



Application note

Ensuring diagnostic accuracy in point-of-care blood testing

Sector

Medical – point-of-care testing (POCT)

Application

Blood sample temperature monitoring

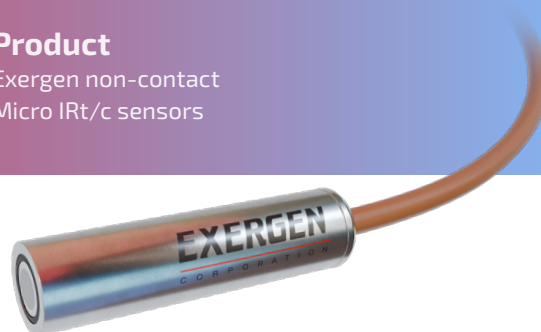
Product

Exergen non-contact Micro IRt/c sensors

Point-of-care testing delivers rapid diagnostic results at a patient's bedside, providing critical information in minutes rather than hours. Many POCT instruments use temperature-sensitive analytical methods where accuracy depends on precise thermal control. Blood conductivity measurements, for example, vary with temperature changes. Without accurate monitoring, diagnostic results can be unreliable, potentially affecting patient care decisions.

Challenges

POCT instruments must pack laboratory-grade performance into small, portable devices. Contact sensors pose integration challenges and respond too slowly for small blood samples that change temperature rapidly. Space constraints demand compact solutions. Additionally, sensors must withstand harsh hospital-grade cleaning agents used to maintain hygiene standards. These combined requirements make sensor selection critical for reliable diagnostic performance.



Solutions

Exergen Micro IRt/c sensors from CleverIR provide non-contact temperature measurement ideally suited to POCT applications. The sensors integrate easily into test cartridge holders, ensuring proper alignment without contact. Patented ambient temperature compensation delivers consistent accuracy whether testing occurs in ambulances or air-conditioned operating rooms. With the smallest form factor available, these sensors fit seamlessly into portable diagnostic platforms.

Benefits

Fast response times from 25 to 100 milliseconds enable accurate monitoring of small blood samples. Self-powered and intrinsically safe, the sensors require no external power or maintenance throughout their operational life. With repeatability error of just 0.01°C (0.02°F) and interchangeability error of $\pm 1\%$, they deliver consistent, reliable results across different instruments. The robust design resists corrosion from clinical cleaning agents, ensuring long-term durability in demanding medical environments.



Exergen IRt/c sensors deliver fast, accurate temperature control for POCT instruments, ensuring reliable diagnostic results in any clinical environment.

Results

Integrating Exergen sensors enables standardized testing across all conditions and locations. Rapid response supports faster diagnostic workflows, critical in emergency situations. Consistent accuracy eliminates temperature-related errors that could compromise patient care. The compact design and easy integration reduce development costs while maintenance-free operation lowers long-term ownership expenses. These benefits help POCT manufacturers deliver laboratory-quality results in portable, cost-effective platforms that meet the demanding requirements of modern point-of-care diagnostics.

Conclusion

Point-of-care testing demands precision in compact form. Exergen infrared sensors provide the accuracy, speed and reliability needed to ensure diagnostic quality in portable platforms. Their non-contact design, ambient temperature compensation and resistance to cleaning agents make them ideal for medical applications where every result matters. From emergency response to routine bedside testing, Exergen sensors support confident diagnostic decisions.