

Specifications : BT-770 12.1" Multi-parameter Patient Monitor

| Functional Characteristics | |
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| Display | |
| Type | Color TFT touch screen LCD |
| Size and resolution | 12.1", 800 x 600 pixels |
| LED | |
| Alarm indicator | Yellow & red |
| Adaptor power indicator | 1 green |
| Battery status indicator | 1 green |
| Audio | |
| Speaker | Alarm sound (45 ~ 85dB), key pressing sound |
| | QRS sound, PR sound |
| | Alarm sound meets the IEC60601-1-8 |
| Data Storage | |
| Trend | 168hours, resolution : 1min |
| Alarm event | 200 physiological and 100 technical alarm events |
| NiBp measurement result | 1,000 groups |
| Function | |
| Multi-language | English, France, Spanish, Turkey |
| Trend | Graphic/tabular |
| Alarm | |
| Mode | Visual, audible, information, parameter flashing |
| Alarm delay | Off, 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s |
| Pause duration | 1, 2, 3, 4, 5, 10, 15min or permanent |
| System | Low battery |
| Interface | |
| Auxiliary | Nurse call |
| RJ45 (LAN) | CMS |
| USB | S/W upgrade |
| ECG | |
| Standard compliance | IEC60601-2-27 |
| Lead type | 3Lead : I, II, III |
| | 5Lead : I, II, III, aVR, aVL, aVF, V |
| Display sensitivity (gain) | Auto, 1.25, 2.5, 5, 10, 20mm/mV |
| Wave sweep speed | 12.5, 25, 50mm/s |
| Band width | Diagnostic mode : 0.05 ~ 130Hz |
| | Monitoring mode : 0.5 ~ 40Hz |
| | Surgery mode : 1 ~ 25Hz |
| | Strong filter mode : 5 ~ 20Hz |
| CMRR | > 100dB |
| Notch | 50/60Hz (can be set on or off) |
| Differential input | > 5MΩ |
| Electrode polarization voltage range | ±400mV |
| Baseline recovery time | < 5s after defibrillation (monitor and surgery mode) |
| Calibration signal | 1mV (peak-peak), accuracy ±3% |
| Lead-off detection current | Measuring electrode : < 0.1μA |
| | Drive electrode : < 1μA |
| HR measuring range | Adult : 15 ~ 300bpm |
| | Pediatric/Neonate : 15 ~ 350bpm |
| HR measuring resolution | 1bpm |
| HR measurement accuracy | ±1bpm or ±1%, whichever is greater |
| HR accuracy & response to irregular rhythm | Ventricular bigeminy : 80±1bpm |
| | Slow alternating ventricular bigeminy : 60±1bpm |
| | Rapid alternating ventricular bigeminy : 120±1bpm |
| | Bidirectional systoles : 90±2bpm |
| HR time to alarm for tachycardia | 0.5/1/2mV, 206bpm ventricular tachycardia : < 10s |
| | 1/2/4mV, 195bpm ventricular tachycardia : < 5s |

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| HR alarm upper limit (bpm) | Adult : 16 ~ 300, 1bpm step Pediatric/Neonate : 16 ~ 350, 1bpm step |
| HR alarm lower limit (bpm) | Adult : 15 ~ 299, 1bpm step Pediatric/Neonate : 15 ~ 349, 1bpm step |
| Pacing pulse identification | Detection range : $\pm 2\text{mV}$ ~ $\pm 700\text{mV}$ Pulse width : 0.2ms ~ 2.0ms |
| Pacing pulse average HR | 15s data |
| Pacing pulse interval of HR Refreshing | Every second |
| Pacing pulse HR change response time | $\leq 10\text{sec}$ |
| Pacing pulse tall T-wave suppression | 2mV |
| Alarm | Communication, configuration, selfcheck error |
| | Lead off |
| | HR high/low, PVCs high |
| | Asystole, VF/VTA, R on T, Tachycardia/bradycardia, PVC frequent/couplet/singlr/bigeminy/trigeminy, Miss Beat |
| | Pacemaker not capture/work Signal weak, ST-I, II, III high/low |
| Respiration | |
| Measurement method | Thoracic electrical bio impedance method |
| Measuring lead | Lead RA-LA, RA-LL |
| Wave gain | X0.5, x1, x2 |
| Respiratory impedance range | 0.2 ~ 3 Ω |
| Base line impedance | 500 ~ 2,000 Ω |
| Gain | 10 grades |
| Wave sweep speed | 6.25mm/s, 12.5mm/s, 25mm/s |
| Measurement accuracy | $\pm 2\text{rpm}$ |
| Measurement range | 0 ~ 120rpm |
| Alarm | RR high/low |
| | Apnea Respiration artifact |
| Temperature | |
| Standard compliance | ISO80601-2-56 |
| Measurement method | Thermistor |
| Measuring range | 0°C ~ 50.0°C (32°F ~ 122.0°F) |
| Resolution | 0.1°C |
| Measurement accuracy | $\pm 0.3^\circ\text{C}$ |
| Number of channel | 2 |
| T1/T2 alarm upper limit | 0.1°C ~ 50.0°C, 0.1°C/°F step |
| T1/T2 alarm lower limit | 0°C ~ 49.9°C, 0.1°C/°F step |
| Temperature difference alarm upper limit | 0°C ~ 50.0°C, 0.1°C/°F step |
| Alarm | T1, T2 Sensor off |
| | T1/T2 high/low, TD high |
| NiBp | |
| Standard compliance | IEC80601-2-30 |
| Measurement method | Automatic oscillometric method |
| Operating mode | Manual, automatic, continuous(STAT) |
| Useful life | 100,000times |
| Measurement interval in automatic mode | 1/2/3/4/5/10/15/30/60/90/120/180/240/480min |
| Typical measurement time | 20~40s |
| Normal mode measuring range (mmHg) | Systolic : Adult(40~270), Pediatric(40~200), Neonate(40~130) |
| | Mean : Adult(20~230), Pediatric(20~175), Neonate(20~100) |
| | Diastolic : Adult(10~210), Pediatric(10~162), Neonate(10~90) |
| Measurement accuracy | Maximum average error: $\pm 5\text{mmHg}$ |
| | Maximum standard deviation: 8mmHg |
| Resolution | 1mmHg |
| Initial inflation pressure (mmHg) | Adult : 150(default), 80~240(pressure setting range) |
| | Pediatric : 100(default), 80~200(pressure setting range) |
| | Neonate : 100(default), 60~120(pressure setting range) |

