

영 문 규 격 서

COMMODITY DESCRIPTION

관 세 분 류 번 호 HS NO.	품 목 및 규 격 Description	단 위 Unit	수 량 Q'TY
9018.19.7000.	Patient Monitoring Solution	SET	17

(A). Specifications:

1. Display
 - Size : 19 in (diagonal)
 - Brightness 250 cd/m²
 - Type : Active matrix color TFT LCD optically bonded LCD
 - Resolution : 1280x1024 @ 60Hz SXGA
 - Viewing angle : 160 degree horizontal/vertic
 - Contrast Ratio: 700:1
 - Degree of protection against harmful ingress of water : IP22
2. Controls
 - Touch screen Capacitive technology
3. Networking
 - Compatibility
 - * Network
 - * S/5 Network with iCentral v5.1 or later

- Features Peer-to-peer communication with AVOA functionality, centralized viewing and remote alarm management
- Network type: LAN

4. I/O Connectors

- Ethernet: 2 RJ45 for network MC and IX
- E-Port: 2 DB9F, for Patient Data Module, Frame, Tram-Rac
- Serial port: 2 DB9M
- Display: 1 DVI-I out, 1 DVI-D
- Optional Video: 1 DVI-I with optional third video card
- USB Port: 4 USB 2.0

5. Alarms

- Categories: Patient status and system status
- Priority
 - * 3 levels - High, Medium, Low
- High-priority alarm volume in accordance with IEC 60601-1-8
- Visual alarm notification
 - * Red, yellow, cyan
 - * Audio silence indicator
 - * General alarm indicator
- Audible alarm notification: Internal speakers
- Audio pause: Configurable for 2 or 5 minutes

6. Power supply

- Universal input voltage range: 100 to 240 Vac +/-10%, 50/60 Hz
- Power consumption: 70 VA, typical <70 VA*
- Protection class: Class I
- Grounding: Hospital grade
- Cooling: Natural convection – no fans

7. Environmental conditions

- Operating conditions
 - * Temperature: 10 to 40°C (50 to 104°F)
 - * Relative humidity: 15 to 90% non-condensing
 - * Operating altitude : 700 mbar to 1060 mbar (3000 m to –400 m)
- Storage conditions
 - * Temperature: -20 to 60°C (-4 to 140°F)
 - * Non-operating humidity: 10 to 90% RH non-condensing
 - * Non-operating altitude : 500 mbar to 1060 mbar (5500 m to –400 m)

8. Physical specifications

- Dimensions (H x W x D): 388 x 440 x 126 mm
- Weight
 - * main body: 7.5 kg (16.5 lb) without modules (incl. battery, recorder, E-module frame)

ONE Monitor Parameter specifications

9. Display

- Size: 7 inch diagonal
- Type: Active matrix color TFT LCD
- Resolution: 800x480
- Touch screen with direct function keys and selections and adjustments in menus.
- Rotation: Display image rotates when ONE is rotated 180 degrees.

10. Waveforms and digit fields

- Waveform: fields Up to 4 simultaneously
- Parameter windows: Up to 7 simultaneously

