SECTION 28 13 00 – BIOMETRIC READER DEVICE

BioConnect® Arc Touch™ Fingerprint Authentication Reader

Reference Engineering Specification

Based on BioConnect Arc Touch product documentation and published specifications.

This specification is intended for use by Architects and Engineers as a basis-of-design biometric reader specification and may be adapted to suit project-specific requirements.

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes requirements for a wall-mounted biometric fingerprint reader for use within a physical access control system (PACS).

B. Reader shall support fingerprint authentication and additional credential types while interfacing with an upstream Physical Access Control System (PACS).

C. Reader shall be suitable for indoor and outdoor installations, including harsh environmental conditions and high-traffic locations.

1.2 SYSTEM DESCRIPTION

A. The biometric reader shall be a network-capable authentication device designed to perform on-device fingerprint matching.

B. The reader shall operate as a peripheral authentication device, presenting credential data to an access control panel or middleware system using standard signaling interfaces.

C. The reader shall support centralized management, enrollment, and monitoring via manufacturer-supported software platforms.

1.3 PERFORMANCE REQUIREMENTS

A. Reader shall provide fast and accurate fingerprint recognition suitable for enterprise and critical-infrastructure environments.

B. Reader shall incorporate live-finger detection technology to prevent spoofing using artificial fingerprint materials.

C. Reader shall support continuous operation in high-use environments without degradation of authentication performance.

1.4 SUBMITTALS

A. Product data sheet for the biometric reader.

B. Installation guide and wiring diagrams.

C. Environmental ratings and compliance certifications.

D. Supported credential technologies and interface options.

1.5 QUALITY ASSURANCE

A. Manufacturer shall specialize in biometric authentication devices designed for enterprise access control applications.

B. Reader shall be listed, tested, and certified for use in commercial installations.

C. Reader firmware and hardware shall be provided by the original equipment manufacturer.

1.6 WARRANTY

A. Biometric reader shall be covered by the manufacturer's standard hardware warranty.

B. Manufacturer shall provide technical support and firmware updates for the device.

PART 2 – PRODUCTS

2.1 BIOMETRIC FINGERPRINT READER

A. Basis of Design: **BioConnect Arc Touch**™ fingerprint authentication device.

B. Manufacturer: BioConnect (or approved equal).

2.2 FUNCTIONAL FEATURES

A. The reader shall support the following authentication methods:

1. Fingerprint authentication.
2. Smart card credentials.

B. Reader shall support multi-modal operation allowing fingerprint authentication in combination with card credentials.

C. Reader shall provide visual and audible feedback for authentication events using multi-color LEDs and audible indicators.

2.3 FINGERPRINT TECHNOLOGY

A. Reader shall incorporate a high-resolution optical fingerprint sensor suitable for enterprise access control applications.

B. Reader shall support multiple industry-standard fingerprint template formats and on-device storage.

C. Reader shall include live-finger detection using multi-spectrum imaging to prevent authentication using fake or replicated fingerprints.

2.4 INTERFACES AND COMMUNICATION

A. Reader shall support the following interfaces:

1. TCP/IP Ethernet network interface.
2. Wiegand input/output.
3. RS-485 communications.
4. Relay output for door control.
5. Supervised TTL inputs for door sensor and request-to-exit devices.

B. Reader shall support operation as:

1. A network-connected biometric device, or
2. A panel-connected reader using standard access control signaling formats.

2.5 ELECTRICAL REQUIREMENTS

A. Power input shall be low-voltage DC supplied by a listed power source.

B. Reader shall operate within the manufacturer's specified voltage and current limits.

C. Power and communications wiring shall comply with the access control system manufacturer's installation standards.

2.6 ENVIRONMENTAL RATINGS

A. Reader shall be rated for outdoor use with an ingress protection rating of **IP67**.

B. Reader shall provide vandal resistance with an impact rating of **IK09** or better.

C. Reader shall operate within a wide temperature and humidity range suitable for exterior installations.

2.7 PHYSICAL CHARACTERISTICS

A. Reader shall be a slim, wall-mounted form factor suitable for single-gang or surface mounting.

B. Reader enclosure shall be constructed of durable, vandal-resistant materials.

C. Reader shall include an anti-tamper mechanism for enclosure removal detection.

2.8 COMPATIBLE ACCESS CONTROL SYSTEMS

A. Reader shall be compatible with enterprise PACS platforms through direct panel interface or middleware, including but not limited to:

1. Genetec Security Center.
2. Software House C•CURE 9000.
3. LenelS2 OnGuard / NetBox.
4. AMAG Symmetry.
5. Acre Security (Open Options and RS2).
6. Brivo.
7. Other systems supporting standard reader interfaces.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install biometric reader in accordance with manufacturer instructions and recommended mounting heights.

B. Provide separation from high- EMI sources and ensure proper grounding.

C. Provide weather-appropriate sealing for exterior installations.

3.2 CONFIGURATION

A. Configure reader communication mode to match the access control system design.

B. Configure authentication modes, LED behavior, and relay timing per project requirements.

C. Integrate reader configuration with centralized management software where applicable.

3.3 TESTING AND COMMISSIONING

A. Verify fingerprint authentication accuracy and reader response time.

B. Verify credential presentation to the access control system.

C. Verify environmental sealing and tamper detection.

3.4 TRAINING AND HANDOVER

A. Provide training on reader operation and enrollment best practices.

B. Deliver manufacturer documentation and configuration records to the Owner.

END OF SECTION 28 13 00 – BIOMETRIC READER (BIOCONNECT ARC TOUCH)