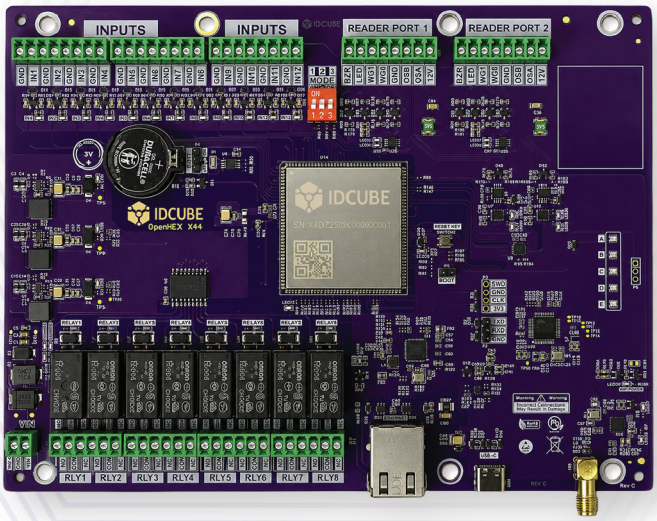
OpenHEX X44

Cloud-Native Edge Intelligence for Modern Access Control

The OpenHEX X44 (Open Hyperconnected Edge Execution) is a next-generation 4-door, 4-reader intelligent access controller designed for modern multi-site access control infrastructures. Engineered around lightweight MQTT and IoT-based communication architecture, the OpenHEX X44 delivers secure near-real-time connectivity between edge devices and access control, PropTech, and facility management software platforms.

Supporting flexible reader topologies, including hybrid entry-exit configurations, the OpenHEX X44 adapts easily to diverse site requirements. Its plug and play architecture and industry-standard form factor enable simplified installation, seamless scalability, and easy integration within enterprise environments.



4 Door 4 Reader
Intelligent Access Controller

Secure Cloud-Native Connectivity

Built for modern multi-site architectures, the OpenHEX X44 utilizes lightweight MQTT communication over standard secure ports, eliminating complex firewall configurations and inbound port exposure. Native TLS 1.3 encryption enables secure connectivity across centralized on-premise servers, private-cloud deployments, and public-cloud infrastructures.

Engineered for high-density enterprise environments, its broker-based communication model delivers reliable near-real-time responsiveness while enabling systems to scale from a few controllers to thousands without compromising speed, communication efficiency, or centralized manageability.

Plug and Play Deployment

The OpenHEX enables rapid deployment with minimal network and IT configuration. Wi-Fi 6-compatible Access Point mode with unique Smart SSIDs and an embedded responsive web interface simplify wireless onboarding, controller identification, commissioning, and diagnostics. Pre-configured MQTT broker connectivity supports zero-touch deployment in DHCP-enabled networks.

Enterprise-Grade Reliability

Designed for continuous 24×7 operation, the OpenHEX incorporates multiple layers of electrical and operational protection. Reverse polarity protection safeguards power inputs, while advanced sensor input protection supports up to 12V accidental external-voltage induction and transient-spike resistance. High-durability relay outputs support reliable load switching, while reader power short-circuit protection helps isolate peripheral faults from controller operation.

Advanced Status Indication & Troubleshooting

The OpenHEX provides comprehensive onboard LED diagnostics for rapid installation verification and field troubleshooting. Visual indicators cover power, Ethernet, MQTT/cloud connectivity, reader communication, relay operation and input triggers, enabling faster commissioning and simplified maintenance for system integrators.

Key Highlights

- Supports up to 4 doors and 4 readers
- Flexible entry, exit, and hybrid reader topologies
- OSDP and Wiegand reader interface support
- MQTT broker-based secure communication architecture
- Native TLS 1.3 encrypted communication
- Secure outbound IoT communication using standard firewall ports, without cloud gateways or special port unblocking
- DHCP-based zero-touch controller onboarding
- Wi-Fi 6-compatible Access Point mode with Smart SSIDs
- Embedded responsive web interface for local commissioning
- Industry-standard controller footprint
- Reverse polarity and input transient protection
- Reader power short-circuit protection
- High-durability relay outputs for load switching
- Onboard LED diagnostics for power, network, reader, input, relay, and fault status

Tech Specification

Credentials & Reader Interfaces

Reader Interfaces	OSDP and Wiegand reader interfaces
Wiegand Interface	Up to 2 Wiegand readers across 2 reader ports; 6-conductor interface for reader power, data, LED, and buzzer control
OSDP Interface	Up to 4 OSDP readers across 2 reader ports; 4-conductor interface for reader power and RS-485 communication
Reader Architecture	Supports peripheral and intelligent reader architectures
Supported Credential Types	Physical, biometric, virtual, and PIN-based credentials
Credential Formats	Standard/custom credential formats up to 128 bits
Peripheral Keypad Support	4-bit keypad protocol support with 4–15 digit PINs
Access Modes - Peripheral Readers	Credential-only, PIN-only, Credential or PIN, Credential + PIN
Credential Capacity	Up to 100,000 credentials

Note: OpenHEX supports both peripheral reader architectures requiring controller-side authentication and intelligent reader architectures, where authentication is performed within the reader.