- Digit fields: Up to 4
11. Power specifications
- Power requirements: Battery or DC input from F0 Dock
 - Output: 15VDC nominal, 60 W (Max)
 - Cooling: Natural convection
12. Battery
- Type: One removable Lithium-Ion battery
 - Voltage: 10.8 Volt (nominal)
 - Capacity: 3.8 Amp hour minimum (new)
 - Charge time: 4 hours
 - Run time: Approximately 5 hours (new, fully charged)
 - Battery status: LED indicators on the battery
13. Physical specifications
- Dimensions (H x W x D) 15.5 cm x 27.0 cm x 6.5 cm (6.1 in x 10.6 in x 2.6 in)
 - Weight: <1.85 kg (4.08 lbs) with battery
14. ECG
- 1) ECG
- Standard leads available: I, II, III, V1 to V6, aVR, aVL, and aVF
 - Leadsets supported: 3-, 5-, 6-, and 10-leadwire
 - Lead fail: Identifies failed electrodes and switches to those intact
 - Lead fail sensing current: Active patient electrode: 12.8 nA typical (each)
 - Reference electrode < 150 nA maximum
 - Gain selections 0.5x = 5 mm/mV, 1x = 10 mm/mV, 2x = 20 mm/mV, 4x = 40 mm/mV
- 2) Display bandwidth
- Diagnostic: 0.05 to 150 Hz
 - Monitoring: 50 Hz powerline frequency: 0.05 to 32 Hz
60 Hz powerline frequency: 0.05 to 40 Hz
 - Moderate: 0.05 to 23 Hz
 - Maximum: 4.5 to 27 Hz
 - Differential offset voltage: $\pm 0.4V$
- 3) Input impedance
- Differential: > 2.5 M Ω from 0.67 Hz to 40Hz
 - Maximum tall T-wave rejection capability: < 4.5 mV with a 1 mV QRS test signal
 - Pacemaker marker: 5 V, 2 ms pulse; summed with the ECG analog output
 - Defibrillator sync delay: < 35 ms
 - Defibrillation protection: 5000 V, 360 J
- 4) Analog output
- ECG signal gain: 1 V/1 mV $\pm 10\%$
 - ECG signal bandwidth
 - Diagnostic: 0.05 to 125 Hz
 - Monitoring: 0.05 to 40 Hz
 - Moderate: 0.05 to 25 Hz
 - Maximum: 0.05 to 25 Hz
 - ECG analog output delay: < 35 ms
- 5) Input specification
- QRS detection range: ± 0.5 mV to ± 5 mV
 - QRS detection width: 40 ms to 120 ms (Q to S)
 - Heart rate range: 20 to 300 beats per minute
 - Common mode rejection: 90 dB minimum at 50 / 60 Hz
 - Signal gain accuracy: $\pm 5\%$
 - Noise: < 30 μV (referred to input)
 - Sampling rate: 500 samples/second
- 6) Heart rate
- The ECG heart rate indicates a new heart rate for a simulated step increase of 80 to 120 bpm and a step decrease of 80 to 40 bpm in less than 10 s.
 - Heart rate calculation operates with irregular rhythms IEC 60601-2-27 Clause 201.7.9.2.9.101 b) 4), according to Figure 201.101, as follows

- Ventricular bigeminy: 80 bpm
 - Slow alternating ventricular bigeminy: 59 bpm
 - Rapid alternating ventricular bigeminy: 126 bpm
 - Bidirectional systoles: 110 bpm
 - Heart rate averaging computation: 12-second median HR values
 - Display update interval: < 2 seconds
 - Response time: a step increase of 80 to 120 bpm and decrease of 80 to 40 bpm in less than 10 s.
 - PVC rate range 0 to: 300 PVCs/minute
 - PVC rate resolution: 1 PVC/minute
 - Arrhythmia calls: Full, lethal only, or no arrhythmia
- 7) ST segment analysis
- ST numeric range: -20.0 mm to 20.0 mm
 - ST numeric resolution: 0.1 mm
 - ST measurement: 16 beats averaging
 - ST numeric accuracy: ± 0.4 mm or 20%, whichever is greater
- 8) Pace detection/rejection
- Input voltage range for pace detection and rejection: ± 2 mV to ± 700 mV
 - Input pulse width: 0.1 ms to 2 ms
 - Over/under shoot: Overshoot measured with amplitude maximum 2mV
 - Heart rate accuracy: $\pm 1\%$ or ± 1 bpm, whichever is greater
 - Heart rate resolution: 1 bpm
 - Heart rate sensitivity: ≥ 0.5 mV peak
- 9) Alarms
- Heart rate limit alarms: User selectable upper and lower limits for heart rate
 - Heart rate limit alarm range: 20 to 300 beats/minute
 - ST limit alarms: User selectable upper and lower limits for individual leads
 - PVC/SVC limit alarms: User selectable upper limit
 - Arrhythmia alarms: Lethal, full
- 10) Impedance respiration
- Rate range: 0 to 200 breaths/minute
 - Rate resolution: 1 breath/minute
 - Leads available: I, II, and RL-LL
 - Waveform sweep speed options: 0.625 mm/s, 6.25 mm/s, 12.5mm/s, 25 mm/s, and 50 mm/s
 - Respiration sensing current: < 100 μ A RMS
- 11) Input impedance range
- Dynamic: 0.4 to 10 Ω
 - Static: 100 to 1500 Ω @52.3 kHz
 - Accuracy: ± 1 breath/minute over the range of 0 to 120 breaths per minute ± 3 breaths/minute over the range of 121 to 200 breaths per minute
 - Carrier frequency: 52.3 kHz ± 5 Hz
- 12) Alarms
- Alarm limit: User-selectable upper and lower limits
 - Alarm range: 4 to 120 breaths/minute
 - No Breath alarm range: 3 to 30 seconds
15. Pulse Oximetry
- 1) Alarms
- Alarm limits: User selectable upper and lower limits for SpO₂
 - Alarm limit range: Upper limit 32 - 100%, Lower limit 30 - 100%
 - Alarm limit increment: 1 %
 - Pulse rate alarm limits: User selectable upper and lower limits for SpO₂ pulse rate
 - Pulse rate alarm limit increment: 1 beat/minute
- 2) Performance specifications
- Display resolution: 1 digit (% of SpO₂)
 - Peripheral pulse rate resolution: 1 bpm
 - Display update period: Less than 30s
 - Sweep speed options: 6.25, 12.5, 25, and 50 mm/s
 - Waveform scale options:
 - Nellcor- 1x, 2x, 4x, and 8x
 - Parameters monitored - Arterial oxygen saturation (SpO₂) and pulse rate
- 3) Nellcor

