FORTEC US Application Note

Medical Touch Panel Kiosk Power Solution

Summary

Medical touch panel kiosks demand silent operation, compact mechanical integration, medical safety compliance, and long-term reliability. Meeting these requirements in a sealed, low-profile enclosure presents significant thermal and EMI design challenges.

Target Application

Medical Touch Panel Kiosk

Typical deployment environments include:

- Hospitals
- Outpatient clinics
- Diagnostic centers
- Bedside patient information terminals
- Telehealth stations

These systems often operate 24/7 near patients and clinical staff, requiring stringent safety and EMC compliance.

System Design Challenges

1. Conduction Cooling & Fanless Operation

Medical kiosks frequently use sealed enclosures to:

- Prevent dust accumulation
- Reduce contamination risk

- Improve long-term reliability

This eliminates forced-air cooling and requires a power supply capable of efficient heat transfer through the chassis.

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2. Height Constraints

Modern kiosk industrial design emphasizes:

- Slim form factor
- Minimal internal stacking height
- Compact embedded PC integration

Power supply height is typically limited to approximately 1 inch.

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3. Medical Safety & EMC Compliance

Compliance requirements include:

- EN60601-1 (3.2 Edition) – Medical Electrical Equipment Safety
- EN60601-1-2 (4.1 Edition) – EMC for Medical Environments

Key concerns:

- Reinforced isolation
- Low leakage current
- Immunity in electrically noisy clinical environments

Recommended Power Solution

FORTEC US offers **Cincon's LFM300M-C** as an optimized AC/DC power platform for this application. With its 1-inch low-profile design, fanless conduction-cooled architecture, and full medical certifications, it enables reliable integration into next-generation medical kiosk systems.

Key Benefits for Medical Kiosk Designers

Ultra-Low Profile – 1.0 Inch Height

- Fits slim medical enclosures
- Simplifies mechanical integration
- Enables compact system architecture

High Power Density

- Up to 250W fanless operation
- Supports:
    - High-brightness LCD displays
    - Embedded PCs / SBCs
    - Barcode scanners
    - Receipt printers
    - USB & network peripherals

True Fanless, Conduction-Cooled Design

- No moving parts
- Silent operation
- Higher system MTBF
- Reduced field maintenance

Optimized for direct chassis mounting to enable efficient heat spreading.

Full Medical Certifications

Certified to:

- EN60601-1 (3.2 Edition)
- EN60601-1-2 (4.1 Edition)

Design supports:

- Reinforced isolation

- 2 x MOPP (model dependent)
- Low leakage current
- EMC compliance in clinical environments

System-Level Integration Support from FORTEC US

FORTEC US provides value beyond component supply:

Engineering Support

- Thermal integration guidance
- EMI layout recommendations
- Grounding strategy consultation
- Pre-compliance test preparation

Mechanical Integration Guidance

Recommended implementation:

- Direct baseplate-to-chassis mounting
- Thermal interface material (TIM) for optimal heat transfer
- Validation under worst-case ambient temperature
- The compact footprint and 1-inch profile simplify PCB layout and internal stacking

Our engineering team works directly with OEM design teams to reduce certification risk and accelerate time-to-market.

Conclusion

For medical touch panel kiosk applications requiring:

✔ Slim mechanical integration
✔ Silent fanless operation
✔ Conduction cooling capability
✔ Medical safety & EMC compliance

The **Cincon LFM300M-C**, offered by FORTEC US, provides a robust and proven power solution.

Why Partner with FORTEC US?

- Application-focused engineering support
- Medical power expertise
- Assistance with system-level EMI challenges
- Reliable supply chain support
- Long-term product lifecycle commitment

FORTEC US helps medical OEMs reduce design risk while delivering safe, reliable, and compliant systems.

For technical evaluation support or design consultation, calls us at (631) 648-6400 or visit:
https://fortec.us/