

Proacteye multi vital

MULTI-PARAMETER HEALTH MONITORING
DEVICE



MODEL
HC-03

SW Version: V0.0.10 Bluetooth 4.0 2.4000–2.4835 GHz

● General Specifications

| | |
|-------------------------------------|-----------------------------|
| PRODUCT NAME | Proacteye multi vital |
| PRODUCT MODEL | HC-03 |
| SOFTWARE VERSION | V0.0.10 |
| BATTERY NOMINAL VOLTAGE | 3.7 V |
| INPUT VOLTAGE | 5V ± 0.25V |
| BATTERY RATED CAPACITY | 400 mAh |
| BATTERY LIFETIME | 300 charge-discharge cycles |
| DIMENSIONS | 70 mm × 70 mm × 18.4 mm |
| NET WEIGHT | Approx. 70 g |
| WORKING FREQUENCY | 2.4000 – 2.4835 GHz |
| COMMUNICATION PROTOCOL | Bluetooth 4.0 |
| RESTING PRESSURE RATED RANGE | 0 – 300 mmHg |
| PRODUCT VALIDITY PERIOD | 3 years |
| CUFF VALIDITY PERIOD | 2 years |

● Blood Pressure & Temperature Measurement

| Arm Cuff Measurement | | Temperature Measurement | |
|---------------------------|---------------|-------------------------|-----------|
| Measurement Body Part | Upper Arm | Measurement Body Part | Forehead |
| Applied Arm Circumference | 22 – 35 cm | Measurement Scope | 28 – 42°C |
| Systolic Pressure Scope | 60 – 230 mmHg | Error (35 – 42°C) | ±0.2°C |
| Diastolic Pressure Scope | 40 – 130 mmHg | Error (Below 35°C) | ±0.4°C |
| Pressure Error | ±3 mmHg | | |
| Pulse Rate Scope | 40 – 180 bpm | | |
| Pulse Rate Error | ±5% | | |

● Blood Oxygen (SpO₂), ECG & Respiratory Rate

| Blood Oxygen (SpO ₂) | | ECG Measurement | | Respiratory Rate (RR) | |
|--|------------|---------------------------------|------------------|---|-------------------------------|
| Measurement Body Part | Finger | Measurement Body Part | Hands (Handheld) | Measurement Unit | breaths/min |
| Measurement Scope | 70% – 100% | Calibration Voltage | 1mV ± 5% | Measurement Method | ECG-Derived Respiration (EDR) |
| Red Light Wavelength | 660 nm | Sensitivity Error | ≤ ±5% | Measurement Scope | 8 – 40 breaths/min |
| Infrared Wavelength | 940 nm | Polarization Resistance Voltage | ±300 mV | Accuracy | ±2 – 3 breaths/min |
| <p>Measuring Error: ±4% for 70% – 80% SaO₂ ±2% for 80% – 90% SaO₂ ±1% for 90% – 100% SaO₂</p> | | Sensitivity Variation | ≤ ±5% | <p>Method: Derived from ECG signal analysis using EDR technique.</p> | |
| | | 50Hz Interference Suppression | ≥ 20 dB | | |

● Blood Glucose Measurement

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|---------------------------|---|
| MEASUREMENT SCOPE | 1.1 – 33.3 mmol/L |
| TEST STRIP MODEL | 5D Test Strip |
| REPEATABILITY (SD) | < 0.42 mmol/L (< 7.7 mg/dL) for < 5.5 mmol/L (< 100 mg/dL) |
| REPEATABILITY (CV) | < 7.5% for ≥ 5.5 mmol/L (≥ 100 mg/dL) |

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|-----------------|---|
| ACCURACY | ± 0.83 mmol/L (± 15 mg/dL) for ≤ 5.55 mmol/L (≤ 100 mg/dL) $\pm 15\%$ for > 5.55 mmol/L (> 100 mg/dL) |
|-----------------|---|

● Body Composition Measurements

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|------------------------------|-------------------------------|
| Body Mass Index (BMI) | |
| Measurement Unit | kg/m ² |
| Input Required | User-Provided Height & Weight |

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|--------------------------------|-------------------------------|
| Body Surface Area (BSA) | |
| Measurement Unit | m ² |
| Input Required | User-Provided Height & Weight |

● Operating & Storage Conditions

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| Operating Conditions | |
| Temperature | 5°C – 40°C |
| Humidity | 15% – 93% |
| Atmospheric Pressure | 70 – 106 kPa |

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|---------------------------------------|---------------|
| Storage / Transport Conditions | |
| Temperature | -25°C – +70°C |
| Humidity | $\leq 93\%$ |
| Atmospheric Pressure | 50 – 106 kPa |

● Proacteye multi vital — Health Parameters Summary

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| 1. BLOOD PRESSURE (SYSTOLIC) | 60 – 230 mmHg (± 3 mmHg) |
| 2. BLOOD PRESSURE (DIASTOLIC) | 40 – 130 mmHg (± 3 mmHg) |
| 3. PULSE RATE | 40 – 180 bpm ($\pm 5\%$) |
| 4. TEMPERATURE | 28 – 42°C ($\pm 0.2^\circ\text{C}$ / $\pm 0.4^\circ\text{C}$) |
| 5. BLOOD OXYGEN (SPO₂) | 70% – 100% ($\pm 1\%$ to $\pm 4\%$ depending on range) |
| 6. BLOOD GLUCOSE | 1.1 – 33.3 mmol/L (± 0.83 mmol/L or $\pm 15\%$) |
| 7. RESPIRATORY RATE (RR) | 8 – 40 breaths/min ($\pm 2 - 3$ breaths/min) — ECG-Derived |
| 8. BODY MASS INDEX (BMI) | kg/m ² — Calculated from user-provided height & weight |
| 9. BODY SURFACE AREA (BSA) | m ² — Calculated from user-provided height & weight |
| + ECG MONITORING | Handheld, 1mV calibration, $\leq \pm 5\%$ sensitivity error |