- Range - SpO2: 1 to 100%
Pulse rate: 20 to 250 bpm
- Accuracy
 - With/without motion - SpO2 (70% to 100%): ± 2 Adult/ Neonatal
 - SpO2 (60% to 80%): ± 3 Adult/ Neonatal
 - SpO2 (< 60%): Unspecified
- Low perfusion - SpO2 (70% to 100%): ± 2 Adult/ Neonatal
- SpO2 (< 70%): Unspecified
- 4) Peripheral pulse rate
 - Low perfusion range: 0.03 - 20%
 - Accuracy
 - Without motion - 20 to 250 bpm ± 3 Adult/ Neonatal
 - With motion - 20 to 250 bpm ± 5 Adult/ Pediatric/Neonatal
 - Low perfusion - 20 to 250 bpm ± 3 Adult/Neonate

16. NIBP

- 1) Performance specifications
 - Measurement technique: Oscillometric
 - Displayed parameters: Systolic, diastolic, and mean pressures, time of last measurement, and cuff pressure
 - Modes: Manual, Auto and Stat
 - Total cycle time: 20 to 40 seconds typical (Dependent on heart rate, pressure, and motion artifact)
- 2) Measurement range
 - Adult: 15 to 300 mmHg(2.0 to 40.0 kPa)
 - Child: 15 to 260 mmHg(2.0 to 34.7 kPa)
 - Infant: 15 to 155 mmHg(2.0 to 20.7 kPa)
- 3) NIBP pressure display range
 - Adult: 15 to 300 mmHg(2.0 to 40.0 kPa)
 - Child: 15 to 260 mmHg(2.0 to 34.7 kPa)
 - Infant: 15 to 155 mmHg(2.0 to 20.7 kPa)
 - Cuff pressure range: 0 to 315 mmHg (0.0 to 42.0 kPa)
- 4) Pressure accuracy
 - Static: $\pm 2\%$ or ± 3 mmHg (0.4 kPa), whichever is greater
 - Clinical: ± 5 mmHg (0.7 kPa) average error, 8 mmHg (1.1 kPa) standard deviation
 - Auto zero: Auto zero pressure reference
 - Automatic cuff deflation conditions: Power off Adult and child cuff cycle time exceeding 125 seconds
 - Infant cuff cycle time exceeding 90 seconds
 - Adult and child cuff pressure exceeds 300 mmHg (40.0 kPa)
 - Infant cuff pressure exceeds 150 mmHg (20.0 kPa)
- Tubing length: Variable
- 5) Maximum inflation pressures
 - Adult: 290 ± 6 mmHg (38.7 ± 0.8 kPa)
 - Child: 250 ± 5 mmHg (33.3 ± 0.7 kPa)
 - Infant: 145 ± 5 mmHg (19.3 ± 0.7 kPa)
- 6) Automatic cycle times
 - 1 min, 2 min, 2.5 min, 3 min, 4 min, 5 min, 10 min, 15 min, 20min, 30 min, 1 h, 2 h and 4 h
- 7) Default NIBP measurement initial inflation pressures
 - Adult: 135 mmHg (18.0 kPa)
 - Child: 125 mmHg (16.7 kPa)
 - Infant: 100 mmHg (13.3 kPa)
- 8) Alarms
 - NIBP limit alarms: User selectable upper and lower limits for systolic, diastolic, and mean pressures

