confirm.
3. Setup Alarm **ON/OFF**, Alarm limits and Alarm Level.
4. Exit the menu.

Note — Both alarm limits remain in the system until they are changed, including when you turn the monitor on and off, or after a power loss.

3.5.2 Restoring Default Alarm Limits

The monitor has alarm limit settings based on patient type. To restore the default alarm limits:

1. Enter **Main** menu.
2. Enter **Default** menu.
3. Choose an option **No** or **Yes**.
 - Yes, keeping current alarm limits.
 - NO, restoring adult default alarm limits.

Note —User can not change default alarm limit.

3.6 Reviewing Alarm Events

You can review alarm events that occurred during monitoring in the Alarm Event Review window. The monitor can store 60 groups of alarm events in the system, including date; time, parameter values, and the corresponding alarm description.

To review alarm events:

1. Enter **Review** menu.
2. Enter **Alarm Event Review**. The **Alarm Recall Condition** window appears
3. Adjust recall time, choose **Alarm Event Review**
4. Choose **Event type**, the alarm type window appears.
5. Choose individual alarm event from Listbox.
6. Exit the menu.

Note —When a patient is discharged; the monitor clears the previous patient data and deletes all alarm events from the **Alarm Event Review** window.

B.7 Invasive Blood Pressure Specifications

The following table describes the IBP specifications.

Table B-7 IBP Specifications

Parameter	Specification
IBP range	ART 0 - 300 mmHg PA -6 - 120 mmHg CVP -10 - 40 mmHg RAP -10 - 40 mmHg LAP -10 - 40 mmHg ICP -10 - 40 mmHg
IBP accuracy	1 mmHg or 2%, whichever is greater
Unit	mmHg or kPa
Sampling rate	62.5 times per second
Waveform speed	6.25 mm/s, 12.5 mm/s, 25.0 mm/s
Transducer sensitivity (Intellivue: Input sensitivity)	5 uV/V/mmHg
Resolution	1 mmHg (0.13 kPa)
Transducer type	Disposable
Updating time	Approximately 1 second
Alarm delay	<10s

B.8 Power Specifications

The following table describes the power specifications.

Table B-8 Power Specifications

AC Power Parameter	Specification
Mains power input	100V-240V~, 50 Hz/60 Hz, 1.4A-0.59A
Power input	140VA
Fuse	F3.15AL 250V
Battery Power Parameter	Specification
Capacity	Lithium ion 11.1 V/4800 mAh
Charging time	4 hours (to 90% battery capacity)
Typical operating time	3.5 hours (with ECG, SpO ₂ measurement and NIBP measured every 15 minutes)
Charge mode	Automatic (with charge protection feature) when the monitor is connected to an AC power source.
Discharge protection	When the monitor is powered by battery, the monitor powers off if the battery power is almost depleted.

1.1.