

## Seek for Distinguished and Strict Tests

Most critical test was performed through professional test methods. With continuous updating the test cases, Comen adopted more extensive testing method to achieve the stability of the software; in the aspect of hardware, numerous of power on-off tests were adopted and every time it will automatically test for the condition of USB flash, SD card, serial port and real-time clock; for parameters, we strictly test according to our technique standard.

We test each device at high temperature aging room for more than 30 days under 50 °C. Over 10,000 times of power on and off tests were conducted. In order to ensure the accuracy of measurement under operating temperature of 0-40 °C, we continuously test its internal temperature as well as performance and stability of parameters.

Battery test: During the self-inspection process, our hardware engineer mainly focus on the software protocol, charging and discharging time, overcurrent and overvoltage protecting as well as safety factors. Over 300 times charging and discharging test for 100 batteries, what's more, our battery has passed IEC62133:2012 certification

In order to ensure the mating cycles, we conduct structure improvements to guarantee over 10,000 times plug operation, hence to realize long working time.

Meanwhile, NC series showed outstanding stable performance after Low Temperature Test(-40 °C),High Temperature Test (45 °C), Rapid Temperature Change Test (-40 °C-75 °C),Sine Vibration Test as well as Intersection Test by professional testing institution.

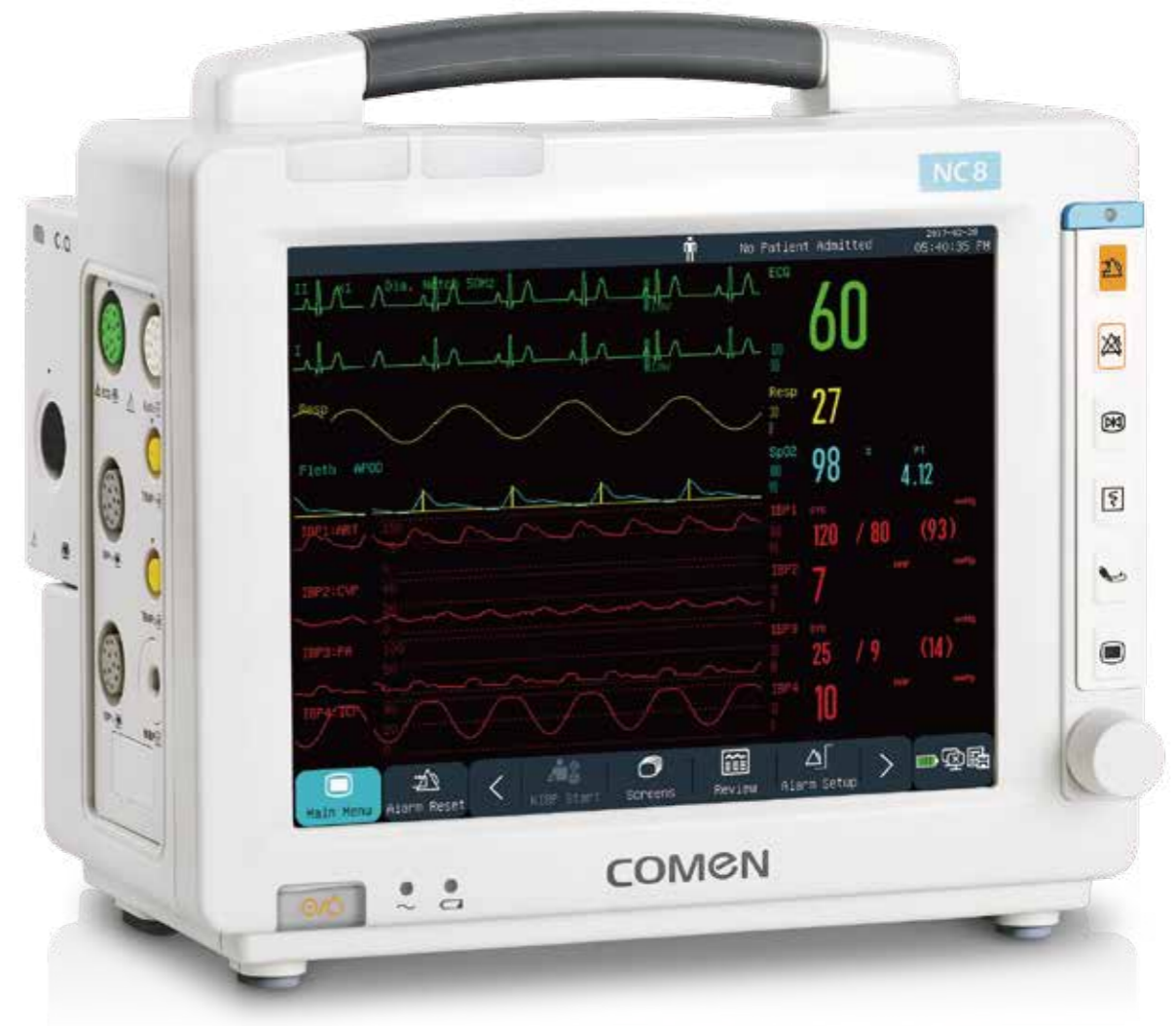
## Standard Configuration

NC8 / NC10 / NC12 :  
5 leads ECG RESP SpO<sub>2</sub> PR NIBP Li-ion battery

