



Medische Vakhandel

CONTEC MEDICAL SYSTEMS CO., LTD

No.112 Qinhuang West Street, Economic & Technical Development Zone,
Qinhuangdao, Hebei Province, PEOPLE'S REPUBLIC OF CHINA Made
in P.R.C.

Shanghai International Holding Corp. GmbH (Europe)
Eiffestrasse 80, 20537 Hamburg, Germany



Foreword

Thankyou very much for purchasing the Portable ECG Monitor.

This user manual introduces detail product information about its character, requirement, structure, performance, specification, appropriate methods of transportation, installation, usage, operation, repair, maintenance and storage, and safety measures of how to protect the operator and product. Please read details in the following chapters.

Please read the user manual carefully before using the product and strictly follow its regulations to operate. the user manual indicates the operations that users need to pay much attention to, that may lead to abnormality, or may danger to the device or human body during using. Our company will not response the security, reliability and performance for any abnormality or device and human body damage caused by not following this user manual to use, maintain and store, not provide free service for any situations above. We apologize for the ccontent in the manual is subject to change according to product upgrades without notice.

The product is reusable as a medical instrument.

Warning:

- The product is not a examination device applied in clinical medicine, and its results can not serve as the basis for diagnosis, but cn be used as a reference for patient to take further medical treatment and reference for doctor to diagnose.
- The reliability depends on whether users are following the operation and maintenance in the user manual or not.
- All servicing and future upgrade to the device must be carried out by personnel trained and authorized by our company, and using the original fitting for maintenance.

This user manual contains proprietary information, wich is protected by copyright. All rights reserved. Reproduction, adaption or translation, for any part of the manual without prior written permission, is prohibited.

Our company takes the responsibilities as follows:

1. To provide qualifield products according to enterprise standard for users;
2. To provide services of installation, debugging and training according to the contract;
3. To provide one year warranty and product maintenance after warranty period according to the contract;
4. To respond user's requests in time.

Chapter 1 Notice**1.1 Generic notice**

- 1) Do not use the device in locations subject to high temperatures or humidity. Use in the temperature within 5 to 40°C and humidity within 25% to 80% RH.
- 2) Do not wash the device with water.
- 3) Do not use or store the device in the following ambient conditions:
 - Near fires or open flames
 - Locations exposed to strong vibration
 - Locations exposed to strong electromagnetic fields
- 4) Do not sterilize the device in autoclave or gas sterilizer.
- 5) The device service life is 3 years. Do not throw away the device and accessories when they can't work. If the device needs to dispose, it should meet the local laws and regulations requirement.

1.2 Measurement notice

If your skin is dry, wipe them with disinfectant alcohol or electric salve to strengthen the electric capability You are better to confortably sit, draw yourself up, begin to measure when the waveform level off.

When measuring, the finger and chest electrodes should touch your skin exactly, roundly and well.

1.3 Safety notice

- 1) No sampling in the battery-charging.
- 2) Lay the device in shady and cool environment when you are not going to use it for a long period of time, and electrify per three months.
- 3) Do not use the device in the environment placed inflammable objects, such as anesthetic.

1.4 EMC notice

Please note the effect from EMC when using the device, because it can ben influenced by portable or movable high electromagnetic compatibility RF devices.

Chapter 2 Introduction

The portable ECG monitor is designed for family and individual users. It is a good helper for family members to prevent from cardiovascular disease, as it can monitor patients ECG anytime at anyplace with easy operation. The device can record, analize and display user's ECG waveform, capture the pathological ECG waveform when user happen to heart attack or other unpleasant symptoms. The ECG monitor can be conducted not limited in the hospital, which saves money from the physical check-up for users. After connected with a computer, users can print their ECG waveform, which provides data reference for doctors.

2.1 Characteristics

- 1) Handsome shape, handy operation, convenient tote.
- 2) Monitor and record real-time ECG waveform and HR anytime and anywhere.
- 3) Built-in large capability rechargeable lithium battery, continuously sample 200 ECG waveform after charged once.

2.2 Application

- 1) Occaasion: family, medical clinic and hospital. The device can't be used as a general electrocardiogram for clinical examination.
- 2) Object: people under high pressure and workload for long time, heart disease patients, middle aged and aged poeple, sub-health people.
- 3) Purpose: the device is only used for ECG monitoring and data storage. It is not a therapy equipment. Operation method is simple and less requirement for the operating personnel.

Chapter 3 Primary Technical Orders**3.1 normal work environment**

- 1) Operation environment
 - Temperature: +5°C~+40°C
 - Relative humidity: 25%~80%
 - Power supply: built-in rechargeable lithium battery, voltage: 3.7V
- 2) Transportation and storage environment
 - Temperature: -40°C~+55°C
 - Relative humidity:≤95%

3.2 Basic parameters

- 1) Calibration voltage: 1mV±5%.
- 2) Standard sensitivity: 10mm/mV±5%.
- 3) Amplitude frequency characteristic: standard: 10Hz; 1Hz-20Hz; (+0.4dB, -3dB). 4) Noise level: <30μV.
- 5) CMRR: >60dB.
- 6) Scanning speed: 25mm/s+5%.
- 7) Sampling rate: 250 dots/s.
- 8) HR measurement range: 30bpm-300bpm, error: ±1bpm or 1%.
- 9) Type of protection against electric shock: Internal power device.



