NIRIKHON

SECURITY & DEFENCE TECHNOLOGY

PRODUCT BROCHURE

TURNSTILE BARRIER GATE

Swing Type Turnstile Barrier Gate

The Swing Type Turnstile Barrier Gate by NIRIKHON (Model NK-ST0021) features a reinforced SUS304 stainless steel body for maximum structural durability. With operating speed under 0.3 seconds and pass rate up to 30 persons/min, it ensures fast, high-throughput pedestrian flow. Five pairs of IR sensors deliver reliable anti-tailgating protection, while IC/RFID/biometric integration and automatic emergency release ensure secure, audit-ready institutional access control.



Swing Type Turnstile Barrier Gate | Official Brochure

SOLUTION SNAPSHOT

Heavy-Duty SUS304 Stainless Steel Cabinet Architecture	**High-Speed Gate Operation & Fast Pedestrian Pass Rate**	**5-Pair Infrared Anti-Tailgating & Anti-Pinch Protection**
Three-Color LED Status Guidance	**Multi-Biometric & RFID Card Integration**	**1-Year Device Warranty**

OVERVIEW

Built for Real Operations 01

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CAPABILITIES

Key Features & Product Modules 02

1.2mm SUS304 Stainless Steel Reinforced Housing

Built from a 1.2mm SUS304 stainless steel cabinet with a hairline finish and reinforced by a 2.0mm SUS304 internal structure, the housing shields all internal drive and control components from tampering, corrosion, and continuous mechanical stress. This chassis forms the structural backbone of the NK-ST0021, ensuring the unit holds its form and function through years of high-frequency institutional operation.

High-Performance DC Motor & Precision Transmission Mechanism

A high-performance DC brushless motor drives the swing-arm transmission with low-noise, low-vibration precision, executing full barrier cycles in 0.3 seconds or less. This drive mechanism is engineered for durable, high-cycle service life, sustaining a pass rate of 30+ persons per minute without mechanical fatigue or performance drift.

Integrated Main Controller Board with Manual Override

The onboard integrated controller board governs credential verification, motor actuation, and sensor input in real time, functioning as the operational core of the access decision process. A manual override button is built directly into the enclosure, giving on-site personnel immediate physical control during emergencies or system maintenance.

5-Pair Infrared Safety & Anti-Tailgating Sensor Array

Five pairs of infrared sensors form a continuous detection field across the pass lane, identifying unauthorized tailgating attempts and preventing simultaneous multi-person passage on a single credential. The same sensor array delivers anti-pinch protection, halting arm movement the instant an obstruction is detected within the pass zone.

Acrylic Swing Arm Barrier Assembly with Integrated LED Lighting

The transparent acrylic swing arm combines physical obstruction with embedded LED lighting, delivering both a visible security boundary and immediate illuminated status feedback at the point of passage. Its swing-arm geometry enables rapid, wide-clearance cycling suited to high-throughput checkpoints without sacrificing structural resistance to forced entry.

Three-Color Visual LED Guidance System

A clearly visible three-color LED array — green for access granted, blue for standby, and red for access denied — gives personnel and monitoring staff instant, unambiguous visual confirmation of gate status. This guidance layer reduces entry hesitation and supports faster, more orderly pedestrian flow at controlled checkpoints.

Multi-Protocol Identity Reader Integration Hub (RFID / IC / Biometric / QR)

This integration hub unifies IC, RFID, QR, and facial recognition credentialing into a single verification pathway, allowing the gate to process diverse identity formats without hardware duplication. Card and biometric reads are verified in under 0.2 seconds, keeping multi-factor authentication fast enough to sustain uninterrupted pedestrian throughput.

OPERATIONAL VALUE

Software, Benefits & Outcomes

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Real-Time Pedestrian Passage Monitoring & Status Control

Gives operators a live, centralized view of every gate's passage activity and access status across the network.

- Monitor live pass/deny events per gate in real time
- View current LED status (green/blue/red) remotely from the command dashboard
- Track live pass rate against the 30+ persons/minute benchmark
- Instantly flag abnormal gate behavior or communication loss
- Drill down into any single gate's operational status on demand

30,000+ User Database & Credential Management (IC/ID, RFID, Biometrics, QR)

Centrally manages the full credential lifecycle for up to 30,000 registered users across IC, ID, RFID, biometric, and QR formats.

- Add, edit, or revoke user credentials in bulk or individually
- Register multi-modal credentials (card + biometric) per user
- Batch-import or export user records for large-scale onboarding
- Search and filter the user database by role, status, or credential type
- Deactivate lost or compromised credentials instantly network-wide

Role-Based Access Control & Time-Zone Permission Setting

Enforces granular, scheduled access rights so personnel only pass through designated gates during authorized windows.

- Assign role-based permission tiers to individual users or groups
- Configure time-zone-restricted access schedules per credential
- Set gate-specific access rules for restricted zones
- Apply temporary or one-time access permissions for visitors
- Audit permission assignments across the entire user base

Real-Time Anti-Tailgating, Anti-Reverse Entry & Anti-Pinch Alarm Management

Leverages the 5-pair infrared sensor array to detect and alert on security violations the instant they occur.