17. Invasive Pressure

- 1) Performance Specifications
 - Number of channels: up to 4
 - Transducer sites, site name, and displayed values
 - Arterial (ART) Systolic, diastolic, mean and rate
 - Femoral (FEM) Systolic, diastolic, mean and rate
 - Femoral Vein (FEMV) Mean
 - Pulmonary artery (PA) Systolic, diastolic, mean
 - Central venous pressure (CVP) Mean

- Intra-cranial pressure (ICP) Mean
 - Left atrial (LAP) Mean
 - Right atrial (RAP) Mean
 - Right vein (RVP) Mean
 - Umbilical artery (UAC) Systolic, diastolic, mean, and rate
 - Umbilical vein (UVC) Mean
 - Range: -98 mmHg to 349 mmHg(-13.1 to 46.5 kPa)
 - Resolution: 1 mmHg
 - Displayed frequency response: 0 to 12 Hz or 0 to 40 Hz (-3dB) user-selectable
 - Zero balance accuracy: ± 1 mmHg (± 0.1 kPa)
 - Measurement accuracy: $\pm 0.5\%$ ± 1.50 mmHg (excluding transducer)
 $\pm 4\%$ or ± 4 mmHg, which ever is greater (including transducer)
 - Pulse rate accuracy: $\pm 2\%$ or ± 2 bpm, whichever is greater
 - Units: mmHg or kPa
 - Sweep speed options: 6.25, 12.5, 25, and 50 mm/s
 - Pulse rate range: 0 to 360 bpm
 - Pulse rate resolution: 1 bpm
 - Waveform display scale: User and automatic
 - Display scale selections: 0-10, to 0-300 mmHg, with a step size of 10 mmHg(0.0-2.0, to 0.0-40.0 kPa, with a step size of 2.0 kPa); or automatic scale based on valid waveform values from last 4 seconds with a lower limit of -100 mmHg (-14kPa) and an upper limit of 350mmHg (48 kPa) and a step size of 10 mmHg (2.0 kPa)
 - Transducer measurement accuracy: Compatible Invasive pressure transducers used in the system shall have an accuracy specification of $\pm 2\%$ or ± 2 mmHg, whichever is greater
- 2) Alarms
- Alarm limits: User selectable upper and lower limits for systolic, diastolic, and mean pressures
 - Alarm limit range: -25 to 320 mmHg
 - Pulse rate alarm limits: User selectable upper and lower limits for invasive pressure pulse rate

18. Temperature

1) Temperature

- Number of channels: 2
- Parameters displayed: T1, T2
- Measurement units: $^{\circ}\text{C}$ or $^{\circ}\text{F}$
- Measurement range: 0°C to 45°C (32°F to 113°F)
- Display resolution: 0.1°C (0.1°F)
- Test measurement cycle: Every minute

2) Temperature system measurement accuracy

- ONE system excluding temperature probes
 18°C to 45°C (64°F to 113°F): $\pm 0.1^{\circ}\text{C}$ ($\pm 0.2^{\circ}\text{F}$), rated output range
 0°C to less than 18°C (32°F to 64°F): $\pm 0.2^{\circ}\text{C}$ ($\pm 0.4^{\circ}\text{F}$), extended output range
- Temperature probe instructions for use specify the probe accuracy

3) Alarms

- Alarm limit: User selectable upper and lower limits for T1, T2
- Alarm limit range: 10°C to 45°C (50°F to 113°F)
- Alarm limit increment: 0.1°C (0.18°F)
- Delta temperature alarm limit: User selectable upper limit

(B.) Consist of :

1. Main Unit	17set
2. Module Frame	17ea
3. ONE (ECG/ST/Resp/NIBP/SPO2/TEMP/2IBP)	17ea
4. ECG	17ea
5. ECG Cable(3lead)	17ea
6. SpO2 - Nellcor	17ea
7. NIBP Hose, Neonatal	17ea
8. NIBP Cuff, Neonatal	17ea
9. Temperature	17ea
10. Temperature Probe	17ea
11. Pressure	17ea

12. Battery for ONE	17ea
13. Mount	17ea
14. Operation and Service Manual	17ea

(C.) Remarks :

1. 3 years warranty on devices and part after installation and correct operation.
2. The installation and operation service of the equipment shall be performed by the qualified engineer at the end-user's site on free of charge