

COMEN

C70 Multi-parameter Patient Monitor



C70 is inherited the outstanding character of our Multi-parameter Patient Monitor C90 and adopted with highly integrated modular mechanical structure, it efficiently combines the structure, function and maintain management. C70's single-module and multi-module combination will meet the upgrade in clinical need. C70 opens a new chapter in modular monitor field.

C80 Multi-parameter Patient Monitor



With leading ECG technology, anti-motion & weak perfusion SpO₂ technology as well as accurate NIBP measurement technology and cooperation with world leading medical technique providers such as Masimo、Covidien、Respironics、Medis, C80 is designed to optimize performances by configuring EtCO₂, AG, BIS and impedance cardiography monitoring into one, helping you care even the most critical patients with professional assistance.



C90 Multi-parameter Patient Monitor

Integrated with the world-leading technology of life parameter monitoring and IT application, C90 Multi-parameter Patient Monitor makes a high-end life monitoring platform and provides a comprehensive monitoring solution.

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Comprehensive monitoring management in hospital and outside hospital

To monitor the patient parameter comprehensively and integratively from the first- aid spot to the recovery of patients as a complete management system.



1 First-aid on the spot



2 Put on to ambulance



3 Lifted onto stretcher



4 Sent to an emergency room
Once C30 ambulance transport monitor is connected into C90 modular monitor, the patient would be fully monitored by C90. C90 will take over to monitor and start working.



5 Transferred from emergency room to an operating room



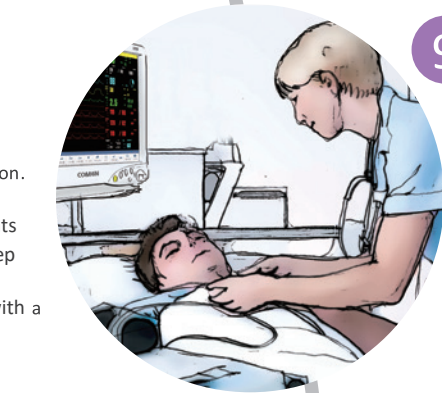
6 Treated in the operating room
C90 modular monitor will carry out all-round monitoring and diagnosing to the patient's condition. With displaying 12-channel ECG waveforms simultaneously, the accurate ECG measurements will help doctors to make better diagnosis and keep the operation carried out more smoothly. The combination with an anesthesia machine cover with a respirator will help doctors to control operation time more accurately.



7 Transferred from the operating room to ICU



8 Icu ward
C90 modular monitor has taken an important position ICU; as a device to directly display the patient's condition after operation, it allows doctors to control the condition at any time in ICU, and it will give an alarm under abnormal condition to remind medical stuff so that the patient's condition could be effectively controlled until the patients are gradually recovered.



9 Transferred to general ward
The patients will be transferred to general ward after their condition improved and became stable; the patient's information accumulated in operating room and ICU unit will be transferred through a small host C30 to a large frame C90 modular monitor to ensure the continuity and real-time updating for patient's information.



10 Discharged from hospital
Filing up the patient's records.



The world leading technology and high-level materials and advanced manufacturing process ensure that C90 modular monitor provides a high-end life monitoring platform.

External Design



17" screen



Touch/button
double operation



Built-in lithium
battery



Two mounting
solution



External printer



Module
conductive contacts



Infrared
transmission

- 17" LED backlight touch screen
- Dual operation system: Touch screen and operation buttons to keep double assurance
- Built-in lithium battery for 4 hours continuous monitoring
- Mount solutions: Trolley
- External laser printer and built-in thermal printer
- Gold-plated module contacts, automatic data exchange through IR transmission
- Fan-less design provides super quiet environment for ICU, OR, etc.



- The mould of the C90 is processed and manufactured by CINCINNATI Processing center and Charmill WEDM-LS machine. The injection molding process is adapted with the most advanced molding machine-Kraus maffei, with ensures the stability and reliability of the C90 extremely.
- The mould of C90 is also adapted with German process, technology and materials.
- Al-Mg alloy heat dissipation components: having an extraordinary heat dissipation.



- handle: built-in handle for space saving and ease to carry around.

- 360° visual alarm lamp: three-color alarm lamp to strike your eye definitely, and make clear for physiological alarm and technical alarm.



- Multiple USB interfaces can support external keyboard, mouse and support data transfer as well as software upgrade.
- Various ports for external devices: auxiliary plug-in box, monitor, CIS and cable network interface and so on.
- External ports management house: to conceal interfaces, to keep dust away, to prevent foreign matter to drop in, and to manage uniformly the data lines.