- Receive instant alerts on detected tailgating attempts
- Flag anti-reverse entry violations with timestamped logs
- Monitor anti-pinch trigger events for safety compliance
- Configure alarm sensitivity thresholds per gate
- Escalate repeated violation attempts to designated security personnel

100,000+ Access Log Capture, Audit Trail & Historical Search

Maintains a comprehensive, searchable audit trail of uMaintains a comprehensive, searchable audit trail of up to 100,000 access records to support compliance and post-incident review.p to 100,000 access records to support compliance and post-incident review.

- Search historical logs by user, gate, date, or credential type
- Filter access records by granted, denied, or alarm-triggered events
- Retrieve full audit trails for compliance investigations
- Cross-reference log data with user and permission changes
- Preserve historical records for institutional record-keeping requirements

Emergency Override, Remote Unlocking & Emergency Evacuation Control

Provides operators with immediate remote control over gate locking states to ensure safe evacuation during critical events.

- Trigger remote emergency unlock across single or multiple gates
- Activate automatic power-failure release protocols on demand
- Override individual gate states from the central command interface
- Restore normal operating mode following an emergency event
- Log all emergency override actions for post-event audit

Automated Data Export & Access Report Generation (Excel/PDF)

Converts raw access and log data into structured, audit-ready reports for institutional reporting requirements.

- Generate scheduled or on-demand access reports
- Export data directly to Excel or PDF formats
- Customize report parameters by date range, gate, or user group
- Automate recurring compliance report delivery
- Archive generated reports for institutional recordkeeping

Multi-Gate Network Centralized Management

Unifies multiple turnstile units into a single centrally managed network via RS485 and TCP/IP connectivity.

- Manage all connected gates from one central dashboard
- Push configuration and permission updates network-wide
- Monitor communication status across RS485/TCP-IP links
- Group gates by facility zone or command structure
- Diagnose connectivity issues at the individual gate level

SPECIFICATION

Technical Details

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HEAVY-DUTY SUS304 STAINLESS STEEL CABINET ARCHITECTURE
✓ Included

HIGH-SPEED GATE OPERATION & FAST PEDESTRIAN PASS RATE
✓ Included

5-PAIR INFRARED ANTI-TAILGATING & ANTI-PINCH PROTECTION
✓ Included

THREE-COLOR LED STATUS GUIDANCE
✓ Included

MULTI-BIOMETRIC & RFID CARD INTEGRATION
✓ Included

1-YEAR DEVICE WARRANTY
✓ Included

HIGH-CAPACITY USER & LOG MANAGEMENT
✓ Included

ULTRA-FAST CARD READING SPEED
✓ Included

MULTI-PROTOCOL COMMUNICATION INTERFACE
✓ Included

LOW-NOISE HIGH-PERFORMANCE DRIVE SYSTEM
✓ Included

LIFETIME SDK & API INTEGRATION LICENSE
✓ Included

UNIVERSAL POWER COMPATIBILITY
✓ Included

ENGINEERED PASS WIDTH FOR CONTROLLED FLOW
✓ Included

QUESTIONS

Frequently Asked Questions

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Q. How does the system ensure safe evacuation during a power failure?

A. The NK-ST0021 is engineered with an automatic emergency power-failure release mechanism. In the event of a power interruption, the barrier arm automatically unlocks, allowing unobstructed evacuation without requiring manual intervention — ensuring continuous compliance with emergency egress protocols.

Q. How accurate is the anti-tailgating detection, and how is it achieved?

A. Anti-tailgating enforcement is handled by a 5-pair infrared sensor array positioned across the pass lane. This configuration continuously monitors for simultaneous or unauthorized multi-person passage on a single credential, while the same sensor field provides anti-reverse entry and anti-pinch detection to maintain both security integrity and personnel safety.

Q. Can the system integrate with our existing identity management and command infrastructure?

A. Yes. The platform includes a lifetime SDK and open API license at no additional cost, enabling direct integration with third-party identity databases, surveillance platforms, and centralized command systems. Communication is supported over RS485 and TCP/IP interfaces for network-wide coordination.

Q. What is the system's capacity for high-volume institutional deployment?

A. The platform supports a database of up to 30,000 registered users and retains up to 100,000 access log records, with credential verification processed in under 0.2 seconds and a sustained pass rate of 30+ persons per minute — supporting high-traffic checkpoints without throughput degradation.

Q. How durable is the physical structure for continuous high-traffic environments?

A. The gate housing is constructed from 1.2mm SUS304 stainless steel with a hairline finish, reinforced internally by a 2.0mm SUS304 structural frame. This construction is designed to withstand sustained mechanical stress and continuous daily cycling typical of high-security institutional facilities, backed by a 1-year device warranty.

Ready to deploy Swing Type Turnstile Barrier Gate?

Talk to Nirikhon for product consultation, installation planning, integration support, and enterprise deployment.

Hotline: 09647 120 120 | Website: www.nirikhon.com