

SENSE EVERY MOMENT OF LIFE  
守护生命的千万个瞬间

QIANYU

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## Bio-Mattress

### 非接触式动态心电图诊断监测系统

CONTACTLESS DYNAMIC ECG DIAGNOSTIC  
AND MONITORING SYSTEM



全球首款商业化非接触式心电图系统

The World's First Commercially Available Contactless ECG System

面向恶性心律失常、心肌梗死、房颤等高危心脏事件的居家预警监护方案

Home Based Early Warning for Malignant Arrhythmias, Myocardial Infarction, and Atrial Fibrillation

- 数据闭环管理  
Closed loop data management
- 多指标输出  
Multiparameter output
- 整夜连续监测  
Continuous overnight monitoring
- 无感非接触  
Unobtrusive contactless monitoring

Bio-Mattress是一套非接触式动态心电诊断监测系统,以薄垫式柔性非接触式心电传感器为核心,铺设在床垫上即可实现整夜睡眠中连续生理参数的监测,采集8通道心电图、呼吸波、心率、呼吸率、体动、在/离床等数据,并通过云端、APP对恶性心律失常、心肌梗死、房颤等高危心脏事件进行实时报警和诊断报告生成。

Bio-Mattress is a contactless dynamic ECG diagnostic and monitoring system built around a thin, flexible, non-contact ECG sensor mat. Placed directly on a mattress, it continuously monitors physiological parameters throughout the night, collecting eight-channel ECG signals, respiratory waveforms, heart rate, respiratory rate, body movement, and bed occupancy data. Through its cloud platform and mobile app, the system provides real-time alerts for high-risk cardiac events—including life-threatening arrhythmias, myocardial infarction, and atrial fibrillation—and generates diagnostic reports.

应用场景

APPLICATION SCENARIOS

医院/科室随访

Hospital and Department Follow Up



院外连续数据采集与  
心脏风险复查管理

Continuous out-of-hospital data  
collection and cardiac-risk  
management

居家睡眠检测

At Home Sleep Monitoring



长期睡眠心电监护与  
高危心脏事件警报

Long-term sleep ECG monitoring  
and high-risk cardiac-event alerts

康养机构看护

Senior Care Facility Monitoring



老年人夜间心律异常与  
突发风险识别

Identification of night-time  
arrhythmias and acute risks in  
elderly population

临床研究支持

Clinical Research Support



为睡眠、心肺和慢病研究  
提供数据入口

A data gateway for sleep,  
cardiopulmonary, and chronic-disease  
research

监测流程

Monitoring Workflow



无感采集

Seamless Data Collection



信号分析

Signal Analysis



异常分析

Anomaly Analysis



Web端/APP信号分析

Web and Mobile App Signal Analysis

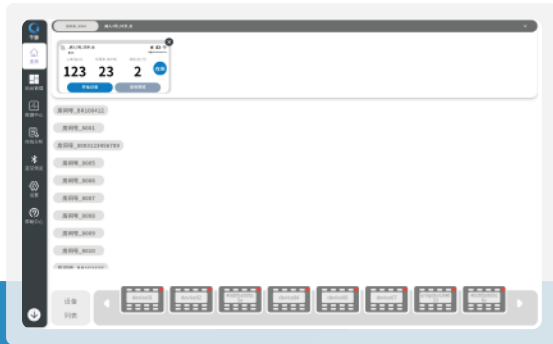


报告输出

Report Generation

软件界面

USER INTERFACE



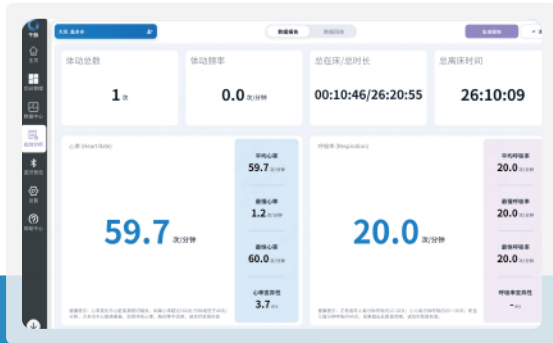
实时监测主页

Real-Time Monitoring Dashboard



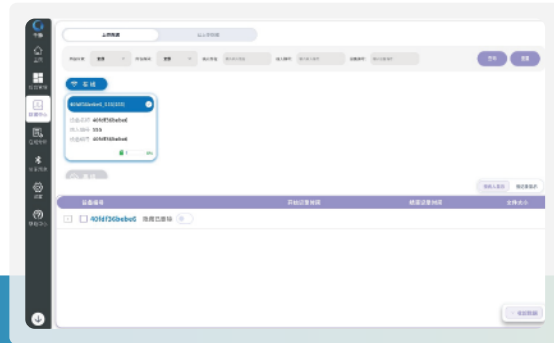
实时波形与信号质量

Real-Time Waveforms and Signal Quality



指标报告界面

Metrics Report Interface



数据中心

Data Center

产品参数

PRODUCT SPECIFICATIONS

| 参数项 PARAMETER                 | 指标 SPECIFICATION                                                                                                                                                                                                   |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 适用人群<br>Target Users          | 医疗环境和家庭护理环境采集和记录成人的心电数据、呼吸率和心率<br>For recording ECG data, respiratory rate, and heart rate in medical and home-care settings of adults                                                                             |
| 心率<br>Heart Rate              | 测量范围: 30 次/分 ~ 200 次/分 精度: $\pm 3$ 次/分<br>Measurement range: 30 bpm - 200 bpm Accuracy: $\pm 3$ bpm                                                                                                                |
| 呼吸率<br>Respiratory Rate       | 测量范围: 6 次/分 ~ 35 次/分 精度: $\pm 2$ 次/分<br>Measurement range: 6 breaths/min - 35 breaths/min Accuracy: $\pm 2$ breaths/min                                                                                            |
| 心电前端<br>ECG Front End         | 动态范围 $\pm 3\text{mV}$ ;输入阻抗 $\geq 10\text{M}\Omega@10\text{Hz}$ ; 系统噪声 $\leq 50\mu\text{V}$<br>Dynamic range: $\pm 3\text{ mV}$ ; input impedance $\geq 10\text{ MOhm}$ at 10 Hz; System noise $\leq 50\text{ uV}$ |
| 共模抑制<br>Common Mode Rejection | $\geq 60\text{dB}@50\text{Hz}$ ; $\geq 45\text{dB}@100\text{Hz}$<br>$\geq 60\text{dB}@50\text{Hz}$ ; $\geq 45\text{dB}@100\text{Hz}$                                                                               |

\* 图片展示效果仅供参考,以实物为准。 Images are for reference only. Please refer to the actual product.