



# Q7

## MONITOR MODULAR DE PACIENTE

*Aprobado Por*

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**FDA**



 **DISTRICLINIC**  
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## Size and Weight

- Size: 335mmX366mmX172mm
- Weight : ≤ 6 kg
- Standard module slot: 3

### Power supply

- Power Voltage: AC 100-240V 50/60Hz
- Input Current: 1.7-0.8A
- Safety class: Category I

### Display

- 15" Color TFT-LCD
- Resolution : 768 × 1024 pixels

### Battery

- Type: Rechargeable Lithium battery, 11.1V/4.0AH
- Operating time under the normal use and full charge : ≥120minutes (2 batteries for 240 minutes)

### Recorder (Option)

- Method : Thermal dot array
- Paper width : 50 mm (1.97 in)
- Paper length: 15m
- Paper Speed : 12.5 / 25 / 50 (mm/sec)
- Traces : Maximum 3 tracks
- Recording way : Real-time recording, Periodic recording, Alarm recording

### Alarm

- Level : Low, medium and high
- Indication : Auditory and visual
- Patient Physiological Alarm Light color: Yellow & Red;
- Equipment Technical Alarm Light color: Blue
- Supports Pitch Tone and multi-level volume;
- Supports custom arrhythmia tone

### Input device

- Touch screen: standard config
- Mouse input: Support
- Keyboard input: Support

### System Output & Extensible Interfaces

- Ethernet Network: 1 Standard RJ45 socket
- Defibrillation Output: 1 BNC connector
- Nurse Call: 1 RJ11 connector
- Video Output : 1 VGA port
- SD memory card : 2G (Option)
- Analog Output (ECG or IBP) : Option

### Trend & Reviewing :

- Trend : Lond trend: 168h, minimum resolution is 1min (store when power goes off)  
High resolution trend: 2h, minimum resolution is 5s
- NIBP measurement reviewing : 1000 groups
- ARR event: 128 groups of ARR event and the associated waveform.
- Alarm events: 128 groups of parameter alarm events and associated parameter waveform at the alarm moment
- Full Disclosure waveform: 24 hours for 3 waveforms (with 2G SD card)

### Environment

- Operating temperature: 0 °C ~ +40 °C
- Storage temperature: -20 °C ~ +50 °C
- Operating humidity: 15% to 85% non condensing
- Storage humidity: 10% to 93% non condensing
- Operating atmospheric pressure: 800hPa to 1060hPa
- Storage atmospheric pressure: 500hPa to 1060hPa

### Safety:

- IEC60601-1 Approved, CE marking according to MDD93/42/EEC

## Performance:

### ECG

- Lead Mode : 3-leads ECG input  
5-leads ECG input  
12-leads ECG input
- Lead selection : I, II, III  
I, II, III, aVR, aVL, aVF, V-  
I, II, III, aVR, aVL, aVF, V1-V6 (option)
- Gain : 2.5 mm/mV(x0.25), 5 mm/mV(x0.5), 10 mm/mV(x1),  
20 mm/mV (X2), 40mm/mV(x4), Auto
- CMRR : Monitor mode ≥105dB  
Surgery mode ≥105dB  
Diagnostic mode ≥90dB
- Frequency response (-3dB):  
Monitor mode 0.5-40Hz  
Surgery mode 1-25Hz  
Diagnostic mode 0.05-150Hz
- Input impedance : ≥5.0 Mohm
- ECG signal range: ± 10.0mV
- Electrode offset potential: ± 500mV
- Patient Leakage Current : <10 uA
- Standardizing signal : 1 mV ± 5%
- Baseline recovery : <5s after Defibrillation. (Mon or Surg mode)
- Indication of electrode separation : Every electrode (exclusive of RL)
- Protection: Breakdown Voltage 4000VAC 50/60Hz; defibrillator proof
- Sweep speed : 12.5mm/s, 25mm/s, 50mm/s
- HR  
- Range : Adult 10-300 bpm  
Pediatric & Neonate: 10-350bpm

Refreshing time : ≤50 bpm Per 2 pulses  
50-120bpm Per 4 pulses  
≥120bpm Per 6 pulses

- Resolution : 1 bpm
- Accuracy : ± 1% or ± 1bpm, whichever is greater

### ST segment

- Measurement range : -2.0mV-2.0mV
- Accuracy : -0.8mV-0.8mV; ± 0.02mV or ± 10%, whichever is greater  
Over ± 0.8mV: unspecified
- Resolution : 0.01mV

### RESP

- Method : Thoracic impedance
- Lead Selected from: I (RA-LA) or II (RA-LL); Default I
- Gain : x0.25, x1 x2 x4
- Bandwidth: 0.25 Hz to 2.0Hz (-3dB)
- Sweep speed : 6.25mm/s, 12.5mm/s, 25mm/s
- Measurement Range : 0-150 rpm
- Resolution : 1 rpm
- Accuracy : ± 2rpm or ± 2%, whichever is greater
- Delay of Apnea Alarm : 10s, 15s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s