## Optional Configuration

NC8 / NC10 / NC12 :  
3/12 leads ECG Thermal Recorder IBP EtCO<sub>2</sub> C.O. AG BIS TEMP Masimo SpO<sub>2</sub> Nellcor SpO<sub>2</sub>

# COMEN



NC Series Patient Monitor



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NC 8

Screen Size : 8 inch



NC 12

Screen Size : 12.1 inch



NC 10

Screen Size : 10.4 inch

## Evolution of Semi-modular Patient Monitor

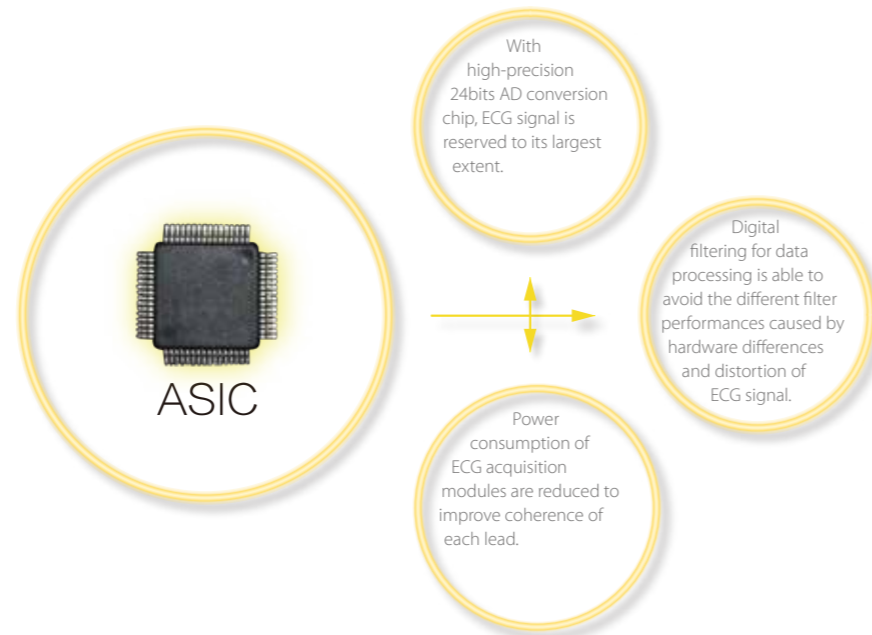
Simple, reliable, multi-functional remain to be keywords of bed-side patient monitor. Being focused on these keywords, Comen NC Series patient monitor is created to serve bed-side monitoring with a smarter idea: Semi-modular.

It is lighter, smarter, more powerful, and even more beautiful, than ever.

Be Perfect both Internally and Externally-Internal Part

### A Brand-New Smarter “Mind”

New core chip is designed for Comen NC series patient monitor. It is assembled with integrated analog front end (ASIC) chip instead of the traditional components. The ASIC chip was designed exclusively for the ECG measurement of monitoring and diagnostic.



### Clean and Quiet – Benefit of NC Series passive-cooling design

It is better to eradicate the fan so as to get rid of the impact on the laminar flow environment in the wards. Due to gas exchange from internal and external of the monitors through the cooling fan, both bacteria and viruses are easy to accumulate in the monitor and therefore caused cross contamination. Traditional monitors adopted big size mental heat sink to solve this issue; however it is not the prime solution. From the perspective of reducing the power consumption, Comen's NC series radically get it solved.