Figure 4.1 Pre-sample Interface

When the waveform becomes stable, the device will start formal sampling automatically, the color of waveform turns to green, sample time countdown on the bottom right corner begins until finished one sample. See figure 4.2:

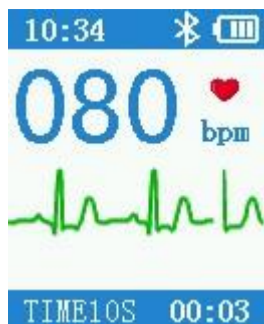


Figure 4.2 Formal Sample Interface

The device will enter into case review interface after completed sampling. Case review interface displays the sampling start time, heart rate and diagnosis (including normal and different kinds of arrhythmia), shown as Figure 4.3 and Figure 4.4.



Figure 4.3 Case Review Interface (Normal)



Figure 4.4 Case Review Interface

When the device enters into case review interface, it will display the latest sampled case. Click the button to review other cases information. The device can store 99 pieces of cases at most. If reaches to the limit, new stored case will cover the original case, the one that stored at the earliest, piece by piece.

The device will automatically turn to sampling interface to continue if the user holds the electrode at both ends again when the device is under the case review interface. 3) Charge

Two method for charging:

- a) Connect the device with a computer by using Micro USB cable, charging completed after about 2~4 hours.
- b) Use a Micro USB to connect the device with a power adapter (output current > 500mA, 5V), Charging completed after about 2 hours.

4) Auto power off

The device will automatically shut down after no operations within 2 minutes.

4.3 Sync software operations

Some operations can be done (including sample mode and time setting, case upload, review, measure and print, etc.) in the PC sync software. Please refer to operation direction of PC sync software for details.

Chapter 5 Trouble Shooting and Solution

If the device has a problem account, please look up the following sheet for solutions first, if not included in the following issues and you can not solve either, please contact with the customer service.

Problem	Cause	Solution
Start-up failure after long press the on/off key	The batteries are worn out	Please recharge the batteries
Automatically shut down in using process	The batteries are worn out	Please recharge the batteries
The noise is too big or the waveform is random in ECG sample process.	Your skin is dry	Wipe them with disinfectant alcohol or electric salve
	There is underwanted movement in sample process	Please comfortably sit, draw yourself up to carry on sample
	The sample environment has strong electromagnetic noise	Please close interference source or resample in no strong electromagnetic noise environment

Chapter 6 Maintenance & Transportation & Storage

6.1 Cleaning and sterilizing

Turn off the device before cleaning. Medical alcohol is available for the device sterilization, then air dry. Or just wipe it with a dry and clean cloth for cleaning. Do not allow any liquid to enter the device.

6.2 Maintenance

- 1) Non - maintenance personnel designated by our company, do not open the device case so as to avoid damage to internal components.
- 2) Any equipment maintenance and upgrades must be carried out by the professionals who are trained and authorized of the company.
- 3) Prevent any liquid from seeping into the device as it will affect the safety and performance of the device.
- 4) The device should avoid violent shaking or impact.
- 5) Do not place objects on the device. This could damage the touch screen.

6.3 Transport and storage

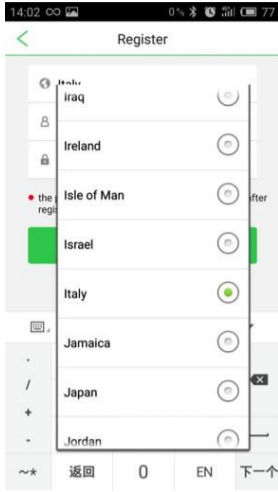
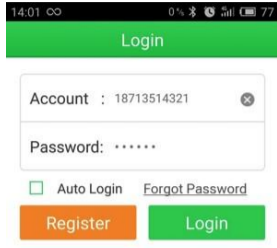
- 1) The device transportation adopts general transportation means or follows the contract requirements. Avoid violent shock, vibration, rain and snow splash during the process of transportation.
- 2) Store the packaged device in an environment with temperature -40°C~+55°C, relative humidity no more than 95%, atmospheric pressure 500hPa~1060hPa, no corrosion gas and well-ventilated room.

Instructions to use the application

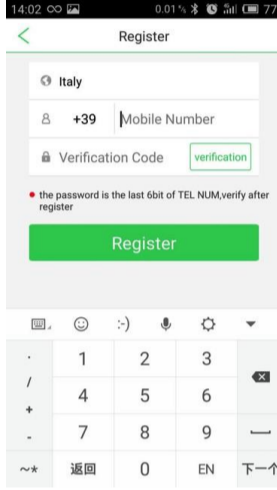
You can download the APP by scan the QR code (for Android device),

Search PHMS on APP store (for iOS device)

Before you use this APP, please follow the steps to register first.

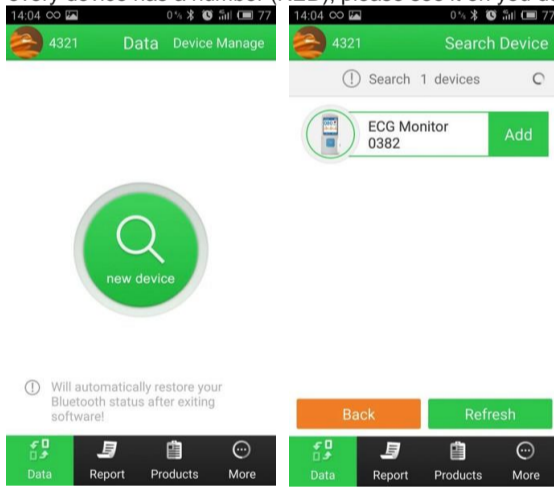


Please use your phone number to register. You will receive a verification, type it on the blank, and finish the register. Your password is the last 6bit of TEL NUM.



Now you can login in and start using.

Turn on your PM10 device, and push the "new device" button, you will see your device, please notice, every device has a number (RED), please see it on you device.



Add it and it will upload the data auto, and cancel the data on your device.