

ACCUTECH 100339

131KHZ Crystal | Centralized Wander Management Infrastructure Hub



PRODUCT OVERVIEW

The Accutech 100339 131KHZ Crystal serves as a core hardware intelligence component within advanced wandering management and resident safety infrastructures. It is engineered to bridge the gap between physical perimeter sensors deployed at facility exits and localized control monitoring stations. By aggregating and processing precise frequency calibration data and timing synchronization metrics at protected boundaries, it eliminates the operational complexity of managing individual entry points. This centralized topology ensures that large-scale senior care, nursing home, memory care, and hospital facilities maintain instantaneous, real-time situational awareness.

Deployed directly within zone controllers, perimeter transmitter housings, transceiver enclosures, and restricted access zones, the 100339 module channels ultra-precise RF clock telemetry and operational frequency stabilization. This proactive routing method eliminates communication bottlenecks and guarantees that complex localized actions—such as authorized staff bypass, secure visitor access, and localized security overrides—are instantly synchronized with perimeter sensors. This active tracking processing ensures absolute protection across expansive hospital wings, long care facility corridors, and high-risk infant protection zones by safeguarding exposed external egress routes from environmental wear and unauthorized passage.

ARCHITECTS AND ENGINEERS (A&E) SPECIFICATION

- **System Infrastructure:** The contractor shall supply, install, and configure the Accutech 100339 131KHZ Crystal to act as the primary external security access control and localized override node. The hardware must support direct integration configurations to synchronize active bypass states directly with peripheral zone controllers.
- **Perimeter Infrastructure Protection:** The remote frequency calibration assembly shall incorporate a durable, commercial-grade structural design explicitly engineered to sustain continuous clinical exposure, operating reliably across extreme temperature variations, direct moisture impacts, and high-humidity environmental conditions.
- **Access and Control:** The device physical interface shall feature a heavy-duty, highly stable resonant crystal layout to allow authorized clinical staff, security personnel, and facility supervisors to execute localized door bypass commands and alarm resets directly at the security boundary.

- **Enclosure and Durability:** The micro-resonator electronic component assembly shall be protected inside a ruggedized, vandal-resistant commercial-grade housing optimized for flush-mount or surface-mount terminal configurations on internal printed circuit boards or controller chassis backplanes.
- **System Interoperability:** The frequency reference crystal architecture must feature validated native compatibility for direct low-voltage data connection with Accutech environmental safety platforms, ensuring non-latent signaling and secure credential validation across the facility's dedicated security network.

SYSTEM COMPONENTS

The 100339 131KHZ Crystal incorporates several fundamental integrated sub-modules and physical connection layouts:

- **Conformal Hermetic Protection:** The primary resonant quartz body assembly sealed with protective metal canning compounds to isolate electronic oscillator paths from background moisture, temperature shifts, and dust intrusion.
- **Commercial-Grade Resonator Matrix:** Ruggedized, high-durability piezoelectric quartz crystal element featuring optimized cut angles for stable 131 kHz resonant oscillations.
- **Pass-Through Pin Interface:** Integrated low-resistance connection pins dedicated to managing secondary loop paths, feedback circuits, oscillator inputs, or signal loops safely on the host motherboard.
- **Low-Voltage Hardware Backplane:** Multi-position lead anchoring layout designed for clean, reliable surface mounting or through-hole circuit line termination.
- **Vandal-Resistant Outer Case Shield:** Heavy-duty commercial-grade metal casing providing structural impact protection and integrated structural grounding paths for internal electronic components.

FEATURES AND BENEFITS

- **Centralized Boundary Awareness:** Consolidates system timing synchronization and transmitter frequency reference states down to a single monitoring focal point, greatly simplifying hardware footprints and reducing response times for clinical teams.
- **Precision Frequency Stabilization:** Features an advanced 131 kHz quartz resonator architecture engineered to provide stable, non-drift clock referencing, ensuring optimal perimeter RF tag excitation and tag scanning reliability.
- **Minimized Signal Jitter:** Employs an ultra-tight tolerance physical matrix behind the connection pins to minimize phase noise and timing jitter, eliminating data collision errors in multi-tag clinical environments.
- **Vandal-Resistant Enclosure Support:** Built using impact-resistant structural components and a hermetically sealed metal package that safeguard internal electronic processing paths against high-traffic workspace hazards and deliberate tampering.
- **Validated Platform Interoperability:** Engineered for total compatibility out-of-the-box with established Accutech security environments, ensuring a unified approach to facility patient protection.

PRODUCT SPECIFICATION

Manufacturer	Accutech Healthcare Security Solutions
Product Model Name	131KHZ Resonant Crystal Reference Component
Part Number / SKU	100339
Component Technology Type	Quartz Crystal Oscillator / Frequency Reference
Nominal Operating Frequency	131 kHz High-Security Low-Frequency Excitation Band

Enclosure Protection Rating

Hermetically Sealed Metal Package / Board-Level Structural Shield

Operating Input Voltage

Passive Structural Hardware (Managed Low-Voltage Control Paths via Parent Component)

Interface Link Mechanism

Dual-Pin Through-Hole or SMD Layout for Power, Ground, and Signal Buses

Wander System Compatibility

Accutech ResidentGuard Series Access and Security Environments

Chassis Construction

Heavy-Duty Industrial Commercial-Grade Metal Alloy Shell and Core

Primary Target Environments

Long-Range Tx/Rx Antennas, Controller Boards, Perimeter Zone Enclosures

COMPLIANCE AND CERTIFICATION

- **FCC Status:** Designed and certified to meet FCC Part 15 regulations regarding digital device shielding. This guarantees that multi-zone switching and active infrared transmission paths do not cause or sustain harmful electromagnetic interference with nearby diagnostic medical devices or critical patient networks.
- **UL Listing:** Engineered and assembled using components compliant with UL safety classifications for low-voltage signal appliances, exterior access control equipment, and healthcare facility alert instrumentation.
- **RoHS Compliance:** Formulated in alignment with environmental protection directives, ensuring that the assembly, internal structural materials, and electronic trace configurations restrict the use of lead, mercury, and other hazardous materials.