During the process of R&D, our engineers found 4 major reasons that cause high power consumption, they are low power conversion efficiency, high power consumption on main board, ECG board and screen. Aimed at solving those problems, Comen's NC series are changed with a new power conversion IC to improved 10% of its efficiency. Adding overvoltage and overcurrent protection to make the unit more safety and reliable. With more efficient power management system, the power consumption on main board was reduced by 40%. What's more, its standby current was decreased from 1.2mA to less than 200uA; therefore standby time of the battery was extended.

Reducing power consumption also brings a variety of benefits: fanless design, long life time of battery, strong anti-aging ability of the components, long life time and stable performance of the products, meanwhile, the whole unit is smaller and more delicate.



# Compact Body, Brilliant Brain



NC 8

220mm × 202mm × 132mm, 2.2kg



NC 10

265mm × 227mm × 141mm, 2.8kg



NC 12

308mm × 257mm × 142mm, 3.4kg



Be Perfect both Internally and Externally-External Part

For the convenience and utility of clinical usage, we seek for innovation wholeheartedly

## Flexible Modular and Comprehensive Care Options

The new generation of Comen's semi-modular monitors offers the most commonly used parameters, including ECG, NIBP, SpO<sub>2</sub>, RESP, TEMP. With its modular design, it is able to be equipped with modules based on clinical needs. Alternative usage of the modules makes the clinical work more convenient and efficient.

### EtCO<sub>2</sub> :

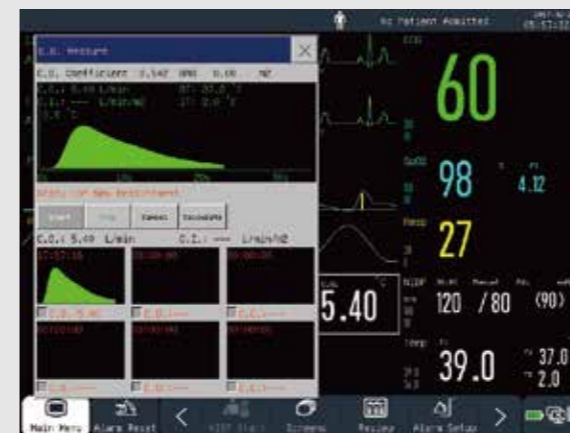
Respironics / Phasein Sidestream /  
Mainstream module optional.



EtCO<sub>2</sub> Display



IBP Display



C.O. Display



### IBP

4-channel IBP modules, 4 waveforms and  
4 groups of numerical parameters display.



### C.O.

Adopt conventional thermodilution invasively  
measure and calculate the cardiac output and  
other hemodynamic parameters.

## Care and Love in the details

The quality is in the details



Plug and play, quick-release installation and dismantling of the modules make NC series monitors more convenient and time-saving. As every second counts during operation, so conveniences at each step are beneficial for the treatment, offering intimate care to both patients and health providers.



The traditional monitors are designed with buttons at the bottom of the screen, while NC series creatively put them at the right side of the screen, which is in accordance with right operation habits.

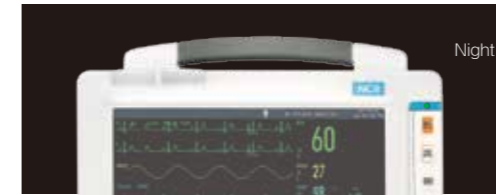


NC series semi-modular monitor provides various monitoring interfaces to meet different operating demands; the clear and colorful display is even more smooth and fine.



Removable handle design is our preference at the beginning, however, this design may cause some uncertain events while handling, so we chose a fixed handle, which not only provides a stable and secure feeling to the user but also narrows the size of the complete machine.

NC series patient monitors are able to auto-sense the change of the environment's brightness to realize screen brightness auto-adjustment. The function completely reflects Comen's human-oriented spirit, preventing patients from the influence of the bright screen light at evening or under diagnosis.



## Intuitive operation design

Alarm indicator light for observation with 360° view, automatic visible and audible alarm, suitable for any perspective;

Support patient demographic management and configuration management;

Environment light sensor, screen brightness auto-adjustment, save power consumption and reduce the influence of bright light on the patients;

3 channel built-in recorder optional, automatically record alarm events to ensure the integrity of the monitoring data;

Support rotate, keys and touch screen operation, suitable for all types of operating requirements;



- Wireless and wired network;
- Other bed observation, facilitate patients monitoring of the hospital workers;
- Fanless design, avoid cross-contamination on laminar, supreme quiet;
- Support external printers (A4 paper), 12 leads ECG waveforms printing;
- 48h all disclosure waveforms review, monitoring records browse and review function;