### NIBP

- Way of measurement : Automatic oscillometry
- Range of measurement :  
Adult : SYS 30-270 mmHg  
DIA 10-220 mmHg  
MAP 20-235 mmHg  
Child: SYS 30-235 mmHg  
DIA 10-220 mmHg  
MAP 20-225 mmHg  
Neonate: SYS 30-135 mmHg  
DIA 10-100 mmHg  
MAP 20-125 mmHg
- Cuff pressure range : 0-300 mmHg
- Resolution : 1 mmHg
- Pressure Accuracy : Static : ± 2% or ± 3mmHg, whichever is greater  
Clinical : ± 5 mmHg average error  
standard deviation : ≤8 mmHg
- Unit : mmHg, kPa
- Measurement mode: Manual, Auto, STAT
- Intervals for AUTO measurement time : 1, 2, 3, 4, 5, 10, 15, 30, 60, 90 minutes;  
2, 4, 8, 12 hours
- STAT mode cycle time : Keep 5 minutes, at 5 seconds interval.
- Overpressure Protection : Hardware and software double protections
- Pulse rate range : 40 - 240 bpm
- BLT-SpO2 (Digital Technic)  
- Measurement Range : 0-100%
- Resolution : 1%
- Accuracy : At 70-100%, ±2%  
At 0-69%, unspecified
- PR  
- Measurement Range : 25-255 bpm
- Resolution : 1 bpm
- Accuracy : ± 1% or ± 1 bpm, whichever is greater
- Nellcor-SpO2 (option)  
- Measurement Range : 0-100%
- Resolution : 1%
- Accuracy : At 70-100%, ±2% (Adult)  
At 70-100%, ±3% (Neonate)  
At 70-100%, ±2% (Low Perfusion)  
At 0-69%, unspecified
- PR  
- Measurement Range : 20-300 bpm
- Resolution : 1 bpm
- Accuracy : 20bpm to 250bpm: ± 3 bpm  
251bpm to 300bpm: unspecified
- Masimo SpO2 (option)  
- Measurement range: 0% to 100%
- Resolution: 1%
- Accuracy: 70% to 100% ± 2% Adult/pediatric, non-motion conditions  
70% to 100% ± 3% Neonate, non-motion conditions  
70% to 100% ± 3% Motion conditions  
0% to 69% unspecified
- Average time: 2-4s, 4-6s, 8s, 10s, 12s, 14s, 16s
- PR  
- Measurement range: 25 bpm to 240 bpm
- Accuracy : ± 3bpm Non-motion conditions  
± 5bpm motion conditions
- Resolution: 1 bpm
- TEMP  
- Max Channel : 8
- Measurement way: Thermal resistance way
- Measurement Range : 0.0 °C - 50.0 °C (32 °F-122 °F)
- Accuracy : ± 0.1 °C or ± 1 ° F (exclusive of probe)
- Resolution : 0.1 °C or 1 ° F
- Unit : Celsius ( ° C ), Fahrenheit ( ° F )
- IBP  
- Max Channel : 8
- Measurement way: Directly invasive pressure measurement
- Sensitivity of transducer: 5uV/V mmHg, ± 2%
- Impedance of transducer: 300 to 3000Ω

- Measurement Range : -50 ~ +350 mmHg  
- Resolution : 1mmHg  
- Unit : mmHg, kPa, cmH2O

- Accuracy : Static : ± 1mmHg or 2%, whichever is greater (exclusive of transducer)  
± 4mmHg or 4%, whichever is greater (inclusive of transducer)

Dynamic : ± 4mmHg or 4%, whichever is greater  
Transducer sites : Arterial Pressure (ART)  
Pulmonary Artery Pressure (PA)  
Left Atrium Pressure (LAP)  
Right Atrium Pressure (RAP)  
Central Venous Pressure (CVP)  
Intracranial Pressure (ICP)  
P1/P2

- Selection of measurement range :  
ART : 0 ~ +350mmHg  
PA : -10 ~ +120 mmHg  
CVP/RAP/LAP/ICP: -10 ~ +40 mmHg  
P1/P2 : -50 ~ +350 mmHg

### EiCO<sub>2</sub> (Sidestream)

- Measurement method : Infrared spectrum
- Measurement Range : 0.0-13.1% (0-99.8 mmHg)
- Resolution : 1 mmHg
- Unit : %, mmHg, kPa
- Accuracy : 0% to 4.9% ± 0.3% ( ± 2mmHg)  
5.0% to 13.1%, < ± 10% of reading
- Measurement range of awRR : 3-150 rpm
- Calibration : Offset calibration: auto, manual, Gain calibration