Hardware technology – module

4+1functional module slot, which is hot swappable, supporting full-module random combination, automatic identification with software, and interface dynamic combination (picture attached)

Diversified C30 plug-in module



- C30 with in-situ 4.3” LCD display, coped with independent operating system which can be used either for C90 plug-in module or separate monitor.
- C30 used together with C90 can be displayed with double screens allows both front and back view simultaneously.
- Patient data can be exchanged between C30 and C90, such that C30 can help to realize the data transfer and to share the data between C90 one another.
- C30 built-in 2200mAh lithium cell can support hot swap with power on thereby transferring patient’s information monitored without any obstacle.



• IBP (invasive blood pressure) module

Various brands of IBP accessories support. It is able to monitor more than 10 pressures such as arterial pressure, pulmonary arterial pressure, central venous pressure, intracranial pressure, left/right arterial pressure, etc.



• CO₂ module

RESPIRONICS CO₂

To work together with US RESPIRONICS / MASIMO we chose mainstream / side stream (miniflow) CO₂ module. As small in size, durable and light in weight, the mainstream sensor can be used to provide all intubated patients from new born child to adults for an accurate reliable CO₂ monitoring. It can be automatically corrected, an LoFlo side flow probe (without dewatering bottle) is used to monitor non-intubated patients. The flexible and compact CO₂ sensor can provide adults, child and newborn babies for a continuous and reliable CO₂ monitoring. And, the sampling rate (miniflow) is ≤50mL/min.

MASIMO IRMA CO₂ (Mainstream)

Extremely compact design (25g!); Maintenance free-no calibrations needed; Intelligent disposables; Extremely easy to integrate; “Plug in and measure”.

MASIMO ISA CO₂ (Sidestream)

Unique water handing-nomoline; Low sample flow-50ml/ min for all type of patients; “Instant on” - warm-up time 10/ 20 seconds until full spec; Extremely low power and weight; “Plug in and measure” ; Maintenance free-no routine calibrations needed.



• AG (anesthetic gas) module

To cooperate with MASIMO with advanced AG modular, it is able to monitor eight different gases (O₂ , CO₂ , N₂O, ENF, ISO, DES, SEV, HAL). It can automatically identify what kind of anesthetic gas is in use, characterized by its short period of warming time and long service life as well as MAC value provided (minimum alveolar concentration).

- ① ECG twelve channel electrocardiograph technology
With CardioTec™ twelve channel electrocardiograph it can realize to display 12-channel electrocardiographic wave at the same screen simultaneously. The accurate measurements can help doctors to give a good diagnosis. A common mode rejection ratio (CMRR) can reach 105db such that it has an extreme interference-free capability in ECG. 26 arrhythmia analysis support.
- ② SpO₂ pulse oxygen saturation technology
Gold standard OxiMax® pulse oxygen saturation system in the worldwide blood oxygen monitoring field is ensured to take a leading position in the technology with its unique LoSat™ technique thereby ensuring the widest range of accuracy to extend its accurate measurement range to 70%-100%. The special SatSeconds™ intelligent alarm management system can effectively reduce false alarm so as to relieve workload on the medical personnel.
- ③ NIBP, non-invasive blood pressure technique
Use of AcuTec™ non-invasive blood pressure technique to allow C90 accuracy to reach world-leading level in the light of blood pressure measurement.



Software technology-interface

High-informatization and high-intelligence operation system and analysis software can provide precise digital support for clinical decision-making.

Self-adapting working interface adjustment function and humanized operation system allow you to enjoy the best operation experience.

- ICG (Impedance Cardiography) module

Collaborated with Medis impedance ECG to realize noninvasive blood flow dynamics monitoring, which is characterized by its noninvasive, continuous and high accurate and strong interface-resistant capability as well as lower cost and easy operation. The impedance variation is used to monitor parameters such as stroke volume (SV), cardiac output (C.O.), system vascular resistance (SVR), cardiac index (C.I.), Thoracic fluid composition (TFC), etc.

- BIS (Bispectral Index) module

Cooperate with COVIDIEN company from USA for BIS technology. The BIS module has been designed to be used in the monitoring of the level of consciousness of a person during the application of general anaesthesia or in intensive care. This is accomplished by registering the electroencephalographic signal (EEG) by means of surface electrodes which is then analyzed by a digital process. As a result of the applied calculation, an index "BIS" is obtained, which serves as guidance to the experts who use it to determine the level of consciousness of the patient during surgery.