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| Overpressure protection point (software) | Adult: 300mmHg Pediatric: 240mmHg Neonate: 150mmHg |
| Overpressure protection point (hardware) | Adult: 320~330mmHg Pediatric: 265~275mmHg Neonate: 160~165mmHg |
| Static Pressure accuracy | ±3mmHg |
| Supply voltage | 10V~14VDC |
| Maximum power consumption | 3.6W |
| Quiescent current | 50mA |
| Maximum current during measurement | 180mA |
| Maximum current during inflation | 300mA |
| Alarm | Communication, selfcheck, CFG error System error, measurement timeout Cuff loose, no, leak, type error Air pressure error Over range, signal weak/unstable/saturated Over pressure Module reset failed Systolic, mean, diastolic high/low |
| SpO2 | |
| Standard compliance | ISO80601-2-61 |
| Display range | 0% ~ 100% |
| SpO2 display resolution | 1% |
| SpO2 accuracy | Adult/Pediatric : 70 ~ 100% ±2% Neonate : 70 ~ 100% ±3% 0 ~ 69% : Unspecified |
| Wave sweep speed | 12.5mm/s, 25mm/s |
| Wave mode | Scan, fill |
| Pulse volume | 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 level |
| SpO2 alarm preset limits | Upper Alarm Limit : 86% ~ 100% Lower Alarm Limit : 85% ~ 99% |
| SpO2 alarm preset accuracy | ±1% |
| SpO2 alerting signal generates delay | No Delay |
| SpO2 value refresh period | 1s/time |
| SpO2 value refresh delay | < 10s |
| Average period | Low Sensitivity : 7 ~ 8s Intermediate Sensitivity : 4 ~ 6s Advanced Sensitivity : 2 ~ 3s |
| Alarm condition delay period | Low Sensitivity : < 8s Intermediate Sensitivity : < 6s Advanced Sensitivity : < 3s |
| Alarm sign generates delay period | 0s |
| Perfusion index | 0.05 ~ 20% |
| PR Measurement Range | 25 ~ 254bpm |
| PR Resolution | ±1bpm |
| PR Measurement accuracy | ±2% or ±2bpm, whichever is greater |
| Alarm | Communication stop/error No sensor/ sensor off Search timeout Search pulse(weak) SpO2, RR high/low |
| IBP (Option) | |
| Standards compliant | IEC60601-2-34 |
| Pressure measurement range | -50 ~ 400 mmHg |
| Pressure measurement accuracy | ±3 mmHg or±2%, whichever is greater |
| Pressure resolution | 1 mmHg |
| PR measurement range | 35 ~ 250 bpm |