### EiCO<sub>2</sub> (Mainstream)

- Measurement method : Infrared spectrum
- Warm up time : Capnogram displayed in less than 15 seconds. At an ambient temperature of 25 °C, full specifications within 2 minutes.
- Measurement Range : 0.0-19.7% (0-150 mmHg)
- Resolution : 1 mmHg
- Rise time (10 l/min) : ≤ 60 ms
- Unit : %, mmHg, kPa
- CO<sub>2</sub> Accuracy : 0-40 mmHg, ± 2mmHg  
41-70 mmHg, ± 5% of reading  
71-100 mmHg, ± 8% of reading  
101-150 mmHg, ± 10% of reading
- (at 760 mmHg, ambient temperature of 35 °C )  
- awRR measurement range: 0-150 rpm  
- awRR measurement Accuracy: ± 1 rpm

### EiCO<sub>2</sub> (Microstream)

- Measurement method : Infrared spectrum
- Warm up time : Capnogram displayed in less than 20 seconds. At an ambient temperature of 25 °C, full specifications within 2 minutes.
- Measurement Range : 0-19.7% (0-150mmHg)
- Resolution : 1mmHg
- Unit : %, mmHg, kPa
- CO<sub>2</sub> Accuracy : 0-40 mmHg, ± 2mmHg  
41-70 mmHg, ± 5% of reading  
71-100 mmHg, ± 8% of reading  
101-150 mmHg, ± 10% of reading
- (at 760 mmHg, ambient temperature of 25 °C )  
(when Rr >80 rpm, all the range is ± 12% or reading)  
CO<sub>2</sub> response time: < 3s  
- awRR measurement range: 2-150 bpm  
- awRR measurement Accuracy: ± 1rpm  
- Sample Flow Rate 50 ml/min ± 10ml/min

### Anesthetic Gas

- Measure method : Infrared spectrum
- Measure mode : Mainstream or Sidestream
- Fl and Et values : CO<sub>2</sub> N<sub>2</sub>O O<sub>2</sub> AG (HAL, ISO, ENF, SEV, DES)
- Resolution : 1%
- Unit : %
- Calibration : Room air calibration performed automatically when changing airway adaptor (<5 sec)
- Warm-up time : <10 s, full accuracy within 1 min
- Measurement and alarm range of AG:

Gas	Range	Accuracy
CO <sub>2</sub>	0-10 %	± (0.3% ABS+4% REL )
N <sub>2</sub> O	0-100 %	± (2% ABS+8% REL)
O <sub>2</sub>	10-100 %	± (2% ABS+2% REL)
HAL, ISO, ENF	0-5%	± (0.15% ABS+10% REL)
SEV	0-8%	± (0.15% ABS+10% REL)
DES	0-18%	± (0.15% ABS+10% REL)

  - awRR measurement range : 0-150 rpm
  - awRR measurement Accuracy : ± 1 rpm
  - Rise time (flowing speed 10 l/min) CO<sub>2</sub> ≤ 90 ms  
O<sub>2</sub> ≤ 300 ms  
N<sub>2</sub>O ≤ 300 ms  
Hal, Iso, Enf, Sev, Des ≤ 300 ms
  - Total system response time : < 1 seconds

### C.O.

- Measurement Mode: Thermal dilution method
- Measurement Way: Thermal dilution curve
- Measurement parameters: C.O., TB, TI, C.I.
- Measurement Range: C.O.: 0.1 L/min ~ 20 L/min  
TB: 23.0 - 43.0 °C  
TI: -1.0 - 27.0 °C
- Resolution : C.O.: 0.1 L/min  
TB: 0.1 °C  
TI: 0.1 °C
- Accuracy: C.O.: 2% SD TB: TI: ± 0.1 °C
- TB Alarm range: 23.0-43.0 °C, high/low limit can be adjusted continuously

### Standard configuration :

Mainunit: 15" TFT-LCD display, 3 Standard module slot, Touch Screen, 1 RJ45 ethernet socket, 1 Defibrillation Output, 1 Nurse Call socket, 1 VGA port, 2 USB1.1 port, 1 Lithium rechargeable battery.

### Option :

Option Module: Sidestream CO<sub>2</sub> Module, Microstream CO<sub>2</sub> module, Mainstream CO<sub>2</sub> module, AG module, C.O. module, IBP module, Temp module, Masimo SpO<sub>2</sub> module, Nellcor SpO<sub>2</sub> module.  
 Navigating: USB compatible mouse and keyboard.  
 Printing: 3 channel thermal recorder  
 Mounting: Rolling stand, wall mount  
 Battery: 11.1V/4.0AH Rechargeable Lithium Battery.  
 Other options: External Display, Wireless Lan, Extensive Memory card, Analog Output (ECG or IBP)



\*Specifications subject to change without prior notice.

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