- C.O. (Cardiac Output) module

C90 is involved itself in invasive cardiac output technique, but C.O. measurement is conducted with conventional thermo dilution invasive cardiac output and other hemodynamic parameters. The monitor can measure "blood temperature", "calculating cardiac output", "calculating hemodynamics". The cardiac output is measured with floating catheter led from vein to pulmonary artery followed by injecting a certain amount at 0 °C injecta such that the blood temperature will be varied after the injecta and blood output from the heart are mixed together thereby achieving cardiac output by measuring blood temperature variation before and after injected in accordance with the principle of heat balance.

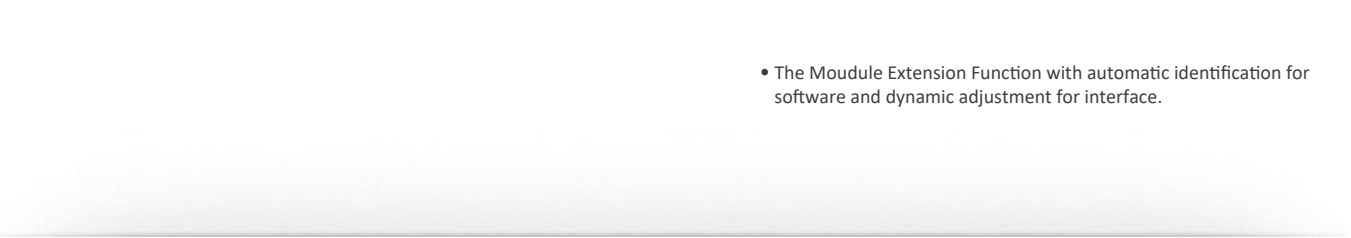
- C90 plug-in expansion slot

10 module slots can be provided for function expansion.

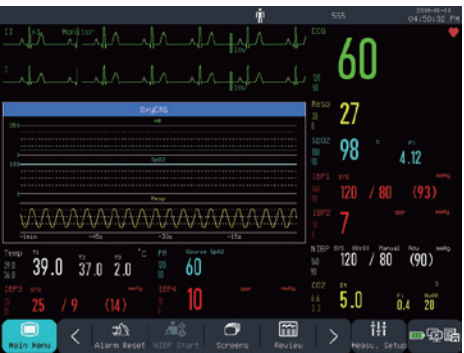


• Software technology

Unique intelligent alarm system: to identify alarm level automatically according to variation of measurement parameters. There are high, middle and lower alarm levels. There are different sounds and lighting prompts for every level with delay alarm and delay time which can be adjusted. There is also automatic alarm & printing function. Different from traditional alarm, there is practical clinical significance for alarm to reduce mis-alarm and useless alarm.



- Powerful network function to support wire and wireless access.
- Prompt module identification and interface switching without flashing feeling during interface switching;
- The Moudule Extension Function with automatic identification for software and dynamic adjustment for interface.



OxyCRG interface

- Consist of HR trend, SpO₂ trend and RR trend or compressed respiration waveforms
- Different period of trend selectable



View bed Observation

- To display other bed information such as bed no. patients' name, alarm information and parameter setup;
- User can configure dynamic parameters and waveform

• Interface



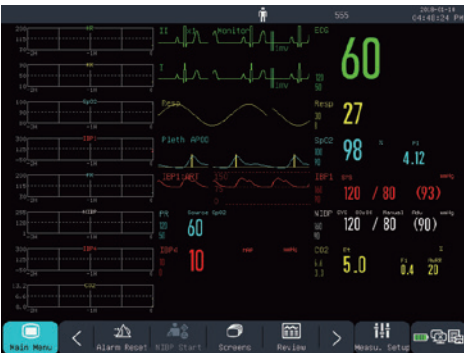
Module MAP diagram

- Display operating status of module



Touch screen

- Keyboard, handwriting input



Trend interface

- Trend graph displays dynamic change of each parameter
- Trend view time of each parameter are freely selectable



Interface layout

- User can freely select the parameters and waveforms and locate its displayed place on the screen
- Design the interface freely as you reference



Information integration function

- Complete medical records management
- Users can search, review, delete and transfer medical records



Big font interface

- Observed clearly from long distance, is especially suitable for ICU, CCU, OR and night care.
- Users can freely select 4 parameters to display on the screen. one waveform will be displayed for those parameters with waveforms.



Alarms setting on one page

- All alarms are managed on the same page, more easy to set the alarms



Configuration management

- Five departments default configuration, can also be customized to meet application of different departments