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| PR measurement accuracy | ±3bpm |
| PR resolution | 1bpm |
| Transducer sensitivity | 5µV/V/mmHg |
| Transducer resistance range | 300-5,000Ω |
| Supply voltage | +12VDC |
| Maximum power consumption | ≤5W |
| Scan speed | 12.5mm/s, 25mm/s |
| Alarm | IBP1, 2 communication stop/error |
| | IBP1, 2 sensor off |
| | Art-sys, PA-sys, P1-sys, P2-sys high |
| | Art-dia, PA-dia, P1-dia, P2-dia high |
| | Art-mean, PA-mean, CVP-mean, LAP-mean, RAP-mean, ICP-mean, P1-mean, P2-mean high |
| EtCO2 Mainstream & Sidestream (Option) | |
| Measurement parameters | EtCO2、FiCO2、AwRR |
| Measuring range | EtCO2 : 0~150mmHg, AwRR : 0~150rpm |
| Resolution | EtCO2/FiCO2 : 1mmHg, AwRR : 1rpm |
| Apnea delay | 20s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s |
| Operating mode | Standby, measure |
| O2 compensation | Low, mid, high |
| N2O compensation | On, off |
| Alarm limit | EtCO2 lower limit : 0~149mmHg |
| | EtCO2/FiCO2 upper limit : 1~150mmHg |
| | AWRR lower limit : 0~119rpm |
| | AWRR upper limit : 1~120rpm |
| Alarm | Communication stop/error |
| | CO2 sensor off/error |
| | O2 sensor error/replace |
| | adaptor/sampling line no/check |
| | Parameter accuracy error |
| | O2, Air calibration error |
| | S/W, H/W error |
| | Motor accuracy error |
| | CO2 factory calibration error |
| | Adaptor, sampling line replace |
| | O2 port error |
| | CO2, O2, N2O out of accuracy |
| | CO2 temp., pressure out of accuracy |
| | CO2 zero required |
| | CO2 zeroing/sleeping |
| | CO2 module calibrating/calibration error |
| EtCO2, FiCO2, AWRR high/low | |
| Apnea | |
| C.O. (Cardiac Output : Option) | |
| Measurement range | C.O. : 0.2 ~ 20 L/min |
| | BT : 23 ~ 45°C±0.5 °C |
| | IT : 0 ~ 20°C±0.5 °C |
| Resolution factor | C.O. : 0.1L/min BT, IT : 0.1°C |
| Accuracy | C.O. : ±5% or ±0.1 L/min, subject to the bigger one BT, IT : ±0.1°C (sensor exclusive) |
| Scope of alarm limit | BT high limit : (Low limit +0.1) ~ 43°C BT low limit : 23.0 ~ (high limit -0.1) °C Step size : 0.1°C |
| Alarm | BT sensor off |
| | BT high/low |
| | C.O. high |

| Printer (Option) | |
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| Type | Thermal dot array |
| Print speed | 12.5, 25, 50mm/s |
| Paper size | 58mm(W) x 42m |
| Power | |
| Adaptor | Input : AC 100 ~ 240V (50/60Hz) Output : DC 15V/2.4A |
| Consumption | 13.5W |
| Rechargeable battery | 11.1V Li-ion 4,400mA Operating Time : 5hrs Charging Time : 4hrs |
| Standard Configurations | |
| ECG cables and lead wire | 1ea(5lead) |
| ECG electrode for adult | 1pack(25pcs) |
| SpO2 adult reusable sensor | 1ea |
| SpO2 extension cable | 1ea |
| NiBp adult cuff | 1ea |
| NiBp extension tube | 1ea |
| Temperature sensor | 1ea |
| Power adaptor | 1ea |
| Bracket | 1ea |
| Operation manual | 1ea |
| Options (Function) | |
| IBP | Sensor cable & package |
| EtCO2 Mainstream (Bistos) | Airway adaptor & module |
| EtCO2 Sidestream (Bistos) | Sampling tube |
| EtCO2 IRMA Mainstream (Masimo) | Airway adaptor & module |
| EtCO2 ISA Sidestream (Masimo) | Sampling tube |
| C.O. | Sensor cable |
| Printer | Printer & paper |
| Cart | |
| Options (Accessory) | |
| ECG cables and lead wire | 5/3 lead |
| ECG electrode | adult/neonate |
| SpO2 reusable sensor | adult/pediatric/neonate |
| SpO2 disposable sensor | adult/pediatric/neonate |
| Skin & rectal temperature sensor | adult/pediatric/neonate |
| NiBp cuff | adult(27~35cm)/pediatric(14~21.5cm)/neonate(4*9cm) |
| Physical Characteristics | |
| Dimension | |
| Main unit | 320(W) x 65(D) x 250(H)mm |
| Packing | 400(W) x 350(D) x 290(H)mm |
| Weight | |
| Main unit | < 2.8Kg |
| Packing | 4.6Kg |
| Environmental Conditions | |
| Operating temperature | 10 ~ 40°C (50 ~ 104°F) |
| Operating humidity | 5 ~ 85% non-condensing |
| Storage temperature | -20 ~ 60°C (-4 ~ 140°F) |
| Storage humidity | 0 ~ 95% non-condensing |
| Warranty | |
| Main unit | 2 years |
| Optional sensor & accessory | 1 year |
| Certificates | |
| KFDA, CE | |