



The VM-CMK10 (K10) is a 10.4-inch TFT multiparameter patient monitor by Shenzhen Creative Industry Co., Ltd. (Creative Medical), monitoring ECG, respiration, SpO2, PR, NIBP, and temperature as standard, with optional dual-IBP, EtCO2, 12-lead ECG, and cerebral state monitoring. The display renders up to 9 simultaneous waveform traces (expandable to 13), and a built-in 11.1V/4400mAh lithium battery provides up to 4 hours of continuous monitoring during transport or power interruption. Ethernet networking with HL7 protocol and bed-to-bed view via central monitor station support ward-wide integration. FDA 510(k) cleared.

The VM-CMK10 (K10) patient monitor provides continuous real-time measurement of six standard

parameters: ECG (3-lead or 5-lead), respiration (derived from ECG), SpO2, pulse rate, non-invasive blood pressure, and temperature. The 10.4-inch TFT display with LED backlight renders up to 9 waveform traces simultaneously, expandable to 13 when optional parameters are configured — supporting comprehensive visual assessment in ICU, high-care, and general ward settings without display crowding. A 360-degree visible alarm indicator accompanies a 3-level audible-visual alarm system, ensuring clinical staff can detect alerts from any approach angle regardless of ambient lighting. ECG input bandwidth covers 0.05–150 Hz (diagnostic mode), 0.5–40 Hz (monitoring), and 1–20 Hz (operating room), with heart rate monitoring across 15–350 bpm (accuracy $\pm 1\%$ or ± 2 bpm). SpO2 is measured by dual-wavelength optical method with accuracy Arms $\leq 2\%$ across 70–100%, low perfusion performance as low as 0.3%, and PR range 30–250 bpm. NIBP uses an oscillometric technique with typical adult measurement time under 30 seconds, covering adult systolic 40–275 mmHg, and user-configurable auto-cycle intervals from 1 to 480 minutes with up to 5-phase custom measuring cycles.

Optional Parameters and Clinical Calculations

The K10 accommodates a range of optional parameters to match clinical complexity. Dual invasive blood pressure (2-IBP) uses a strain gauge transducer across -50 to 300 mmHg with eight selectable measurement positions: ART, RAP, PA, LAP, CVP, ICP, AUXP1, and AUXP2. EtCO2 monitoring uses infrared optical measurement in sidestream or mainstream sampling mode, covering 0–150 mmHg with accuracy of ± 2 mmHg across the 0–40 mmHg clinical range. Cerebral state monitoring (CSM) provides CSI, EMG%, and burst suppression percentage with EEG sensitivity of $\pm 400 \mu\text{V}$ and CMRR exceeding 140 dB. Optional 12-lead ECG and Nellcor SpO2 or SunTech NIBP modules can be selected at configuration. A suite of built-in clinical calculations — covering hemodynamics, respiration, oxygenation, drug concentration, and renal function — supports bedside decision-making without reliance on separate calculators or reference charts. A touch screen is available as an optional interface upgrade.

Battery, Connectivity, and System Integration

The integral 11.1V/4400mAh lithium-ion battery supports up to 4 hours of continuous monitoring, enabling safe intra-hospital transport of critical patients without interruption to parameter surveillance. A 3-channel integral thermal recorder provides contemporaneous waveform documentation at the bedside. The K10 connects to hospital information systems via Ethernet with

HL7 protocol support, and bed-to-bed view through a central monitor station enables multi-bed surveillance from a single workstation. Software upgrade and data export are supported via USB. Power supply operates on AC 100–240V, 50/60 Hz, making the unit compatible with South African mains supply without modification. Available in South Africa from Vital Medical, the VM-CMK10 is suited to ICUs, general wards, operating theatres, emergency departments, and step-down units requiring a versatile, networkable bedside monitor with an expandable parameter set.

Technical Specifications

Specification	Value
Model	K10
SKU	VM-CMK10
Manufacturer	Shenzhen Creative Industry Co., Ltd. (Creative Medical / LEPU Medical)
Display	10.4" TFT, LED backlight; touch screen optional
On-Screen Waveforms	9 standard, up to 13
Alarm System	3-level audible-visual; 360° visible indicator
Battery	Li-ion 11.1V / 4400mAh; up to 4 hours continuous
Recorder	Integral 3-channel thermal
Power Supply	AC 100–240V, 50/60 Hz, 60VA
Networking	Ethernet; HL7 protocol; bed-to-bed view
ECG	
Bandwidth	0.05–150 Hz (Diagnostic); 0.5–40 Hz (Monitoring); 1–20 Hz (OR)
HR Range	15–350 bpm
HR Accuracy	±1% or ±2 bpm, whichever is greater
Input Impedance	≥10 MΩ
CMRR	≥90 dB (Diagnostic); ≥105 dB (Monitoring/OR)
Pacemaker Rejection	Yes
SpO2	
Technique	Dual-wavelength optical
Measuring Range	0–100%
Accuracy	Arms ≤2% (SpO2 70–100%)
PR Range	30–250 bpm
PR Accuracy	±2 bpm or ±2%, whichever is greater
Low Perfusion	As low as 0.3%

Specification	Value
NIBP	
Technique	Oscillometric
Adult SYS Range	40–275 mmHg
Adult DIA Range	10–210 mmHg
Adult MAP Range	20–230 mmHg
Accuracy	Mean difference ± 5 mmHg; SD 8 mmHg
Measurement Modes	Manual, Auto, STAT, Multi-cycle
Auto Intervals	1–480 min; up to 5-phase custom cycle
Typical Meas. Time	<30 seconds (adult cuff)
Temperature	
Range	21.0–50.0°C
Accuracy	$\pm 0.2^\circ\text{C}$ (25–45°C)
Respiration	
Range	0–120 rpm
Accuracy	$\pm 5\%$ or ± 2 rpm, whichever is greater
IBP (optional)	
Range	-50–300 mmHg
Accuracy	$\pm 2\%$ or ± 4 mmHg
Positions	ART, RAP, PA, LAP, CVP, ICP, AUXP1, AUXP2
EtCO2 (optional)	
Technique	Infrared optical; sidestream or mainstream
Range	0–150 mmHg
Accuracy (0–40 mmHg)	± 2 mmHg
Standard Accessories	
SpO2 sensor, NIBP cuff, ECG cable, temperature probe	
Options	
Touch screen, 2-IBP, EtCO2, 12-lead ECG, Nellcor SpO2, SunTech NIBP, CSM, Central Monitor Station	
Regulatory	FDA 510(k) cleared

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