Reader & Door Topology

Doors	4 Doors
Door Control	Wiegand: 1 Door/2 Readers, 2 Doors/2 Readers OSDP: 1 Door/2 Readers, 2 Doors/2 Readers, 2 Doors/4 Readers, 4 Doors/4 Readers

Mechanical

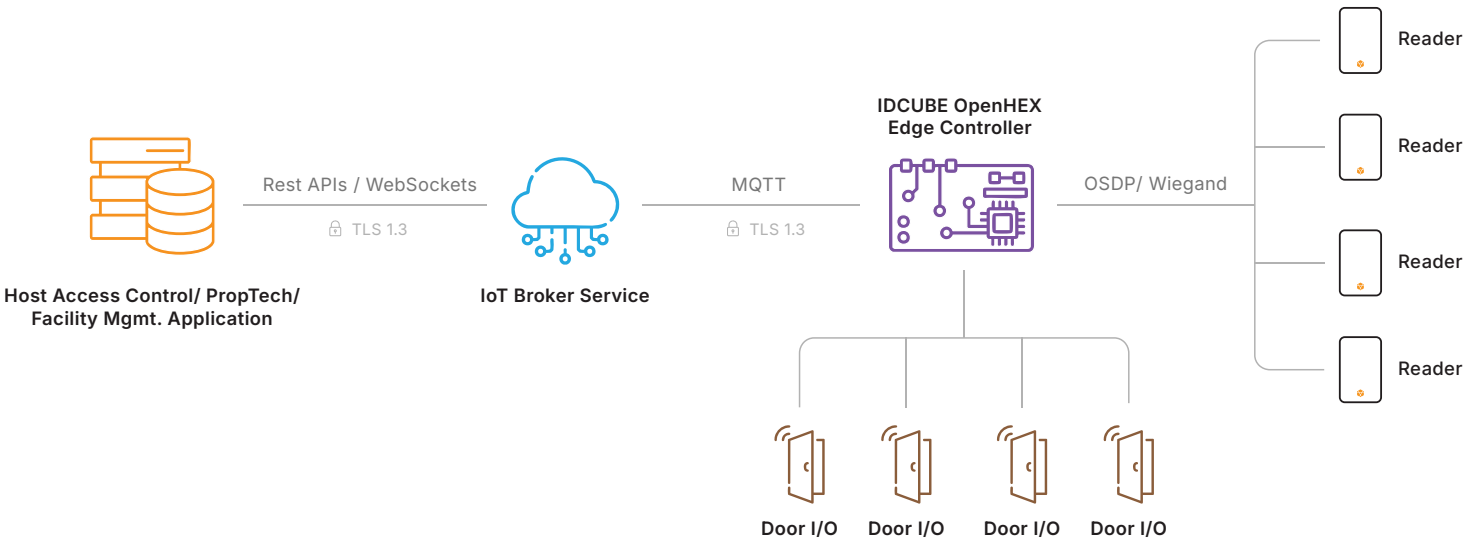
Dimensions	8 in. (203.2 mm) W x 6 in. (152.4 mm) L x 1 in. (25mm) H
Weight	9 oz. (257 g) nominal, board only

Environmental

Temperature	Storage Temperature: -30°C to +85°C. Operating Temperature: -10°C to +70°C.
Humidity	5% to 95% RH, non-condensing

General

Event Log Capacity	Stores up to 100,000 events (FIFO/queue mechanism with ACK-driven processing)
Communication Security	MQTT-based communication with TLS 1.3 encryption and JSON payload via IoT broker scalable architecture
DIP Switch Based Modes	Normal Mode, Factory Reset Mode, Wi-Fi Reset Mode, Wi-Fi & Network Reset Mode, and Access Point Mode
LED-based System Indication	5 RGB LED indicators (A: Wi-Fi/AP Status, B: RFU, C: IoT Connectivity, D: Memory Full, E: RFU)
Input Power	10-16 VDC, 1 Amp max. (with Wi-Fi, without reader & USB)
Reader Power	12 VDC, 600 mA per port max. and up to 2 readers per port (output only)
Type C USB Port Power	5 VDC, 350 mA max. (output only)
Battery	Memory/Clock Backup: 3 V lithium battery, type BR/CR2032
Host Communication	Ethernet: 10BASE-T / 100BASE-TX
Inputs	12 inputs (8 dedicated and 4 general-purpose inputs)
Output Relays	8 outputs (4 dedicated and 4 general-purpose outputs); Form C, NO 5A @ 30VDC resistive, NC 3A @ 30VDC resistive
Edge Compute Engine	ARM Cortex-A7 architecture with Linux OS, 512MB RAM, and 4GB eMMC flash storage

Product Compliance & Warranty

Product Compliance	FCC Part 15 Class A, CE compliant, RoHS 3 compliant
Warranty	The product is warranted for one year from the date of factory shipment against defects in materials and workmanship under normal use and proper maintenance.